Monday, December 21, 2009

REQUEST NUMBER: 10-1032

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

These Samples are on:

LANL Request Number:10-1032

Per Agreement Number:126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 12/21/2009

TURNAROUND/REPORT DUE: 1/20/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Received

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	

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REQUEST NUMBER: 10-1032

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	HASL-300:AM-241	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	HASL-300:ISOPU	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	HASL-300:ISOU	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	

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REQUEST NUMBER: 10-1032

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	SW-846:6020	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
		1	RE12-10-7595	W	12/17/2009	
	SW-846:6850	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	

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REQUEST NUMBER: 10-1032

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:6850	1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
		1	RE12-10-7595	W	12/17/2009	
	SW-846:7470A	1	RE12-10-7595	W	12/17/2009	
	SW-846:7471A	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	SW-846:8082	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	SW-846:8321A_MOD	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	

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REQUEST NUMBER: 10-1032

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:8321A_MOD	1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	SW-846:9012A	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
		1	RE12-10-7595	W	12/17/2009	

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LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1032

REQUEST NUMBER: 10-1032

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

TURNAROUND/REPORT DUE: 1/20/2010

TURNAROUND REQ'D: 30

LAB REQUEST COMMENTS:

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7580	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7580	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7580	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7590	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7590	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7590	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7592	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7592	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7592	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7591	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7591	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7591	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7581	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7581	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7581	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7586	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7586	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7586	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7587	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7587	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7587	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7585	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7585	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7585	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7582	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7582	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7582	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7584	1	POLY	AM241+GS+ISOPU+ISOU	None	R

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LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1032

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7584	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7584	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7583	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7583	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7583	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7595	1	POLY	METALS+U-GEL	Nitric Acid	W
RE12-10-7595	1	POLY	SW-846:6850	Ice	W
RE12-10-7595	1	POLY	TCN	Sodium Hydroxide	W

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]		12/21/09	140				
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By:		Date	Time	Remarks:
Printed Name	Signature			

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2488 **EVENT NAME:** 4th Qtr. FY09 - AOC C-12-002 - Threemile Canyon

SAMPLE ID: RE12-10-7580 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/17/2009	MEDIA:	OBT3	Air h
TIME COLLECTED (HH:MM)		1056	SUB-MEDIA:	TUFF 1	NA
PRS ID:	C-12-002	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	12-610629	↓	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH:	0	0.0	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	12/17/09 TJM ~~0.6~~ 0.5	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	S	EXCAVATED: YES / NO / NA		

COMPOSITE TYPE: NA **COMPOSITE TIME INTERVAL:** NA **WATER FLOWING:** YES / NO / NA

BOREHOLE: YES / NO / NA **BOREHOLE DECLINATION:** NA **BOREHOLE DIRECTION:** NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1	↓	AM241+GS+ISOPU+ISOU	1 LITER POLY TJM 12/17/09	None	Y	
1	↓	Met+U+CLO4+CN	~~1 GAL~~ POLY 1 L	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: medium brown sandy silt, some organics, slightly moist

SAMPLE COMMENTS: NA

LOCATION DESC: 2-1, west side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 38 dpm

BY ≤ 1969 dpm

PID ambient reading 0.0 / 0.0 ppm

HE negative

COLLECTED BY (PRINT) TL McFarland

REVIEWED BY (PRINT) Lorey A. Lopez

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TL McFarland (Signature) Tray McFarland	12/17/09 1550	(Printed Name) Sherri Sherwood (Signature) Sherri Sherwood	12/17/09 1550
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name) (Signature)		(Printed Name) (Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2488 **EVENT NAME:** 4th Qtr. FY09 - AOC C-12-002 - Threemile Canyon

SAMPLE ID: RE12-10-7581 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/17/2009	MEDIA:	OBT3	Allh
TIME COLLECTED (HH:MM)		1106	SUB-MEDIA:	TUFF 1	NA
PRS ID:	C-12-002	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	12-610629	↓	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH:	0	2.0	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	2.75	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	S	EXCAVATED: YES / (NO) / NA		

COMPOSITE TYPE: NA **COMPOSITE TIME INTERVAL:** NA **WATER FLOWING:** YES / (NO) / NA

BOREHOLE: YES / (NO) / NA **BOREHOLE DECLINATION:** NA **BOREHOLE DIRECTION:** NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1		8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY 73m 12/17/09	None	Y	
1		Met+U+CLO4+CN	~~1 GAL~~ POLY 1 L	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: 50% brown silty sandy slightly moist and 50% gray dry tuff

SAMPLE COMMENTS: NA

LOCATION DESC: 2-1

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 49 dpm PID ambient reading 0.0 / 0.0 ppm

Bγ ≤ 2280 dpm

COLLECTED BY (PRINT) TL McFarland **REVIEWED BY (PRINT)** Larry A. Lopez

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland (Signature) Tracy Z	12/17/09 1550	(Printed Name) Sherri Sherwood (Signature) Sherri Sherwood	12/17/09 1550
RELINQUISHED BY (Printed Name) (Signature)	**Date/Time**	**RECEIVED BY** (Printed Name) (Signature)	**Date/Time**

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2488 **EVENT NAME:** 4th Qtr. FY09 - AOC C-12-002 - Threemile Canyon

SAMPLE ID: RE12-10-7582 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/17/2009	MEDIA:	OBT3	Alh
TIME COLLECTED (HH:MM)		1153	SUB-MEDIA:	TUFF 1	NA
PRS ID:	C-12-002	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	12-610630	↓	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH:	0	0.0	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	0.75	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	S	EXCAVATED: YES / NO / NA		

COMPOSITE TYPE: NA **COMPOSITE TIME INTERVAL:** NA **WATER FLOWING:** YES / NO / NA

BOREHOLE: YES / NO / NA **BOREHOLE DECLINATION:** NA **BOREHOLE DIRECTION:** NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISOPU+ISOU	1 LITER POLY TLM 12/17/09	None	Y	
1	↓	Met+U+CLO4+CN	1 ~~GAL~~ 1 L POLY	Ice	Y	
1	↓	NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: Brown sandy silt, dry

SAMPLE COMMENTS: None

LOCATION DESC: 2-2, north side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 22 dpm

βγ ≤ 1983 dpm

PID ambient reading 0.0 / 0.0 ppm

HE negative

COLLECTED BY (PRINT) TL McFarland

REVIEWED BY (PRINT) Larry A. Lopez

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TL McFarland	12/17/09	(Printed Name) Sherri Sherwood	12/17/09
(Signature) [signature]	1550	(Signature) Sherri Sherwood	1550
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2488 **EVENT NAME:** 4th Qtr. FY09 - AOC C-12-002 - Threemile Canyon

SAMPLE ID: RE12-10-7583 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/17/2009	MEDIA:	QBT3	Alluh
TIME COLLECTED (HH:MM)		1210	SUB-MEDIA:	TUFF 1	NA
PRS ID:	C-12-002	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	12-610630	↓	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH:	0	2.0	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	3.0	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	S	EXCAVATED: YES / (NO) / NA		

COMPOSITE TYPE: NA **COMPOSITE TIME INTERVAL:** NA **WATER FLOWING:** YES / (NO) / NA

BOREHOLE: YES / (NO) / NA **BOREHOLE DECLINATION:** NA **BOREHOLE DIRECTION:** NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Regular	AM241+GS+ISOPU+ISOU	1 LITER POLY 73m 12/17/09	None	Y	
1	↓	Met+U+CLO4+CN	1 ~~GAL~~ POLY 1 L	Ice	Y	
1	↓	NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: Light brown sandy silt

SAMPLE COMMENTS: NA

LOCATION DESC: 2-2

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 49 dpm PID ambient reading 0.0 / 0.0 ppm

βγ ≤ 2080 dpm

COLLECTED BY (PRINT) TLMcFarland **REVIEWED BY (PRINT)** Larry A. Lopez

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	12/17/09	(Printed Name) Sherri Sherwood	12/17/09
(Signature) [signature]	1550	(Signature) Sherri Sherwood	1550
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2488 **EVENT NAME:** 4th Qtr. FY09 - AOC C-12-002 - Threemile Canyon

SAMPLE ID: RE12-10-7584 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/17/2009	MEDIA:	QBT3	All h
TIME COLLECTED (HH:MM)		1330	SUB-MEDIA:	TUFF 1	NA
PRS ID:	C-12-002	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	12-610631	ok	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	↓
TOP DEPTH:	0	0.0	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	0.5	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	S	EXCAVATED: YES / NO / NA		

COMPOSITE TYPE: NA **COMPOSITE TIME INTERVAL:** NA **WATER FLOWING:** YES / NO / NA

BOREHOLE: YES / NO / NA **BOREHOLE DECLINATION:** NA **BOREHOLE DIRECTION:** NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISOPU+ISOU	1 LITER POLY TLM 12/17/09	None	Y	
1	↓	Met+U+CLO4+CN	1 ~~GAL~~ POLY 1 L	Ice	Y	
1	↓	NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: Brown sandy silt, slightly moist, some rocks and roots

SAMPLE COMMENTS: NA

LOCATION DESC: 2-3 south side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 33 dpm PID ambient reading 0.0 / 0.0 ppm

BY ≤ 1942 dpm HE negative

COLLECTED BY (PRINT) TLMcFarland **REVIEWED BY (PRINT)** Larry A. Lopez

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland (Signature) Tracy Z	12/17/09 1550	(Printed Name) Sherri Sherwood (Signature) Sherri Sherwood	12/17/09 1550
RELINQUISHED BY (Printed Name) (Signature)	**Date/Time**	**RECEIVED BY** (Printed Name) (Signature)	**Date/Time**

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2488 **EVENT NAME:** 4th Qtr. FY09 - AOC C-12-002 - Threemile Canyon

SAMPLE ID: RE12-10-7585 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/17/2009	MEDIA:	OBT3	ok
TIME COLLECTED (HH:MM)		1350	SUB-MEDIA:	TUFF 1	↓
PRS ID:	C-12-002	ok	SAMPLE TECH CODE:	HA	↓
LOCATION ID:	12-610631	↓	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH:	0	2.0	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	3.0	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	ok	EXCAVATED: YES / NO / NA		

COMPOSITE TYPE: NA **COMPOSITE TIME INTERVAL:** NA **WATER FLOWING:** YES / NO / NA

BOREHOLE: YES / NO / NA **BOREHOLE DECLINATION:** NA **BOREHOLE DIRECTION:** NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISOPU+ISOU	1 LITER POLY 12m 12/17/09	None	Y	
1	↓	Met+U+CLO4+CN	1 ~~GAL~~ 1 L POLY	Ice	Y	
1	↓	NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: Gray tuff and weathered tuff, dry

SAMPLE COMMENTS: None

LOCATION DESC: 2 - 3

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 49 dpm PID ambient reading 0.0 / 0.0 ppm

BY ≤ 2120 dpm

COLLECTED BY (PRINT) TLMcFarland **REVIEWED BY (PRINT)** Larry A. Lopez

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	12/17/09	(Printed Name) Sherri Sherwood	12/17/09
(Signature) [signature]	1550	(Signature) Sherri Sherwood	1550
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2488 **EVENT NAME:** 4th Qtr. FY09 - AOC C-12-002 - Threemile Canyon

SAMPLE ID: RE12-10-7586 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/17/2009	MEDIA:	OBT3	Air
TIME COLLECTED (HH:MM)		1400	SUB-MEDIA:	TUFF 1	NA
PRS ID:	C-12-002	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	12-610632	↓	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH:	0	0.0	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	0.75	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	S	EXCAVATED: YES / (NO) / NA		

COMPOSITE TYPE: NA **COMPOSITE TIME INTERVAL:** NA **WATER FLOWING:** YES / (NO) / NA

BOREHOLE: YES / (NO) / NA **BOREHOLE DECLINATION:** NA **BOREHOLE DIRECTION:** NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1		AM241+GS+ISOPU+ISOU	1 LITER POLY TLM 12/17/09	None	Y	
1		Met+U+CLO4+CN	1 ~~GAL~~ L POLY	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: Brown sandy silt, slightly damp, some rocks, few roots and organics

SAMPLE COMMENTS: NA

LOCATION DESC: 2-4 west side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 22 dpm PID ambient reading 0.0 / 0.0 ppm

BY ≤ 2230 dpm HE negative

COLLECTED BY (PRINT) TLMcFarland **REVIEWED BY (PRINT)** Larry A. Lopez

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	12/17/09	(Printed Name) Sherri Sherwood	12/17/09
(Signature) [signature]	1550	(Signature) Sherri Sherwood	1550
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2488 **EVENT NAME:** 4th Qtr. FY09 - AOC C-12-002 - Threemile Canyon

SAMPLE ID: RE12-10-7587 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/17/2009	MEDIA:	QBT3	ok
TIME COLLECTED (HH:MM)		1414	SUB-MEDIA:	TUFF 1	↓
PRS ID:	C-12-002	ok	SAMPLE TECH CODE:	HA	↓
LOCATION ID:	12-610632	↓	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH:	0	2.0	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	3.0	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	R	EXCAVATED: YES / NO / NA		

COMPOSITE TYPE: NA **COMPOSITE TIME INTERVAL:** NA **WATER FLOWING:** YES / NO / NA

BOREHOLE: YES / NO / NA **BOREHOLE DECLINATION:** NA **BOREHOLE DIRECTION:** NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISOPU+ISOU	1 LITER POLY 234 12/17/09	None	Y	
1	↓	Met+U+CLO4+CN	1 ~~GAL~~ 1 L POLY	Ice	Y	
1	↓	NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: Pinkish gray dry tuff

SAMPLE COMMENTS: NA

LOCATION DESC: 2-4, west side of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 16 dpm PID ambient reading 0.0 / 0.0 ppm

βγ ≤ 2010 dpm

COLLECTED BY (PRINT) TLMcFarland **REVIEWED BY (PRINT)** Larry A. Lopez

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	12/17/09	(Printed Name) Sherri Sherwood	12/17/09
(Signature) [signature]	1550	(Signature) Sherri Sherwood	1550
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2488 **EVENT NAME:** 4th Qtr. FY09 - AOC C-12-002 - Threemile Canyon

SAMPLE ID: RE12-10-7590 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/17/2009	MEDIA:	QBT3	All h
TIME COLLECTED (HH:MM)		~~1553~~ 1253	SUB-MEDIA:	TUFF 1	NA
PRS ID:	C-12-002	ok 12/17/09	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	UNK	12-610633	FIELD QC TYPE:	NA	
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	
TOP DEPTH:	0	0.0	SAMPLE USAGE:	INV	
BOTTOM DEPTH:	0	0.5	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	S	EXCAVATED: YES / NO / NA		

COMPOSITE TYPE: NA **COMPOSITE TIME INTERVAL:** NA **WATER FLOWING:** YES / NO / NA

BOREHOLE: YES / NO / NA **BOREHOLE DECLINATION:** NA **BOREHOLE DIRECTION:** NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY 7zm 12/17/09	None	Y	
1		Met+U+CLO4+CN	1 ~~GAL~~ L POLY	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: medium brown sandy silt, slightly moist, some roots

SAMPLE COMMENTS: NA

LOCATION DESC: 2-5, center of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 22 dpm PID ambient 0.0 / reading 1.6 ppm

BY ≤ 2110 dpm HE negative

COLLECTED BY (PRINT) TLMcFarland **REVIEWED BY (PRINT)** Larry A. López

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	12/17/09	(Printed Name) Sherri Sherwood	12/17/09
(Signature) [signature]	1550	(Signature) Sherri Sherwood	1550
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2488 **EVENT NAME:** 4th Qtr. FY09 - AOC C-12-002 - Threemile Canyon

SAMPLE ID: RE12-10-7591 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/17/2009	MEDIA:	QBT3	Alluv
TIME COLLECTED (HH:MM)		1319	SUB-MEDIA:	TUFF 1	NA
PRS ID:	C-12-002	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	UNK	12-610633	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	↓
TOP DEPTH:	0	2.0	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	3.0	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	S	EXCAVATED: YES / (NO) / NA		

COMPOSITE TYPE: NA **COMPOSITE TIME INTERVAL:** NA **WATER FLOWING:** YES / (NO) / NA

BOREHOLE: YES / (NO) / NA **BOREHOLE DECLINATION:** NA **BOREHOLE DIRECTION:** NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1	↓	AM241+GS+ISOPU+ISOU	1 LITER POLY 12M 12/17/09	None	Y	
1	↓	Met+U+CLO4+CN	~~1 GAL~~ POLY 1 L	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: Brown dry sandy silt
FD RE12-10-7592

SAMPLE COMMENTS:
NA

LOCATION DESC: 2-5, center of AOC

FIELD SCREENING/MEASUREMENT RESULTS:
α ≤ 44 dpm
βγ ≤ 2160 dpm
PID ambient reading 0.0 / 0.0 ppm

COLLECTED BY (PRINT) TLMcFarland **REVIEWED BY (PRINT)** Larry A. Lopez

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	12/17/09	(Printed Name) Sherri Sherwood	12/17/09
(Signature) Tracy [illegible]	1550	(Signature) Sherri Sherwood	1550
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2488 **EVENT NAME:** 4th Qtr. FY09 - AOC C-12-002 - Threemile Canyon

SAMPLE ID: RE12-10-7592 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/17/2009	MEDIA:	OBT3	All h
TIME COLLECTED (HH:MM)		1319	SUB-MEDIA:	TUFF 1	NA
PRS ID:	C-12-002	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	UNK	12-610633	FIELD QC TYPE:	FD	↓
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	↓
TOP DEPTH:	0	2.0	SAMPLE USAGE:	QC	↓
BOTTOM DEPTH:	0	3.0	SCREEN/PORT DESC:	NA	
FIELD MATRIX:	R	S	EXCAVATED: YES / NO / NA		

COMPOSITE TYPE: NA COMPOSITE TIME INTERVAL: NA WATER FLOWING: YES / NO / NA

BOREHOLE: YES / NO / NA BOREHOLE DECLINATION: NA BOREHOLE DIRECTION: NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1	↓	AM241+GS+ISOPU+ISOU	1 LITER POLY 12m 12/17/09	None	Y	
1	↓	Met+U+CLO4+CN	~~1 GAL~~ POLY 1L	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: QC Sample of RE12-10-7591

Brown dry sandy silt

SAMPLE COMMENTS:
NA

LOCATION DESC: 2-5', center of AOC

FIELD SCREENING/MEASUREMENT RESULTS:

α ≤ 44 dpm PID ambient reading 0.0 / 0.0 ppm

Bγ ≤ 2160 dpm

COLLECTED BY (PRINT) TL McFarland REVIEWED BY (PRINT) Lorey A. Lopez

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TL McFarland	12/17/09	(Printed Name) Sherri Sherwood	12/17/09
(Signature) Tracy [illegible]	1550	(Signature) Sherri Sherwood	1550
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2488 **EVENT NAME:** 4th Qtr. FY09 - AOC C-12-002 - Threemile Canyon

SAMPLE ID: RE12-10-7595 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		12/17/2009	MEDIA:	NA	ok
TIME COLLECTED (HH:MM)		1300	SUB-MEDIA:	OTHER	
PRS ID:	C-12-002	ok	SAMPLE TECH CODE:	DC	
LOCATION ID:	UNK	12-610633	FIELD QC TYPE:	FR	
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	UF	
TOP DEPTH:	0		SAMPLE USAGE:	QC	
BOTTOM DEPTH:	0		SCREEN/PORT DESC:	NA	
FIELD MATRIX:	W		EXCAVATED: YES / NO / NA		

COMPOSITE TYPE: NA **COMPOSITE TIME INTERVAL:** NA **WATER FLOWING:** YES / NO / NA

BOREHOLE: YES / NO / NA **BOREHOLE DECLINATION:** NA **BOREHOLE DIRECTION:** NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	METALS+U-GEL	1 LITER POLY	Nitric Acid	Y	
1		SW-846:6850	250 ML POLY	Ice	Y	
1		TCN	500 ML POLY	Sodium Hydroxide	Y	

SAMPLE DESC: QC Sample of RE12-10-7590

SAMPLE COMMENTS:
Rinsate

LOCATION DESC: 2-5

FIELD SCREENING/MEASUREMENT RESULTS:

NA

COLLECTED BY (PRINT) TLMcFarland **REVIEWED BY (PRINT)** Larry A. Lopez

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	12/17/09	(Printed Name) Sherrill Sherwood	12/17/09
(Signature) [signature]	1550	(Signature) Sherrill Sherwood	1550
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

Rad Screening Data Release Form

The Following samples were received at the Field Support Facility (FSF) without screening data (list sample number): RE12-10-7584
7583
7580
7582
7581
7592
7591
7587
7590
WST12-10-8879 (WST)
RE12-10-7585
" " 7586

These samples will not be shipped until radiological screening data documentation arrives at the FSF. I understand that it is my responsibility to ensure this information arrives at the FSF in a timely manner. If holding times are missed because screening data does not arrive, I will pick up the samples.

The following samples do not require rad screening data for the reasons stated (list sample numbers): RE12-10-7595 FR
WST12-10-8868 FTB

Reason: FR

Print Last Name Lopez **Signature** [signature] **Date** 12/07/09

Rad Screening Data Release Form

The Following samples were received at the Field Support Facility (FSF) without screening data (list sample number): RE12-10-7584
7583
7580
7582
7581
7592
7591
7587
7590
WST12-10-8879 (WST)
RE12-10-7585
" " 7586

These samples will not be shipped until radiological screening data documentation arrives at the FSF. I understand that it is my responsibility to ensure this information arrives at the FSF in a timely manner. If holding times are missed because screening data does not arrive, I will pick up the samples.

The following samples do not require rad screening data for the reasons stated (list sample numbers): RE12-10-7595 FR
WST12-10-8868 FTB

Reason: FR

Print Last Name Lopez **Signature** [signature] **Date** 12/17/09

ARS AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544
505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-09-00165	Request or PO Number:	
Client Sample ID:	RE12-10-7580	ARS Sample ID:	ARS2-09-00165-001
Sample Collection Date:	12/17/09 10:56	Date Received:	12/18/09 00:00
Sample Matrix:	Soil/Solid	Report Date:	12/21/09 08:46

Analysis Description	Analysis Results	Analysis Error +/- 2 S	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	40.65	21.39	20.66	21.96		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
GROSS BETA	35.96	10.89	12.93	11.74		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
NA-22	0.00	0.00	0.13	0.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
K-40	17.84	8.64	2.97	8.66		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CO-60	-0.01	38.82	0.14	38.82		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-134	0.42	0.36	0.12	0.36		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-137	0.35	0.28	0.09	0.28		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
EU-152	0.68	0.69	0.23	0.69		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
PB-212	2.04	0.72	0.25	0.72		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
RA-228	2.49	1.14	0.44	1.15		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-235	2.25	1.99	0.86	2.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-238	7.16	5.32	2.17	5.56		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
AM-241	0.42	0.42	0.18	0.42		pCi/g	EPA 901.1M	12/18/2009	ME	N/A

NOTES: % Moisture: 0.38

Matthew L. Eden
Quality Assurance Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

ARS AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544
505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-09-00165	Request or PO Number:	
Client Sample ID:	RE12-10-7581	ARS Sample ID:	ARS2-09-00165-002
Sample Collection Date:	12/17/09 11:06	Date Received:	12/18/09 00:00
Sample Matrix:	Soil/Solid	Report Date:	12/21/09 08:46

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	28.93	18.39	21.37	18.72		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
GROSS BETA	29.59	9.98	12.17	10.62		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
NA-22	0.00	0.00	0.12	0.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
K-40	26.26	9.32	1.88	9.35		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CO-60	0.07	0.15	0.13	0.18		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-134	0.27	0.25	0.09	0.25		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-137	-0.01	16.13	0.08	16.13		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
EU-152	0.21	0.25	0.14	0.25		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
PB-212	1.68	0.58	0.17	0.59		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
RA-228	1.50	0.80	0.33	0.81		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-235	0.48	0.52	0.19	0.52		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-238	2.10	2.76	1.38	2.80		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
AM-241	0.01	0.07	0.06	0.07		pCi/g	EPA 901.1M	12/18/2009	ME	N/A

NOTES: % Moisture: 0.35

Matthew L. Eckey
Quality Assurance Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client

LELAP Certificate# 30658 NELAP Certificate # EB7558

AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544
505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-09-00165	Request or PO Number:	
Client Sample ID:	RE12-10-7582	ARS Sample ID:	ARS2-09-00165-003
Sample Collection Date:	12/17/09 11:53	Date Received:	12/18/09 00:00
Sample Matrix:	Soil/Solid	Report Date:	12/21/09 08:46

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	QuM	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	20.77	15.95	19.74	16.15		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
GROSS BETA	42.92	11.49	12.91	13.63		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
NA-22	0.17	0.24	0.14	0.24		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
K-40	25.28	10.34	3.14	10.37		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CO-60	-0.01	41.07	0.14	41.07		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-134	0.40	0.37	0.11	0.37		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-137	-0.02	53.73	0.09	53.73		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
EU-152	-0.01	156.46	0.18	156.46		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
PB-212	1.76	0.71	0.27	0.71		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
RA-228	2.81	1.32	0.46	1.32		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-235	4.81	2.22	0.82	2.22		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-238	7.95	6.47	2.61	6.72		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
AM-241	-0.01	-0.23	0.16	-0.23		pCi/g	EPA 901.1M	12/18/2009	ME	N/A

NOTES: % Moisture: 0.19

Quality Assurance Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

ARS AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544
505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00165
Client Sample ID: RE12-10-7583
Sample Collection Date: 12/17/09 12:10
Sample Matrix: Soil/Solid

Request or PO Number:
ARS Sample ID: ARS2-09-00165-004
Date Received: 12/18/09 00:00
Report Date: 12/21/09 08:46

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	16.74	16.76	25.57	16.89		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
GROSS BETA	34.29	10.39	12.63	11.21		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
NA-22	0.08	0.00	0.11	0.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
K-40	16.58	7.10	1.69	7.11		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CO-60	0.00	11.05	0.11	11.05		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-134	0.08	0.00	0.08	0.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-137	0.16	0.17	0.07	0.17		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
EU-152	0.26	0.30	0.13	0.30		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
PB-212	2.02	0.56	0.09	0.56		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
RA-226	2.31	0.92	0.29	0.93		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-235	1.07	0.71	0.22	0.72		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-238	3.70	2.87	1.23	3.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
AM-241	0.03	0.13	0.08	0.13		pCi/g	EPA 901.1M	12/18/2009	ME	N/A

NOTES: % Moisture: 0.22

Matthew L. Edey
Quality Assurance Review

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LELAP Certificate# 30658 NELAP Certificate # E87558

ARS AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544
505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-09-00165	Request or PO Number:	
Client Sample ID:	RE12-10-7584	ARS Sample ID:	ARS2-09-00165-005
Sample Collection Date:	12/17/09 13:50	Date Received:	12/18/09 00:00
Sample Matrix:	Soil/Solid	Report Date:	12/21/09 08:46

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	53.03	23.99	20.66	24.85		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
GROSS BETA	35.02	10.96	12.93	11.77		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
NA-22	0.00	0.00	0.12	0.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
K-40	14.47	7.50	2.09	7.51		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CO-60	0.00	13.66	0.14	13.66		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-134	0.12	0.17	0.10	0.17		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-137	-0.01	17.87	0.09	17.87		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
EU-152	0.42	0.66	0.16	0.66		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
PB-212	1.41	0.59	0.20	0.59		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
RA-226	2.04	1.06	0.36	1.06		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-235	1.35	1.13	0.41	1.13		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-238	2.97	2.97	1.36	3.04		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
AM-241	0.13	0.21	0.10	0.21		pCi/g	EPA 901.1M	12/18/2009	ME	N/A

NOTES: % Moisture: 0.19

Matthew L. Eden
Quality Assurance Review

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AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-09-00165	Request or PO Number:	
Client Sample ID:	RE12-10-7585	ARS Sample ID:	ARS2-09-00165-006
Sample Collection Date:	12/17/09 13:50	Date Received:	12/18/09 00:00
Sample Matrix:	Soil/Solid	Report Date:	12/21/09 08:46

Analysis Description	Analysis Results	Analysis Error +/- 3 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	31.23	19.94	21.37	19.32		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
GROSS BETA	35.85	10.52	12.17	11.40		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
NA-22	0.00	0.00	0.16	0.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
K-40	19.10	9.30	2.46	9.32		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CO-60	0.00	16.12	0.16	16.12		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-134	0.00	0.00	0.12	0.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-137	-0.01	21.08	0.10	21.08		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
EU-152	0.34	0.42	0.19	0.42		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
PB-212	1.81	0.71	0.22	0.71		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
RA-228	2.08	1.26	0.43	1.26		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-235	1.87	1.52	0.48	1.52		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-238	5.87	4.40	1.53	4.60		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
AM-241	0.16	0.30	0.15	0.30		pCi/g	EPA 901.1M	12/18/2009	ME	N/A

NOTES: % Moisture: 0.25

Quality Assurance Review

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AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00165

Client Sample ID: RE12-10-7586

Sample Collection Date: 12/17/09 14:00

Sample Matrix: Soil/Solid

Request or PO Number:

ARS Sample ID: ARS2-09-00165-007

Date Received: 12/18/09 00:00

Report Date: 12/21/09 08:46

Analysis Description	Analysis Results	Analysis Error +/- 2 σ	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	30.42	18.55	19.74	18.92		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
GROSS BETA	32.22	10.78	12.91	11.48		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
NA-22	0.00	0.00	0.13	0.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
K-40	16.09	7.62	1.97	7.63		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CO-60	0.00	12.89	0.13	12.89		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-134	0.00	0.00	0.09	0.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-137	0.24	0.22	0.08	0.22		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
EU-152	0.81	0.41	0.15	0.42		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
PB-212	0.91	0.49	0.18	0.49		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
RA-226	-0.15	200.71	0.45	200.71		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-235	1.26	0.81	0.20	0.81		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-238	1.85	3.77	1.79	3.79		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
AM-241	0.51	0.39	0.13	0.40		pCi/g	EPA 901.1M	12/18/2009	ME	N/A

NOTES: % Moisture: 0.26

Matthew J. Eden

Quality Assurance Review

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ARS AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544
505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-09-00165
Client Sample ID: RE12-10-7587
Sample Collection Date: 12/17/09 14:14
Sample Matrix: Soil/Solid

Request or PO Number:
ARS Sample ID: ARS2-09-00165-008
Date Received: 12/18/09 00:00
Report Date: 12/21/09 08:46

Analysis Description	Analysis Results	Analysis Error +/- 2 σ	MDA	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	25.92	19.03	25.57	19.29		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
GROSS BETA	41.25	11.08	12.63	12.15		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
NA-22	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
K-40	24.29	8.62	1.74	8.65		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CO-60	0.00	11.41	0.13	11.41		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-134	0.15	0.14	0.08	0.14		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-137	0.01	0.05	0.07	0.05		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
EU-152	0.48	0.39	0.13	0.39		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
PB-212	1.50	0.49	0.10	0.49		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
RA-226	1.82	0.85	0.30	0.85		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-235	0.76	0.76	0.29	0.76		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-238	4.08	3.87	1.60	3.98		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
AM-241	0.02	0.12	0.07	0.12		pCi/g	EPA 901.1M	12/18/2009	ME	N/A

NOTES: % Moisture: 0.23

Matthew J. Eden
Quality Assurance Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

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AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-09-00165	Request or PO Number:	
Client Sample ID:	RE12-10-7590	ARS Sample ID:	ARS2-09-00165-009
Sample Collection Date:	12/17/09 13:53	Date Received:	12/18/09 00:00
Sample Matrix:	Soil/Solid	Report Date:	12/21/09 08:46

Analysis Description	Analysis Results	Analysis Error +/- 2 σ	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	40.64	21.39	20.66	21.96		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
GROSS BETA	40.67	11.24	12.93	12.29		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
NA-22	0.00	0.00	0.12	0.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
K-40	22.84	9.16	2.74	9.19		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CO-60	-0.01	35.81	0.13	35.81		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-134	0.43	0.29	0.09	0.29		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-137	0.66	0.36	0.08	0.36		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
EU-152	0.07	0.17	0.19	0.17		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
PB-212	1.89	0.67	0.24	0.67		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
RA-228	2.58	1.20	0.40	1.20		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-235	-0.16	266.94	0.30	266.94		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-238	5.42	4.81	2.11	4.96		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
AM-241	1.02	0.52	0.16	0.52		pCi/g	EPA 901.1M	12/18/2009	ME	N/A

NOTES: % Moisture: 0.18

Quality Assurance Review

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LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-09-00165	Request or PO Number:	
Client Sample ID:	RE12-10-7591	ARS Sample ID:	ARS2-09-00165-010
Sample Collection Date:	12/17/09 13:19	Date Received:	12/18/09 00:00
Sample Matrix:	Soil/Solid	Report Date:	12/21/09 08:46

Analysis Description	Analysis Results	Analysis Error +/- 2 σ	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	38.14	20.49	21.37	21.02		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
GROSS BETA	46.89	11.43	12.17	12.79		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
NA-22	0.00	0.00	0.16	0.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
K-40	13.26	9.27	4.47	9.28		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CO-60	-0.02	87.72	0.17	87.72		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-134	0.44	0.28	0.12	0.28		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-137	0.61	0.41	0.11	0.41		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
EU-152	2.02	1.12	0.51	1.13		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
PB-212	1.07	0.69	0.33	0.69		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
RA-228	2.88	1.58	0.66	1.59		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-235	5.66	2.76	0.77	2.76		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-238	-0.49	-8.16	3.63	-8.16		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
AM-241	0.13	0.41	0.23	0.41		pCi/g	EPA 901.1M	12/18/2009	ME	N/A

NOTES: % Moisture: 0.27

Matthew L. Eden

Quality Assurance Review

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LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-09-00165	Request or PO Number:	
Client Sample ID:	RE12-10-7592	ARS Sample ID:	ARS2-09-00165-011
Sample Collection Date:	12/17/09 13:19	Date Received:	12/18/09 00:00
Sample Matrix:	Soil/Solid	Report Date:	12/21/09 08:46

Analysis Description	Analysis Results	Analysis Error +/- 2 σ	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	47.33	22.38	19.74	23.12		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
GROSS BETA	56.16	12.84	12.91	14.57		pCi/g	EPA 900.0M	12/18/2009	ME	N/A
NA-22	0.00	0.00	0.10	0.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
K-40	22.75	8.20	2.25	8.23		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CO-60	0.12	0.18	0.11	0.18		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-134	0.00	0.00	0.08	0.00		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
CS-137	0.66	0.33	0.07	0.33		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
EU-152	1.25	0.72	0.23	0.72		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
PB-212	1.65	0.53	0.15	0.53		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
RA-228	1.21	0.75	0.33	0.75		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-235	2.47	1.26	0.35	1.27		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
U-238	8.33	4.29	1.58	4.69		pCi/g	EPA 901.1M	12/18/2009	ME	N/A
AM-241	-0.02	48.36	0.05	48.36		pCi/g	EPA 901.1M	12/18/2009	ME	N/A

NOTES: % Moisture: 0.38

Matthew L. Eden

Quality Assurance Review

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LELAP Certificate# 30658 NELAP Certificate # E87558

DATA VALIDATION COVER SHEET

5122-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY

Section I.

REQUEST NUMBER: 10-1032 VALIDATION DATE: 02/05/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Peter Steves ORGANIZATION: Analytical Quality Associates, Inc

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- ☐ TPH-GRO
- ☐ TPH-DRO
- ☐ GENERAL CHEMISTRY
- ☐ HIGH EXPLOSIVES
- ☐ METALS
- ☐ RADIOCHEMISTRY
- ☐ DIOXIN FURANS
- ☐ PCB CONGENERS
- ☒ LCMSMS HIGH EXPLOSIVES
- ☐ LCMSMS PERCHLORATES
- ☐ ORGANOCHLORINE PESTICIDES/POLYCHLORINATED BIPHENYLS
- ☐ OTHER (DESCRIBE):

Section II. Completeness Check

YES	NO	N/A	(CHECK ONE)	YES	NO	N/A	(CHECK ONE)
☒	☐	☐	1. CHAIN-OF-CUSTODY FORM(S)	☒	☐	☐	6. RAW/BSS DATA
☒	☐	☐	2. CASE NARRATIVE	☒	☐	☐	7. QUALITY CONTROL FORMS
☒	☐	☐	3. SAMPLE RESULT FORMS	☒	☐	☐	8. QUANTITATION REPORTS
☒	☐	☐	4. SAMPLE CHROMATOGRAMS	☐	☐	☒	9. TICS FORMS
☐	☐	☒	5. STANDARD CHROMATOGRAMS	☐	☐	☒	10. TICS MASS SPECTRA

Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):

1. The ICV/CCV %Ds were >20% but ≤40% with a negative bias for m-nitrotoluene. The associated sample results were NDs and, thus, were qualified UJ,HE7c.
2. The LCS %R was < the laboratory LAL but ≥10% for tetryl. The associate sample results were NDs and, thus, were qualified UJ,HE12a.
3. The MS/MSD RPDs were > the laboratory control limits for m-nitrotoluene and tetryl. The associate sample results were NDs and, thus, were qualified UJ,HE12g.
4. It should be noted that the raw ICAL data from the instrument used for the secondary HE analysis were not reported in the data package. Thus, the surrogate RT criteria could not be evaluated. In addition, the raw ICAL data from the instrument used for the primary HE analysis were also not reported. No sample data were qualified as a result.

Reviewed by: Monica Dymerski **Level I** **Date:** 02/08/10

VALIDATOR'S SIGNATURE: Mr. Peter Steves DATE: 02/05/10

DATA VALIDATION COVER SHEET	
5122-1 **Data Validation Cover Sheet**	Records Use only Los Alamos NATIONAL LABORATORY
Form 5122-1, Revision 0.0	LOS ALAMOS Environmental Restoration Project

LC/MS/MS HIGH EXPLOSIVE ANALYTICAL DATA VALIDATION CHECKLIST

5122-2

LC/MS/MS High Explosive Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	1. The IS retention time has shifted by more than 30 seconds.	R, UJ, HE0	J, HE0
☐	☒	☐	2. Required IS retention time documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, HE0b	R, HE0b
☐	☐	☒	3. The quantitating IS area count is <25% of the expected value, which indicates increased potential for false negative results and other possible problems with sample quantitation. Follow the method-specific windows.	R, HE1a	J, HE1a
☐	☐	☒	4. The IS area count for the quantitating IS is <70% but >25% of the average of that obtained from the calibration standards.	UJ, HE1b	J+, HE1b
☐	☐	☒	5. The IS area count for the quantitating IS is >130% of the average of that obtained from the calibration standards.	UJ, HE1c	J-, HE1c
☐	☐	☒	6. Required IS information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, HE1d	R, HE1d
☐	☒	☐	7. The surrogate is <10%R. Follow the external laboratory limits.	R, HE3	J-, HE3
☐	☒	☐	8. The surrogate is < the Lower Acceptance Limit but ≥10% recovery. Follow the external laboratory limits.	UJ, HE3a	J-, HE3a
☐	☒	☐	9. The surrogate %R value is > the Upper Acceptance Limit. Follow the external laboratory limits.	N/A	J+, HE3b
☐	☐	☒	10. At least one surrogate is > the Upper Acceptance Limit and one surrogate is < the Lower Acceptance Limit. Follow the external laboratory limits.	UJ, HE3c	J, HE3c

LC/MS/MS HIGH EXPLOSIVE ANALYTICAL DATA VALIDATION CHECKLIST	
5122-2 LC/MS/MS High Explosive Analytical Data Validation Checklist	Records Use only Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	11. Required surrogate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, HE3d	R, HE3d
☐	☒	☐	12. The sample result is ≤5 times the concentration of the related analyte in the method blank.	U, HE4	N/A
☐	☒	☐	13. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was >5x.	N/A	J, HE4a
☐	☐	☒	14. The sample result is ≤5 times the concentration of the related analyte in the trip blank, rinsate blank, and/or equipment blank.	U, HE4d	N/A
☐	☒	☐	15. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, HE4e	R, HE4e
☐	☒	☐	16. The absence of sample carry-over must be determined and verified.	N/A	R, N, HE4f
☐	☒	☐	17. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ, HE7	J, HE7
☐	☒	☐	18. The affected analytes were analyzed with an initial calibration curve that exceeded the %RSD criteria and/or the associated multipoint calibration correlation coefficient is less < 0.99.	UJ, R, HE7a	J, HE7a
☐	☒	☐	19. The affected analytes were analyzed with a RRF of <0.05 in the initial calibration and/or CCV.	UJ, R, HE7b	J, HE7b
☒	☐	☐	20. The ICV and/or CCV were recovered outside the method limits.	UJ, R, HE7c	J, HE7c
☐	☒	☐	21. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, R, HE7d	J, HE7d
☐	☒	☐	22. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, HE7f	R, HE7f

LC/MS/MS HIGH EXPLOSIVE ANALYTICAL DATA VALIDATION CHECKLIST	
5122-2 LC/MS/MS High Explosive Analytical Data Validation Checklist	Records Use only Los Alamos NATIONAL LABORATORY EST 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☐	☒	23. The mass spectral documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, HE8a	R, HE8a
☐	☒	☐	24. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, HE9	J-, HE9
☐	☒	☐	25. The holding time was >2 times the applicable holding time requirement.	R, HE9a	J-, HE9a
☐	☒	☐	26. The LCS percent recovery was <10%. Follow the external laboratory limits.	R, HE12	J-, HE12
☒	☐	☐	27. The LCS percent recovery was < the Lower Acceptance Limit but >10%. Follow the external laboratory limits.	UJ, HE12a	J-, HE12a
☐	☒	☐	28. The LCS percent recovery was > the Upper Acceptance Limit. Follow the external laboratory limits.	N/A	J+, HE12b
☐	☒	☐	29. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, HE12c	R, HE12c
☐	☒	☐	30. The MS/MSD percent recovery was <10%.	R, HE12d	R, HE12d
☐	☒	☐	31. The MS/MSD percent recovery was >10% but <70%.	UJ, HE12e	J, HE12e
☐	☒	☐	32. The MS/MSD percent recover was >70%.	N/A	J+, HE12f
☒	☐	☐	33. The MS/MSD relative percent difference was >30%.	UJ, HE12g	J, HE12g
☐	☐	☒	34. The affected analytes are considered suspect because the sample was diluted without any target analytes identified due to matrix interference. (Qualify as Reject if the analytical laboratory cannot provide proof for matrix interference.)	UJ, R, HE15	R, HE15
☐	☐	☒	35. The sample was diluted because target analytes were > the initial verification calibration.	UJ, HE15a	J, HE15a

LC/MS/MS HIGH EXPLOSIVE ANALYTICAL DATA VALIDATION CHECKLIST	
5122-2 LC/MS/MS High Explosive Analytical Data Validation Checklist	Records Use only Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☐	☒	36. The Contract Required Detection Limit Check Standard (CRI) sample did not pass method acceptance criteria.	UJ, R, HE16	J, HE16
☐	☐	☒	37. The required CRI sample information is missing. Contact the SMO or external laboratory for information.	R, HE16c	R, HE16c
☐	☒	☐	38. The LANL project chemist identified quality deficiencies in the reported data that requires further qualification. This code can only be used and/or under advisement by the LANL project chemist.	UJ, R, HE19	J, R, HE19
☐	☒	☐	39. Duplicate, dilution, or reanalysis.	UJ, HE88	J, HE88

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High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7580

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385001

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115024a

Date Analyzed: 16-JAN-10 02:12

Units: ug/kg

Cas No.	Compound		Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene		500	U
121-14-2	2,4-Dinitrotoluene		500	U
121-82-4	RDX		500	U
19406-51-0	4-Amino-2,6-dinitrotoluene		500	U
2691-41-0	HMX		500	U
35572-78-2	2-Amino-4,6-dinitrotoluene		500	U
479-45-8	Tetryl	UJ,HE12a	500	U
606-20-2	2,6-Dinitrotoluene		500	U
78-11-5	PETN		1000	U
88-72-2	o-Nitrotoluene		500	U
98-95-3	Nitrobenzene		500	U
99-08-1	m-Nitrotoluene	UJ,HE7c	500	U
99-35-4	1,3,5-Trinitrobenzene		500	U
99-65-0	m-Dinitrobenzene		500	U
99-99-0	p-Nitrotoluene		500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7580

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385001

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070029.wiff

Date Analyzed: 07-JAN-10 21:35

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7590

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385002

Sample Amount 2

Moisture: 9.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115027a

Date Analyzed: 16-JAN-10 03:40

Units: ug/kg

Cas No.	Compound		Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene		500	U
121-14-2	2,4-Dinitrotoluene		500	U
121-82-4	RDX		500	U
19406-51-0	4-Amino-2,6-dinitrotoluene		500	U
2691-41-0	HMX		500	U
35572-78-2	2-Amino-4,6-dinitrotoluene		500	U
479-45-8	Tetryl	UJ,HE12a	500	U
606-20-2	2,6-Dinitrotoluene		500	U
78-11-5	PETN		1000	U
88-72-2	o-Nitrotoluene		500	U
98-95-3	Nitrobenzene		500	U
99-08-1	m-Nitrotoluene	UJ,HE7c	500	U
99-35-4	1,3,5-Trinitrobenzene		500	U
99-65-0	m-Dinitrobenzene		500	U
99-99-0	p-Nitrotoluene		500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7590

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385002

Sample Amount 2

Moisture: 9.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070032.wiff

Date Analyzed: 07-JAN-10 22:22

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7592

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385003

Sample Amount 2

Moisture: 11.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115028a

Date Analyzed: 16-JAN-10 04:10

Units: ug/kg

Cas No.	Compound		Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene		500	U
121-14-2	2,4-Dinitrotoluene		500	U
121-82-4	RDX		500	U
19406-51-0	4-Amino-2,6-dinitrotoluene		500	U
2691-41-0	HMX		500	U
35572-78-2	2-Amino-4,6-dinitrotoluene		500	U
479-45-8	Tetryl	UJ,HE12a	500	U
606-20-2	2,6-Dinitrotoluene		500	U
78-11-5	PETN		1000	U
88-72-2	o-Nitrotoluene		500	U
98-95-3	Nitrobenzene		500	U
99-08-1	m-Nitrotoluene	UJ,HE7c	500	U
99-35-4	1,3,5-Trinitrobenzene		500	U
99-65-0	m-Dinitrobenzene		500	U
99-99-0	p-Nitrotoluene		500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7592

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385003

Sample Amount 2

Moisture: 11.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070033.wiff

Date Analyzed: 07-JAN-10 22:38

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7591

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385004

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115029a

Date Analyzed: 16-JAN-10 04:39

Units: ug/kg

Cas No.	Compound		Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene		500	U
121-14-2	2,4-Dinitrotoluene		500	U
121-82-4	RDX		500	U
19406-51-0	4-Amino-2,6-dinitrotoluene		500	U
2691-41-0	HMX		500	U
35572-78-2	2-Amino-4,6-dinitrotoluene		500	U
479-45-8	Tetryl	UJ,HE12a	500	U
606-20-2	2,6-Dinitrotoluene		500	U
78-11-5	PETN		1000	U
88-72-2	o-Nitrotoluene		500	U
98-95-3	Nitrobenzene		500	U
99-08-1	m-Nitrotoluene	UJ,HE7c	500	U
99-35-4	1,3,5-Trinitrobenzene		500	U
99-65-0	m-Dinitrobenzene		500	U
99-99-0	p-Nitrotoluene		500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7591

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385004

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070034.wiff

Date Analyzed: 07-JAN-10 22:53

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7581

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385005

Sample Amount 2

Moisture: 11.6

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115030a

Date Analyzed: 16-JAN-10 05:09

Units: ug/kg

Cas No.	Compound		Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene		500	U
121-14-2	2,4-Dinitrotoluene		500	U
121-82-4	RDX		500	U
19406-51-0	4-Amino-2,6-dinitrotoluene		500	U
2691-41-0	HMX		500	U
35572-78-2	2-Amino-4,6-dinitrotoluene		500	U
479-45-8	Tetryl	UJ,HE12a	500	U
606-20-2	2,6-Dinitrotoluene		500	U
78-11-5	PETN		1000	U
88-72-2	o-Nitrotoluene		500	U
98-95-3	Nitrobenzene		500	U
99-08-1	m-Nitrotoluene	UJ,HE7c	500	U
99-35-4	1,3,5-Trinitrobenzene		500	U
99-65-0	m-Dinitrobenzene		500	U
99-99-0	p-Nitrotoluene		500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7581

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385005

Sample Amount 2

Moisture: 11.6

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070035.wiff

Date Analyzed: 07-JAN-10 23:09

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7586

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385006

Sample Amount 2

Moisture: 10.8

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115031a

Date Analyzed: 16-JAN-10 05:38

Units: ug/kg

Cas No.	Compound		Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene		500	U
121-14-2	2,4-Dinitrotoluene		500	U
121-82-4	RDX		500	U
19406-51-0	4-Amino-2,6-dinitrotoluene		500	U
2691-41-0	HMX		500	U
35572-78-2	2-Amino-4,6-dinitrotoluene		500	U
479-45-8	Tetryl	UJ,HE12a	500	U
606-20-2	2,6-Dinitrotoluene		500	U
78-11-5	PETN		1000	U
88-72-2	o-Nitrotoluene		500	U
98-95-3	Nitrobenzene		500	U
99-08-1	m-Nitrotoluene	UJ,HE7c	500	U
99-35-4	1,3,5-Trinitrobenzene		500	U
99-65-0	m-Dinitrobenzene		500	U
99-99-0	p-Nitrotoluene		500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7586

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385006

Sample Amount 2

Moisture: 10.8

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070036.wiff

Date Analyzed: 07-JAN-10 23:25

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7587

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385007

Sample Amount 2

Moisture: 9.9

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115035a

Date Analyzed: 16-JAN-10 07:36

Units: ug/kg

Cas No.	Compound		Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene		500	U
121-14-2	2,4-Dinitrotoluene		500	U
121-82-4	RDX		500	U
19406-51-0	4-Amino-2,6-dinitrotoluene		500	U
2691-41-0	HMX		500	U
35572-78-2	2-Amino-4,6-dinitrotoluene		500	U
479-45-8	Tetryl	UJ,HE12a	500	U
606-20-2	2,6-Dinitrotoluene		500	U
78-11-5	PETN		1000	U
88-72-2	o-Nitrotoluene		500	U
98-95-3	Nitrobenzene		500	U
99-08-1	m-Nitrotoluene	UJ,HE7c	500	U
99-35-4	1,3,5-Trinitrobenzene		500	U
99-65-0	m-Dinitrobenzene		500	U
99-99-0	p-Nitrotoluene		500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7587

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385007

Sample Amount 2

Moisture: 9.9

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070040.wiff

Date Analyzed: 08-JAN-10 00:27

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7585

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385008

Sample Amount 2

Moisture: 8.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115036a

Date Analyzed: 16-JAN-10 08:06

Units: ug/kg

Cas No.	Compound		Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene		500	U
121-14-2	2,4-Dinitrotoluene		500	U
121-82-4	RDX		500	U
19406-51-0	4-Amino-2,6-dinitrotoluene		500	U
2691-41-0	HMX		500	U
35572-78-2	2-Amino-4,6-dinitrotoluene		500	U
479-45-8	Tetryl	UJ,HE12a	500	U
606-20-2	2,6-Dinitrotoluene		500	U
78-11-5	PETN		1000	U
88-72-2	o-Nitrotoluene		500	U
98-95-3	Nitrobenzene		500	U
99-08-1	m-Nitrotoluene	UJ,HE7c	500	U
99-35-4	1,3,5-Trinitrobenzene		500	U
99-65-0	m-Dinitrobenzene		500	U
99-99-0	p-Nitrotoluene		500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7585

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385008

Sample Amount 2

Moisture: 8.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070041.wiff

Date Analyzed: 08-JAN-10 00:43

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7582

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385009

Sample Amount 2

Moisture: 7.2

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115037a

Date Analyzed: 16-JAN-10 08:35

Units: ug/kg

Cas No.	Compound		Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene		500	U
121-14-2	2,4-Dinitrotoluene		500	U
121-82-4	RDX		500	U
19406-51-0	4-Amino-2,6-dinitrotoluene		500	U
2691-41-0	HMX		500	U
35572-78-2	2-Amino-4,6-dinitrotoluene		500	U
479-45-8	Tetryl	UJ,HE12a	500	U
606-20-2	2,6-Dinitrotoluene		500	U
78-11-5	PETN		1000	U
88-72-2	o-Nitrotoluene		500	U
98-95-3	Nitrobenzene		500	U
99-08-1	m-Nitrotoluene	UJ,HE7c	500	U
99-35-4	1,3,5-Trinitrobenzene		500	U
99-65-0	m-Dinitrobenzene		500	U
99-99-0	p-Nitrotoluene		500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7582

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385009

Sample Amount 2

Moisture: 7.2

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070042.wiff

Date Analyzed: 08-JAN-10 00:59

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7584

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385010

Sample Amount 2

Moisture: 7.3

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115038a

Date Analyzed: 16-JAN-10 09:05

Units: ug/kg

Cas No.	Compound		Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene		500	U
121-14-2	2,4-Dinitrotoluene		500	U
121-82-4	RDX		500	U
19406-51-0	4-Amino-2,6-dinitrotoluene		500	U
2691-41-0	HMX		500	U
35572-78-2	2-Amino-4,6-dinitrotoluene		500	U
479-45-8	Tetryl	UJ,HE12a	500	U
606-20-2	2,6-Dinitrotoluene		500	U
78-11-5	PETN		1000	U
88-72-2	o-Nitrotoluene		500	U
98-95-3	Nitrobenzene		500	U
99-08-1	m-Nitrotoluene	UJ,HE7c	500	U
99-35-4	1,3,5-Trinitrobenzene		500	U
99-65-0	m-Dinitrobenzene		500	U
99-99-0	p-Nitrotoluene		500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12--10-7584

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385010

Sample Amount 2

Moisture: 7.3

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070043.wiff

Date Analyzed: 08-JAN-10 01:15

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7583

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385011

Sample Amount 2

Moisture: 6.7

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115039a

Date Analyzed: 16-JAN-10 09:34

Units: ug/kg

Cas No.	Compound		Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene		500	U
121-14-2	2,4-Dinitrotoluene		500	U
121-82-4	RDX		500	U
19406-51-0	4-Amino-2,6-dinitrotoluene		500	U
2691-41-0	HMX		500	U
35572-78-2	2-Amino-4,6-dinitrotoluene		500	U
479-45-8	Tetryl	UJ,HE12a	500	U
606-20-2	2,6-Dinitrotoluene		500	U
78-11-5	PETN		1000	U
88-72-2	o-Nitrotoluene		500	U
98-95-3	Nitrobenzene		500	U
99-08-1	m-Nitrotoluene	UJ,HE7c	500	U
99-35-4	1,3,5-Trinitrobenzene		500	U
99-65-0	m-Dinitrobenzene		500	U
99-99-0	p-Nitrotoluene		500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7583

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385011

Sample Amount 2

Moisture: 6.7

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070044.wiff

Date Analyzed: 08-JAN-10 01:30

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

P.S. 2/5/10

DATA VALIDATION COVER SHEET

5121-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Section I.

REQUEST NUMBER: 10-1032 VALIDATION DATE: 02/05/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Peter Steves ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- ☐ TPH-GRO
- ☐ TPH-DRO
- ☐ GENERAL CHEMISTRY
- ☐ HIGH EXPLOSIVES
- ☐ METALS
- ☐ RADIOCHEMISTRY
- ☐ DIOXIN FURANS
- ☐ PCB CONGENERS
- ☐ LCMSMS HIGH EXPLOSIVES
- ☒ LCMSMS PERCHLORATES
- ☐ ORGANOCHLORINE PESTICIDES/POLYCHLORINATED BIPHENYLS
- ☐ OTHER (DESCRIBE):

Section II. Completeness Check

YES	NO	N/A	(CHECK ONE)	YES	NO	N/A	(CHECK ONE)
☒	☐	☐	1. CHAIN-OF-CUSTODY FORM(S)	☒	☐	☐	6. RAW/BSS DATA
☒	☐	☐	2. CASE NARRATIVE	☒	☐	☐	7. QUALITY CONTROL FORMS
☒	☐	☐	3. SAMPLE RESULT FORMS	☒	☐	☐	8. QUANTITATION REPORTS
☒	☐	☐	4. SAMPLE CHROMATOGRAMS	☐	☐	☒	9. TICS FORMS
☐	☐	☒	5. STANDARD CHROMATOGRAMS	☐	☐	☒	10. TICS MASS SPECTRA

Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):

1. It should be noted that the parent samples for both the solid and aqueous QC analyses were from other LANL RNs. No sample data were qualified as a result.

Reviewed by: Monica Dymerski **Level I** **Date:** 02/08/10

VALIDATOR'S SIGNATURE: Mr. Peter Steves DATE: 02/05/10

LC/MS/MS PERCHLORATE ANALYTICAL DATA VALIDATION CHECKLIST

5121-2

LC/MS/MS Perchlorate Analytical Data Validation Checklist

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Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	1. The Internal Standard (IS) relativer retention time has shifted by more than 0.98 to 1.02 seconds.	R, PERC0	J, PERC0
☐	☒	☐	2. Required IS retention time documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, PERC0b	R, PERC0b
☐	☐	☒	3. The IS are count is <25% of the expected value.	UJ, PERC1a	J, PERC1a
☐	☐	☒	4. The IS area count is <70% but >25% of the average of that obtained from the calibration standards.	UJ, PERC1b	J, PERC1b
☐	☐	☒	5. The IS area count is >130% of the average of that obtained from the calibration standards.	UJ, PERC1c	J, PERC1c
☐	☐	☒	6. Required IS information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, PREC1d	R, PERC1d
☐	☒	☐	7. The sample result is ≤ 5X the concentration of the related analyte in the method blank.	U, PERC4	N/A
☐	☒	☐	8. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was >5X.	N/A	J+, PERC4a
☐	☒	☐	9. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, and/or equipment blank.	U, PERC4d	N/A
☐	☒	☐	10. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, PERC4e	R, PERC4e
☐	☒	☐	11. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ, PERC7	J, PERC7
☐	☒	☐	12. The affected analytes were analyzed with an initial calibration curve that exceeded the %RSD criteria and/or the associated multipoint calibration correlation coefficient is <0.99.	UJ, R, PERC7a	J, PERC7a

LC/MS/MS PERCHLORATE ANALYTICAL DATA VALIDATION CHECKLIST

5121-2

LC/MS/MS Perchlorate Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	13. The ICV and/or CCV were recovered outside the method limits.	UJ, R, PERC7c	J, PERC7c
☐	☒	☐	14. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, R, PERC7d	J, PERC7d
☐	☒	☐	15. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, PERC7f	R. PERC7f
☐	☒	☐	16. The affected analyte is considered not detected because ion abundance ratios did not meet specifications.	N/A	R, PERC8
☐	☒	☐	17. The ion ratio documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	N/A	R, PERC8a
☐	☒	☐	18. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ PERC9	J-, PERC9
☐	☒	☐	19. The holding time was > 2 times the applicable holding time requirement.	R, PERC9a	J-, PERC9a
☐	☒	☐	20. The LCS percent recovery was <10%. Follow the external laboratory limits.	R, PERC12	J-, PERC12
☐	☒	☐	21. The LCS percent recovery was < the Lower Acceptance Limit but >10%. Follow the external laboratory limits.	UJ, PERC12a	J-, PERC12a
☐	☒	☐	22. The LCS percent recovery was > the Upper Acceptance Limit. Follow the external laboratory limits.	N/A	J+, PERC12b
☐	☒	☐	23. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, PERC12c	R, PERC12c
☐	☒	☐	24. The MS/MSD percent recovery was <10%	R, PERC12d	R, PERC12d
☐	☒	☐	25. The MS/MSD percent recovery was >10% but <75%	UJ, PERC12e	J, PERC12e
☐	☒	☐	26. The MS/MSD percent recovery was >125%.	N/A	J+, PERC12f

LC/MS/MS PERCHLORATE ANALYTICAL DATA VALIDATION CHECKLIST

5121-2

LC/MS/MS Perchlorate Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	27. The MS/MSD relative percent difference was >20%.	UJ, PERC12g	J, PERC12g
☐	☐	☒	28. The affected analytes are considered suspect because the sample was diluted without any target analytes identified due to matrix interference. Qualify as Reject if the analytical laboratory cannot provide proof for matrix interference.	UJ, R, PERC15	N/A
☐	☐	☒	29. The sample was diluted because target analytes were > the initial verification calibration.	UJ, PERC15a	J, PERC15a
☐	☐	☒	30. The Contract Required Detection Limit check standard (CRI) sample did not pass method-acceptance limits.	UJ, R, PERC16	J, PERC16
☐	☐	☒	31. The Interference Check Sample was not within ±20% of the known value.	UJ, PERC16a	J, PERC16a
☐	☐	☒	32. The required CRI sample information is missing. Contact the SMO or external laboratory for information.	R, PERC16c	R, PERC16c
☐	☒	☐	33. The LANL project chemist identified quality deficiencies in the reported data that require further qualification. This code can ONLY be used and/or under advisement by the LANL project chemist.	UJ, R, PERC19	J, R, PERC19
☐	☒	☐	34. Duplicate, dilution, or reanalysis.	UJ, PERC88	J, PERC88

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7580

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385001

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 86

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.582	2.33	0.582	ug/kg	U	1	04-JAN-10 18:59	per0104015a
	Perchlorate Isotope Ratio						1	04-JAN-10 18:59	per0104015a
14797-73-0	Perchlorate-101	.582	2.33	0.582	ug/kg	U	1	04-JAN-10 18:59	per0104015a
	Perchlorate-O(18)			5.79	ug/kg		1	04-JAN-10 18:59	per0104015a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

P.S. 2/5/10

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7590

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385002

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 90.6

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.552	2.21	0.552	ug/kg	U	1	04-JAN-10 19:05	per0104016a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:05	per0104016a
14797-73-0	Perchlorate-101	.552	2.21	0.552	ug/kg	U	1	04-JAN-10 19:05	per0104016a
	Perchlorate-O(18)			5.51	ug/kg		1	04-JAN-10 19:05	per0104016a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7592

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385003

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 89

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.564	2.26	0.664	ug/kg	J	1	04-JAN-10 19:11	per0104017a
	Perchlorate Isotope Ratio			2.94			1	04-JAN-10 19:11	per0104017a
14797-73-0	Perchlorate-101	.564	2.26	0.670	ug/kg	J	1	04-JAN-10 19:11	per0104017a
	Perchlorate-O(18)			5.66	ug/kg		1	04-JAN-10 19:11	per0104017a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7591

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385004

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 89

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.565	2.26	0.655	ug/kg	J	1	04-JAN-10 19:17	per0104018a
	Perchlorate Isotope Ratio			3.1			1	04-JAN-10 19:17	per0104018a
14797-73-0	Perchlorate-101	.565	2.26	0.625	ug/kg	J	1	04-JAN-10 19:17	per0104018a
	Perchlorate-O(18)			5.71	ug/kg		1	04-JAN-10 19:17	per0104018a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7581

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385005

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 88

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.566	2.26	0.566	ug/kg	U	1	04-JAN-10 19:23	per0104019a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:23	per0104019a
14797-73-0	Perchlorate-101	.566	2.26	0.566	ug/kg	U	1	04-JAN-10 19:23	per0104019a
	Perchlorate-O(18)			5.76	ug/kg		1	04-JAN-10 19:23	per0104019a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7586

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385006

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 89

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.561	2.24	0.561	ug/kg	U	1	04-JAN-10 19:29	per0104020a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:29	per0104020a
14797-73-0	Perchlorate-101	.561	2.24	0.561	ug/kg	U	1	04-JAN-10 19:29	per0104020a
	Perchlorate-O(18)			5.43	ug/kg		1	04-JAN-10 19:29	per0104020a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7587

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385007

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 90.1

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.555	2.22	0.555	ug/kg	U	1	04-JAN-10 19:35	per0104021a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:35	per0104021a
14797-73-0	Perchlorate-101	.555	2.22	0.555	ug/kg	U	1	04-JAN-10 19:35	per0104021a
	Perchlorate-O(18)			5.73	ug/kg		1	04-JAN-10 19:35	per0104021a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7585

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385008

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 91.6

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.546	2.18	0.546	ug/kg	U	1	04-JAN-10 19:59	per0104025a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:59	per0104025a
14797-73-0	Perchlorate-101	.546	2.18	0.546	ug/kg	U	1	04-JAN-10 19:59	per0104025a
	Perchlorate-O(18)			5.49	ug/kg		1	04-JAN-10 19:59	per0104025a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7582

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385009

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 92.8

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.539	2.15	0.539	ug/kg	U	1	04-JAN-10 20:05	per0104026a
	Perchlorate Isotope Ratio						1	04-JAN-10 20:05	per0104026a
14797-73-0	Perchlorate-101	.539	2.15	0.539	ug/kg	U	1	04-JAN-10 20:05	per0104026a
	Perchlorate-O(18)			5.35	ug/kg		1	04-JAN-10 20:05	per0104026a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7584

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385010

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 92.7

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.539	2.16	0.539	ug/kg	U	1	04-JAN-10 20:11	per0104027a
	Perchlorate Isotope Ratio						1	04-JAN-10 20:11	per0104027a
14797-73-0	Perchlorate-101	.539	2.16	0.539	ug/kg	U	1	04-JAN-10 20:11	per0104027a
	Perchlorate-O(18)			5.26	ug/kg		1	04-JAN-10 20:11	per0104027a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7583

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385011

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 93.3

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.536	2.14	1.64	ug/kg	J	1	04-JAN-10 20:17	per0104028a
	Perchlorate Isotope Ratio			2.95			1	04-JAN-10 20:17	per0104028a
14797-73-0	Perchlorate-101	.536	2.14	1.65	ug/kg	J	1	04-JAN-10 20:17	per0104028a
	Perchlorate-O(18)			5.44	ug/kg		1	04-JAN-10 20:17	per0104028a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: WATER

Extraction Batch ID: 936065

Extraction Type: Filter/DAI

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

Client Sample No.
RE12-10-7595

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032-1

GEL Sample ID: 243386001

Date Filtered: 29-DEC-09

Injection Volume (uL): 20

%Solids:

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	29-DEC-09 20:49	per1229064a
	Perchlorate Isotope Ratio						1	29-DEC-09 20:49	per1229064a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	29-DEC-09 20:49	per1229064a
	Perchlorate-O(18)			0.446	ug/L		1	29-DEC-09 20:49	per1229064a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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DATA VALIDATION COVER SHEET

5116-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Section I.

REQUEST NUMBER: 10-1032 VALIDATION DATE: 02/08/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Peter Steves ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- ☐ TPH-GRO
- ☐ TPH-DRO
- ☐ GENERAL CHEMISTRY
- ☐ HIGH EXPLOSIVES
- ☐ METALS
- ☐ RADIOCHEMISTRY
- ☐ DIOXIN FURANS
- ☐ PCB CONGENERS
- ☐ LCMSMS HIGH EXPLOSIVES
- ☐ LCMSMS PERCHLORATES
- ☒ ORGANOCHLORINE PESTICIDES/POLYCHLORINATED BIPHENYLS
- ☐ OTHER (DESCRIBE): PCBs

Section II. Completeness Check

YES	NO	N/A	(CHECK ONE)	YES	NO	N/A	(CHECK ONE)
☒	☐	☐	1. CHAIN-OF-CUSTODY FORM(S)	☒	☐	☐	6. RAW/BSS DATA
☒	☐	☐	2. CASE NARRATIVE	☒	☐	☐	7. QUALITY CONTROL FORMS
☒	☐	☐	3. SAMPLE RESULT FORMS	☒	☐	☐	8. QUANTITATION REPORTS
☒	☐	☐	4. SAMPLE CHROMATOGRAMS	☐	☐	☒	9. TICS FORMS
☐	☐	☒	5. STANDARD CHROMATOGRAMS	☐	☐	☒	10. TICS MASS SPECTRA

Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):

None

Reviewed by: Monica Dymerski **Level I** **Date:** 02/08/10

VALIDATOR'S SIGNATURE: Mr. Peter Steves DATE: 02/08/10

ORGANOCHLORINE PESTICIDE (PEST) AND POLYCHLORINATED BIPHENYL (PCB) ANALYTICAL DATA VALIDATION CHECKLIST

5116-2

Organochlorine Pesticide (PEST) and Polychlorinated Biphenyl (PCB) Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, P9	J-, P9
☐	☒	☐	2. The holding time was >2 times the applicable holding time requirement.	R, P9	J-, P9a
☐	☒	☐	3. The affected analytes are regarded as rejected because the analytical holding time was exceeded.	R, P9b	R, P9b
☐	☒	☐	4. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ, R, P7	J, P7
☐	☒	☐	5. The affected analytes were analyzed with an initial calibration curve that exceeded the %RSD criteria and/or the associated multipoint calibration correlation coefficient is <0.995.	UJ, P7a	J, P7a
☐	☒	☐	6. The Initial Calibration Verification (ICV) and/or Continuing Calibration Verification (CCV) were recovered outside the method-specific limits.	UJ, P7c	J, P7c
☐	☒	☐	7. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, P7d	J, P7d
☐	☐	☒	8. The multicomponent standard was not analyzed within 72 hours of the initial analysis.	R, P7e	J, P7e
☐	☒	☐	9. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, P7f	R, P7f
☐	☐	☒	10. The breakdown criteria have been exceeded. This can cause low bias in reported results. If compound is detected, qualify J-. If compound is not present, but breakdown products are present, qualify R. If no compounds or breakdown products are present, qualify UJ (4,4' DDT and Endrin).	UJ, R, P13	J-, P13

ORGANOCHLORINE PESTICIDE (PEST) AND POLYCHLORINATED BIPHENYL (PCB) ANALYTICAL DATA VALIDATION CHECKLIST

5116-2

Organochlorine Pesticide (PEST) and Polychlorinated Biphenyl (PCB) Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☐	☒	11. The breakdown criteria have been exceeded. This can cause high bias in the reported results and potential false positive results for the breakdown products Endrin ketone, Endrin aldehyde, DDD, and DDE.	UJ, P13a	J+, P13a
☐	☐	☒	12. The breakdown documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, P13b	R, P13b
☐	☒	☐	13. The sample result is ≤5X the concentration of the related analyte in the method blank.	U, P4	N/A
☐	☒	☐	14. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was greater than 5X.	N/A	J, P4a
☐	☐	☒	15. The sample result is ≤5X the concentration of the related analyte in the instrument blank and continuing calibration blank.	UJ, P4b	N/A
☐	☐	☒	16. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	UJ, P4d	N/A
☐	☒	☐	17. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, P4e	R, P4e
☐	☒	☐	18. The analyte RT shifted by more than 0.05 minutes from the mid-level standard of the initial calibration.	R, P0	J, P0
☐	☒	☐	19. Required retention time documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, P0b	R, P0b
☐	☒	☐	20. The surrogate is <10%R. Follow the external laboratory limits located within the associated data package.	R, P3	J-, P3

ORGANOCHLORINE PESTICIDE (PEST) AND POLYCHLORINATED BIPHENYL (PCB) ANALYTICAL DATA VALIDATION CHECKLIST

5116-2

Organochlorine Pesticide (PEST) and Polychlorinated Biphenyl (PCB) Analytical Data Validation Checklist

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Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	21. The surrogate is < the Lower Acceptance Level (LAL) but ≥10%R. Follow the external laboratory limits located within the associated data package.	UJ, P3a	J-, P3a
☐	☒	☐	22. The surrogate %R value is > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, P3b
☐	☒	☐	23. At least one surrogate is > the Upper Acceptance Limit (UAL) and one surrogate is < the LAL. Follow the external laboratory limits located within the associated data package.	UJ, P3c	J, P3c
☐	☒	☐	24. Required surrogate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, P3d	R, P3d
☐	☒	☐	25. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, P12	J-, P12
☐	☒	☐	26. The LCS percent recovery was < the LAL but >10%. Follow the external laboratory limits located within the associated data package.	UJ, P12a	J-, P12a
☐	☒	☐	27. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, P12b
☐	☒	☐	28. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, P12c	R, P12c
☐	☐	☒	29. The analyte was not confirmed on a second dissimilar column.	N/A	R, P8
☐	☐	☒	30. The second dissimilar column documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, P8a	R, P8a
☐	☒	☐	31. Duplicate, Dilution, or reanalysis.	UJ, P88	J, P88

ORGANOCHLORINE PESTICIDE (PEST) AND POLYCHLORINATED BIPHENYL (PCB) ANALYTICAL DATA VALIDATION CHECKLIST	
5116-2 **Organochlorine Pesticide (PEST) and Polychlorinated Biphenyl (PCB) Analytical Data Validation Checklist**	Records Use only Los Alamos NATIONAL LABORATORY EST. 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☐	☒	**32. The affected analytes have elevated detection limits and may not meet project DQOs because the sample was diluted without any target analytees identified due to matrix interference. Qualify as Reject if the analytical laboratory cannot provide proof for matrix interference.**	**UJ, R, P15**	**R, P15**
☒	☐	☐	**33. Qualification of data via data validation did not occur based on Quality Control requirements in this procedure. Adhere to the external laboratory qualifiers found within the Form I analytical data summary sheets generated by the external laboratory.**	**U, U_LAB**	**J, J_LAB, NQ, NQ**
☐	☒	☐	**34. The LANL project chemist identified quality deficiencies in the reported data that requires further qualification. This code can only be used and/or under advisement by the LANL project chemist.**	**UJ, R, P19**	**J, R, P19**

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385001	**Date Received:**	12/22/2009 09:55	**%Moisture:**	14
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7580	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 16:34	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.11 g	**Final Volume:**	1 mL
Data File:	045f4501.d	**Column:**	1 CLP1	**Level:**	LOW
	045b4501.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.86	ug/kg	1.29	3.86	1
11104-28-2	Aroclor-1221	U	3.86	ug/kg	1.29	3.86	1
11141-16-5	Aroclor-1232	U	3.86	ug/kg	1.29	3.86	1
53469-21-9	Aroclor-1242	U	3.86	ug/kg	1.29	3.86	1
12672-29-6	Aroclor-1248	U	3.86	ug/kg	1.29	3.86	1
11097-69-1	Aroclor-1254	U	3.86	ug/kg	1.29	3.86	1
11096-82-5	Aroclor-1260	U	3.86	ug/kg	1.29	3.86	1

P.S. 2/8/10

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385005	**Date Received:**	12/22/2009 09:55	**%Moisture:**	11.6
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7581	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	5
Run Date:	12/24/2009 17:41	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.16 g	**Final Volume:**	1 mL
Data File:	051f5101.d	**Column:**	1 CLP1	**Level:**	LOW
	051b5101.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	18.8	ug/kg	6.25	18.8	1
11104-28-2	Aroclor-1221	U	18.8	ug/kg	6.25	18.8	1
11141-16-5	Aroclor-1232	U	18.8	ug/kg	6.25	18.8	1
53469-21-9	Aroclor-1242	U	18.8	ug/kg	6.25	18.8	1
12672-29-6	Aroclor-1248	U	18.8	ug/kg	6.25	18.8	1
11097-69-1	Aroclor-1254	U	18.8	ug/kg	6.25	18.8	1
11096-82-5	Aroclor-1260	U	18.8	ug/kg	6.25	18.8	1

P.S. 2/8/10

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385009	**Date Received:**	12/22/2009 09:55	**%Moisture:**	7.2
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7582	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 18:47	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.09 g	**Final Volume:**	1 mL
Data File:	057f5701.d	**Column:**	1 CLP1	**Level:**	LOW
	057b5701.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.58	ug/kg	1.19	3.58	1
11104-28-2	Aroclor-1221	U	3.58	ug/kg	1.19	3.58	1
11141-16-5	Aroclor-1232	U	3.58	ug/kg	1.19	3.58	1
53469-21-9	Aroclor-1242	U	3.58	ug/kg	1.19	3.58	1
12672-29-6	Aroclor-1248	U	3.58	ug/kg	1.19	3.58	1
11097-69-1	Aroclor-1254	U	3.58	ug/kg	1.19	3.58	1
11096-82-5	Aroclor-1260	U	3.58	ug/kg	1.19	3.58	1

P.S. 2/8/10

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385011	**Date Received:**	12/22/2009 09:55	**%Moisture:**	6.7
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7583	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 19:09	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.04 g	**Final Volume:**	1 mL
Data File:	059f5901.d	**Column:**	1 CLP1	**Level:**	LOW
	059b5901.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.57	ug/kg	1.19	3.57	1
11104-28-2	Aroclor-1221	U	3.57	ug/kg	1.19	3.57	1
11141-16-5	Aroclor-1232	U	3.57	ug/kg	1.19	3.57	1
53469-21-9	Aroclor-1242	U	3.57	ug/kg	1.19	3.57	1
12672-29-6	Aroclor-1248	U	3.57	ug/kg	1.19	3.57	1
11097-69-1	Aroclor-1254	U	3.57	ug/kg	1.19	3.57	1
11096-82-5	Aroclor-1260	U	3.57	ug/kg	1.19	3.57	1

P.S. 2/8/10

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10–1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385010	**Date Received:**	12/22/2009 09:55	**%Moisture:**	7.3
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12–10–7584	**Method:**	SW846 8082	**SOP Ref:**	GL–OA–E–040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 18:58	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.15 g	**Final Volume:**	1 mL
Data File:	058f5801.d	**Column:**	1 CLP1	**Level:**	LOW
	058b5801.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674–11–2	Aroclor–1016	U	3.58	ug/kg	1.19	3.58	1
11104–28–2	Aroclor–1221	U	3.58	ug/kg	1.19	3.58	1
11141–16–5	Aroclor–1232	U	3.58	ug/kg	1.19	3.58	1
53469–21–9	Aroclor–1242	U	3.58	ug/kg	1.19	3.58	1
12672–29–6	Aroclor–1248	U	3.58	ug/kg	1.19	3.58	1
11097–69–1	Aroclor–1254	U	3.58	ug/kg	1.19	3.58	1
11096–82–5	Aroclor–1260	U	3.58	ug/kg	1.19	3.58	1

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PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385008	**Date Received:**	12/22/2009 09:55	**%Moisture:**	8.4
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7585	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 18:36	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.05 g	**Final Volume:**	1 mL
Data File:	056f5601.d	**Column:**	1 CLP1	**Level:**	LOW
	056b5601.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.63	ug/kg	1.21	3.63	1
11104-28-2	Aroclor-1221	U	3.63	ug/kg	1.21	3.63	1
11141-16-5	Aroclor-1232	U	3.63	ug/kg	1.21	3.63	1
53469-21-9	Aroclor-1242	U	3.63	ug/kg	1.21	3.63	1
12672-29-6	Aroclor-1248	U	3.63	ug/kg	1.21	3.63	1
11097-69-1	Aroclor-1254	U	3.63	ug/kg	1.21	3.63	1
11096-82-5	Aroclor-1260	U	3.63	ug/kg	1.21	3.63	1

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PCB
Certificate of Analysis
Sample Summary

SDG Number:	10–1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385006	**Date Received:**	12/22/2009 09:55	**%Moisture:**	10.8
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12–10–7586	**Method:**	SW846 8082	**SOP Ref:**	GL–OA–E–040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 17:52	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.11 g	**Final Volume:**	1 mL
Data File:	052f5201.d	**Column:**	1 CLP1	**Level:**	LOW
	052b5201.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674–11–2	Aroclor–1016	U	3.72	ug/kg	1.24	3.72	1
11104–28–2	Aroclor–1221	U	3.72	ug/kg	1.24	3.72	1
11141–16–5	Aroclor–1232	U	3.72	ug/kg	1.24	3.72	1
53469–21–9	Aroclor–1242	U	3.72	ug/kg	1.24	3.72	1
12672–29–6	Aroclor–1248	U	3.72	ug/kg	1.24	3.72	1
11097–69–1	Aroclor–1254	U	3.72	ug/kg	1.24	3.72	1
11096–82–5	Aroclor–1260	U	3.72	ug/kg	1.24	3.72	1

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PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385007	**Date Received:**	12/22/2009 09:55	**%Moisture:**	9.9
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7587	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 18:25	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.12 g	**Final Volume:**	1 mL
Data File:	055f5501.d	**Column:**	1 CLP1	**Level:**	LOW
	055b5501.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.68	ug/kg	1.23	3.68	1
11104-28-2	Aroclor-1221	U	3.68	ug/kg	1.23	3.68	1
11141-16-5	Aroclor-1232	U	3.68	ug/kg	1.23	3.68	1
53469-21-9	Aroclor-1242	U	3.68	ug/kg	1.23	3.68	1
12672-29-6	Aroclor-1248	U	3.68	ug/kg	1.23	3.68	1
11097-69-1	Aroclor-1254	U	3.68	ug/kg	1.23	3.68	1
11096-82-5	Aroclor-1260	U	3.68	ug/kg	1.23	3.68	1

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PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385002	**Date Received:**	12/22/2009 09:55	**%Moisture:**	9.4
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7590	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 17:07	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.06 g	**Final Volume:**	1 mL
Data File:	048f4801.d	**Column:**	1 CLP1	**Level:**	LOW
	048b4801.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.67	ug/kg	1.22	3.67	1
11104-28-2	Aroclor-1221	U	3.67	ug/kg	1.22	3.67	1
11141-16-5	Aroclor-1232	U	3.67	ug/kg	1.22	3.67	1
53469-21-9	Aroclor-1242	U	3.67	ug/kg	1.22	3.67	1
12672-29-6	Aroclor-1248	U	3.67	ug/kg	1.22	3.67	1
11097-69-1	Aroclor-1254	U	3.67	ug/kg	1.22	3.67	1
11096-82-5	Aroclor-1260	U	3.67	ug/kg	1.22	3.67	1

P.S. 2/8/10

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**10-1032**	**Date Collected:**	**12/17/2009 12:00**	**Matrix:**	**S**
Lab Sample ID:	**243385004**	**Date Received:**	**12/22/2009 09:55**	**%Moisture:**	**11.5**
		Client:	**LANL010**	**Project:**	**LANL01004**
Client ID:	**RE12-10-7591**	**Method:**	**SW846 8082**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**936264**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**12/24/2009 17:29**	**Analyst:**	**JAOC**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/23/2009 19:38**	**Aliquot:**	**30.14 g**	**Final Volume:**	**1 mL**
Data File:	**050f5001.d**	**Column:**	**1 CLP1**	**Level:**	**LOW**
	050b5001.d		**2 CLP2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.75	ug/kg	1.25	3.75	1
11104-28-2	Aroclor-1221	U	3.75	ug/kg	1.25	3.75	1
11141-16-5	Aroclor-1232	U	3.75	ug/kg	1.25	3.75	1
53469-21-9	Aroclor-1242	U	3.75	ug/kg	1.25	3.75	1
12672-29-6	Aroclor-1248	U	3.75	ug/kg	1.25	3.75	1
11097-69-1	Aroclor-1254	U	3.75	ug/kg	1.25	3.75	1
11096-82-5	Aroclor-1260	U	3.75	ug/kg	1.25	3.75	1

P.S. 2/8/10

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10–1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385003	**Date Received:**	12/22/2009 09:55	**%Moisture:**	11.4
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12–10–7592	**Method:**	SW846 8082	**SOP Ref:**	GL–OA–E–040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 17:18	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.01 g	**Final Volume:**	1 mL
Data File:	049f4901.d	**Column:**	1 CLP1	**Level:**	LOW
	049b4901.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674–11–2	Aroclor–1016	U	3.76	ug/kg	1.25	3.76	1
11104–28–2	Aroclor–1221	U	3.76	ug/kg	1.25	3.76	1
11141–16–5	Aroclor–1232	U	3.76	ug/kg	1.25	3.76	1
53469–21–9	Aroclor–1242	U	3.76	ug/kg	1.25	3.76	1
12672–29–6	Aroclor–1248	U	3.76	ug/kg	1.25	3.76	1
11097–69–1	Aroclor–1254	U	3.76	ug/kg	1.25	3.76	1
11096–82–5	Aroclor–1260	U	3.76	ug/kg	1.25	3.76	1

P.S. 2/8/10

DATA VALIDATION COVER SHEET

5118-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY

Section I.

REQUEST NUMBER: 10-1032 VALIDATION DATE: 02/08/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Peter Steves ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- ☐ TPH-GRO
- ☐ TPH-DRO
- ☐ GENERAL CHEMISTRY
- ☐ HIGH EXPLOSIVES
- ☒ METALS
- ☐ RADIOCHEMISTRY
- ☐ DIOXIN FURANS
- ☐ PCB CONGENERS
- ☐ LCMSMS HIGH EXPLOSIVES
- ☐ LCMSMS PERCHLORATES
- ☐ ORGANOCHLORINE PESTICIDES/POLYCHLORINATED BIPHENYLS
- ☐ OTHER (DESCRIBE):

Section II. Completeness Check

YES	NO	N/A	(CHECK ONE)	YES	NO	N/A	(CHECK ONE)
☒	☐	☐	1. CHAIN-OF-CUSTODY FORM(S)	☒	☐	☐	6. RAW/BSS DATA
☒	☐	☐	2. CASE NARRATIVE	☒	☐	☐	7. QUALITY CONTROL FORMS
☒	☐	☐	3. SAMPLE RESULT FORMS	☐	☐	☒	8. QUANTITATION REPORTS
☐	☐	☒	4. SAMPLE CHROMATOGRAMS	☐	☐	☒	9. TICS FORMS
☐	☐	☒	5. STANDARD CHROMATOGRAMS	☐	☐	☒	10. TICS MASS SPECTRA

Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):

1. In the solid MB, Zn was detected. The associated results for samples RE12-10-7590, -7586, -7582, -7584 and -7583 were detects >5X but ≤50X the greatest associated blank concentration and, thus, was qualified J,I4a. The remaining associated results were detects >50X and, thus, were not qualified, based on professional judgment. In the aqueous MB, As was detected. The associated sample result was a detect ≤5X the MB concentration and, thus, was qualified U,I4.
2. In the solid ICB/CCBs, Sb and U were detected. The associated Sb sample results were NDs and, thus, were not qualified. The associated U sample results were detects >5X the greatest associated blank concentration and, thus, were not qualified.
3. In the FR blank, sample -7595, which was associated with all the soil samples, Cu, K, Se and Na were detected. The associated Se sample results were NDs and, thus, were not qualified. The remaining associated sample results were detects >5X the FR blank concentration and, thus, were not qualified.
4. The solid MS %Rs were > the laboratory UAL for Mg and K. The associated sample results were detects and, thus, were qualified J+,I6b. Also, the MS %Rs were > the laboratory UAL for Al and Fe. However, the associated parent sample concentrations were >4X the spike concentrations. Thus, the associated sample results were not qualified, based on professional judgment.
5. It should be noted the aqueous matrix QC analyses for Hg were performed on a LANL sample from another RN. No sample data were qualified as a result.

Reviewed by: Monica Dymerski **Level I** **Date:** 02/08/10

DATA VALIDATION COVER SHEET

5118-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

VALIDATOR'S SIGNATURE: Mr. Peter Steves

DATE: 02/08/10

Form 5118-1, Revision 0.0

LOS ALAMOS
Environmental Restoration Project

METALS ANALYTICAL DATA VALIDATION CHECKLIST

5118-2 Metals Analytical Data Validation Checklist	Records Use only Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, I9	J-, I9
☐	☒	☐	2. The holding time was >2 times the applicable holding time requirement.	R, I9a	J-, I9a
☐	☐	☒	3. The instrument performance sample did not pass method acceptance criteria.	R, I16	R, I16
☐	☐	☒	4. The mass calibration is not within 0.1 amu or %RSD is >5% for any isotope (Be, Mg, Co, In, Pb).	UJ, I16a	J, I16a
☐	☐	☒	5. Samples were analyzed outside specific method tune time criteria.	N/A	J, I16b
☐	☐	☒	6. The required instrument performance sample information is missing. Contact the SMO or external laboratory for information.	R, I16c	R, I16c
☐	☒	☐	7. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ, R, I7	J, I7
☐	☒	☐	8. The affected analytes were analyzed with an initial calibration curve that exceeded the %RSD criteria and/or the associated multipoint calibration correlation coefficient is <0.995.	UJ, I7a	J, I7a
☐	☒	☐	9. The initial Calibration Verification (ICV) and/or Continuing Calibration Verification (CCV) were recovered outside the method-specific limits.	UJ, I7c	J, I7c
☐	☒	☐	10. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, I7d	J, I7d
☐	☒	☐	11. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, I7f	R, I7f
☐	☒	☐	12. Metals interference check sample percent recover value is <50%.	R, I2	J-, I2

METALS ANALYTICAL DATA VALIDATION CHECKLIST

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Metals Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	13. Metals interference check sample percent recovery value is ≥50% and <80%	UJ, I2a	J-, I2a
☐	☒	☐	14. Metals interference check sample percent recovery value is >120%.	N/A	J+, I2b
☐	☒	☐	15. Metals interference check sample was not analyzed with the samples.	R, I2c	R, I2c
☒	☐	☐	16. The sample result is ≤5X the concentration of the related analyte in the method blank.	U, I4	N/A
☒	☐	☐	17. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was >5X.	N/A	J, I4a
☒	☐	☐	18. The sample result is ≤5X the concentration of the related analyte in the instrument blank and continuing calibration blank.	U, I4b	N/A
☐	☒	☐	19. Continuing calibration blanks were not analyzed at the appropriate method frequency.	UJ, I4c	J, I4c
☐	☒	☐	20. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	U, I4d	N/A
☐	☒	☐	21. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, I4e	R, I4e
☐	☒	☐	22. The associated matrix spike recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, I6	R, I6
☐	☒	☐	23. The associated matrix spike recovery was <the LAL but >10%. Follow the external laboratory limits located within the associated data package.	UJ, I6a	J+, I6a
☒	☐	☐	24. The associated matrix spike recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	UJ, I6b	J+, I6b

METALS ANALYTICAL DATA VALIDATION CHECKLIST

5118-2

Metals Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	25. Required matrix spike information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. If the LCS information is present, do not Reject. Qualify data based on the LCS information.	R, I6c	R, I6c
☐	☒	☐	26. The sample and the duplicate sample results were ≥5X the RL and the duplicate RPD was >20% for water samples and >35% for soil samples.	UJ, I10a	J, I10a
☐	☒	☐	27. The duplicate sample was not prepared and/or analyzed with the samples for unspecified reasons. The duplicate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	UJ, I10d	J, I10d
☐	☒	☐	28. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, I12	R, I12
☐	☒	☐	29. The LCS percent recover was < the LAL but >10%. Follow the external laboratory limits located within the associated data package.	UJ, I12a	J-, I12a
☐	☒	☐	30. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, I12b
☐	☒	☐	31. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. Do not Reject if MS/MSD information is present. Qualify according to MS/MSD criteria.	R, I12c	R, I12c
☐	☐	☒	32. The quantitating IS area count is <10% for metals window in relation to the initial calibration blank. Follow the method-specific windows.	R, I1a	J, I1a

METALS ANALYTICAL DATA VALIDATION CHECKLIST	
5118-2 **Metals Analytical Data Validation Checklist**	Records Use only Los Alamos NATIONAL LABORATORY EST. 1943

Yes	No	N/A		Assign Qualifier Listed Below if Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☐	☒	33. The IS area count for the quantitating IS is <60% but >10% for metals window in relation to the initial calibration blank. Follow the method-specific windows.	UJ, I1b	J, I1b
☐	☐	☒	34. The IS area count for the quantitating IS is >125% in relation to the metals initial calibration blank. Follow method-specific windows.	UJ, I1c	J, I1c
☐	☐	☒	35. Required IS information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, I1d	R, I1d
☐	☐	☒	36. Serial dilution sample RPD was >10% and the sample result was >50X the MDL (>100X the MDL for ICPMS). Qualify ONLY the sample used for the serial dilution.	UJ, I18	J, I18
☐	☐	☒	37. Serial dilution sample was not analyzed with the samples.	UJ, I18a	J, I18
☐	☐	☒	38. The sample result was reported as detected between the IDL and the EDL.	N/A	J, I1
☐	☒	☐	39. Duplicate, dilution, or reanalysis.	UJ, I88	J, I88
☒	☐	☐	40. Qualification of data via data validation did not occur based on Quality Control requirements in this procedure. Adhere to the external laboratory qualifiers found within the Form I analytical data summary sheets generated by the external laboratory.	U, U_LAB	J, J_LAB, NQ, NQ
☐	☒	☐	41. The LANL project chemist identified quality deficiencies in the reported data that require further qualification. This code can ONLY be used and/or under advisement by the LANL project chemist.	UJ, R, I19	J, R, I19

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385001 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7580 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 86

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	9060000	ug/Kg		7580	22300	22300	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-36-0	Antimony	1110	ug/Kg	U	368	1110	1110	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-38-2	Arsenic	2.75	mg/kg		0.229	1.15	1.15	2	MS	SKJ	01/13/10 15:41	100113-5	936515
7440-39-3	Barium	127000	ug/Kg		111	557	557	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-41-7	Beryllium	0.857	mg/kg		0.0229	0.115	0.115	2	MS	SKJ	01/07/10 19:30	100107-2	936515
7440-43-9	Cadmium	158	ug/Kg	J	111	557	557	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-70-2	Calcium	2310000	ug/Kg		8920	27900	27900	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-47-3	Chromium	11800	ug/Kg		167	557	557	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-48-4	Cobalt	5740	ug/Kg		167	557	557	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-50-8	Copper	7220	ug/Kg		334	1110	1110	1	P	HSC	01/11/10 21:58	011110A-1	936480
7439-89-6	Iron	13300000	ug/Kg		8920	27900	27900	1	P	HSC	01/11/10 21:58	011110A-1	936480
7439-92-1	Lead	18100	ug/Kg		279	1110	1110	1	P	HSC	01/11/10 21:58	011110A-1	936480
7439-95-4	Magnesium J+.I6b	1710000	ug/Kg	N	9470	33400	33400	1	P	HSC	01/11/10 21:58	011110A-1	936480
7439-96-5	Manganese	303000	ug/Kg		223	1110	1110	1	P	HSC	01/11/10 21:58	011110A-1	936480
7439-97-6	Mercury	18.2	ug/kg		4.5	13.2	13.2	1	AV	JXL1	01/07/10 10:41	010710S2-6	937632
7440-02-0	Nickel	6.47	mg/kg		0.115	0.458	0.458	2	MS	SKJ	01/07/10 19:30	100107-2	936515
7440-09-7	Potassium J+.I6b	1680000	ug/Kg	N	7130	27900	27900	1	P	HSC	01/11/10 21:58	011110A-1	936480
7782-49-2	Selenium	1.15	mg/kg	U	0.573	1.15	1.15	2	MS	SKJ	01/07/10 19:30	100107-2	936515
7440-22-4	Silver	269	ug/Kg	J	111	557	557	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-23-5	Sodium	79900	ug/Kg		7800	27900	27900	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-28-0	Thallium	0.208	mg/kg	J	0.0687	0.229	0.229	2	MS	SKJ	01/07/10 19:30	100107-2	936515
7440-61-1	Uranium	3.13	mg/kg		0.0151	0.0458	0.0458	2	MS	SKJ	01/07/10 19:30	100107-2	936515
7440-62-2	Vanadium	30000	ug/Kg		111	557	557	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-66-6	Zinc	28300	ug/Kg		368	1110	1110	1	P	HSC	01/11/10 21:58	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.522	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.508	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.527	g	30	mL	01/06/10	TXB3

P.S. 2/8/10

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385002 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7590 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 90.6

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	9450000	ug/Kg		7300	21500	21500	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-36-0	Antimony	1070	ug/Kg	U	354	1070	1070	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-38-2	Arsenic	2.31	mg/kg		0.219	1.09	1.09	2	MS	SKJ	01/13/10 15:51	100113-5	936515
7440-39-3	Barium	214000	ug/Kg		107	537	537	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-41-7	Beryllium	0.844	mg/kg		0.0219	0.109	0.109	2	MS	SKJ	01/07/10 20:13	100107-2	936515
7440-43-9	Cadmium	130	ug/Kg	J	107	537	537	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-70-2	Calcium	2380000	ug/Kg		8590	26800	26800	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-47-3	Chromium	12200	ug/Kg		161	537	537	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-48-4	Cobalt	12100	ug/Kg		161	537	537	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-50-8	Copper	7260	ug/Kg		322	1070	1070	1	P	HSC	01/11/10 22:34	011110A-1	936480
7439-89-6	Iron	13300000	ug/Kg		8590	26800	26800	1	P	HSC	01/11/10 22:34	011110A-1	936480
7439-92-1	Lead	21100	ug/Kg		268	1070	1070	1	P	HSC	01/11/10 22:34	011110A-1	936480
7439-95-4	Magnesium J+,I6b	1620000	ug/Kg	N	9130	32200	32200	1	P	HSC	01/11/10 22:34	011110A-1	936480
7439-96-5	Manganese	1070000	ug/Kg		215	1070	1070	1	P	HSC	01/11/10 22:34	011110A-1	936480
7439-97-6	Mercury	15.9	ug/kg		4.42	13	13	1	AV	JXL1	01/07/10 10:51	010710S2-6	937632
7440-02-0	Nickel	6.28	mg/kg		0.109	0.437	0.437	2	MS	SKJ	01/07/10 20:13	100107-2	936515
7440-09-7	Potassium J+,I6b	1740000	ug/Kg	N	6870	26800	26800	1	P	HSC	01/11/10 22:34	011110A-1	936480
7782-49-2	Selenium	1.09	mg/kg	U	0.547	1.09	1.09	2	MS	SKJ	01/07/10 20:13	100107-2	936515
7440-22-4	Silver	431	ug/Kg	J	107	537	537	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-23-5	Sodium	81300	ug/Kg		7520	26800	26800	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-28-0	Thallium	0.181	mg/kg	J	0.0656	0.219	0.219	2	MS	SKJ	01/07/10 20:13	100107-2	936515
7440-61-1	Uranium	1.15	mg/kg		0.0144	0.0437	0.0437	2	MS	SKJ	01/07/10 20:13	100107-2	936515
7440-62-2	Vanadium	30800	ug/Kg		107	537	537	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-66-6	Zinc J,I4a	26400	ug/Kg		354	1070	1070	1	P	HSC	01/11/10 22:34	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.514	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.505	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.509	g	30	mL	01/06/10	TXB3

P.S. 2/8/10

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385003 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7592 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 89

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	13000000	ug/Kg		7540	22200	22200	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-36-0	Antimony	1110	ug/Kg	U	366	1110	1110	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-38-2	Arsenic	2.63	mg/kg		0.221	1.1	1.1	2	MS	SKJ	01/13/10 15:52	100113-5	936515
7440-39-3	Barium	248000	ug/Kg		111	554	554	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-41-7	Beryllium	1.6	mg/kg		0.11	0.552	0.552	10	MS	SKJ	01/11/10 16:42	100111-3	936515
7440-43-9	Cadmium	554	ug/Kg	U	111	554	554	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-70-2	Calcium	3350000	ug/Kg		8870	27700	27700	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-47-3	Chromium	18600	ug/Kg		166	554	554	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-48-4	Cobalt	6030	ug/Kg		166	554	554	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-50-8	Copper	8100	ug/Kg		332	1110	1110	1	P	HSC	01/11/10 22:41	011110A-1	936480
7439-89-6	Iron	15200000	ug/Kg		8870	27700	27700	1	P	HSC	01/11/10 22:41	011110A-1	936480
7439-92-1	Lead	11300	ug/Kg		277	1110	1110	1	P	HSC	01/11/10 22:41	011110A-1	936480
7439-95-4	Magnesium J+.16b	2730000	ug/Kg	N	9420	33200	33200	1	P	HSC	01/11/10 22:41	011110A-1	936480
7439-96-5	Manganese	288000	ug/Kg		222	1110	1110	1	P	HSC	01/11/10 22:41	011110A-1	936480
7439-97-6	Mercury	25.6	ug/kg		3.89	11.5	11.5	1	AV	JXL1	01/07/10 10:53	010710S2-6	937632
7440-02-0	Nickel	9.76	mg/kg		0.11	0.442	0.442	2	MS	SKJ	01/15/10 13:29	100115-4	936515
7440-09-7	Potassium J+.16b	2490000	ug/Kg	N	7090	27700	27700	1	P	HSC	01/11/10 22:41	011110A-1	936480
7782-49-2	Selenium	1.1	mg/kg	U	0.552	1.1	1.1	2	MS	SKJ	01/07/10 20:19	100107-2	936515
7440-22-4	Silver	372	ug/Kg	J	111	554	554	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-23-5	Sodium	246000	ug/Kg		7760	27700	27700	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-28-0	Thallium	0.255	mg/kg		0.0662	0.221	0.221	2	MS	SKJ	01/07/10 20:19	100107-2	936515
7440-61-1	Uranium	0.848	mg/kg		0.0146	0.0442	0.0442	2	MS	SKJ	01/07/10 20:19	100107-2	936515
7440-62-2	Vanadium	24400	ug/Kg		111	554	554	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-66-6	Zinc	31300	ug/Kg		366	1110	1110	1	P	HSC	01/11/10 22:41	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.509	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.511	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.591	g	30	mL	01/06/10	TXB3

P.S. 2/8/10

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385004 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7591 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 89

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	12300000	ug/Kg		7530	22200	22200	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-36-0	Antimony	1110	ug/Kg	U	365	1110	1110	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-38-2	Arsenic	2.71	mg/kg		0.218	1.09	1.09	2	MS	SKJ	01/13/10 15:58	100113-5	936515
7440-39-3	Barium	223000	ug/Kg		111	554	554	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-41-7	Beryllium	1.48	mg/kg		0.109	0.544	0.544	10	MS	SKJ	01/11/10 16:44	100111-3	936515
7440-43-9	Cadmium	554	ug/Kg	U	111	554	554	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-70-2	Calcium	3360000	ug/Kg		8860	27700	27700	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-47-3	Chromium	23000	ug/Kg		166	554	554	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-48-4	Cobalt	5950	ug/Kg		166	554	554	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-50-8	Copper	7900	ug/Kg		332	1110	1110	1	P	HSC	01/11/10 23:02	011110A-1	936480
7439-89-6	Iron	15400000	ug/Kg		8860	27700	27700	1	P	HSC	01/11/10 23:02	011110A-1	936480
7439-92-1	Lead	11700	ug/Kg		277	1110	1110	1	P	HSC	01/11/10 23:02	011110A-1	936480
7439-95-4	Magnesium J+.16b	2660000	ug/Kg	N	9410	33200	33200	1	P	HSC	01/11/10 23:02	011110A-1	936480
7439-96-5	Manganese	288000	ug/Kg		222	1110	1110	1	P	HSC	01/11/10 23:02	011110A-1	936480
7439-97-6	Mercury	26.6	ug/kg		4.19	12.3	12.3	1	AV	JXL1	01/07/10 10:55	010710S2-6	937632
7440-02-0	Nickel	10.2	mg/kg		0.109	0.435	0.435	2	MS	SKJ	01/15/10 13:40	100115-4	936515
7440-09-7	Potassium J+.16b	2410000	ug/Kg	N	7090	27700	27700	1	P	HSC	01/11/10 23:02	011110A-1	936480
7782-49-2	Selenium	1.09	mg/kg	U	0.544	1.09	1.09	2	MS	SKJ	01/07/10 20:26	100107-2	936515
7440-22-4	Silver	543	ug/Kg	J	111	554	554	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-23-5	Sodium	252000	ug/Kg		7750	27700	27700	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-28-0	Thallium	0.268	mg/kg		0.0653	0.218	0.218	2	MS	SKJ	01/07/10 20:26	100107-2	936515
7440-61-1	Uranium	0.795	mg/kg		0.0144	0.0435	0.0435	2	MS	SKJ	01/07/10 20:26	100107-2	936515
7440-62-2	Vanadium	25500	ug/Kg		111	554	554	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-66-6	Zinc	31400	ug/Kg		365	1110	1110	1	P	HSC	01/11/10 23:02	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.51	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.519	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.55	g	30	mL	01/06/10	TXB3

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METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385005 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7581 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 88

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	12800000	ug/Kg		7480	22000	22000	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-36-0	Antimony	1100	ug/Kg	U	363	1100	1100	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-38-2	Arsenic	2.79	mg/kg		0.221	1.11	1.11	2	MS	SKJ	01/13/10 16:00	100113-5	936515
7440-39-3	Barium	150000	ug/Kg		110	550	550	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-41-7	Beryllium	1.05	mg/kg		0.0221	0.111	0.111	2	MS	SKJ	01/07/10 20:32	100107-2	936515
7440-43-9	Cadmium	550	ug/Kg	U	110	550	550	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-70-2	Calcium	2380000	ug/Kg		8810	27500	27500	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-47-3	Chromium	16000	ug/Kg		165	550	550	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-48-4	Cobalt	5560	ug/Kg		165	550	550	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-50-8	Copper	7750	ug/Kg		330	1100	1100	1	P	HSC	01/11/10 23:09	011110A-1	936480
7439-89-6	Iron	15500000	ug/Kg		8810	27500	27500	1	P	HSC	01/11/10 23:09	011110A-1	936480
7439-92-1	Lead	11400	ug/Kg		275	1100	1100	1	P	HSC	01/11/10 23:09	011110A-1	936480
7439-95-4	Magnesium J+.I6b	2450000	ug/Kg	N	9360	33000	33000	1	P	HSC	01/11/10 23:09	011110A-1	936480
7439-96-5	Manganese	256000	ug/Kg		220	1100	1100	1	P	HSC	01/11/10 23:09	011110A-1	936480
7439-97-6	Mercury	28.1	ug/kg		4.49	13.2	13.2	1	AV	JXL1	01/07/10 11:01	010710S2-6	937632
7440-02-0	Nickel	7.47	mg/kg		0.111	0.443	0.443	2	MS	SKJ	01/07/10 20:32	100107-2	936515
7440-09-7	Potassium J+.I6b	2200000	ug/Kg	N	7040	27500	27500	1	P	HSC	01/11/10 23:09	011110A-1	936480
7782-49-2	Selenium	1.11	mg/kg	U	0.554	1.11	1.11	2	MS	SKJ	01/07/10 20:32	100107-2	936515
7440-22-4	Silver	555	ug/Kg		110	550	550	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-23-5	Sodium	234000	ug/Kg		7700	27500	27500	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-28-0	Thallium	0.195	mg/kg	J	0.0664	0.221	0.221	2	MS	SKJ	01/07/10 20:32	100107-2	936515
7440-61-1	Uranium	0.702	mg/kg		0.0146	0.0443	0.0443	2	MS	SKJ	01/07/10 20:32	100107-2	936515
7440-62-2	Vanadium	25500	ug/Kg		110	550	550	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-66-6	Zinc	32900	ug/Kg		363	1100	1100	1	P	HSC	01/11/10 23:09	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.514	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.511	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.514	g	30	mL	01/06/10	TXB3

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METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385006 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7586 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 89

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	7410000	ug/Kg		7090	20800	20800	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-36-0	Antimony	1040	ug/Kg	U	344	1040	1040	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-38-2	Arsenic	1.6	mg/kg		0.211	1.05	1.05	2	MS	SKJ	01/13/10 16:02	100113-5	936515
7440-39-3	Barium	255000	ug/Kg		104	521	521	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-41-7	Beryllium	0.591	mg/kg		0.0211	0.105	0.105	2	MS	SKJ	01/07/10 20:38	100107-2	936515
7440-43-9	Cadmium	521	ug/Kg	U	104	521	521	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-70-2	Calcium	2560000	ug/Kg		8340	26100	26100	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-47-3	Chromium	9800	ug/Kg		156	521	521	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-48-4	Cobalt	5060	ug/Kg		156	521	521	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-50-8	Copper	7110	ug/Kg		313	1040	1040	1	P	HSC	01/11/10 23:16	011110A-1	936480
7439-89-6	Iron	12600000	ug/Kg		8340	26100	26100	1	P	HSC	01/11/10 23:16	011110A-1	936480
7439-92-1	Lead	8810	ug/Kg		261	1040	1040	1	P	HSC	01/11/10 23:16	011110A-1	936480
7439-95-4	Magnesium J+,I6b	1810000	ug/Kg	N	8860	31300	31300	1	P	HSC	01/11/10 23:16	011110A-1	936480
7439-96-5	Manganese	317000	ug/Kg		208	1040	1040	1	P	HSC	01/11/10 23:16	011110A-1	936480
7439-97-6	Mercury	15.8	ug/kg		4.01	11.8	11.8	1	AV	JXL1	01/07/10 11:03	010710S2-6	937632
7440-02-0	Nickel	6.61	mg/kg		0.105	0.422	0.422	2	MS	SKJ	01/07/10 20:38	100107-2	936515
7440-09-7	Potassium J+,I6b	1240000	ug/Kg	N	6670	26100	26100	1	P	HSC	01/11/10 23:16	011110A-1	936480
7782-49-2	Selenium	1.05	mg/kg	U	0.527	1.05	1.05	2	MS	SKJ	01/07/10 20:38	100107-2	936515
7440-22-4	Silver	445	ug/Kg	J	104	521	521	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-23-5	Sodium	120000	ug/Kg		7300	26100	26100	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-28-0	Thallium	0.162	mg/kg	J	0.0632	0.211	0.211	2	MS	SKJ	01/07/10 20:38	100107-2	936515
7440-61-1	Uranium	1.36	mg/kg		0.0139	0.0422	0.0422	2	MS	SKJ	01/07/10 20:38	100107-2	936515
7440-62-2	Vanadium	27800	ug/Kg		104	521	521	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-66-6	Zinc J,I4a	24300	ug/Kg		344	1040	1040	1	P	HSC	01/11/10 23:16	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.538	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.532	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.571	g	30	mL	01/06/10	TXB3

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METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385007 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7587 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 90.1

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	10300000	ug/Kg		7260	21300	21300	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-36-0	Antimony	1070	ug/Kg	U	352	1070	1070	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-38-2	Arsenic	2.55	mg/kg		0.219	1.09	1.09	2	MS	SKJ	01/13/10 16:04	100113-5	936515
7440-39-3	Barium	275000	ug/Kg		107	534	534	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-41-7	Beryllium	1.08	mg/kg		0.109	0.547	0.547	10	MS	SKJ	01/11/10 16:46	100111-3	936515
7440-43-9	Cadmium	534	ug/Kg	U	107	534	534	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-70-2	Calcium	2710000	ug/Kg		8540	26700	26700	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-47-3	Chromium	8790	ug/Kg		160	534	534	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-48-4	Cobalt	6640	ug/Kg		160	534	534	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-50-8	Copper	7210	ug/Kg		320	1070	1070	1	P	HSC	01/11/10 23:23	011110A-1	936480
7439-89-6	Iron	13700000	ug/Kg		8540	26700	26700	1	P	HSC	01/11/10 23:23	011110A-1	936480
7439-92-1	Lead	8870	ug/Kg		267	1070	1070	1	P	HSC	01/11/10 23:23	011110A-1	936480
7439-95-4	Magnesium J+.I6b	2310000	ug/Kg	N	9070	32000	32000	1	P	HSC	01/11/10 23:23	011110A-1	936480
7439-96-5	Manganese	246000	ug/Kg		213	1070	1070	1	P	HSC	01/11/10 23:23	011110A-1	936480
7439-97-6	Mercury	26.1	ug/kg		3.79	11.1	11.1	1	AV	JXL1	01/07/10 11:05	010710S2-6	937632
7440-02-0	Nickel	7.88	mg/kg		0.109	0.438	0.438	2	MS	SKJ	01/15/10 13:43	100115-4	936515
7440-09-7	Potassium J+.I6b	1960000	ug/Kg	N	6830	26700	26700	1	P	HSC	01/11/10 23:23	011110A-1	936480
7782-49-2	Selenium	1.09	mg/kg	U	0.547	1.09	1.09	2	MS	SKJ	01/07/10 20:57	100107-2	936515
7440-22-4	Silver	387	ug/Kg	J	107	534	534	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-23-5	Sodium	265000	ug/Kg		7470	26700	26700	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-28-0	Thallium	0.189	mg/kg	J	0.0657	0.219	0.219	2	MS	SKJ	01/07/10 20:57	100107-2	936515
7440-61-1	Uranium	0.720	mg/kg		0.0144	0.0438	0.0438	2	MS	SKJ	01/07/10 20:57	100107-2	936515
7440-62-2	Vanadium	21500	ug/Kg		107	534	534	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-66-6	Zinc	28500	ug/Kg		352	1070	1070	1	P	HSC	01/11/10 23:23	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.52	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.507	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.598	g	30	mL	01/06/10	TXB3

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METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385008 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7585 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 91.6

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	11300000	ug/Kg		7370	21700	21700	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-36-0	Antimony	1080	ug/Kg	U	357	1080	1080	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-38-2	Arsenic	2.13	mg/kg		0.216	1.08	1.08	2	MS	SKJ	01/13/10 16:06	100113-5	936515
7440-39-3	Barium	125000	ug/Kg		108	542	542	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-41-7	Beryllium	0.804	mg/kg		0.0216	0.108	0.108	2	MS	SKJ	01/07/10 21:03	100107-2	936515
7440-43-9	Cadmium	542	ug/Kg	U	108	542	542	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-70-2	Calcium	1830000	ug/Kg		8660	27100	27100	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-47-3	Chromium	11600	ug/Kg		162	542	542	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-48-4	Cobalt	5280	ug/Kg		162	542	542	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-50-8	Copper	5970	ug/Kg		325	1080	1080	1	P	HSC	01/11/10 23:30	011110A-1	936480
7439-89-6	Iron	13700000	ug/Kg		8660	27100	27100	1	P	HSC	01/11/10 23:30	011110A-1	936480
7439-92-1	Lead	7660	ug/Kg		271	1080	1080	1	P	HSC	01/11/10 23:30	011110A-1	936480
7439-95-4	Magnesium J+.I6b	1710000	ug/Kg	N	9210	32500	32500	1	P	HSC	01/11/10 23:30	011110A-1	936480
7439-96-5	Manganese	197000	ug/Kg		217	1080	1080	1	P	HSC	01/11/10 23:30	011110A-1	936480
7439-97-6	Mercury	16.7	ug/kg		4.45	13.1	13.1	1	AV	JXL1	01/07/10 11:07	010710S2-6	937632
7440-02-0	Nickel	6.02	mg/kg		0.108	0.432	0.432	2	MS	SKJ	01/07/10 21:03	100107-2	936515
7440-09-7	Potassium J+.I6b	1560000	ug/Kg	N	6930	27100	27100	1	P	HSC	01/11/10 23:30	011110A-1	936480
7782-49-2	Selenium	1.08	mg/kg	U	0.54	1.08	1.08	2	MS	SKJ	01/07/10 21:03	100107-2	936515
7440-22-4	Silver	362	ug/Kg	J	108	542	542	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-23-5	Sodium	179000	ug/Kg		7580	27100	27100	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-28-0	Thallium	0.120	mg/kg	J	0.0649	0.216	0.216	2	MS	SKJ	01/07/10 21:03	100107-2	936515
7440-61-1	Uranium	0.823	mg/kg		0.0143	0.0432	0.0432	2	MS	SKJ	01/07/10 21:03	100107-2	936515
7440-62-2	Vanadium	18800	ug/Kg		108	542	542	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-66-6	Zinc	31100	ug/Kg		357	1080	1080	1	P	HSC	01/11/10 23:30	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.504	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.505	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.5	g	30	mL	01/06/10	TXB3

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METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385009 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7582 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 92.8

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	6790000	ug/Kg		6990	20600	20600	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-36-0	Antimony	1030	ug/Kg	U	339	1030	1030	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-38-2	Arsenic	2.24	mg/kg		0.208	1.04	1.04	2	MS	SKJ	01/13/10 16:08	100113-5	936515
7440-39-3	Barium	95500	ug/Kg		103	514	514	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-41-7	Beryllium	0.766	mg/kg		0.0208	0.104	0.104	2	MS	SKJ	01/07/10 21:09	100107-2	936515
7440-43-9	Cadmium	514	ug/Kg	U	103	514	514	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-70-2	Calcium	1530000	ug/Kg		8220	25700	25700	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-47-3	Chromium	9350	ug/Kg		154	514	514	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-48-4	Cobalt	5200	ug/Kg		154	514	514	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-50-8	Copper	5040	ug/Kg		308	1030	1030	1	P	HSC	01/11/10 23:37	011110A-1	936480
7439-89-6	Iron	11400000	ug/Kg		8220	25700	25700	1	P	HSC	01/11/10 23:37	011110A-1	936480
7439-92-1	Lead	11000	ug/Kg		257	1030	1030	1	P	HSC	01/11/10 23:37	011110A-1	936480
7439-95-4	Magnesium J+.I6b	1380000	ug/Kg	N	8740	30800	30800	1	P	HSC	01/11/10 23:37	011110A-1	936480
7439-96-5	Manganese	286000	ug/Kg		206	1030	1030	1	P	HSC	01/11/10 23:37	011110A-1	936480
7439-97-6	Mercury	10.1	ug/kg	J	3.87	11.4	11.4	1	AV	JXL1	01/07/10 11:09	010710S2-6	937632
7440-02-0	Nickel	5.73	mg/kg		0.104	0.415	0.415	2	MS	SKJ	01/07/10 21:09	100107-2	936515
7440-09-7	Potassium J+.I6b	1110000	ug/Kg	N	6580	25700	25700	1	P	HSC	01/11/10 23:37	011110A-1	936480
7782-49-2	Selenium	1.04	mg/kg	U	0.519	1.04	1.04	2	MS	SKJ	01/07/10 21:09	100107-2	936515
7440-22-4	Silver	299	ug/Kg	J	103	514	514	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-23-5	Sodium	84700	ug/Kg		7190	25700	25700	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-28-0	Thallium	0.170	mg/kg	J	0.0623	0.208	0.208	2	MS	SKJ	01/07/10 21:09	100107-2	936515
7440-61-1	Uranium	0.799	mg/kg		0.0137	0.0415	0.0415	2	MS	SKJ	01/07/10 21:09	100107-2	936515
7440-62-2	Vanadium	23800	ug/Kg		103	514	514	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-66-6	Zinc J,I4a	22500	ug/Kg		339	1030	1030	1	P	HSC	01/11/10 23:37	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.524	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.519	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.568	g	30	mL	01/06/10	TXB3

P.S. 2/8/10

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385010 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7584 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 92.7

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	7400000	ug/Kg		7270	21400	21400	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-36-0	Antimony	1070	ug/Kg	U	353	1070	1070	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-38-2	Arsenic	1.77	mg/kg		0.215	1.08	1.08	2	MS	SKJ	01/13/10 16:09	100113-5	936515
7440-39-3	Barium	236000	ug/Kg		107	535	535	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-41-7	Beryllium	0.681	mg/kg		0.0215	0.108	0.108	2	MS	SKJ	01/07/10 21:15	100107-2	936515
7440-43-9	Cadmium	535	ug/Kg	U	107	535	535	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-70-2	Calcium	2240000	ug/Kg		8560	26700	26700	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-47-3	Chromium	10100	ug/Kg		160	535	535	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-48-4	Cobalt	4660	ug/Kg		160	535	535	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-50-8	Copper	8700	ug/Kg		321	1070	1070	1	P	HSC	01/11/10 23:44	011110A-1	936480
7439-89-6	Iron	12100000	ug/Kg		8560	26700	26700	1	P	HSC	01/11/10 23:44	011110A-1	936480
7439-92-1	Lead	10600	ug/Kg		267	1070	1070	1	P	HSC	01/11/10 23:44	011110A-1	936480
7439-95-4	Magnesium J+.I6b	1770000	ug/Kg	N	9090	32100	32100	1	P	HSC	01/11/10 23:44	011110A-1	936480
7439-96-5	Manganese	352000	ug/Kg		214	1070	1070	1	P	HSC	01/11/10 23:44	011110A-1	936480
7439-97-6	Mercury	9.24	ug/kg	J	3.67	10.8	10.8	1	AV	JXL1	01/07/10 11:11	010710S2-6	937632
7440-02-0	Nickel	6.15	mg/kg		0.108	0.43	0.43	2	MS	SKJ	01/07/10 21:15	100107-2	936515
7440-09-7	Potassium J+.I6b	1180000	ug/Kg	N	6850	26700	26700	1	P	HSC	01/11/10 23:44	011110A-1	936480
7782-49-2	Selenium	1.08	mg/kg	U	0.538	1.08	1.08	2	MS	SKJ	01/07/10 21:15	100107-2	936515
7440-22-4	Silver	488	ug/Kg	J	107	535	535	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-23-5	Sodium	111000	ug/Kg		7490	26700	26700	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-28-0	Thallium	0.156	mg/kg	J	0.0646	0.215	0.215	2	MS	SKJ	01/07/10 21:15	100107-2	936515
7440-61-1	Uranium	2.55	mg/kg		0.0142	0.043	0.043	2	MS	SKJ	01/07/10 21:15	100107-2	936515
7440-62-2	Vanadium	26900	ug/Kg		107	535	535	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-66-6	Zinc J,I4a	24000	ug/Kg		353	1070	1070	1	P	HSC	01/11/10 23:44	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.504	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.501	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.599	g	30	mL	01/06/10	TXB3

P.S. 2/8/10

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385011 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7583 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 93.3

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	11400000	ug/Kg		7110	20900	20900	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-36-0	Antimony	1040	ug/Kg	U	345	1040	1040	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-38-2	Arsenic	2.61	mg/kg		0.211	1.06	1.06	2	MS	SKJ	01/13/10 16:11	100113-5	936515
7440-39-3	Barium	177000	ug/Kg		104	522	522	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-41-7	Beryllium	0.987	mg/kg		0.0211	0.106	0.106	2	MS	SKJ	01/07/10 21:22	100107-2	936515
7440-43-9	Cadmium	522	ug/Kg	U	104	522	522	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-70-2	Calcium	2150000	ug/Kg		8360	26100	26100	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-47-3	Chromium	13100	ug/Kg		157	522	522	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-48-4	Cobalt	6290	ug/Kg		157	522	522	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-50-8	Copper	6330	ug/Kg		313	1040	1040	1	P	HSC	01/11/10 23:51	011110A-1	936480
7439-89-6	Iron	13600000	ug/Kg		8360	26100	26100	1	P	HSC	01/11/10 23:51	011110A-1	936480
7439-92-1	Lead	14500	ug/Kg		261	1040	1040	1	P	HSC	01/11/10 23:51	011110A-1	936480
7439-95-4	Magnesium J+.I6b	2010000	ug/Kg	N	8880	31300	31300	1	P	HSC	01/11/10 23:51	011110A-1	936480
7439-96-5	Manganese	305000	ug/Kg		209	1040	1040	1	P	HSC	01/11/10 23:51	011110A-1	936480
7439-97-6	Mercury	19.6	ug/kg		4.37	12.8	12.8	1	AV	JXL1	01/07/10 11:13	010710S2-6	937632
7440-02-0	Nickel	7.55	mg/kg		0.106	0.422	0.422	2	MS	SKJ	01/07/10 21:22	100107-2	936515
7440-09-7	Potassium J+.I6b	1760000	ug/Kg	N	6690	26100	26100	1	P	HSC	01/11/10 23:51	011110A-1	936480
7782-49-2	Selenium	1.06	mg/kg	U	0.528	1.06	1.06	2	MS	SKJ	01/07/10 21:22	100107-2	936515
7440-22-4	Silver	305	ug/Kg	J	104	522	522	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-23-5	Sodium	94000	ug/Kg		7310	26100	26100	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-28-0	Thallium	0.198	mg/kg	J	0.0633	0.211	0.211	2	MS	SKJ	01/07/10 21:22	100107-2	936515
7440-61-1	Uranium	1.13	mg/kg		0.0139	0.0422	0.0422	2	MS	SKJ	01/07/10 21:22	100107-2	936515
7440-62-2	Vanadium	29300	ug/Kg		104	522	522	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-66-6	Zinc J,I4a	22900	ug/Kg		345	1040	1040	1	P	HSC	01/11/10 23:51	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.513	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.508	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.501	g	30	mL	01/06/10	TXB3

P.S. 2/8/10

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032-1 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243386001 **BASIS:** As Received **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7595 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: WATER **%SOLIDS:** 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	200	ug/L	U	68	200	200	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-36-0	Antimony	3	ug/L	U	1	3	3	1	MS	BAJ	01/03/10 22:31	100103-2	936526
7440-38-2	Arsenic U,I4	5.37	ug/L	J	5	30	30	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-39-3	Barium	5	ug/L	U	1	5	5	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-41-7	Beryllium	0.50	ug/L	U	0.1	0.5	0.5	1	MS	BAJ	01/03/10 22:31	100103-2	936526
7440-43-9	Cadmium	1	ug/L	U	0.11	1	1	1	MS	BAJ	01/03/10 22:31	100103-2	936526
7440-70-2	Calcium	200	ug/L	U	50	200	200	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-47-3	Chromium	5	ug/L	U	1	5	5	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-48-4	Cobalt	5	ug/L	U	1	5	5	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-50-8	Copper	3.57	ug/L	J	3	10	10	1	P	HSC	01/05/10 13:38	010510-1	936494
7439-89-6	Iron	100	ug/L	U	30	100	100	1	P	HSC	01/05/10 13:38	010510-1	936494
7439-92-1	Lead	2	ug/L	U	0.5	2	2	1	MS	BAJ	01/03/10 22:31	100103-2	936526
7439-95-4	Magnesium	300	ug/L	U	85	300	300	1	P	HSC	01/05/10 13:38	010510-1	936494
7439-96-5	Manganese	5	ug/L	U	1	5	5	1	MS	BAJ	01/03/10 22:31	100103-2	936526
7439-97-6	Mercury	0.20	ug/L	U	0.066	0.2	0.2	1	AV	JXL1	12/30/09 10:31	123009W1-10	937342
7440-02-0	Nickel	5	ug/L	U	1.5	5	5	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-09-7	Potassium	139	ug/L	J	50	150	150	1	P	HSC	01/05/10 13:38	010510-1	936494
7782-49-2	Selenium	5.49	ug/L	J	5	30	30	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-22-4	Silver	5	ug/L	U	1	5	5	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-23-5	Sodium	113	ug/L	J	100	300	300	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-28-0	Thallium	1	ug/L	U	0.3	1	1	1	MS	BAJ	01/04/10 11:50	100104-3	936526
7440-61-1	Uranium	0.20	ug/L	U	0.05	0.2	0.2	1	MS	BAJ	01/04/10 17:10	100104-9	936526
7440-62-2	Vanadium	5	ug/L	U	1	5	5	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-66-6	Zinc	10	ug/L	U	3.3	10	10	1	P	HSC	01/05/10 13:38	010510-1	936494

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936494	936493	SW846 3005A	50	mL	50	mL	12/29/09	AXG2
936526	936525	SW846 3005A	50	mL	50	mL	12/29/09	AXG2
937342	937341	SW846 7470A Prep	20	mL	20	mL	12/29/09	BCD1

P.S. 2/8/10

DATA VALIDATION COVER SHEET

5120-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY

Section I.

REQUEST NUMBER: 10-1032 VALIDATION DATE: 02/08/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Peter Steves ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- ☐ TPH-GRO
- ☐ TPH-DRO
- ☒ GENERAL CHEMISTRY
- ☐ HIGH EXPLOSIVES
- ☐ METALS
- ☐ RADIOCHEMISTRY
- ☐ DIOXIN FURANS
- ☐ PCB CONGENERS
- ☐ LCMSMS HIGH EXPLOSIVES
- ☐ LCMSMS PERCHLORATES
- ☐ ORGANOCHLORINE PESTICIDES/POLYCHLORINATED BIPHENYLS
- ☐ OTHER (DESCRIBE): Total CN only

Section II. Completeness Check

YES	NO	N/A	(CHECK ONE)	YES	NO	N/A	(CHECK ONE)
☒	☐	☐	1. CHAIN-OF-CUSTODY FORM(S)	☒	☐	☐	6. RAW/BSS DATA
☒	☐	☐	2. CASE NARRATIVE	☒	☐	☐	7. QUALITY CONTROL FORMS
☒	☐	☐	3. SAMPLE RESULT FORMS	☐	☐	☒	8. QUANTITATION REPORTS
☐	☐	☒	4. SAMPLE CHROMATOGRAMS	☐	☐	☒	9. TICS FORMS
☐	☐	☒	5. STANDARD CHROMATOGRAMS	☐	☐	☒	10. TICS MASS SPECTRA

Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):

1. It should be noted that the aqueous matrix QC analysis was performed on a LANL sample from another RN. No sample data were qualified as a result.

Reviewed by: Monica Dymerski **Level I** **Date:** 02/08/10

VALIDATOR'S SIGNATURE: ## Mr. Peter Steves DATE: 02/08/10

GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST

5120-2

General Chemistry Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1942

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, I9	J-, I9
☐	☒	☐	2. The holding time was >2 times the applicable holding time requirement.	R, I9a	J-, I9a
☐	☐	☒	3. The affected analytes are regarded as rejected because the analytical holding time was exceeded.	R, I9b	R, I9b
☐	☒	☐	4. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ, R, I7	J, I7
☐	☒	☐	5. The affected analytes were analyzed with an initial calibration curve that exceeded the %RSD criteria and/or the associated multipoint calibration correlation coefficient is <0.995.	UJ, I7a	J, I7a
☐	☒	☐	6. The ICV and/or CCV were recovered outside the method specific limits.	UJ, I7c	J, I7c
☐	☒	☐	7. The ICV and/or CCV were not analyzed at the appropriate method frequency.	UJ, I7d	J, I7d
☐	☒	☐	8. Required calibration information is missing or samples were analyzed on an expired calibration. Contact the SMO or external laboratory for information.	R, I7f	R, I7f
☐	☐	☒	9. The interference check sample percent recovery value is <50%.	R, I2	J-, I2
☐	☐	☒	10. The interference check sample percent recovery value is ≥50% and <80%.	UJ, I2a	J-, I2a
☐	☐	☒	11. The interference check sample percent recovery value is >120%.	N/A	J+, I2b
☐	☐	☒	12. The interference check sample was not analyzed with the samples.	R, I2c	R, I2c
☐	☒	☐	13. The sample result is ≤5X the concentration of the related analyte in the method blank.	U, I4	N/A

GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST	
5120-2 General Chemistry Analytical Data Validation Checklist	Records Use only Los Alamos NATIONAL LABORATORY EST. 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	14. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was >5X.	N/A	J, I4a
☐	☒	☐	15. The sample result is ≤5X the concentration of the related analyte in the instrument blank and continuing calibration blank.	U, I4b	N/A
☐	☒	☐	16. Continuing calibration blanks were not analyzed at the appropriate method frequency.	UJ, I4c	J, I4c
☐	☒	☐	17. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	U, I4d	N/A
☐	☒	☐	18. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, I4e	R, I4e
☐	☒	☐	19. The associate matrix spike recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, I6	R, I6
☐	☒	☐	20. The associated matrix spike recovery was below the Lower Acceptance Limit (LAL) but >10%. Follow the external laboratory limits located within the associated data package.	UJ, I6a	J-, I6a
☐	☒	☐	21. The associated matrix spike recovery was above the Upper Acceptance Limit (UAL). Follow the external laboratory limits located within the associated data package.	UJ, I6b	J+, I6b
☐	☒	☐	22. Required matrix spike information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. If LCS information is present, do not reject. Qualify data based on LCS information.	R, I6c	R, I6c
☐	☒	☐	23. The sample and/or the duplicate sample results RPD is not within the acceptance limits. Follow the external laboratory limits located within the associated data package.	UJ, I10b	J, I10b

GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST	
5120-2 **General Chemistry Analytical Data Validation Checklist**	Records Use only Los Alamos NATIONAL LABORATORY EST 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	24. The duplicate sample was not prepared and/or analyzed with the samples for unspecified reasons. The duplicate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	UJ, I10d	J, I10d
☐	☒	☐	25. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, I12	R, I12
☐	☒	☐	26. The LCS percent recover was < the LAL but >10%. Follow the external laboratory limits located within the associated data package.	UJ, I12a	J-, I12a
☐	☒	☐	27. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, I12b
☐	☒	☐	28. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. Do not Reject if MS/MSD information is present. Qualify according to MS/MSD criteria.	R, I12c	R, I12c
☐	☒	☐	29. Duplicate, dilution, or reanalysis	UJ, I88	J, I88
☐	☒	☐	30. The LANL project chemist identified quality deficiencies in the reported data that require further qualification. This code can ONLY be used and/or under advisement by the LANL project chemist.	UJ, R, I19	J, R, I19
☒	☐	☐	31. Qualification of data via data validation does not occur based on Quality Control requirements in this procedure. Adhere to the external laboratory qualifiers found within the Form I analytical data summary sheets generated by the external laboratory.	U, U_LAB	J, J_LAB NQ, NQ (no qualification)

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7580	Project:	LANL01004
Sample ID:	243385001	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	14%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	J	97.5	73.3	269	ug/kg	1	AXH3 12/24/09	1352	935222	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/24/09	1301	935221

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

P.S. 2/8/10

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7590	Project:	LANL01004
Sample ID:	243385002	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	9.42%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	72.2	265	ug/kg	1	AXH3 12/24/09	1353	935222	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/24/09	1301	935221

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7592	Project:	LANL01004
Sample ID:	243385003	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	11.4%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	68.5	252	ug/kg	1	AXH3 12/24/09	1354	935222	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/24/09	1301	935221

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7591	Project:	LANL01004
Sample ID:	243385004	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	11.5%		

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total Federal "Dry Weight Corrected"											
Cyanide, Total	U	ND	75.3	277	ug/kg	1	AXH3	12/24/09	1354	935222	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/24/09	1301	935221

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7581	Project:	LANL01004
Sample ID:	243385005	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	11.6%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	71.2	262	ug/kg	1	AXH3 12/24/09	1355	935222	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/24/09	1301	935221

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Address : PO Box 1663
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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7586	Project:	LANL01004
Sample ID:	243385006	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	10.8%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	65.7	242	ug/kg	1	AXH3 12/24/09	1356	935222	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/24/09	1301	935221

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7587	Project:	LANL01004
Sample ID:	243385007	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	9.9%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	66.2	243	ug/kg	1	AXH3 12/24/09	1357	935222	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/24/09	1301	935221

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7585	Project:	LANL01004
Sample ID:	243385008	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	8.41%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	71.4	262	ug/kg	1	AXC2 12/31/09	1008	936400	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/30/09	1520	936399

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7582	Project:	LANL01004
Sample ID:	243385009	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	7.15%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	J	83.2	66.6	245	ug/kg	1	AXC2 12/31/09	1012	936400	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/30/09	1520	936399

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7584	Project:	LANL01004
Sample ID:	243385010	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	7.27%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	63.2	232	ug/kg	1	AXC2 12/31/09	1012	936400	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/30/09	1520	936399

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7583	Project:	LANL01004
Sample ID:	243385011	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	6.73%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	J	73.4	64.0	235	ug/kg	1	AXC2 12/31/09	1013	936400	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/30/09	1520	936399

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

P.S. 2/8/10

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 4, 2010

Client SDG: 10-1032-1

Client Sample ID:	RE12-10-7595	Project:	LANL01004
Sample ID:	243386001	Client ID:	LANL010
Matrix:	W		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total "As Received"										
Cyanide, Total	U	ND	1.66	5.00	ug/L	1	AXC2 12/30/09	1014	936398	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/29/09	1423	936396

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

P.S. 2/8/10

DATA VALIDATION COVER SHEET

5119-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY

Section I.

REQUEST NUMBER: 10-1032 VALIDATION DATE: 02/08/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Peter Steves ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- ☐ TPH-GRO
- ☐ TPH-DRO
- ☐ GENERAL CHEMISTRY
- ☐ HIGH EXPLOSIVES
- ☐ METALS
- ☒ RADIOCHEMISTRY
- ☐ DIOXIN FURANS
- ☐ PCB CONGENERS
- ☐ LCMSMS HIGH EXPLOSIVES
- ☐ LCMSMS PERCHLORATES
- ☐ ORGANOCHLORINE PESTICIDES/POLYCHLORINATED BIPHENYLS
- ☐ OTHER (DESCRIBE):

Section II. Completeness Check

YES	NO	N/A	(CHECK ONE)	YES	NO	N/A	(CHECK ONE)
☒	☐	☐	1. CHAIN-OF-CUSTODY FORM(S)	☒	☐	☐	6. RAW/BSS DATA
☒	☐	☐	2. CASE NARRATIVE	☒	☐	☐	7. QUALITY CONTROL FORMS
☒	☐	☐	3. SAMPLE RESULT FORMS	☐	☐	☒	8. QUANTITATION REPORTS
☐	☐	☒	4. SAMPLE CHROMATOGRAMS	☐	☐	☒	9. TICS FORMS
☐	☐	☒	5. STANDARD CHROMATOGRAMS	☐	☐	☒	10. TICS MASS SPECTRA

Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):

1. The reported results that were rejected by the laboratory due to interference, low abundance, no valid peak or short ½ life were qualified R,R5a. In the QC samples, several results were also rejected by the laboratory. No sample data were qualified as a result.
2. It should be noted that the alpha-spec QC analyses were performed on a LANL sample from another RN. No sample data were qualified as a result.

Reviewed by: Monica Dymerski **Level I** **Date:** 02/08/10

VALIDATOR'S SIGNATURE: Mr. Peter Steves DATE: 02/08/10

RAD ANALYTICAL DATA VALIDATION CHECKLIST

5119-2

Rad Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, R9	J-, R9
☐	☒	☐	2. The holding time was >2 times the applicable holding time requirement.	R, R9a	J-, R9a
☐	☐	☒	3. The results for the affected analytes are considered not detected (U) because the associated sample concentration was less than or equal to the MDC.	U, R5	N/A
☒	☐	☐	4. The analyte should be regarded as rejected because spectral interferences prevent positive identification of the analytes.	R, R5a	R, R5a
☐	☒	☐	5. The MDC and/or TPU documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, R5b	J-, R5b
☐	☐	☒	6. The results for the affected analytes should be regarded as not detected (U) because the associated sample concentration was less than 3X the 1 sigma TPU.	U, R11	N/A
☐	☒	☐	7. The sample result is ≤5X the concentration of the related analyte in the method blank.	U, R4	N/A
☐	☒	☐	8. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was >5X.	N/A	J, R4a
☐	☐	☒	9. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	U, R4d	N/A
☐	☒	☐	10. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, R4e	R, R4e
☐	☒	☐	11. The tracer is <10%R. Follow the external laboratory limits located within the associated data package. Tracer%R is not applicable for Gamma Spectroscopy.	R, R3	R, R3

RAD ANALYTICAL DATA VALIDATION CHECKLIST

5119-2

Rad Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☒	☐	12. The tracer is < the Lower Acceptance Level (LAL) but ≥10%R. Follow the external laboratory limits located within the associated data package. Tracer%R is not applicable for Gamma Spectroscopy.	UJ, R3a	J-, R3a
☐	☒	☐	13. The Tracer%R value is > the Upper Acceptance Limit (UAL). Follow the external laboratory limits located within the associated data package. Tracer%R is not applicable for Gamma Spectroscopy.	N/A	J+, R3b
☐	☒	☐	14. Required tracer information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. Tracer%R is not applicable for Gamma Spectroscopy.	R, R3d	R, R3d
☐	☒	☐	15. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, R12	R, R12
☐	☒	☐	16. The LCS percent recovery was < the LAL but >10%. Follow the external laboratory limits located within the associated data package.	UJ, R12a	J-, R12a
☐	☒	☐	17. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, R12b
☐	☒	☐	18. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, R12c	R, R12c
☐	☒	☐	19. Associated duplicate sample has DER or RER > the analytical laboratory's acceptance limits.	R, R10	J, J10
☐	☒	☐	20. The duplicate sample was not prepared and/or analyzed with the samples for unspecified reasons. The duplicate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, R6	R, R6

RAD ANALYTICAL DATA VALIDATION CHECKLIST

5119-2 Rad Analytical Data Validation Checklist	Records Use only Los Alamos NATIONAL LABORATORY EST. 1943

Yes	No	N/A		Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
☐	☐	☒	21. The associated matrix spike recovery was <10%. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	R, R6	R, R6
☐	☐	☒	22. The associated matrix spike recovery was <10%. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	UJ, R6a	J-, R6a
☐	☐	☒	23. The associated matrix spike recovery was above the UAL. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	UJ, R6b	J+, R6b
☐	☒	☐	24. Required matrix spike information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. If LCS information is present, do not Reject. Qualify data based on LCS information. MS/MSD is not applicable to Gamma Spectroscopy.	R, R6c	R, R6c
☐	☒	☐	25. Duplicate, dilution, or reanalysis.	UJ, R88	J, R88
☐	☒	☐	26. The LANL project chemist identified quality deficiencies in the reported data that require further qualification. This code can ONLY be used and/or under advisement by the LANL project chemist.	UJ, R, R19	J, R, R19
☒	☐	☐	27. Quantification of data via data validation did not occur based on Quality Control requirements in this procedure. Adhere to the external laboratory qualifiers found within the Form I analytical data summary sheets generated by the external laboratory.	U, U_LAB	J, J_LAB NQ, NQ

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7580
Sample ID: 243385001
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 14%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	0.00594		0.022	+/-0.00693	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	0.0134		0.0218	+/-0.00662	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.0175		0.0246	+/-0.00561	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		1.43		0.134	+/-0.130	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.0751		0.0834	+/-0.0208	0.100	pCi/g						
Uranium-238		1.76		0.078	+/-0.154	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	0.042		0.098	+/-0.0306	0.200	pCi/g		MJH1	12/31/09	0916	936285	5
Bismuth-211	UI	3.84	R,R5a	0.332	+/-0.273		pCi/g						
Bismuth-214		1.23		0.134	+/-0.108	0.200	pCi/g						
Cadmium-109	UI	2.55	R,R5a	0.908	+/-0.427		pCi/g						
Cerium-139	U	-0.00088		0.0459	+/-0.0132	0.050	pCi/g						
Cesium-134	U	0.0639		0.0991	+/-0.0264	0.100	pCi/g						
Cesium-137		0.312		0.0691	+/-0.0401	0.100	pCi/g						
Cobalt-60	U	-0.000364		0.0605	+/-0.0187	0.100	pCi/g						
Europium-152	U	0.00766		0.164	+/-0.0465	0.200	pCi/g						
Lanthanum-140	U	-0.106		0.152	+/-0.0537		pCi/g						
Lead-212		1.58		0.0899	+/-0.0896	0.100	pCi/g						
Lead-214		1.34		0.116	+/-0.101	0.100	pCi/g						
Mercury-203	U	-0.0541		0.0612	+/-0.0203	0.100	pCi/g						
Potassium-40		19.7		0.435	+/-0.983	1.00	pCi/g						
Radium-223	U	-0.935		1.07	+/-0.339		pCi/g						
Radium-224	UI	3.86	R,R5a	1.02	+/-0.637		pCi/g						
Radium-226		1.23		0.134	+/-0.108		pCi/g						
Radium-228		1.66		0.238	+/-0.175	0.500	pCi/g						
Ruthenium-106	U	-0.0244		0.546	+/-0.166	0.800	pCi/g						

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7580
Sample ID: 243385001
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Sodium-22	U	-0.0259	0.0772	+/-0.0253	0.080	pCi/g						
Strontium-85	U	0.0422	0.0636	+/-0.019		pCi/g						
Thallium-208		0.472	0.0657	+/-0.0425	0.080	pCi/g						
Thorium-227	U	0.105	0.613	+/-0.180		pCi/g						
Thorium-231	U	-0.935	1.07	+/-0.339		pCi/g						
Thorium-234		2.48	0.888	+/-0.572	2.00	pCi/g						
Tin-113	U	-0.00368	0.0766	+/-0.0222	0.100	pCi/g						
Uranium-235	U	0.181	0.345	+/-0.0972	0.500	pCi/g						
Yttrium-88	U	0.0324	0.0625	+/-0.0149	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	80.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	76.5	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7590
Sample ID: 243385002
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 9.42%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	0.00965		0.0195	+/-0.00714	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	0.0042		0.0227	+/-0.00243	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.00979		0.0256	+/-0.00373	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		1.10		0.0859	+/-0.0938	0.100	pCi/g		JXD2	01/07/10	1116	937600	4
Uranium-235/236		0.0685		0.0533	+/-0.0167	0.100	pCi/g						
Uranium-238		1.17		0.0498	+/-0.0987	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	0.0116		0.168	+/-0.0523	0.200	pCi/g		MJH1	12/31/09	0920	936285	6
Bismuth-211	UI	4.01	R,R5a	0.279	+/-0.282		pCi/g						
Bismuth-214		1.25		0.087	+/-0.0924	0.200	pCi/g						
Cadmium-109	UI	2.80	R,R5a	1.01	+/-0.413		pCi/g						
Cerium-139	U	0.014		0.0425	+/-0.0123	0.050	pCi/g						
Cesium-134	UI	0.179	R,R5a	0.080	+/-0.0296	0.100	pCi/g						
Cesium-137		0.127		0.0492	+/-0.0347	0.100	pCi/g						
Cobalt-60	U	0.00866		0.049	+/-0.0145	0.100	pCi/g						
Europium-152	U	-0.0164		0.129	+/-0.0466	0.200	pCi/g						
Lanthanum-140	U	-0.0527		0.0863	+/-0.0303		pCi/g						
Lead-212		1.62		0.0807	+/-0.0989	0.100	pCi/g						
Lead-214		1.39		0.0972	+/-0.105	0.100	pCi/g						
Mercury-203	U	0.00616		0.0568	+/-0.0161	0.100	pCi/g						
Potassium-40		21.0		0.418	+/-1.13	1.00	pCi/g						
Radium-223	U	-0.708		0.879	+/-0.282		pCi/g						
Radium-224	UI	4.41	R,R5a	0.918	+/-0.627		pCi/g						
Radium-226		1.25		0.087	+/-0.0924		pCi/g						
Radium-228		1.56		0.175	+/-0.142	0.500	pCi/g						
Ruthenium-106	U	-0.0243		0.407	+/-0.125	0.800	pCi/g						
Sodium-22	U	0.0188		0.0614	+/-0.0179	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7590 Project: LANL01004
Sample ID: 243385002 Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Strontium-85	UI	0.0725	R,R5a	0.0573	+/-0.0166		pCi/g						
Thallium-208		0.502		0.049	+/-0.0438	0.080	pCi/g						
Thorium-227	U	-0.00851		0.532	+/-0.152		pCi/g						
Thorium-231	U	-0.708		0.879	+/-0.282		pCi/g						
Thorium-234		1.46		1.45	+/-0.687	2.00	pCi/g						
Tin-113	U	0.0138		0.0635	+/-0.0182	0.100	pCi/g						
Uranium-235	U	0.00474		0.297	+/-0.087	0.500	pCi/g						
Yttrium-88	U	-0.00743		0.0402	+/-0.013	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	97.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	76.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	86.2	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

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< Result is less than value reported
> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E Organics--Concentration of the target analyte exceeds the instrument calibration range

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7592
Sample ID: 243385003
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 11.4%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	0.00196		0.0214	+/-0.00238	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	0.00274		0.0223	+/-0.00275	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.00274		0.0251	+/-0.00275	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		0.730		0.138	+/-0.0777	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.0605		0.0855	+/-0.0187	0.100	pCi/g						
Uranium-238		0.725		0.0799	+/-0.077	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	-0.102		0.291	+/-0.092	0.200	pCi/g		MJH1	12/31/09	0930	936285	5
Bismuth-211	UI	3.72	R,R5a	0.358	+/-0.309		pCi/g						
Bismuth-214		1.17		0.114	+/-0.102	0.200	pCi/g						
Cadmium-109	U	1.13		1.19	+/-0.435		pCi/g						
Cerium-139	U	-0.0107		0.0488	+/-0.0147	0.050	pCi/g						
Cesium-134	U	0.0856		0.0907	+/-0.0312	0.100	pCi/g						
Cesium-137	U	-0.00229		0.0634	+/-0.0188	0.100	pCi/g						
Cobalt-60	U	-0.0176		0.0641	+/-0.0209	0.100	pCi/g						
Europium-152	U	-0.0268		0.172	+/-0.0554	0.200	pCi/g						
Lanthanum-140	U	0.0157		0.104	+/-0.034		pCi/g						
Lead-212		1.35		0.119	+/-0.110	0.100	pCi/g						
Lead-214		1.30		0.122	+/-0.113	0.100	pCi/g						
Mercury-203	U	-0.0258		0.064	+/-0.0192	0.100	pCi/g						
Potassium-40		23.5		0.315	+/-1.38	1.00	pCi/g						
Radium-223	U	-0.185		1.11	+/-0.377		pCi/g						
Radium-224	UI	3.28	R,R5a	1.36	+/-0.497		pCi/g						
Radium-226		1.17		0.114	+/-0.102		pCi/g						
Radium-228		1.64		0.207	+/-0.171	0.500	pCi/g						
Ruthenium-106	U	0.0184		0.539	+/-0.158	0.800	pCi/g						
Sodium-22	U	0.0227		0.0777	+/-0.0223	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7592 Project: LANL01004
Sample ID: 243385003 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0288	0.0664	+/-0.0218		pCi/g						
Thallium-208		0.403	0.0643	+/-0.0479	0.080	pCi/g						
Thorium-227	U	-0.0791	0.624	+/-0.181		pCi/g						
Thorium-231	U	-0.185	1.11	+/-0.377		pCi/g						
Thorium-234	U	0.450	2.31	+/-1.10	2.00	pCi/g						
Tin-113	U	-0.0187	0.071	+/-0.0218	0.100	pCi/g						
Uranium-235	U	-0.0162	0.374	+/-0.110	0.500	pCi/g						
Yttrium-88	U	0.034	0.0655	+/-0.0168	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	85.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	80.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	81.7	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound
< Result is less than value reported
> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E Organics--Concentration of the target analyte exceeds the instrument calibration range
F Estimated Value

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7591
Sample ID: 243385004
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 11.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	0.00337		0.0221	+/-0.00279	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	0.00141		0.0229	+/-0.00423	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.00705		0.0258	+/-0.00425	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		0.864		0.145	+/-0.0896	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.0348		0.0903	+/-0.0144	0.100	pCi/g						
Uranium-238		0.925		0.0844	+/-0.0942	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	0.00883		0.263	+/-0.0815	0.200	pCi/g		MJH1	12/31/09	0931	936285	5
Bismuth-211	UI	3.56	R,R5a	0.241	+/-0.199		pCi/g						
Bismuth-214		1.04		0.0868	+/-0.0728	0.200	pCi/g						
Cadmium-109	UI	2.71	R,R5a	1.31	+/-0.514		pCi/g						
Cerium-139	U	0.0131		0.0397	+/-0.011	0.050	pCi/g						
Cesium-134	UI	0.119	R,R5a	0.0706	+/-0.0277	0.100	pCi/g						
Cesium-137	U	0.0153		0.0518	+/-0.0147	0.100	pCi/g						
Cobalt-60	U	-0.0023		0.0445	+/-0.0137	0.100	pCi/g						
Europium-152	U	-0.0589		0.109	+/-0.038	0.200	pCi/g						
Lanthanum-140	U	-0.0344		0.0918	+/-0.0295		pCi/g						
Lead-212		1.40		0.0716	+/-0.0659	0.100	pCi/g						
Lead-214		1.24		0.0838	+/-0.0764	0.100	pCi/g						
Mercury-203	UI	0.0571	R,R5a	0.0442	+/-0.0178	0.100	pCi/g						
Potassium-40		23.6		0.413	+/-1.07	1.00	pCi/g						
Radium-223	U	0.210		0.796	+/-0.266		pCi/g						
Radium-224	UI	3.14	R,R5a	0.813	+/-0.477		pCi/g						
Radium-226		1.04		0.0868	+/-0.0728		pCi/g						
Radium-228		1.43		0.146	+/-0.139	0.500	pCi/g						
Ruthenium-106	U	0.034		0.389	+/-0.117	0.800	pCi/g						
Sodium-22	U	-0.0119		0.054	+/-0.0168	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7591 Project: LANL01004
Sample ID: 243385004 Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Strontium-85	UI	0.111	R,R5a	0.0553	+/-0.0154		pCi/g						
Thallium-208		0.447		0.0422	+/-0.033	0.080	pCi/g						
Thorium-227	U	-0.0323		0.484	+/-0.143		pCi/g						
Thorium-231	U	0.210		0.796	+/-0.266		pCi/g						
Thorium-234	U	1.67		2.07	+/-0.856	2.00	pCi/g						
Tin-113	U	-0.00651		0.0519	+/-0.0152	0.100	pCi/g						
Uranium-235	U	-0.0195		0.281	+/-0.0855	0.500	pCi/g						
Yttrium-88	U	-0.0161		0.0352	+/-0.012	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	87.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	73.2	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

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- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7581
Sample ID: 243385005
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 11.6%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	-0.00179		0.0235	+/-0.00408	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	0.00		0.0219	+/-0.00426	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.00269		0.0246	+/-0.00426	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		0.847		0.144	+/-0.0879	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.0345		0.0894	+/-0.0143	0.100	pCi/g						
Uranium-238		0.865		0.0836	+/-0.0892	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	0.0804		0.213	+/-0.0682	0.200	pCi/g		MJH1	12/31/09	0939	936285	5
Bismuth-211	UI	3.47	R,R5a	0.283	+/-0.280		pCi/g						
Bismuth-214		1.15		0.0991	+/-0.0943	0.200	pCi/g						
Cadmium-109	UI	3.21	R,R5a	1.06	+/-0.513		pCi/g						
Cerium-139	U	-0.0142		0.0417	+/-0.0126	0.050	pCi/g						
Cesium-134	UI	0.111	R,R5a	0.0862	+/-0.0374	0.100	pCi/g						
Cesium-137	U	0.0394		0.0665	+/-0.0188	0.100	pCi/g						
Cobalt-60	U	-0.0136		0.0501	+/-0.0165	0.100	pCi/g						
Europium-152	U	-0.0388		0.132	+/-0.0409	0.200	pCi/g						
Lanthanum-140	U	-0.0378		0.120	+/-0.0388		pCi/g						
Lead-212		1.64		0.0823	+/-0.110	0.100	pCi/g						
Lead-214		1.21		0.0986	+/-0.102	0.100	pCi/g						
Mercury-203	U	-0.00637		0.0581	+/-0.0179	0.100	pCi/g						
Potassium-40		22.9		0.416	+/-1.31	1.00	pCi/g						
Radium-223	U	0.268		0.990	+/-0.298		pCi/g						
Radium-224	UI	4.14	R,R5a	0.937	+/-0.642		pCi/g						
Radium-226		1.15		0.0991	+/-0.0943		pCi/g						
Radium-228		1.29		0.182	+/-0.155	0.500	pCi/g						
Ruthenium-106	U	-0.00189		0.450	+/-0.137	0.800	pCi/g						
Sodium-22	U	0.0139		0.0643	+/-0.019	0.080	pCi/g						

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7581 Project: LANL01004
Sample ID: 243385005 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0334	0.0534	+/-0.0164		pCi/g						
Thallium-208		0.519	0.0515	+/-0.0442	0.080	pCi/g						
Thorium-227	U	-0.207	0.536	+/-0.170		pCi/g						
Thorium-231	U	0.268	0.990	+/-0.298		pCi/g						
Thorium-234	U	0.904	1.71	+/-0.827	2.00	pCi/g						
Tin-113	U	-0.000589	0.0662	+/-0.0193	0.100	pCi/g						
Uranium-235	U	0.0396	0.311	+/-0.0909	0.500	pCi/g						
Yttrium-88	U	0.00934	0.052	+/-0.0149	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	85.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	82.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	73.4	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
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BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E Organics--Concentration of the target analyte exceeds the instrument calibration range
F Estimated Value

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Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7586
Sample ID: 243385006
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 10.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	0.00442		0.0212	+/-0.00424	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	0.0189		0.0279	+/-0.00795	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.0103		0.0315	+/-0.0049	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		1.50		0.130	+/-0.134	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.0776		0.0806	+/-0.0208	0.100	pCi/g						
Uranium-238		1.65		0.0753	+/-0.144	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	0.0785		0.181	+/-0.0535	0.200	pCi/g		MJH1	12/31/09	0940	936285	5
Bismuth-211	UI	2.88	R,R5a	0.247	+/-0.230		pCi/g						
Bismuth-214		0.757		0.0846	+/-0.0676	0.200	pCi/g						
Cadmium-109	UI	2.06	R,R5a	0.976	+/-0.372		pCi/g						
Cerium-139	U	-0.00833		0.0393	+/-0.0112	0.050	pCi/g						
Cesium-134	UI	0.112	R,R5a	0.0632	+/-0.0241	0.100	pCi/g						
Cesium-137		0.239		0.0437	+/-0.0333	0.100	pCi/g						
Cobalt-60	U	0.00525		0.0415	+/-0.0122	0.100	pCi/g						
Europium-152	U	-0.015		0.124	+/-0.0473	0.200	pCi/g						
Lanthanum-140	U	-0.061		0.0836	+/-0.0282		pCi/g						
Lead-212		1.12		0.0892	+/-0.0856	0.100	pCi/g						
Lead-214		1.00		0.086	+/-0.0842	0.100	pCi/g						
Mercury-203	U	0.0287		0.0534	+/-0.0173	0.100	pCi/g						
Potassium-40		19.8		0.337	+/-1.06	1.00	pCi/g						
Radium-223	U	-0.246		0.804	+/-0.271		pCi/g						
Radium-224	UI	2.35	R,R5a	1.08	+/-0.375		pCi/g						
Radium-226		0.757		0.0846	+/-0.0676		pCi/g						
Radium-228		1.20		0.153	+/-0.136	0.500	pCi/g						
Ruthenium-106	U	0.120		0.392	+/-0.112	0.800	pCi/g						
Sodium-22	U	-0.00949		0.0471	+/-0.0144	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7586 Project: LANL01004
Sample ID: 243385006 Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Strontium-85	UI	0.123	R,R5a	0.0569	+/-0.0169		pCi/g						
Thallium-208		0.401		0.0428	+/-0.0357	0.080	pCi/g						
Thorium-227	U	0.161		0.514	+/-0.148		pCi/g						
Thorium-231	U	-0.246		0.804	+/-0.271		pCi/g						
Thorium-234	U	0.991		1.51	+/-0.576	2.00	pCi/g						
Tin-113	U	-0.0181		0.0544	+/-0.0166	0.100	pCi/g						
Uranium-235	U	0.0507		0.287	+/-0.080	0.500	pCi/g						
Yttrium-88	U	-0.0204		0.033	+/-0.0115	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	68.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.5	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
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E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E Organics--Concentration of the target analyte exceeds the instrument calibration range
F Estimated Value

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7587
Sample ID: 243385007
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 9.9%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	0.00173		0.0201	+/-0.00643	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	0.00148		0.0241	+/-0.00149	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	-3.54E-10		0.0271	+/-0.00297	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		0.643		0.150	+/-0.0728	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.0298		0.0929	+/-0.0135	0.100	pCi/g						
Uranium-238		0.797		0.0868	+/-0.0852	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	-0.11		0.346	+/-0.102	0.200	pCi/g		MJH1	12/31/09	0954	936285	5
Bismuth-211	UI	3.36	R,R5a	0.342	+/-0.255		pCi/g						
Bismuth-214		0.986		0.122	+/-0.0848	0.200	pCi/g						
Cadmium-109	UI	2.47	R,R5a	1.65	+/-0.550		pCi/g						
Cerium-139	U	-0.00804		0.0521	+/-0.0158	0.050	pCi/g						
Cesium-134	U	0.0649		0.100	+/-0.0273	0.100	pCi/g						
Cesium-137	U	0.0173		0.0764	+/-0.0227	0.100	pCi/g						
Cobalt-60	U	0.00209		0.077	+/-0.0236	0.100	pCi/g						
Europium-152	U	0.0462		0.170	+/-0.0696	0.200	pCi/g						
Lanthanum-140	U	-0.0344		0.127	+/-0.0412		pCi/g						
Lead-212		1.49		0.0966	+/-0.0773	0.100	pCi/g						
Lead-214		1.17		0.127	+/-0.0939	0.100	pCi/g						
Mercury-203	U	0.0174		0.0789	+/-0.0258	0.100	pCi/g						
Potassium-40		26.0		0.617	+/-1.37	1.00	pCi/g						
Radium-223	U	-1.4		1.08	+/-0.378		pCi/g						
Radium-224	UI	4.49	R,R5a	1.10	+/-0.712		pCi/g						
Radium-226		0.986		0.122	+/-0.0848		pCi/g						
Radium-228		1.38		0.254	+/-0.178	0.500	pCi/g						
Ruthenium-106	U	-0.0837		0.560	+/-0.175	0.800	pCi/g						
Sodium-22	U	0.0193		0.0922	+/-0.0273	0.080	pCi/g						

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Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7587 Project: LANL01004
Sample ID: 243385007 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0369	0.0676	+/-0.0191		pCi/g						
Thallium-208		0.554	0.0628	+/-0.0517	0.080	pCi/g						
Thorium-227	U	0.196	0.703	+/-0.211		pCi/g						
Thorium-231	U	-1.4	1.08	+/-0.378		pCi/g						
Thorium-234	U	0.395	2.89	+/-0.836	2.00	pCi/g						
Tin-113	U	0.00162	0.0852	+/-0.0253	0.100	pCi/g						
Uranium-235	U	-0.0161	0.388	+/-0.119	0.500	pCi/g						
Yttrium-88	U	0.00238	0.0601	+/-0.018	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	84.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	82.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	73.6	(50%-105%)

Notes:
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- F Estimated Value

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7585
Sample ID: 243385008
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 8.41%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	0.00714		0.0217	+/-0.00537	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	0.00367		0.0199	+/-0.00213	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.00734		0.0224	+/-0.00302	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		0.710		0.141	+/-0.0766	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.045		0.0875	+/-0.0181	0.100	pCi/g						
Uranium-238		0.837		0.0817	+/-0.0869	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	-0.365		0.528	+/-0.164	0.200	pCi/g		MJH1	12/31/09	1018	936285	5
Bismuth-211	UI	3.22	R,R5a	0.383	+/-0.306		pCi/g						
Bismuth-214		0.914		0.124	+/-0.0861	0.200	pCi/g						
Cadmium-109	UI	1.79	R,R5a	1.72	+/-0.652		pCi/g						
Cerium-139	U	-0.0262		0.0631	+/-0.0198	0.050	pCi/g						
Cesium-134	U	0.0898		0.106	+/-0.0285	0.100	pCi/g						
Cesium-137	U	0.0341		0.0834	+/-0.0245	0.100	pCi/g						
Cobalt-60	U	0.0568		0.0926	+/-0.0254	0.100	pCi/g						
Europium-152	U	-0.0214		0.186	+/-0.0976	0.200	pCi/g						
Lanthanum-140	U	-0.0546		0.131	+/-0.0535		pCi/g						
Lead-212		1.73		0.121	+/-0.124	0.100	pCi/g						
Lead-214		1.12		0.133	+/-0.110	0.100	pCi/g						
Mercury-203	U	-0.00351		0.0882	+/-0.0261	0.100	pCi/g						
Potassium-40		31.5		0.574	+/-1.60	1.00	pCi/g						
Radium-223	U	-0.102		1.45	+/-0.433		pCi/g						
Radium-224	UI	5.78	R,R5a	2.11	+/-0.610		pCi/g						
Radium-226		0.914		0.124	+/-0.0861		pCi/g						
Radium-228		1.52		0.223	+/-0.215	0.500	pCi/g						
Ruthenium-106	U	0.00824		0.606	+/-0.187	0.800	pCi/g						
Sodium-22	U	-0.0158		0.0839	+/-0.0269	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7585 Project: LANL01004
Sample ID: 243385008 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.055	0.0841	+/-0.0272		pCi/g						
Thallium-208		0.560	0.0663	+/-0.0585	0.080	pCi/g						
Thorium-227	U	-0.07	0.822	+/-0.243		pCi/g						
Thorium-231	U	-0.102	1.45	+/-0.433		pCi/g						
Thorium-234	U	-0.688	4.17	+/-1.24	2.00	pCi/g						
Tin-113	U	-0.0188	0.0907	+/-0.0279	0.100	pCi/g						
Uranium-235	U	0.147	0.448	+/-0.133	0.500	pCi/g						
Yttrium-88	U	-0.00426	0.0604	+/-0.019	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	82.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	79.7	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

P.S. 2/8/10

GEL LABORATORIES LLC

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7582
Sample ID: 243385009
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 7.15%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	0.00569		0.0182	+/-0.00581	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	-0.00133		0.0215	+/-0.00188	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	-3.16E-10		0.0243	+/-0.00265	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		1.22		0.143	+/-0.117	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.057		0.0888	+/-0.0217	0.100	pCi/g						
Uranium-238		1.11		0.0829	+/-0.108	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	0.0256		0.287	+/-0.0809	0.200	pCi/g		MJH1	12/31/09	1054	936285	5
Bismuth-211	UI	4.05	R,R5a	0.326	+/-0.260		pCi/g						
Bismuth-214		1.00		0.107	+/-0.0841	0.200	pCi/g						
Cadmium-109	UI	1.46	R,R5a	1.43	+/-0.708		pCi/g						
Cerium-139	U	-0.00526		0.0503	+/-0.0142	0.050	pCi/g						
Cesium-134	U	0.0893		0.0909	+/-0.0318	0.100	pCi/g						
Cesium-137	U	-0.000825		0.0641	+/-0.0188	0.100	pCi/g						
Cobalt-60	U	0.0317		0.0685	+/-0.0185	0.100	pCi/g						
Europium-152	U	-0.0788		0.155	+/-0.0499	0.200	pCi/g						
Lanthanum-140	U	-0.134		0.109	+/-0.0443		pCi/g						
Lead-212		1.38		0.103	+/-0.0735	0.100	pCi/g						
Lead-214		1.41		0.114	+/-0.0977	0.100	pCi/g						
Mercury-203	UI	0.0635	R,R5a	0.0576	+/-0.0331	0.100	pCi/g						
Potassium-40		20.6		0.394	+/-1.06	1.00	pCi/g						
Radium-223	U	-1.08		1.03	+/-0.345		pCi/g						
Radium-224	UI	3.15	R,R5a	1.17	+/-0.533		pCi/g						
Radium-226		1.00		0.107	+/-0.0841		pCi/g						
Radium-228		1.60		0.215	+/-0.162	0.500	pCi/g						
Ruthenium-106	U	0.157		0.528	+/-0.147	0.800	pCi/g						
Sodium-22	U	-0.0163		0.0668	+/-0.0207	0.080	pCi/g						

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7582
Sample ID: 243385009
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0412	0.0651	+/-0.0206		pCi/g						
Thallium-208		0.492	0.058	+/-0.0472	0.080	pCi/g						
Thorium-227	U	-0.442	0.581	+/-0.183		pCi/g						
Thorium-231	U	-1.08	1.03	+/-0.345		pCi/g						
Thorium-234	U	1.40	2.58	+/-0.717	2.00	pCi/g						
Tin-113	U	0.0103	0.0796	+/-0.0233	0.100	pCi/g						
Uranium-235	U	-0.0352	0.360	+/-0.102	0.500	pCi/g						
Yttrium-88	U	0.00591	0.0505	+/-0.0148	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	92.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	77.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	75.4	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

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B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E Organics--Concentration of the target analyte exceeds the instrument calibration range
F Estimated Value

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7584
Sample ID: 243385010
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 7.27%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	0.0148		0.0202	+/-0.00428	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	-0.00139		0.0225	+/-0.00197	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.0167		0.0254	+/-0.00489	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		1.51		0.0952	+/-0.125	0.100	pCi/g		JXD2	01/07/10	1116	937600	4
Uranium-235/236		0.0874		0.0591	+/-0.0192	0.100	pCi/g						
Uranium-238		1.67		0.0552	+/-0.136	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	0.0303		0.323	+/-0.0961	0.200	pCi/g		MJH1	12/31/09	1054	936285	6
Bismuth-211	UI	2.55	R,R5a	0.275	+/-0.233		pCi/g						
Bismuth-214		0.837		0.0958	+/-0.0724	0.200	pCi/g						
Cadmium-109	UI	2.45	R,R5a	1.11	+/-0.425		pCi/g						
Cerium-139	U	-0.0196		0.0383	+/-0.0116	0.050	pCi/g						
Cesium-134	UI	0.113	R,R5a	0.0719	+/-0.0262	0.100	pCi/g						
Cesium-137		0.232		0.0539	+/-0.0299	0.100	pCi/g						
Cobalt-60	U	-0.0129		0.0477	+/-0.0151	0.100	pCi/g						
Europium-152	U	-0.00977		0.131	+/-0.0392	0.200	pCi/g						
Lanthanum-140	U	0.0334		0.111	+/-0.0307		pCi/g						
Lead-212		1.11		0.0911	+/-0.0755	0.100	pCi/g						
Lead-214		0.886		0.0958	+/-0.0844	0.100	pCi/g						
Mercury-203	U	-0.00816		0.0532	+/-0.0152	0.100	pCi/g						
Potassium-40		19.4		0.405	+/-0.964	1.00	pCi/g						
Radium-223	U	0.680		0.979	+/-0.295		pCi/g						
Radium-224	UI	2.00	R,R5a	1.35	+/-0.392		pCi/g						
Radium-226		0.837		0.0958	+/-0.0724		pCi/g						
Radium-228		1.24		0.136	+/-0.137	0.500	pCi/g						
Ruthenium-106	U	0.000846		0.419	+/-0.127	0.800	pCi/g						
Sodium-22	U	-0.0223		0.0558	+/-0.0177	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7584 Project: LANL01004
Sample ID: 243385010 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0232	0.0525	+/-0.0167		pCi/g						
Thallium-208		0.400	0.0418	+/-0.0328	0.080	pCi/g						
Thorium-227	U	-0.185	0.486	+/-0.142		pCi/g						
Thorium-231	U	0.680	0.979	+/-0.295		pCi/g						
Thorium-234	U	2.05	2.41	+/-0.821	2.00	pCi/g						
Tin-113	U	-0.0232	0.0573	+/-0.0174	0.100	pCi/g						
Uranium-235	U	0.0544	0.291	+/-0.0823	0.500	pCi/g						
Yttrium-88	U	0.00683	0.0369	+/-0.0104	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	94.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	78.3	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
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- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7583
Sample ID: 243385011
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 6.73%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	0.0032		0.0214	+/-0.00368	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	0.00413		0.0223	+/-0.00239	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	-1.64E-10		0.0252	+/-0.00195	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		1.08		0.137	+/-0.104	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.0819		0.085	+/-0.022	0.100	pCi/g						
Uranium-238		1.19		0.0794	+/-0.113	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	0.0381		0.115	+/-0.0365	0.200	pCi/g		MJH1	12/31/09	1055	936285	5
Bismuth-211	UI	4.31	R,R5a	0.340	+/-0.319		pCi/g						
Bismuth-214		1.41		0.126	+/-0.111	0.200	pCi/g						
Cadmium-109	UI	3.64	R,R5a	1.09	+/-0.464		pCi/g						
Cerium-139	U	0.00122		0.0531	+/-0.0158	0.050	pCi/g						
Cesium-134	U	0.0986		0.103	+/-0.0367	0.100	pCi/g						
Cesium-137	U	0.00448		0.0726	+/-0.0221	0.100	pCi/g						
Cobalt-60	U	-4.82E-05		0.0654	+/-0.0202	0.100	pCi/g						
Europium-152	U	0.0841		0.186	+/-0.0677	0.200	pCi/g						
Lanthanum-140	U	-0.0277		0.150	+/-0.0471		pCi/g						
Lead-212		1.77		0.103	+/-0.111	0.100	pCi/g						
Lead-214		1.50		0.119	+/-0.118	0.100	pCi/g						
Mercury-203	U	0.0478		0.0775	+/-0.0245	0.100	pCi/g						
Potassium-40		19.0		0.567	+/-1.00	1.00	pCi/g						
Radium-223	U	0.0908		1.23	+/-0.411		pCi/g						
Radium-224	UI	6.15	R,R5a	1.18	+/-0.818		pCi/g						
Radium-226		1.41		0.126	+/-0.111		pCi/g						
Radium-228		1.90		0.260	+/-0.194	0.500	pCi/g						
Ruthenium-106	U	-0.00446		0.589	+/-0.180	0.800	pCi/g						
Sodium-22	U	-0.0347		0.0745	+/-0.0249	0.080	pCi/g						

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7583 Project: LANL01004
Sample ID: 243385011 Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Strontium-85	UI	0.100	R,R5a	0.0773	+/-0.0226		pCi/g						
Thallium-208		0.617		0.0705	+/-0.0542	0.080	pCi/g						
Thorium-227	U	0.268		0.743	+/-0.211		pCi/g						
Thorium-231	U	0.0908		1.23	+/-0.411		pCi/g						
Thorium-234		1.72		1.12	+/-0.440	2.00	pCi/g						
Tin-113	U	-0.0377		0.0796	+/-0.0248	0.100	pCi/g						
Uranium-235	U	0.00979		0.384	+/-0.114	0.500	pCi/g						
Yttrium-88	U	0.0177		0.0573	+/-0.0155	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	87.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	82.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	76.2	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

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E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E Organics--Concentration of the target analyte exceeds the instrument calibration range
F Estimated Value

P.S. 2/8/10

Monday, December 21, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1032

REQUEST NUMBER: 10-1032

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

TURNAROUND/REPORT DUE: 1/20/2010

TURNAROUND REQ'D: 30

LAB REQUEST COMMENTS: 243385, 243386 1.

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7580	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7580	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7580	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7590	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7590	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7590	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7592	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7592	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7592	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7591	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7591	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7591	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7581	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7581	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7581	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7586	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7586	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7586	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7587	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7587	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7587	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7585	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7585	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7585	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7582	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7582	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7582	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7584	1	POLY	AM241+GS+ISOPU+ISO U	None	R

Monday, December 21, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1032

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7584	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7584	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7583	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7583	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7583	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7595	1	POLY	METALS+U-GEL	Nitric Acid	W
RE12-10-7595	1	POLY	SW-846:6850	Ice	W
RE12-10-7595	1	POLY	TCN	Sodium Hydroxide	W

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]		12/21/09	140	Patricia Dover-Dent	P. Dover-Dent	12-22-09	09:55
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By: **Date** **Time** **Remarks:**

Printed Name Signature

Monday, December 21, 2009

REQUEST NUMBER: 10-1032

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valerie Davis
General Engineering Laboratories, Inc., Charleston, SC.
2040 Savage Rd
Charleston, SC 29407

These Samples are on:
LANL Request Number:10-1032
Per Agreement Number:126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 12/21/2009
TURNAROUND/REPORT DUE: 1/20/2010
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Received
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:
Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	

Monday, December 21, 2009

REQUEST NUMBER: 10-1032

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	HASL-300:AM-241	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	HASL-300:ISOPU	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	HASL-300:ISOU	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	

Monday, December 21, 2009

REQUEST NUMBER: 10-1032

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	SW-846:6020	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
		1	RE12-10-7595	W	12/17/2009	
	SW-846:6850	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	

Monday, December 21, 2009

REQUEST NUMBER: 10-1032

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:6850	1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
		1	RE12-10-7595	W	12/17/2009	
	SW-846:7470A	1	RE12-10-7595	W	12/17/2009	
	SW-846:7471A	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	SW-846:8082	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	SW-846:8321A_MOD	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	

Monday, December 21, 2009

REQUEST NUMBER: 10-1032

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:8321A_MOD	1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	SW-846:9012A	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
		1	RE12-10-7595	W	12/17/2009	

Final Page of REQUEST NUMBER 10-1032

GEL Laboratories LLC

a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407

P 843.556.8171 F 843.766.1178

www.gel.com

January 04, 2010

Ms. Joylene Valdez
Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545

Re: LANL ER Project
Work Orders: 243385 243386
SDG: 10-1032

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on December 22, 2009, and analyzed for Explosives by LCMSMS, GC Semivolatile PCB, General Chemistry, Metals, Perchlorates by LCMSMS and Radiochemistry. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4485.

Sincerely,

for

Valerie Davis
Project Manager

Purchase Order: 72733-001-09
Chain of Custody: 10-1032
Enclosures

problem solved

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 243385 and 243386
SDG: 10-1032

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Miscellaneous 1486

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Sample Data Summary 1530
Quality Control Summary 1543
Instrument QC Data Summary 1546
Cyanide, Total 1548

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Case Narrative 1566
Sample Data Summary 1571
Quality Control Summary 1574
Instrument QC Data Summary 1577
Cyanide, Total 1579

Radiological Analysis 1587
Sample Data Summary 1600
Quality Control Data 1635
Raw Data 1642
Background and Efficiency Data 2335
Standards Data 2496
Runlogs 2528

Case Narrative

Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 243385 and 243386
SDG # : 10-1032

January 04, 2010

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on December 22, 2009 for analysis. The samples were prepared/analyzed within the required holding time. Shipping container temperatures were checked, documented, and within specifications. The samples were screened according to GEL Standard Operating Procedure. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. The containers for radiochemistry were received at 15/16C temperatures. Shipping container temperature was within specification (0 - 6C).

Sample Identification The laboratory received the following samples:

Laboratory ID	Client ID
243385001	RE12-10-7580
243385002	RE12-10-7590
243385003	RE12-10-7592
243385004	RE12-10-7591
243385005	RE12-10-7581
243385006	RE12-10-7586
243385007	RE12-10-7587
243385008	RE12-10-7585
243385009	RE12-10-7582
243385010	RE12-10-7584
243385011	RE12-10-7583
243386001	RE12-10-7595

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Explosives by LCMSMS, GC Semivolatile PCB, General Chemistry, Metals, Perchlorates by LCMSMS and Radiochemistry.

I certify that this data report is in compliance with the terms and conditions of the subcontract and task order, both technically and for completeness, for other than the conditions detailed in the attached case narrative.

for

Valerie Davis

Project Manager

List of current GEL Certifications as of 04 January 2010

State	Certification
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California – NELAP	01151CA
Colorado	GEL
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA Region 5	WG-15J
Florida – NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois – NELAP	200029
Indiana	C-SC-01
Kansas – NELAP	E-10332
Kentucky	90129
Louisiana – NELAP	03046
Maryland	270
Massachusetts	M-SC012
Nevada	SC00012
New Jersey – NELAP	SC002
New Mexico	FL NELAP E87156
New York – NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania – NELAP	68-00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas – NELAP	T104704235-07B-TX
U.S. Dept. of Agriculture	S-52597
Utah – NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

Chain of Custody and Supporting Documentation

Monday, December 21, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1032

REQUEST NUMBER: 10-1032

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

TURNAROUND/REPORT DUE: 1/20/2010

TURNAROUND REQ'D: 30

LAB REQUEST COMMENTS: 243385, 243386 1.

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7580	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7580	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7580	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7590	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7590	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7590	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7592	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7592	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7592	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7591	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7591	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7591	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7581	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7581	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7581	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7586	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7586	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7586	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7587	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7587	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7587	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7585	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7585	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7585	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7582	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7582	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7582	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7584	1	POLY	AM241+GS+ISOPU+ISO	None	R

Monday, December 21, 2009

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1032

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7584	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7584	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7583	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7583	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7583	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7595	1	POLY	METALS+U-GEL	Nitric Acid	W
RE12-10-7595	1	POLY	SW-846:6850	Ice	W
RE12-10-7595	1	POLY	TCN	Sodium Hydroxide	W

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]		12/21/09	14a	Patricia Dover-Dent	P. Dover-Dent	12-22-09	09:55
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By:		Date	Time	Remarks:
Printed Name	Signature			

Monday, December 21, 2009

REQUEST NUMBER: 10-1032

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

These Samples are on:

LANL Request Number:10-1032

Per Agreement Number:126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 12/21/2009

TURNAROUND/REPORT DUE: 1/20/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Received

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	

Monday, December 21, 2009

REQUEST NUMBER: 10-1032

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	HASL-300:AM-241	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	HASL-300:ISOPU	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	HASL-300:ISOU	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	

Monday, December 21, 2009

REQUEST NUMBER: 10-1032

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	SW-846:6020	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
		1	RE12-10-7595	W	12/17/2009	
	SW-846:6850	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	

Monday, December 21, 2009

REQUEST NUMBER: 10-1032

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:6850	1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
		1	RE12-10-7595	W	12/17/2009	
	SW-846:7470A	1	RE12-10-7595	W	12/17/2009	
	SW-846:7471A	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	SW-846:8082	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	SW-846:8321A_MOD	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	

Monday, December 21, 2009

REQUEST NUMBER: 10-1032

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:8321A_MOD	1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
	SW-846:9012A	1	RE12-10-7580	R	12/17/2009	
		1	RE12-10-7581	R	12/17/2009	
		1	RE12-10-7582	R	12/17/2009	
		1	RE12-10-7583	R	12/17/2009	
		1	RE12-10-7584	R	12/17/2009	
		1	RE12-10-7585	R	12/17/2009	
		1	RE12-10-7586	R	12/17/2009	
		1	RE12-10-7587	R	12/17/2009	
		1	RE12-10-7590	R	12/17/2009	
		1	RE12-10-7591	R	12/17/2009	
		1	RE12-10-7592	R	12/17/2009	
		1	RE12-10-7595	W	12/17/2009	

Final Page of REQUEST NUMBER 10-1032

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client:LANL	**SDG/ARCOC/Work Order:10-1032**
Received By:Patricia Dover-Dent	**Date Received:December 22, 2009**

Suspected Hazard Information	**Yes**	**No**	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further
COC/Samples marked as radioactive?		X	Maximum Counts Observed*:**40CPM**
Classified Radioactive II by RSO?		X	
COC/Samples marked containing PCBs?		X	
Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		X	

	Sample Receipt Criteria	**Yes**	**NA**	**No**	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe
2	Samples requiring cold preservation within (0 < 6 deg. C?	X			Preservation Method: ice bags **BLUE ICE** dry ice **NONE** other (describe) **2,4,6,15,16**
3	Chain of custody documents included with shipment?	X			
4	Sample containers intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?		X		Sample ID's, containers affected and observed pH. If Preservative added, Lot#
6	VOA vials free of headspace (defined as < 6mm bubble)?		X		Sample ID's and containers affected:
7	Are Encore containers present?			X	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	X			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?		X		Sample ID's affected: **No Time on Chain of Custody**
11	Number of containers received match number indicated on COC?	X			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	X			

Comments:FED EX #'S

7209 7849 3160 2C
7209 7849 3218 2C
7209 7849 3230 2C
7209 7849 3240 2C
7209 7849 3229 4C
7209 7849 3251 4C
7209 7849 3207 6C
7209 7849 3012 15C
7209 7849 3023 16C
7209 7849 3159 16C

PM (or PMA) review: Initials _____ Date 12/23/09

ORIGIN ID: SAFA (505)665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 21DEC09
ACTWGT: 57.0 LB MAN
CAD: 0014176/CAFE2434

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843)556-8171
REF: 6B010AMR1A032VA00

2C

FedEx Express

2 of 2

TUE - 22DEC A1

TRK# 0263 7209 7849 3160

TUE - 22 DEC A1
PRIORITY OVERNIGHT

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ORIGIN ID: SAFA (505)665-9968
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2 of 2

TUE - 22DEC A1

TRK# 0263 7209 7849 3230

PRIORITY OVERNIGHT

MstrW 7209 7849 3229 0201

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SC-US
CHS

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ACTWGT: 53.0 LB MAN
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TRK# 0201 7209 7849 3218

PRIORITY OVERNIGHT

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SC-US
CHS

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ACTWGT: 53.0 LB MAN
CAD: 0014176/CAFE2434

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TRK# 0201 7209 7849 3240

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SHIP DATE: 21DEC09
ACTWGT: 54.0 LB MAN
CAD: 0014176/CAFE2434

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TRK# 0201 7209 7849 3229
*** MASTER ***

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PRIORITY OVERNIGHT

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UNITED STATES US

SHIP DATE: 21DEC09
ACTWGT: 59.0 LB MAN
CAD: 0014176/CAFE2434

BILL SENDER

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2 of 2
MPS# 0263 7209 7849 3251
Mstr# 7209 7849 3240 0201

TUE - 22DEC A1
PRIORITY OVERNIGHT

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UNITED STATES US

SHIP DATE: 21DEC09
ACTWGT: 50.0 LB MAN
CAD: 0014176/CAFE2434

BILL SENDER

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(843)556-8171
REF: 6B010AMR3A05529E00

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TRK# 0201 7209 7849 3207

TUE - 22DEC A1
PRIORITY OVERNIGHT

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UNITED STATES US

SHIP DATE: 21DEC09
ACTWGT: 59.0 LB MAN
CAD: 0014176/CAFE2434

BILL SENDER

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REF: 6B010AMR1A015AGM0

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MPS# 0263 7209 7849 3012
Mstr# 7209 7849 3001 0201

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PRIORITY OVERNIGHT

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UNITED STATES US

SHIP DATE: 21DEC09
ACTWGT: 53.0 LB MAN
CAD: 0014176/CAFE2434

BILL SENDER

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GENERAL ENGINEERING LAB
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REF: 6B010AMR1A015AGMO

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3 of 3
MPS# 0263 7209 7849 3023
Mstr# 7209 7849 3001 0201

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Part # 1501Ad-404 NRef V3 09-09

ORIGIN ID: SAFA (505)665-9968
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SHIP DATE: 21DEC09
ACTWGT: 39.0 LB MAN
CAD: 0014176/CAFE2434

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2040 SAVAGE RD

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(843)556-8171
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TRK# 0201 7209 7849 3159
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Data Review Qualifier Flag Definition Sheet

Data Review Qualifier Definitions

Qualifier	Explanation
*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
A	The TIC is a suspected aldol-condensation product
B	Target analyte was detected in the associated blank
B	Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
d	5-day BOD-The 2:1 depletion requirement was not met for this sample
E	Organics-Concentration of the target analyte exceeds the instrument calibration range
E	Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
H	Analytical holding time was exceeded
h	Preparation or preservation holding time was exceeded
J	Value is estimated
N	Metals-The Matrix spike sample recovery is not within specified control limits
N	Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
ND	Analyte concentration is not detected above the reporting limit
UI	Gamma Spectroscopy-Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

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LC/MS/MS EXPLOSIVES ANALYSIS

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LC/MS/MS Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1032

Method/Analysis Information

Procedure:	**Definitive Low Level Analysis of Nitroaromatic Explosives Utilizing Liquid Chromatography / Mass Spectrometry / Mass Spectrometry (LC/MS/MS) by SW-846 Method 8321 Modified (8321M)**
Analytical Method:	SW846 8321A Modified
Prep Method:	SW846 8330 PREP
Analytical Batch Number:	936359
Prep Batch Number:	936358

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 8321A Modified:

Sample ID	Client ID
243385001	RE12-10-7580
243385002	RE12-10-7590
243385003	RE12-10-7592
243385004	RE12-10-7591
243385005	RE12-10-7581
243385006	RE12-10-7586
243385007	RE12-10-7587
243385008	RE12-10-7585
243385009	RE12-10-7582
243385010	RE12-10-7584
243385011	RE12-10-7583
1202003510	Method Blank (MB)
1202003511	Laboratory Control Sample (LCS)
1202003512	243385001(RE12-10-7580) Matrix Spike (MS)
1202003513	243385001(RE12-10-7580) Matrix Spike Duplicate (MSD)

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Preparation/Analytical Method Verification

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-056 REV# 12.

Primary Analyte Analysis

Calibration Information

Initial Calibration
All initial calibration requirements for this analysis have been met for this SDG.

Calibration Verification Standard Requirements
All associated calibration verification standard(s) (ICV or CCV) for this analysis met the acceptance criteria.

Calibration Blank Requirements
All initial or continuing calibration blanks (ICB or CCB) bracketing the analyses associated with this batch for this analysis were within acceptance criteria. Due to software limitations, the CCBs and/or the ICBs may have a concentration for target analytes in the Found column. These values should be zero.

CRI Requirements
All low level calibration verification (CRI) requirements for this analysis were met by all bracketing CRI standards and may be based off the grand mean average percent recovery of all target analytes.

Quality Control (QC) Information

Method Blank (MB) Statement
The MB(s) analyzed with this SDG for this analysis met the acceptance criteria.

Surrogate Recoveries
All the surrogate recoveries were within the established acceptance criteria in this SDG in this analytical batch for this analysis.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries were within the established acceptance limits.

QC Sample Designation
Sample 243385001 (RE12-10-7580) was chosen for matrix spike and matrix spike duplicate analysis.

Matrix Spike (MS) Recovery Statement
The MS spike recoveries were within the established acceptance limits.

Matrix Spike Duplicate (MSD) Recovery Statement
The MSD recovered Tetryl at 45.6%. The recovery limits are 47-138%. Since the LCS and MS met acceptance limits for Tetryl, the noted exception is attributed to vagaries in the extraction process. The data are reported. Please see data exception report 780781.

MS/MSD Relative Percent Difference (RPD) Statement
The MS/MSD RPD for m-Nitrotoluene was 40.4%. The acceptance limits are 0-30%. Since all other RPD recoveries met acceptance criteria, the noted exception is attributed to vagaries in the extraction process. The data are reported. Please see data exception report 780781.

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Internal Standard (ISTD) Acceptance
The internal standard responses were within the required acceptance criteria for all samples and QC. The internal standards were not added to the secondary analyte extracts.

Technical Information

Holding Time Specifications
All samples in this SDG in this analytical batch met the specified holding time. GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
According to the GEL SOP for Method 8321A, all sample and QC extracts are diluted 1:1 v/v with HPLC grade water. The samples in this SDG in this analytical batch for this analysis did not require any additional dilutions.

Sample Re-extraction/Re-analysis
QC sample 1202003513 (RE12-10-7580MSD) failed ISTD acceptance criteria. It was re-analyzed and passed acceptance criteria. The re-analysis data are reported.

Secondary Analyte Analysis

Calibration Information

Initial Calibration
All initial calibration requirements for this analysis have been met for this SDG.

Calibration Verification Standard Requirements
All associated calibration verification standard(s) (ICV or CCV) for this analysis met the acceptance criteria.

Calibration Blank Requirements
All initial or continuing calibration blanks (ICB or CCB) bracketing the analyses associated with this batch for this analysis were within acceptance criteria. Due to software limitations, the CCBs and/or the ICBs may have a concentration for target analytes in the Found column. These values should be zero.

CRI Requirements
All low level calibration verification (CRI) requirements for this analysis were met by all bracketing CRI standards and may be based off the grand mean average percent recovery of all target analytes.

Quality Control (QC) Information

Method Blank (MB) Statement
The MB(s) analyzed with this SDG for this analysis met the acceptance criteria.

Surrogate Recoveries
All the surrogate recoveries were within the established acceptance criteria in this SDG in this analytical batch for this analysis.

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Laboratory Control Sample (LCS) Recovery
The LCS recovered TATB at 41.7%. The recovery limits are 47-166%. Since the matrix spike and matrix spike duplicate both met acceptance limits for TATB, the data are reported. Please see data exception report 780781.

QC Sample Designation
Sample 243385001 (RE12-10-7580) was chosen for matrix spike and matrix spike duplicate analysis.

Matrix Spike (MS) Recovery Statement
The MS spike recoveries were within the established acceptance limits.

Matrix Spike Duplicate (MSD) Recovery Statement
The MSD spike recoveries were within the established acceptance limits.

MS/MSD Relative Percent Difference (RPD) Statement
The MS/MSD RPD for TATB was 35.3%. The acceptance limits are 0-30%. Since all other RPD recoveries met acceptance criteria, the noted exception is attributed to vagaries in the extraction process. The data are reported. Please see data exception report 780781.

Internal Standard (ISTD) Acceptance
The internal standards were not added to the secondary analyte extracts.

Technical Information

Holding Time Specifications
All samples in this SDG in this analytical batch met the specified holding time. GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
According to the GEL SOP for Method 8321A, all sample and QC extracts are diluted 1:1 v/v with HPLC grade water. The samples in this SDG in this analytical batch for this analysis did not require any additional dilutions.

Sample Re-extraction/Re-analysis
Re-extractions or re-analyses were not required in this SDG in this analytical batch for this analysis except for dilutions.

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Miscellaneous Information

Data Exception (DER) Documentation
Data exception report 780781 was generated for this SDG.

The LCS recovered TATB at 41.7%. The recovery limits are 47-166%. Since the matrix spike and matrix spike duplicate both met acceptance limits for TATB, the data are reported.

The MSD recovered Tetryl at 45.6%. The recovery limits are 47-138%. Since the LCS and MS met acceptance limits for Tetryl, the noted exception is attributed to vagaries in the extraction process. The data are reported.

The MS/MSD RPD for m-Nitrotoluene was 40.4% and for TATB was 35.3%. The acceptance limits are 0-30%. Since all other RPD recoveries met acceptance criteria, the noted exceptions are attributed to vagaries in the extraction process. The data are reported.

Manual Integrations
Some initial calibration standards, continuing calibration standards, and/or samples required manual integrations due to software limitations.

Flagging Convention
The samples were not originally analyzed using SW-846 Method 8330.

Additional Comments
Due to software limitations, all initial calibration blanks must be designated as XIB001 in order for the forms to be correct.

Due to software limitations in the secondary analyte analysis, false positives and analytes detected below the MDL cannot be deleted from the raw data.

Due to software limitations, file extensions such as DL, RE, etc. may not appear on the generated forms and/or raw data.

System Configuration

The laboratory utilizes a Waters LC 2795 liquid chromatography instrument for primary analyte analysis. It is coupled with either a Micromass Quattro Micro Mass Spectrometer/ Mass Spectrometer, or a Micromass Quattro Ultima Mass Spectrometer/ Mass Spectrometer. Each being designated as LCMSMS #1, and LCMSMS #2, respectively. It is fitted with an APCI (Atmospheric Pressure chemical Ionization) probe that is operated in the negative ionization mode for the primary analyte analysis. The laboratory also utilizes an Agilent 1100 liquid chromatography instrument for either primary or secondary analyte analysis. It is coupled with a Applied Biosystems 4000 Mass Spectrometer/ Mass Spectrometer, designated as either LCMSMS #3 or LCMSMS #4. It is fitted with a APCI (Atmospheric Pressure chemical Ionization) probe that is operated in the negative ionization mode for both the primary and secondary analyte analysis.

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Chromatographic Columns

The detection of the primary analyte nitroaromatic and nitramines is accomplished through analysis on the following reversed phase column:

Phenomenex: Ultracarb 5u ODS (20), 250 x 4.60 mm ID.

The detection of the secondary analytes is accomplished through analysis on the following reversed phase column:

YMC: J'sphere ODS-H80, 150 x 4.6mm I.D.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Herbert M Mares **Date:** 01/18/10

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SAMPLE DATA SUMMARY

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7580

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385001

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115024a

Date Analyzed: 16-JAN-10 02:12

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7580

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385001

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070029.wiff

Date Analyzed: 07-JAN-10 21:35

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7590

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385002

Sample Amount 2

Moisture: 9.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115027a

Date Analyzed: 16-JAN-10 03:40

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7590

Lab Code: GEI

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385002

Sample Amount 2

Moisture: 9.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070032.wiff

Date Analyzed: 07-JAN-10 22:22

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7592

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385003

Sample Amount 2

Moisture: 11.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115028a

Date Analyzed: 16-JAN-10 04:10

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12--10--7592

Lab Code: GEL

GEL Job No (SDG) 10--1032

Matrix: SOIL

GEL Sample ID: 243385003

Sample Amount 2

Moisture: 11.4

Amount Units g

Date Received: 22--DEC--09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29--DEC--09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070033.wiff

Date Analyzed: 07--JAN--10 22:38

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058--38--6	TATB	1000	U
59229--75--3	2,6--Diamino--4--nitrotoluene	2000	U
618--87--1	3,5--Dinitroaniline	1000	U
6629--29--4	2,4--Diamino--6--nitrotoluene	2000	U
78--30--8	tris(o--cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7591

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385004

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115029a

Date Analyzed: 16-JAN-10 04:39

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7591

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385004

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070034.wiff

Date Analyzed: 07-JAN-10 22:53

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4--nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7581

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385005

Sample Amount 2

Moisture: 11.6

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115030a

Date Analyzed: 16-JAN-10 05:09

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7581

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385005

Sample Amount 2

Moisture: 11.6

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070035.wiff

Date Analyzed: 07-JAN-10 23:09

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7586

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385006

Sample Amount 2

Moisture: 10.8

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115031a

Date Analyzed: 16-JAN-10 05:38

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7586

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385006

Sample Amount 2

Moisture: 10.8

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070036.wiff

Date Analyzed: 07-JAN-10 23:25

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7587

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385007

Sample Amount 2

Moisture: 9.9

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115035a

Date Analyzed: 16-JAN-10 07:36

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7587

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385007

Sample Amount 2

Moisture: 9.9

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070040.wiff

Date Analyzed: 08-JAN-10 00:27

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7585

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385008

Sample Amount 2

Moisture: 8.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115036a

Date Analyzed: 16-JAN-10 08:06

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7585

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385008

Sample Amount 2

Moisture: 8.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070041.wiff

Date Analyzed: 08-JAN-10 00:43

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7582

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385009

Sample Amount 2

Moisture: 7.2

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115037a

Date Analyzed: 16-JAN-10 08:35

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7582

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385009

Sample Amount 2

Moisture: 7.2

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070042.wiff

Date Analyzed: 08-JAN-10 00:59

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7584

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385010

Sample Amount 2

Moisture: 7.3

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115038a

Date Analyzed: 16-JAN-10 09:05

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7584

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385010

Sample Amount 2

Moisture: 7.3

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070043.wiff

Date Analyzed: 08-JAN-10 01:15

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7583

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385011

Sample Amount 2

Moisture: 6.7

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115039a

Date Analyzed: 16-JAN-10 09:34

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7583

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385011

Sample Amount 2

Moisture: 6.7

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070044.wiff

Date Analyzed: 08-JAN-10 01:30

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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QUALITY CONTROL SUMMARY

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2

High Explosives Surrogate Recovery Summary

Lab Name: GEL Laboratories LLC **GEL Job No (SDG):** 10–1032

Lab Code: GEL **HPLC Column:** Phenomenex Ultracarb 5u ODS(20)

Lab Sample ID	Client Sample ID	DNT	QC Limits	Flg
243385001	RE12–10–7580	98.4	73.7 – 133.3	
243385001	RE12–10–7580	81.6	73.7 – 133.3	
243385002	RE12–10–7590	104	73.7 – 133.3	
243385002	RE12–10–7590	92.8	73.7 – 133.3	
243385003	RE12–10–7592	103	73.7 – 133.3	
243385003	RE12–10–7592	88	73.7 – 133.3	
243385004	RE12–10–7591	106	73.7 – 133.3	
243385004	RE12–10–7591	90.8	73.7 – 133.3	
243385005	RE12–10–7581	105	73.7 – 133.3	
243385005	RE12–10–7581	85.2	73.7 – 133.3	
243385006	RE12–10–7586	85	73.7 – 133.3	
243385006	RE12–10–7586	94.4	73.7 – 133.3	
243385007	RE12–10–7587	103	73.7 – 133.3	
243385007	RE12–10–7587	85.2	73.7 – 133.3	
243385008	RE12–10–7585	109	73.7 – 133.3	
243385008	RE12–10–7585	88.4	73.7 – 133.3	
243385009	RE12–10–7582	101	73.7 – 133.3	
243385009	RE12–10–7582	74.4	73.7 – 133.3	
243385010	RE12–10–7584	111	73.7 – 133.3	
243385010	RE12–10–7584	95.6	73.7 – 133.3	
243385011	RE12–10–7583	111	73.7 – 133.3	
243385011	RE12–10–7583	93.6	73.7 – 133.3	
1202003510	MB for batch 936358	103	73.7 – 133.3	
1202003510	MB for batch 936358	98.4	73.7 – 133.3	
1202003511	LCS for batch 936358	96.6	73.7 – 133.3	
1202003511	LCS for batch 936358	92.8	73.7 – 133.3	
1202003512	RE12–10–7580(243385001MS)	106	73.7 – 133.3	
1202003512	RE12–10–7580(243385001MS)	79.2	73.7 – 133.3	
1202003513	RE12–10–7580(243385001MSD)	102	73.7 – 133.3	
1202003513	RE12–10–7580(243385001MSD)	86.4	73.7 – 133.3	

DNT = 3,4–Dinitrotoluene

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3B
High Explosives LCS/LCS Duplicate Summary

Lab Name: GEL Laboratories LLC

Client ID: LCS

Lab Code: GEL

GEL Job No (SDG) 10-1032

Extract Batch Code: 936358

Date Extracted: 29-DEC-09

GEL LCS ID: 1202003511

GEL LCSDUP ID:

Analysis Date/Time: 16-JAN-10 01:42

DUP Analysis Date/Time:

Reporting Units: ug/kg

QC Type: LCS/LCSD

Compound	Spike Added	LCS Conc	LCS Rec #	LCSD Conc	LCSD Rec #	RPD #	RPD	Recovery Limits
2,4,6-Trinitrotoluene	5000	5580	112					78.3 – 132
2,4-Dinitrotoluene	5000	5540	111					82.7 – 132
2,6-Dinitrotoluene	5000	5090	102					86.9 – 122
2-Amino-4,6-dinitrotoluene	5000	5870	117					84.2 – 149
4-Amino-2,6-dinitrotoluene	5000	5300	106					85.6 – 133
HMX	5000	4940	98.9					66.5 – 142
Nitrobenzene	5000	4440	88.8					71.8 – 126
1,3,5-Trinitrobenzene	5000	4560	91.2					62.1 – 124
PETN	5000	5450	109					64.6 – 147
RDX	5000	5010	100					78.7 – 144
Tetryl	5000	3760	75.1					31.2 – 119
m-Dinitrobenzene	5000	4730	94.7					80.9 – 127
m-Nitrotoluene	5000	4390	87.9					71.9 – 126
o-Nitrotoluene	5000	4760	95.1					75 – 123
p-Nitrotoluene	5000	4970	99.3					73.7 – 124

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

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3B
High Explosives LCS/LCS Duplicate Summary

Lab Name: GEL Laboratories LLC

Client ID: LCS

Lab Code: GEL

GEL Job No (SDG) 10-1032

Extract Batch Code: 936358

Date Extracted: 29-DEC-09

GEL LCS ID: 1202003511

GEL LCSDUP ID:

Analysis Date/Time: 07-JAN-10 21:19

DUP Analysis Date/Time:

Reporting Units: ug/kg

QC Type: LCS/LCSD

Compound	Spike Added	LCS Conc	LCS Rec	#	LCSD Conc	LCSD Rec	#	RPD	#	RPD	Recovery Limits
2,4-Diamino-6-nitrotoluene	5000	3870	77.4								64.8 - 128
2,6-Diamino-4-nitrotoluene	5000	4330	86.6								69.6 - 133
3,5-Dinitroaniline	5000	5320	106								77.3 - 123
tris(o-cresyl) phosphate	5000	4950	99								84.3 - 120
TATB	17500	7300	41.7	*							46.8 - 166

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

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3

High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE12-10-7580

Lab Code: GEL

GEL Job No (SDG) 10-1032

Extract Batch Code: 936358

Date Extracted: 29-DEC-09

GEL Spike ID: 1202003512

GEL SpikeDup ID: 1202003513

Analysis Date/Time: 16-JAN-10 02:41

MSD Analysis Date/Time:

Reporting Units: ug/kg

QC Type: MS/MSD

Compound	Spike Added	Sample Conc	MS Conc	MS Rec #	MSD Conc	MSD Rec #	RPD #	RPD Limit	Rec Limits
1,3,5-Trinitrobenzene	5000	0	4880	97.7	4240	84.8	14.1	30	70.7 – 130
2,4,6-Trinitrotoluene	5000	0	5290	106	4660	93.1	12.8	30	83.4 – 138
2,4-Dinitrotoluene	5000	0	5810	116	5050	101	14.1	30	79.1 – 137
2,6-Dinitrotoluene	5000	0	4870	97.4	4800	95.9	1.6	30	85.4 – 125
2-Amino-4,6-dinitrotoluene	5000	0	5870	117	4900	98	18	30	77.4 – 154
4-Amino-2,6-dinitrotoluene	5000	0	4750	95	4990	99.7	4.81	30	77.3 – 140
HMX	5000	0	4880	97.6	4080	81.6	17.8	30	66.7 – 144
Nitrobenzene	5000	0	4770	95.4	4610	92.2	3.42	30	70.4 – 129
PETN	5000	0	4810	96.2	3940	78.7	20	30	61.9 – 153
RDX	5000	0	4850	97.1	4330	86.5	11.5	30	73 – 140
Tetryl	5000	0	2860	57.3	2280	45.6 *	22.6	30	46.8 – 138
m-Dinitrobenzene	5000	0	5480	110	4650	92.9	16.4	30	83.5 – 126
m-Nitrotoluene	5000	0	3750	75	5650	113	40.4 *	30	68.6 – 135
o-Nitrotoluene	5000	0	4660	93.3	4890	97.9	4.84	30	71.2 – 131
p-Nitrotoluene	5000	0	4130	82.5	4780	95.7	14.7	30	69.3 – 133

#Column to be used to flag recovery and RPD values with an asterisk

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3

High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE12-10-7580

Lab Code: GEI

GEL Job No (SDG) 10-1032

Extract Batch Code: 936358

Date Extracted: 29-DEC-09

GEL Spike ID: 1202003512

GEL SpikeDup ID: 1202003513

Analysis Date/Time: 07-JAN-10 21:50

MSD Analysis Date/Time:

Reporting Units: ug/kg

QC Type: MS/MSD

Compound	Spike Added	Sample Conc	MS Conc	MS Rec #	MSD Conc	MSD Rec #	RPD #	RPD Limit	Rec Limits
2,4-Diamino-6-nitrotoluene	5000	0	3430	68.6	3720	74.4	8.11	30	51.6 – 127
2,6-Diamino-4-nitrotoluene	5000	0	4080	81.6	4350	87	6.41	30	58.9 – 135
3,5-Dinitroaniline	5000	0	4290	85.8	4590	91.8	6.76	30	72.8 – 125
tris(o-cresyl) phosphate	5000	0	4090	81.8	4410	88.2	7.53	30	79.1 – 124
TATB	17500	0	12400	70.9	8680	49.6	35.3 *	30	43.9 – 166

#Column to be used to flag recovery and RPD values with an asterisk

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4

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1032

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 15–JAN–10 14:53

GEL Data File: EXP0115001a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	497.742
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	499.688
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

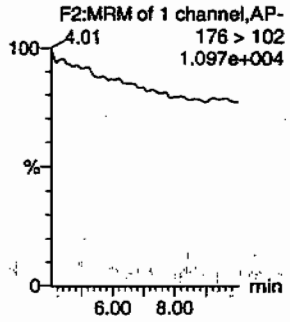
Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Method: C:\MASSLYNX\New_Exp.PRO\MethDB\011510expa.mdb, Time: Sat Jan 16 13:21:47 2010
Calibration: Untitled, Time: Sat Jan 16 13:38:38 2010

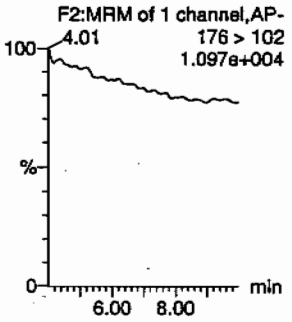
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115001a
Date: 15-Jan-2010
Time: 14:53:23
ID: XIBLK01
Vial: 1:1,A

MMT 1/16/10

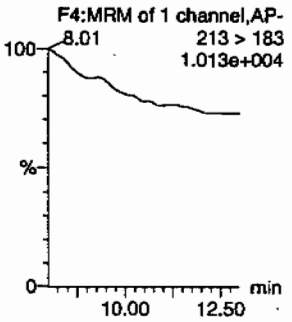
HMX



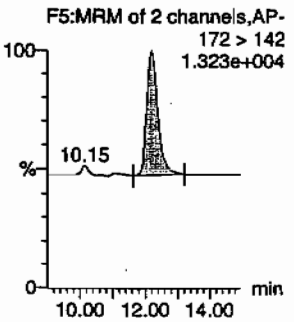
RDX



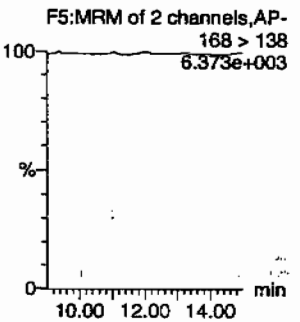
135-Trinitrobenzene



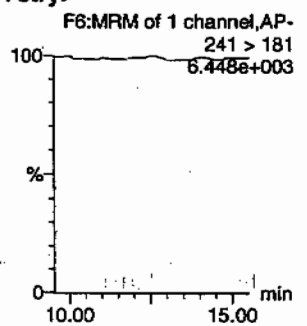
13-Dinitrobenzene-d4



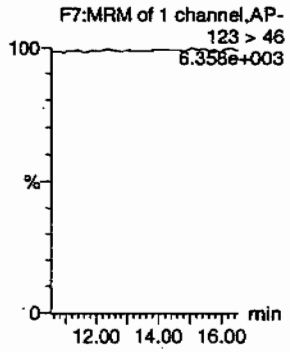
13-Dinitrobenzene



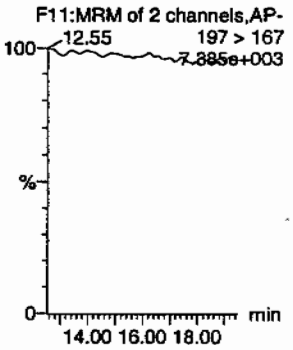
Tetryl



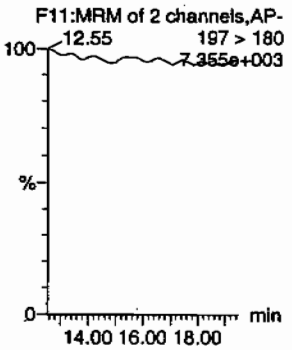
Nitrobenzene



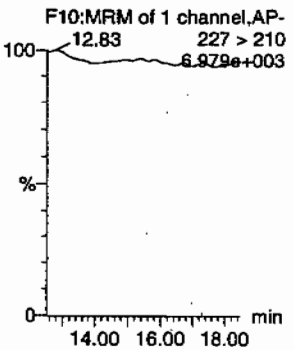
4-Amino-26-dinitrotoluene



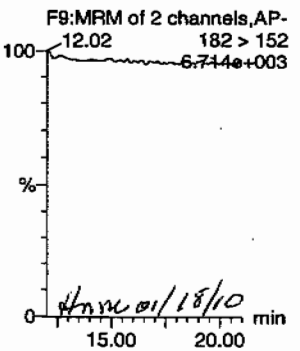
2-Amino-46-dinitrotoluene



246-Trinitrotoluene

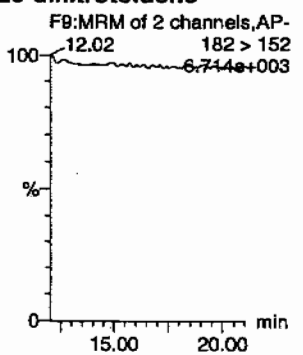


34-dinitrotoluene



Hmc 01/18/10

26-dinitrotoluene



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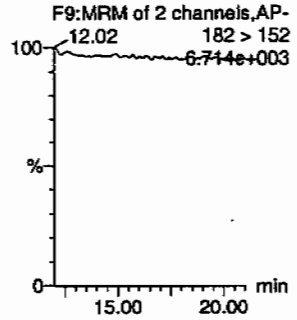
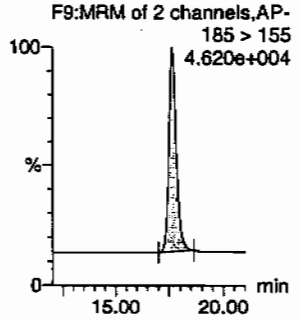
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

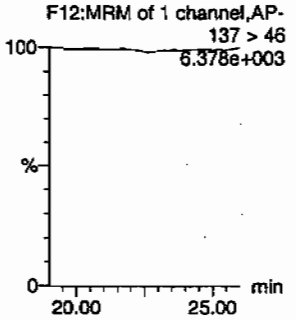
24-dinitrotoluene



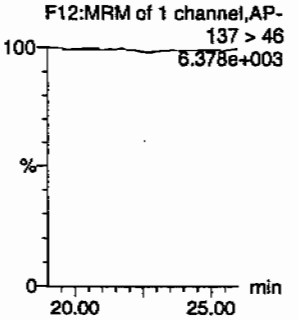
26-dinitrotoluene-d3



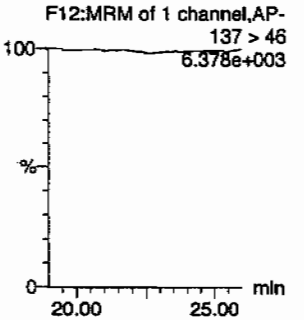
2-Nitrotoluene



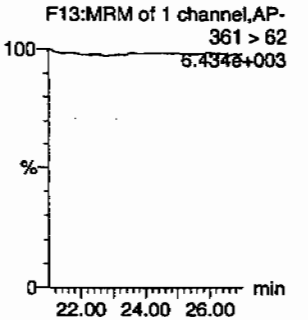
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	µg/mL	%Rec	%Dev	S/N
XIBLK01	HMX	176 > 102			2753.802									
XIBLK01	RDX	176 > 102			2753.802									
XIBLK01	135-Trinitrobenzene	213 > 183			2753.802									
XIBLK01	13-Dinitrobenzene-d4	172 > 142	12.20	2753.802		2753.802	2753.802	bb			497.7422	99.5	-0.5	144.7
XIBLK01	13-Dinitrobenzene	168 > 138			2753.802									
XIBLK01	Tetryl	241 > 181			2753.802									
XIBLK01	Nitrobenzene	123 > 46			2753.802									
XIBLK01	4-Amino-26-dinitrotoluene	197 > 167			15905.611									
XIBLK01	2-Amino-46-dinitrotoluene	197 > 180			15905.611									
XIBLK01	246-Trinitrotoluene	227 > 210			15905.611									
XIBLK01	34-dinitrotoluene	182 > 152			15905.611									
XIBLK01	26-dinitrotoluene	182 > 152			15905.611									
XIBLK01	24-dinitrotoluene	182 > 152			15905.611									
XIBLK01	26-dinitrotoluene-d3	185 > 155	17.65	15905.611		15905.611	15905.611	bb			499.6882	99.9	-0.1	1760.1
XIBLK01	2-Nitrotoluene	137 > 46			15905.611									
XIBLK01	4-Nitrotoluene	137 > 46			15905.611									
XIBLK01	3-Nitrotoluene	137 > 46			15905.611									
XIBLK01	PETN	361 > 62			15905.611									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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4

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1032

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 15–JAN–10 15:23

GEL Data File: EXP0115002a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	556.696
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	545.407
2,4,6–Trinitrotoluene	0	0

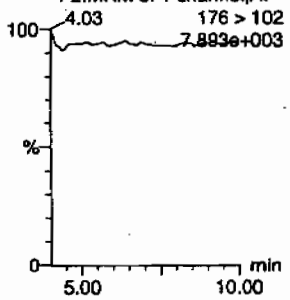
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

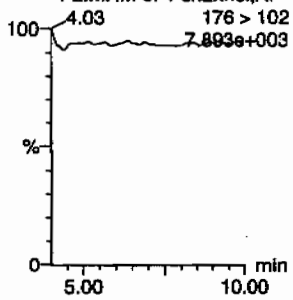
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115002a
Date: 15-Jan-2010
Time: 15:23:07
ID: XIBLK01
Vial: 1:1,A

MST 1/16/10

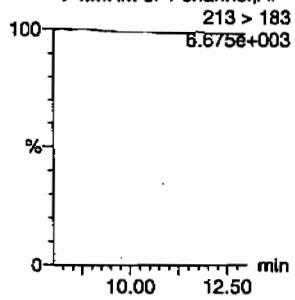
HMX
F2:MRM of 1 channel,AP-
176 > 102
4.03
7.893e+003



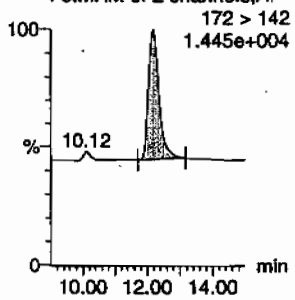
RDX
F2:MRM of 1 channel,AP-
176 > 102
4.03
7.893e+003



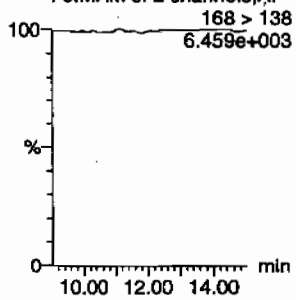
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.675e+003



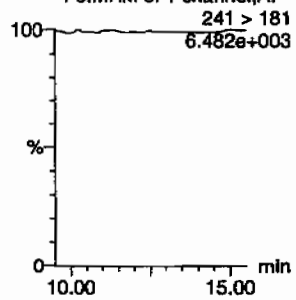
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.445e+004



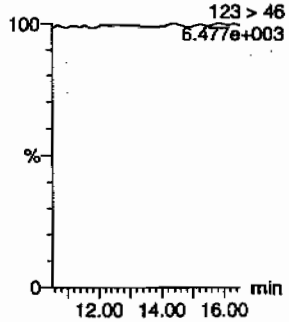
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.459e+003



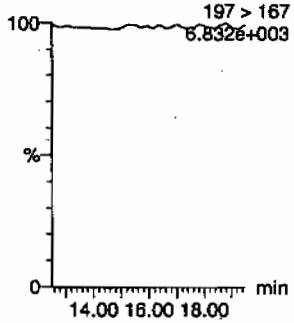
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.482e+003



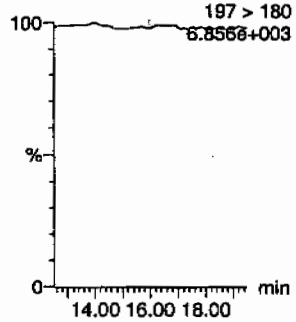
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.477e+003



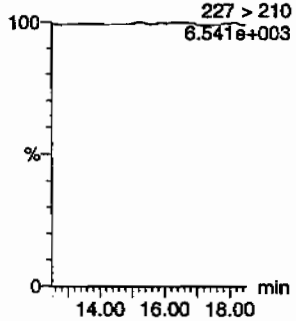
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.832e+003



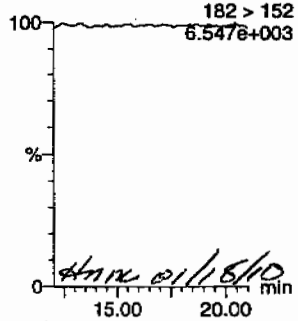
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.856e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.541e+003

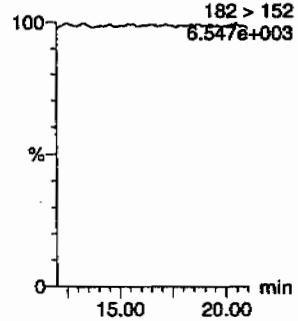


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.547e+003



Hmx 01/16/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.547e+003



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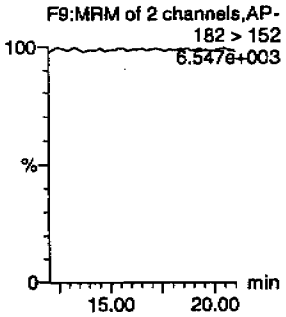
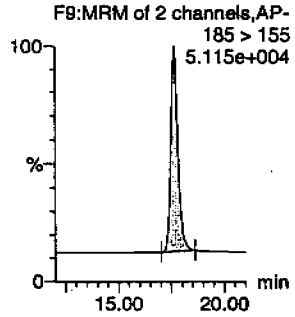
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

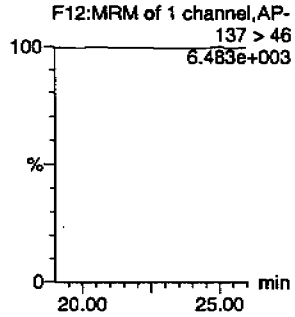
24-dinitrotoluene



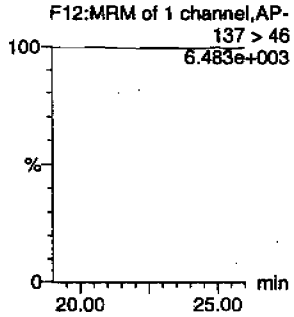
26-dinitrotoluene-d3



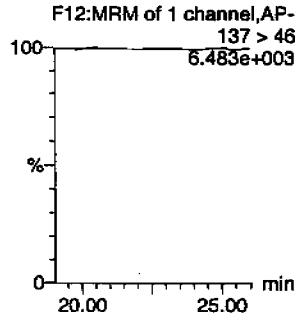
2-Nitrotoluene



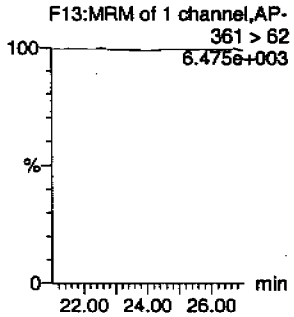
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
XIBLK01	HMX	176 > 102			3017.511									
XIBLK01	RDX	176 > 102			3017.511									
XIBLK01	135-Trinitrobenzene	213 > 183			3017.511									
XIBLK01	13-Dinitrobenzene-d4	172 > 142	12.21	3017.511		3017.511	3017.511	bb			545.4069	109.1	9.1	395.0
XIBLK01	13-Dinitrobenzene	168 > 138			3017.511									
XIBLK01	Tetryl	241 > 181			3017.511									
XIBLK01	Nitrobenzene	123 > 46			3017.511									
XIBLK01	4-Amino-26-dinitrotoluene	197 > 167			17720.230									
XIBLK01	2-Amino-46-dinitrotoluene	197 > 180			17720.230									
XIBLK01	246-Trinitrotoluene	227 > 210			17720.230									
XIBLK01	34-dinitrotoluene	182 > 152			17720.230									
XIBLK01	26-dinitrotoluene	182 > 152			17720.230									
XIBLK01	24-dinitrotoluene	182 > 152			17720.230									
XIBLK01	26-dinitrotoluene-d3	185 > 155	17.64	17720.230		17720.230	17720.230	bb			556.6960	111.3	11.3	1667.6
XIBLK01	2-Nitrotoluene	137 > 46			17720.230									
XIBLK01	4-Nitrotoluene	137 > 46			17720.230									
XIBLK01	3-Nitrotoluene	137 > 46			17720.230									
XIBLK01	PETN	361 > 62			17720.230									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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4

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1032

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 17-JAN-10 18:11

GEL Data File: EXP0117001a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	469.804
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	544.094
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

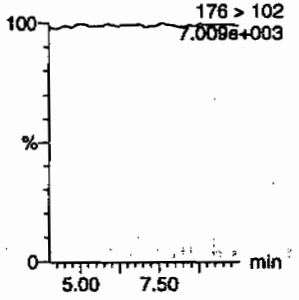
Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

Method: C:\MASSLYNX\New_Exp.PRO\MethDB\011710expa.mdb, Time: Mon Jan 18 07:21:54 2010
Calibration: Untitled, Time: Mon Jan 18 07:34:17 2010

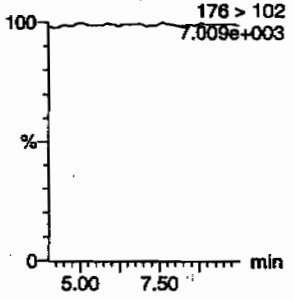
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0117001a
Date: 17-Jan-2010
Time: 18:11:10
ID: XIBLK01
Vial: 1:1,A

MM 1/18/10

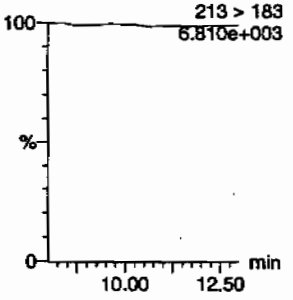
HMX
F2:MRM of 1 channel,AP-
176 > 102
7.009e+003



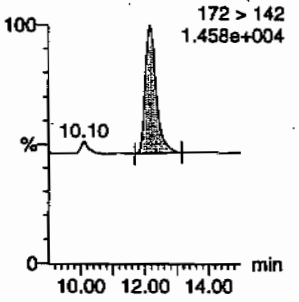
RDX
F2:MRM of 1 channel,AP-
176 > 102
7.009e+003



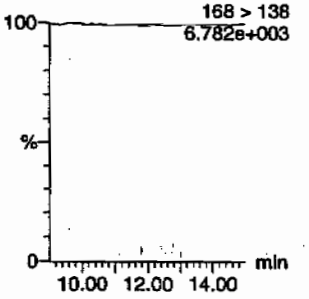
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.810e+003



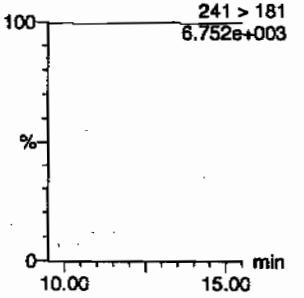
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.458e+004



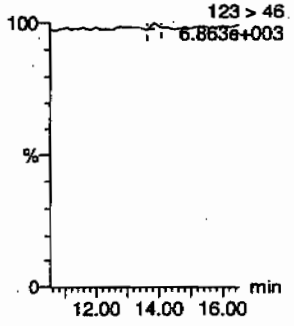
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.782e+003



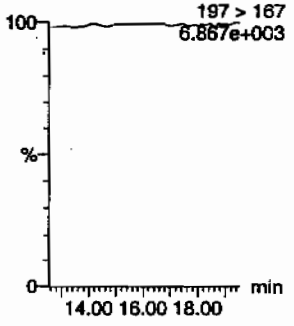
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.752e+003



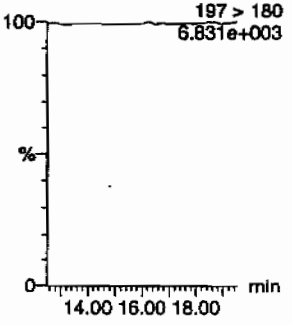
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.863e+003



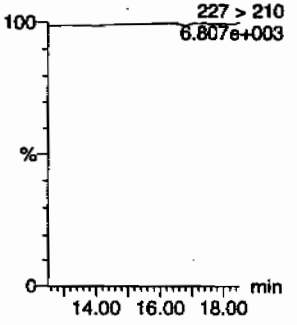
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.867e+003



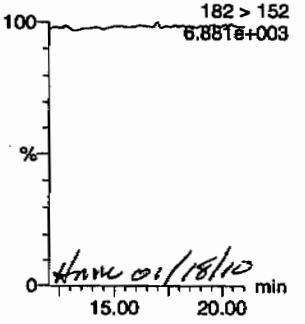
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.831e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.807e+003

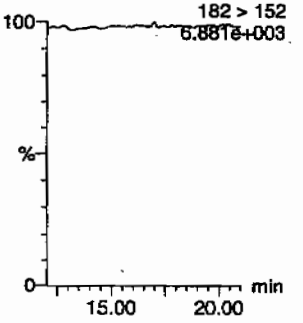


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.881e+003



Hmc 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.881e+003



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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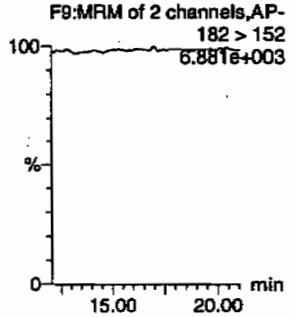
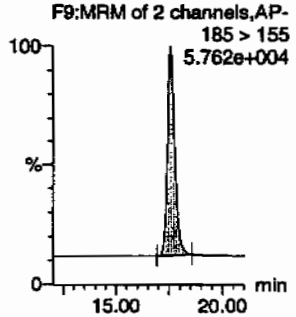
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

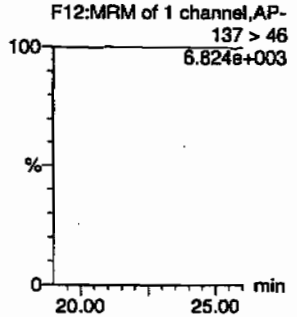
24-dinitrotoluene



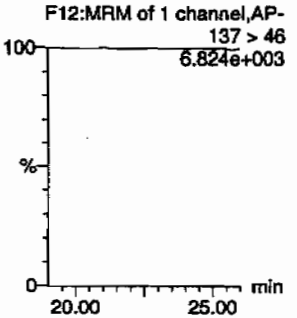
26-dinitrotoluene-d3



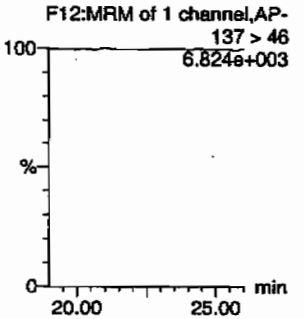
2-Nitrotoluene



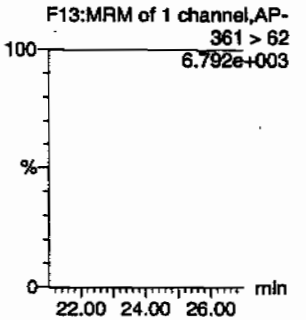
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
XIBLK01	HMX	176 > 102			3134.066									
XIBLK01	RDX	176 > 102			3134.066									
XIBLK01	135-Trinitrobenzene	213 > 183			3134.066									
XIBLK01	13-Dinitrobenzene-d4	172 > 142	12.14	3134.066		3134.066	3134.066	bb			469.8043	94.0	-6.0	266.6
XIBLK01	13-Dinitrobenzene	168 > 138			3134.066									
XIBLK01	Tetryl	241 > 181			3134.066									
XIBLK01	Nitrobenzene	123 > 46			3134.066			MM-	18-Jan-10	07:22:39				
XIBLK01	4-Amino-26-dinitrotoluene	197 > 167			20447.139									
XIBLK01	2-Amino-46-dinitrotoluene	197 > 180			20447.139									
XIBLK01	246-Trinitrotoluene	227 > 210			20447.139									
XIBLK01	34-dinitrotoluene	182 > 152			20447.139									
XIBLK01	26-dinitrotoluene	182 > 152			20447.139									
XIBLK01	24-dinitrotoluene	182 > 152			20447.139									
XIBLK01	26-dinitrotoluene-d3	185 > 155	17.57	20447.139		20447.139	20447.139	bb			544.0939	108.8	8.8	1526.8
XIBLK01	2-Nitrotoluene	137 > 46			20447.139									
XIBLK01	4-Nitrotoluene	137 > 46			20447.139									
XIBLK01	3-Nitrotoluene	137 > 46			20447.139									
XIBLK01	PETN	361 > 62			20447.139									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1032

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 17-JAN-10 18:40

GEL Data File: EXP0117002a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
p-Nitrotoluene	0	0
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	502.932
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	503.527
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0

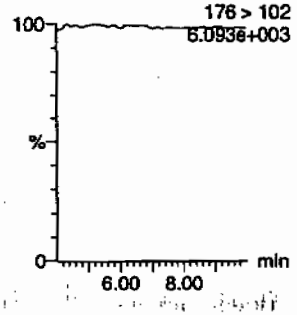
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

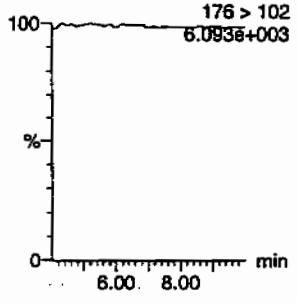
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0117002a
Date: 17-Jan-2010
Time: 18:40:39
ID: XIBLK01
Vial: 1:1,A

MMT 1/18/10

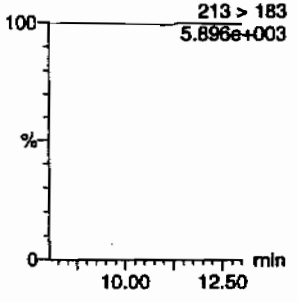
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.093e+003



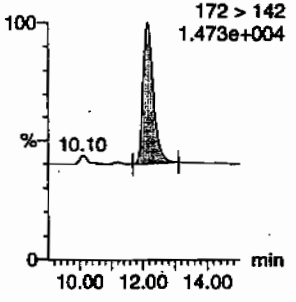
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.093e+003



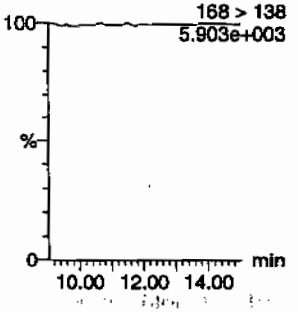
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
5.896e+003



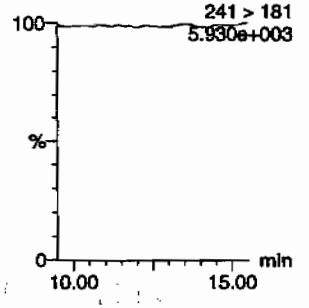
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.473e+004



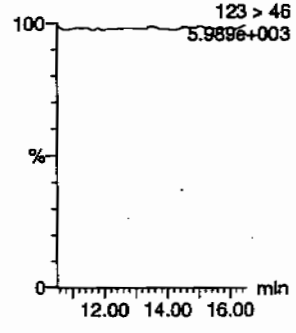
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
5.903e+003



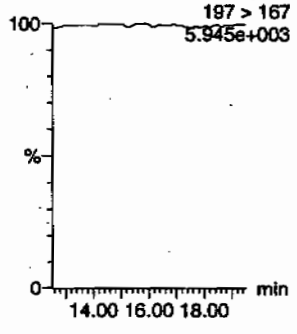
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
5.930e+003



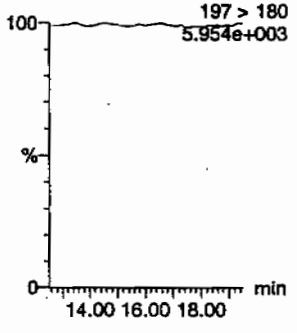
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
5.989e+003



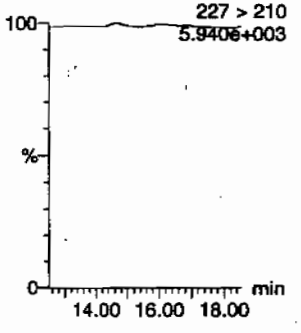
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
5.945e+003



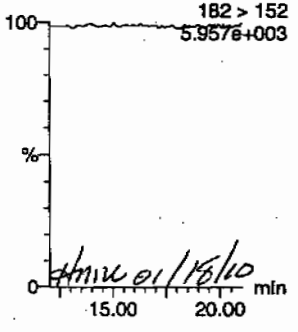
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
5.954e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
5.940e+003

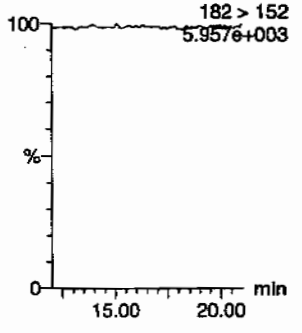


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.957e+003



HMW 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.957e+003



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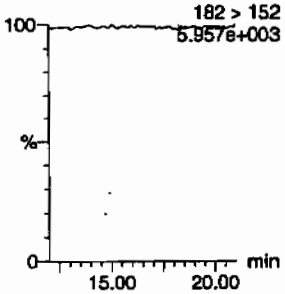
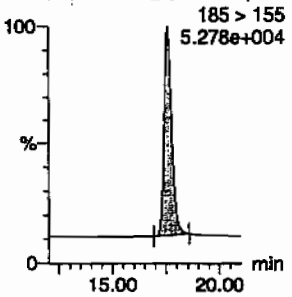
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

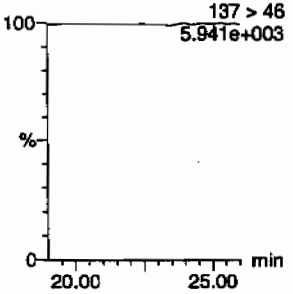
24-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.957e+003



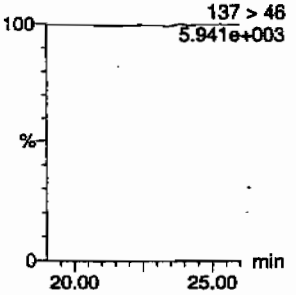
26-dinitrotoluene-d3
F9:MRM of 2 channels,AP-
185 > 155
5.278e+004



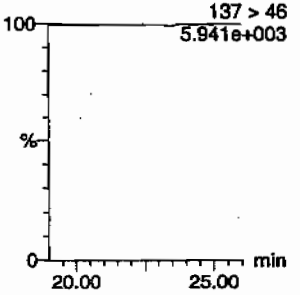
2-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
5.941e+003



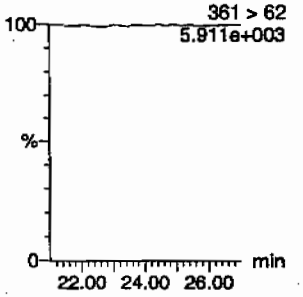
4-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
5.941e+003



3-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
5.941e+003



PETN
F13:MRM of 1 channel,AP-
361 > 62
5.911e+003



ID	Name	Trace	RT	Area	IS/Area	Abs Resp	Response	Flag	Mod Date	Mod Time	Conc/Amt	%Rec	%Dev	S/N
XIBLK01	HMX	176 > 102			3355.058									
XIBLK01	RDX	176 > 102			3355.058									
XIBLK01	135-Trinitrobenzene	213 > 183			3355.058									
XIBLK01	13-Dinitrobenzene-d4	172 > 142	12.17	3355.058		3355.058	3355.058	bb			502.9316	100.6	0.6	223.8
XIBLK01	13-Dinitrobenzene	168 > 138			3355.058									
XIBLK01	Tetryl	241 > 181			3355.058									
XIBLK01	Nitrobenzene	123 > 46			3355.058									
XIBLK01	4-Amino-26-dinitrotoluene	197 > 167			18922.645									
XIBLK01	2-Amino-46-dinitrotoluene	197 > 180			18922.645									
XIBLK01	246-Trinitrotoluene	227 > 210			18922.645									
XIBLK01	34-dinitrotoluene	182 > 152			18922.645									
XIBLK01	26-dinitrotoluene	182 > 152			18922.645									
XIBLK01	24-dinitrotoluene	182 > 152			18922.645			MM-	18-Jan-10	07:30:25				
XIBLK01	26-dinitrotoluene-d3	185 > 155	17.58	18922.645		18922.645	18922.645	bb			503.5274	100.7	0.7	2819.9
XIBLK01	2-Nitrotoluene	137 > 46			18922.645									
XIBLK01	4-Nitrotoluene	137 > 46			18922.645									
XIBLK01	3-Nitrotoluene	137 > 46			18922.645									
XIBLK01	PETN	361 > 62			18922.645									

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Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1032

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 07–JAN–10 14:15

GEL Data File: EXS01070001.wiff

Instrument ID: LCMSMS

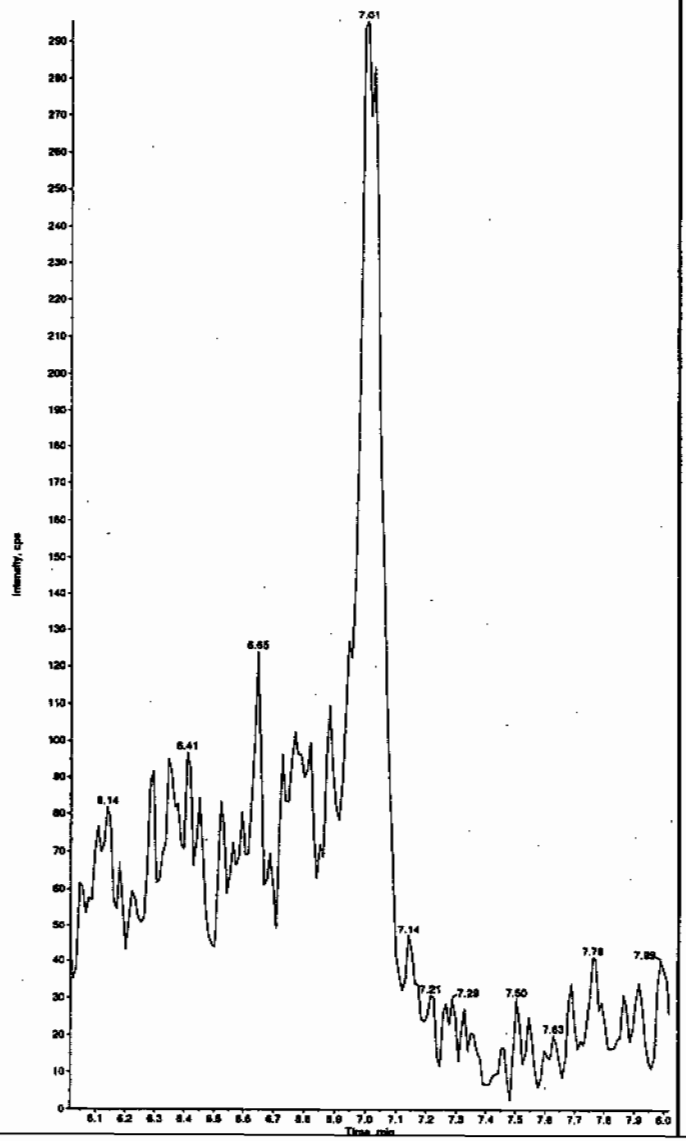
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
tris(o–cresyl) phosphate	0	0
TATB	0	0
3,5–Dinitroaniline	0	0
2,4–Diamino–6–nitrotoluene	0	0
2,6–Diamino–4–nitrotoluene	0	0

Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01070001.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 2:15:34 PM

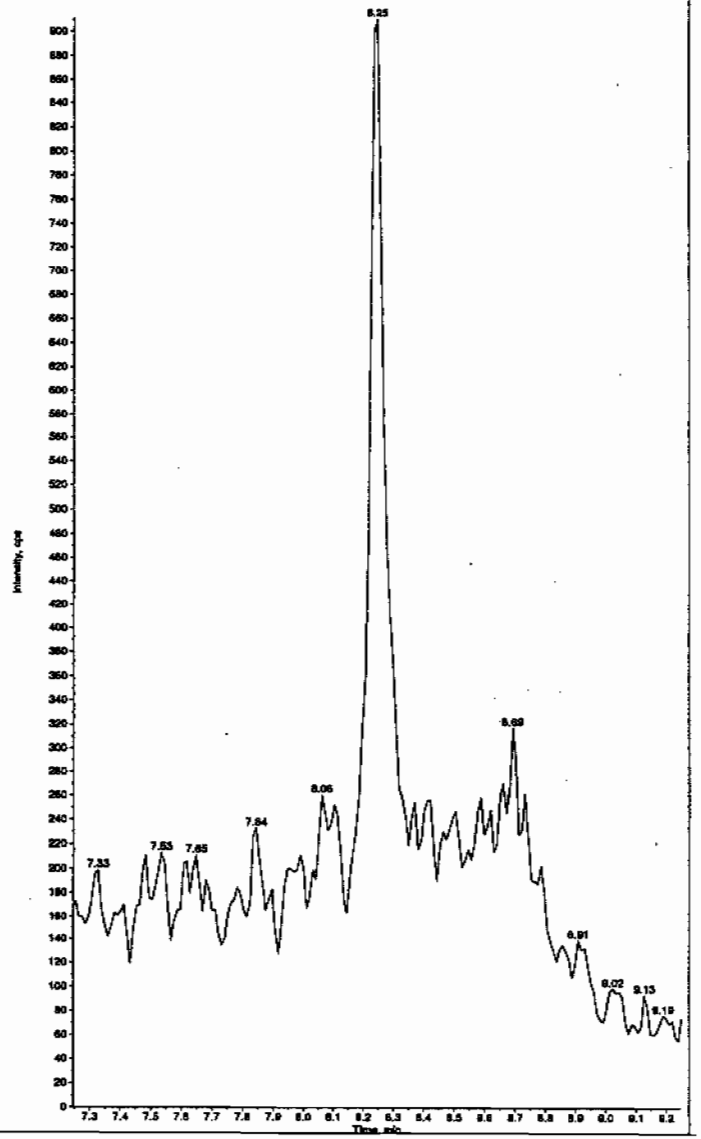
Modified: No



Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01070001.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 2:15:34 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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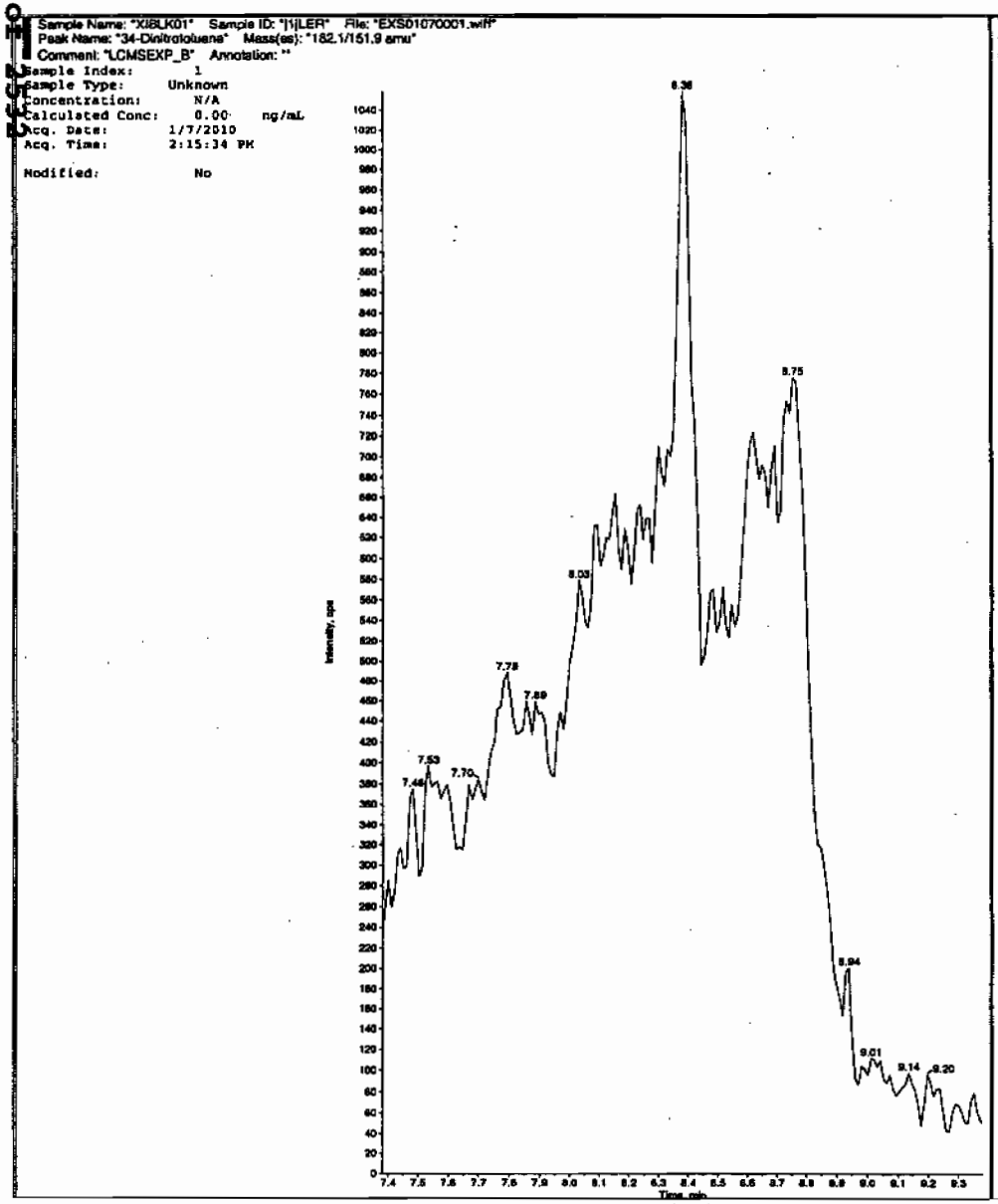

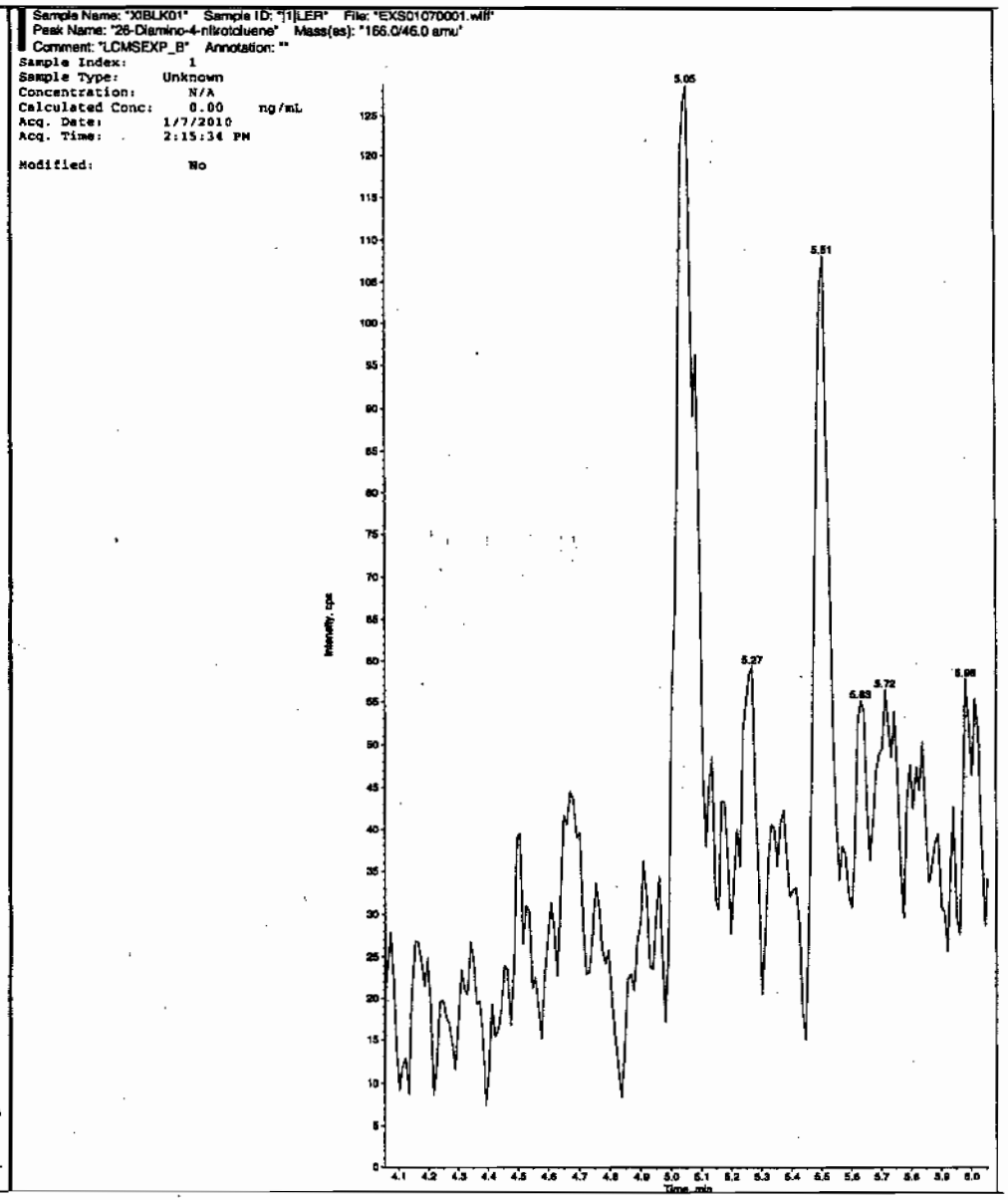

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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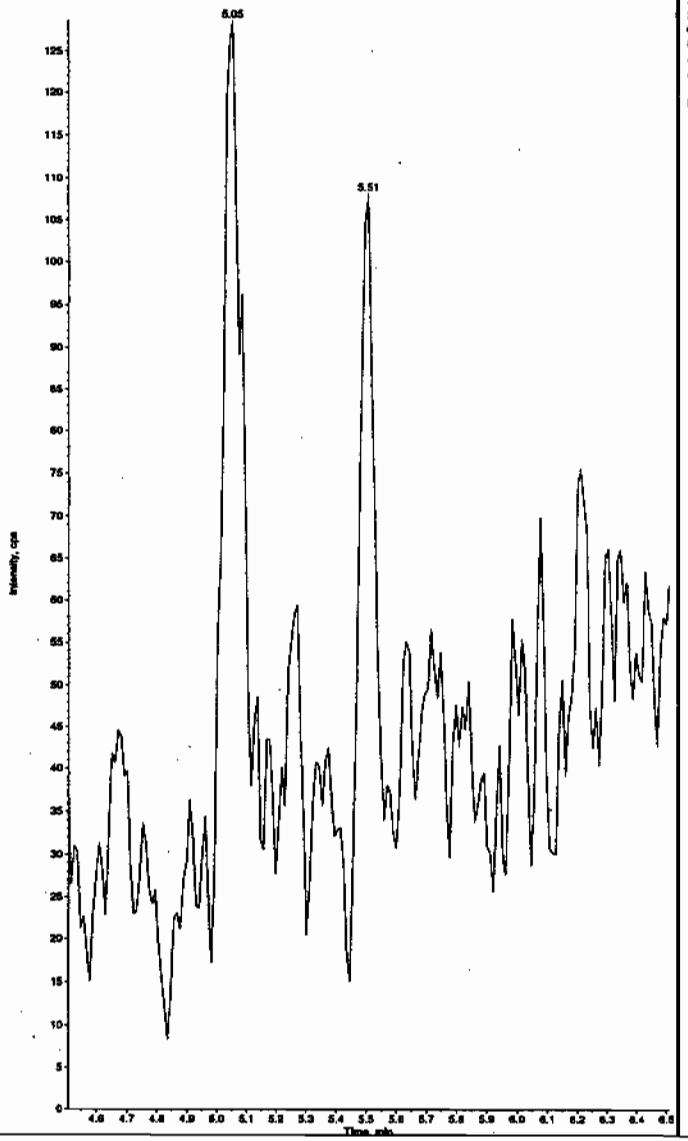
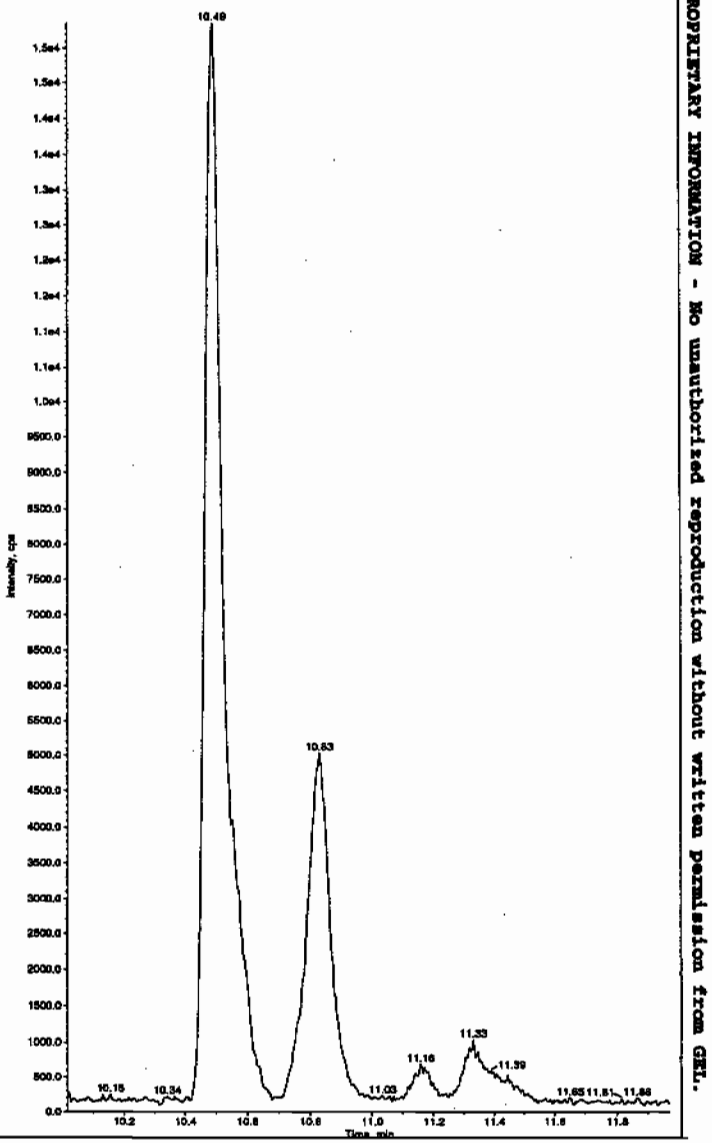
Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01070001.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 2:15:34 PM

Modified: No



Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01070001.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 2:15:34 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1032

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 07–JAN–10 14:31

GEL Data File: EXS01070002.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

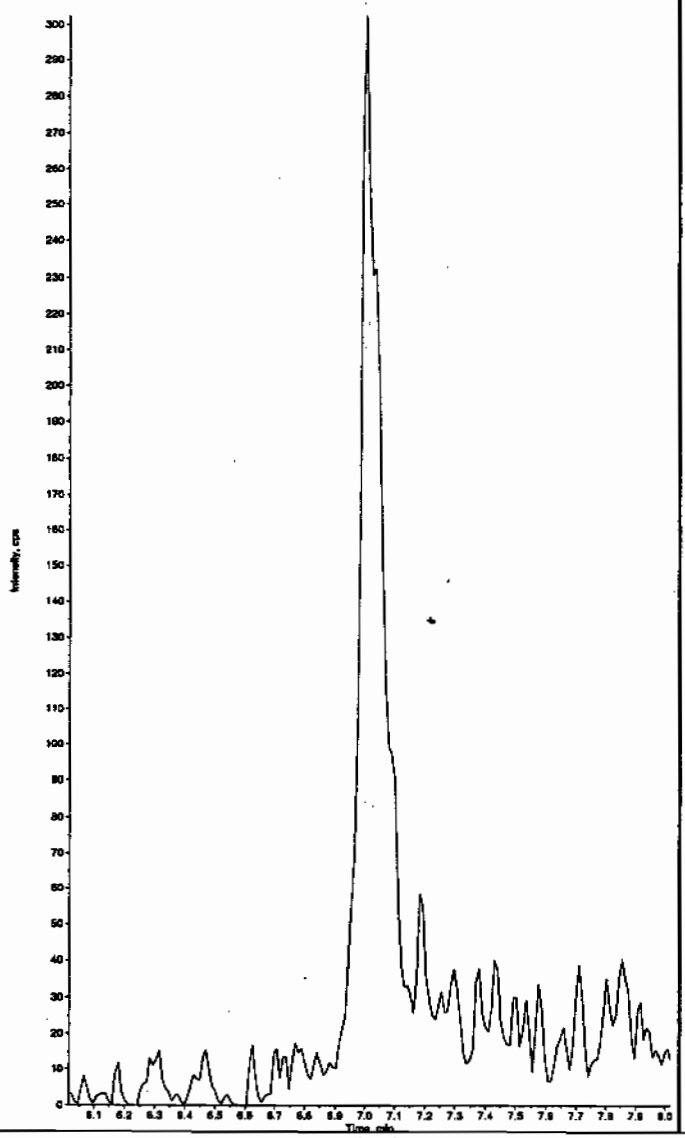
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
tris(o–cresyl) phosphate	0	0
TATB	0	0
3,5–Dinitroaniline	0	0
2,4–Diamino–6–nitrotoluene	0	0
2,6–Diamino–4–nitrotoluene	0	0

Sam 1/8/10

Sample Name: "XIBLK01" Sample ID: "1|LER" File: "EXS01070002.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 2:31:21 PM

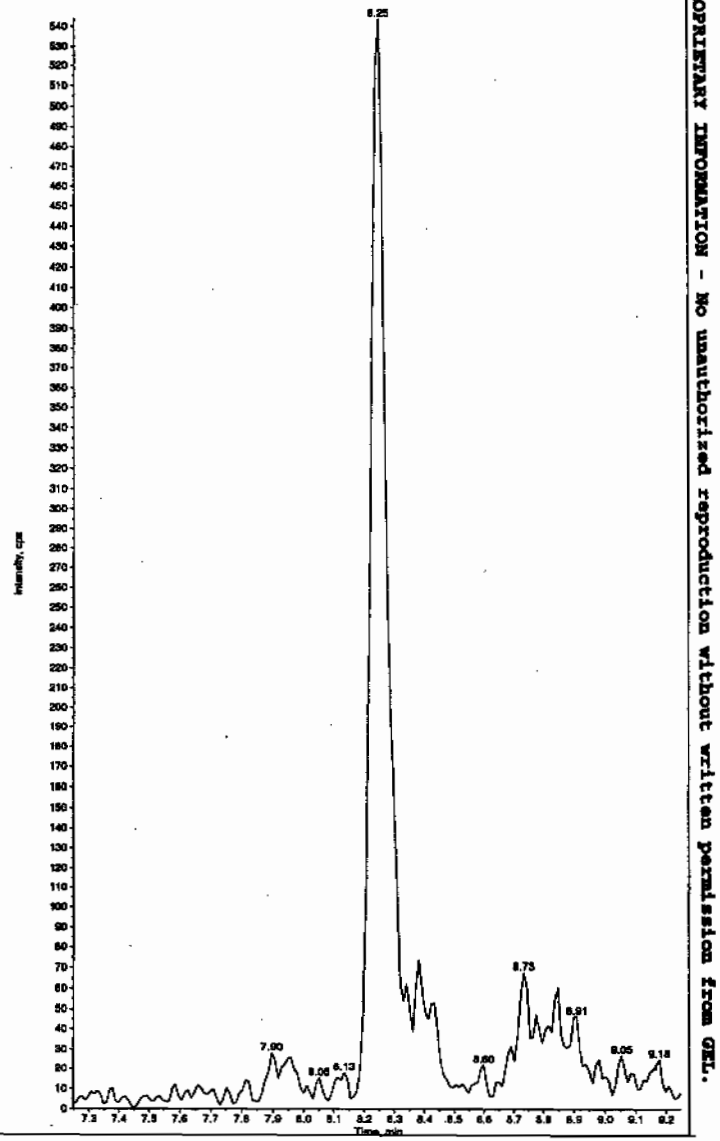
Modified: No



Sample Name: "XIBLK01" Sample ID: "1|LER" File: "EXS01070002.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/45.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 2:31:21 PM

Modified: No



Hmm 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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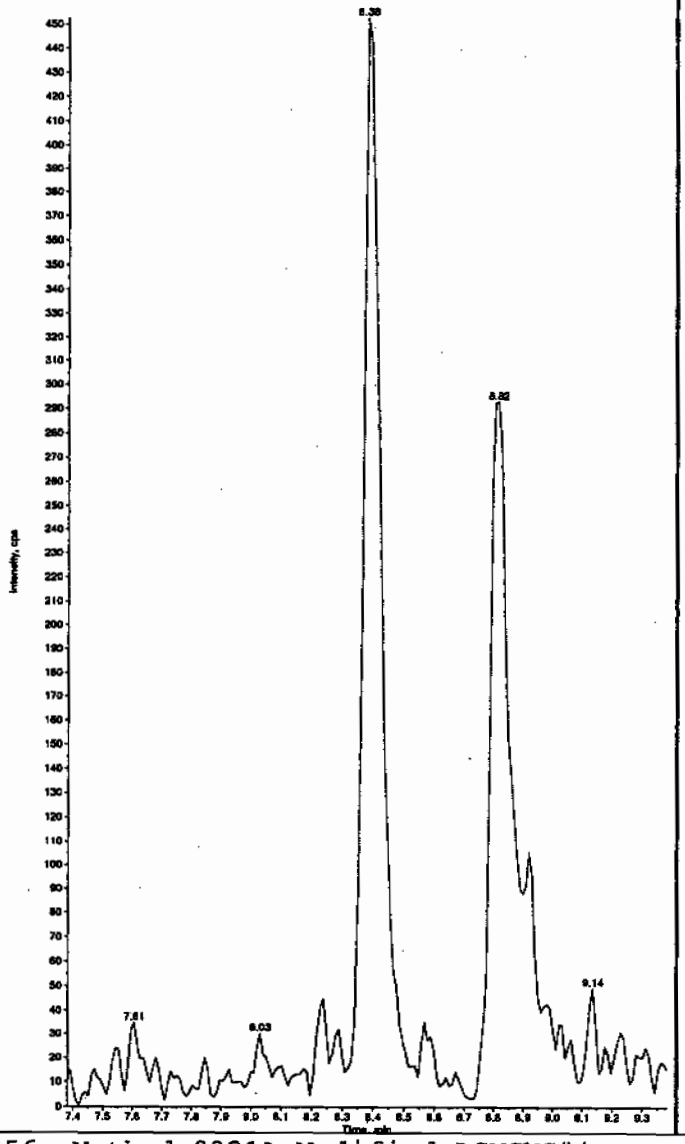
Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01070002.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_8" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 2:31:21 PM

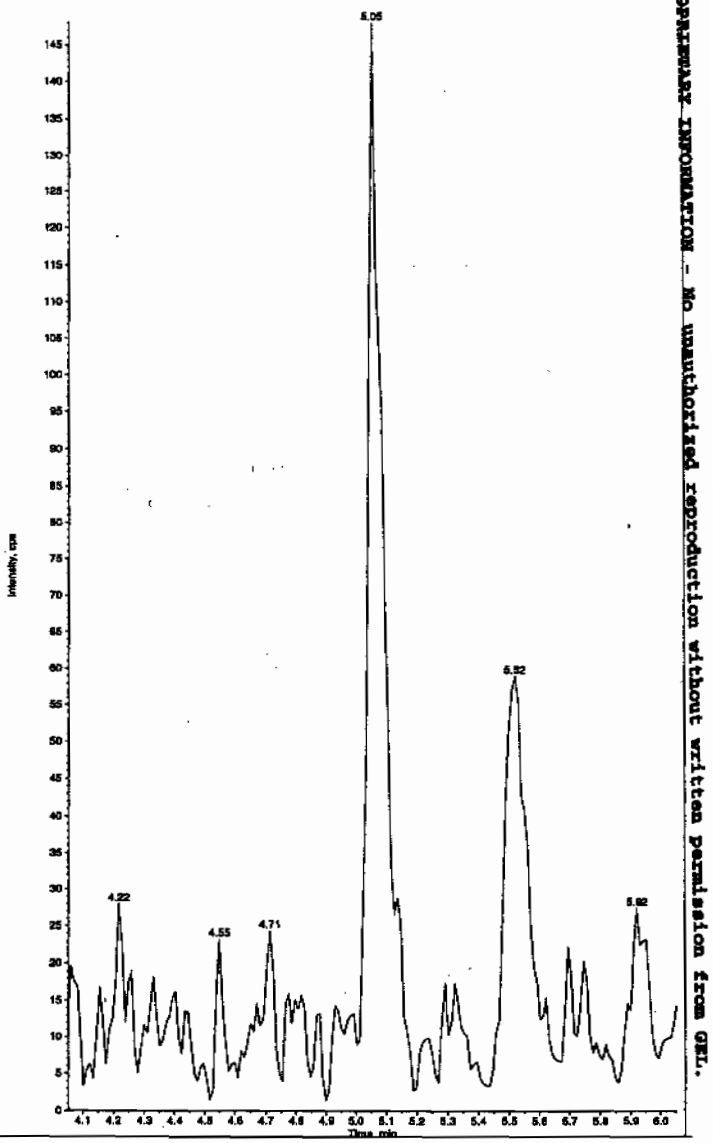
Modified: No



Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01070002.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_8" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 2:31:21 PM

Modified: No



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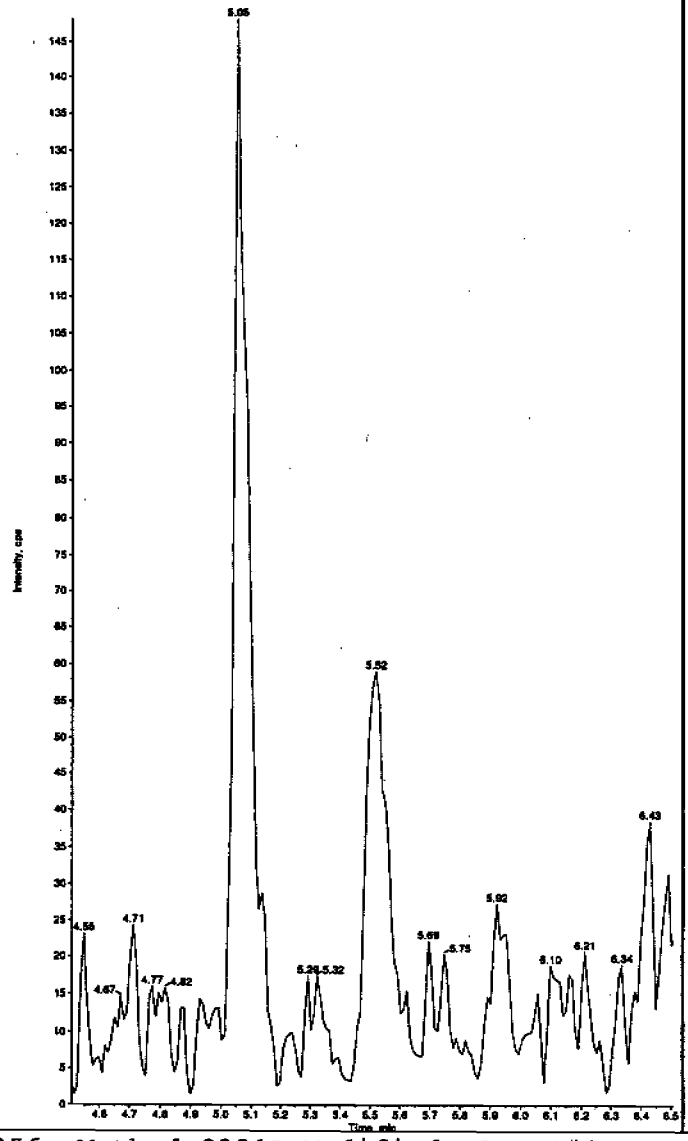
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

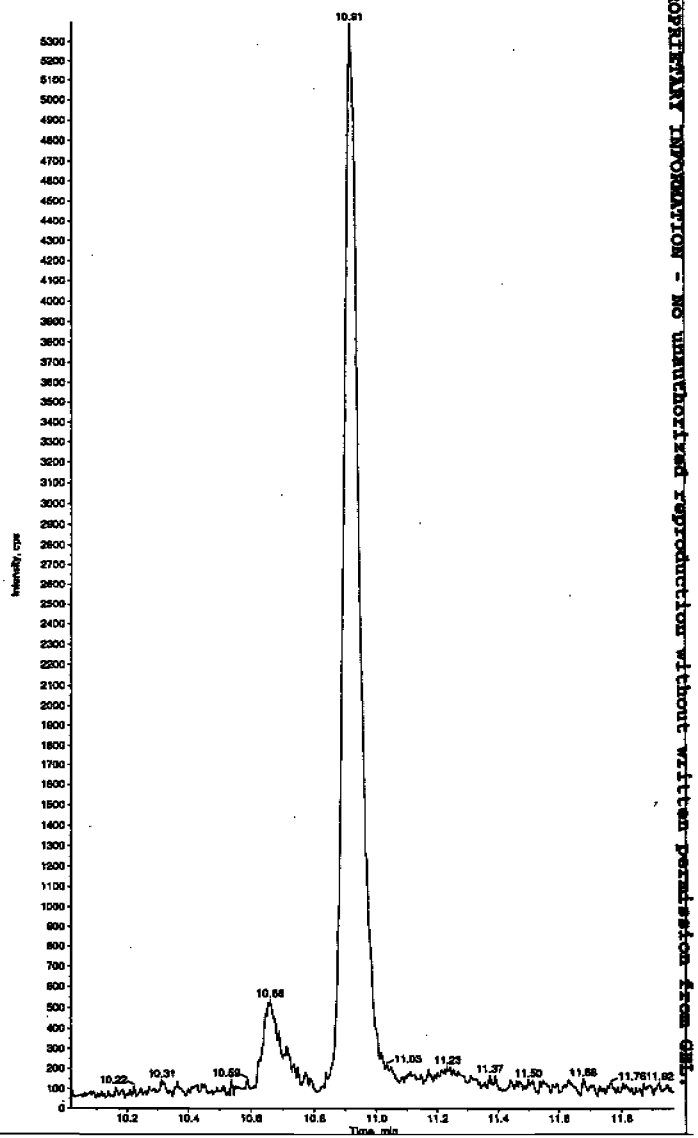
Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01070002.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 2:11:21 PM

Modified: No



Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01070002.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "368.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 2:31:21 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC
GEL Job No(SDG): 10-1032
Lab Code: GEL
Lab Sample ID: XIBLK02
Analysis Date: 15-JAN-10 18:49
GEL Data File: EXP0115009a
Instrument ID: LCMSMS
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	590.163
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	607.055
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

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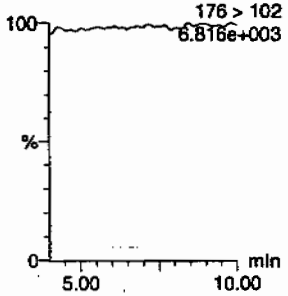
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

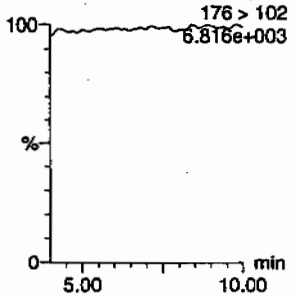
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115009a
Date: 15-Jan-2010
Time: 18:49:25
ID: XIBLK02
Vial: 1:1,A

MMP 1/16/10

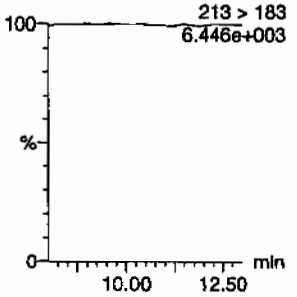
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.816e+003



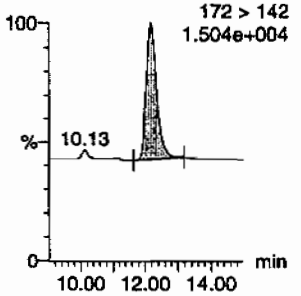
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.816e+003



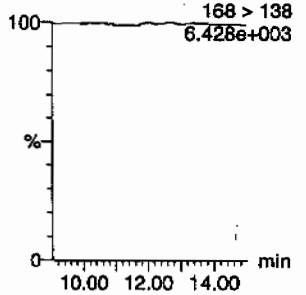
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.446e+003



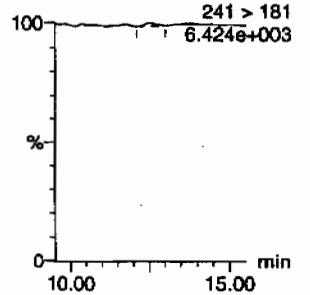
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.504e+004



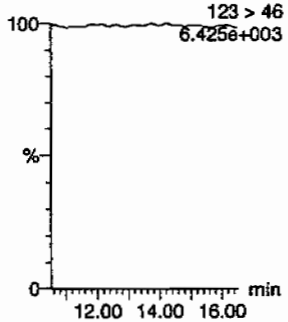
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.428e+003



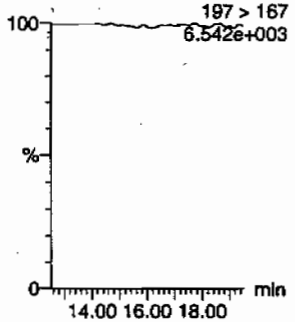
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.424e+003



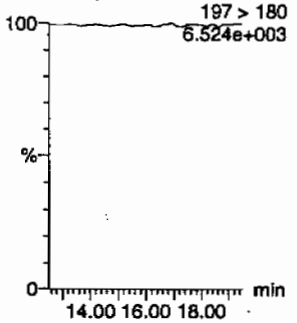
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.425e+003



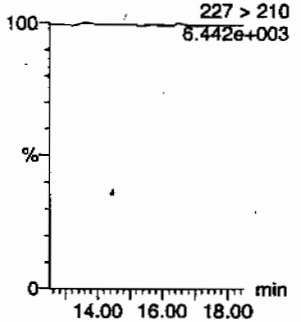
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.542e+003



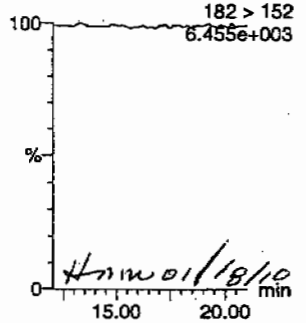
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.524e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.442e+003

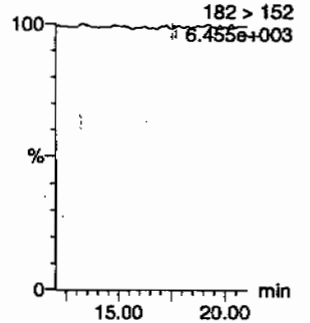


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.455e+003



Hmm 01/18/10

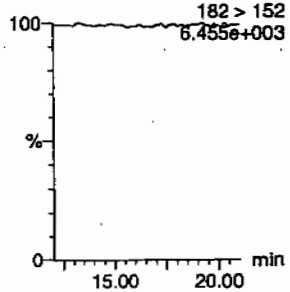
26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.455e+003



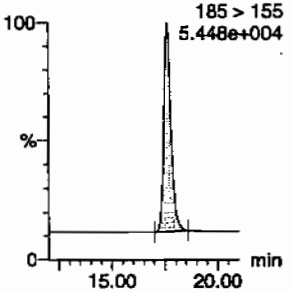
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

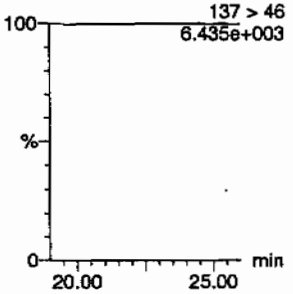
24-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.455e+003



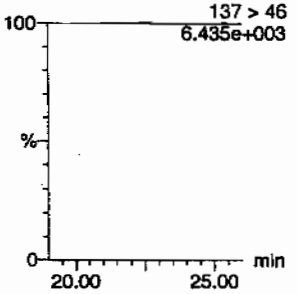
26-dinitrotoluene-d3
F9:MRM of 2 channels,AP-
185 > 155
5.448e+004



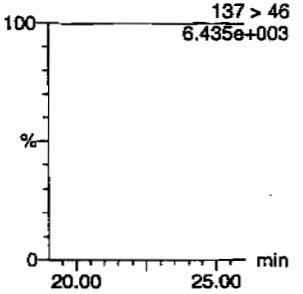
2-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.435e+003



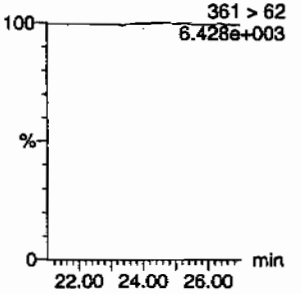
4-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.435e+003



3-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.435e+003



PETN
F13:MRM of 1 channel,AP-
361 > 62
6.428e+003



ID	Name	Trace	RT	Area	IS Area	Abs Resp	% Response	Flags	Mod Date	Mod Time	mg/mL	%Rec	%Dev	S/N
XIBLK02	HMX	176 > 102			3265.126									
XIBLK02	RDX	176 > 102			3265.126									
XIBLK02	135-Trinitrobenzene	213 > 183			3265.126									
XIBLK02	13-Dinitrobenzene-d4	172 > 142	12.17	3265.126		3265.126	3265.126	bb			590.1626	118.0	18.0	479.9
XIBLK02	13-Dinitrobenzene	168 > 138			3265.126									
XIBLK02	Tetryl	241 > 181			3265.126			MM-	16-Jan-10	13:24:17				
XIBLK02	Nitrobenzene	123 > 46			3265.126									
XIBLK02	4-Amino-26-dinitrotoluene	197 > 167			19323.199									
XIBLK02	2-Amino-46-dinitrotoluene	197 > 180			19323.199									
XIBLK02	246-Trinitrotoluene	227 > 210			19323.199									
XIBLK02	34-dinitrotoluene	182 > 152			19323.199									
XIBLK02	26-dinitrotoluene	182 > 152			19323.199			MM-	16-Jan-10	13:30:28				
XIBLK02	24-dinitrotoluene	182 > 152			19323.199									
XIBLK02	26-dinitrotoluene-d3	185 > 155	17.62	19323.199		19323.199	19323.199	bb			607.0546	121.4	21.4	2093.6
XIBLK02	2-Nitrotoluene	137 > 46			19323.199									
XIBLK02	4-Nitrotoluene	137 > 46			19323.199									
XIBLK02	3-Nitrotoluene	137 > 46			19323.199									
XIBLK02	PETN	361 > 62			19323.199									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1032

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 15–JAN–10 19:48

GEL Data File: EXP0115011a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	618.574
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	556.014
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0

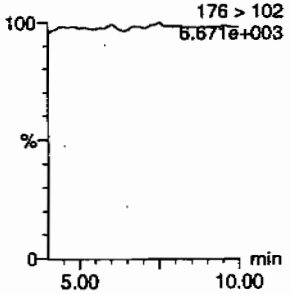
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

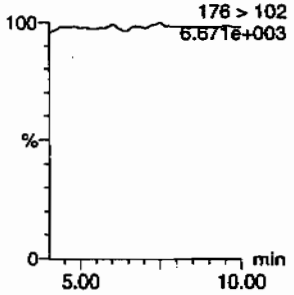
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115011a
Date: 15-Jan-2010
Time: 19:48:22
ID: XIBLK03
Vial: 1:1,A

MM 1/16/10

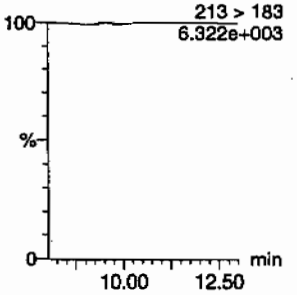
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.671e+003



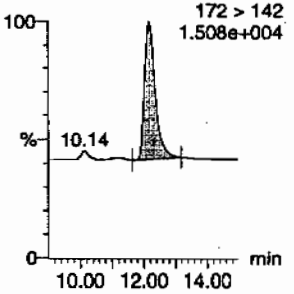
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.571e+003



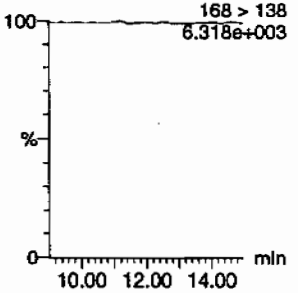
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.322e+003



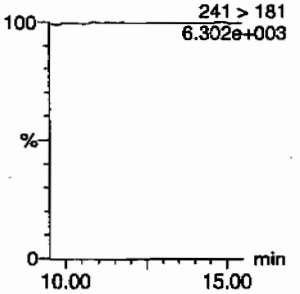
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.508e+004



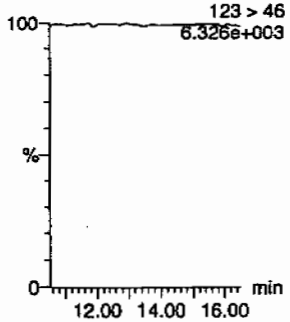
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.318e+003



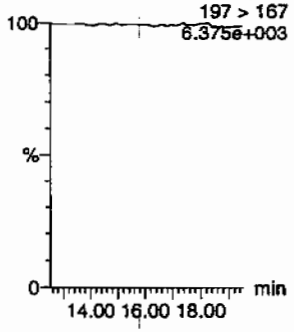
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.302e+003



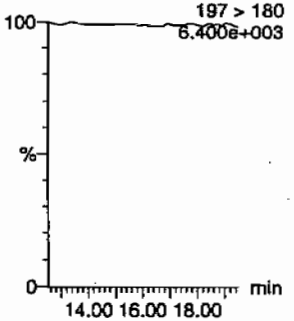
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.326e+003



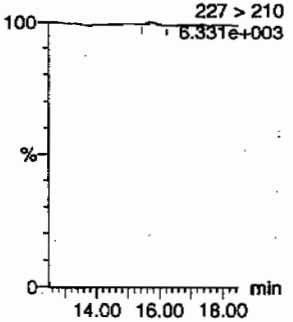
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.375e+003



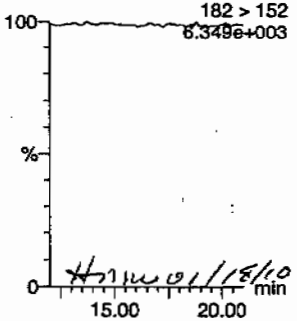
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.400e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.331e+003

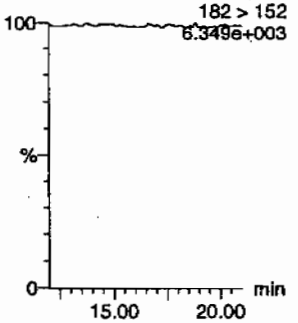


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.349e+003



HMW 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.349e+003



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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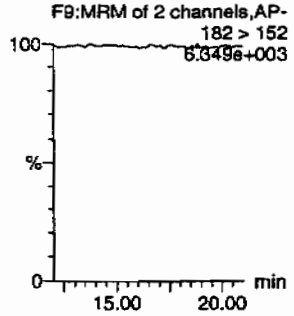
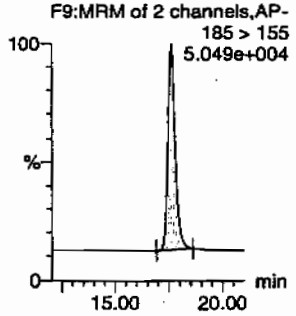
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

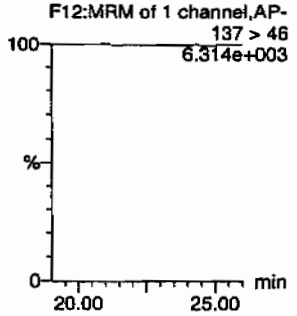
24-dinitrotoluene



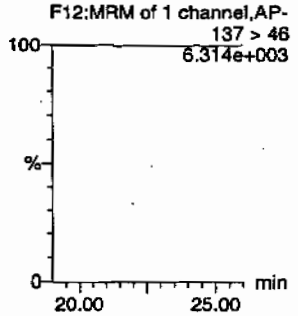
26-dinitrotoluene-d3



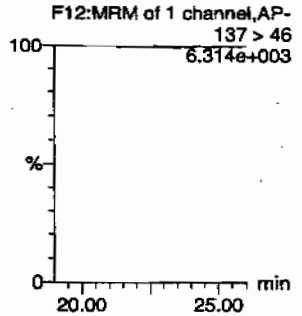
2-Nitrotoluene



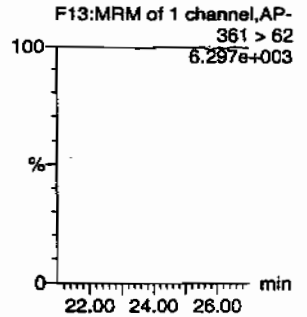
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	AbsResp	Response	Flags	ModDate	ModTime	ng/mL	%Rec	%DEV	S/N
XIBLK03	HMX	176 > 102			3422.316									
XIBLK03	RDX	176 > 102			3422.316									
XIBLK03	135-Trinitrobenzene	213 > 183			3422.316									
XIBLK03	13-Dinitrobenzene-d4	172 > 142	12.17	3422.316		3422.316	3422.316	bb			618.5743	123.7	23.7	364.3
XIBLK03	13-Dinitrobenzene	168 > 138			3422.316									
XIBLK03	Tetryl	241 > 181			3422.316									
XIBLK03	Nitrobenzene	123 > 46			3422.316									
XIBLK03	4-Amino-26-dinitrotoluene	197 > 167			17698.520									
XIBLK03	2-Amino-46-dinitrotoluene	197 > 180			17698.520									
XIBLK03	246-Trinitrotoluene	227 > 210			17698.520			MM-	16-Jan-10	13:28:05				
XIBLK03	34-dinitrotoluene	182 > 152			17698.520									
XIBLK03	26-dinitrotoluene	182 > 152			17698.520									
XIBLK03	24-dinitrotoluene	182 > 152			17698.520			MM-	16-Jan-10	13:34:20				
XIBLK03	26-dinitrotoluene-d3	185 > 155	17.61	17698.520		17698.520	17698.520	bb			556.0140	111.2	11.2	1489.5
XIBLK03	2-Nitrotoluene	137 > 46			17698.520									
XIBLK03	4-Nitrotoluene	137 > 46			17698.520									
XIBLK03	3-Nitrotoluene	137 > 46			17698.520									
XIBLK03	PETN	361 > 62			17698.520									

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC
GEL Job No(SDG): 10–1032
Lab Code: GEL
Lab Sample ID: XIBLK04
Analysis Date: 16–JAN–10 00:14
GEL Data File: EXP0115020a
Instrument ID: LCMSMS
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	563.528
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0
2,4–Dinitrotoluene	0	0
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	547.42
2,4,6–Trinitrotoluene	0	0

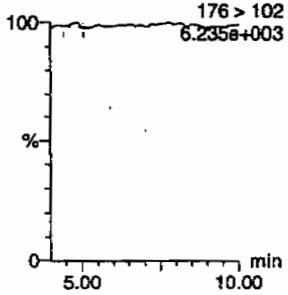
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

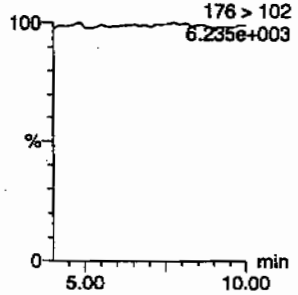
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115020a
Date: 16-Jan-2010
Time: 00:14:13
ID: XIBLK04
Vial: 1:1,A

MM 1/16/10

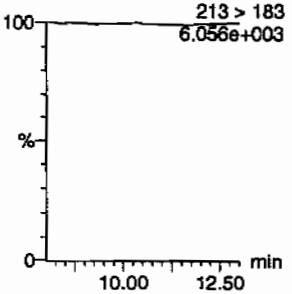
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.235e+003



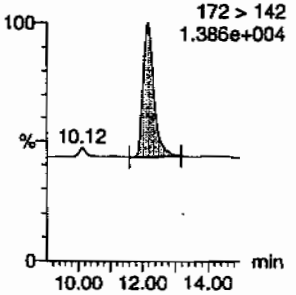
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.235e+003



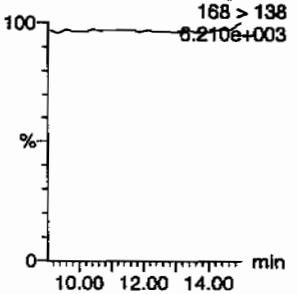
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.056e+003



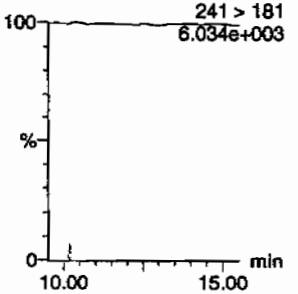
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.386e+004



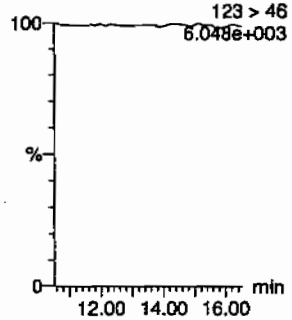
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.210e+003



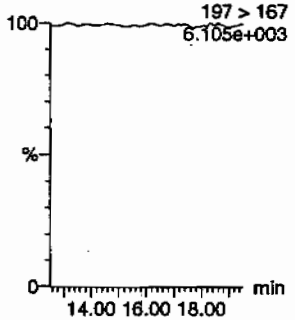
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.034e+003



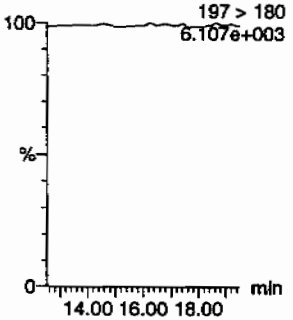
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.048e+003



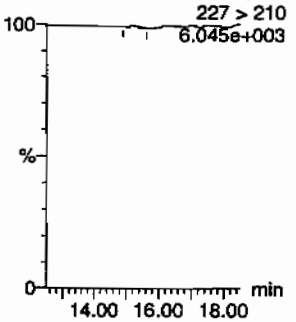
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.105e+003



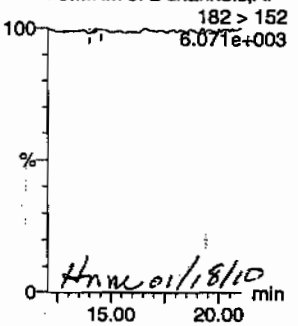
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.107e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.045e+003

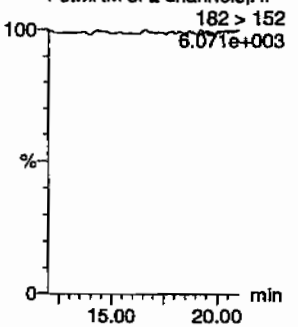


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.071e+003



HMW 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.071e+003



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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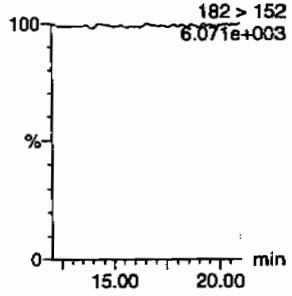
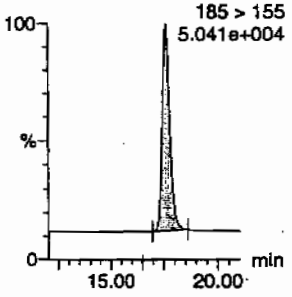
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

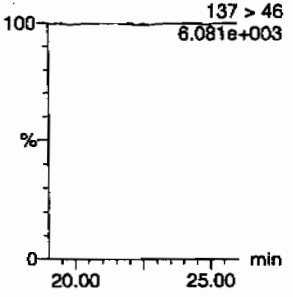
24-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.071e+003



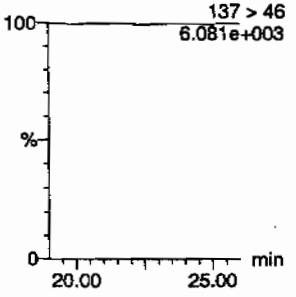
26-dinitrotoluene-d3
F9:MRM of 2 channels,AP-
185 > 155
5.041e+004



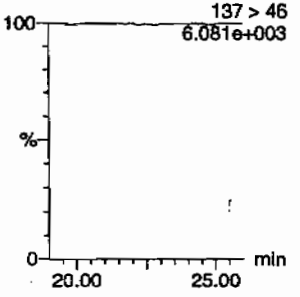
2-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.081e+003



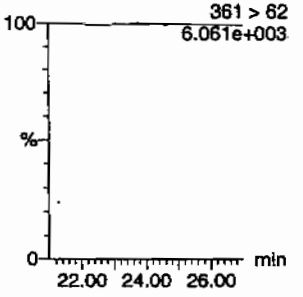
4-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.081e+003



3-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.081e+003



PETN
F13:MRM of 1 channel,AP-
361 > 62
6.061e+003



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/ml	%Rec	%Dev	S/N
XIBLK04	HMX	176 > 102			3028.650			MM-	16-Jan-10	13:23:22				
XIBLK04	RDX	176 > 102			3028.650									
XIBLK04	135-Trinitrobenzene	213 > 183			3028.650									
XIBLK04	13-Dinitrobenzene-d4	172 > 142	12.17	3028.650		3028.650	3028.650	bb			547.4202	109.5	9.5	81.8
XIBLK04	13-Dinitrobenzene	168 > 138			3028.650									
XIBLK04	Tetryl	241 > 181			3028.650									
XIBLK04	Nitrobenzene	123 > 46			3028.650									
XIBLK04	4-Amino-26-dinitrotoluene	197 > 167			17937.695									
XIBLK04	2-Amino-46-dinitrotoluene	197 > 180			17937.695									
XIBLK04	246-Trinitrotoluene	227 > 210			17937.695			MM-	16-Jan-10	13:28:10				
XIBLK04	34-dinitrotoluene	182 > 152			17937.695			MM-	16-Jan-10	13:28:39				
XIBLK04	26-dinitrotoluene	182 > 152			17937.695									
XIBLK04	24-dinitrotoluene	182 > 152			17937.695									
XIBLK04	26-dinitrotoluene-d3	185 > 155	17.59	17937.695		17937.695	17937.695	bb			563.5278	112.7	12.7	2816.0
XIBLK04	2-Nitrotoluene	137 > 46			17937.695									
XIBLK04	4-Nitrotoluene	137 > 46			17937.695									
XIBLK04	3-Nitrotoluene	137 > 46			17937.695									
XIBLK04	PETN	361 > 62			17937.695									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1032

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 16–JAN–10 06:37

GEL Data File: EXP0115033a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	595.133
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	518.164
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0

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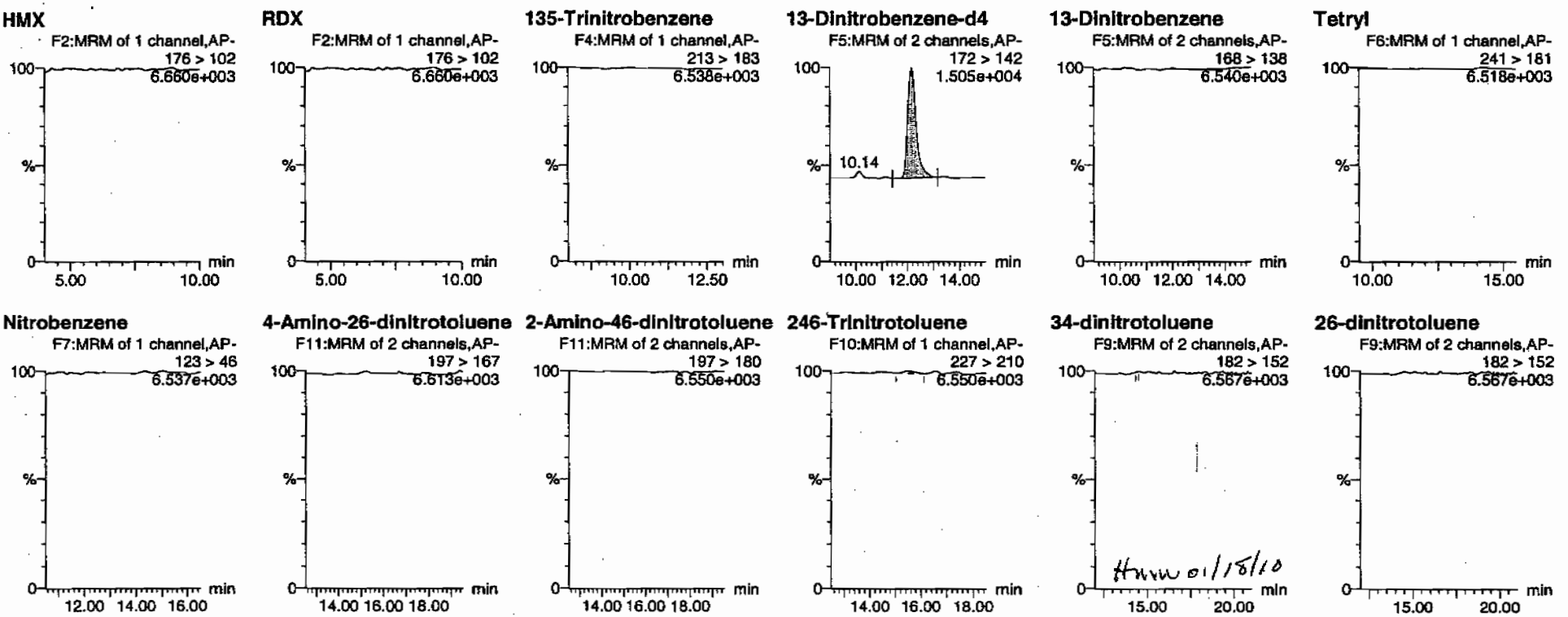
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115033a
Date: 16-Jan-2010
Time: 06:37:34
ID: XIBLK05
Vial: 1:1,A

MAP 1/16/10

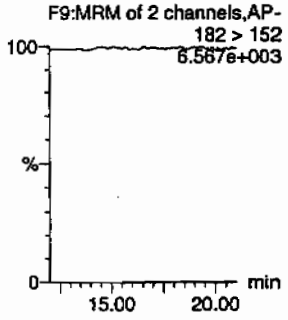


GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

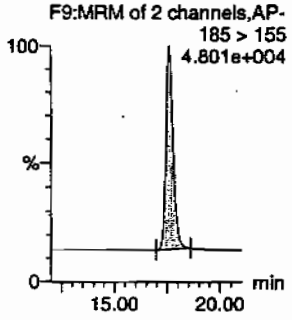
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

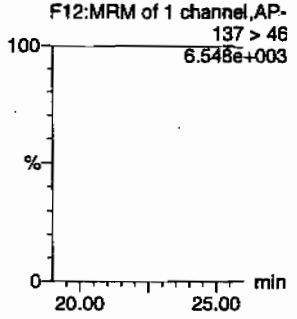
24-dinitrotoluene



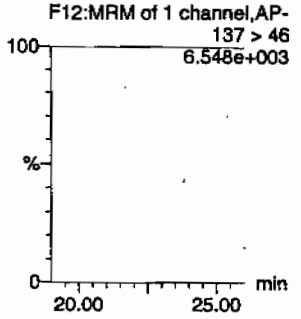
26-dinitrotoluene-d3



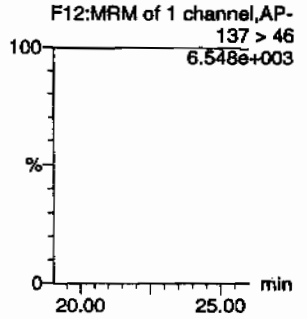
2-Nitrotoluene



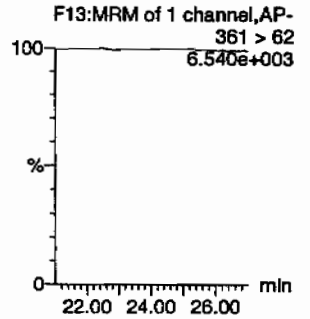
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
XIBLK05	HMX	176 > 102			3292.627									
XIBLK05	RDX	176 > 102			3292.627									
XIBLK05	135-Trinitrobenzene	213 > 183			3292.627									
XIBLK05	13-Dinitrobenzene-d4	172 > 142	12.17	3292.627		3292.627	3292.627	bb			595.1333	119.0	19.0	202.6
XIBLK05	13-Dinitrobenzene	168 > 138			3292.627									
XIBLK05	Tetryl	241 > 181			3292.627									
XIBLK05	Nitrobenzene	123 > 46			3292.627									
XIBLK05	4-Amino-26-dinitrotoluene	197 > 167			16493.701									
XIBLK05	2-Amino-46-dinitrotoluene	197 > 180			16493.701									
XIBLK05	246-Trinitrotoluene	227 > 210			16493.701			MM-	16-Jan-10	13:28:16				
XIBLK05	34-dinitrotoluene	182 > 152			16493.701			MM-	16-Jan-10	13:28:32				
XIBLK05	26-dinitrotoluene	182 > 152			16493.701									
XIBLK05	24-dinitrotoluene	182 > 152			16493.701									
XIBLK05	26-dinitrotoluene-d3	185 > 155	17.61	16493.701		16493.701	16493.701	bb			518.1636	103.6	3.6	1341.4
XIBLK05	2-Nitrotoluene	137 > 46			16493.701									
XIBLK05	4-Nitrotoluene	137 > 46			16493.701									
XIBLK05	3-Nitrotoluene	137 > 46			16493.701									
XIBLK05	PETN	361 > 62			16493.701									

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1032

Lab Code: GEL

Lab Sample ID: XIBLK06

Analysis Date: 16–JAN–10 10:33

GEL Data File: EXP0115041a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	541.674
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	552.543
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0

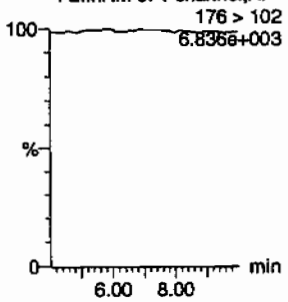
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

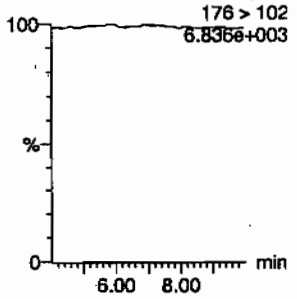
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115041a
Date: 16-Jan-2010
Time: 10:33:31
ID: XIBLK06
Vial: 1:1,A

MAP 1/16/10

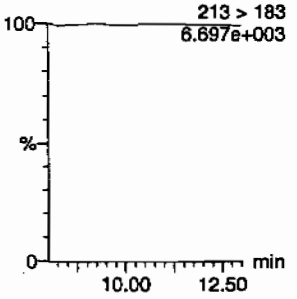
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.836e+003



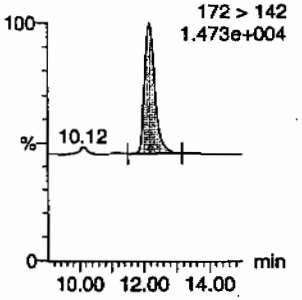
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.836e+003



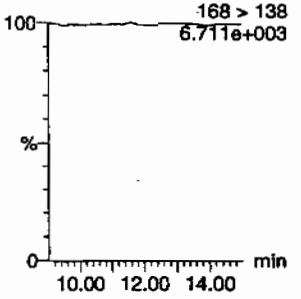
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.697e+003



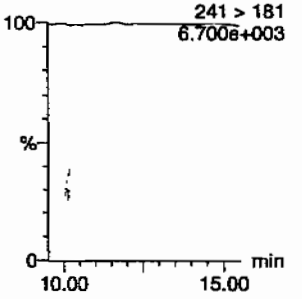
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.473e+004



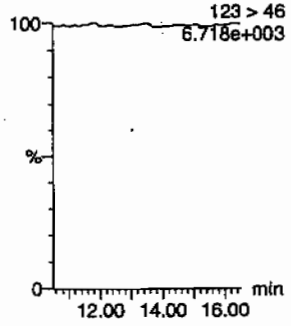
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.711e+003



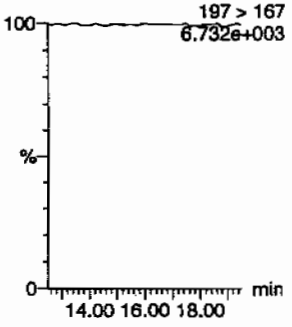
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.700e+003



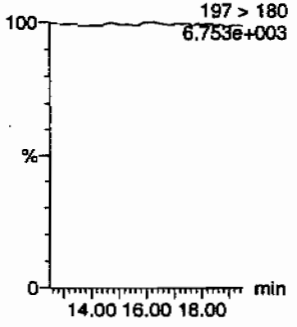
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.718e+003



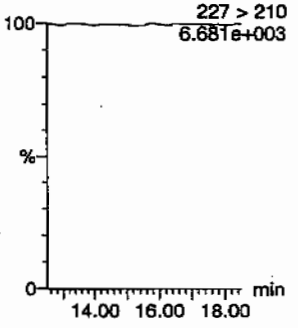
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.732e+003



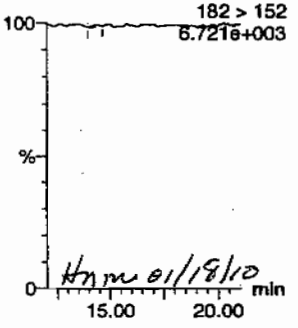
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.753e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.681e+003

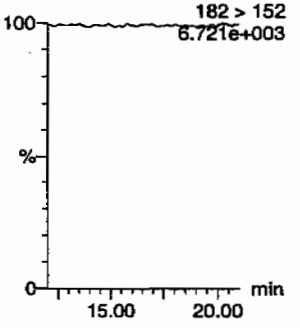


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.721e+003



Hm 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.721e+003



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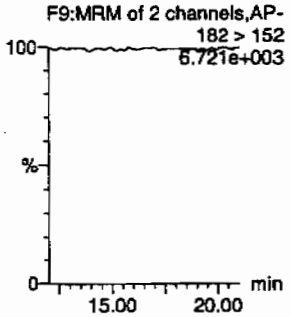
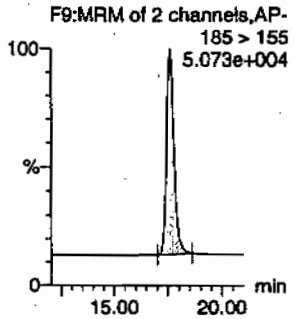
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

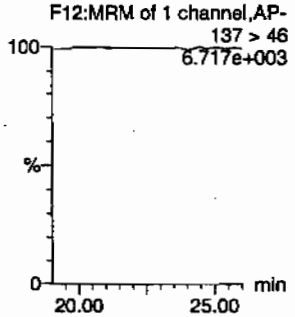
24-dinitrotoluene



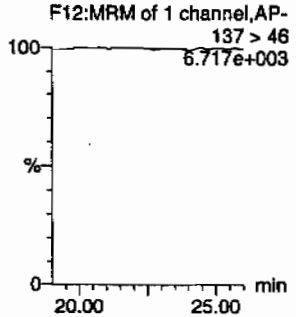
26-dinitrotoluene-d3



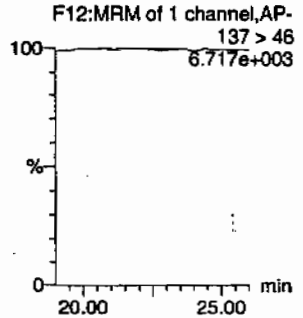
2-Nitrotoluene



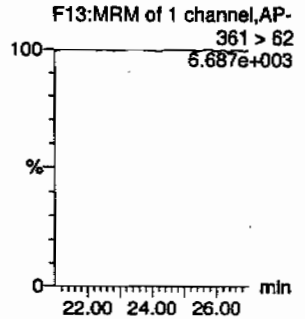
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	Int S/N
XIBLK06	HMX	176 > 102			2996.858									
XIBLK06	RDX	176 > 102			2996.858									
XIBLK06	135-Trinitrobenzene	213 > 183			2996.858									
XIBLK06	13-Dinitrobenzene-d4	172 > 142	12.17	2996.858		2996.858	2996.858	bb			541.6739	108.3	8.3	231.8
XIBLK06	13-Dinitrobenzene	168 > 138			2996.858									
XIBLK06	Tetryl	241 > 181			2996.858									
XIBLK06	Nitrobenzene	123 > 46			2996.858									
XIBLK06	4-Amino-26-dinitrotoluene	197 > 167			17588.039									
XIBLK06	2-Amino-46-dinitrotoluene	197 > 180			17588.039									
XIBLK06	246-Trinitrotoluene	227 > 210			17588.039									
XIBLK06	34-dinitrotoluene	182 > 152			17588.039			MM-	16-Jan-10	13:28:23				
XIBLK06	26-dinitrotoluene	182 > 152			17588.039									
XIBLK06	24-dinitrotoluene	182 > 152			17588.039									
XIBLK06	26-dinitrotoluene-d3	185 > 155	17.59	17588.039		17588.039	17588.039	bb			552.5431	110.5	10.5	2187.5
XIBLK06	2-Nitrotoluene	137 > 46			17588.039									
XIBLK06	4-Nitrotoluene	137 > 46			17588.039									
XIBLK06	3-Nitrotoluene	137 > 46			17588.039									
XIBLK06	PETN	361 > 62			17588.039									

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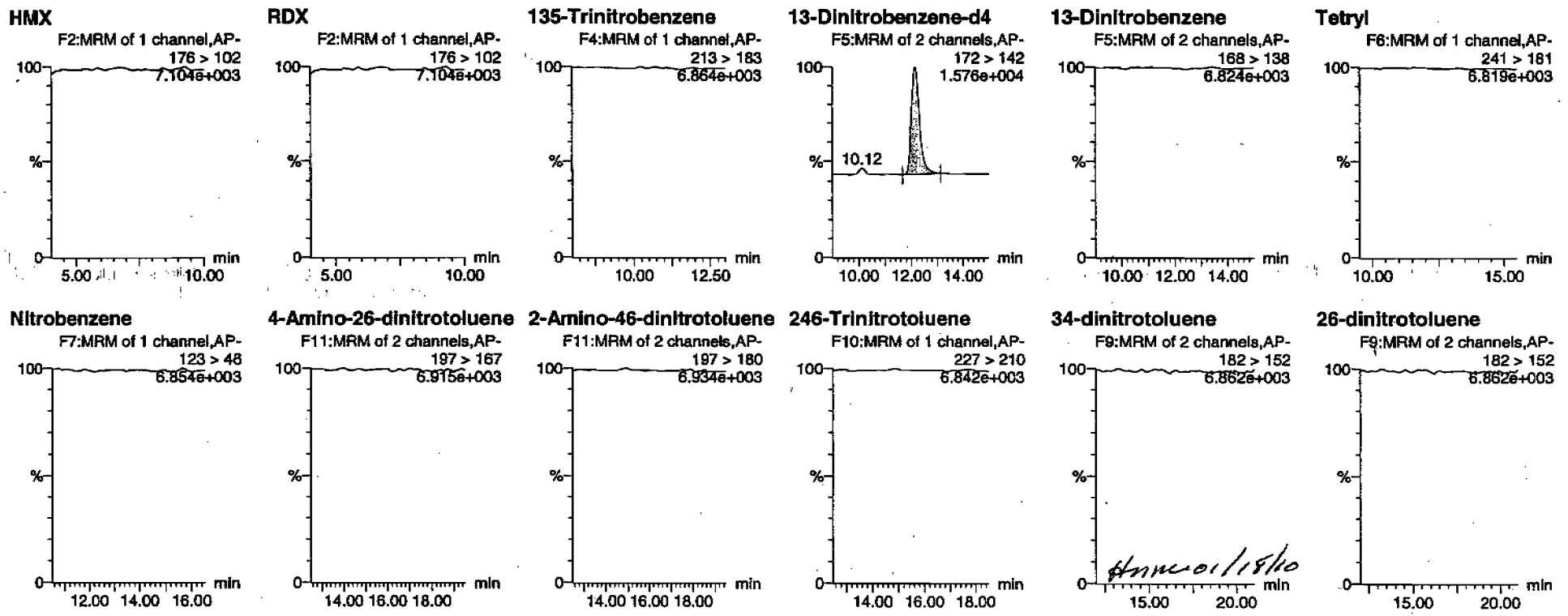
4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC
GEL Job No(SDG): 10–1032
Lab Code: GEL
Lab Sample ID: XIBLK02
Analysis Date: 17–JAN–10 22:06
GEL Data File: EXP0117009a
Instrument ID: LCMSMS
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	497.647
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	489.47
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0117009a
Date: 17-Jan-2010
Time: 22:06:58
ID: XIBLK02
Vial: 1:1,A



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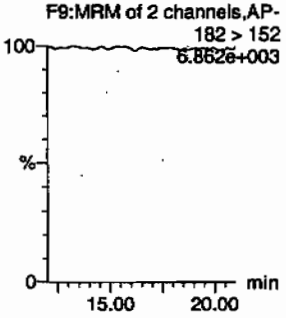
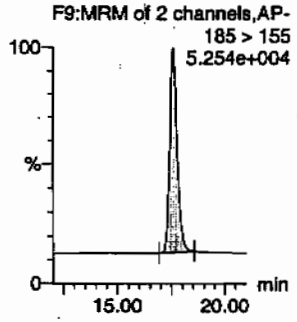
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

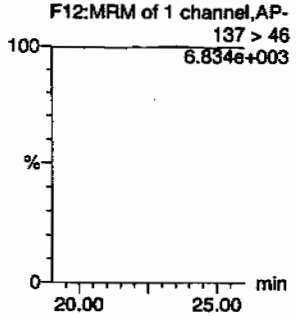
24-dinitrotoluene



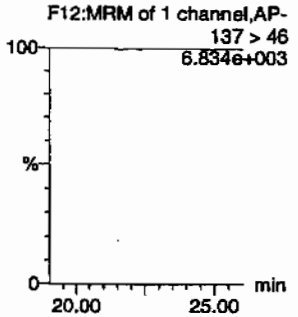
26-dinitrotoluene-d3



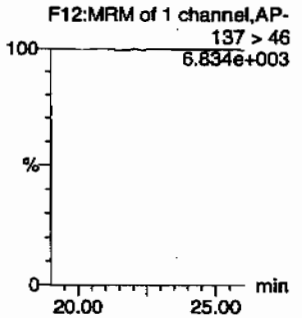
2-Nitrotoluene



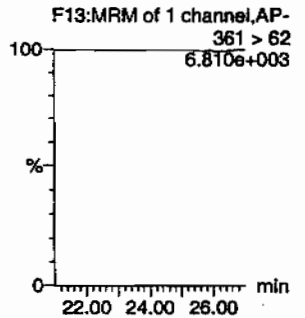
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flag	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
XIBLK02	HMX	176 > 102			3319.802									
XIBLK02	RDX	176 > 102			3319.802									
XIBLK02	135-Trinitrobenzene	213 > 183			3319.802									
XIBLK02	13-Dinitrobenzene-d4	172 > 142	12.14	3319.802		3319.802	3319.802	bb			497.6466	99.5	-0.5	244.9
XIBLK02	13-Dinitrobenzene	168 > 138			3319.802									
XIBLK02	Tetryl	241 > 181			3319.802									
XIBLK02	Nitrobenzene	123 > 46			3319.802									
XIBLK02	4-Amino-26-dinitrotoluene	197 > 167			18394.359									
XIBLK02	2-Amino-46-dinitrotoluene	197 > 180			18394.359									
XIBLK02	246-Trinitrotoluene	227 > 210			18394.359									
XIBLK02	34-dinitrotoluene	182 > 152			18394.359									
XIBLK02	26-dinitrotoluene	182 > 152			18394.359									
XIBLK02	24-dinitrotoluene	182 > 152			18394.359			MM-	18-Jan-10	07:31:29				
XIBLK02	26-dinitrotoluene-d3	185 > 155	17.57	18394.359		18394.359	18394.359	bb			489.4699	97.9	-2.1	1316.9
XIBLK02	2-Nitrotoluene	137 > 46			18394.359									
XIBLK02	4-Nitrotoluene	137 > 46			18394.359									
XIBLK02	3-Nitrotoluene	137 > 46			18394.359									
XIBLK02	PETN	361 > 62			18394.359									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC
GEL Job No(SDG): 10–1032
Lab Code: GEL
Lab Sample ID: XIBLK03
Analysis Date: 17–JAN–10 23:05
GEL Data File: EXP0117011a
Instrument ID: LCMSMS
Column: Phenomenex Ultracarb 5u ODS(20)

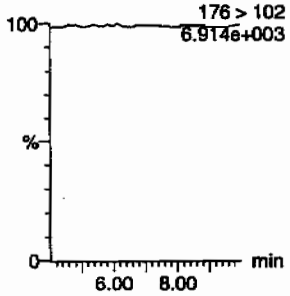
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	548.537
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	588.017
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

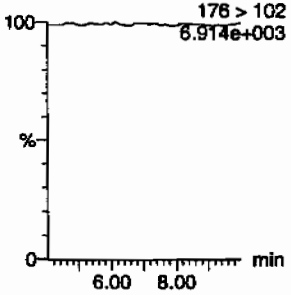
Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0117011a
Date: 17-Jan-2010
Time: 23:05:54
ID: XIBLK03
Vial: 1:1,A

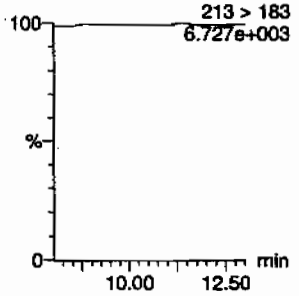
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.914e+003



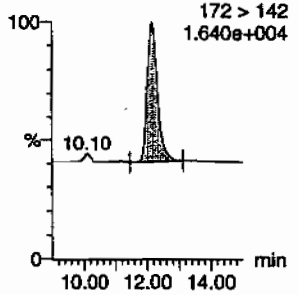
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.914e+003



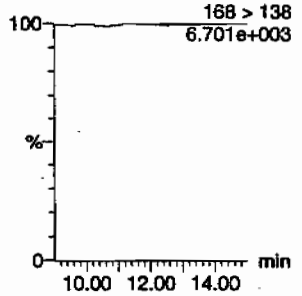
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.727e+003



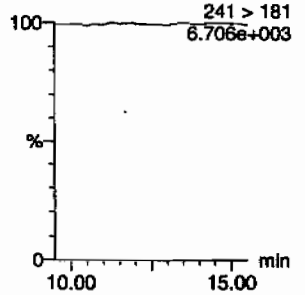
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.640e+004



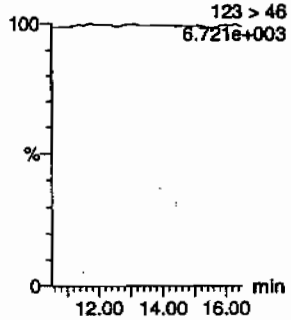
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.701e+003



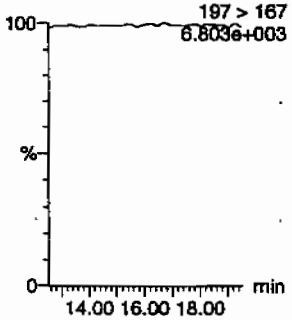
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.706e+003



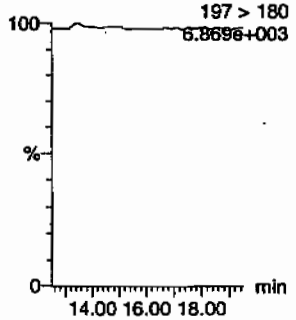
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.721e+003



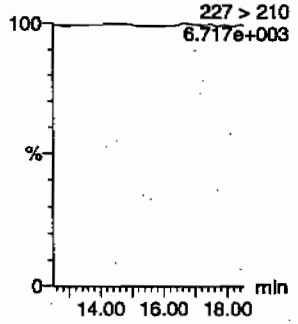
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.803e+003



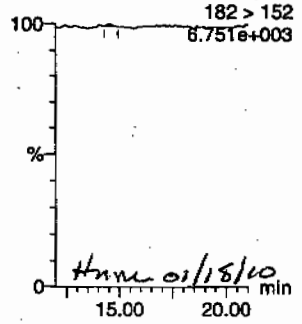
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.869e+003



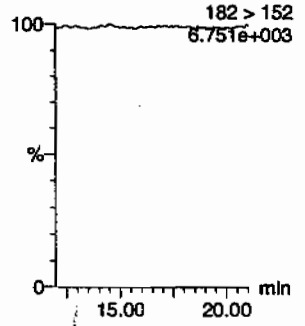
246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.717e+003



34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.751e+003



26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.751e+003



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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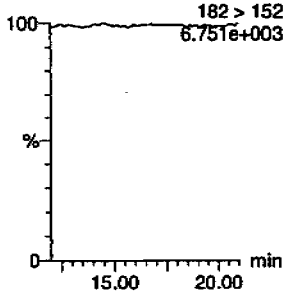
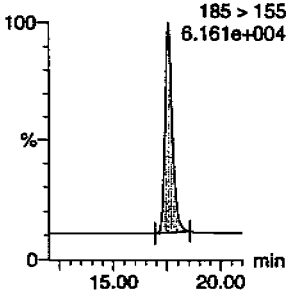
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

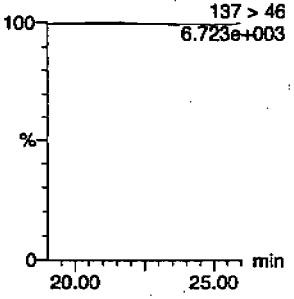
24-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.751e+003



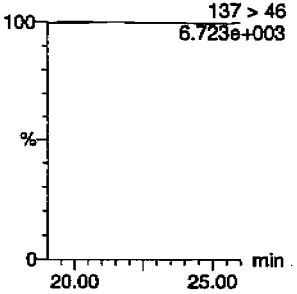
26-dinitrotoluene-d3
F9:MRM of 2 channels,AP-
185 > 155
6.161e+004



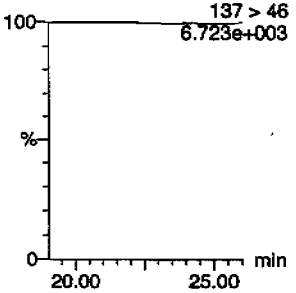
2-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.723e+003



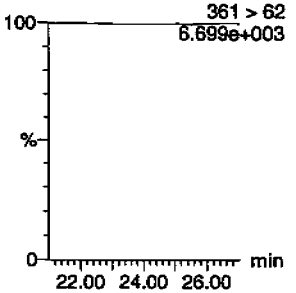
4-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.723e+003



3-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.723e+003



PETN
F13:MRM of 1 channel,AP-
361 > 62
6.699e+003



ID	Name	Trace	RT	Area	ISArea	Abs Resp	Response	Flags	Mod Date	Mod Time	Conc/mL	%Rec	%Dev	S/N
XIBLK03	HMX	176 > 102			3659.295									
XIBLK03	RDX	176 > 102			3659.295									
XIBLK03	135-Trinitrobenzene	213 > 183			3659.295									
XIBLK03	13-Dinitrobenzene-d4	172 > 142	12.14	3659.295		3659.295	3659.295	bb			548.5375	109.7	9.7	177.6
XIBLK03	13-Dinitrobenzene	168 > 138			3659.295									
XIBLK03	Tetryl	241 > 181			3659.295									
XIBLK03	Nitrobenzene	123 > 46			3659.295									
XIBLK03	4-Amino-26-dinitrotoluene	197 > 167			22097.789									
XIBLK03	2-Amino-46-dinitrotoluene	197 > 180			22097.789									
XIBLK03	246-Trinitrotoluene	227 > 210			22097.789									
XIBLK03	34-dinitrotoluene	182 > 152			22097.789			MM-	18-Jan-10	07:25:07				
XIBLK03	26-dinitrotoluene	182 > 152			22097.789									
XIBLK03	24-dinitrotoluene	182 > 152			22097.789									
XIBLK03	26-dinitrotoluene-d3	185 > 155	17.57	22097.789		22097.789	22097.789	bb			588.0173	117.6	17.6	2338.1
XIBLK03	2-Nitrotoluene	137 > 46			22097.789									
XIBLK03	4-Nitrotoluene	137 > 46			22097.789									
XIBLK03	3-Nitrotoluene	137 > 46			22097.789									
XIBLK03	PETN	361 > 62			22097.789									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1032

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 18–JAN–10 03:31

GEL Data File: EXP0117020a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	600.62
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	575.792
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0

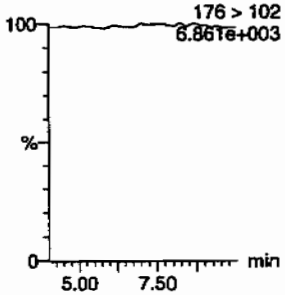
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

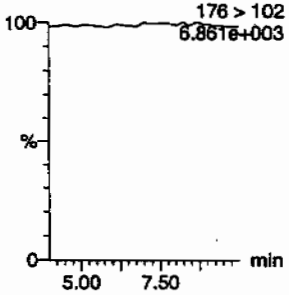
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0117020a
Date: 18-Jan-2010
Time: 03:31:16
ID: XIBLK04
Vial: 1:1,A

MAP 1/18/10

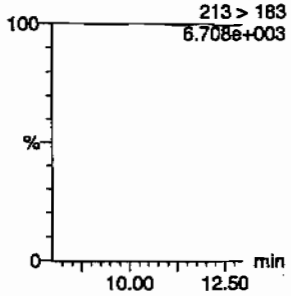
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.861e+003



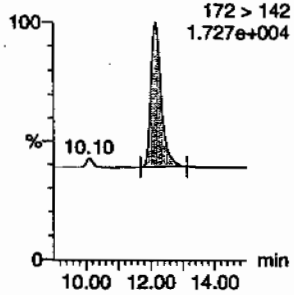
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.861e+003



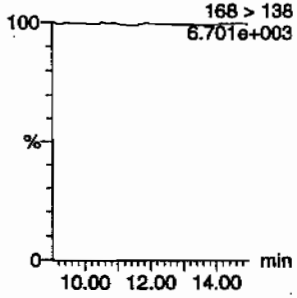
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.708e+003



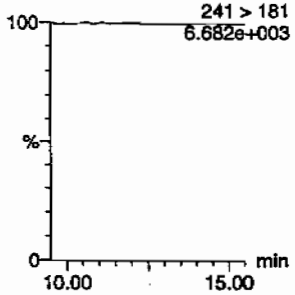
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.727e+004



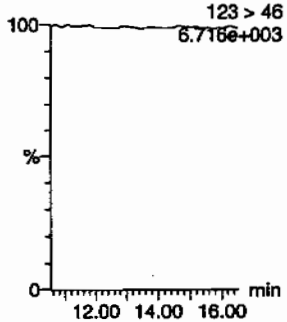
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.701e+003



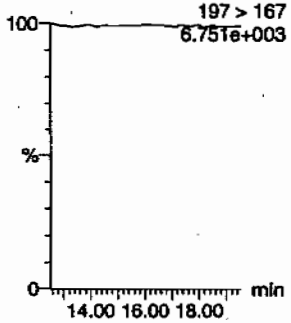
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.682e+003



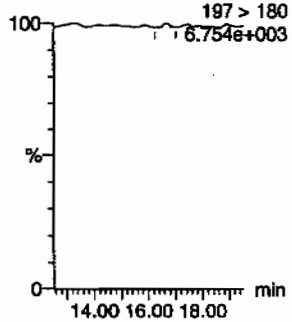
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.716e+003



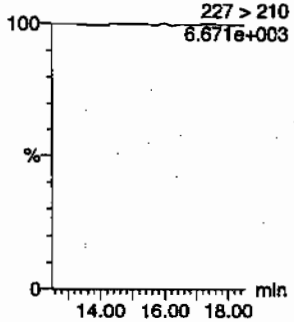
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.751e+003



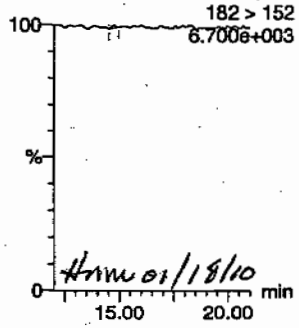
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.754e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.671e+003

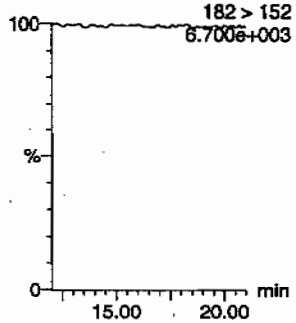


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.700e+003



Hmm 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.700e+003



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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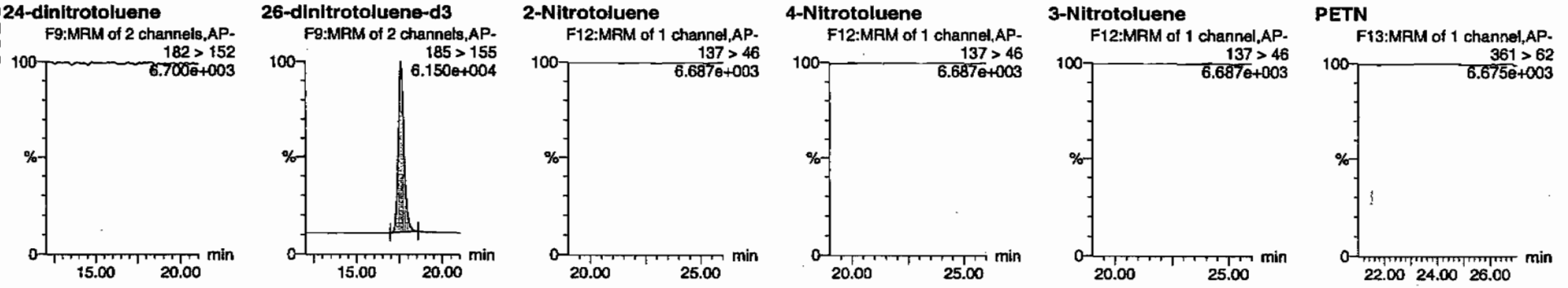
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	Conc	%Rec	%Dev	S/N
XIBLK04	HMX	176 > 102			4006.735									
XIBLK04	RDX	176 > 102			4006.735									
XIBLK04	135-Trinitrobenzene	213 > 183			4006.735									
XIBLK04	13-Dinitrobenzene-d4	172 > 142	12.14	4006.735		4006.735	4006.735	bb			600.6196	120.1	20.1	459.0
XIBLK04	13-Dinitrobenzene	168 > 138			4006.735									
XIBLK04	Tetryl	241 > 181			4006.735									
XIBLK04	Nitrobenzene	123 > 46			4006.735									
XIBLK04	4-Amino-26-dinitrotoluene	197 > 167			21638.346									
XIBLK04	2-Amino-46-dinitrotoluene	197 > 180			21638.346			MM-	18-Jan-10	07:24:31				
XIBLK04	246-Trinitrotoluene	227 > 210			21638.346									
XIBLK04	34-dinitrotoluene	182 > 152			21638.346			MM-	18-Jan-10	07:25:13				
XIBLK04	26-dinitrotoluene	182 > 152			21638.346									
XIBLK04	24-dinitrotoluene	182 > 152			21638.346			MM-	18-Jan-10	07:32:24				
XIBLK04	26-dinitrotoluene-d3	185 > 155	17.57	21638.346		21638.346	21638.346	bb			575.7916	115.2	15.2	1635.8
XIBLK04	2-Nitrotoluene	137 > 46			21638.346									
XIBLK04	4-Nitrotoluene	137 > 46			21638.346									
XIBLK04	3-Nitrotoluene	137 > 46			21638.346									
XIBLK04	PETN	361 > 62			21638.346									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1032

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 07-JAN-10 16:36

GEL Data File: EXS01070010.wiff

Instrument ID: LCMSMS

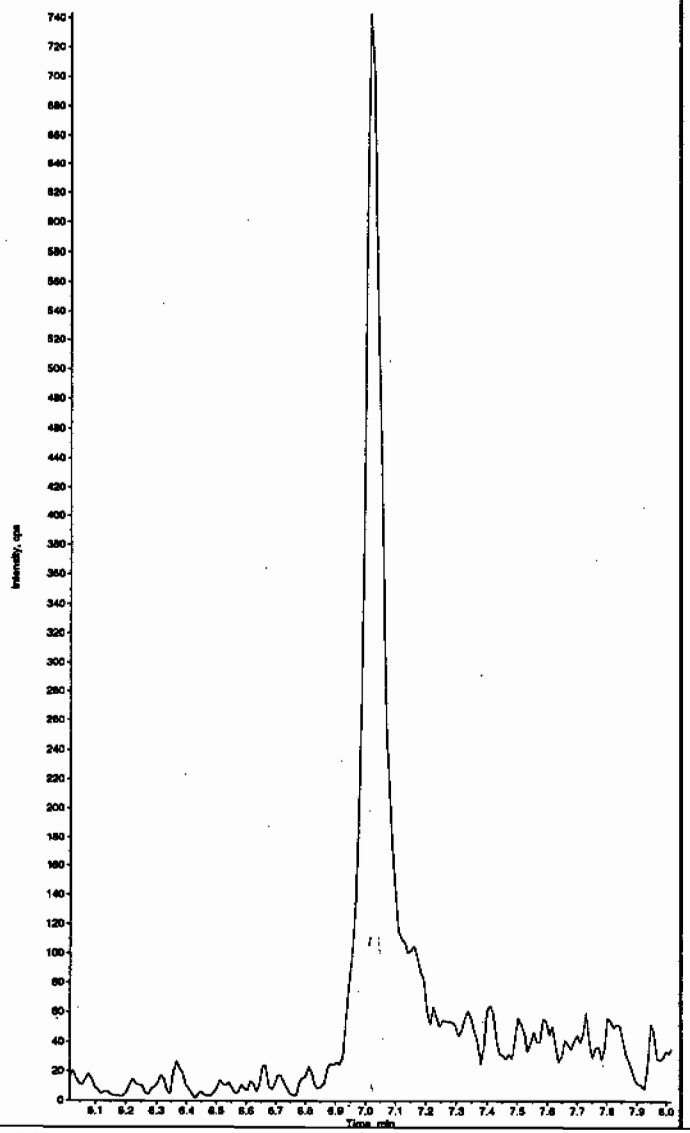
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	1.05
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Sam 1/8/10

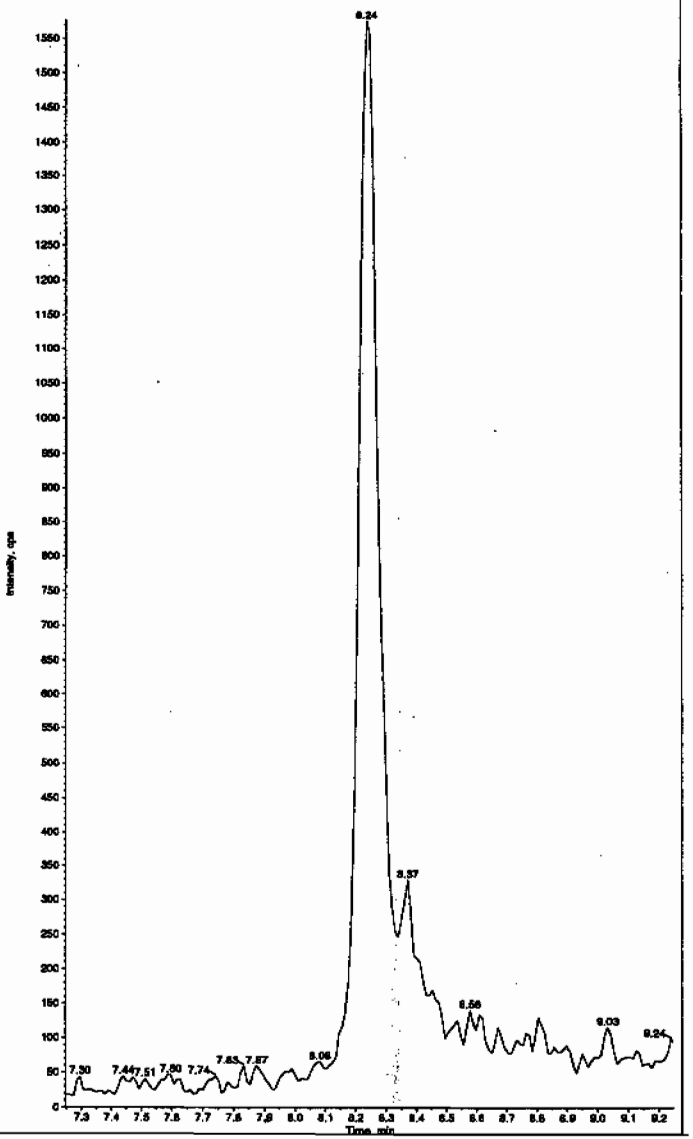
Sample Name: "XIBLK02" Sample ID: "[1]LER" File: "EXS01070010.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 4:36:57 PM

Modified: No



Sample Name: "XIBLK02" Sample ID: "[1]LER" File: "EXS01070010.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 4:36:57 PM

Modified: No



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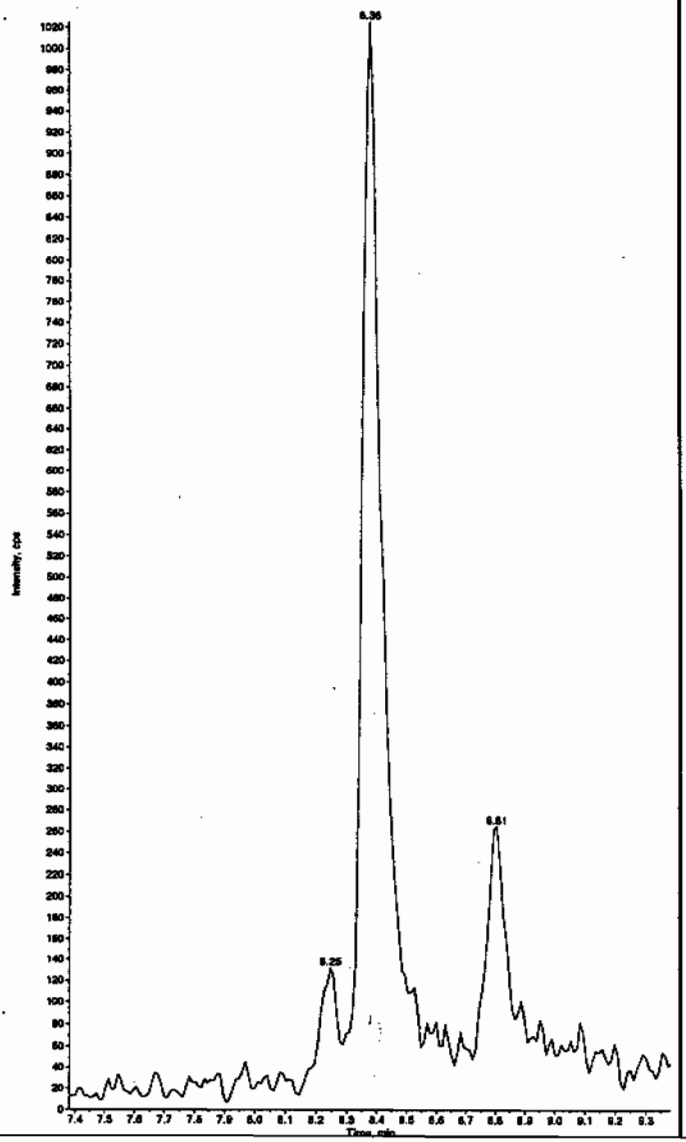
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

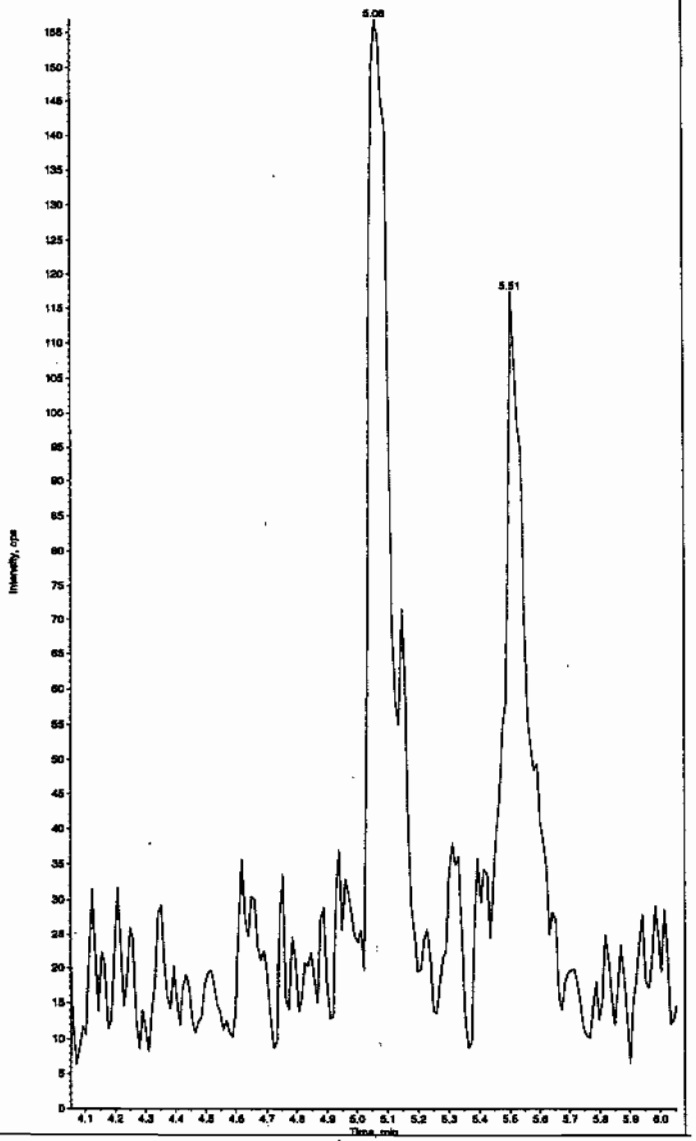
Sample Name: "XIBLK02" Sample ID: "|1|LER" File: "EXS01070010.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 4:36:57 PM

Modified: No



Sample Name: "XIBLK02" Sample ID: "|1|LER" File: "EXS01070010.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 4:36:57 PM

Modified: No



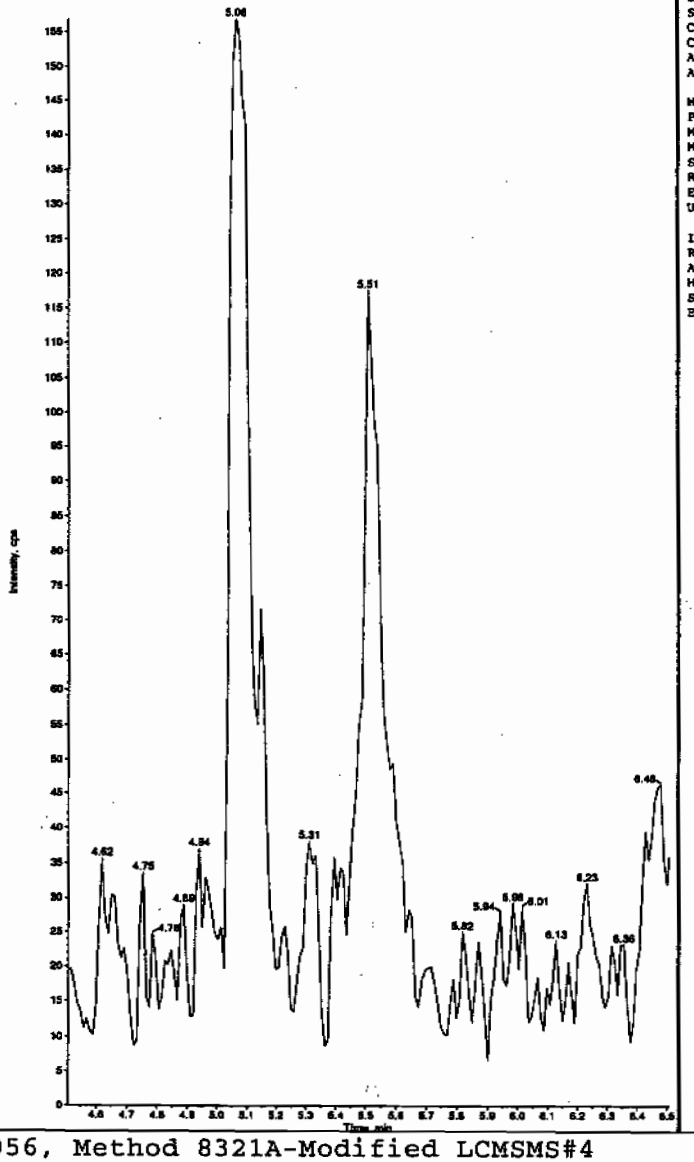
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "XIBLK02" Sample ID: "[1]LER" File: "EXS01070010.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 4:36:57 PM

Modified: No

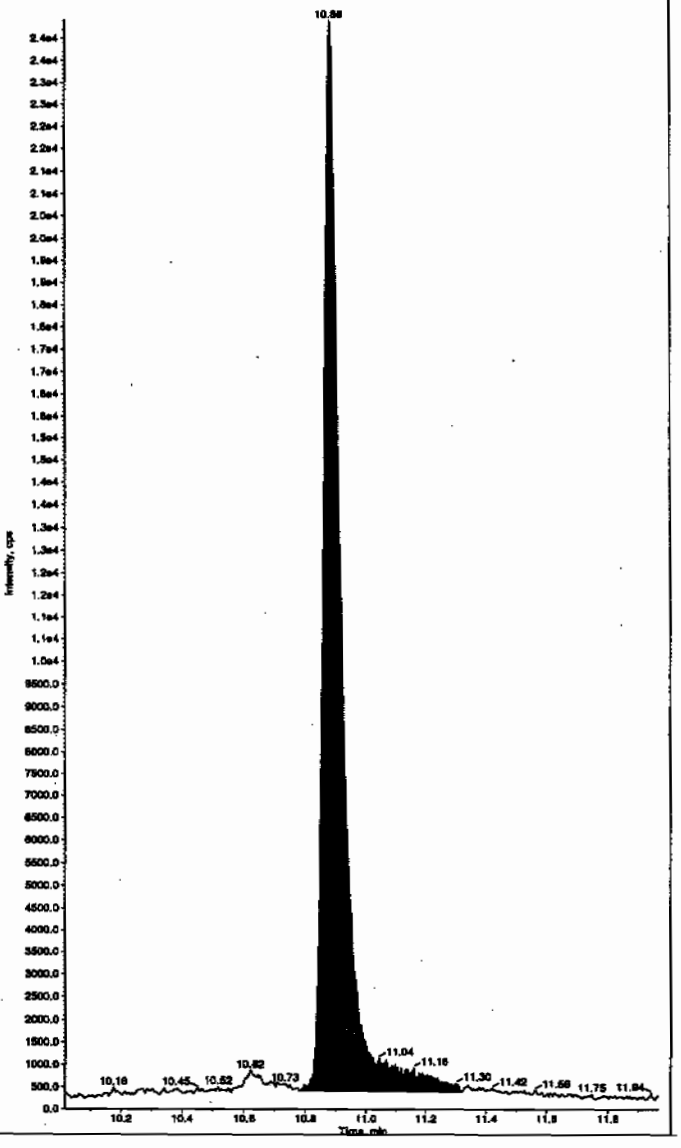


Sample Name: "XIBLK02" Sample ID: "[1]LER" File: "EXS01070010.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 1.05 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 4:36:57 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 11.0 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 1.04e+005 counts
Height: 24013.908 cps
Start Time: 10.8 min
End Time: 11.3 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1032

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 07-JAN-10 17:08

GEL Data File: EXS01070012.wiff

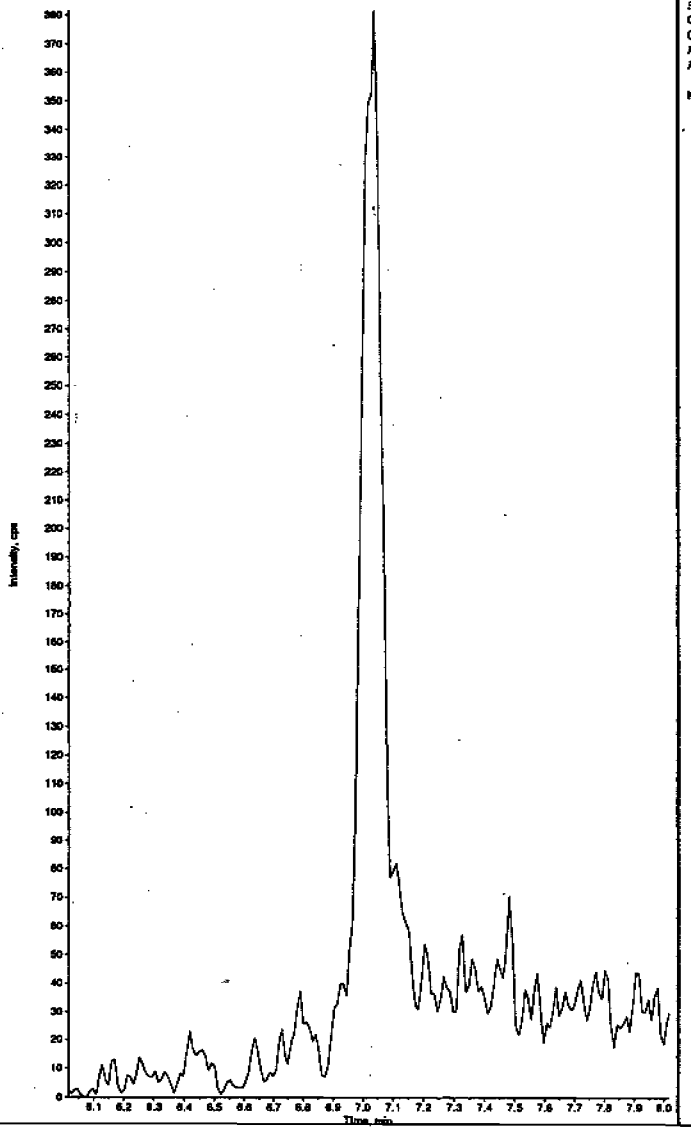
Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
2,6-Diamino-4-nitrotoluene	0	0
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0

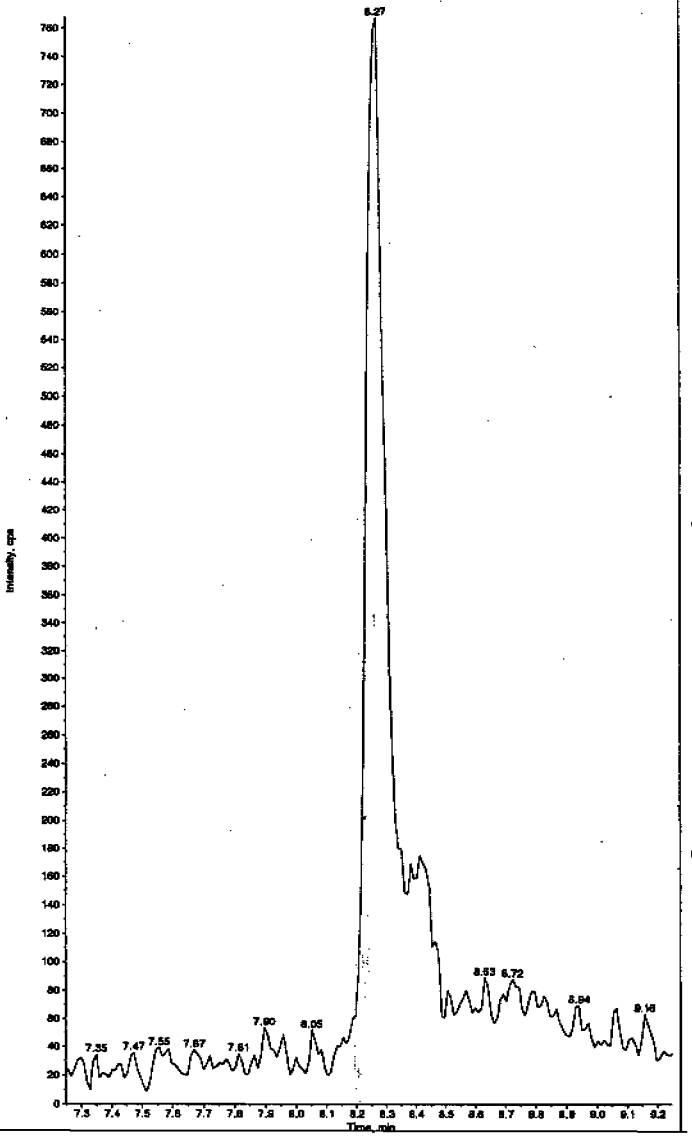
Sample Name: "XIBLK03" Sample ID: "[1]LER" File: "EXS01070012.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 5:08:22 PM

Modified: No



Sample Name: "XIBLK03" Sample ID: "[1]LER" File: "EXS01070012.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 5:08:22 PM

Modified: No



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*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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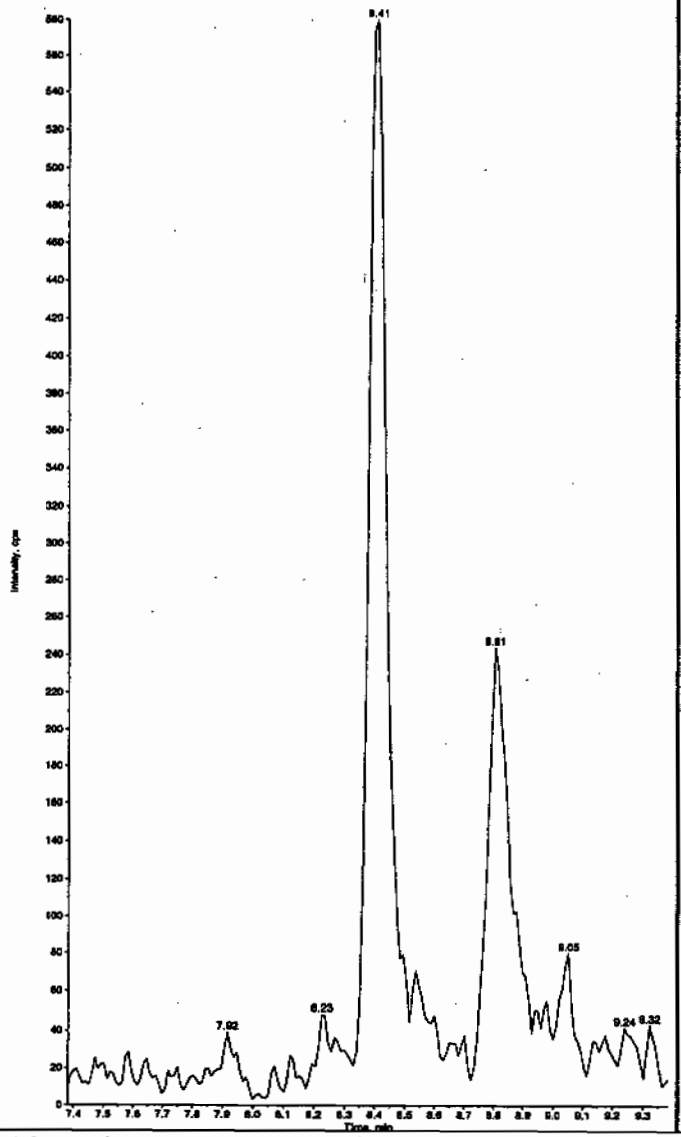
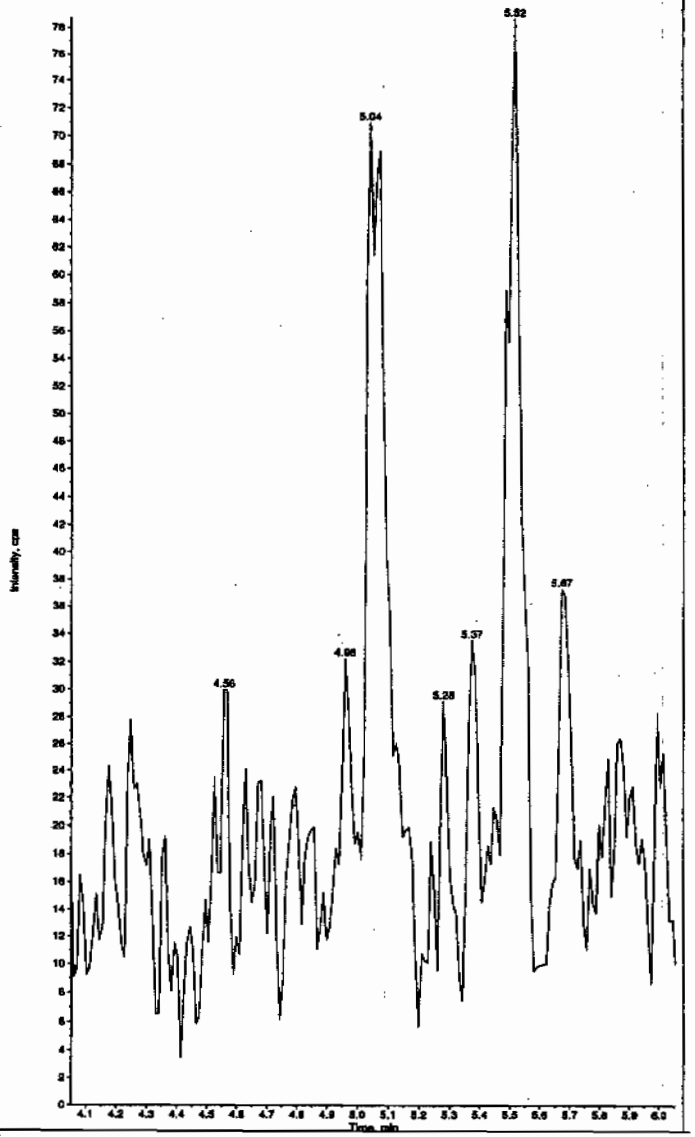
Sample Name: "XIBLK03" Sample ID: "[1]LER" File: "EXS01070012.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 5:08:22 PM

Modified: No



Sample Name: "XIBLK03" Sample ID: "[1]LER" File: "EXS01070012.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 5:08:22 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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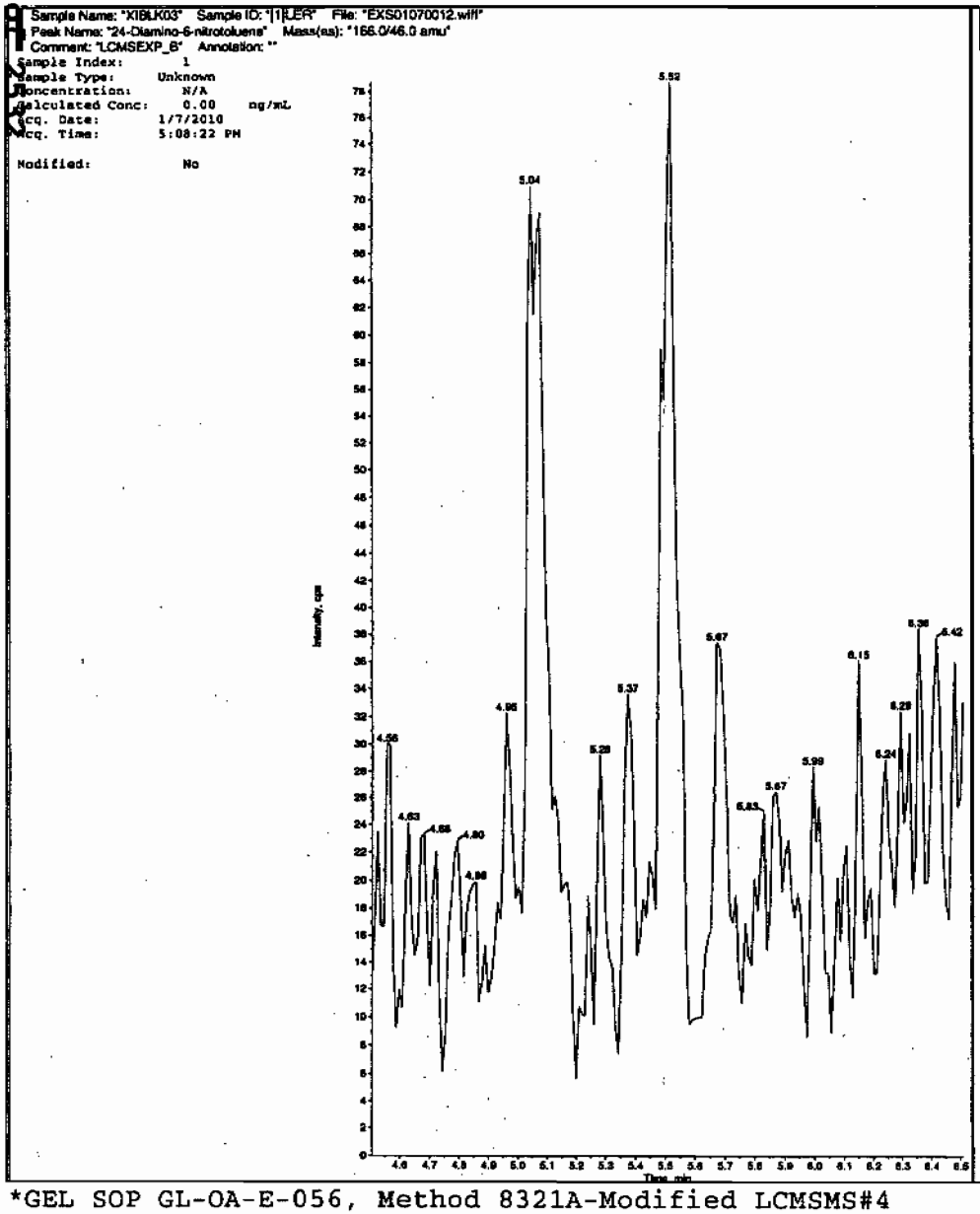

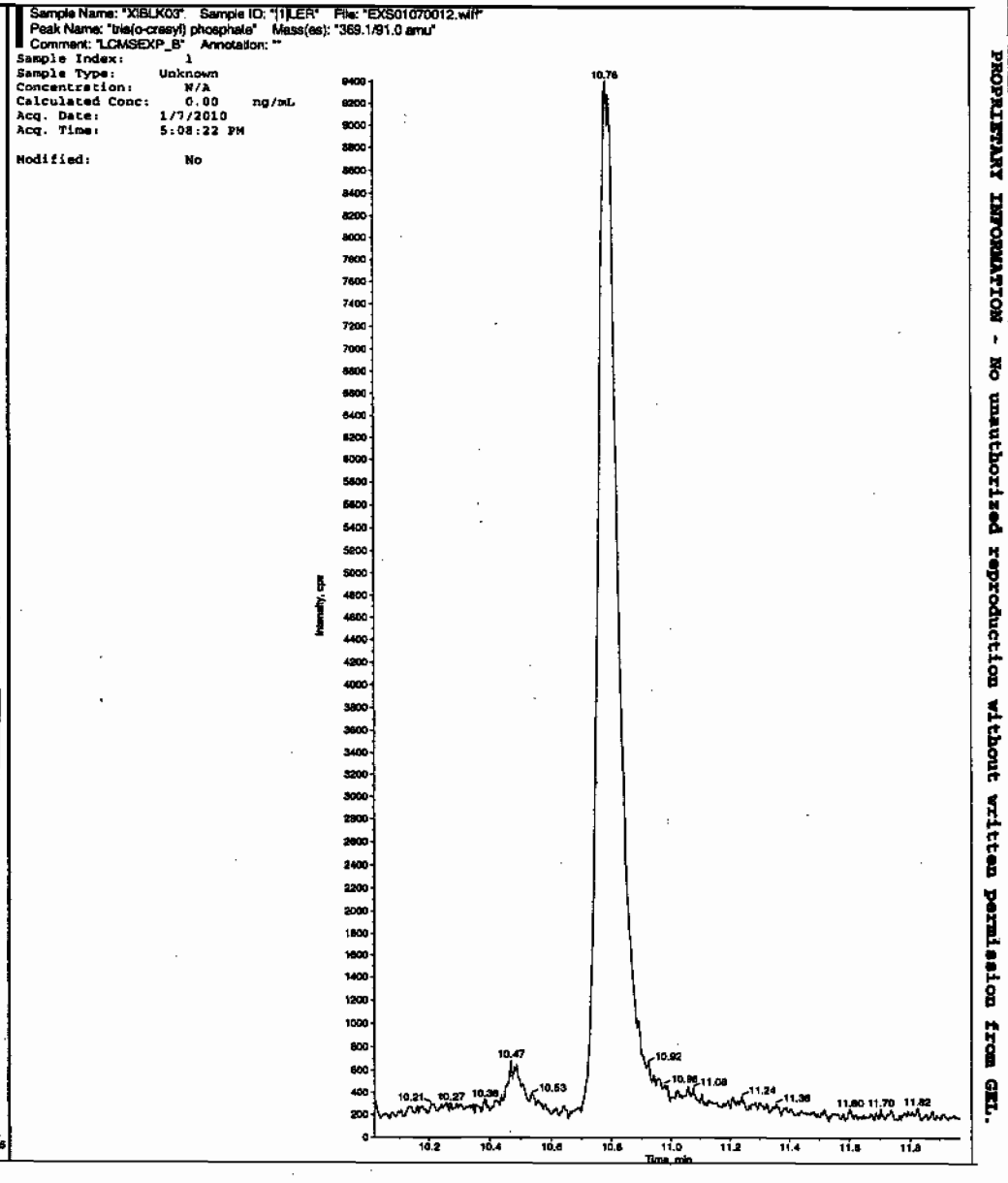

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC
GEL Job No(SDG): 10-1032
Lab Code: GEL
Lab Sample ID: XIBLK04
Analysis Date: 07-JAN-10 20:32
GEL Data File: EXS01070025.wiff
Instrument ID: LCMSMS
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

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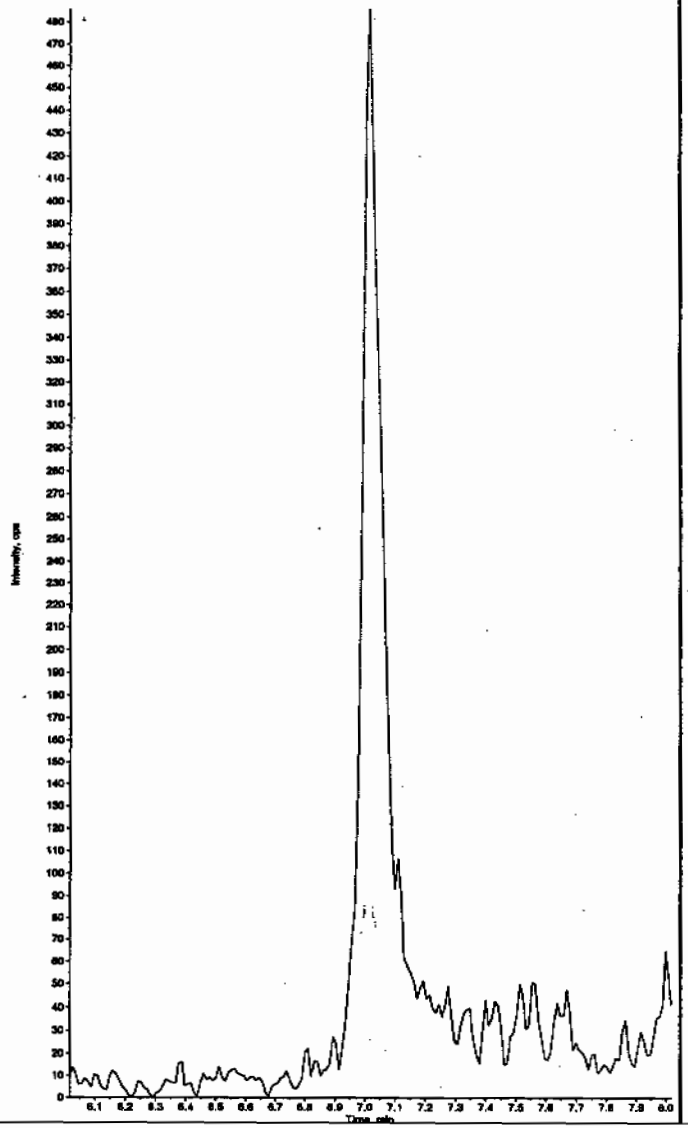
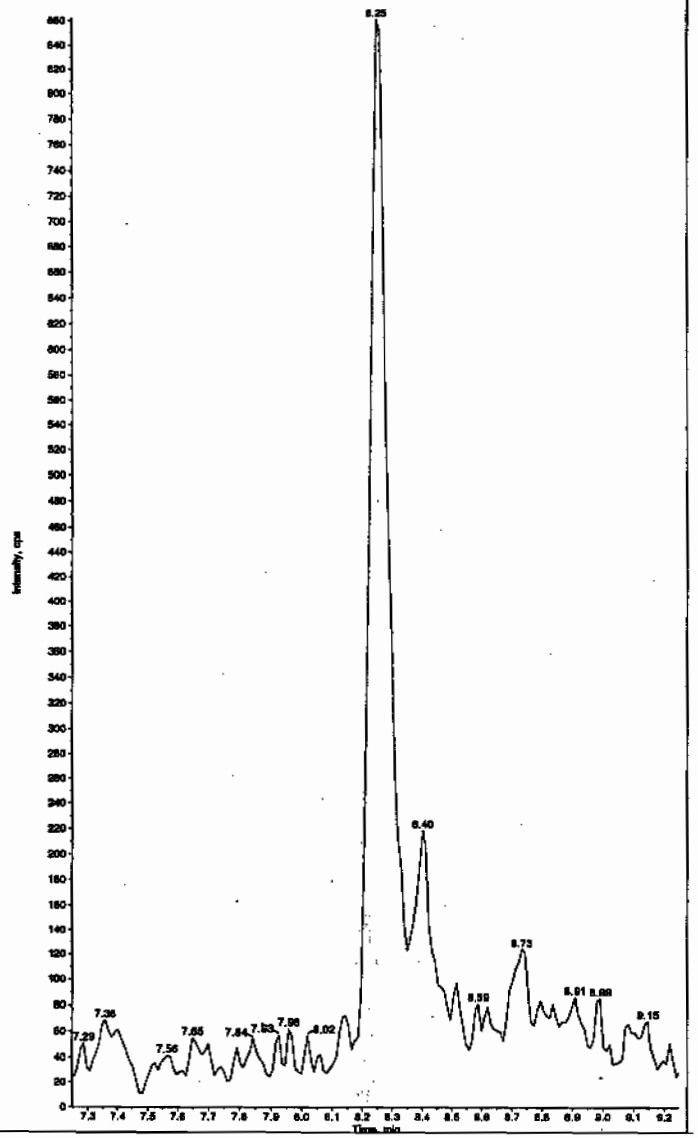
Sample Name: "XIBLK04" Sample ID: "]1]LER" File: "EXS01070025.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:32:23 PM

Modified: No



Sample Name: "XIBLK04" Sample ID: "]1]LER" File: "EXS01070025.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:32:23 PM

Modified: No



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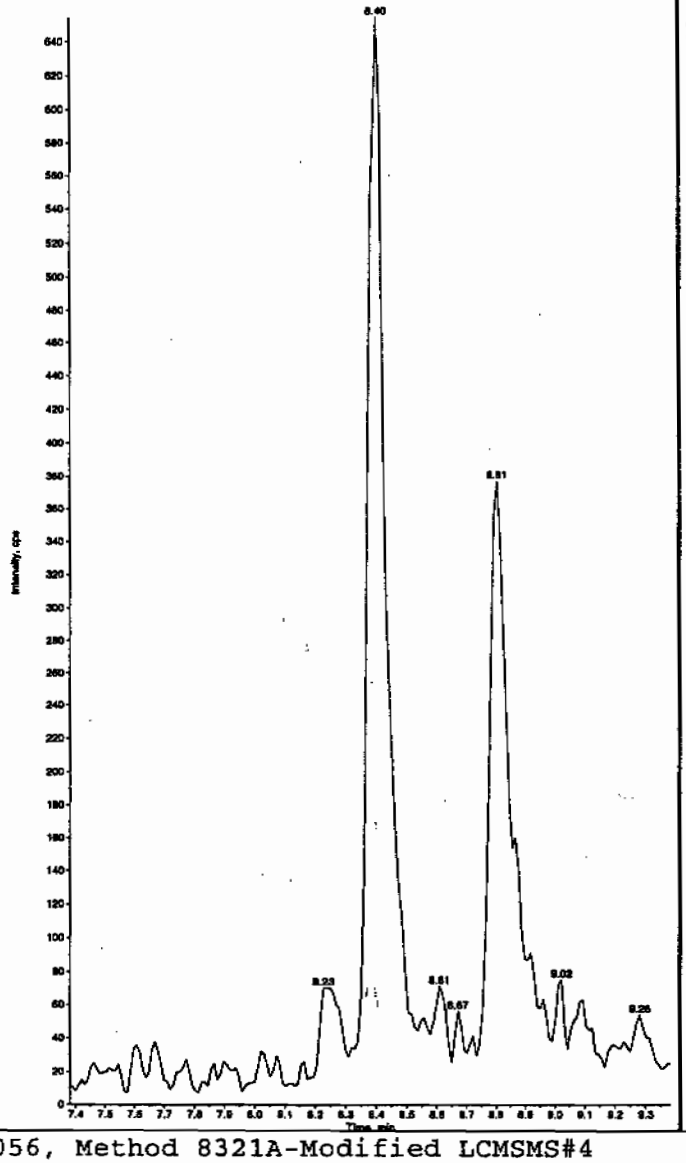
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK04" Sample ID: "|1|LER" File: "EXS01070025.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:32:23 PM

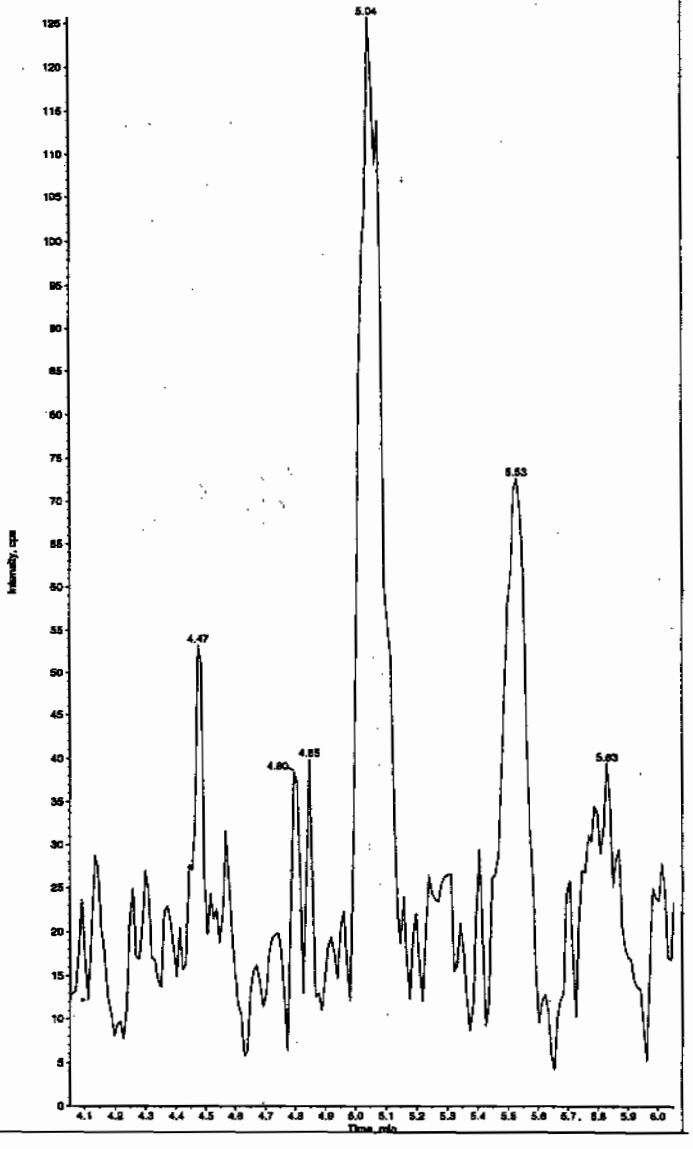
Modified: No



Sample Name: "XIBLK04" Sample ID: "|1|LER" File: "EXS01070025.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:32:23 PM

Modified: No



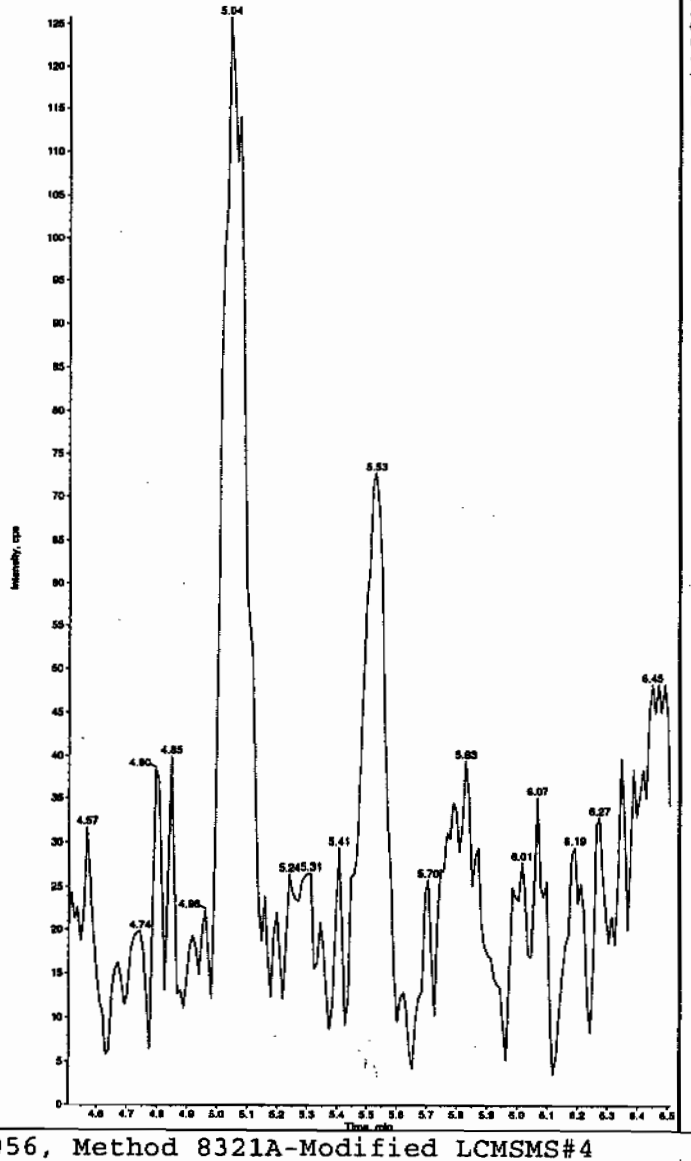
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "XIBLK04" Sample ID: "[1]LER" File: "EXS01070025.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:32:23 PM

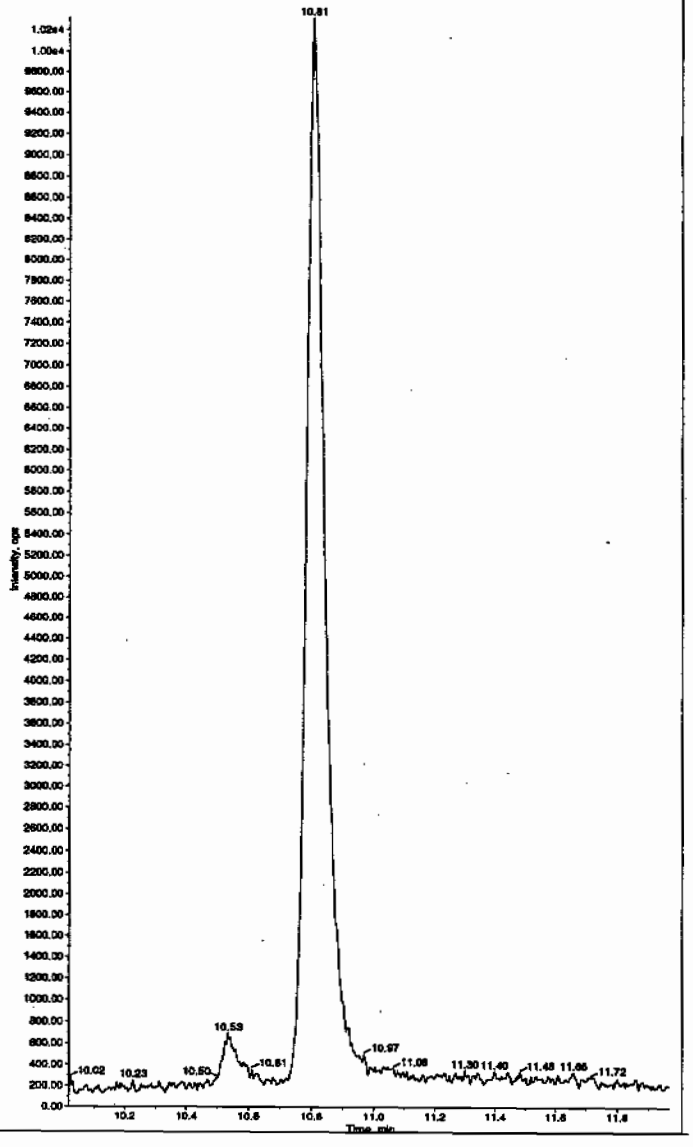
Modified: No



Sample Name: "XIBLK04" Sample ID: "[1]LER" File: "EXS01070025.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:32:23 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1032

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 07–JAN–10 23:56

GEL Data File: EXS01070038.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
tris(o–cresyl) phosphate	0	0
TATB	0	0
3,5–Dinitroaniline	0	0
2,4–Diamino–6–nitrotoluene	0	0
2,6–Diamino–4–nitrotoluene	0	0

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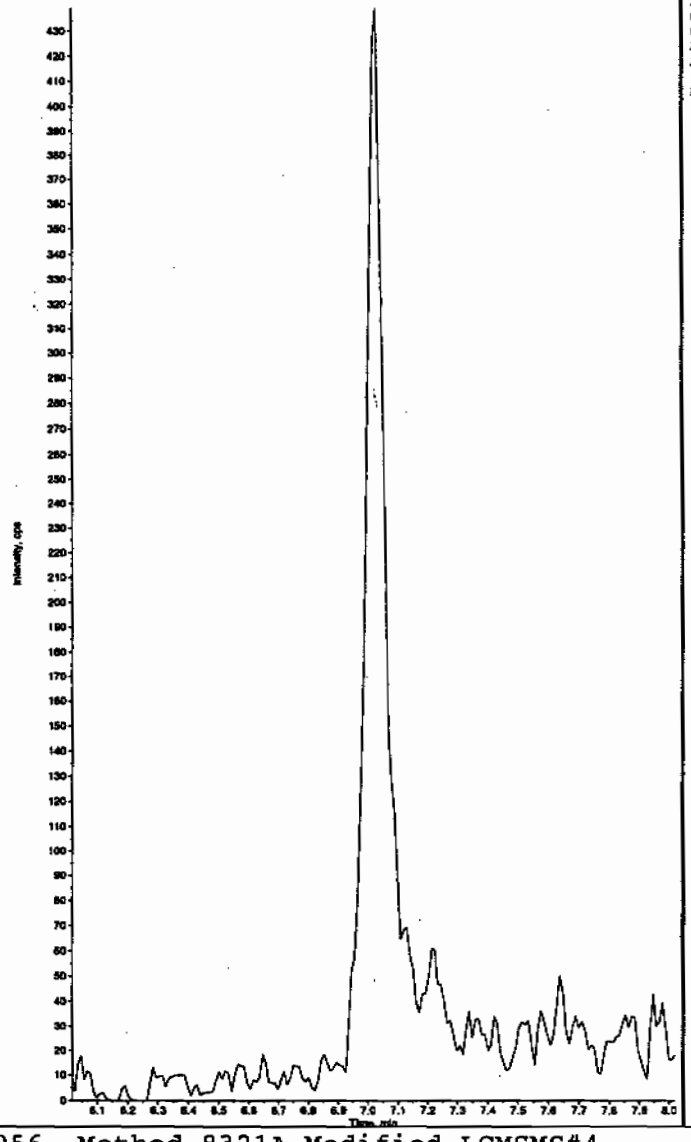
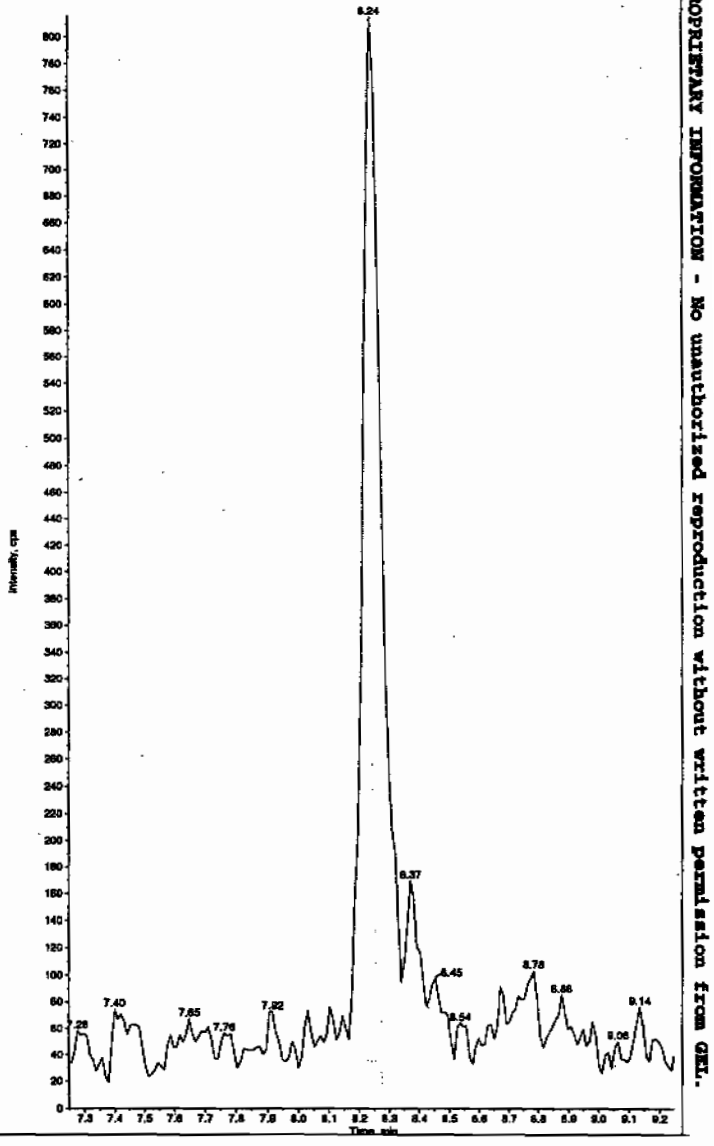
Sample Name: "XIBLK05" Sample ID: "[1]LER" File: "EXS01070038.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:56:31 PM

Modified: No



Sample Name: "XIBLK05" Sample ID: "[1]LER" File: "EXS01070038.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:56:31 PM

Modified: No



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*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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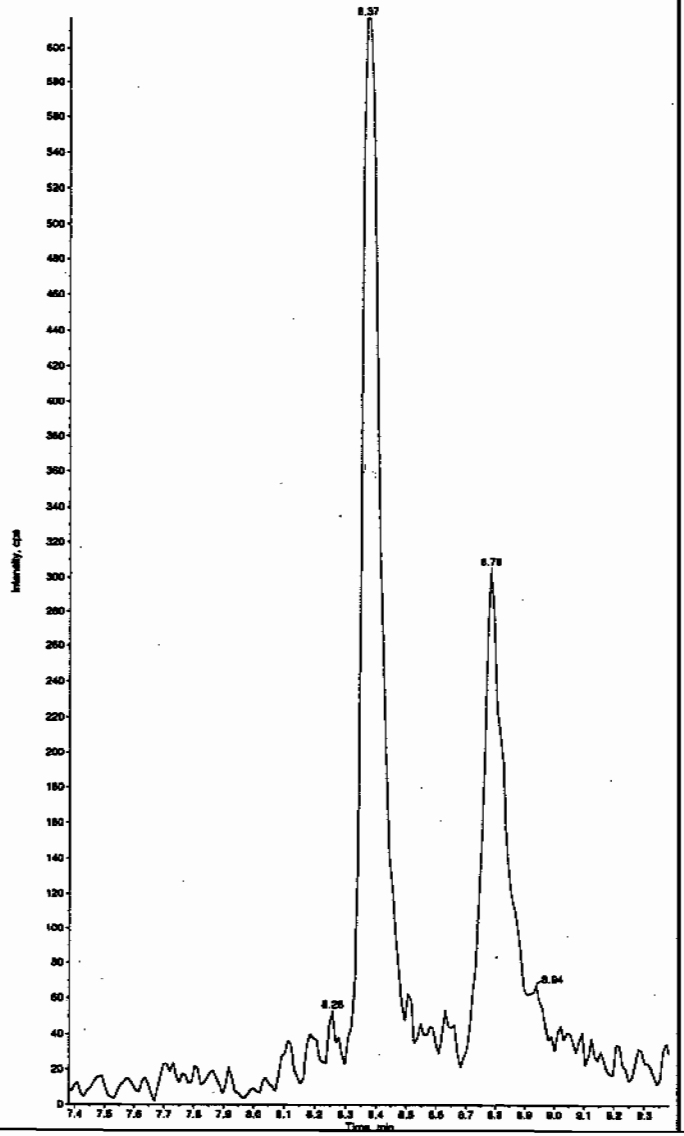
Sample Name: "XIBLK05" Sample ID: "[1]LER" File: "EXS01070038.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:56:31 PM

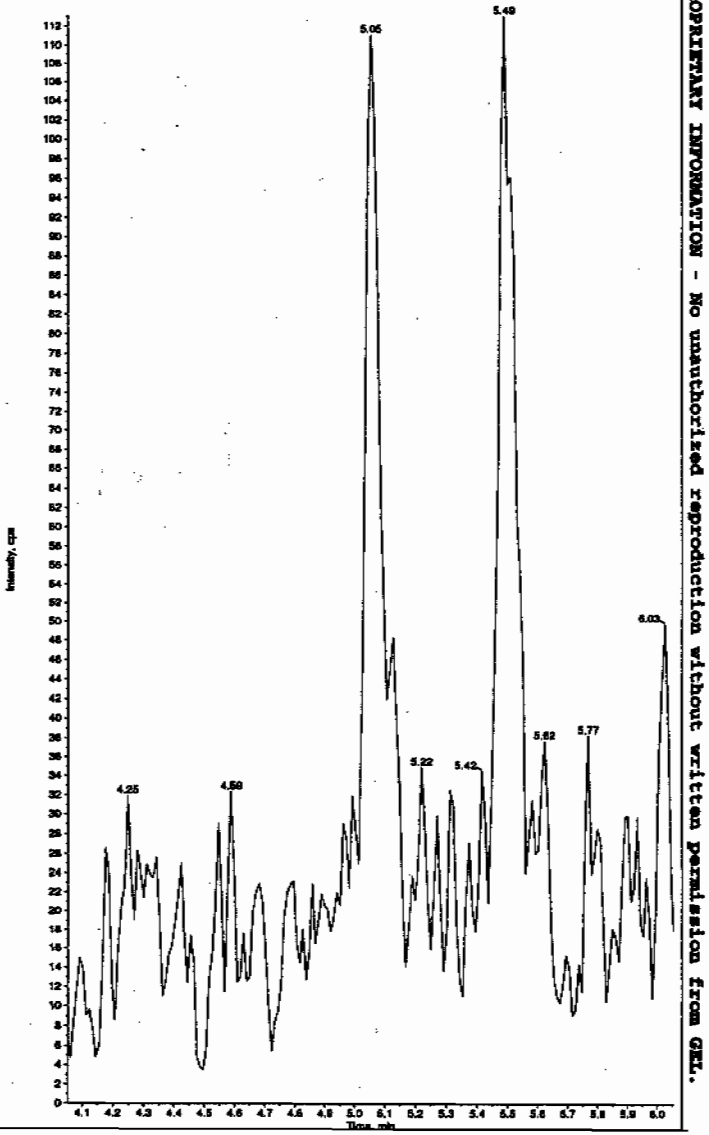
Modified: No



Sample Name: "XIBLK05" Sample ID: "[1]LER" File: "EXS01070038.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:56:31 PM

Modified: No



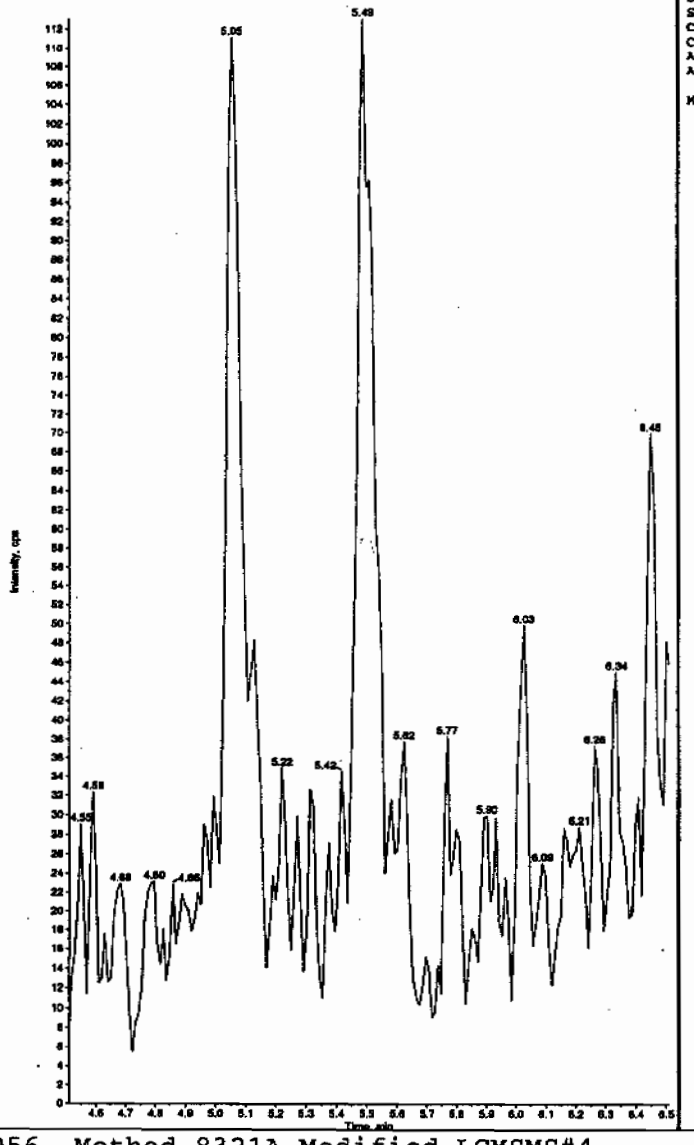
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "XIBLK05" Sample ID: "[1]LER" File: "EXS01070038.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/45.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:56:31 PM

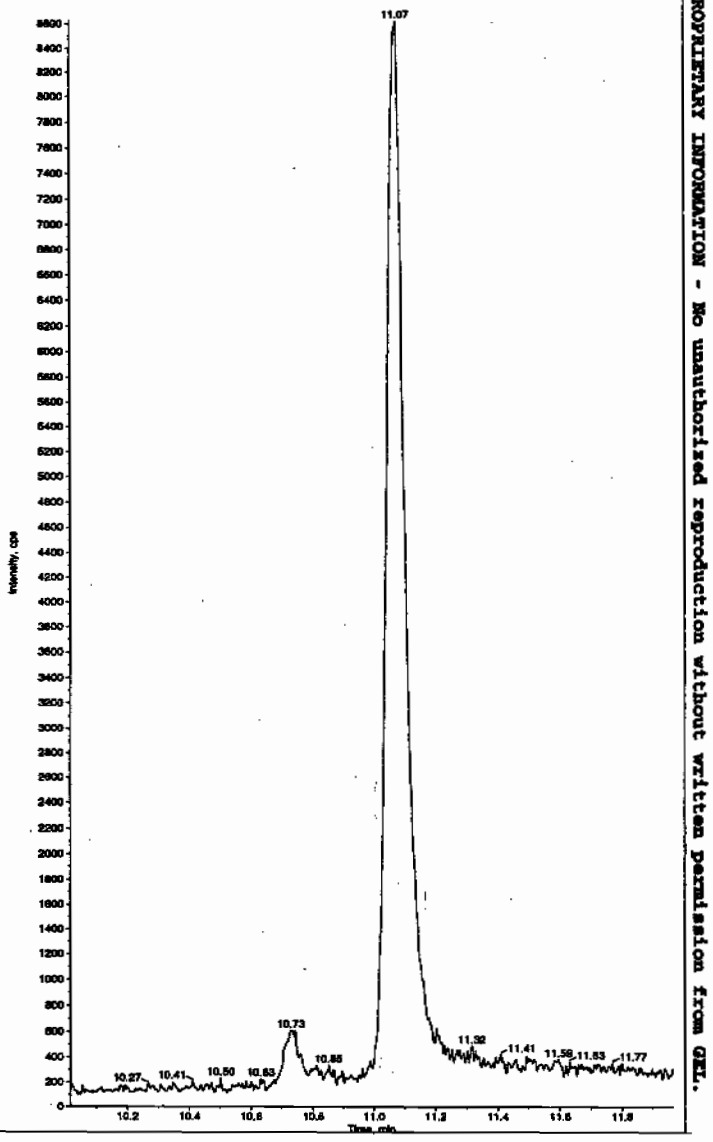
Modified: No



Sample Name: "XIBLK05" Sample ID: "[1]LER" File: "EXS01070038.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:56:31 PM

Modified: No



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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1032

Lab Code: GEL

Lab Sample ID: XIBLK06

Analysis Date: 08–JAN–10 02:02

GEL Data File: EXS01070046.wiff

Instrument ID: LCMSMS

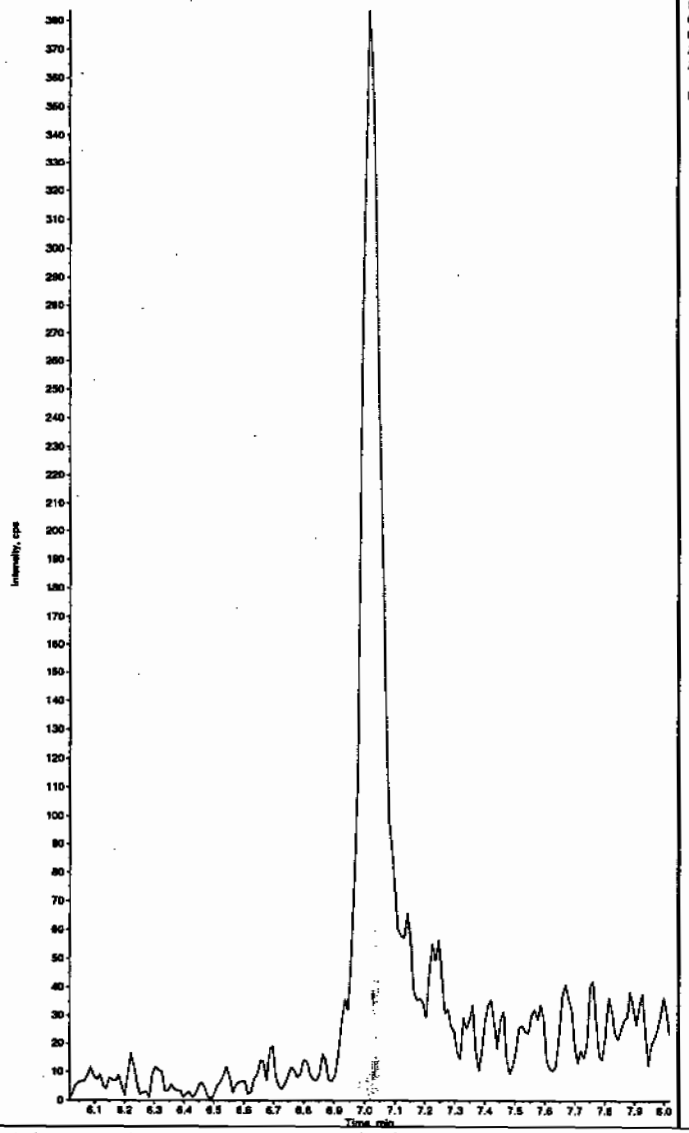
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
tris(o–cresyl) phosphate	0	0
TATB	0	0
3,5–Dinitroaniline	0	0
2,4–Diamino–6–nitrotoluene	0	0
2,6–Diamino–4–nitrotoluene	0	0

Sample Name: "XIBLK06" Sample ID: "[1]LER" File: "EXS01070046.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 2:02:12 AM

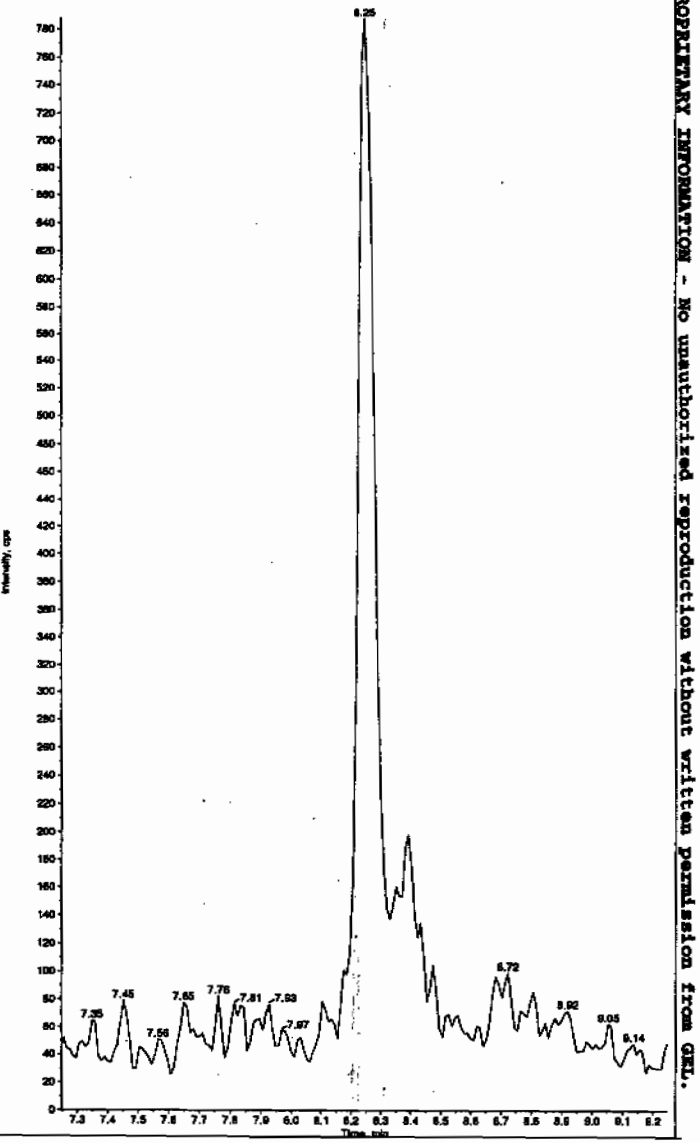
Modified: No



Sample Name: "XIBLK06" Sample ID: "[1]LER" File: "EXS01070046.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 2:02:12 AM

Modified: No



Rcn 1/8/10

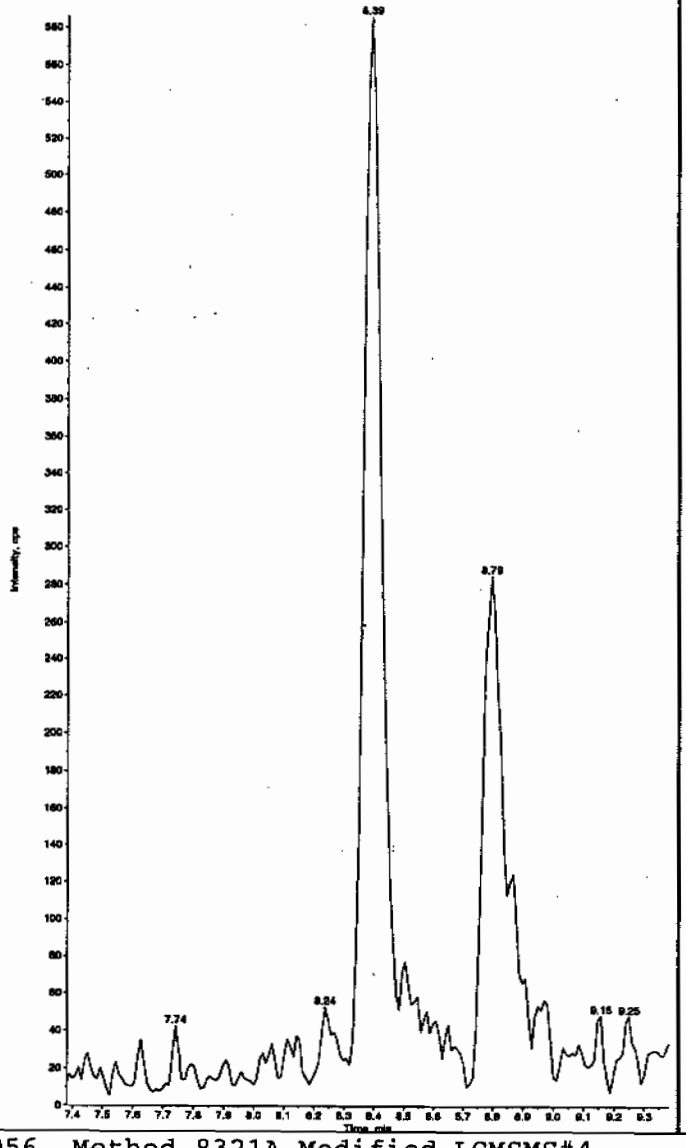
Hnm 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

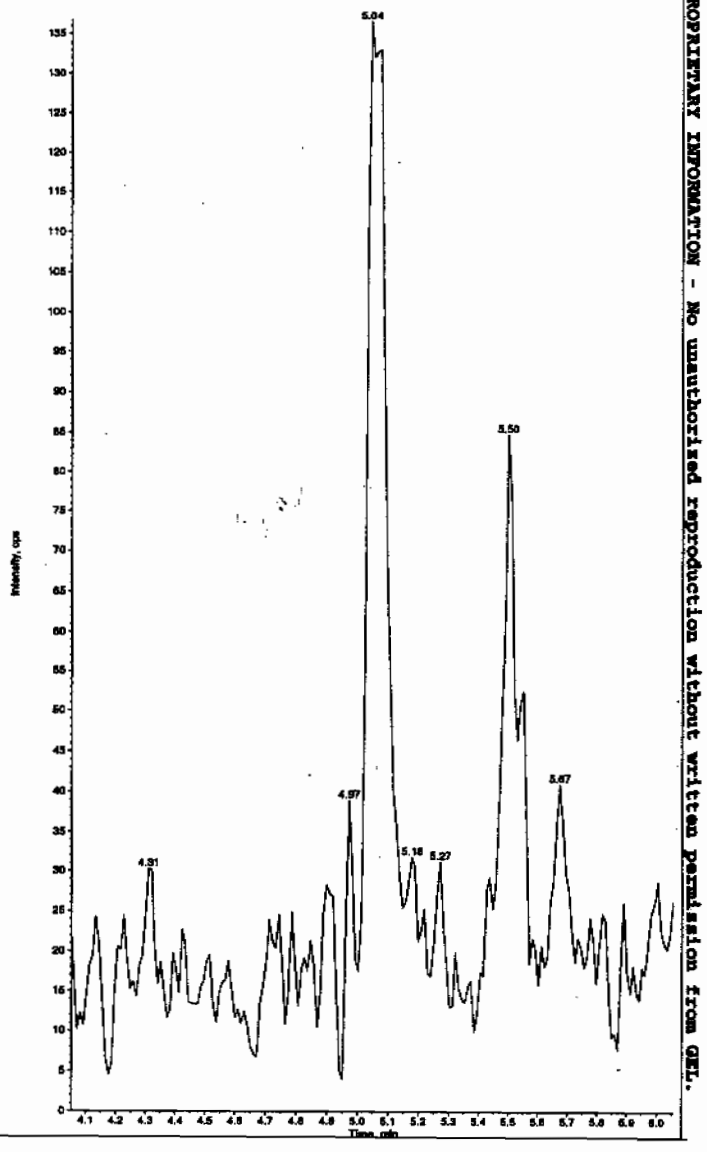
Sample Name: "XI8LK06" Sample ID: "[1]LER" File: "EXS01070046.wiff"
Peak Name: "34-DInitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 2:02:12 AM

Modified: No



Sample Name: "XI8LK06" Sample ID: "[1]LER" File: "EXS01070046.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 2:02:12 AM

Modified: No



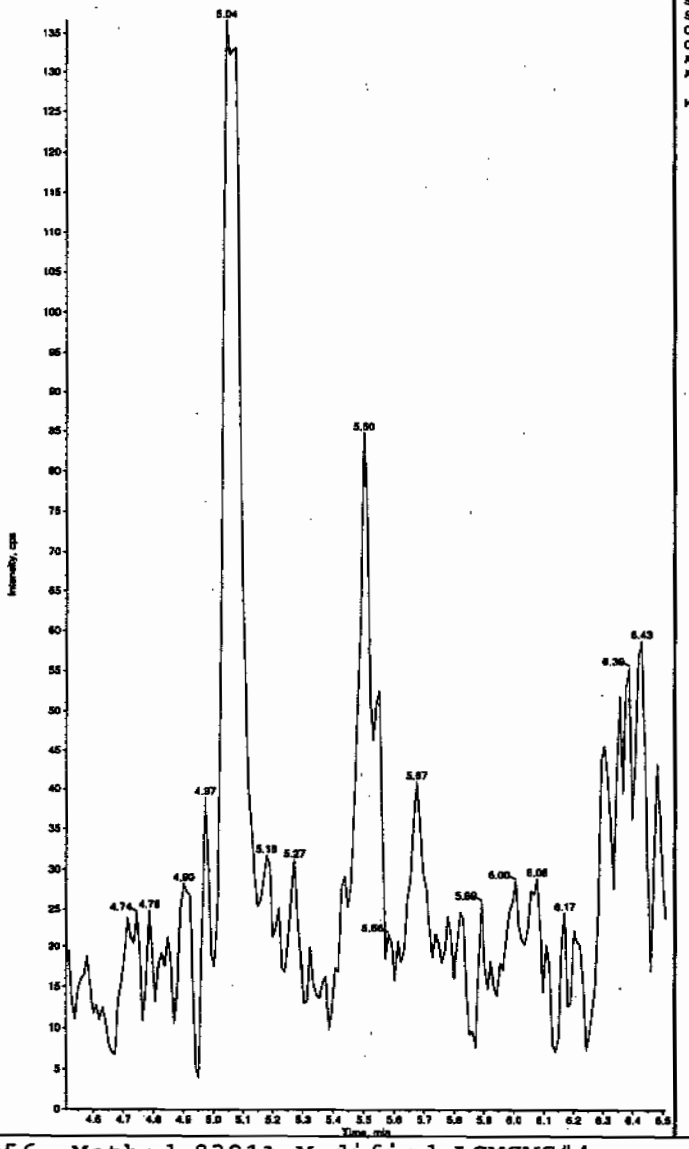
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "XIBLK06" Sample ID: "[1]LER" File: "EXS01070046.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_8" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 2:02:12 AM

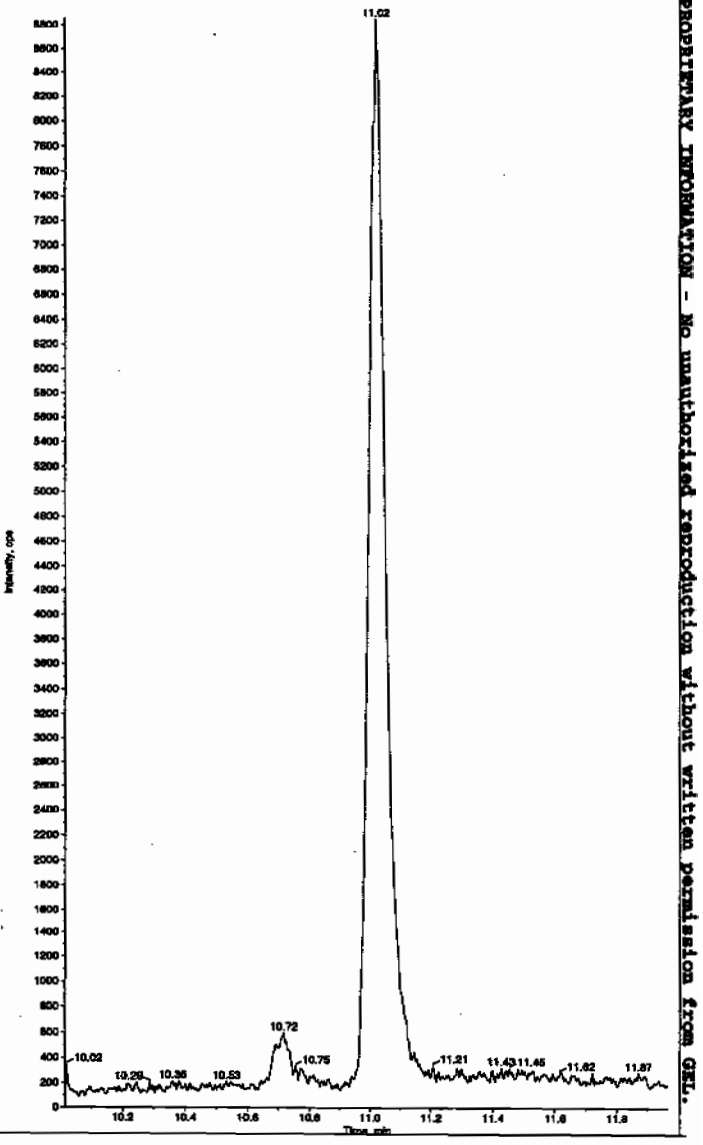
Modified: No



Sample Name: "XIBLK06" Sample ID: "[1]LER" File: "EXS01070046.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_8" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 2:02:12 AM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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Nairb.ref

;Positive ion monoisotopic and average masses from solution
;of NaI/Rbi (2.0/0.05ug/ul) in 50/20 2-propanol/H2O.
;Most useful general purpose calibrant for all low
;MW applications, including MS/MS work.
;At high resolution, readily covers from m/z 50-2000.
;At reduced resolution, can be used to over m/z 3000.
;NOT RECOMMENDED FOR PROTEIN WORK. USE MYO, MYOTRP or TRP.
Updated 20 April '95

22.9898	100
84.9118	100
172.8840	100
322.7782	100
472.6725	100
622.5667	100
772.4610	100
922.3552	100
1072.2494	100
; 1222.1437	100
; 1372.0379	100
; 1521.9321	100
; 1671.8264	100
; 1821.7206	100
; 1971.6149	100
; 2121.5091	100
; 2271.4033	100
; 2421.2976	100
; 2571.1918	100
; 2721.0861	100
; 2870.9803	100
; 3020.8745	100
; 3170.7688	100
; 3320.6630	100
; 3470.5572	100
; 3620.4515	100
; 3770.3457	100
; 3920.2400	100

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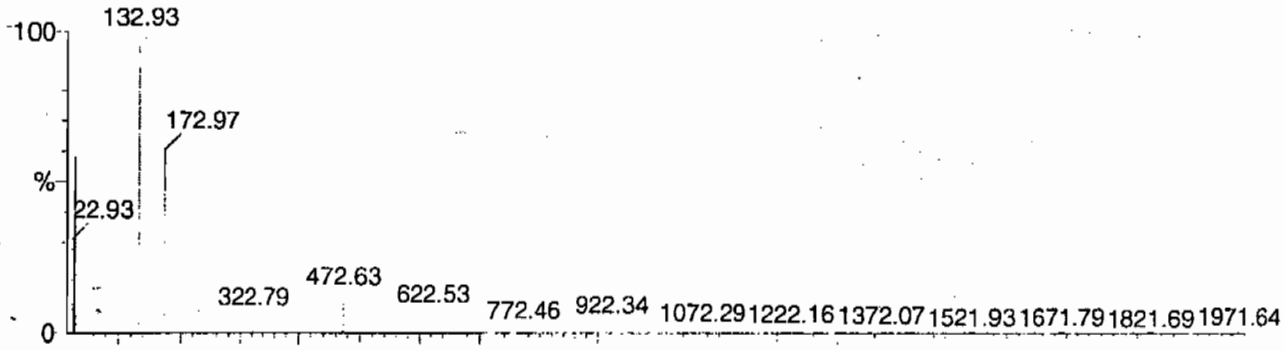
Calibration Report - MS1 Static

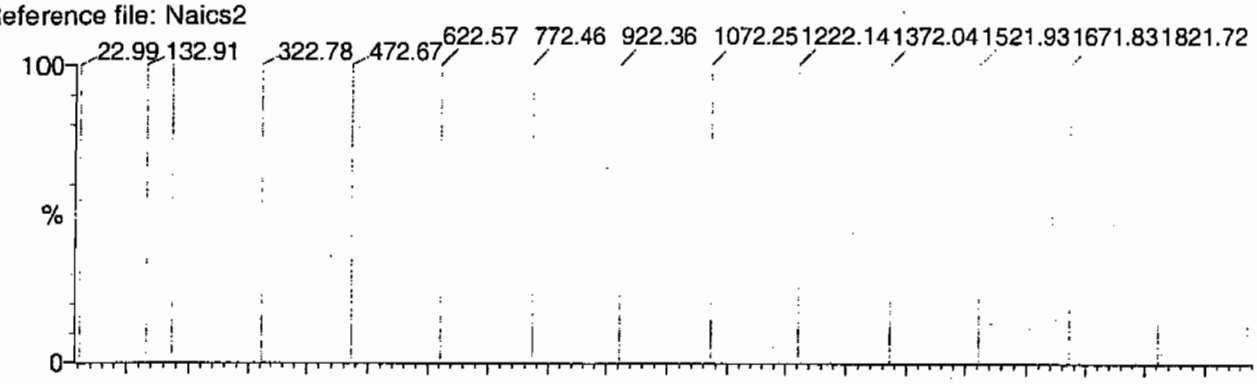
Printed: Fri Aug 25 10:50:01 2006

Data file: STATMS1 - Calibrated

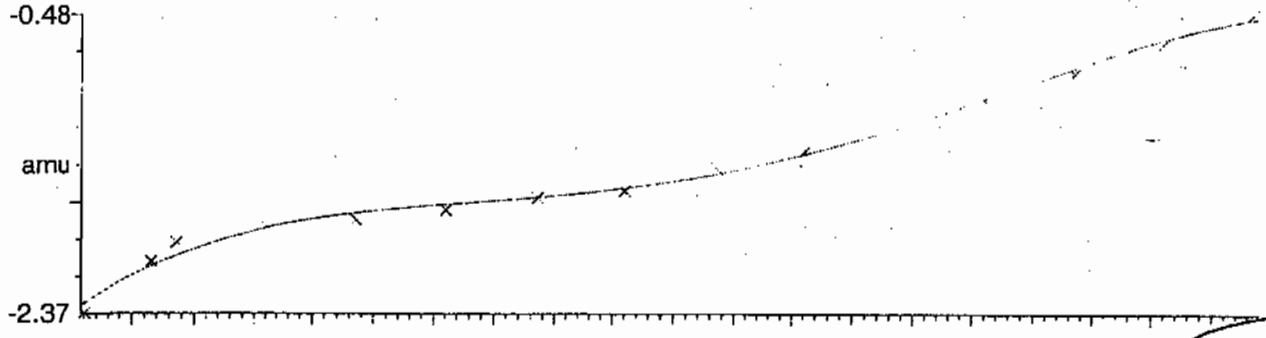
15 matches of 15 tested references



Reference file: Naics2



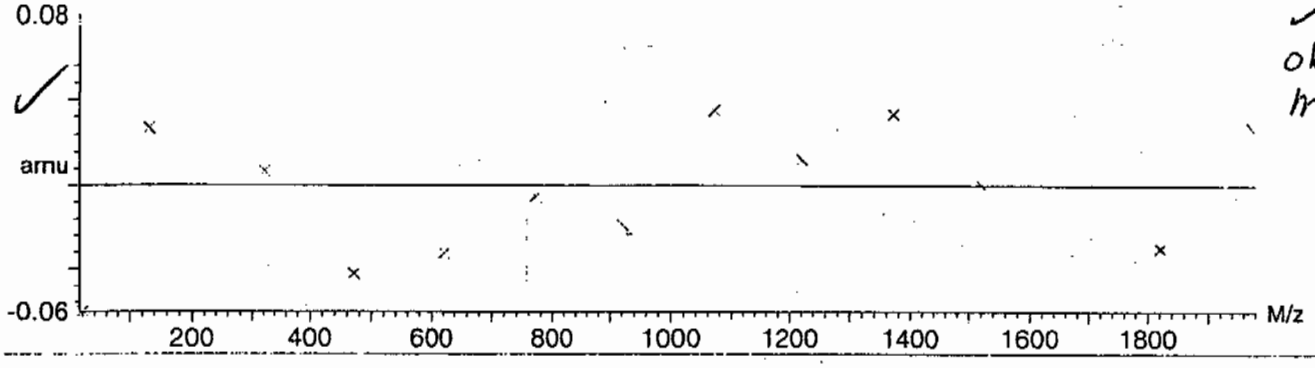
Mass difference (Raw - Ref mass)



Residuals

Mean residual = -1.673470e-9 ± 0.036953

ok
hm



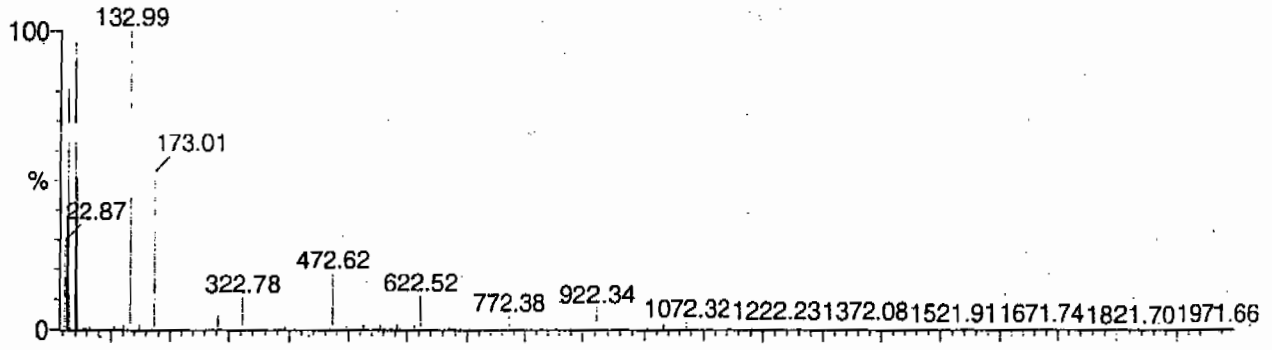
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Calibration Report - MS1 Scanning

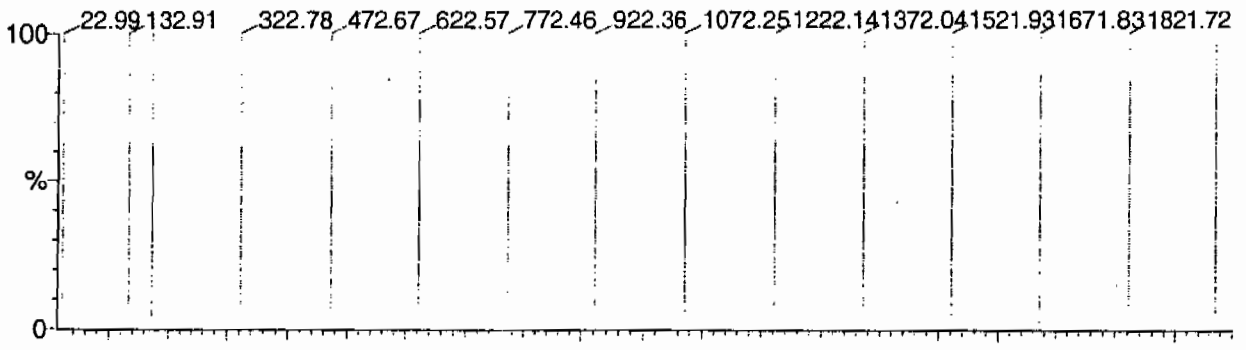
Printed: Fri Aug 25 10:51:06 2006

Data file: SCNMS1 - Calibrated

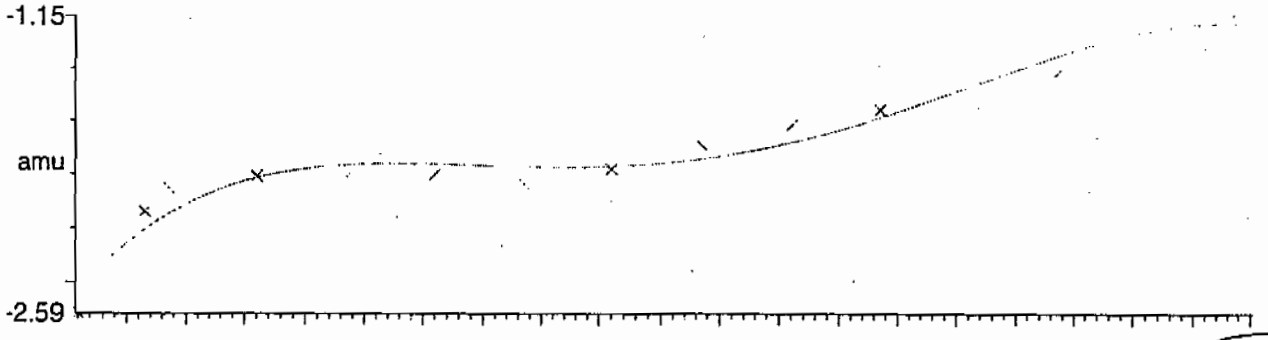
15 matches of 15 tested references



Reference file: Naics2



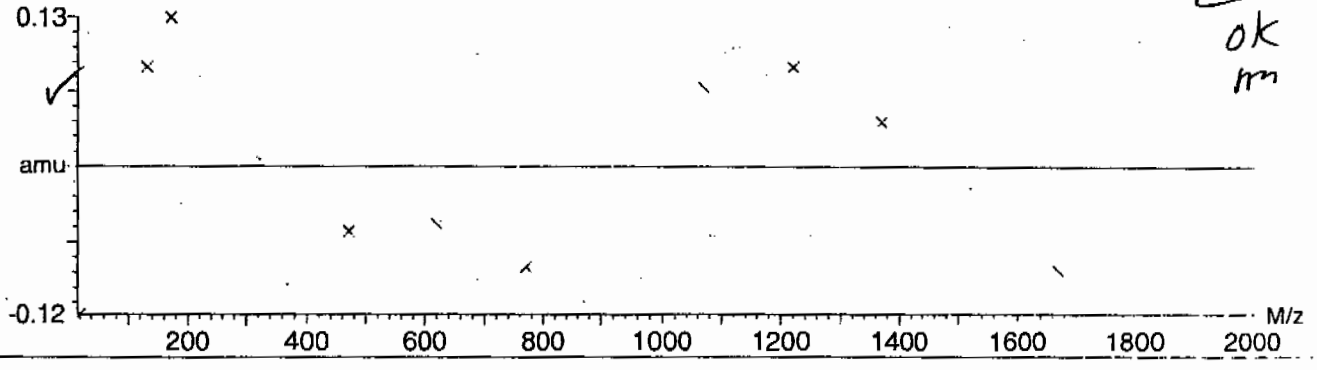
Mass difference (Raw - Ref mass)



Residuals

Mean residual = -5.432715e-9 ± 0.069858

ok
m



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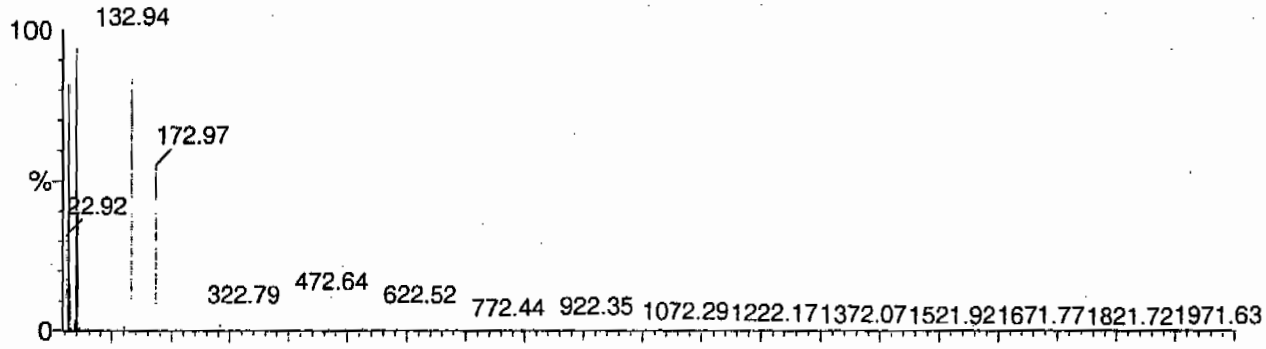
Calibration Report - MS1 Scan Speed Compensation

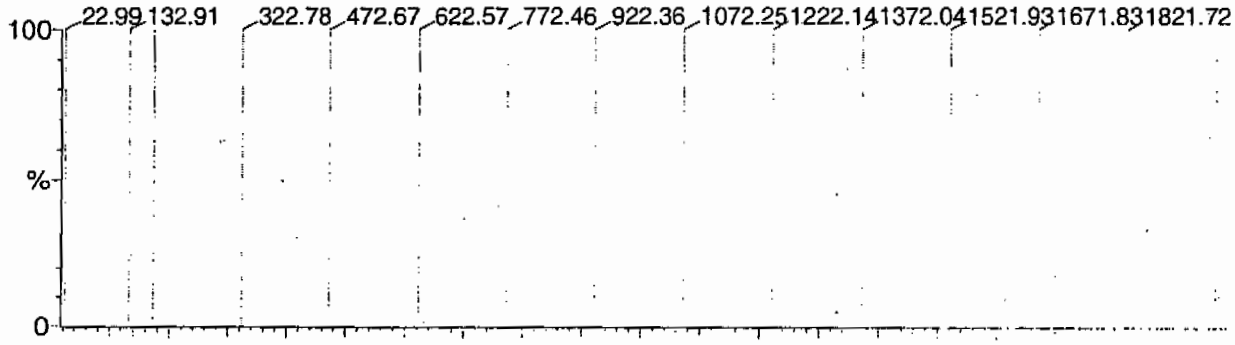
Printed: Fri Aug 25 10:52:01 2006

Data file: FASTMS1 - Calibrated

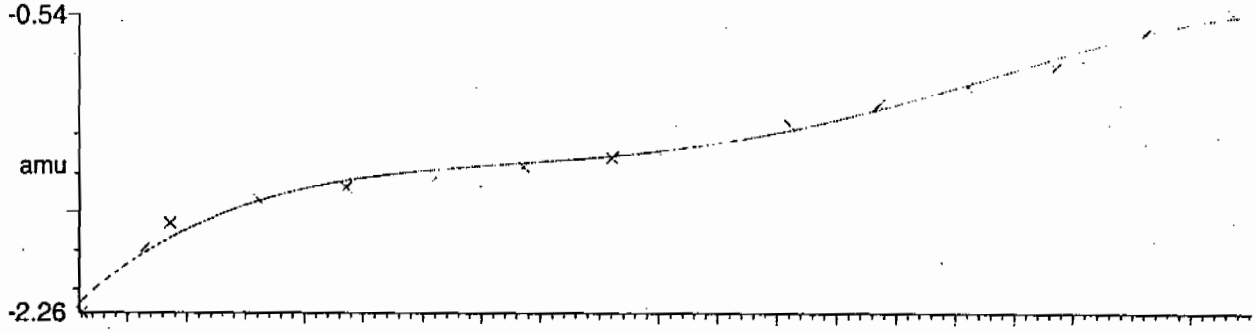
15 matches of 15 tested references



Reference file: Naics2

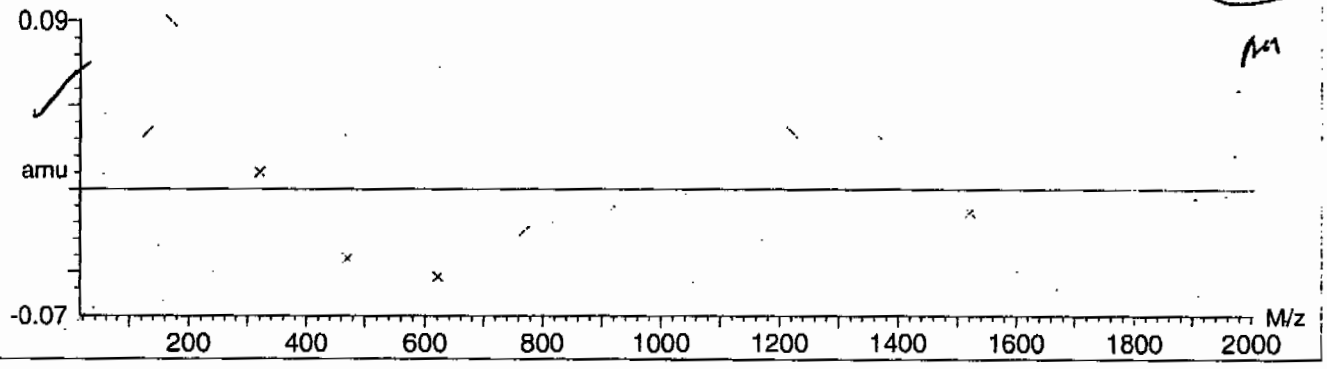


Mass difference (Raw - Ref mass)



Residuals

Mean residual = 3.486639e-9 ± 0.040487



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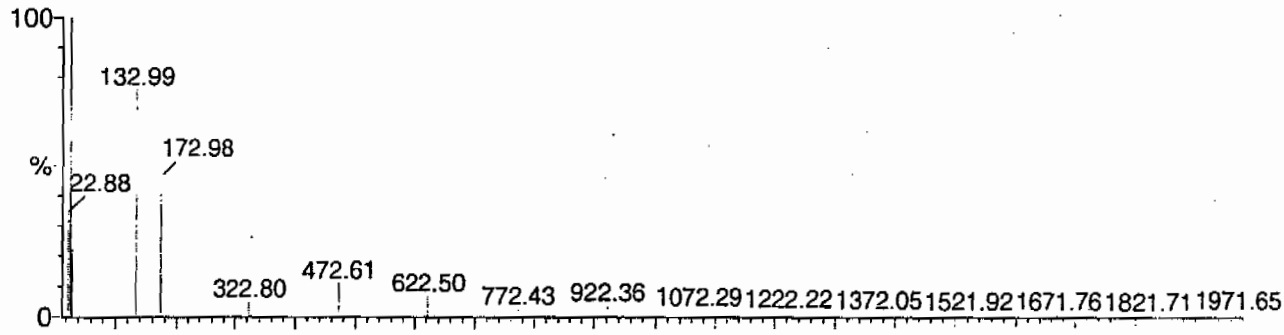
Calibration Report - MS2 Static

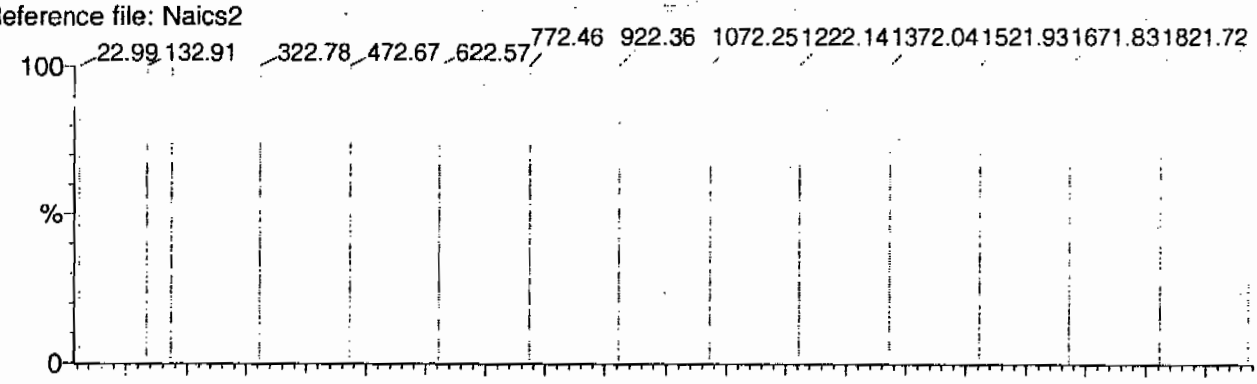
Printed: Fri Aug 25 10:52:54 2006

Data file: STATMS2 - Calibrated

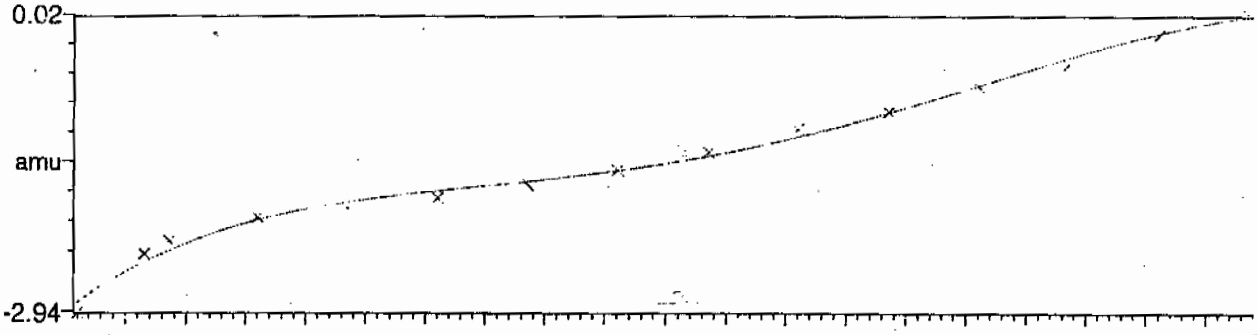
15 matches of 15 tested references



Reference file: Naics2

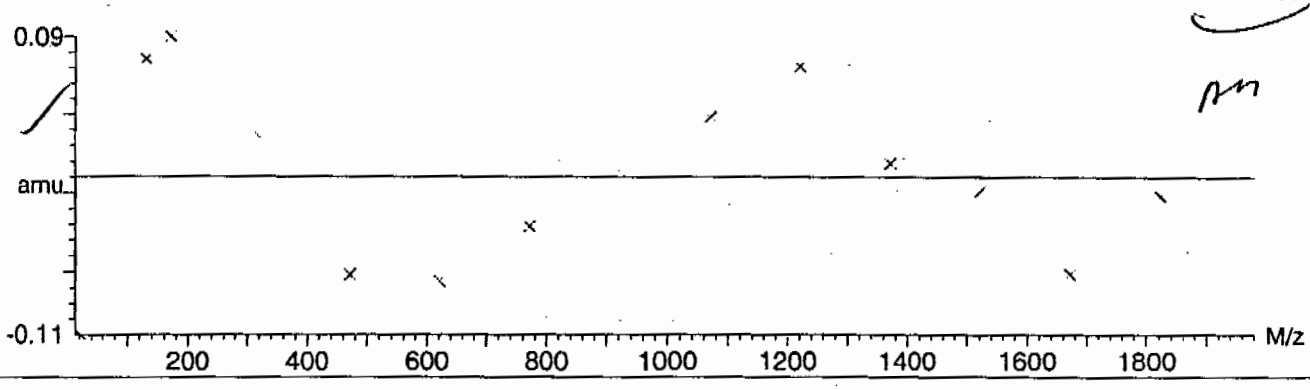


Mass difference (Raw - Ref mass)



Residuals

Mean residual = 2.048910e-9 ± 0.057803



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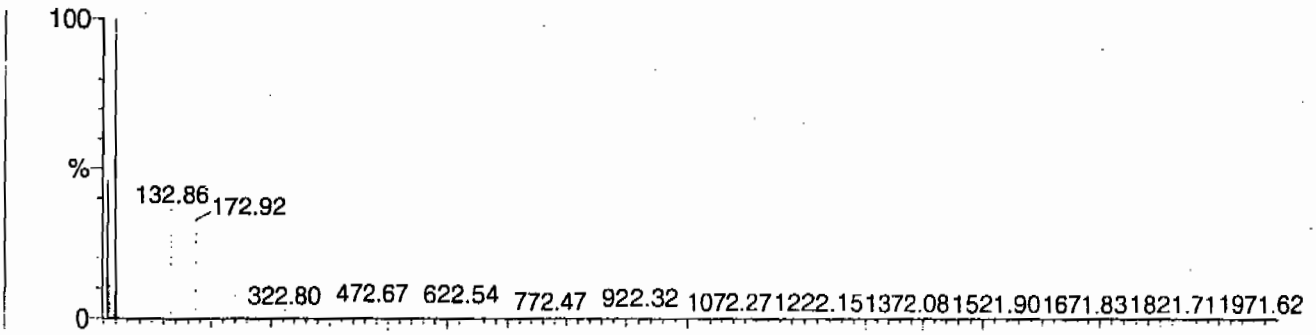
Calibration Report - MS2 Scanning

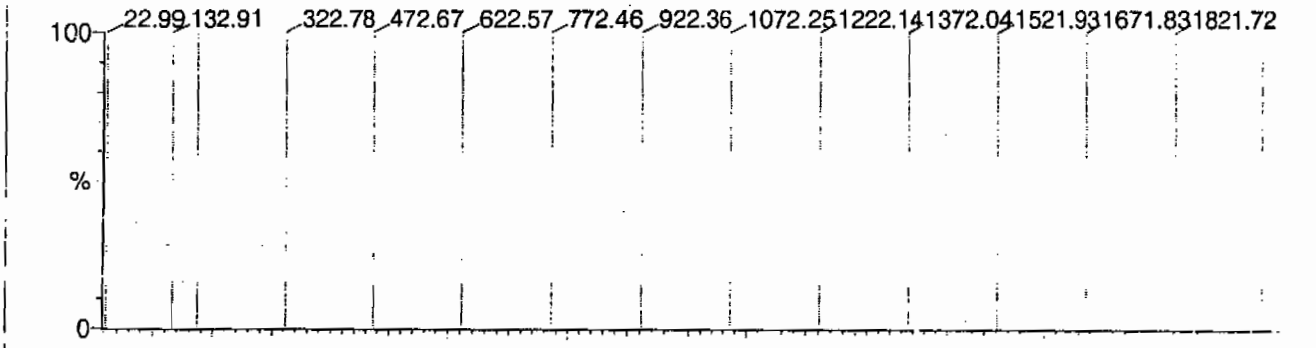
Printed: Fri Aug 25 10:54:00 2006

Data file: SCNMS2 - Calibrated

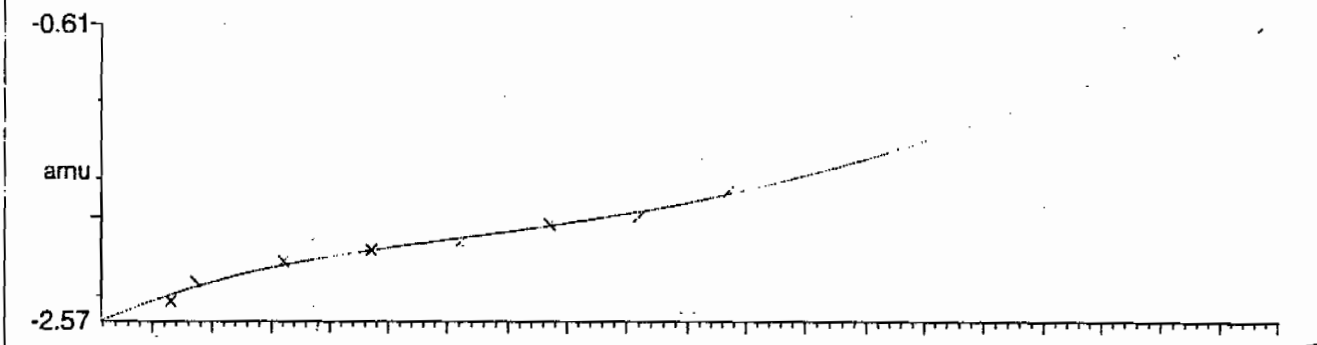
14 matches of 15 tested references



Reference file: Naics2

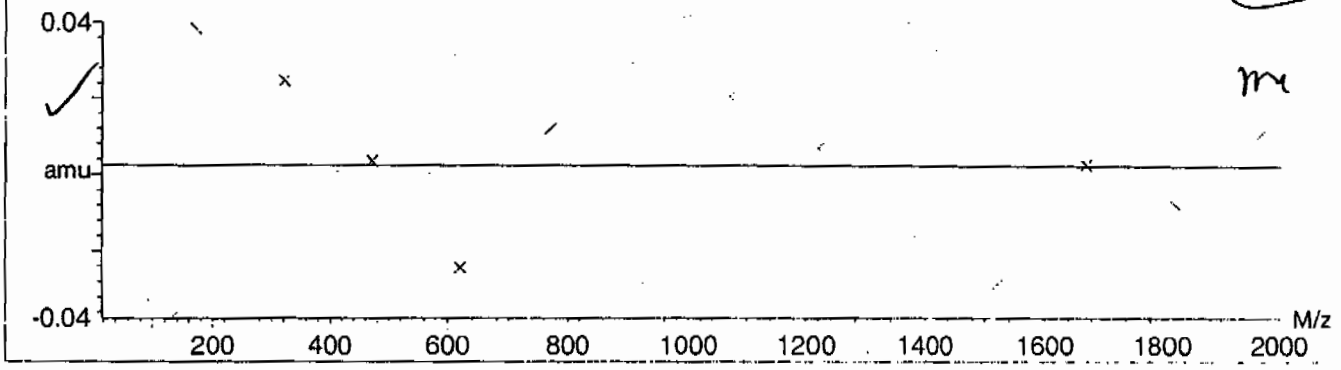


Mass difference (Raw - Ref mass)



Residuals

Mean residual = -2.623502e-9 ± 0.025622



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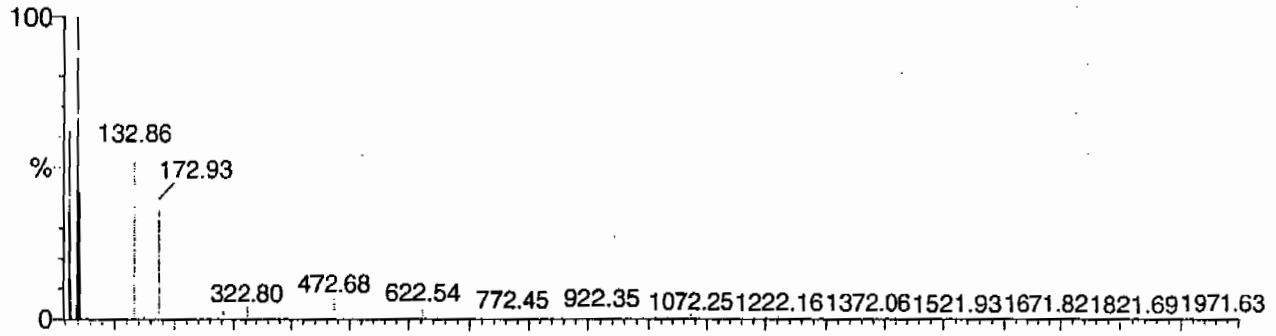
Calibration Report - MS2 Scan Speed Compensation

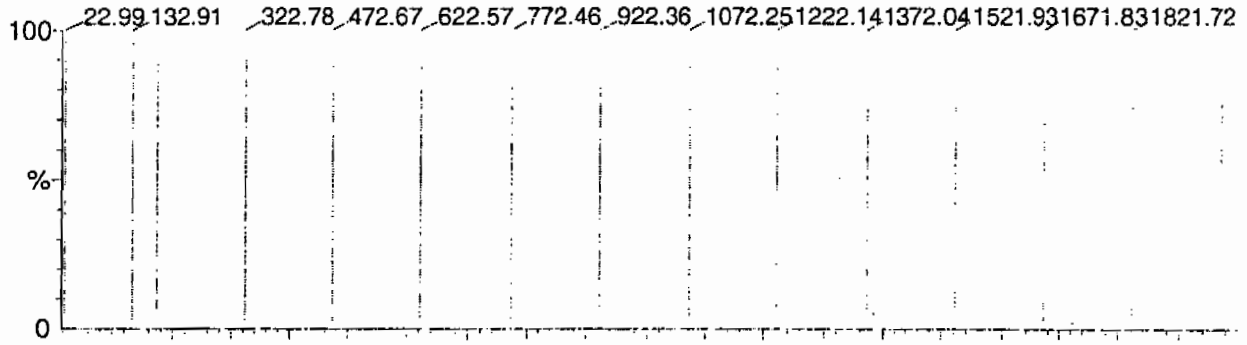
Printed: Fri Aug 25 10:54:54 2006

Data file: FASTMS2 - Calibrated

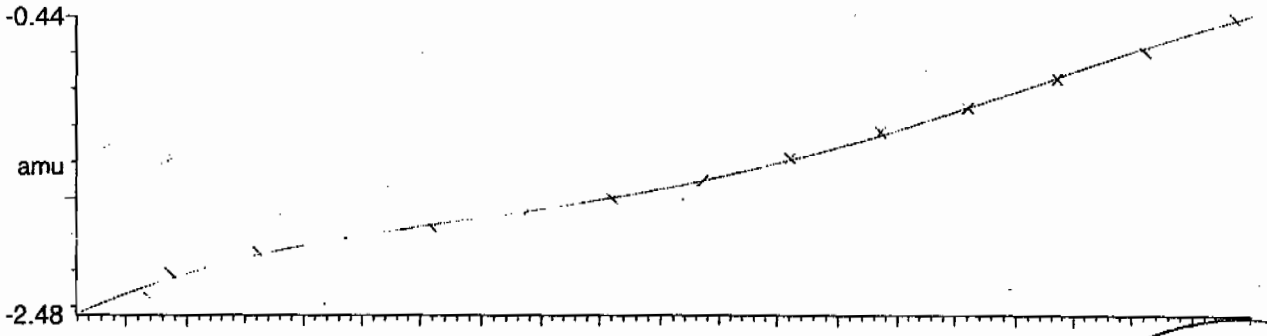
14 matches of 15 tested references



Reference file: Naics2



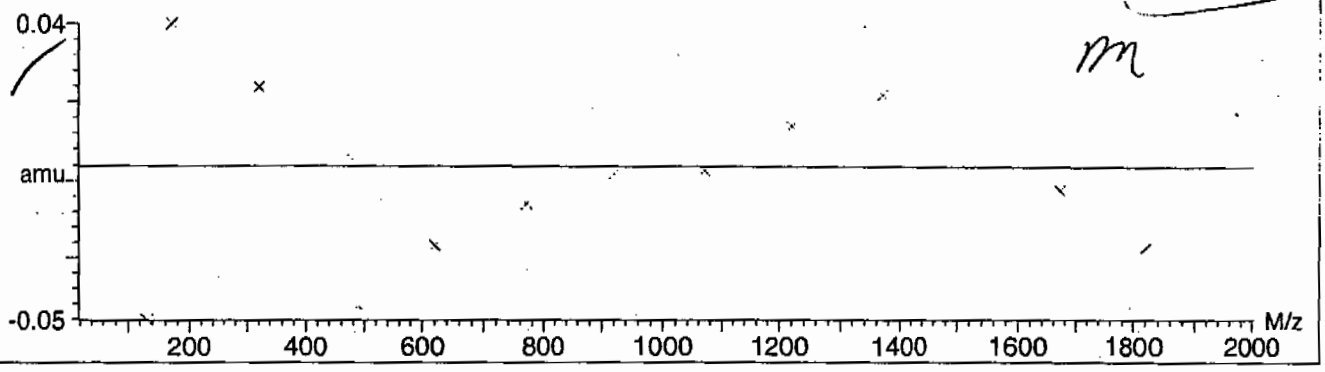
Mass difference (Raw - Ref mass)



Residuals

Mean residual = -6.785350e-9 ± 0.023134

m



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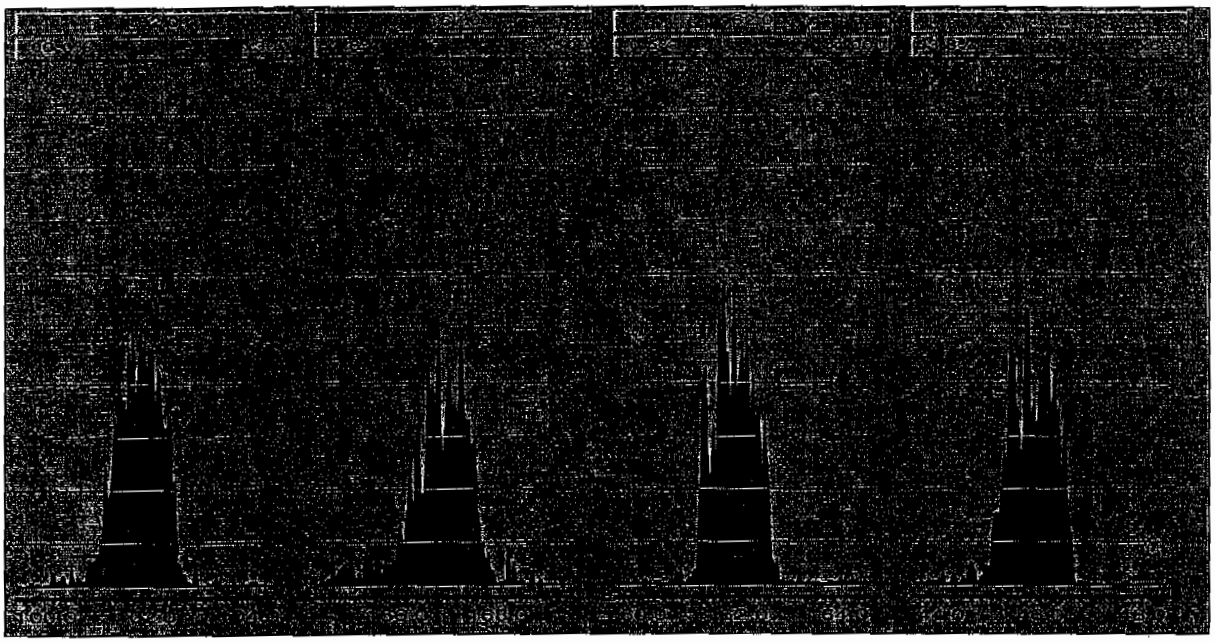
Quattro Micro Tune Parameters

Parameter File: C:\MASSLYNX\NEW_EXP.PRO\ACQUDB\explosives04.IPR

Printed : Fri Jan 15 14:52:17 2010



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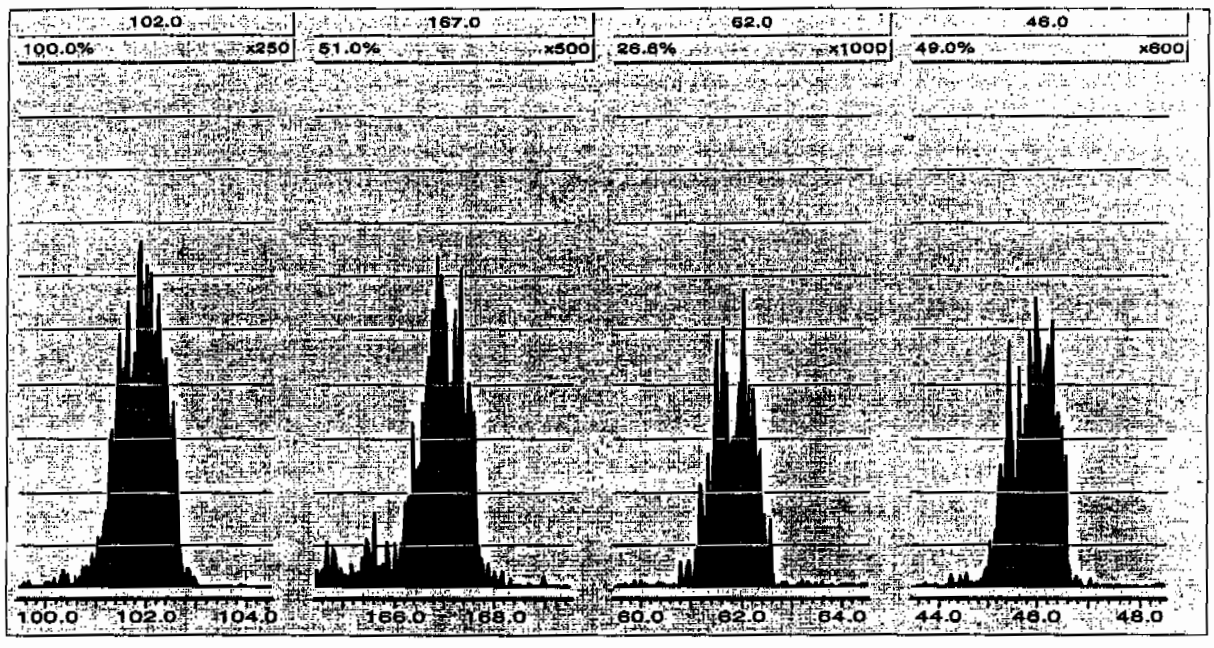
Quattro Micro Tune Parameters

Parameter File: C:\MASSLYNX\NEW_EXP.PRO\ACQUDB\explosives04.IPR

Printed : Sun Jan 17 12:12:23 2010



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8

High Explosives Internal Standard Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1032

Lab Code: GEL

HPLC Column: Phenomenex Ultracarb 5u ODS(20)

Instrument ID: LCMSMS

	Analysis Date/Time	GEL Data File	IS1 (DNB) (Area) #	RT (min) #	IS2 (DNT) (Area) #	RT2 (min) #
			2766.295	12.188	15915.55	17.621
Upper Limit			3596.1835	12.688	20690.215	18.121
Lower Limit			1936.4065	11.688	11140.885	17.121
MB for batch 936358	16-jan-10 01:13	EXP0115022a	2930.37	12.172	16597.8	17.614
LCS for batch 936358	16-jan-10 01:42	EXP0115023a	3127.02	12.173	17055	17.594
RE12-10-7580	16-jan-10 02:12	EXP0115024a	2699.13	12.174	16053.1	17.595
RE12-10-7580(243385001MS)	16-jan-10 02:41	EXP0115025a	3053.76	12.176	19471.3	17.598
RE12-10-7590	16-jan-10 03:40	EXP0115027a	3094.68	12.175	17354.1	17.597
RE12-10-7592	16-jan-10 04:10	EXP0115028a	3220.62	12.171	17510.6	17.597
RE12-10-7591	16-jan-10 04:39	EXP0115029a	3391.17	12.172	17557.2	17.617
RE12-10-7581	16-jan-10 05:09	EXP0115030a	3228.77	12.171	19239.2	17.597
RE12-10-7586	16-jan-10 05:38	EXP0115031a	2856.89	12.171	19808.3	17.619
RE12-10-7587	16-jan-10 07:36	EXP0115035a	3315.65	12.173	19908.4	17.616
RE12-10-7585	16-jan-10 08:06	EXP0115036a	3259.71	12.176	18937.1	17.62
RE12-10-7582	16-jan-10 08:35	EXP0115037a	3282.92	12.175	18677.8	17.618
RE12-10-7584	16-jan-10 09:05	EXP0115038a	3067.48	12.169	16451.1	17.595
RE12-10-7583	16-jan-10 09:34	EXP0115039a	2775.64	12.171	16037.2	17.619

	Analysis Date/Time	GEL Data File	IS1 (DNB) (Area) #	RT (min) #	IS2 (DNT) (Area) #	RT2 (min) #
			3335.503	12.149	18790.1	17.573
Upper Limit			4336.1539	12.649	24427.13	18.073
Lower Limit			2334.8521	11.649	13153.07	17.073
RE12-10-7580(243385001MSD)	18-jan-10 00:04	EXP0117013a	3894.6	12.142	21814.6	17.575

IS1 (DNB) = 1,3-Dinitrobenzene-d4
IS2 (DNT) = 2,6-Dinitrotoluene-d3

Area Upper Limit = + 30% of average IS area from multipoint calibration
Area Lower Limit = - 30% of average IS area from multipoint calibratio

RT Upper Limit = +0.5 of average multipoint RT
RT Lower Limit = -0.5 of average multipoint RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits

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SAMPLE
DATA

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7580

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385001

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115024a

Date Analyzed: 16-JAN-10 02:12

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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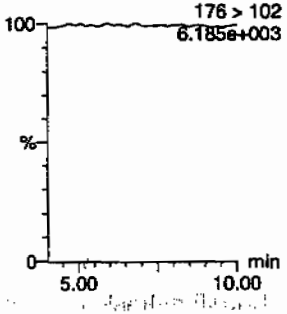
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

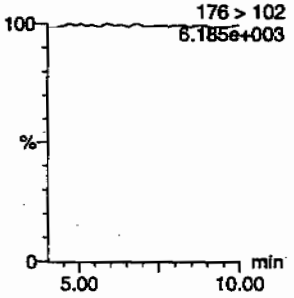
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115024a
Date: 16-Jan-2010
Time: 02:12:10
ID: 243385001 | LANL | 936359 | Soil | 21
Vial: 1:5,C

MAP 1/16/10

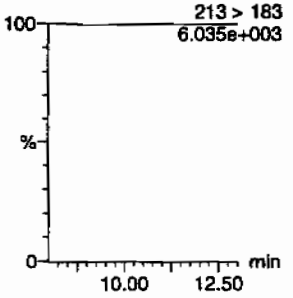
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.185e+003



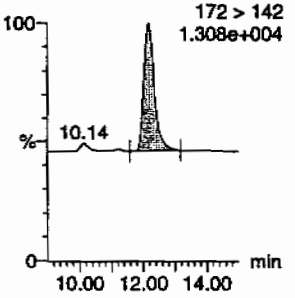
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.185e+003



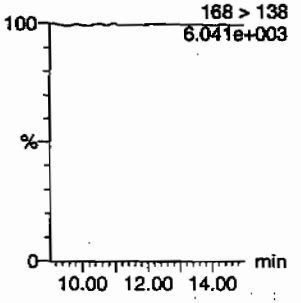
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.035e+003



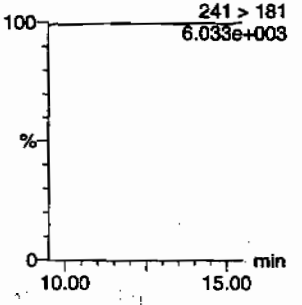
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.308e+004



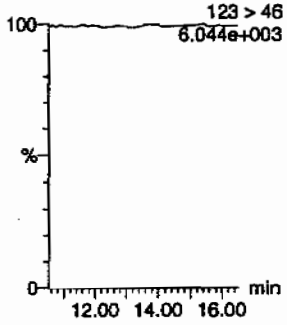
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.041e+003



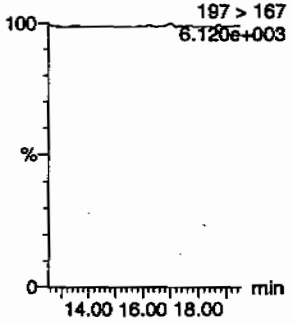
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.033e+003



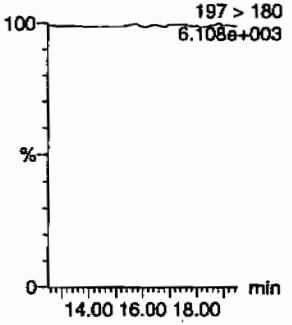
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.044e+003



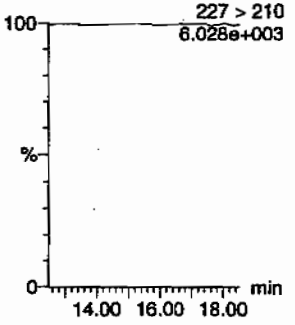
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.120e+003



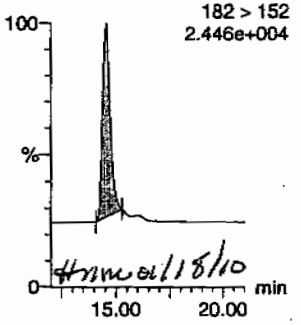
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.108e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.028e+003

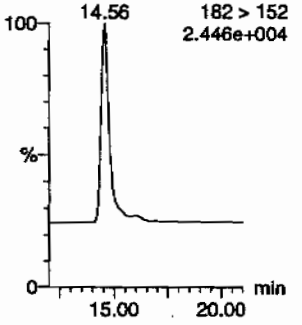


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
2.446e+004



Hmc 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
14.56
182 > 152
2.446e+004

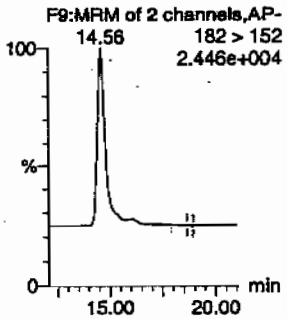


GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

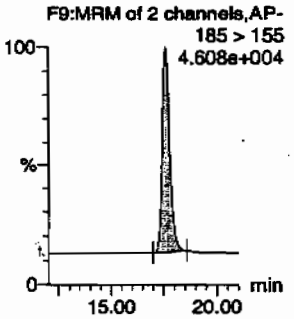
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

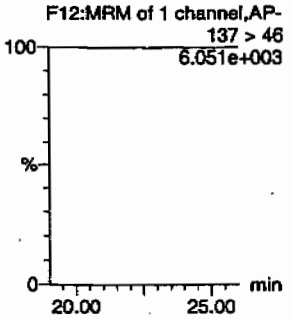
24-dinitrotoluene



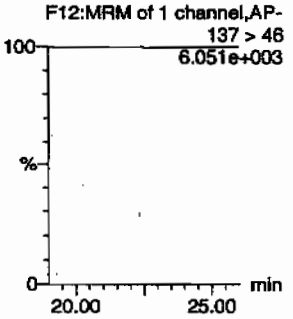
26-dinitrotoluene-d3



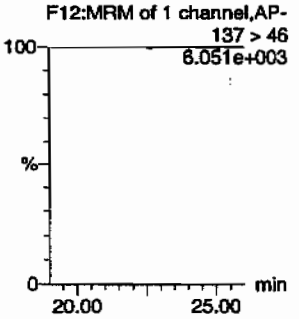
2-Nitrotoluene



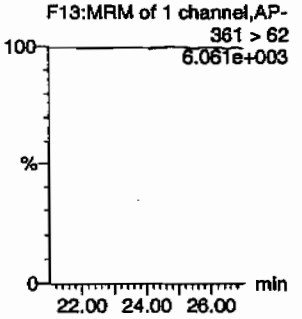
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	ISArea	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
243385001	HMX	176 > 102			2699.134									
243385001	RDX	176 > 102			2699.134									
243385001	135-Trinitrobenzene	213 > 183			2699.134									
243385001	13-Dinitrobenzene-d4	172 > 142	12.17	2699.134		2699.134	2699.134	bb			487.8611	97.6	-2.4	59.3
243385001	13-Dinitrobenzene	168 > 138			2699.134									
243385001	Tetryl	241 > 181			2699.134									
243385001	Nitrobenzene	123 > 46			2699.134									
243385001	4-Amino-26-dinitrotoluene	197 > 167			16053.120									
243385001	2-Amino-46-dinitrotoluene	197 > 180			16053.120									
243385001	246-Trinitrotoluene	227 > 210			16053.120									
243385001	34-dinitrotoluene	182 > 152	14.56	7067.649	16053.120	7067.649	220.133	bb			246.0023	98.4	-1.6	447.0
243385001	26-dinitrotoluene	182 > 152			16053.120									
243385001	24-dinitrotoluene	182 > 152			16053.120			MM-	16-Jan-10	13:35:35				
243385001	26-dinitrotoluene-d3	185 > 155	17.60	16053.120		16053.120	16053.120	bb			504.3223	100.9	0.9	1161.4
243385001	2-Nitrotoluene	137 > 46			16053.120									
243385001	4-Nitrotoluene	137 > 46			16053.120									
243385001	3-Nitrotoluene	137 > 46			16053.120									
243385001	PETN	361 > 62			16053.120									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7580

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385001

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070029.wiff

Date Analyzed: 07-JAN-10 21:35

Units: ug/kg

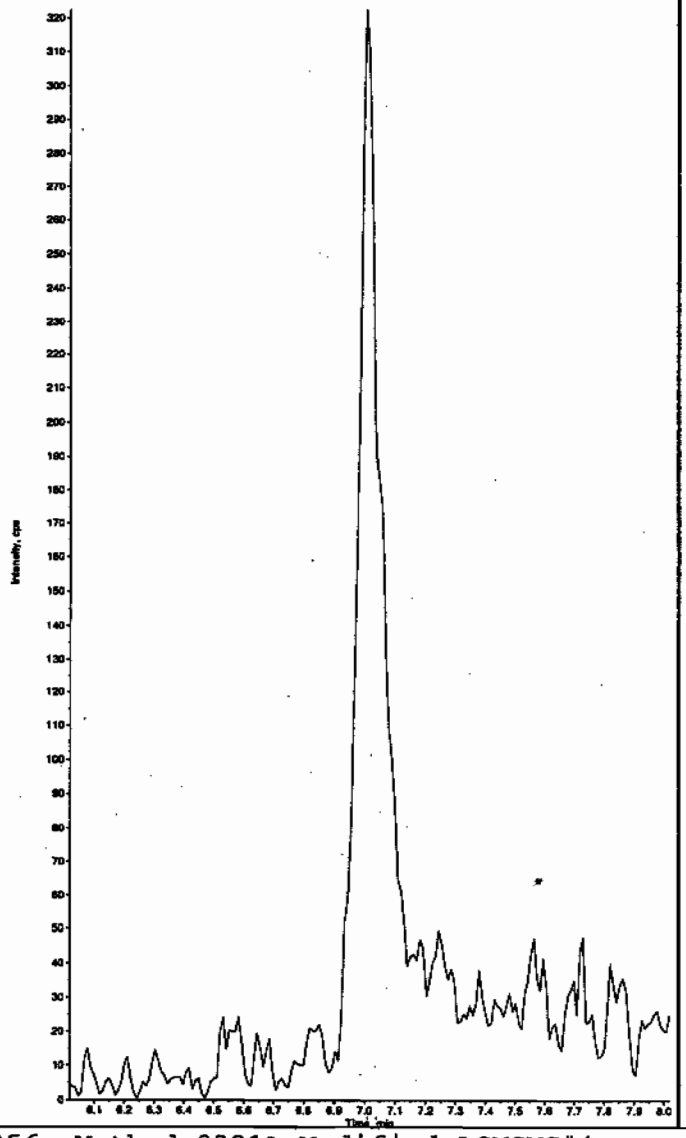
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

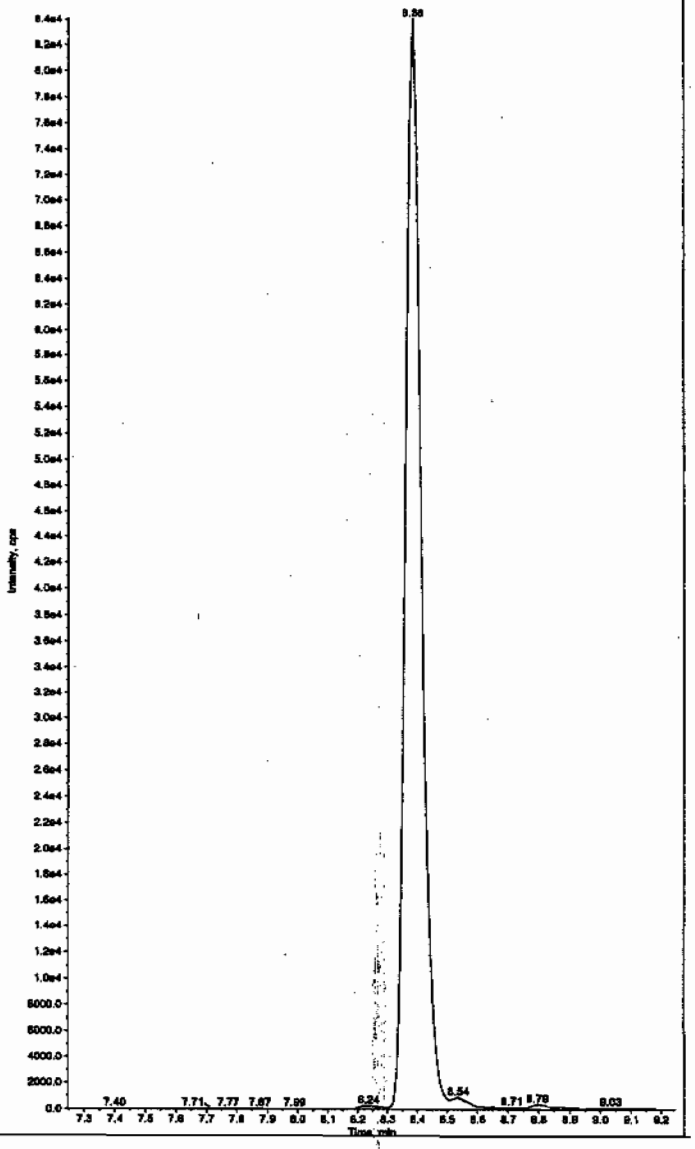
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Sar 1/8/10

Sample Name: "243385001" Sample ID: "936359|2|LER" File: "EXS01070029.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:35:11 PM
Modified: No



Sample Name: "243385001" Sample ID: "936359|2|LER" File: "EXS01070029.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:35:11 PM
Modified: No



HMK 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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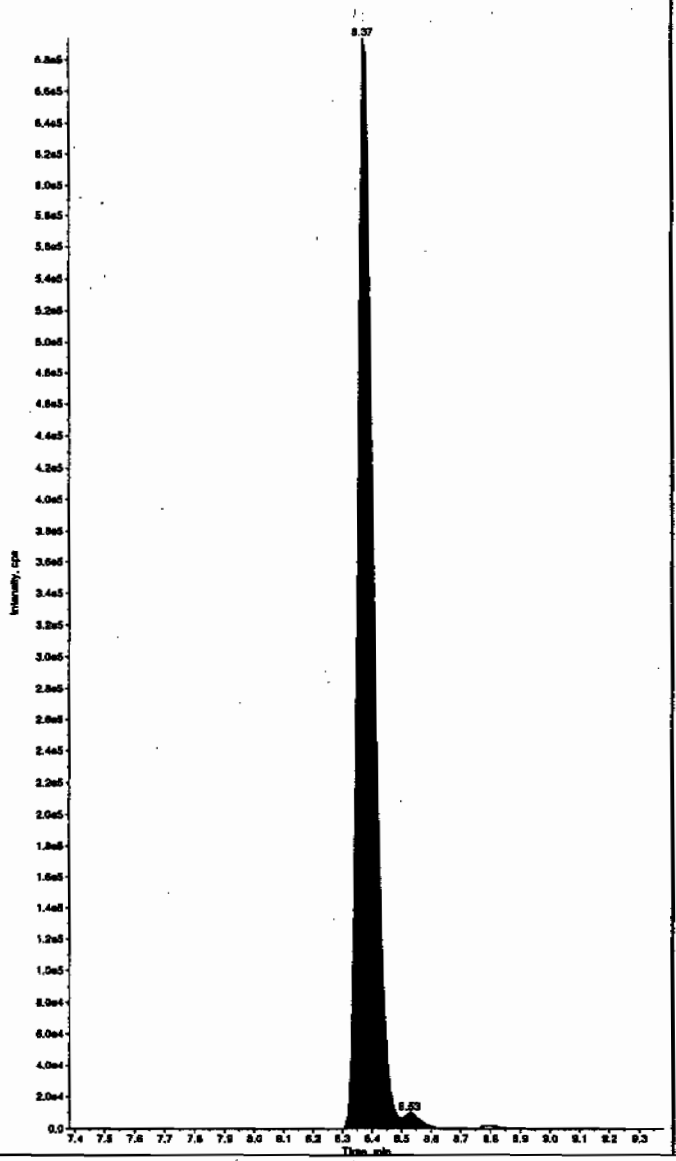
Sample Name: "243365001" Sample ID: "936359[2]LER" File: "EXS01070029.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 204. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:35:11 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

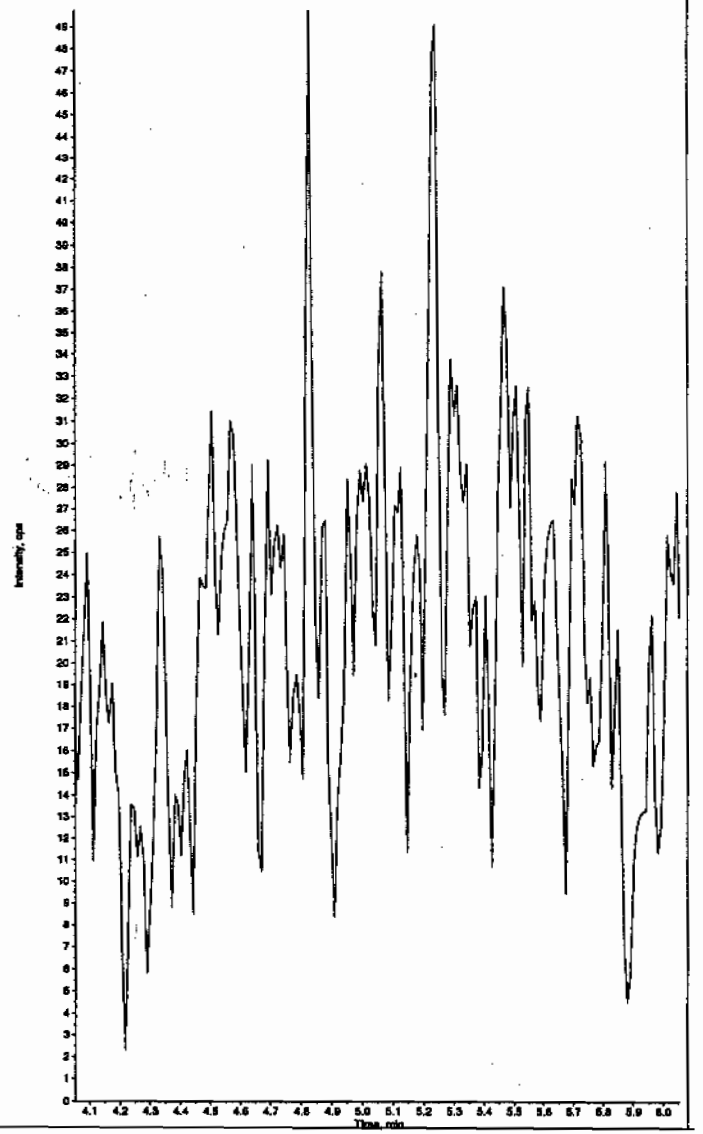
Int. Type: Valley
Retention Time: 8.37 min
Area: 2.71e+006 counts
Height: 694175.598 cps
Start Time: 8.29 min
End Time: 8.68 min



Sample Name: "243365001" Sample ID: "936359[2]LER" File: "EXS01070029.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:35:11 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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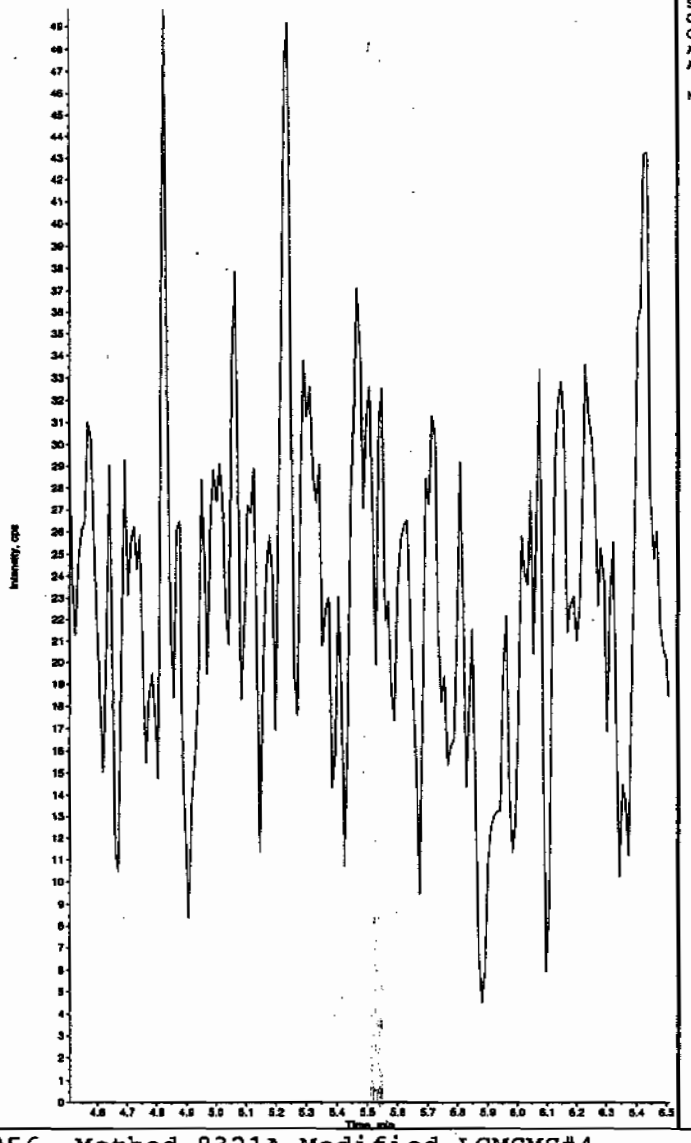
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "243385001" Sample ID: "936359[2]LER" File: "EXS01070029.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(as): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:35:11 PM

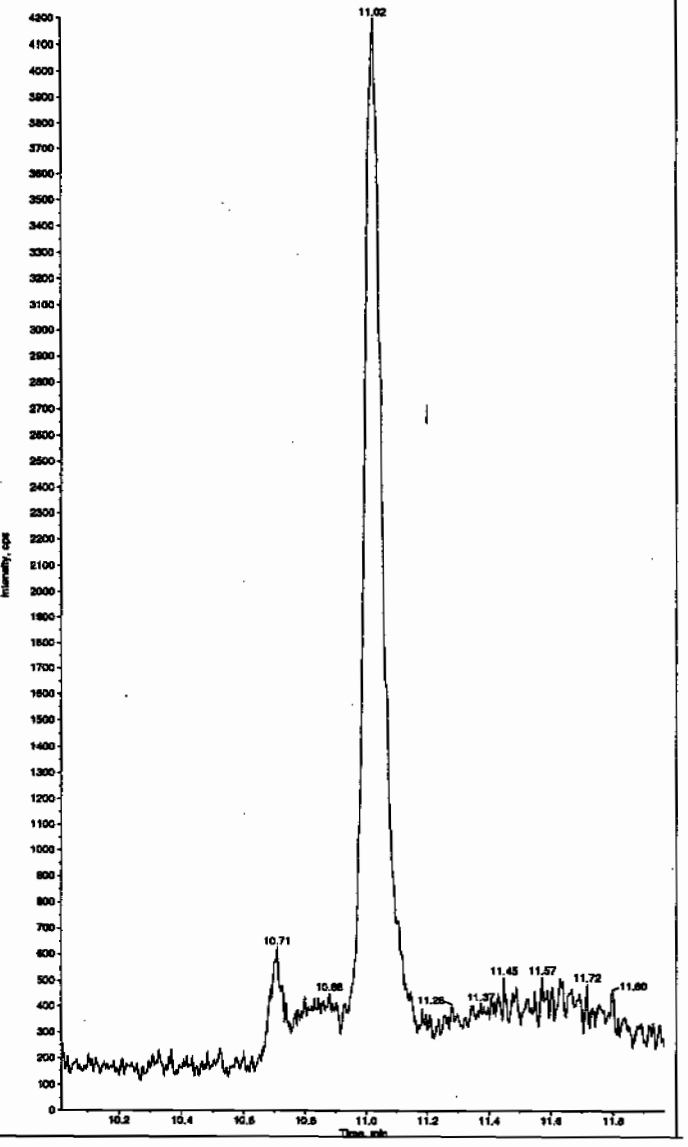
Modified: No



Sample Name: "243385001" Sample ID: "936359[2]LER" File: "EXS01070029.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(as): "368.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:35:11 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7590

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385002

Sample Amount 2

Moisture: 9.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115027a

Date Analyzed: 16-JAN-10 03:40

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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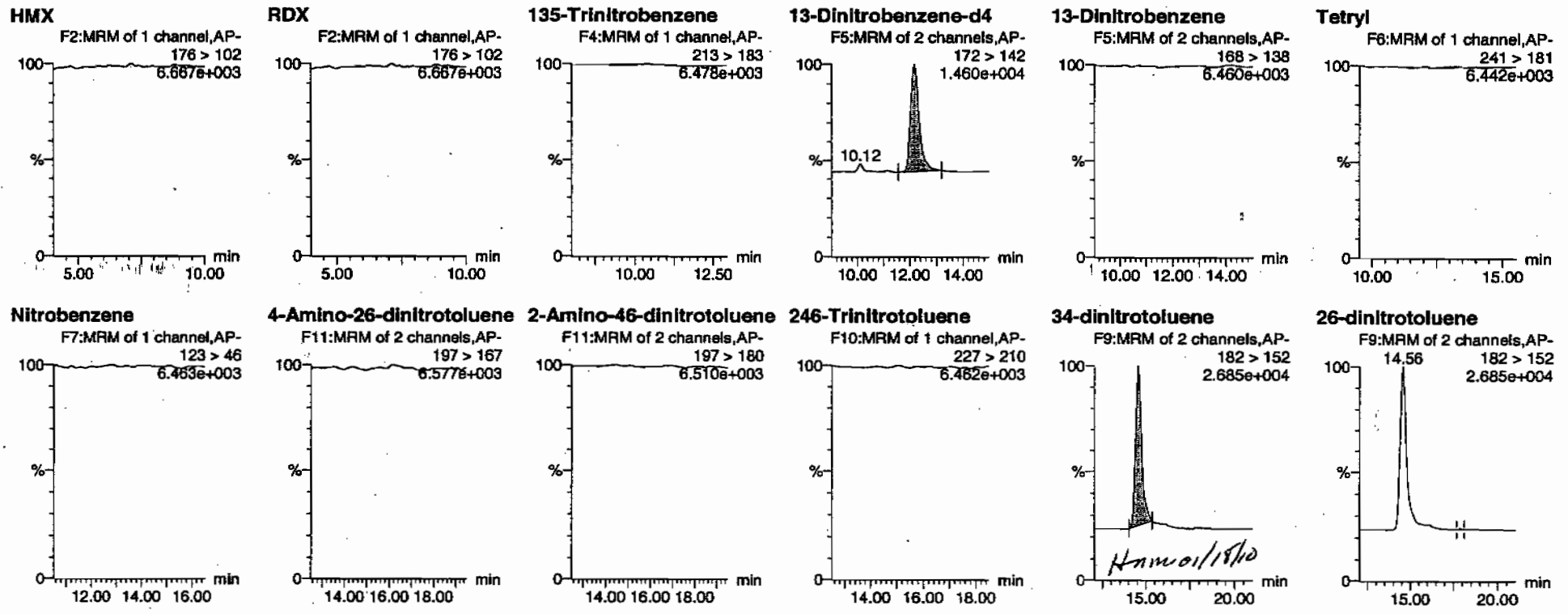
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115027a
Date: 16-Jan-2010
Time: 03:40:37
ID: 243385002
Vial: 1:5,F

LANL | 936359 | Solid | 2

MAP 1/16/10

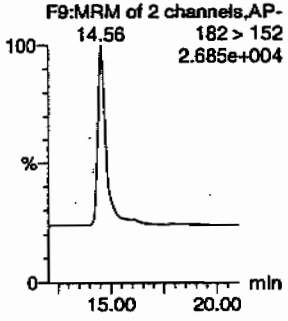


GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

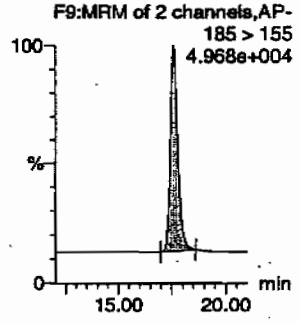
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

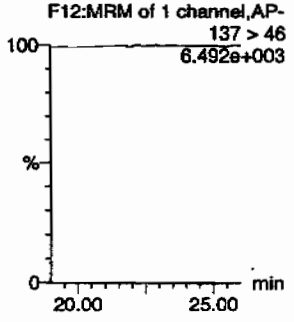
24-dinitrotoluene



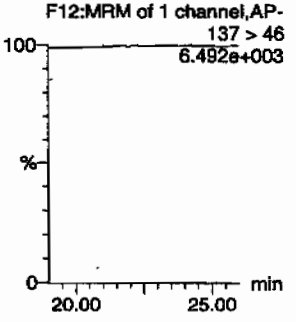
26-dinitrotoluene-d3



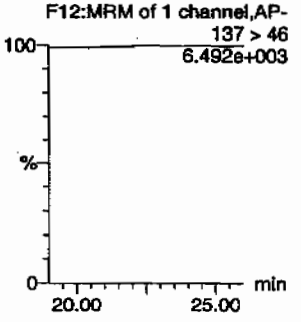
2-Nitrotoluene



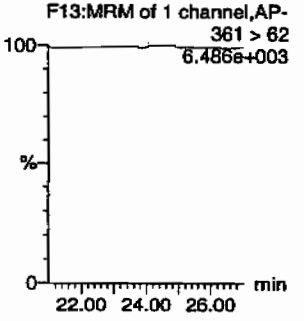
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IstArea	AbsResp	Response	Flags	ModDate	ModTime	ng/ml	%Rec	%Dev	S/N
243385002	HMX	176 > 102			3094.675									
243385002	RDX	176 > 102			3094.675									
243385002	135-Trinitrobenzene	213 > 183			3094.675									
243385002	13-Dinitrobenzene-d4	172 > 142	12.18	3094.675		3094.675	3094.675	bb			559.3541	111.9	11.9	201.7
243385002	13-Dinitrobenzene	168 > 138			3094.675									
243385002	Tetryl	241 > 181			3094.675									
243385002	Nitrobenzene	123 > 46			3094.675									
243385002	4-Amino-26-dinitrotoluene	197 > 167			17354.057									
243385002	2-Amino-46-dinitrotoluene	197 > 180			17354.057									
243385002	246-Trinitrotoluene	227 > 210			17354.057									
243385002	34-dinitrotoluene	182 > 152	14.56	8064.563	17354.057	8064.563	232.354	bb			259.6591	103.9	3.9	536.6
243385002	26-dinitrotoluene	182 > 152			17354.057			MM-	16-Jan-10	13:31:53				
243385002	24-dinitrotoluene	182 > 152			17354.057									
243385002	26-dinitrotoluene-d3	185 > 155	17.60	17354.057		17354.057	17354.057	bb			545.1924	109.0	9.0	1422.8
243385002	2-Nitrotoluene	137 > 46			17354.057									
243385002	4-Nitrotoluene	137 > 46			17354.057									
243385002	3-Nitrotoluene	137 > 46			17354.057									
243385002	PETN	361 > 62			17354.057									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7590

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385002

Sample Amount 2

Moisture: 9.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070032.wiff

Date Analyzed: 07-JAN-10 22:22

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

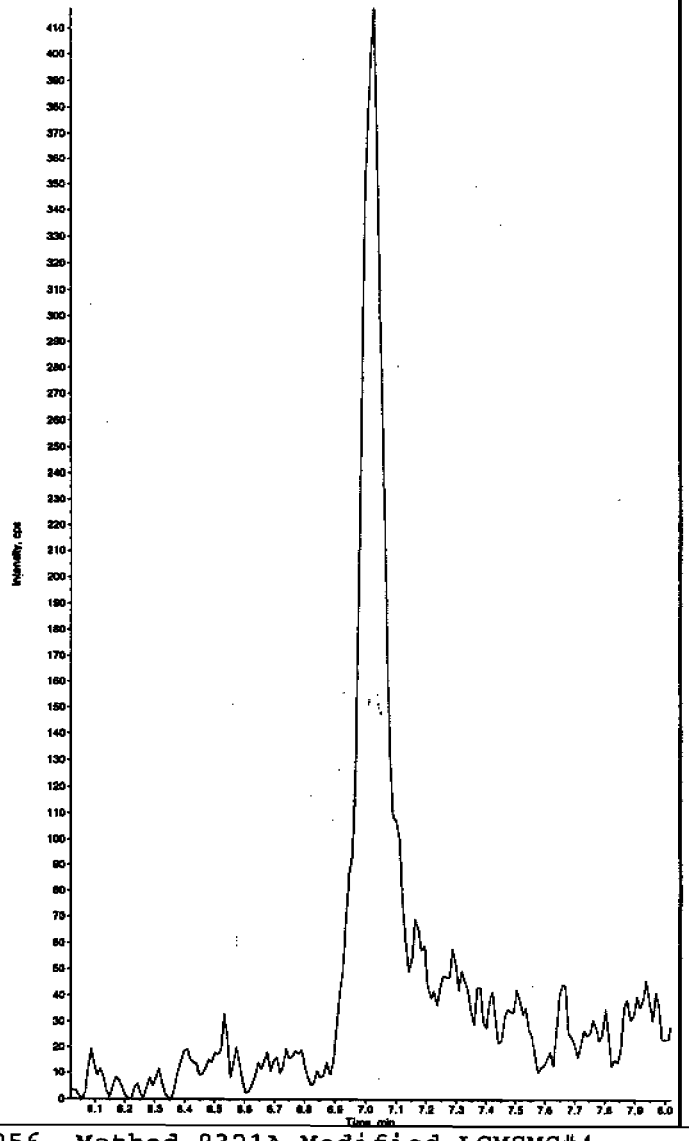
*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Lar 1/8/10

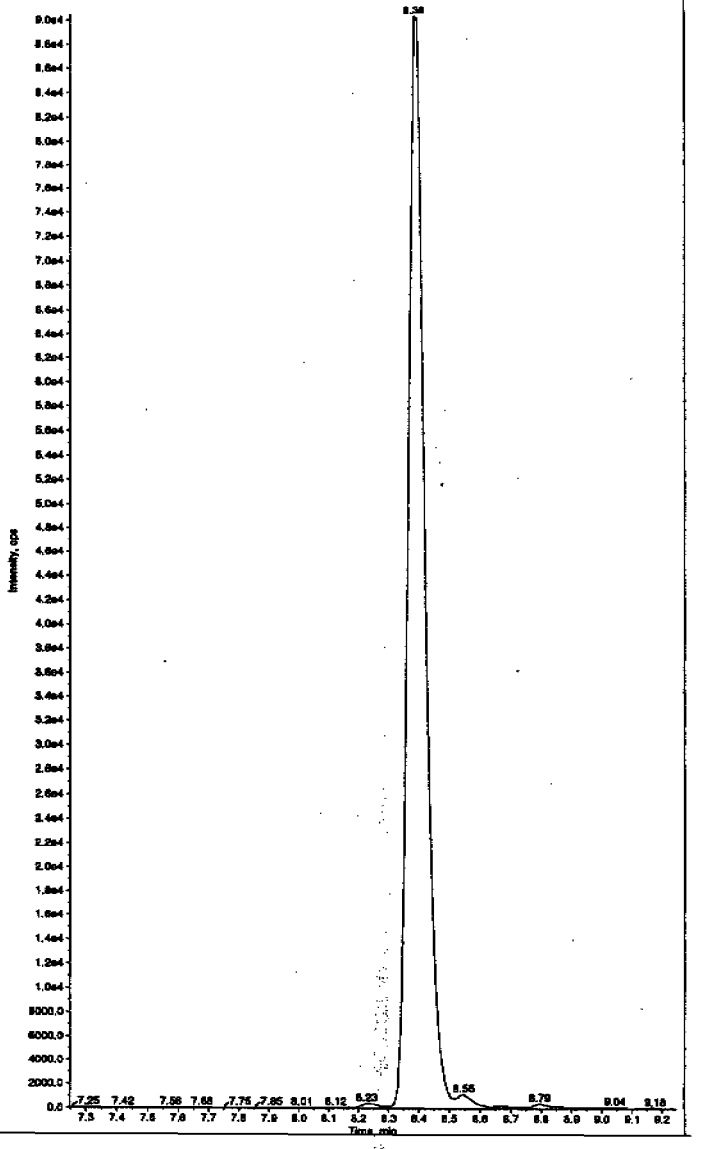
Sample Name: "243385002" Sample ID: "936359|2|LER" File: "EXS01070032.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:22:19 PM

Modified: No



Sample Name: "243385002" Sample ID: "936359|2|LER" File: "EXS01070032.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:22:19 PM

Modified: No



Hmm 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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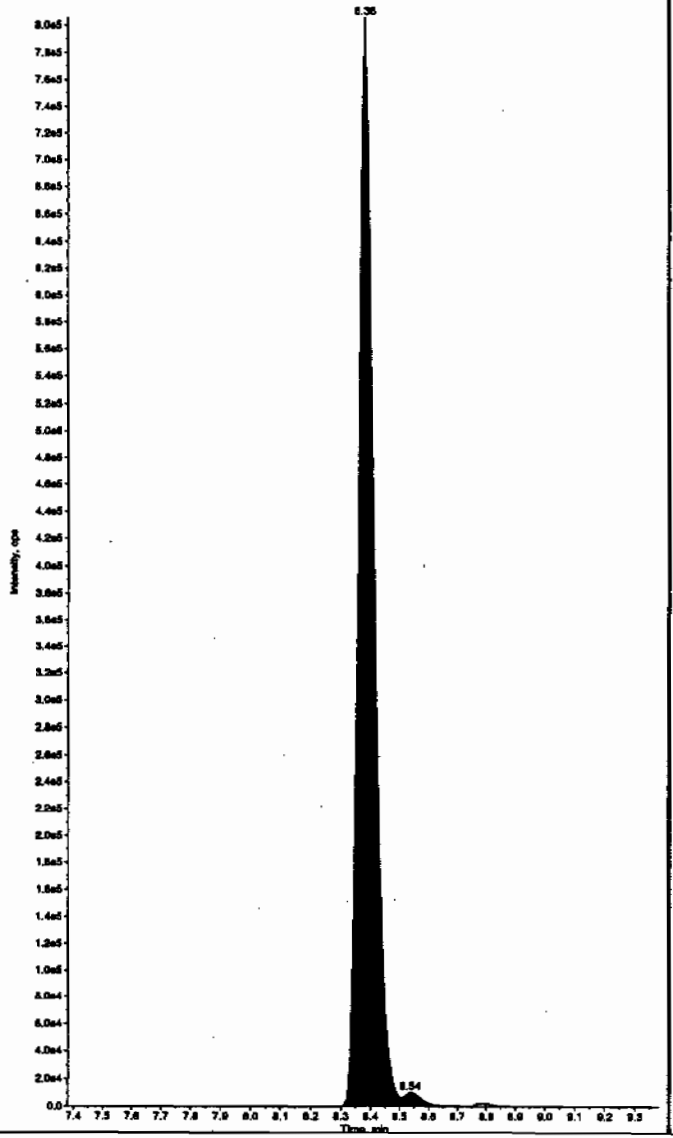
Sample Name: "243385002" Sample ID: "936359[2]LER" File: "EXS01070032.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 232. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:22:19 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

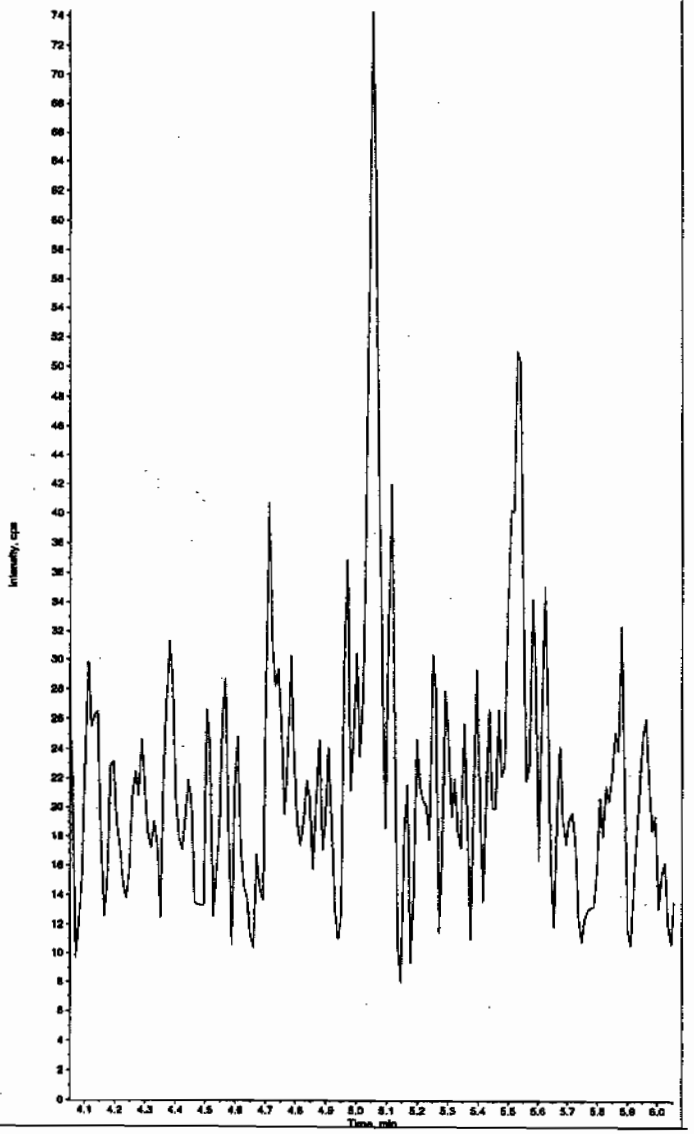
Int. Type: Valley
Retention Time: 8.38 min
Area: 3.06e+006 counts
Height: 805961.060 cps
Start Time: 8.27 min
End Time: 8.69 min



Sample Name: "243385002" Sample ID: "936359[2]LER" File: "EXS01070032.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:22:19 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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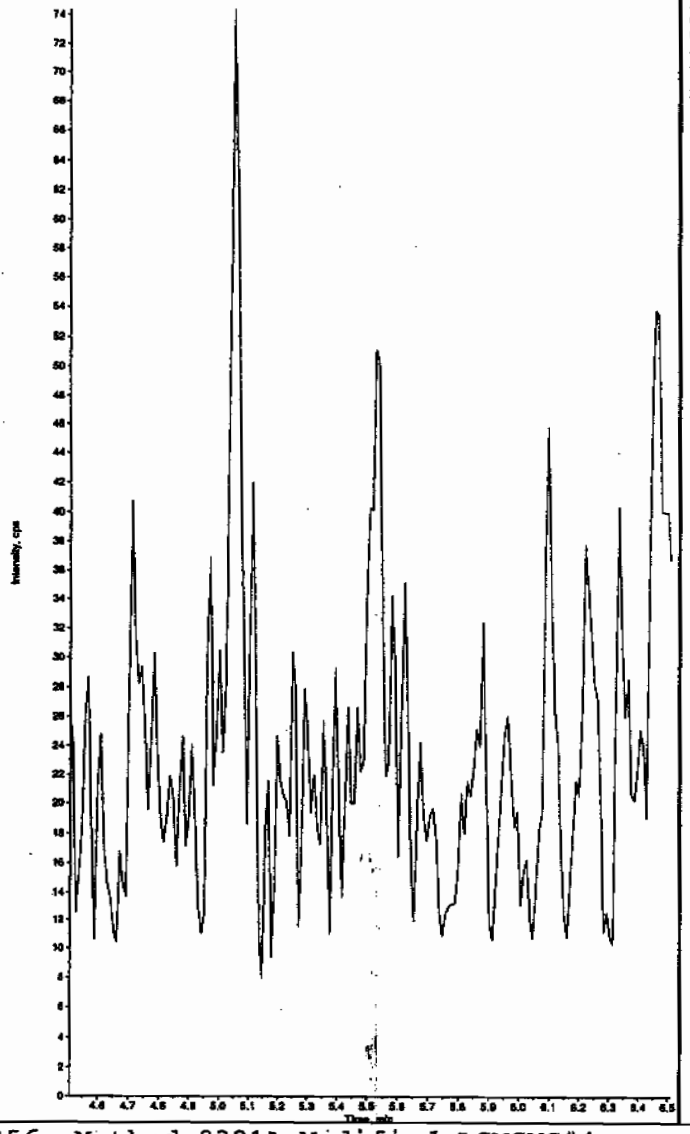
Sample Name: "243385002" Sample ID: "936359[2]LER" File: "EXS01070032.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:22:19 PM

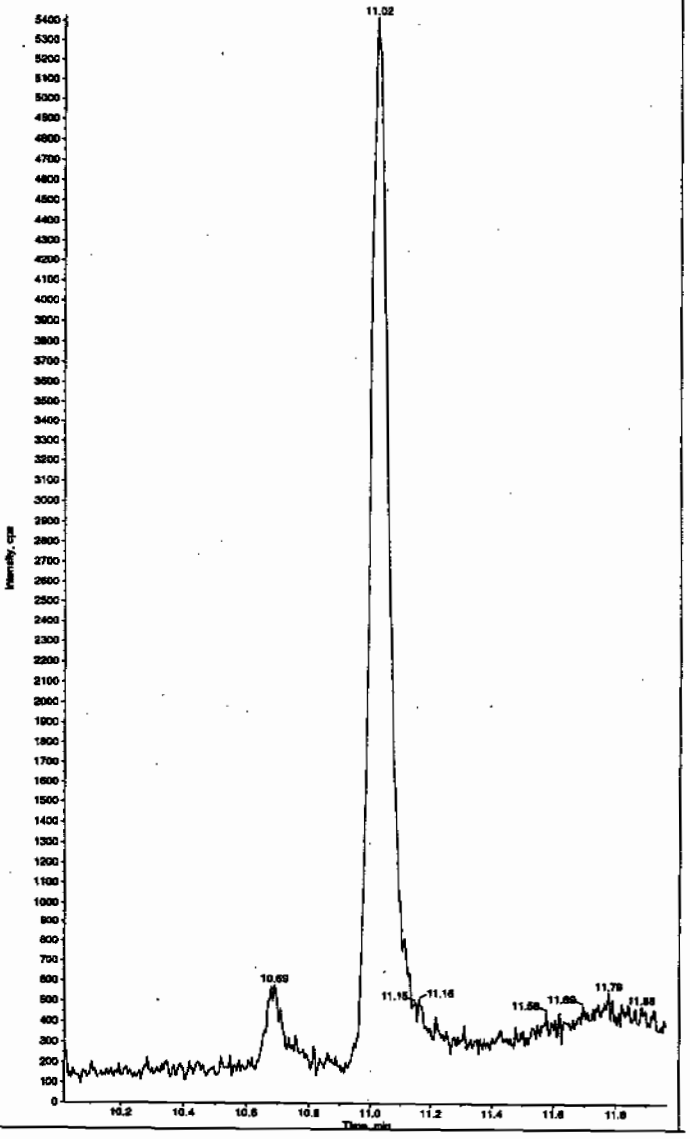
Modified: No



Sample Name: "243385002" Sample ID: "936359[2]LER" File: "EXS01070032.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:22:19 PM

Modified: No



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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7592

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385003

Sample Amount 2

Moisture: 11.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115028a

Date Analyzed: 16-JAN-10 04:10

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

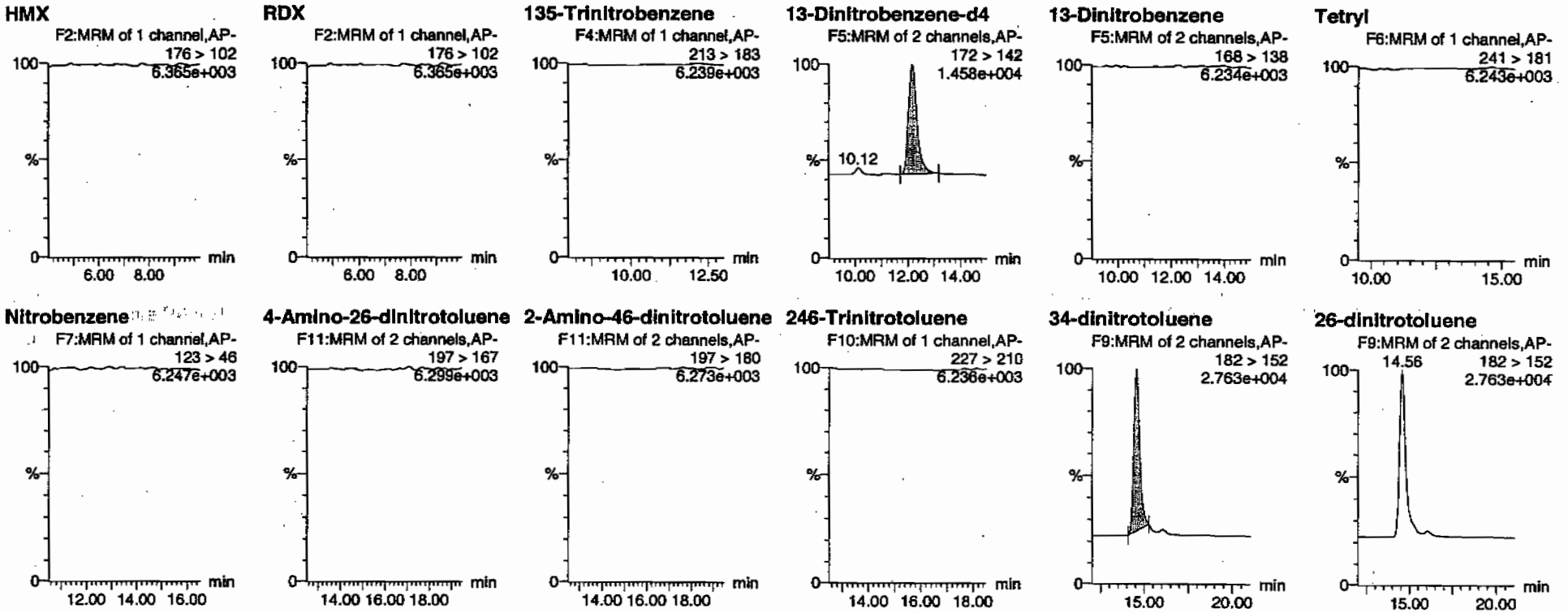
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115028a
Date: 16-Jan-2010
Time: 04:10:06
ID: 243385003
Vial: 1:6,A

| LANL | 936359 | Solids | 21

MAP 1/16/10



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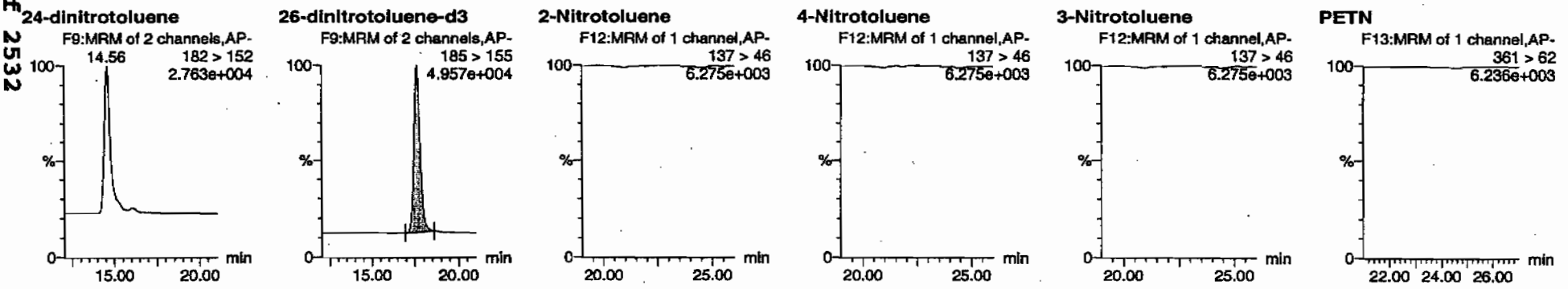
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010



ID	Name	Trace	RT	Area	IS Area	Area Resp	Response	Flag	Modifier	Modtime	Conc/Amt	%Dev	%Dev	S/N
243385003	HMX	176 > 102			3220.618									
243385003	RDX	176 > 102			3220.618									
243385003	135-Trinitrobenzene	213 > 183			3220.618									
243385003	13-Dinitrobenzene-d4	172 > 142	12.17	3220.618		3220.618	3220.618	bb			582.1179	116.4	16.4	330.0
243385003	13-Dinitrobenzene	168 > 138			3220.618									
243385003	Tetryl	241 > 181			3220.618									
243385003	Nitrobenzene	123 > 46			3220.618									
243385003	4-Amino-26-dinitrotoluene	197 > 167			17510.576									
243385003	2-Amino-46-dinitrotoluene	197 > 180			17510.576									
243385003	246-Trinitrotoluene	227 > 210			17510.576									
243385003	34-dinitrotoluene	182 > 152	14.56	8100.602	17510.576	8100.602	231.306	bb			258.4881	103.4	3.4	539.3
243385003	26-dinitrotoluene	182 > 152			17510.576									
243385003	24-dinitrotoluene	182 > 152			17510.576									
243385003	26-dinitrotoluene-d3	185 > 155	17.60	17510.576		17510.576	17510.576	bb			550.1095	110.0	10.0	2514.9
243385003	2-Nitrotoluene	137 > 46			17510.576									
243385003	4-Nitrotoluene	137 > 46			17510.576									
243385003	3-Nitrotoluene	137 > 46			17510.576									
243385003	PETN	361 > 62			17510.576									

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7592

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385003

Sample Amount 2

Moisture: 11.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070033.wiff

Date Analyzed: 07-JAN-10 22:38

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

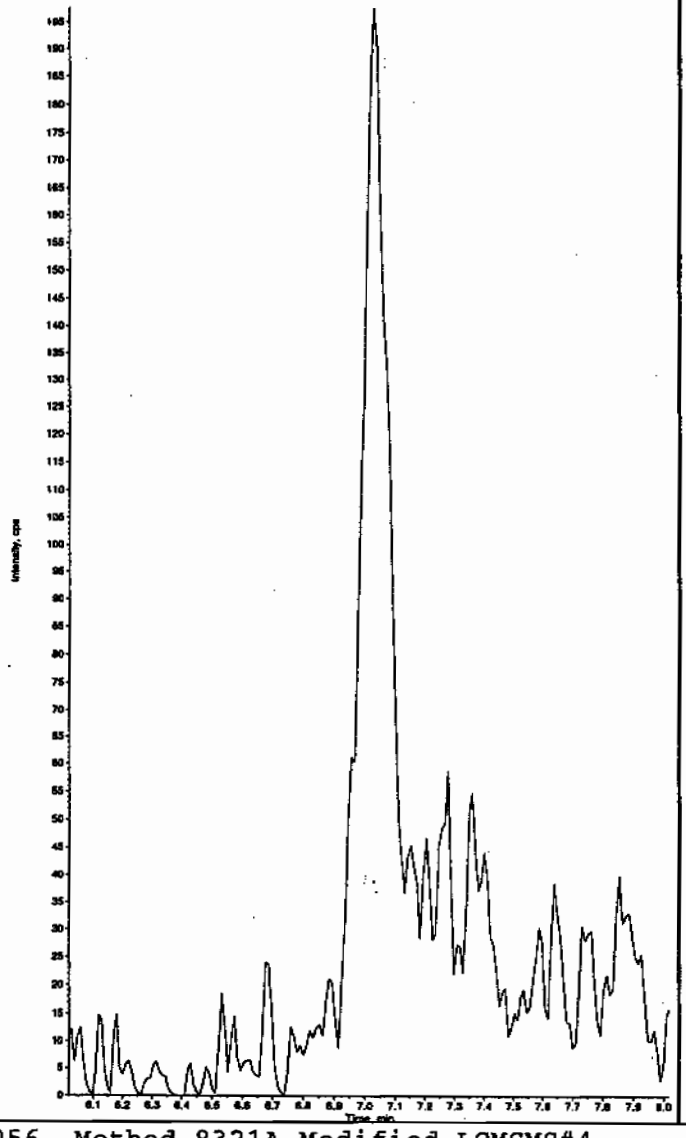
*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Dan 1/8/10

Sample Name: "243385003" Sample ID: "936359[2]LER" File: "EXS01070033.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:38:00 PM

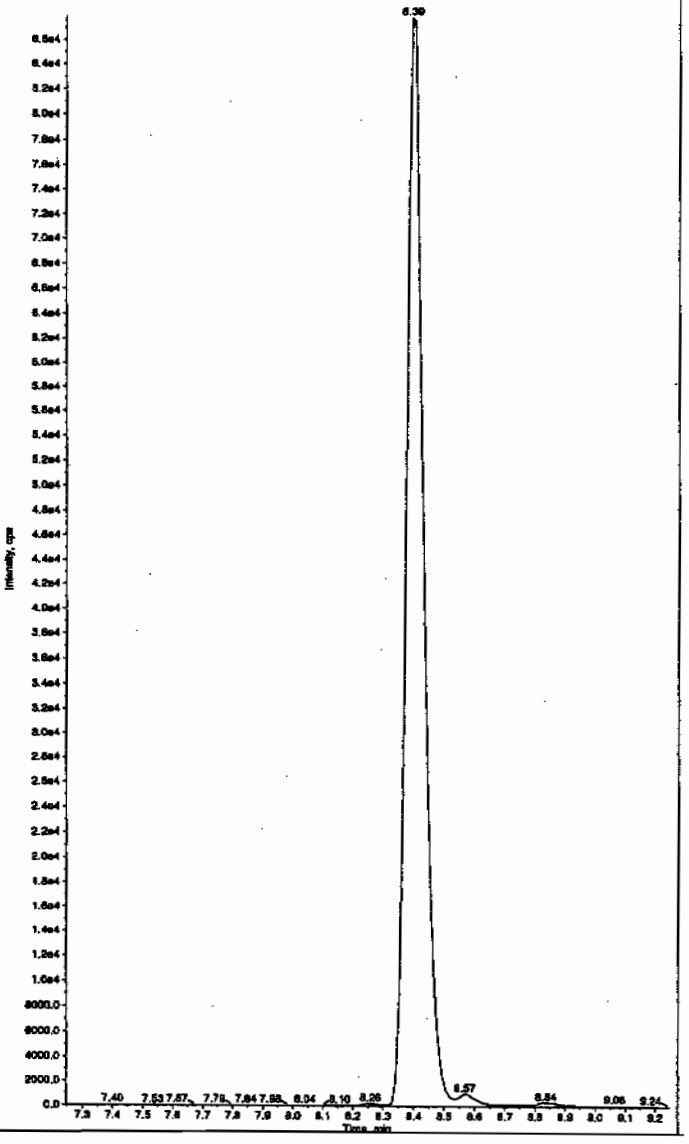
Modified: No



Sample Name: "243385003" Sample ID: "936359[2]LER" File: "EXS01070033.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:38:00 PM

Modified: No

HM 01/08/10



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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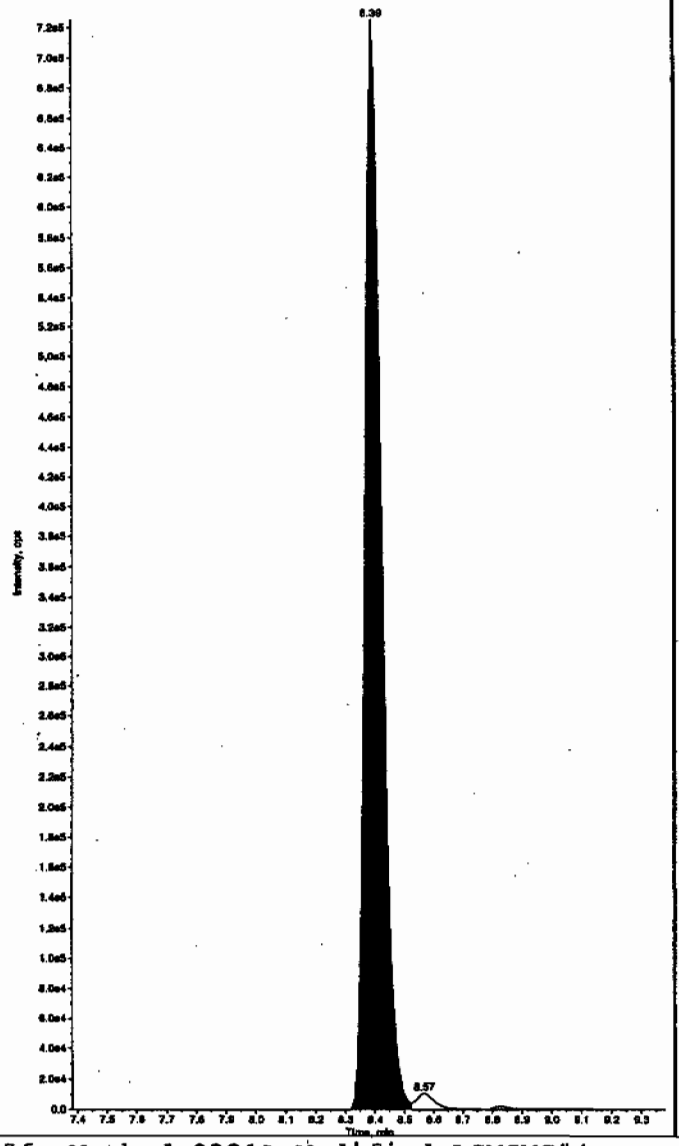
Sample Name: "243385003" Sample ID: "936359|2|LER" File: "EXS01070033.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCXB3212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 220. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:38:00 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

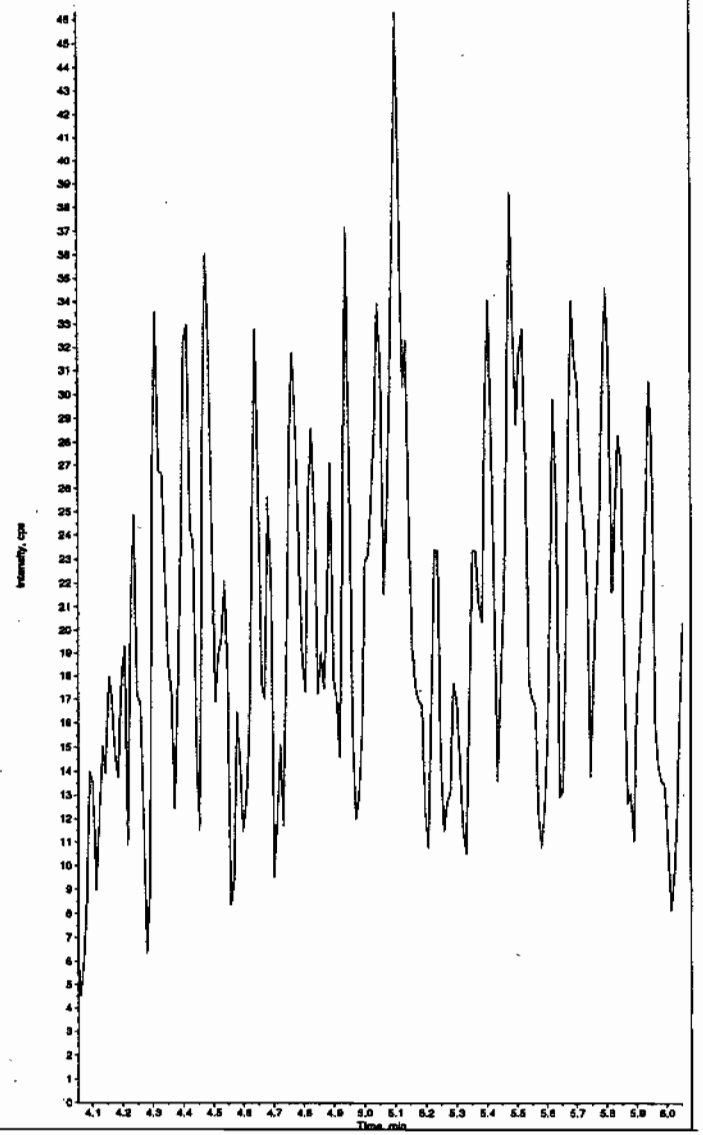
Int. Type: Valley
Retention Time: 8.39 min
Area: 2.91e+006 counts
Height: 725783.447 cps
Start Time: 8.30 min
End Time: 8.53 min



Sample Name: "243385003" Sample ID: "936359|2|LER" File: "EXS01070033.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCXB3212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:38:00 PM

Modified: No

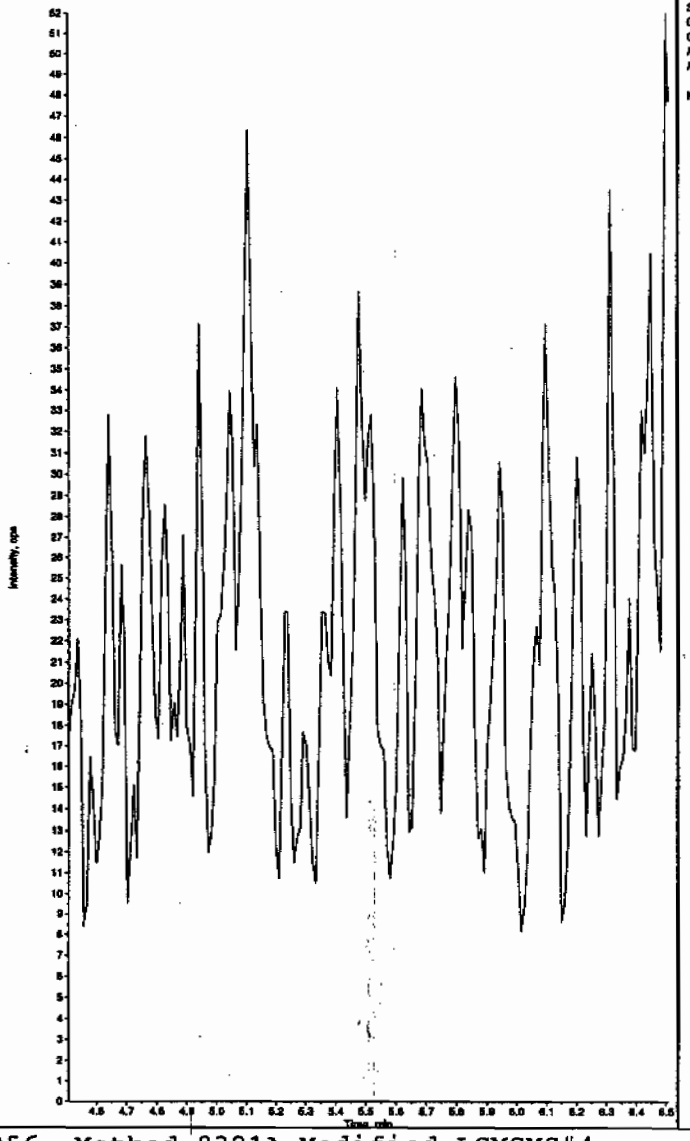


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "243385003" Sample ID: "936359[2]LER" File: "EXS01070033.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:38:00 PM

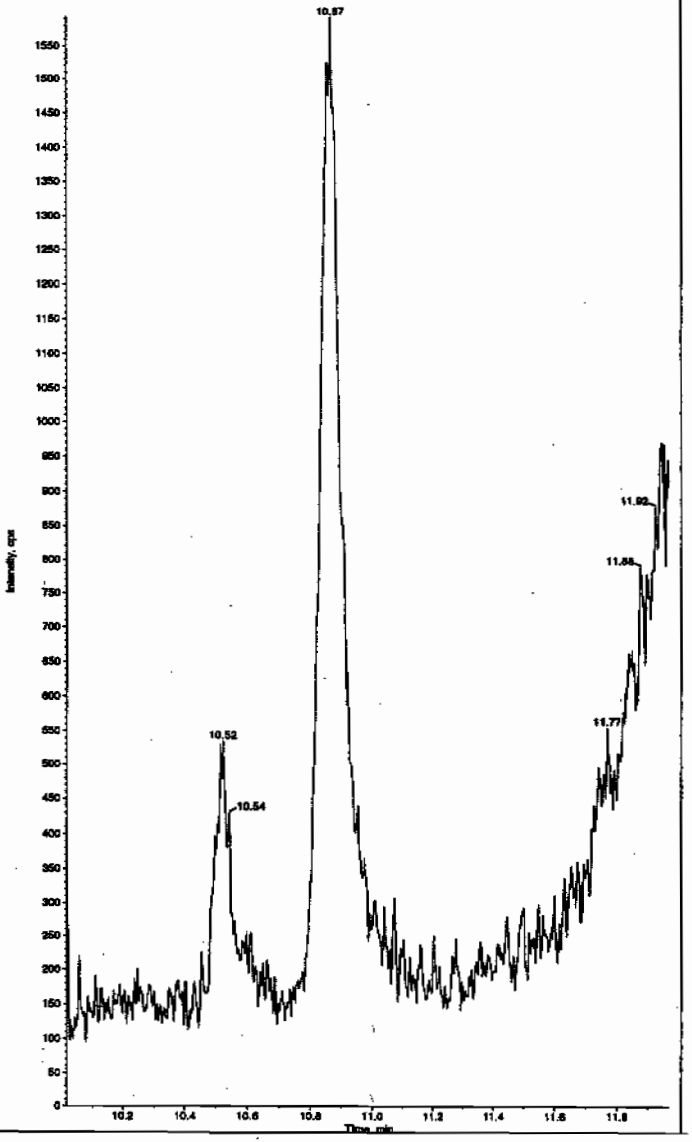
Modified: No



Sample Name: "243385003" Sample ID: "936359[2]LER" File: "EXS01070033.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:38:00 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7591

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385004

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115029a

Date Analyzed: 16-JAN-10 04:39

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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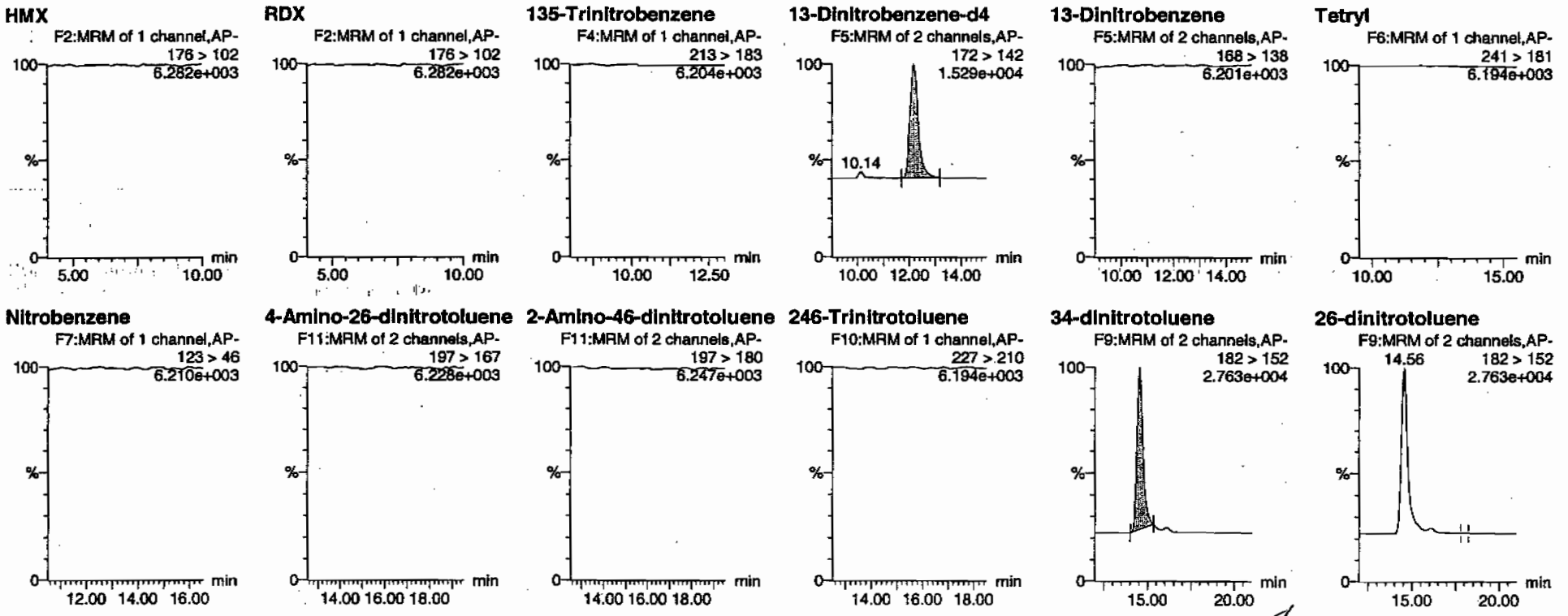
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115029a
Date: 16-Jan-2010
Time: 04:39:36
ID: 243385004
Vial: 1:6,B

LANL | 936359 | Solid | 2

MAP 1/16/10

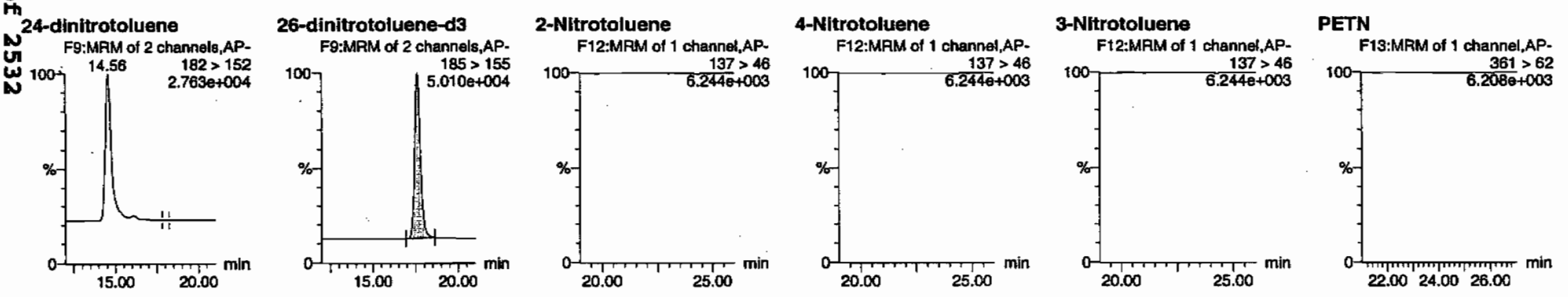


Hmm 01/18/10

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
243385004	HMX	176 > 102			3391.171									
243385004	RDX	176 > 102			3391.171									
243385004	135-Trinitrobenzene	213 > 183			3391.171									
243385004	13-Dinitrobenzene-d4	172 > 142	12.17	3391.171		3391.171	3391.171	bb			612.9449	122.6	22.6	205.4
243385004	13-Dinitrobenzene	168 > 138			3391.171									
243385004	Tetryl	241 > 181			3391.171									
243385004	Nitrobenzene	123 > 46			3391.171									
243385004	4-Amino-26-dinitrotoluene	197 > 167			17557.199									
243385004	2-Amino-46-dinitrotoluene	197 > 180			17557.199									
243385004	246-Trinitrotoluene	227 > 210			17557.199									
243385004	34-dinitrotoluene	182 > 152	14.56	8343.766	17557.199	8343.766	237.617	bb			265.5404	106.2	6.2	373.6
243385004	26-dinitrotoluene	182 > 152			17557.199			MM-	16-Jan-10	13:31:58				
243385004	24-dinitrotoluene	182 > 152			17557.199			MM-	16-Jan-10	13:36:02				
243385004	26-dinitrotoluene-d3	185 > 155	17.62	17557.199		17557.199	17557.199	bb			551.5742	110.3	10.3	1805.2
243385004	2-Nitrotoluene	137 > 46			17557.199									
243385004	4-Nitrotoluene	137 > 46			17557.199									
243385004	3-Nitrotoluene	137 > 46			17557.199									
243385004	PETN	361 > 62			17557.199									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7591

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385004

Sample Amount 2

Moisture: 11.5

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070034.wiff

Date Analyzed: 07-JAN-10 22:53

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

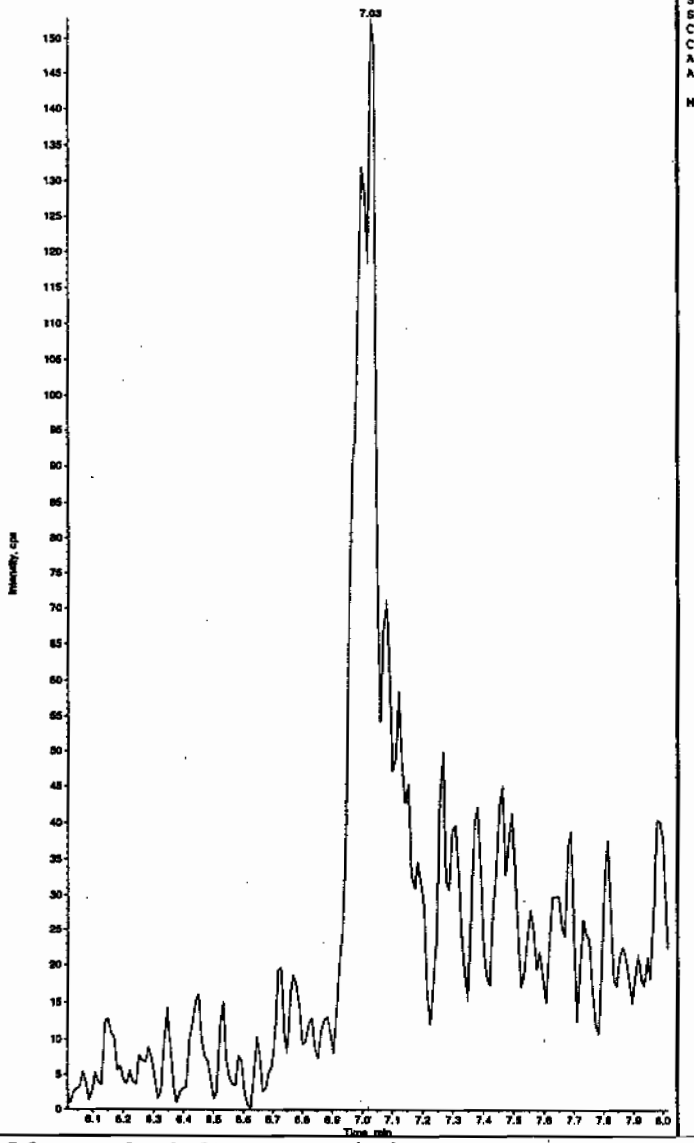
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Rev 1/8/10

Sample Name: "243365004" Sample ID: "936359|2|LER" File: "EXS01070034.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCXB3212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:53:42 PM

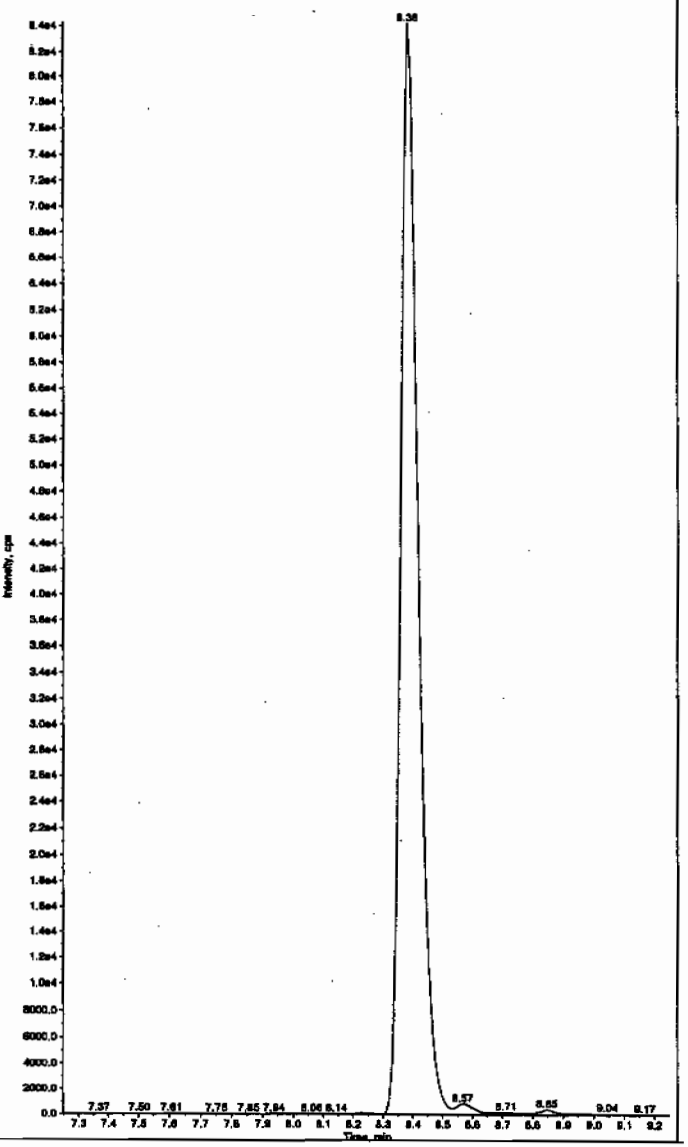
Modified: No



Sample Name: "243365004" Sample ID: "936359|2|LER" File: "EXS01070034.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCXB3212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:53:42 PM

Modified: No



HMM 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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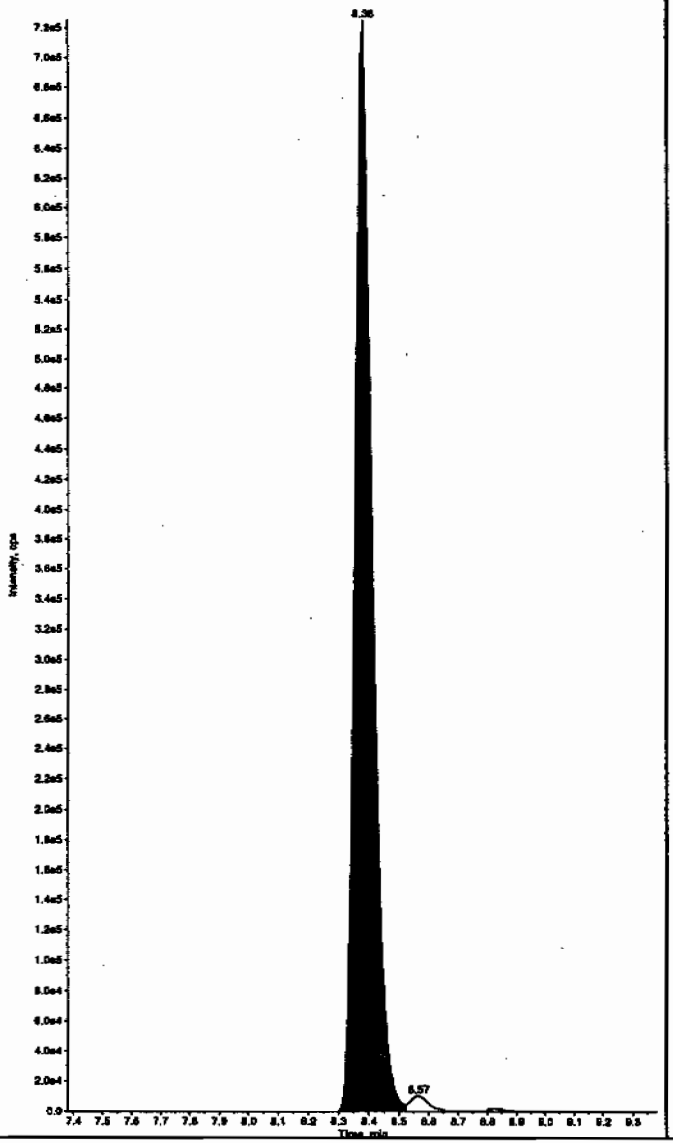
Sample Name: "243385004" Sample ID: "936359|2|LER" File: "EXS01070034.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 227. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:53:42 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

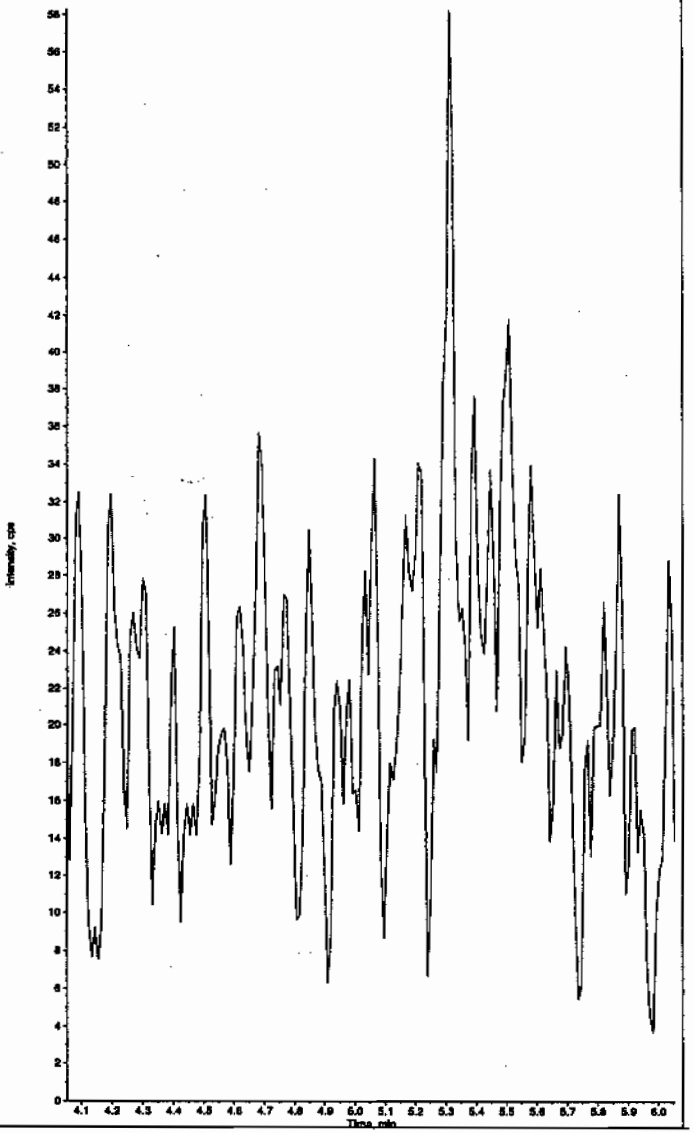
Int. Type: Valley
Retention Time: 8.38 min
Area: 3.00e+006 counts
Height: 725530.396 cps
Start Time: 8.27 min
End Time: 8.53 min



Sample Name: "243385004" Sample ID: "936359|2|LER" File: "EXS01070034.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:53:42 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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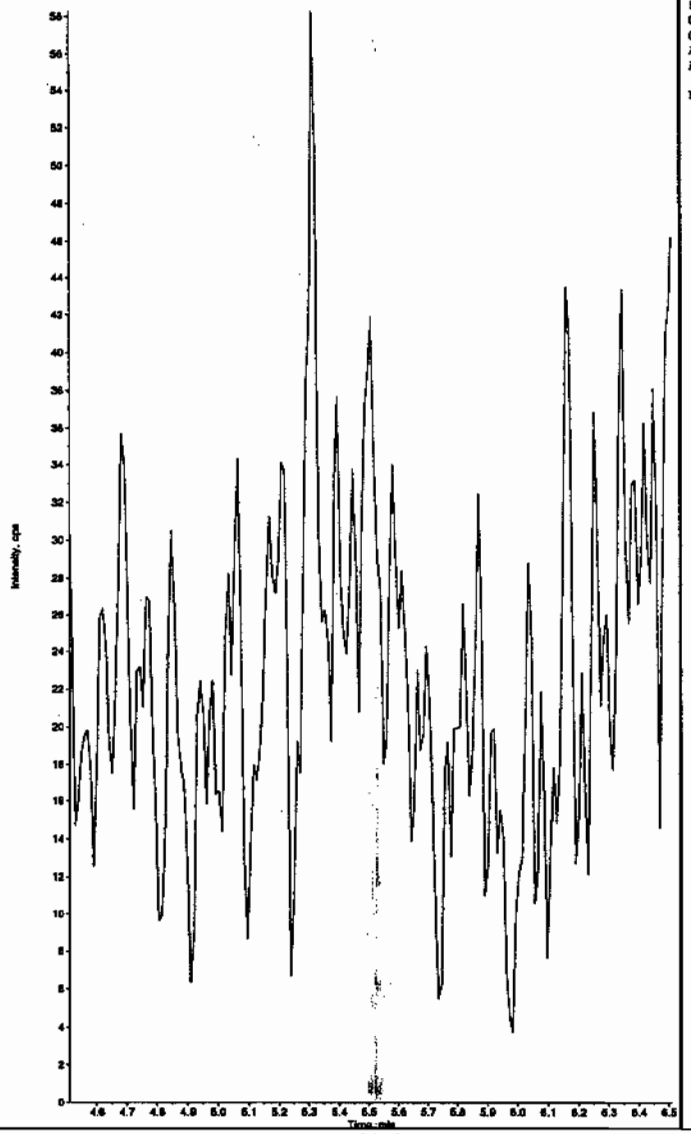
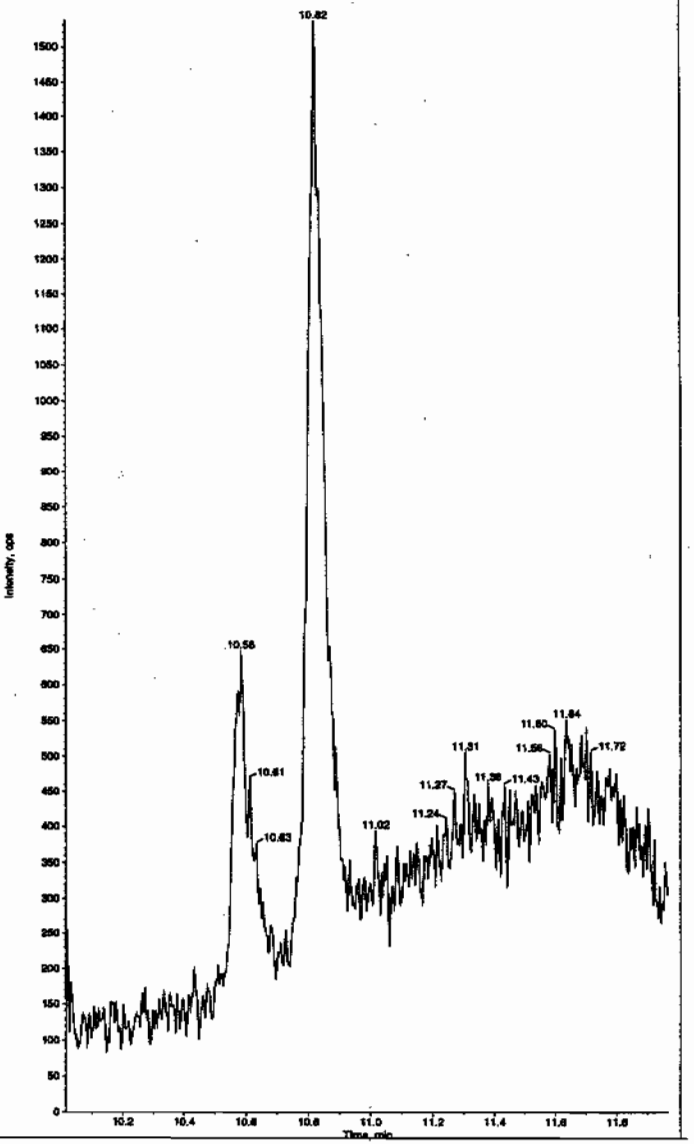
Sample Name: "243385004" Sample ID: "936359[2]LER" File: "EXS01070034.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:53:42 PM
Modified: No



Sample Name: "243385004" Sample ID: "936359[2]LER" File: "EXS01070034.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:53:42 PM
Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7581

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385005

Sample Amount 2

Moisture: 11.6

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115030a

Date Analyzed: 16-JAN-10 05:09

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

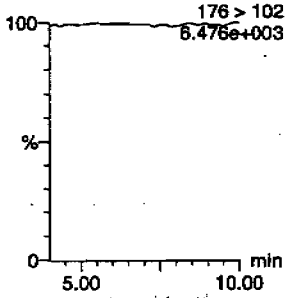
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

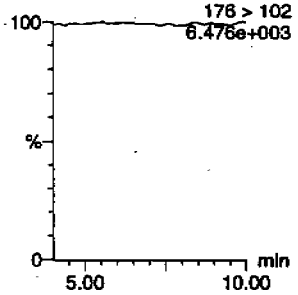
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115030a
Date: 16-Jan-2010
Time: 05:09:06
ID: 243385005 | LANL | 936359 | Soils | 21
Vial: 1:6,C

MAP 1/16/10

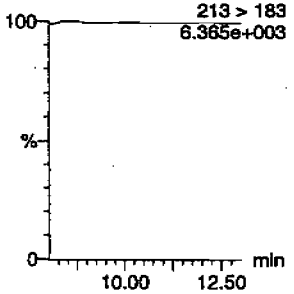
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.476e+003



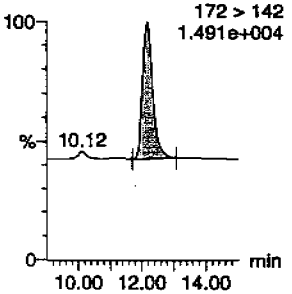
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.476e+003



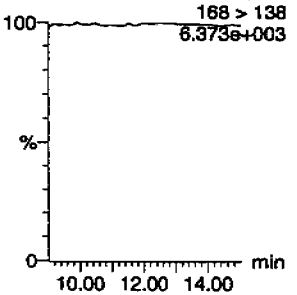
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.365e+003



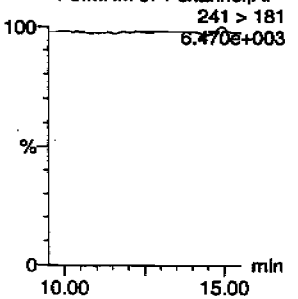
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.491e+004



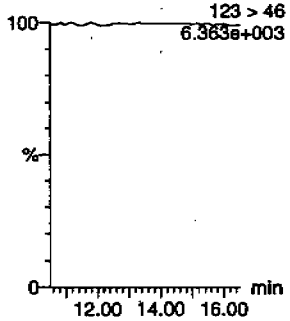
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.373e+003



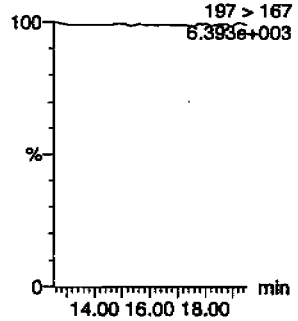
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.470e+003



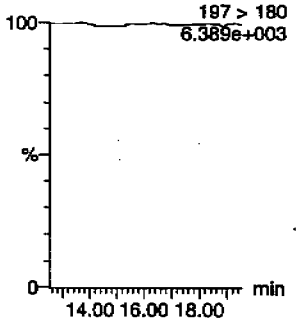
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.363e+003



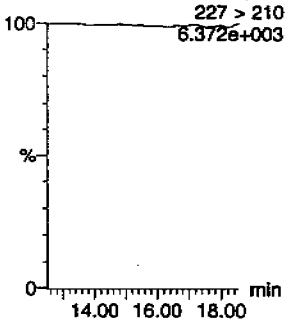
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.393e+003



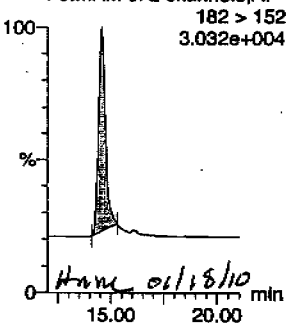
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.389e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.372e+003

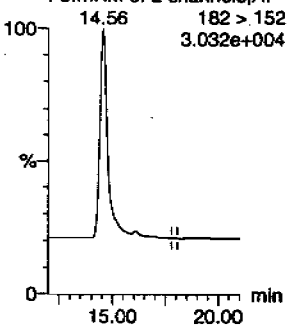


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
3.032e+004



Hmc 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
14.56
182 > 152
3.032e+004



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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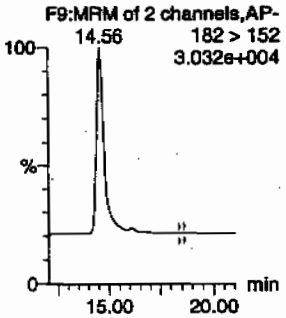
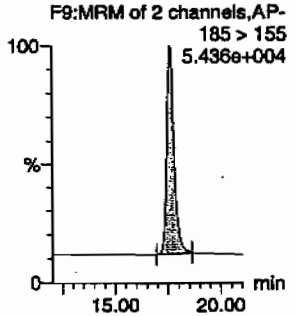
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

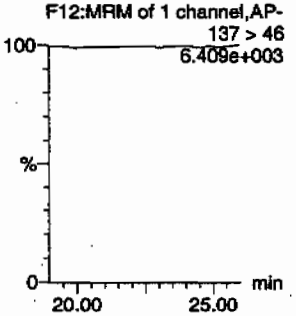
24-dinitrotoluene



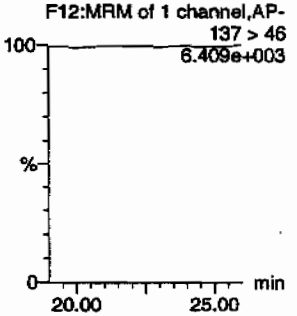
26-dinitrotoluene-d3



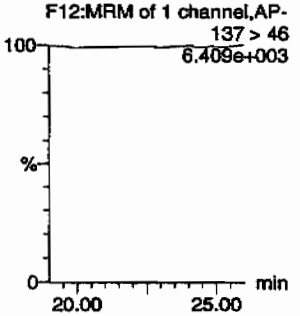
2-Nitrotoluene



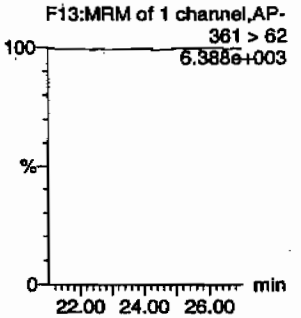
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
243385005	HMX	176 > 102			3228.768									
243385005	RDX	176 > 102			3228.768									
243385005	135-Trinitrobenzene	213 > 183			3228.768									
243385005	13-Dinitrobenzene-d4	172 > 142	12.17	3228.768		3228.768	3228.768	bb			583.5910	116.7	16.7	261.3
243385005	13-Dinitrobenzene	168 > 138			3228.768									
243385005	Tetryl	241 > 181			3228.768									
243385005	Nitrobenzene	123 > 46			3228.768									
243385005	4-Amino-26-dinitrotoluene	197 > 167			19239.197									
243385005	2-Amino-46-dinitrotoluene	197 > 180			19239.197									
243385005	246-Trinitrotoluene	227 > 210			19239.197									
243385005	34-dinitrotoluene	182 > 152	14.56	9049.304	19239.197	9049.304	235.179	bb			262.8161	105.1	5.1	323.0
243385005	26-dinitrotoluene	182 > 152			19239.197			MM-	16-Jan-10	13:32:02				
243385005	24-dinitrotoluene	182 > 152			19239.197			MM-	16-Jan-10	13:36:06				
243385005	26-dinitrotoluene-d3	185 > 155	17.60	19239.197		19239.197	19239.197	bb			604.4156	120.9	20.9	1969.8
243385005	2-Nitrotoluene	137 > 46			19239.197									
243385005	4-Nitrotoluene	137 > 46			19239.197									
243385005	3-Nitrotoluene	137 > 46			19239.197									
243385005	PETN	361 > 62			19239.197									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7581

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385005

Sample Amount 2

Moisture: 11.6

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070035.wiff

Date Analyzed: 07-JAN-10 23:09

Units: ug/kg

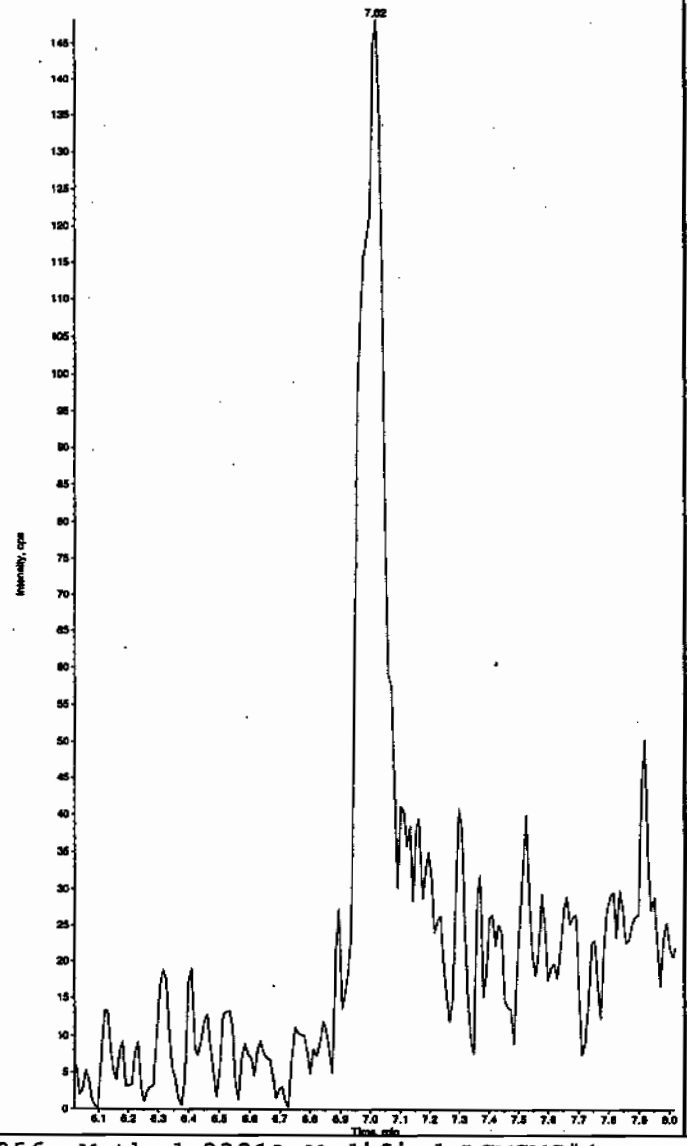
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

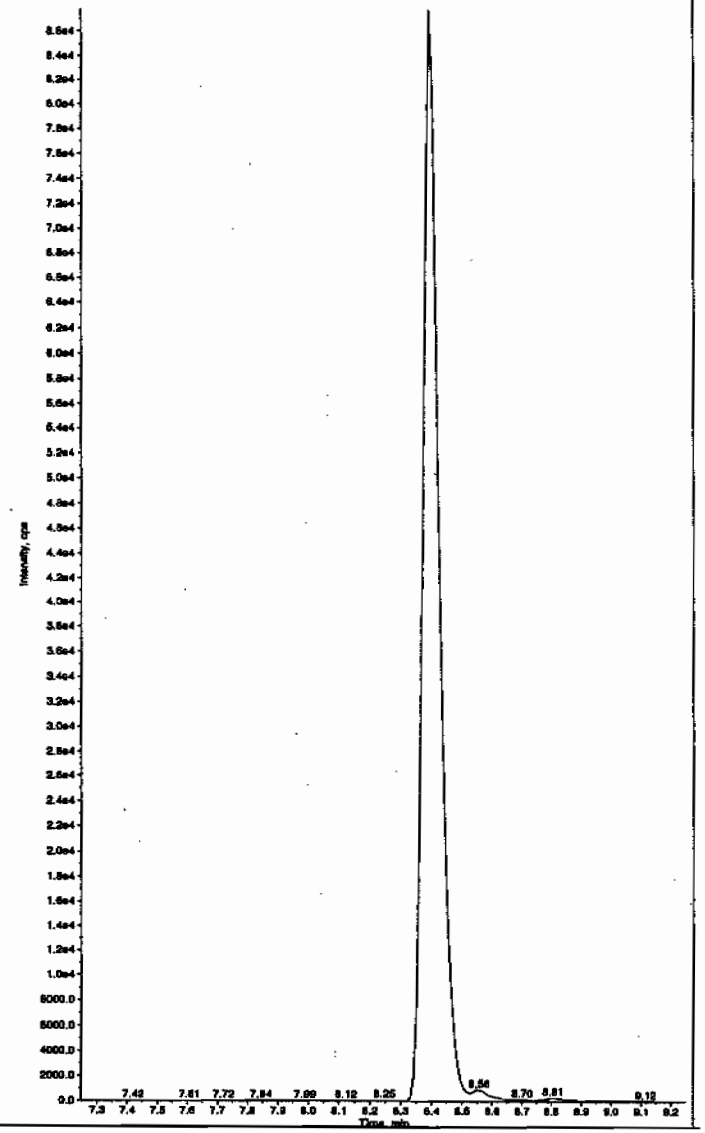
Sample Name: "243365005" Sample ID: "936359|2|LER" File: "EXS01070035.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:09:24 PM

Modified: No



Sample Name: "243385005" Sample ID: "936359|2|LER" File: "EXS01070035.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:09:24 PM

Modified: No



Rev 1/8/10

HMM 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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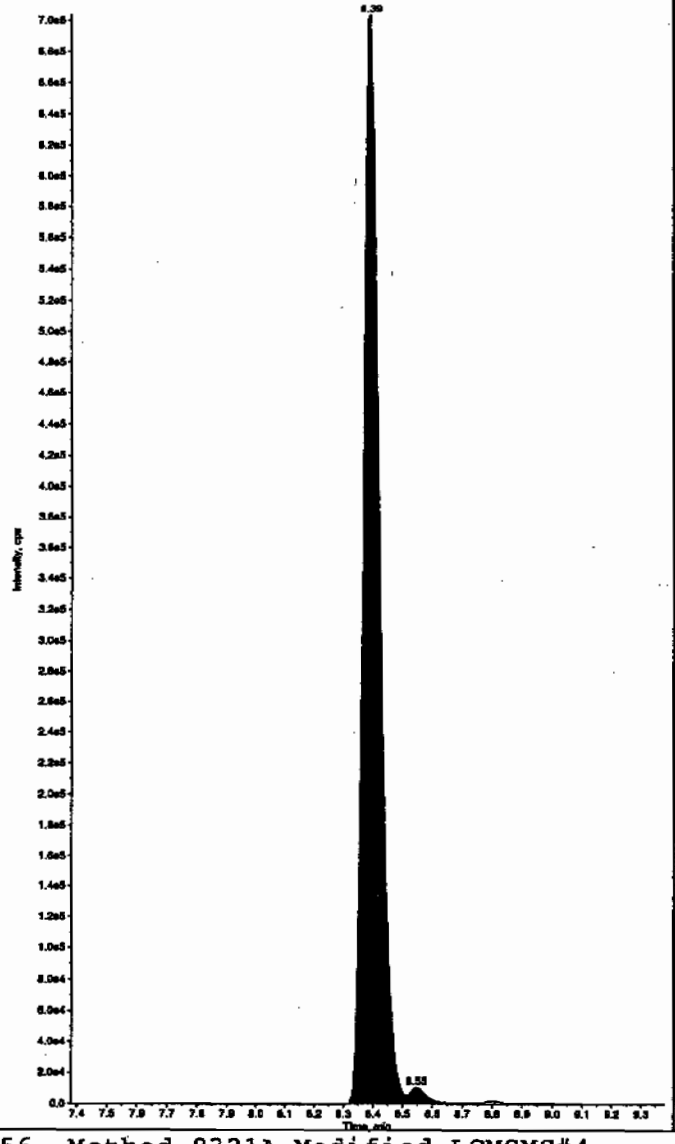
Sample Name: "243385005" Sample ID: "936359[2]LER" File: "EXS01070035.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 213. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:09:24 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

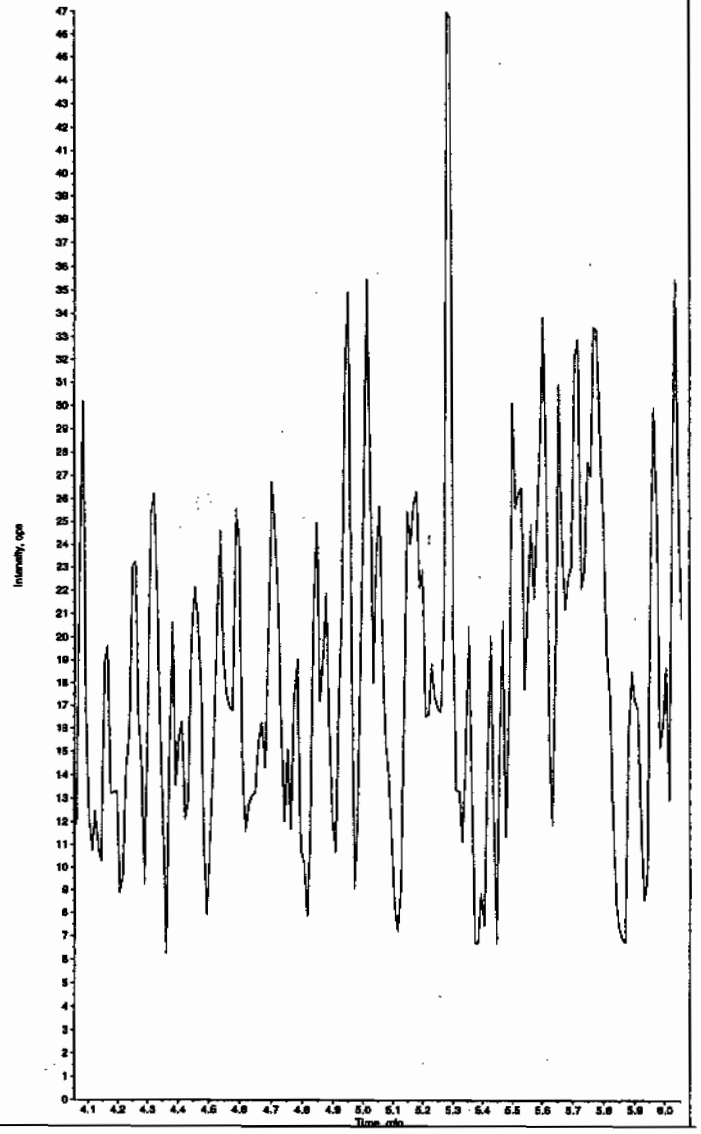
Int. Type: Valley
Retention Time: 8.19 min
Area: 2.83e+006 counts
Height: 704312.500 cps
Start Time: 8.29 min
End Time: 8.71 min



Sample Name: "243385005" Sample ID: "936359[2]LER" File: "EXS01070035.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:09:24 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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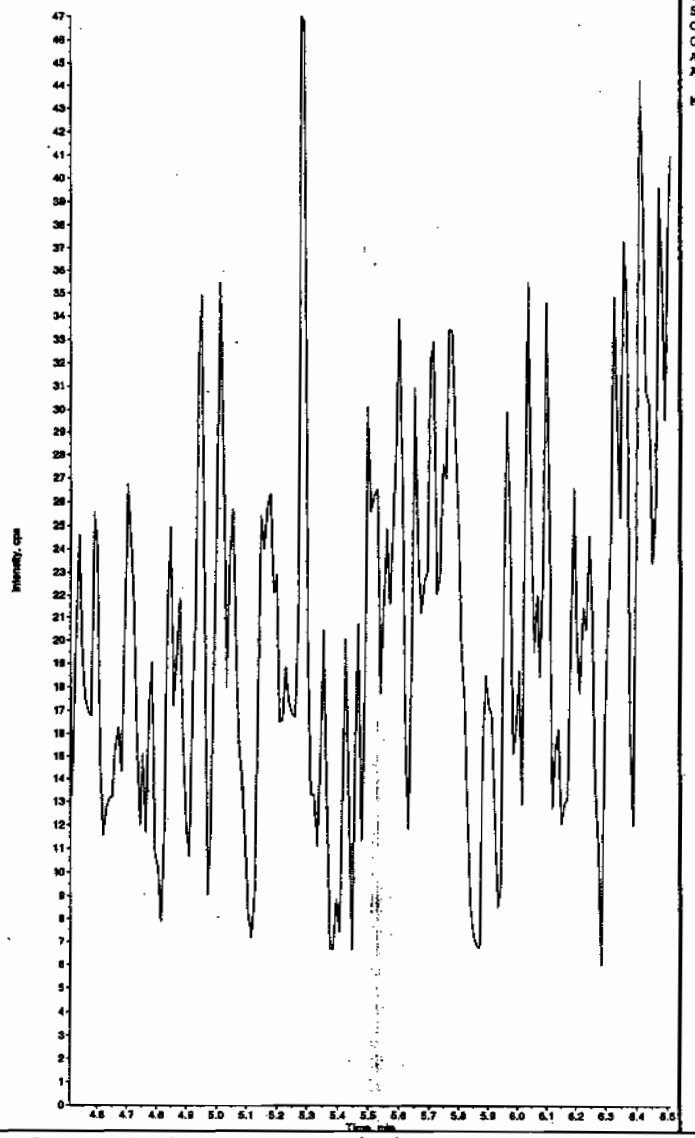
Sample Name: "243385005" Sample ID: "936359|2|LER" File: "EXS01070035.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:09:24 PM

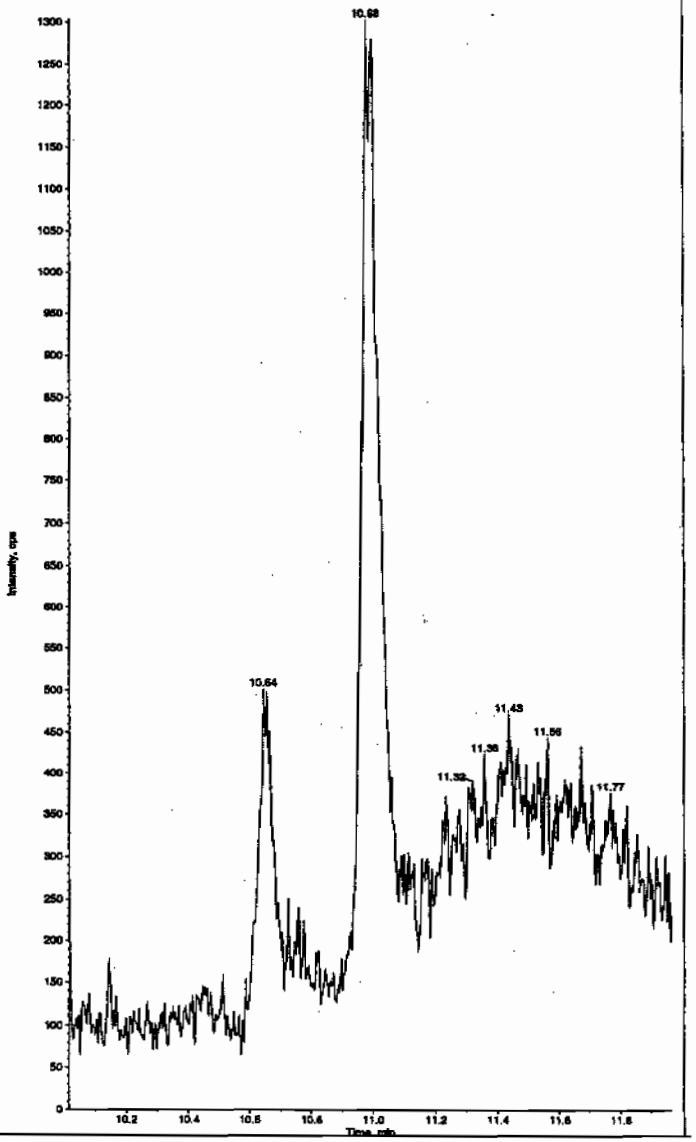
Modified: No



Sample Name: "243385005" Sample ID: "936359|2|LER" File: "EXS01070035.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:09:24 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7586

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385006

Sample Amount 2

Moisture: 10.8

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115031a

Date Analyzed: 16-JAN-10 05:38

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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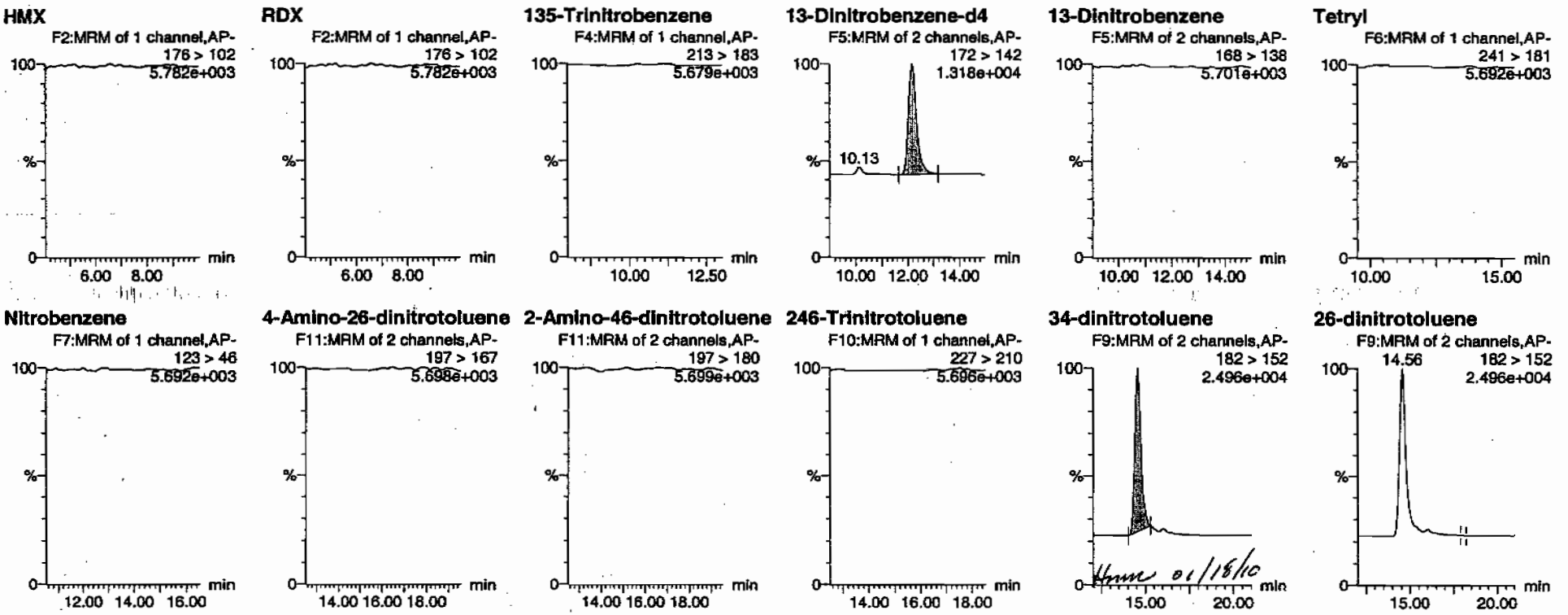
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115031a
Date: 16-Jan-2010
Time: 05:38:37
ID: 243385006
Vial: 1:6,D

LAN | 936359 | Solid | 2

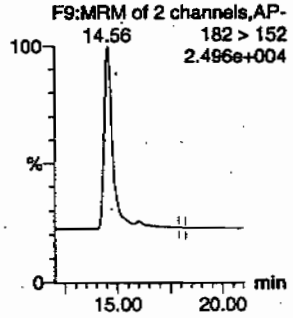
MAP 1/16/10



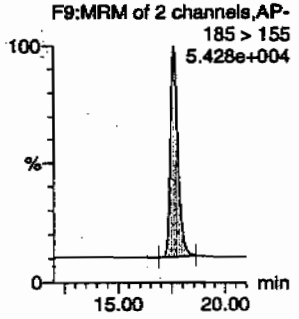
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

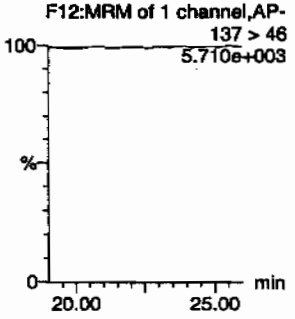
24-dinitrotoluene



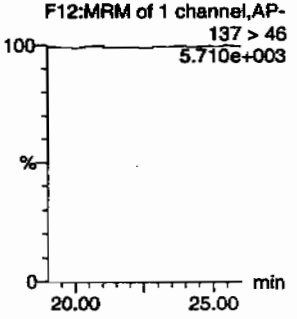
26-dinitrotoluene-d3



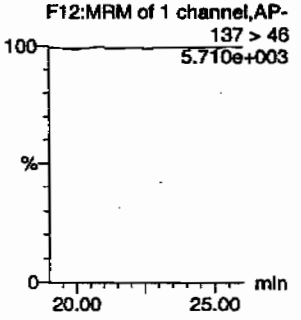
2-Nitrotoluene



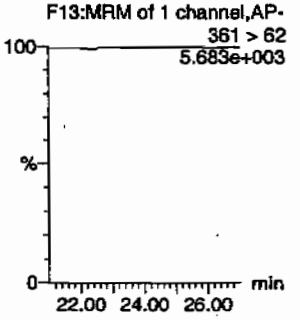
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ug/ml	%Rec	%Dev	S/N
243385006	HMX	176 > 102			2856.894									
243385006	RDX	176 > 102			2856.894									
243385006	135-Trinitrobenzene	213 > 183			2856.894									
243385006	13-Dinitrobenzene-d4	172 > 142	12.17	2856.894		2856.894	2856.894	bb			516.3758	103.3	3.3	290.6
243385006	13-Dinitrobenzene	168 > 138			2856.894									
243385006	Tetryl	241 > 181			2856.894									
243385006	Nitrobenzene	123 > 46			2856.894									
243385006	4-Amino-26-dinitrotoluene	197 > 167			19808.266									
243385006	2-Amino-46-dinitrotoluene	197 > 180			19808.266									
243385006	246-Trinitrotoluene	227 > 210			19808.266									
243385006	34-dinitrotoluene	182 > 152	14.56	7530.848	19808.266	7530.848	190.094	bb			212.4326	85.0	-15.0	441.5
243385006	26-dinitrotoluene	182 > 152			19808.266			MM-	16-Jan-10	13:32:05				
243385006	24-dinitrotoluene	182 > 152			19808.266			MM-	16-Jan-10	13:36:09				
243385006	26-dinitrotoluene-d3	185 > 155	17.62	19808.266		19808.266	19808.266	bb			622.2934	124.5	24.5	1529.0
243385006	2-Nitrotoluene	137 > 46			19808.266									
243385006	4-Nitrotoluene	137 > 46			19808.266									
243385006	3-Nitrotoluene	137 > 46			19808.266									
243385006	PETN	361 > 62			19808.266									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7586

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385006

Sample Amount 2

Moisture: 10.8

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070036.wiff

Date Analyzed: 07-JAN-10 23:25

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

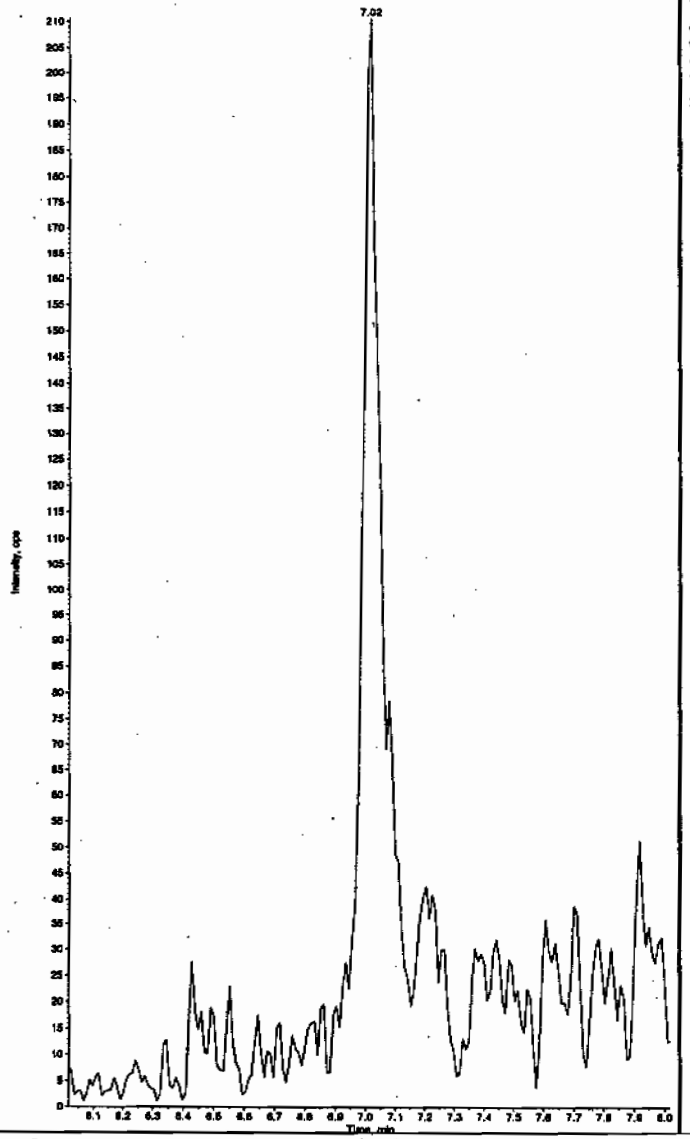
*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Sample Name: "243365006" Sample ID: "936359|2|LER" File: "EXS01070036.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:25:06 PM

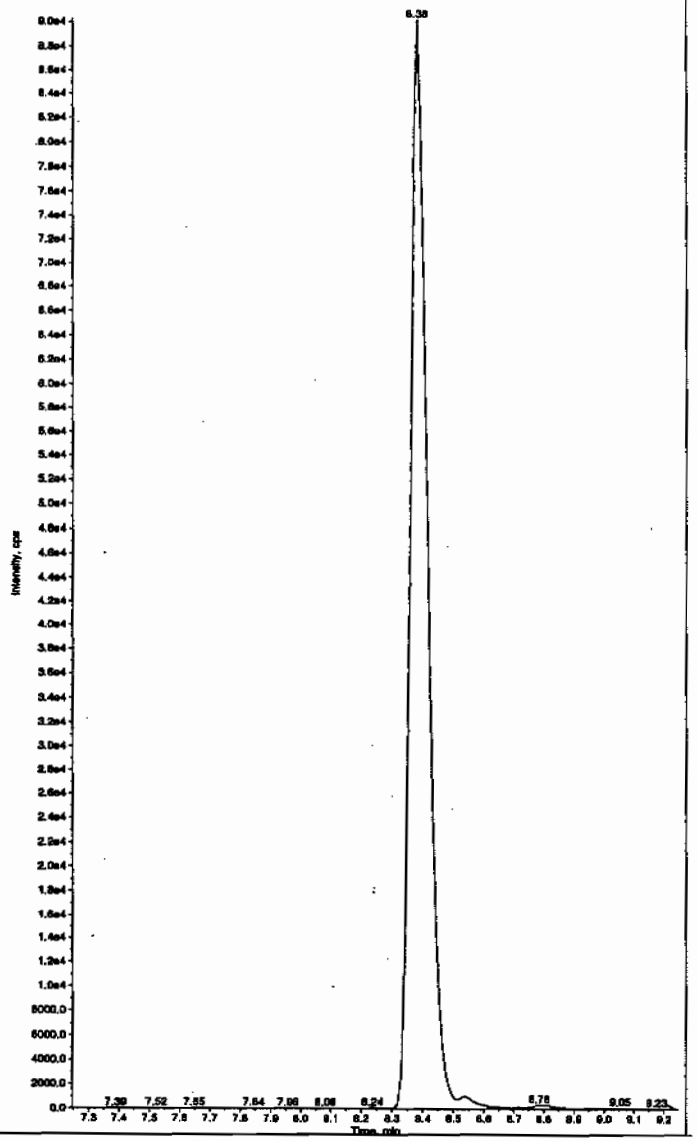
Modified: No



Sample Name: "243365006" Sample ID: "936359|2|LER" File: "EXS01070036.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:25:06 PM

Modified: No



Ran 1/8/10

HMM 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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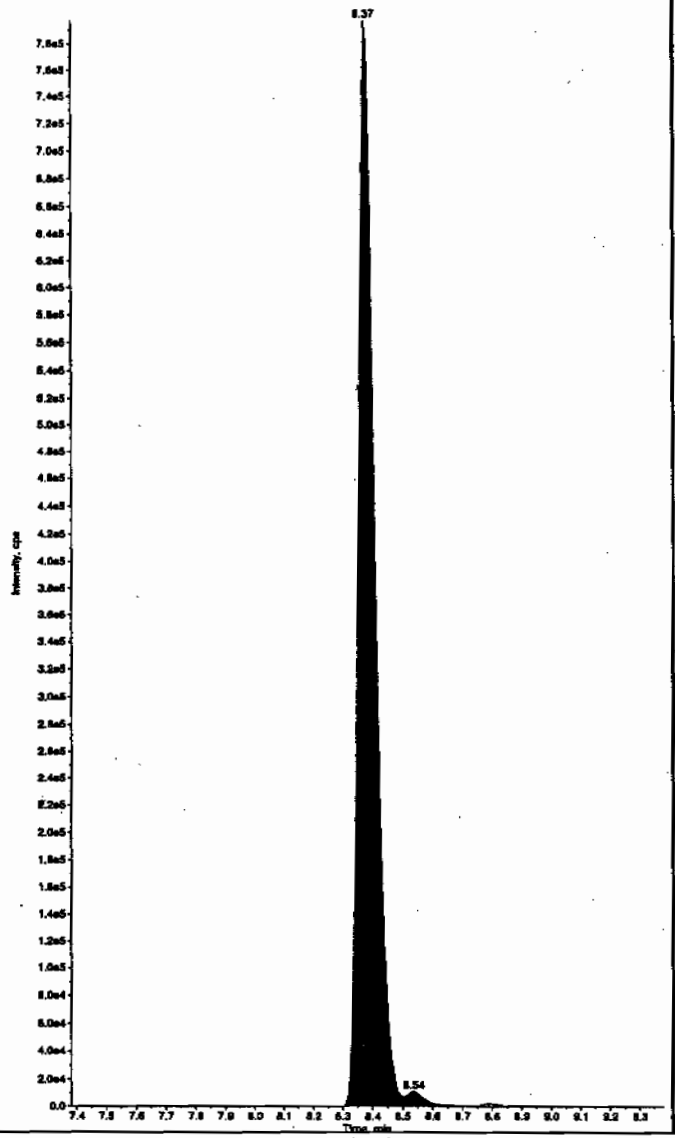
Sample Name: "243365006" Sample ID: "936359[2]LER" File: "EXS01070036.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX832125" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 236. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:25:06 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

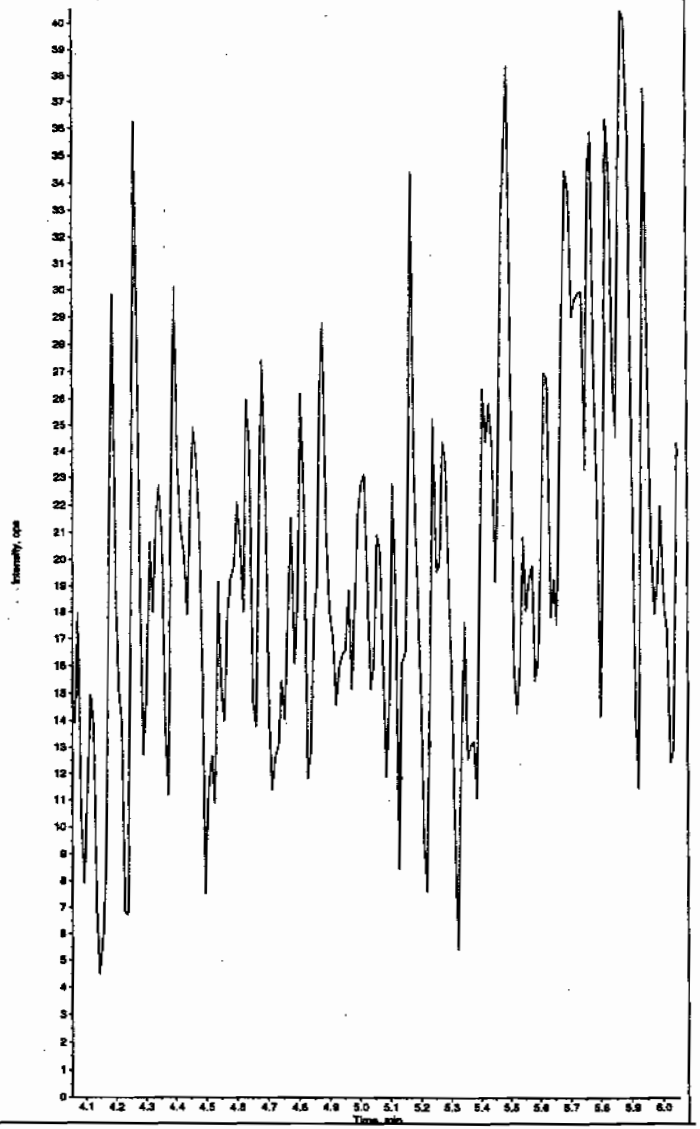
Int. Type: Valley
Retention Time: 8.37 min
Area: 3.11e+006 counts
Height: 797232.422 cps
Start Time: 8.28 min
End Time: 8.71 min



Sample Name: "243365006" Sample ID: "936359[2]LER" File: "EXS01070036.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX832125" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:25:06 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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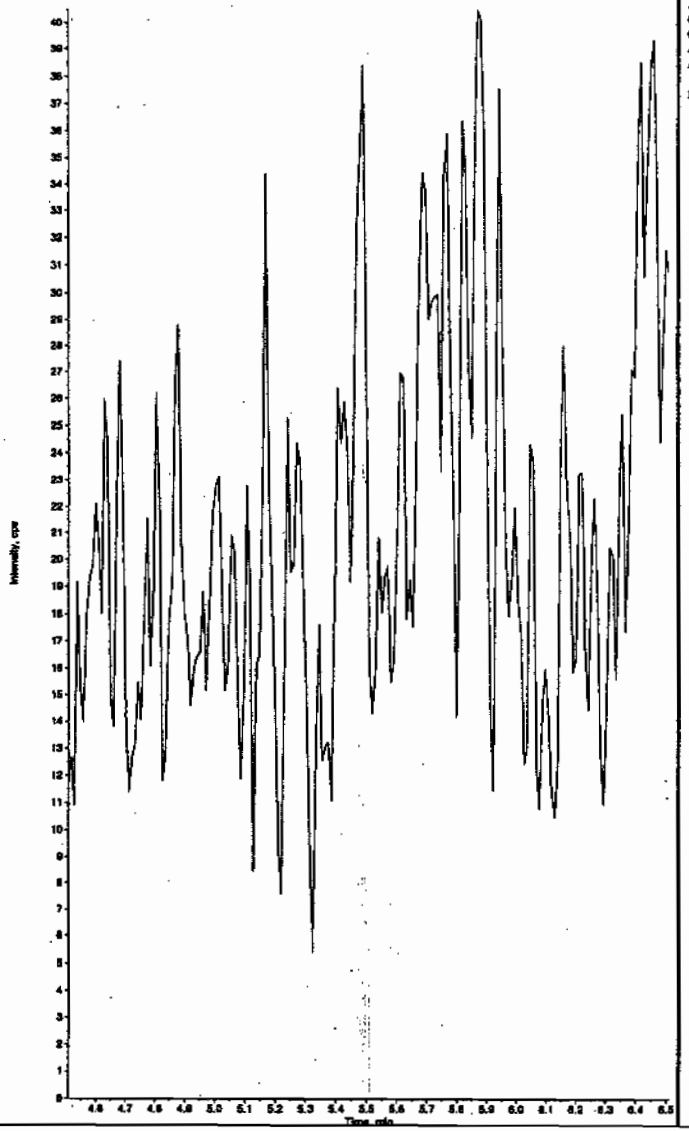
Sample Name: "243385006" Sample ID: "938359[2]LER" File: "EXS01070036.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCXB3212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:25:06 PM

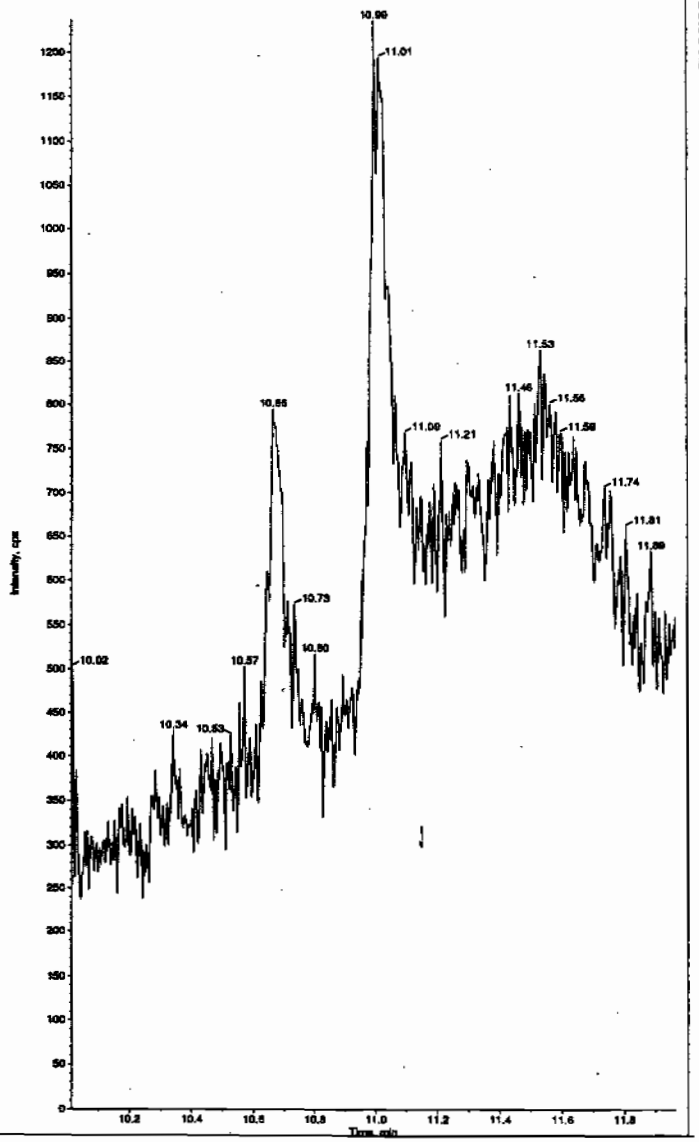
Modified: No



Sample Name: "243385006" Sample ID: "938359[2]LER" File: "EXS01070036.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCXB3212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:25:06 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7587

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385007

Sample Amount 2

Moisture: 9.9

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115035a

Date Analyzed: 16-JAN-10 07:36

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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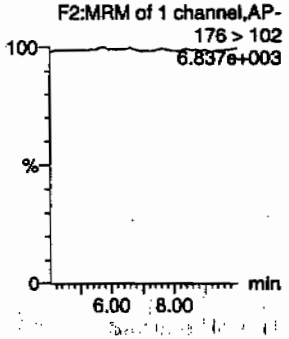
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

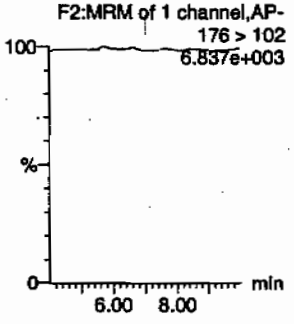
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115035a
Date: 16-Jan-2010
Time: 07:36:31
ID: 243385007 | LANL | 936359 | Solids | 2
Vial: 1:6,E

MAP
1/16/10

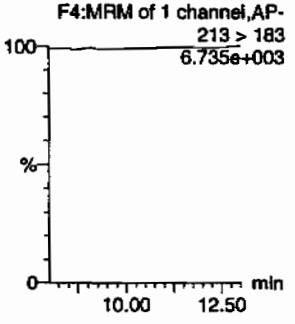
HMX



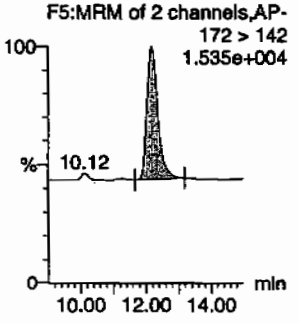
RDX



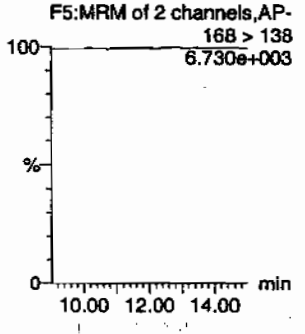
135-Trinitrobenzene



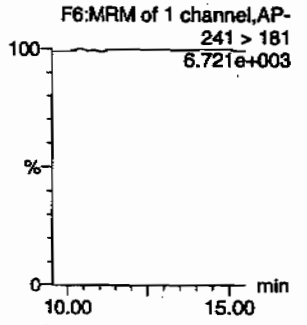
13-Dinitrobenzene-d4



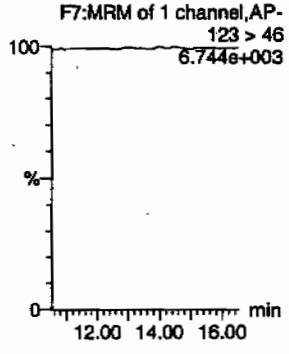
13-Dinitrobenzene



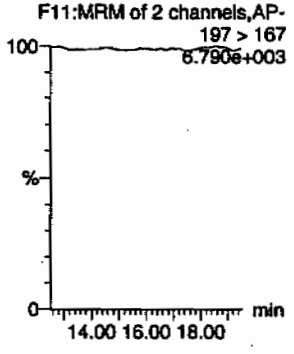
Tetryl



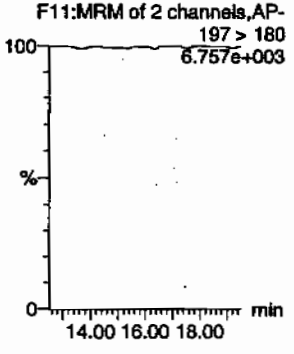
Nitrobenzene



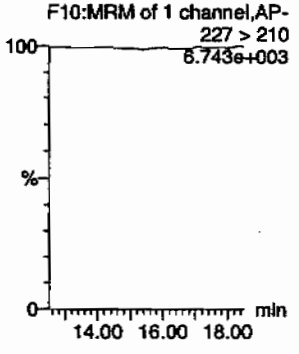
4-Amino-26-dinitrotoluene



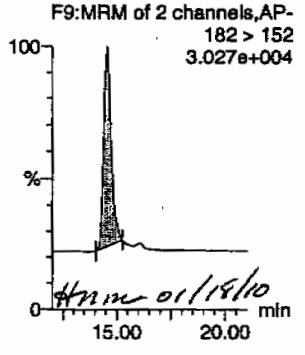
2-Amino-46-dinitrotoluene



246-Trinitrotoluene

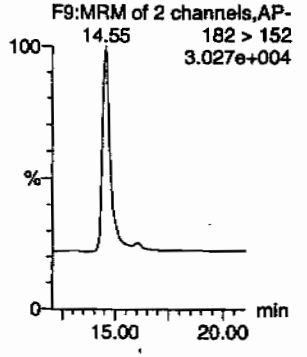


34-dinitrotoluene



Hmm 01/18/10

26-dinitrotoluene

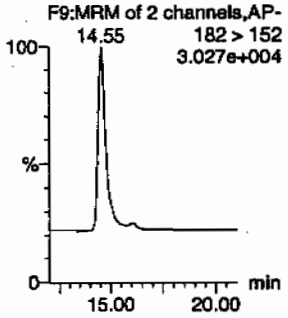


GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

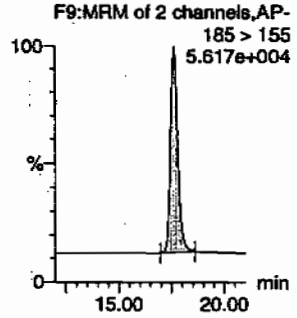
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

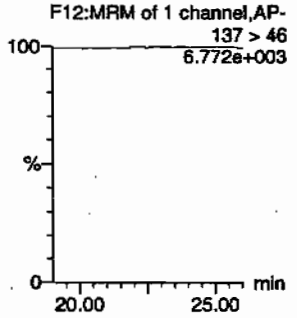
24-dinitrotoluene



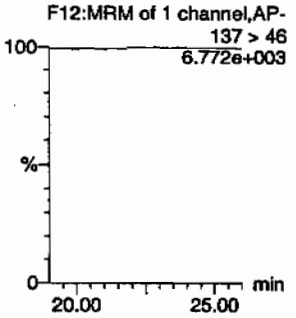
26-dinitrotoluene-d3



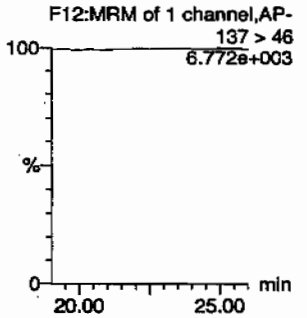
2-Nitrotoluene



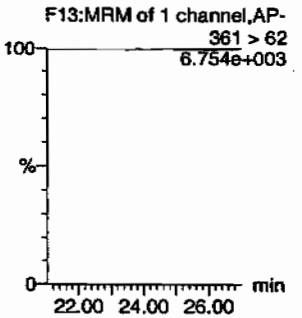
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	S/Area	Abs Resp	Response	Flags	Modifier	Mod Time	ng/ml	%Rec	%Dev	S/N
243385007	HMX	176 > 102			3315.645									
243385007	RDX	176 > 102			3315.645									
243385007	135-Trinitrobenzene	213 > 183			3315.645									
243385007	13-Dinitrobenzene-d4	172 > 142	12.17	3315.645		3315.645	3315.645	bb			599.2938	119.9	19.9	184.3
243385007	13-Dinitrobenzene	168 > 138			3315.645									
243385007	Tetryl	241 > 181			3315.645									
243385007	Nitrobenzene	123 > 46			3315.645									
243385007	4-Amino-26-dinitrotoluene	197 > 167			19908.396									
243385007	2-Amino-46-dinitrotoluene	197 > 180			19908.396									
243385007	246-Trinitrotoluene	227 > 210			19908.396									
243385007	34-dinitrotoluene	182 > 152	14.55	9131.604	19908.396	9131.604	229.341	bb			256.2917	102.5	2.5	527.1
243385007	26-dinitrotoluene	182 > 152			19908.396									
243385007	24-dinitrotoluene	182 > 152			19908.396									
243385007	26-dinitrotoluene-d3	185 > 155	17.62	19908.396		19908.396	19908.396	bb			625.4391	125.1	25.1	2628.5
243385007	2-Nitrotoluene	137 > 46			19908.396									
243385007	4-Nitrotoluene	137 > 46			19908.396									
243385007	3-Nitrotoluene	137 > 46			19908.396									
243385007	PETN	361 > 62			19908.396									

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7587

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385007

Sample Amount 2

Moisture: 9.9

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070040.wiff

Date Analyzed: 08-JAN-10 00:27

Units: ug/kg

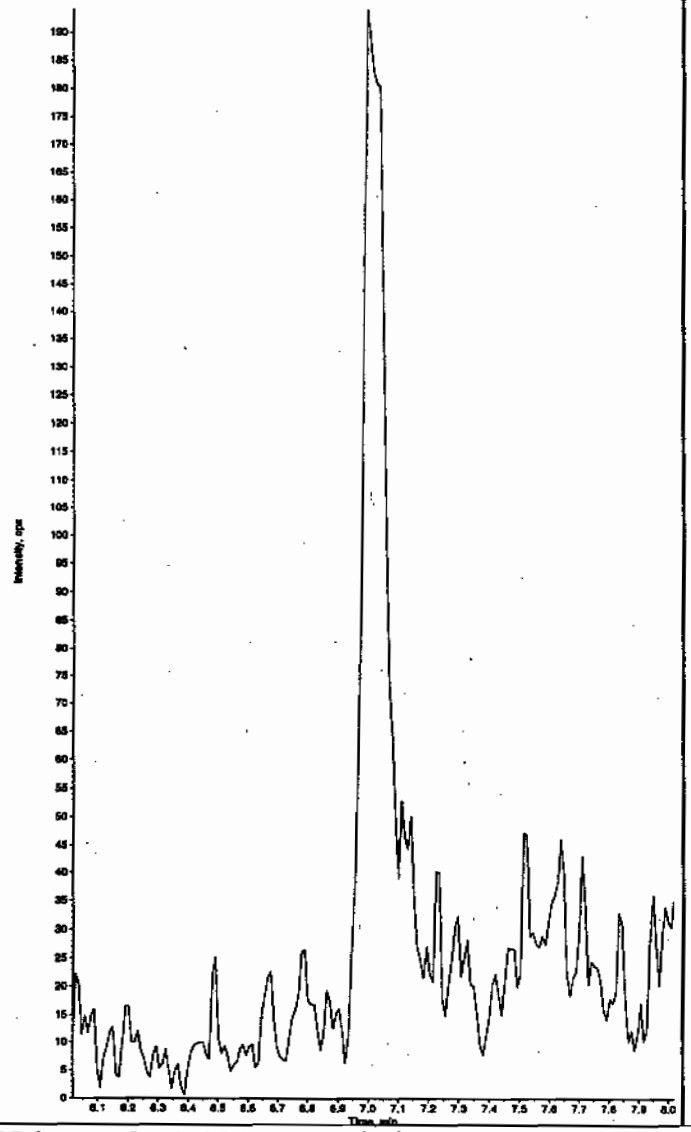
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

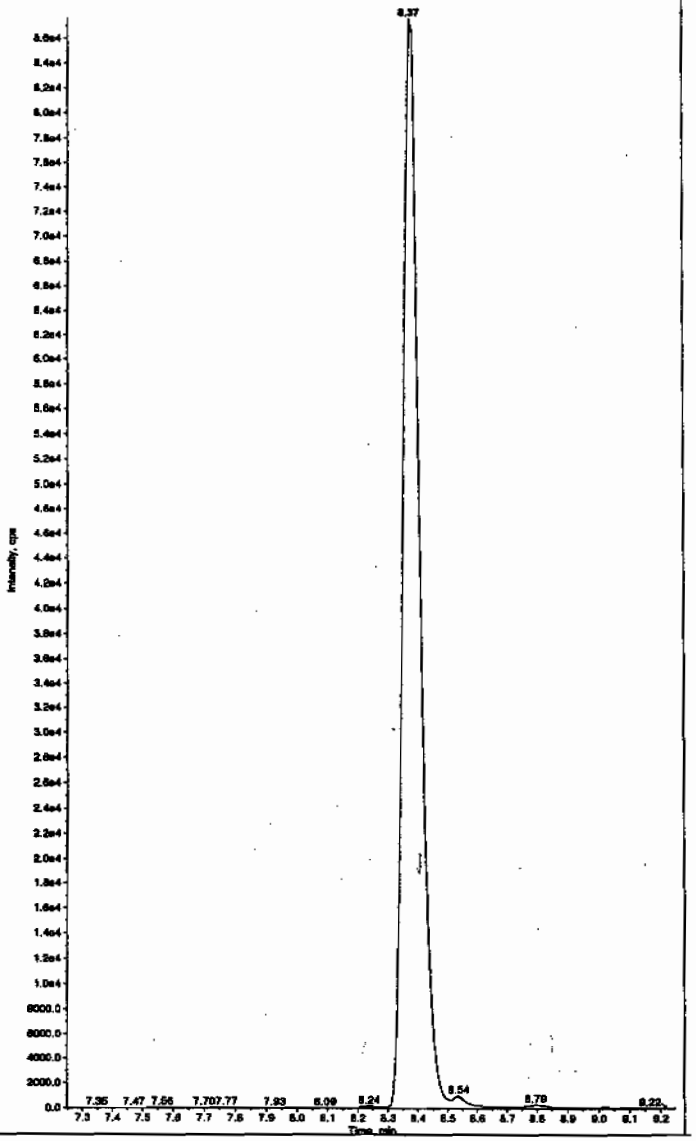
Sample Name: "243385007" Sample ID: "936359|2|LER" File: "EXS01070040.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:27:56 AM

Modified: No



Sample Name: "243385007" Sample ID: "936359|2|LER" File: "EXS01070040.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:27:56 AM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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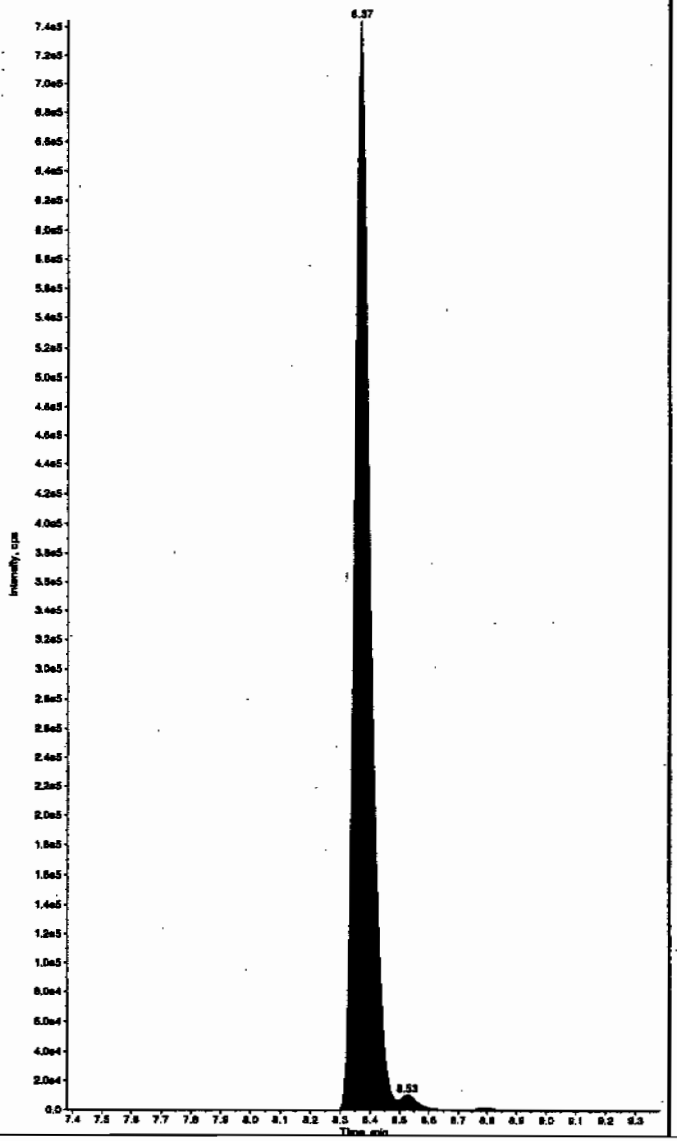
Sample Name: "243385007" Sample ID: "936359|2|LER" File: "EXS01070040.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 213. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:27:56 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

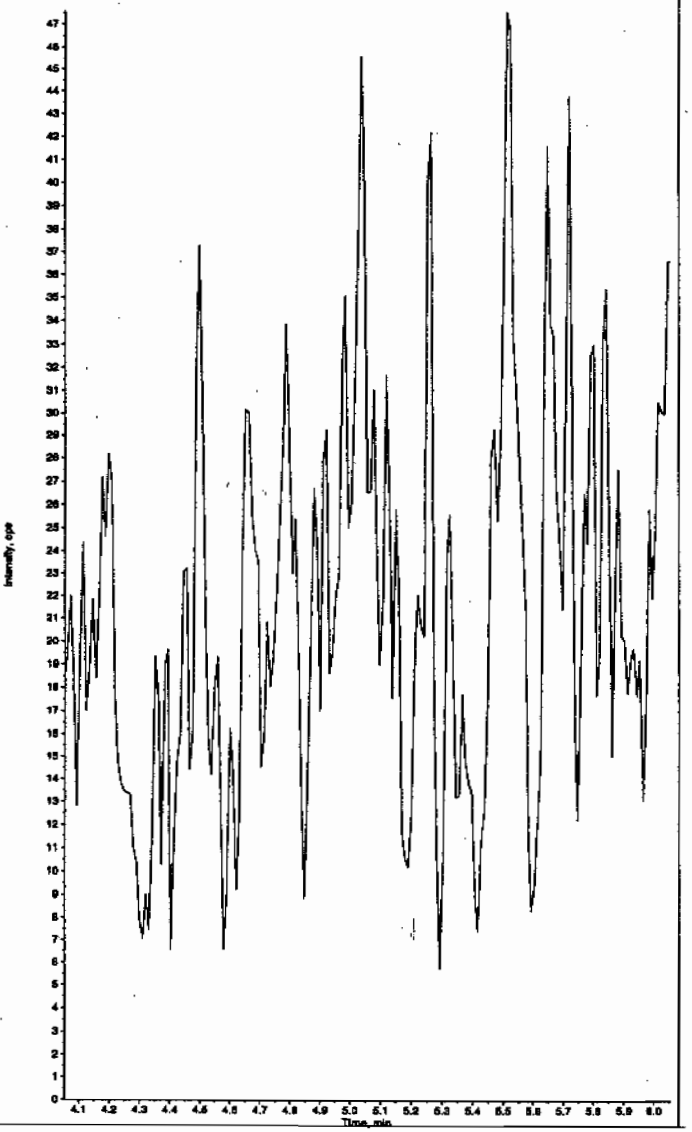
Int. Type: Valley
Retention Time: 8.37 min
Area: 2.83e+006 counts
Height: 744905.640 cps
Start Time: 8.27 min
End Time: 8.67 min



Sample Name: "243385007" Sample ID: "936359|2|LER" File: "EXS01070040.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:27:56 AM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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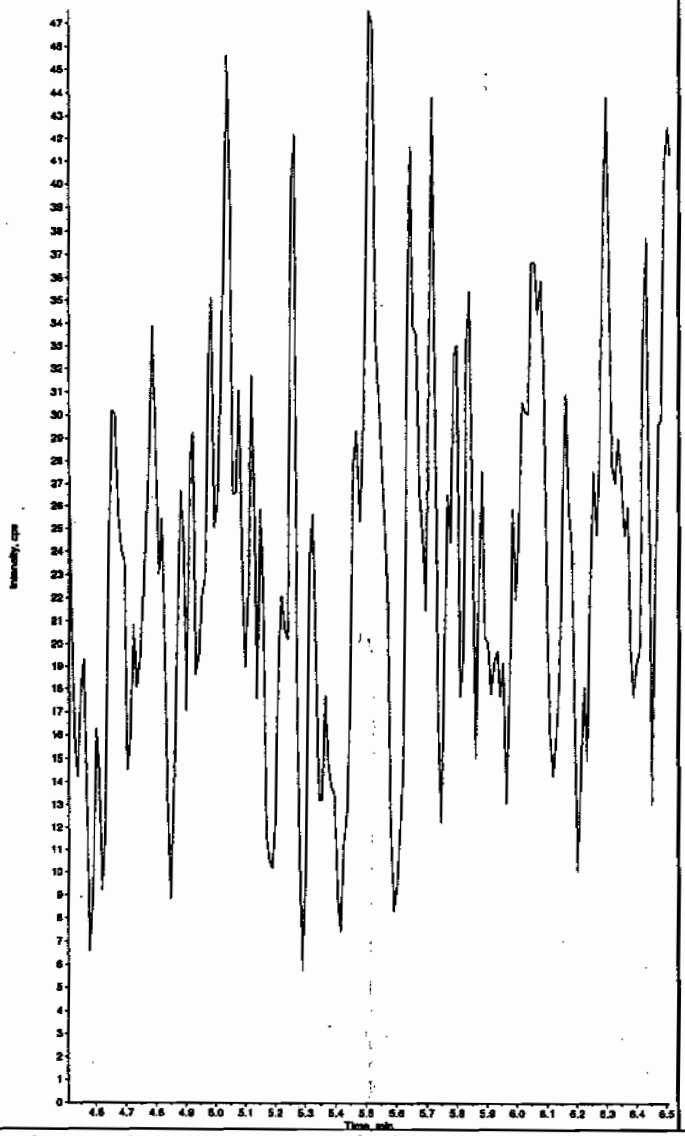
Sample Name: "243385007" Sample ID: "936359[2]LER" File: "EXS01070040.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:27:56 AM

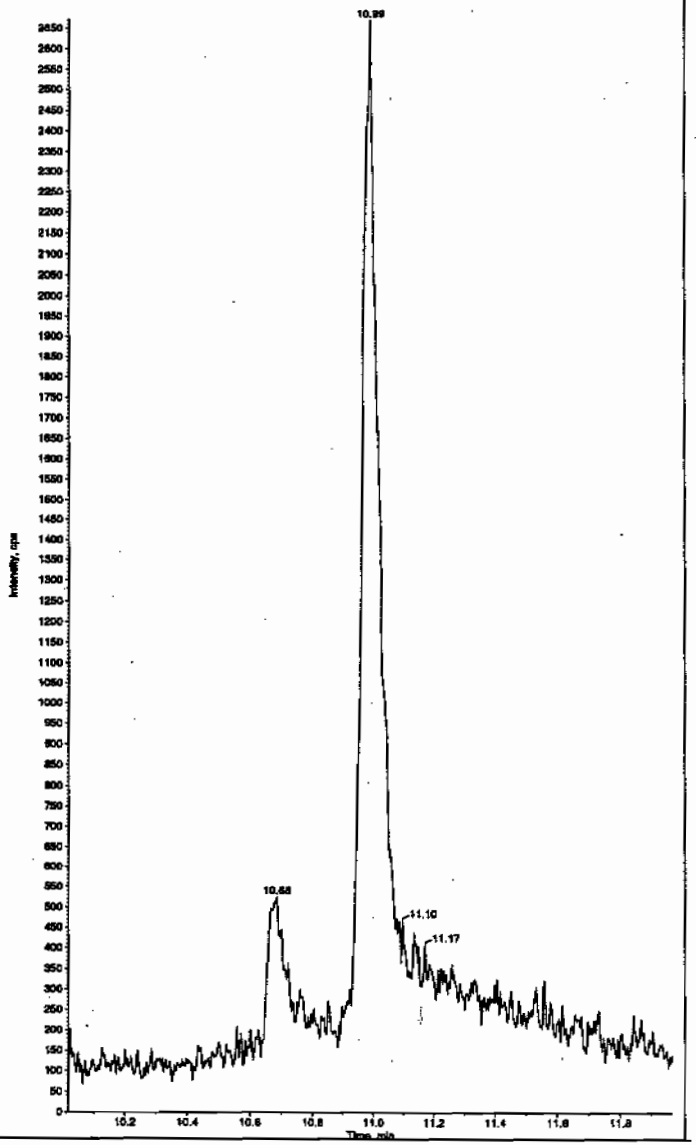
Modified: No



Sample Name: "243385007" Sample ID: "936359[2]LER" File: "EXS01070040.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:27:56 AM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7585

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385008

Sample Amount 2

Moisture: 8.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115036a

Date Analyzed: 16-JAN-10 08:06

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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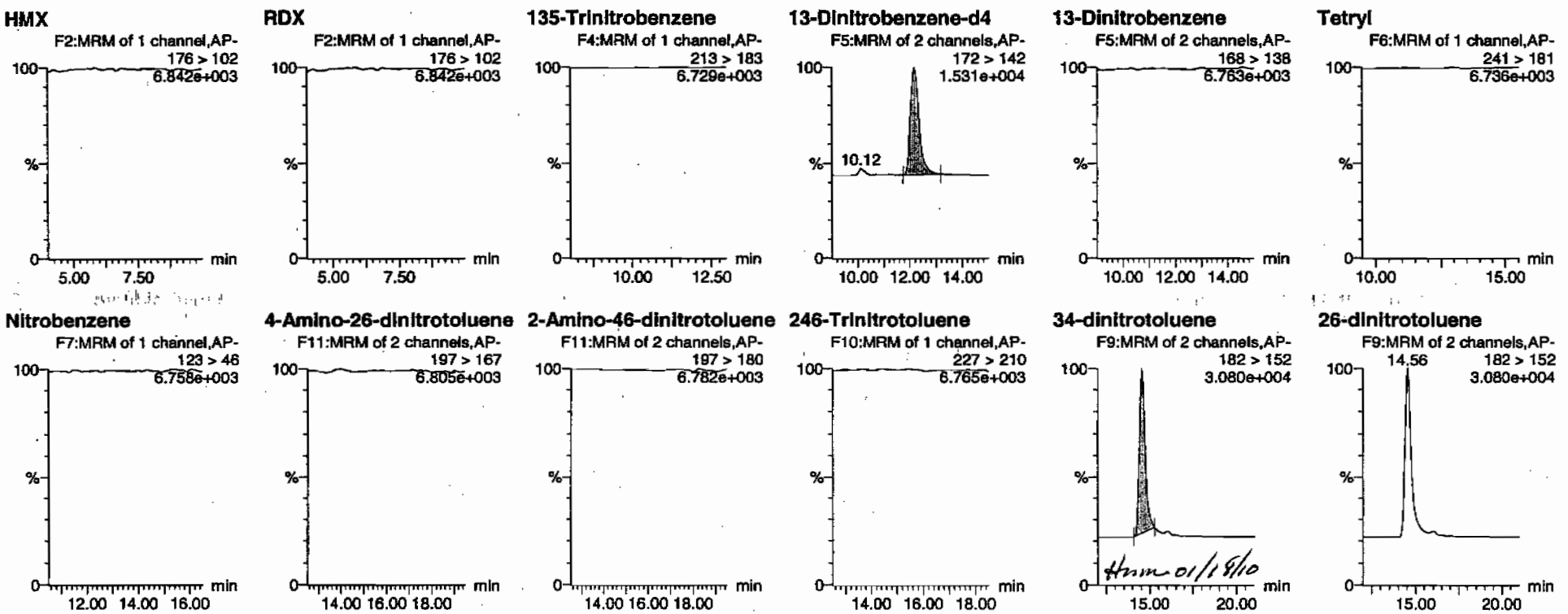
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115036a
Date: 16-Jan-2010
Time: 08:06:01
ID: 243385008
Vial: 1:6,F

LANL | 936359 | SOLID | 2

1/16/10

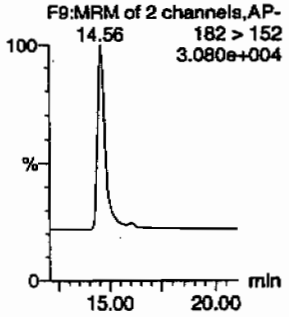


GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

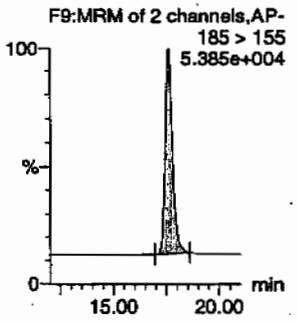
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

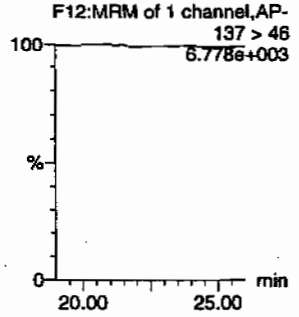
24-dinitrotoluene



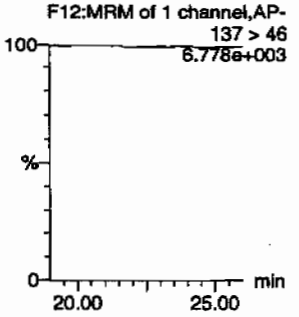
26-dinitrotoluene-d3



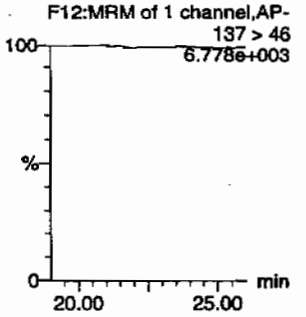
2-Nitrotoluene



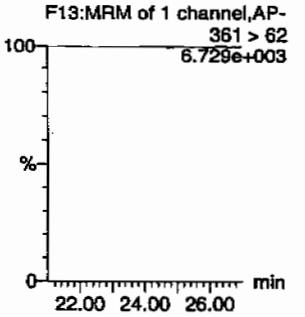
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flag	Mod Date	Mod Time	µg/mL	%Rec	%RSD	S/N
243385008	HMX	176 > 102			3259.708									
243385008	RDX	176 > 102			3259.708									
243385008	135-Trinitrobenzene	213 > 183			3259.708									
243385008	13-Dinitrobenzene-d4	172 > 142	12.18	3259.708		3259.708	3259.708	bb			589.1833	117.8	17.8	354.1
243385008	13-Dinitrobenzene	168 > 138			3259.708									
243385008	Tetryl	241 > 181			3259.708									
243385008	Nitrobenzene	123 > 46			3259.708									
243385008	4-Amino-26-dinitrotoluene	197 > 167			18937.057									
243385008	2-Amino-46-dinitrotoluene	197 > 180			18937.057									
243385008	246-Trinitrotoluene	227 > 210			18937.057									
243385008	34-dinitrotoluene	182 > 152	14.56	9261.814	18937.057	9261.814	244.542	bb			273.2797	109.3	9.3	582.2
243385008	26-dinitrotoluene	182 > 152			18937.057									
243385008	24-dinitrotoluene	182 > 152			18937.057									
243385008	26-dinitrotoluene-d3	185 > 155	17.62	18937.057		18937.057	18937.057	bb			594.9237	119.0	19.0	1608.3
243385008	2-Nitrotoluene	137 > 46			18937.057									
243385008	4-Nitrotoluene	137 > 46			18937.057									
243385008	3-Nitrotoluene	137 > 46			18937.057									
243385008	PETN	361 > 62			18937.057									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7585

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385008

Sample Amount 2

Moisture: 8.4

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070041.wiff

Date Analyzed: 08-JAN-10 00:43

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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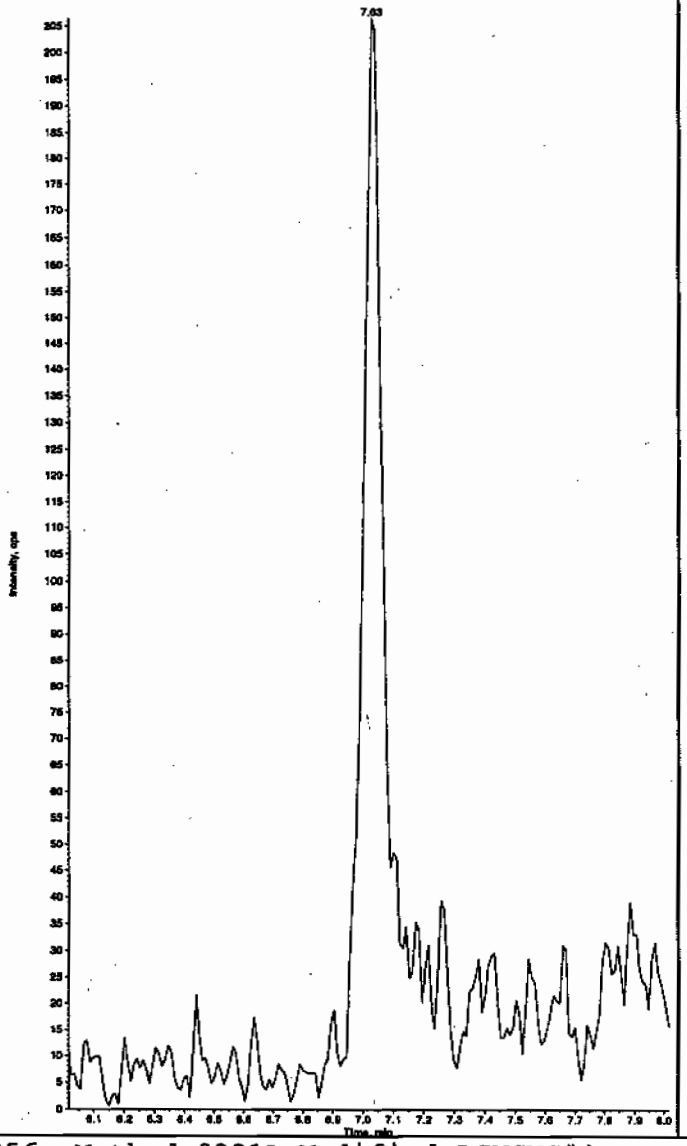
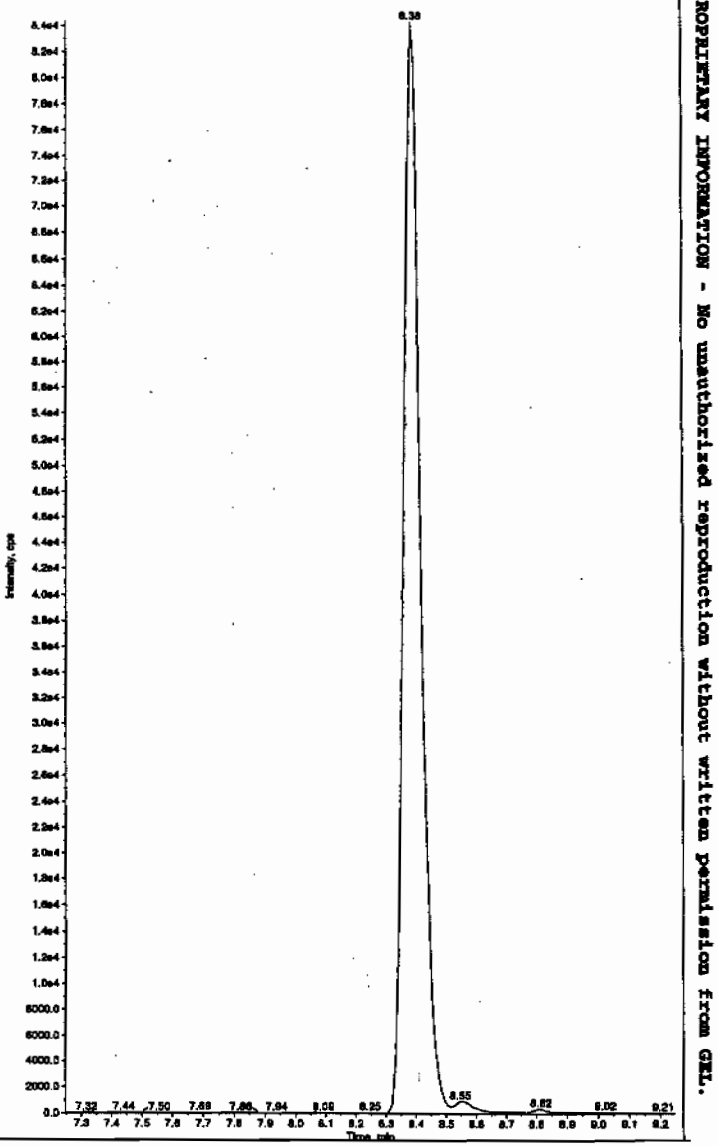
Sample Name: "243385008" Sample ID: "936359[2]LER" File: "EXS01070041.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:43:39 AM

Modified: No



Sample Name: "243385008" Sample ID: "936359[2]LER" File: "EXS01070041.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:43:39 AM

Modified: No



Hmm 01/08/10

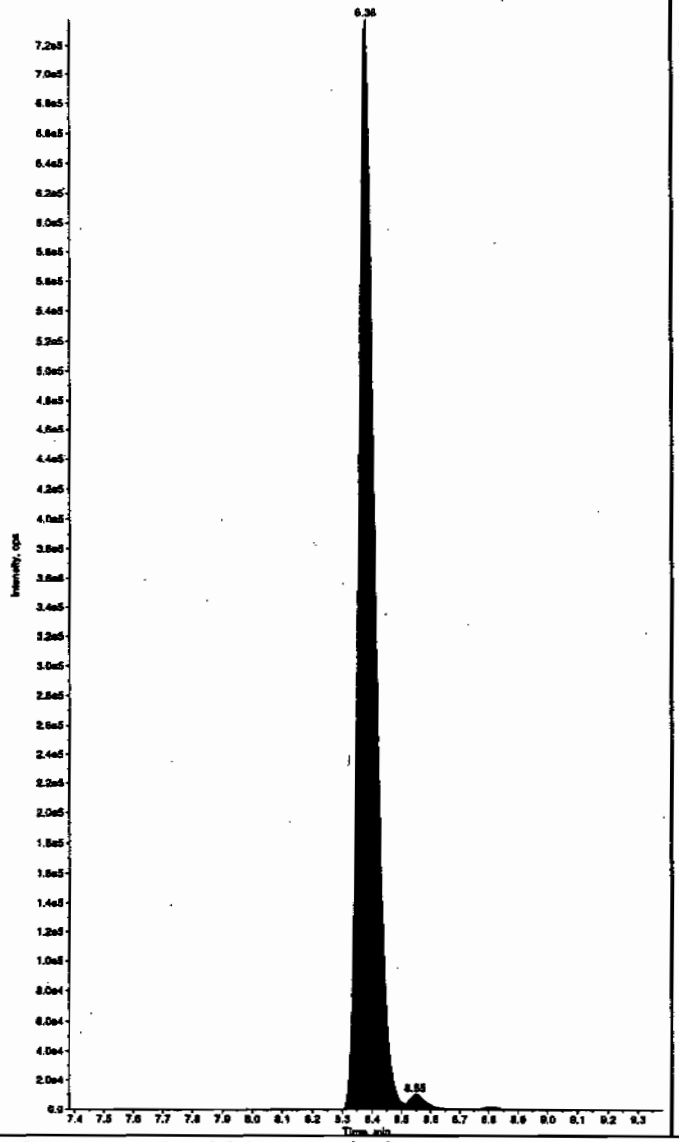
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "243365008" Sample ID: "936359[2]LER" File: "EXS01070041.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 221. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:43:39 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

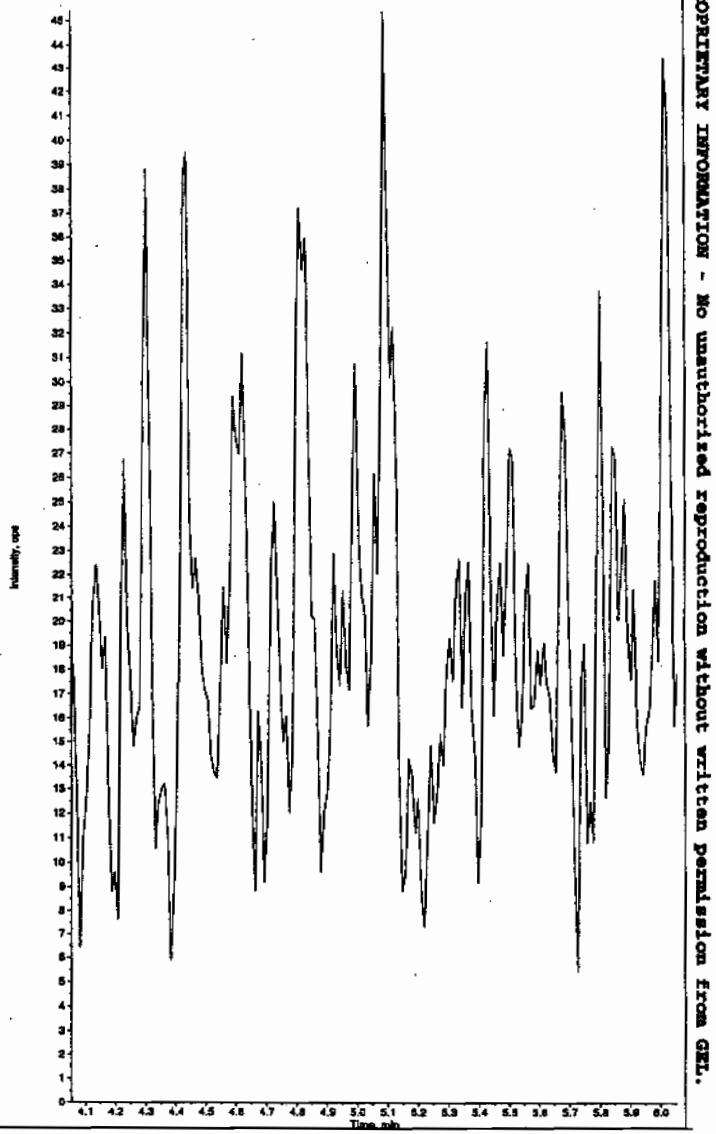
Int. Type: Valley
Retention Time: 8.38 min
Area: 2.93e+006 counts
Height: 737848.938 cps
Start Time: 8.26 min
End Time: 8.68 min



Sample Name: "243365008" Sample ID: "936359[2]LER" File: "EXS01070041.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:43:39 AM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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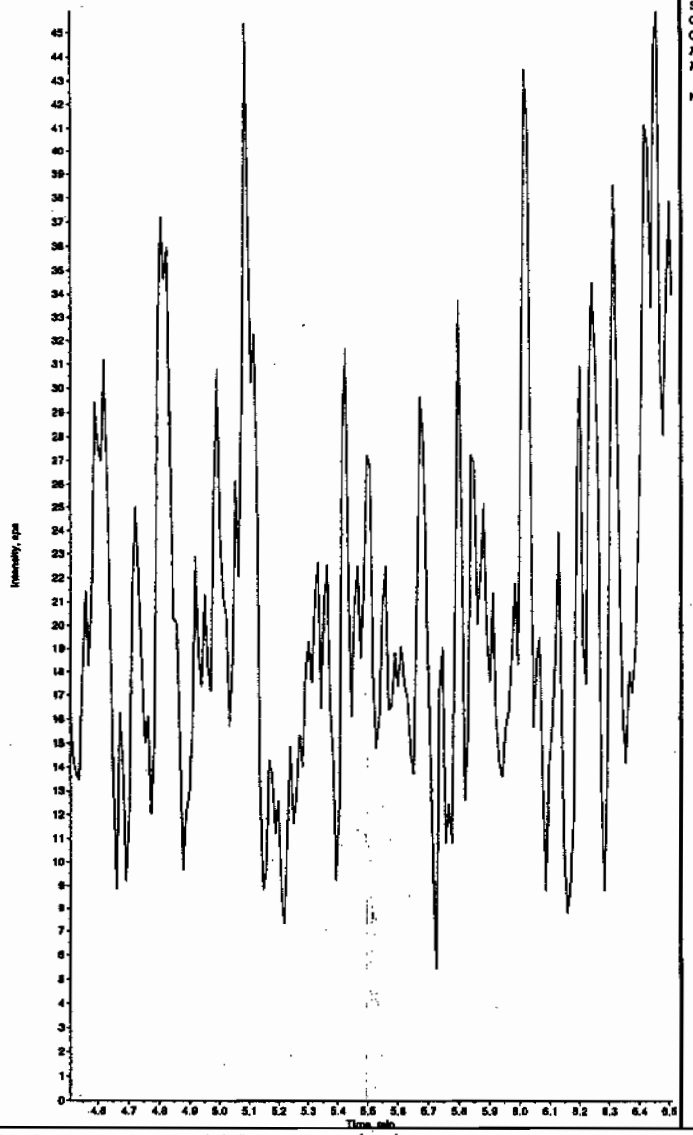
Sample Name: "243385006" Sample ID: "936359[2]LER" File: "EXS01070041.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/48.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:43:39 AM

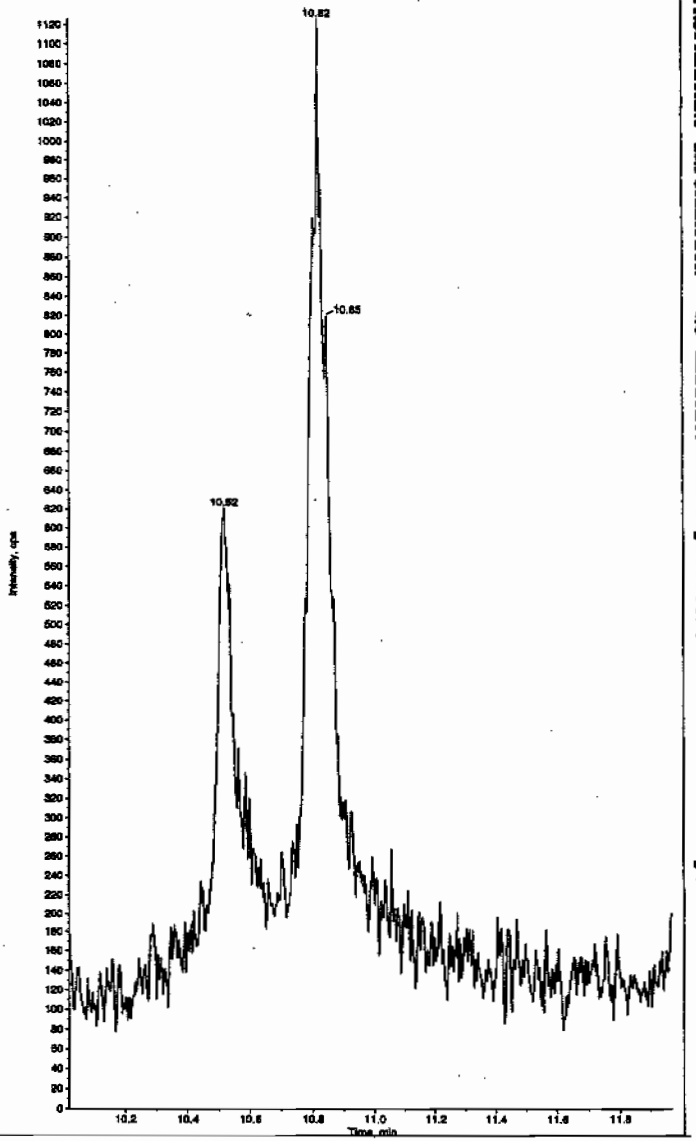
Modified: No



Sample Name: "243385006" Sample ID: "936359[2]LER" File: "EXS01070041.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:43:39 AM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7582

Lab Code: GEI

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385009

Sample Amount 2

Moisture: 7.2

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115037a

Date Analyzed: 16-JAN-10 08:35

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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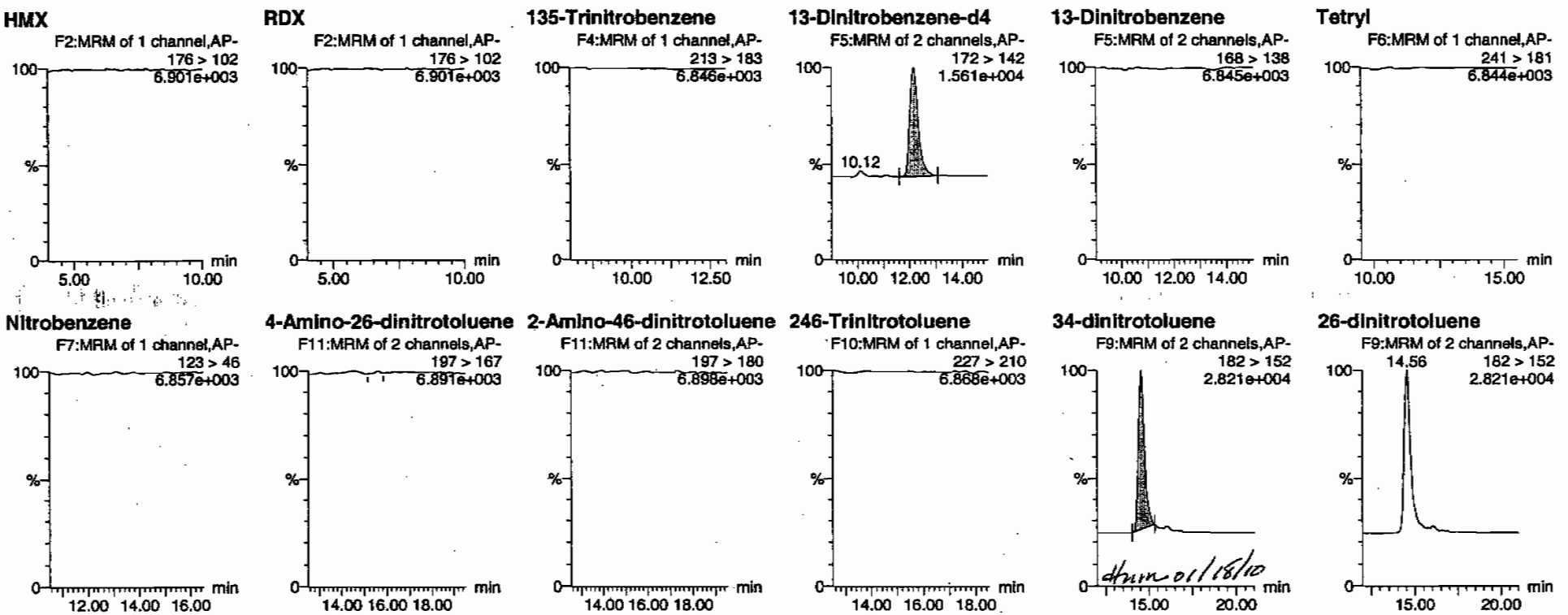
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115037a
Date: 16-Jan-2010
Time: 08:35:30
ID: 243385009 | LANL | 936359 | Solid | 2 |
Vial: 1:7,A

MAP 1/16/10

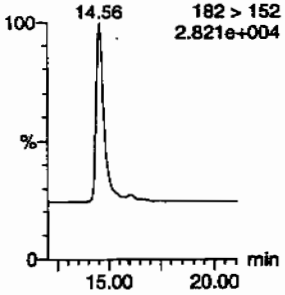


GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

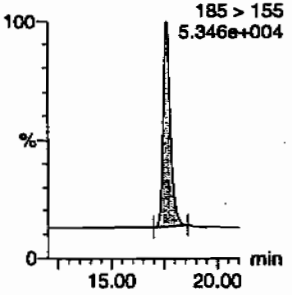
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

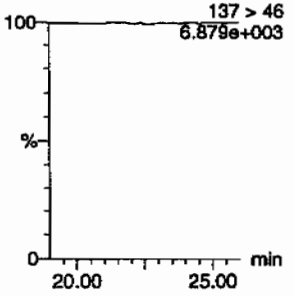
24-dinitrotoluene
F9:MRM of 2 channels,AP-
14.56 182 > 152
2.821e+004



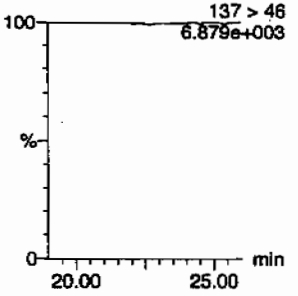
26-dinitrotoluene-d3
F9:MRM of 2 channels,AP-
185 > 155
5.346e+004



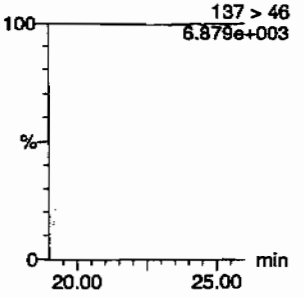
2-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.879e+003



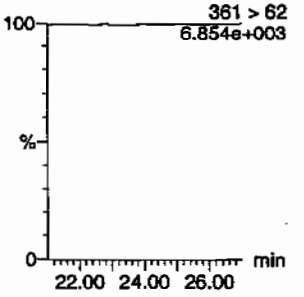
4-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.879e+003



3-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.879e+003



PETN
F13:MRM of 1 channel,AP-
361 > 62
6.854e+003



ID	Name	Trace	RT	Area	S/Area	Abs Resp	Response	Flags	Mod Date	Mod Time	Conc/Unit	%Rec	%Dev	S/N
243385009	HMX	176 > 102			3282.921									
243385009	RDX	176 > 102			3282.921									
243385009	135-Trinitrobenzene	213 > 183			3282.921									
243385009	13-Dinitrobenzene-d4	172 > 142	12.18	3282.921		3282.921	3282.921	bb			593.3790	118.7	18.7	196.2
243385009	13-Dinitrobenzene	168 > 138			3282.921									
243385009	Tetryl	241 > 181			3282.921									
243385009	Nitrobenzene	123 > 46			3282.921									
243385009	4-Amino-26-dinitrotoluene	197 > 167			18677.752			MM-	16-Jan-10	13:27:36				
243385009	2-Amino-46-dinitrotoluene	197 > 180			18677.752									
243385009	246-Trinitrotoluene	227 > 210			18677.752									
243385009	34-dinitrotoluene	182 > 152	14.56	8477.039	18677.752	8477.039	226.929	bb			253.5965	101.4	1.4	402.5
243385009	26-dinitrotoluene	182 > 152			18677.752									
243385009	24-dinitrotoluene	182 > 152			18677.752									
243385009	26-dinitrotoluene-d3	185 > 155	17.62	18677.752		18677.752	18677.752	bb			586.7774	117.4	17.4	1455.1
243385009	2-Nitrotoluene	137 > 46			18677.752									
243385009	4-Nitrotoluene	137 > 46			18677.752									
243385009	3-Nitrotoluene	137 > 46			18677.752									
243385009	PETN	361 > 62			18677.752									

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7582

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385009

Sample Amount 2

Moisture: 7.2

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070042.wiff

Date Analyzed: 08-JAN-10 00:59

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

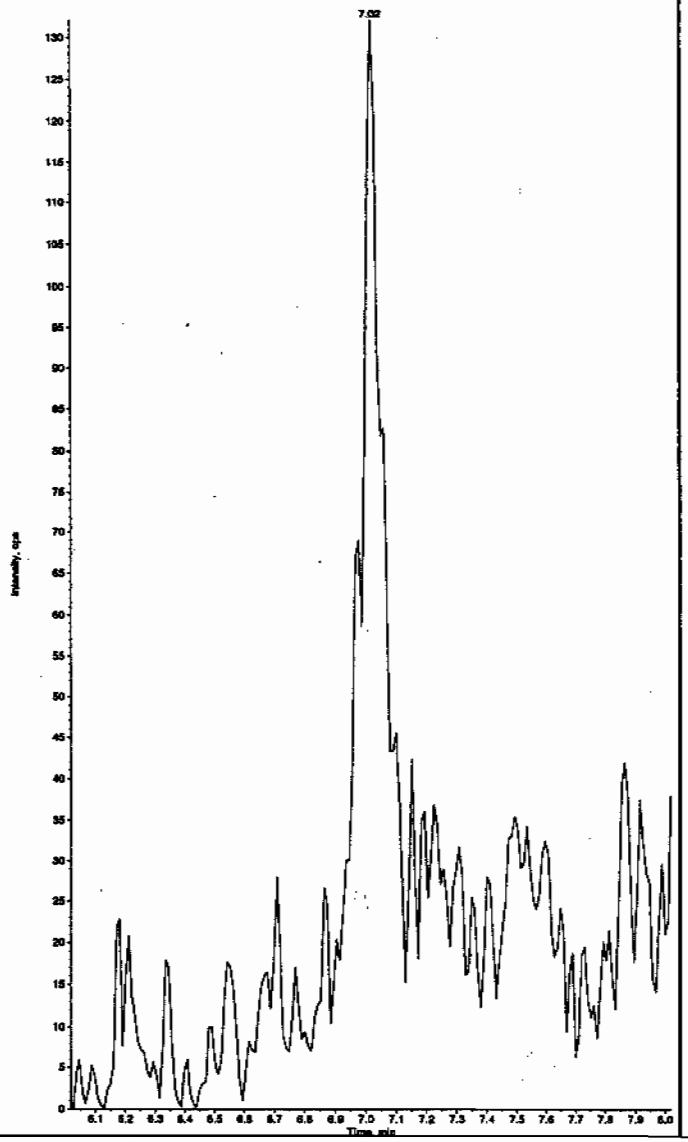
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Rev 1/8/10

Sample Name: "243385009" Sample ID: "936359|2|LER" File: "EXS01070042.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:59:22 AM

Modified: No

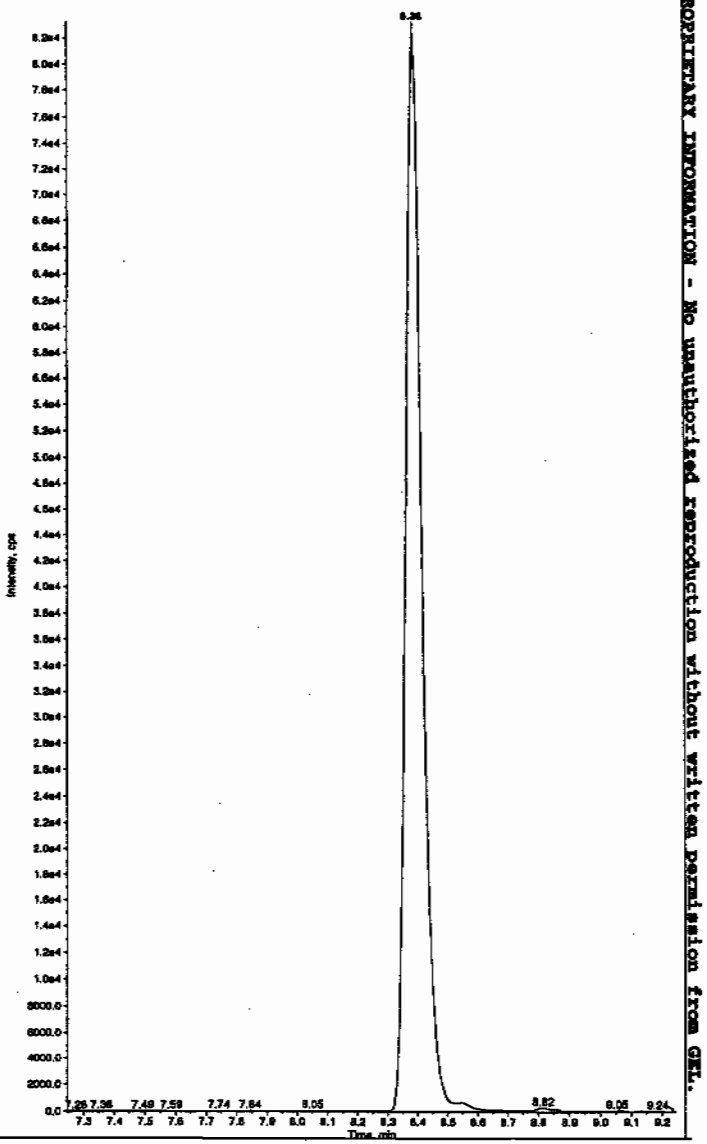


Sample Name: "243385009" Sample ID: "936359|2|LER" File: "EXS01070042.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/45.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:59:22 AM

Modified: No

HMM 01/08/10



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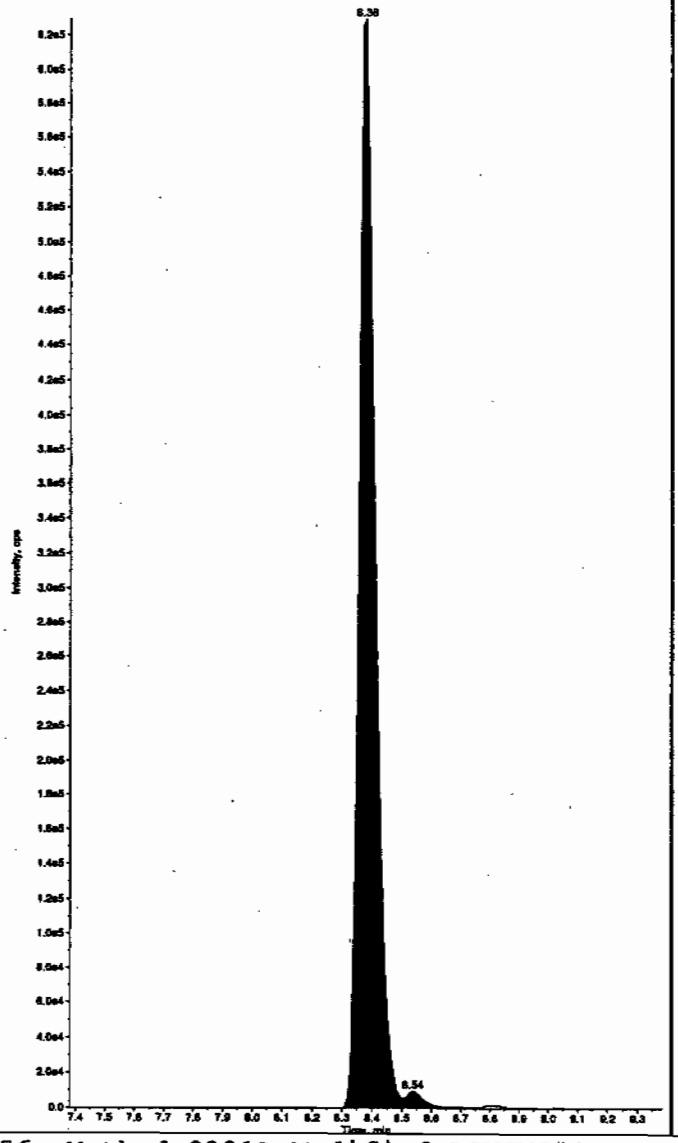
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "243385008" Sample ID: "938359|2|LER" File: "EXS01070042.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 186. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:59:22 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

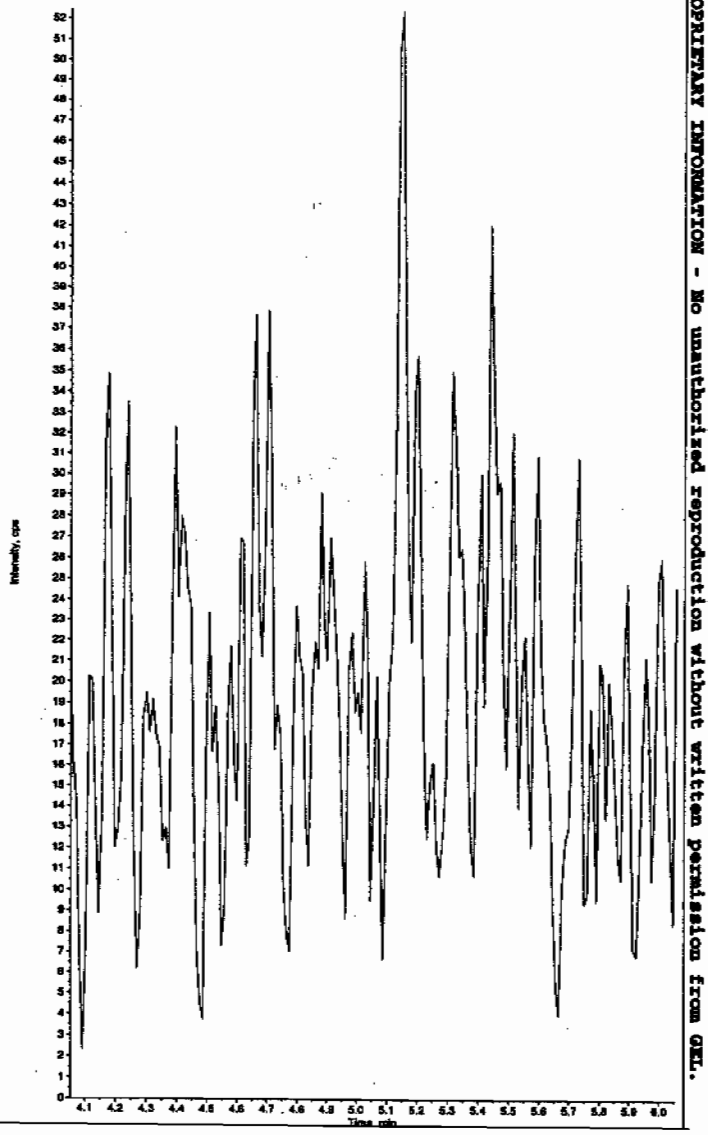
Int. Type: Valley
Retention Time: 8.38 min
Area: 2.48e+006 counts
Height: 629728.333 cps
Start Time: 8.27 min
End Time: 8.68 min



Sample Name: "243385009" Sample ID: "938359|2|LER" File: "EXS01070042.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:59:22 AM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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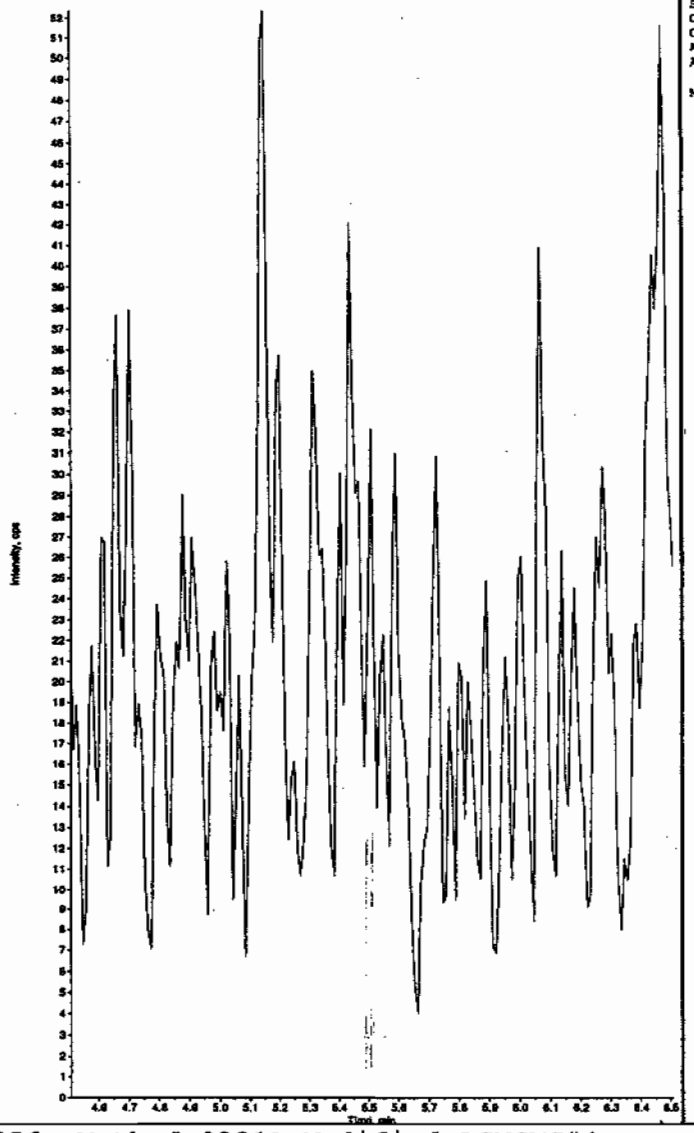
Sample Name: "243385009" Sample ID: "936359|2|LER" File: "EXS01070042.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:59:22 AM

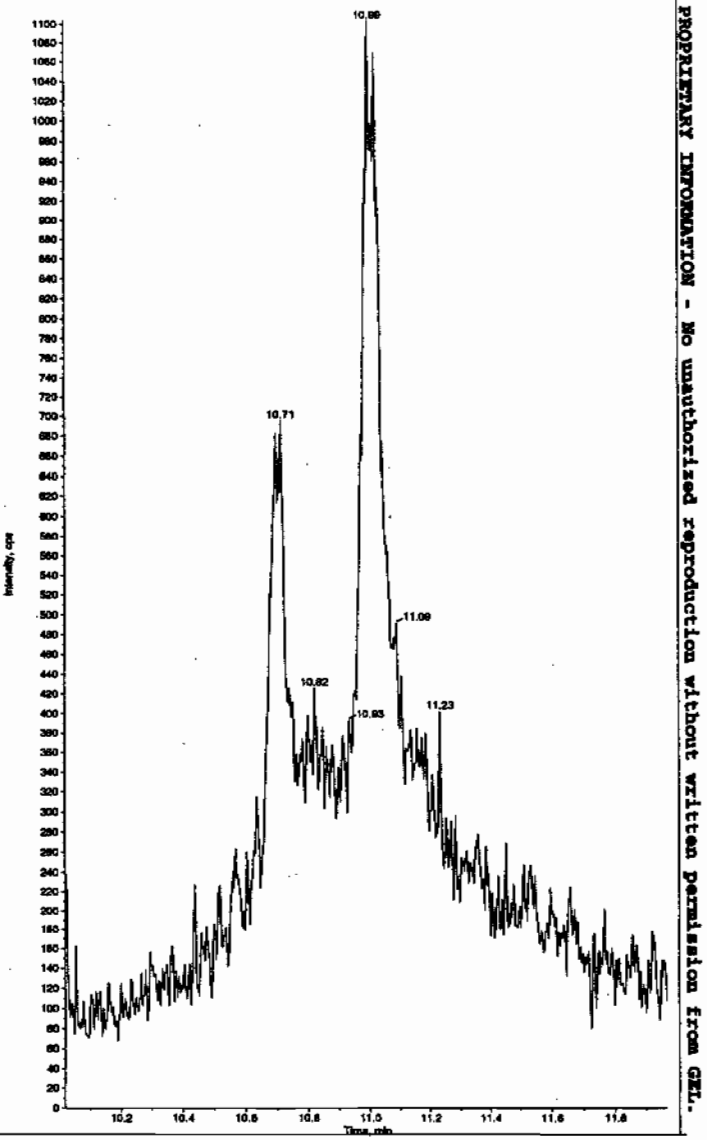
Modified: No



Sample Name: "243385009" Sample ID: "936359|2|LER" File: "EXS01070042.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "368.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:59:22 AM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7584

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385010

Sample Amount 2

Moisture: 7.3

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115038a

Date Analyzed: 16-JAN-10 09:05

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

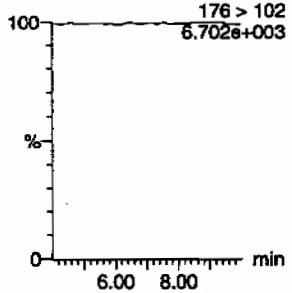
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

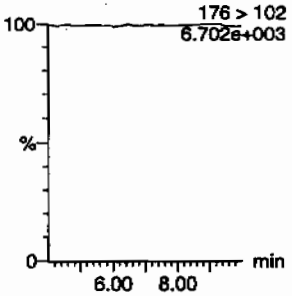
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115038a
Date: 16-Jan-2010
Time: 09:05:01
ID: 243385010 | LANL | 936359 | Soil | 21
Vial: 1:7,B

MM 1/16/10

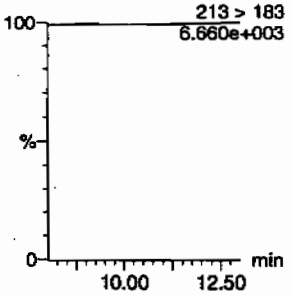
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.702e+003



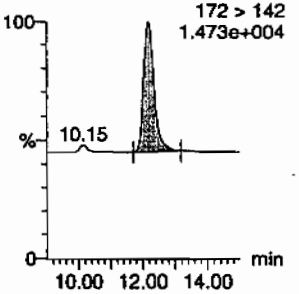
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.702e+003



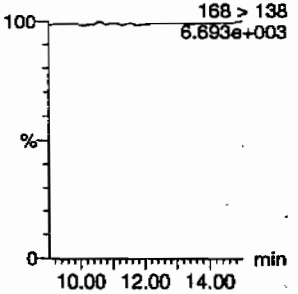
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.660e+003



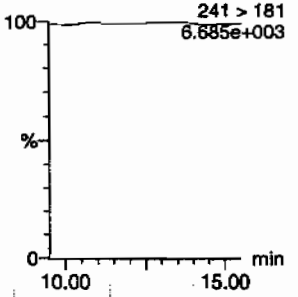
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.473e+004



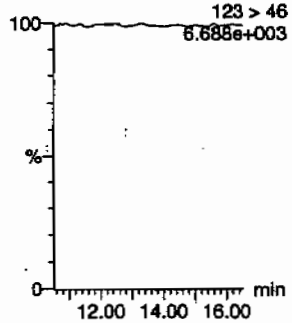
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.693e+003



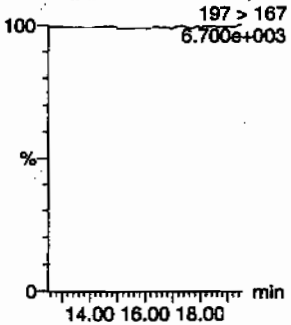
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.685e+003



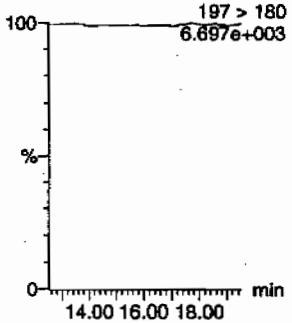
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.685e+003



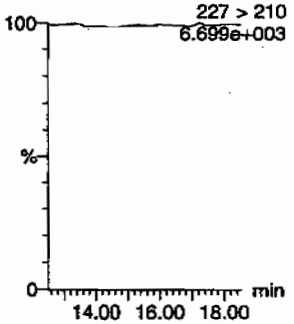
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.700e+003



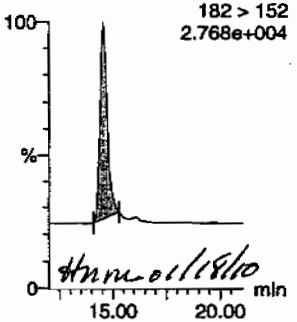
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.697e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.699e+003

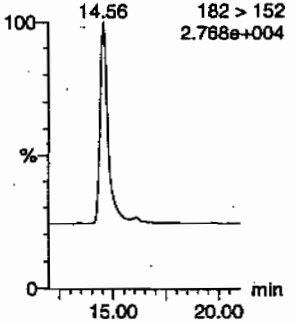


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
2.768e+004



HMM 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
14.56
182 > 152
2.768e+004



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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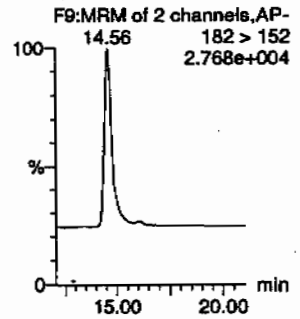
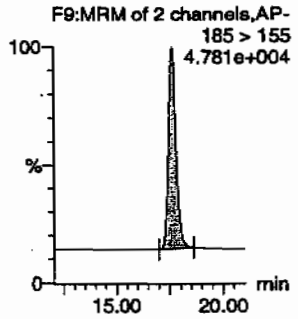
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

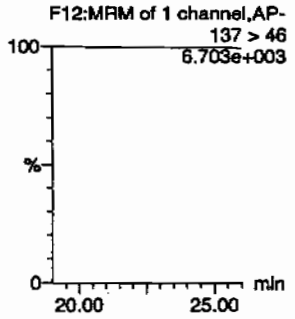
24-dinitrotoluene



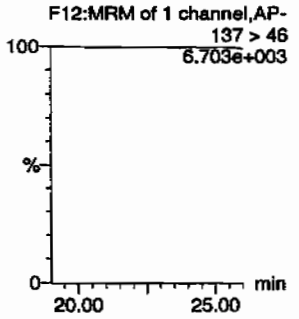
26-dinitrotoluene-d3



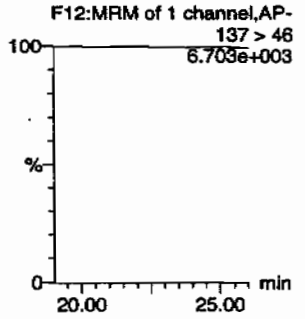
2-Nitrotoluene



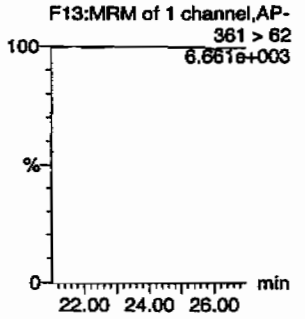
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	ISTDArea	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	RC S/N
243385010	HMX	176 > 102			3067.479									
243385010	RDX	176 > 102			3067.479									
243385010	135-Trinitrobenzene	213 > 183			3067.479									
243385010	13-Dinitrobenzene-d4	172 > 142	12.17	3067.479		3067.479	3067.479	bb			554.4385	110.9	10.9	140.4
243385010	13-Dinitrobenzene	168 > 138			3067.479									
243385010	Tetryl	241 > 181			3067.479									
243385010	Nitrobenzene	123 > 46			3067.479									
243385010	4-Amino-26-dinitrotoluene	197 > 167			16451.061									
243385010	2-Amino-46-dinitrotoluene	197 > 180			16451.061									
243385010	246-Trinitrotoluene	227 > 210			16451.061									
243385010	34-dinitrotoluene	182 > 152	14.56	8177.388	16451.061	8177.388	248.537	bb			277.7438	111.1	11.1	364.1
243385010	26-dinitrotoluene	182 > 152			16451.061									
243385010	24-dinitrotoluene	182 > 152			16451.061									
243385010	26-dinitrotoluene-d3	185 > 155	17.59	16451.061		16451.061	16451.061	bb			516.8240	103.4	3.4	1433.6
243385010	2-Nitrotoluene	137 > 46			16451.061									
243385010	4-Nitrotoluene	137 > 46			16451.061									
243385010	3-Nitrotoluene	137 > 46			16451.061									
243385010	PETN	361 > 62			16451.061									

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7584

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385010

Sample Amount 2

Moisture: 7.3

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070043.wiff

Date Analyzed: 08-JAN-10 01:15

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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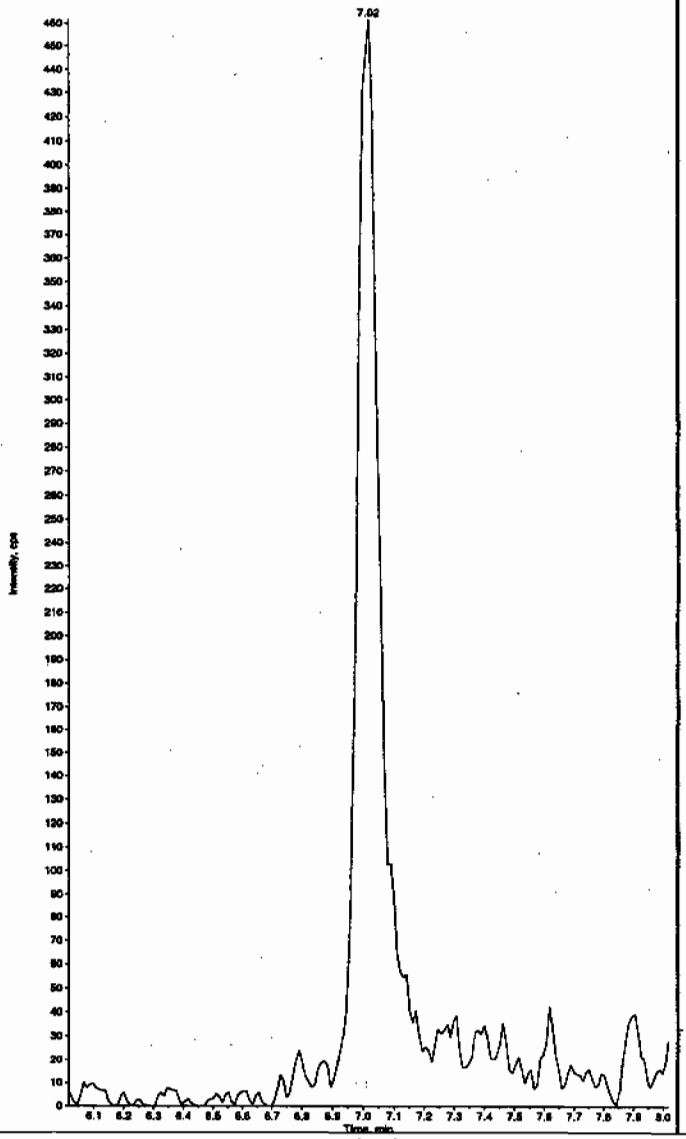
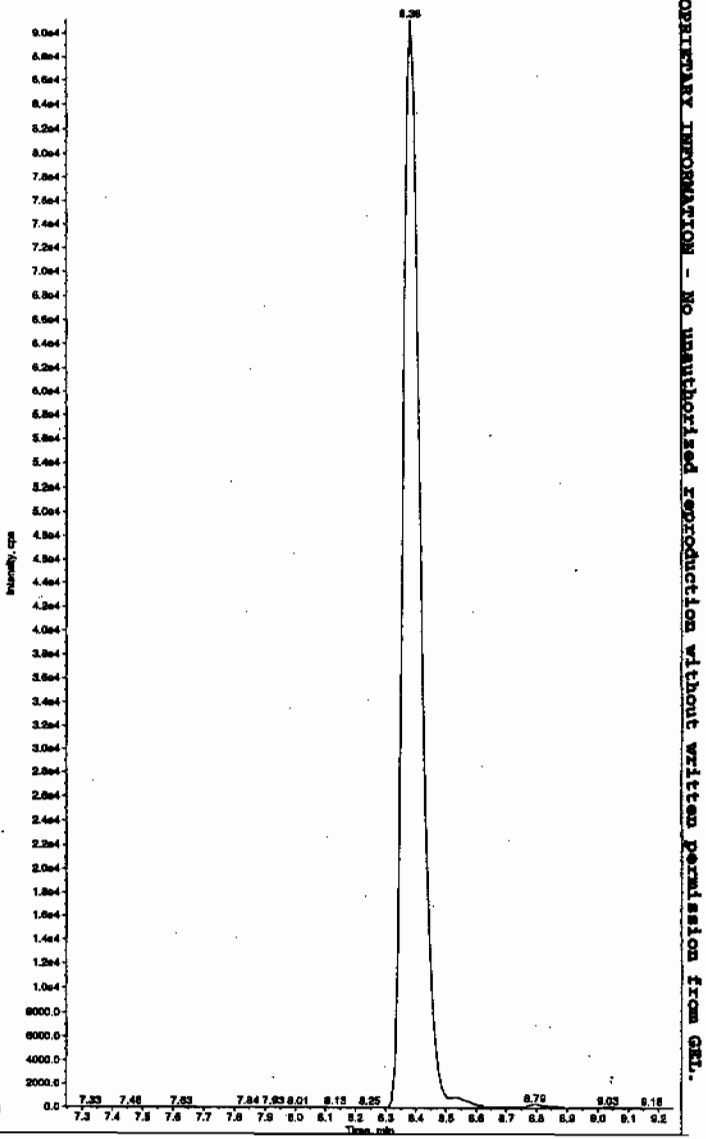
Sample Name: "243385010" Sample ID: "936359[2]LER" File: "EXS01070043.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:15:05 AM

Modified: No



Sample Name: "243385010" Sample ID: "936359[2]LER" File: "EXS01070043.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:15:05 AM

Modified: No



Hnm 01/08/10

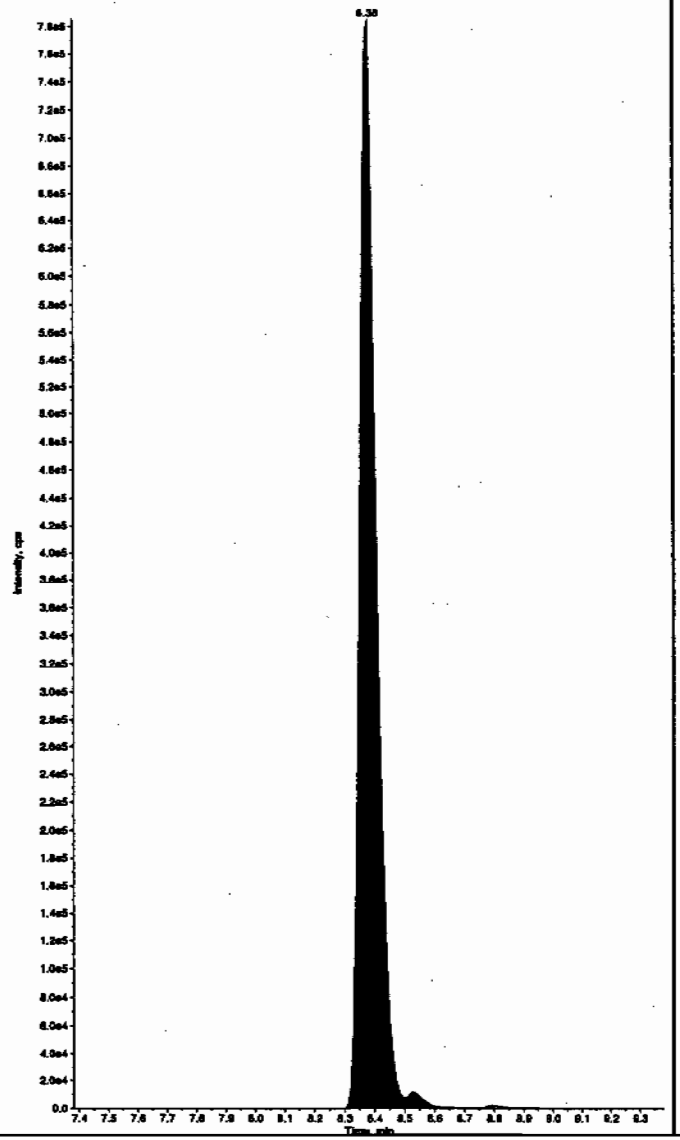
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "243385010" Sample ID: "936359[2]LER" File: "EXS01070043.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 239. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:15:05 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

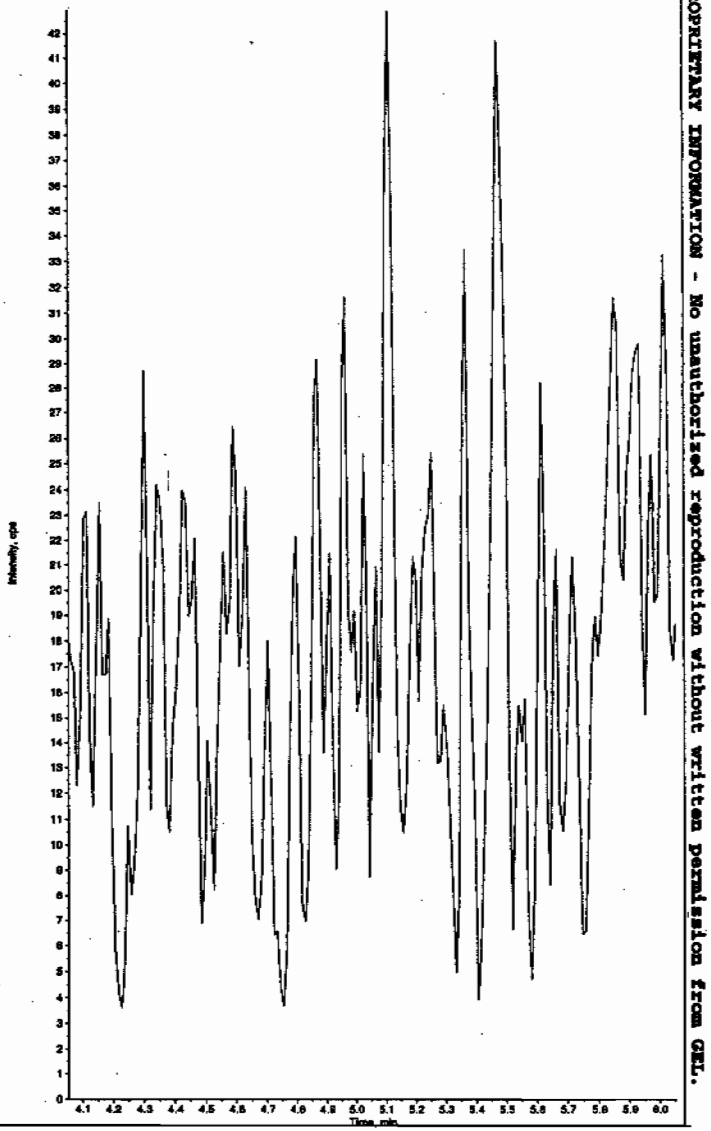
Int. Type: Valley
Retention Time: 8.38 min
Area: 3.16e+006 counts
Height: 786256.165 cps
Start Time: 8.29 min
End Time: 8.72 min



Sample Name: "243385010" Sample ID: "936359[2]LER" File: "EXS01070043.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:15:05 AM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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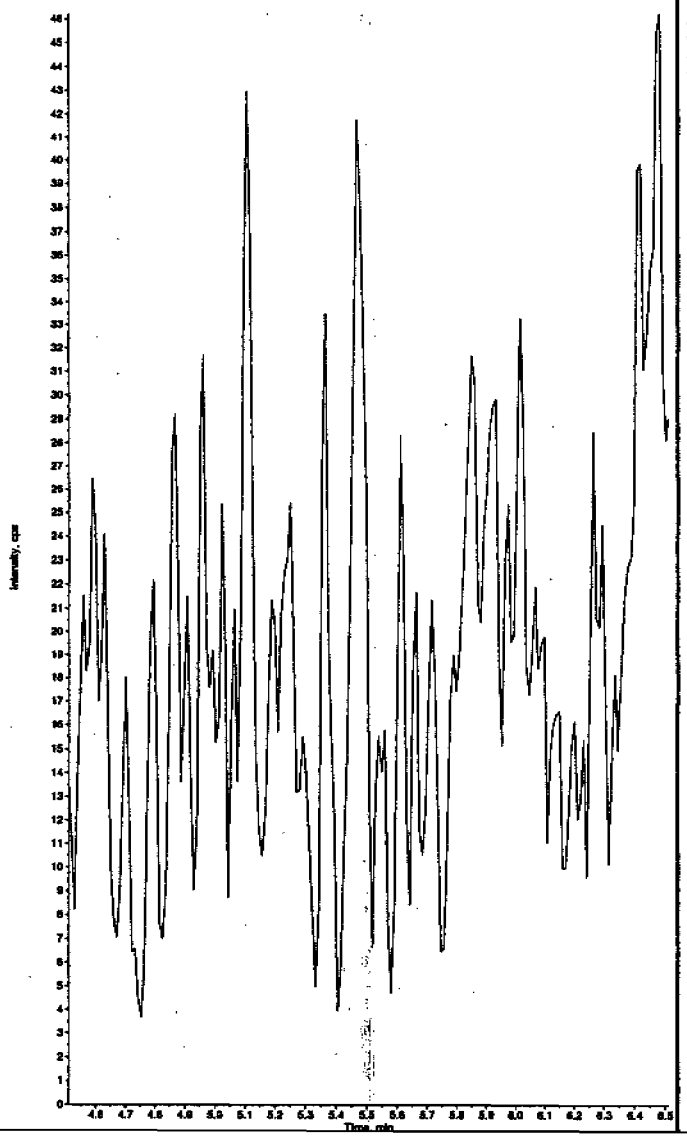
Sample Name: "243385010" Sample ID: "936359[2]LER" File: "EXS01070043.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:15:05 AM

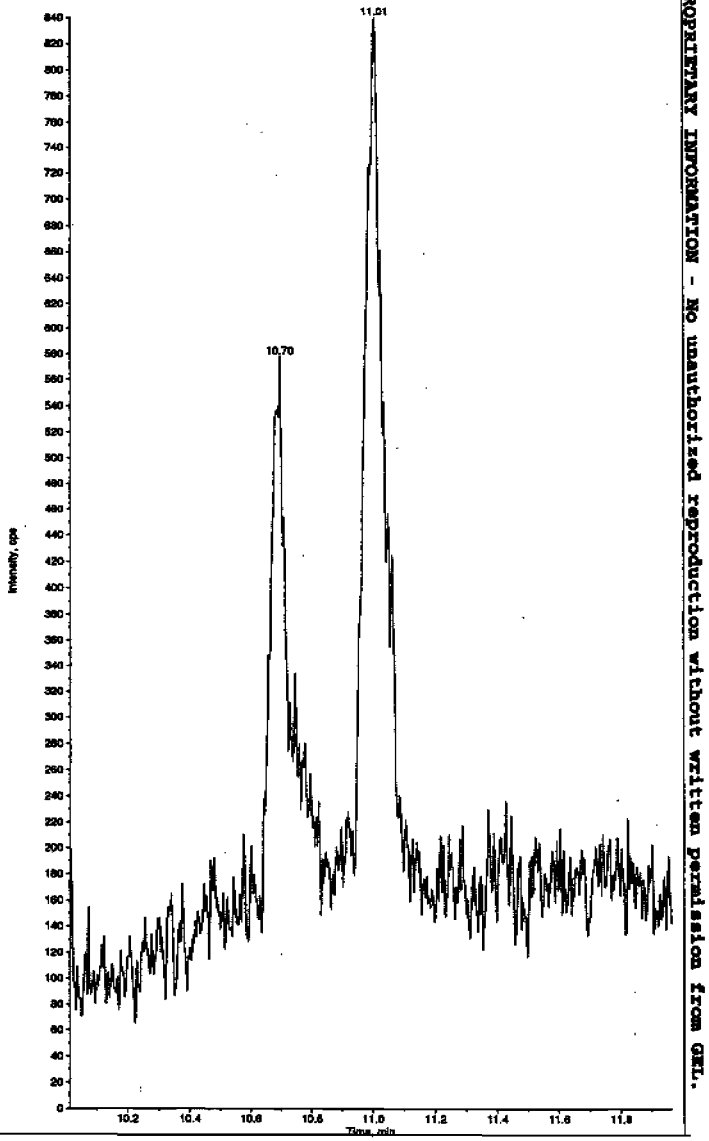
Modified: No



Sample Name: "243385010" Sample ID: "936359[2]LER" File: "EXS01070043.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:15:05 AM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7583

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385011

Sample Amount 2

Moisture: 6.7

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115039a

Date Analyzed: 16-JAN-10 09:34

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

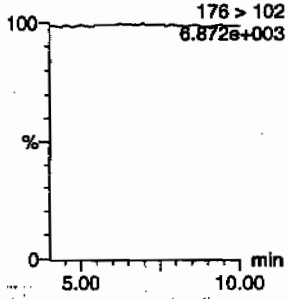
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

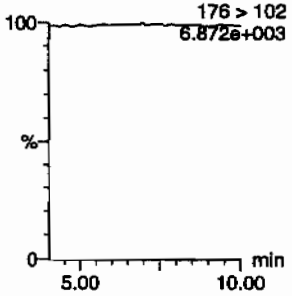
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115039a
Date: 16-Jan-2010
Time: 09:34:31
ID: 243385011 | LANL | 936359 | Soil | 21
Vial: 1:7,C

MAP 1/16/10

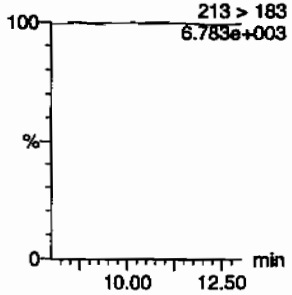
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.872e+003



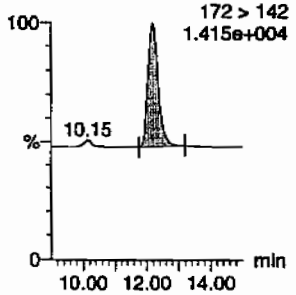
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.872e+003



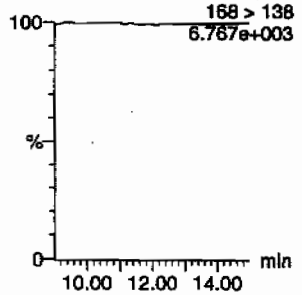
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.783e+003



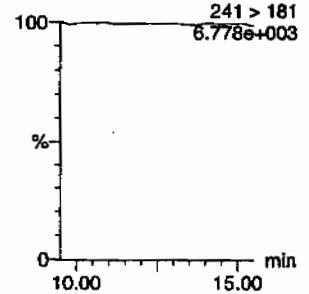
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.415e+004



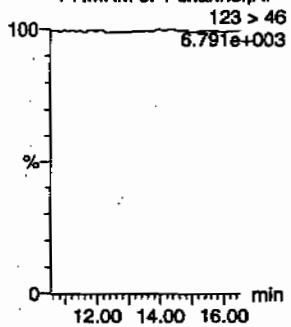
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.767e+003



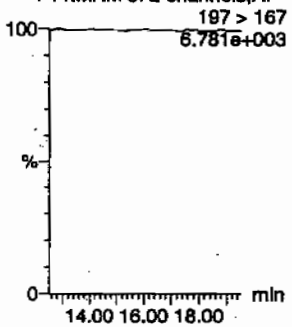
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.778e+003



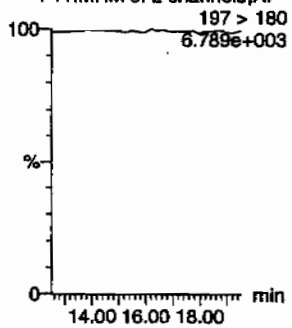
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.791e+003



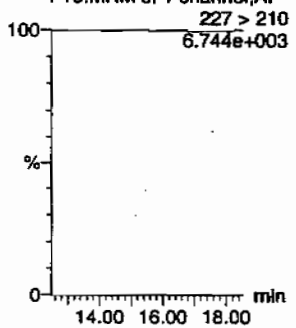
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.781e+003



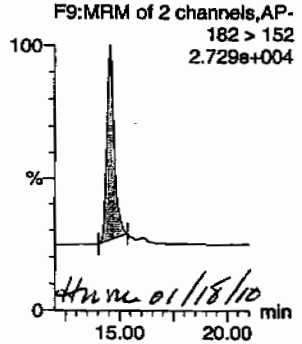
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.789e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.744e+003

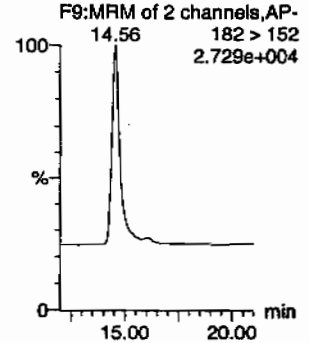


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
2.729e+004



HMM 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
14.56
182 > 152
2.729e+004



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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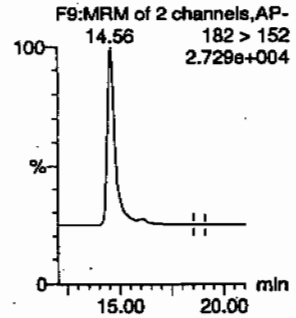
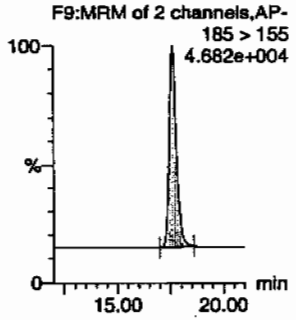
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

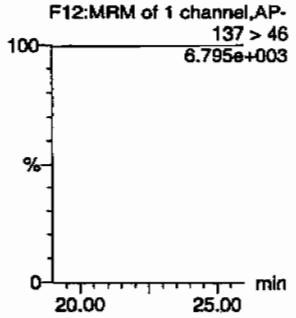
24-dinitrotoluene



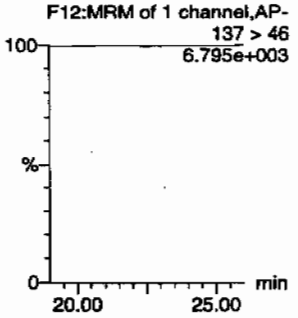
26-dinitrotoluene-d3



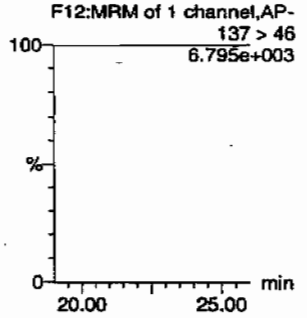
2-Nitrotoluene



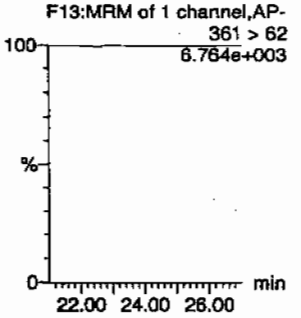
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
243385011	HMX	176 > 102			2775.644									
243385011	RDX	176 > 102			2775.644									
243385011	135-Trinitrobenzene	213 > 183			2775.644									
243385011	13-Dinitrobenzene-d4	172 > 142	12.17	2775.644		2775.644	2775.644	bb			501.6901	100.3	0.3	208.3
243385011	13-Dinitrobenzene	168 > 138			2775.644									
243385011	Tetryl	241 > 181			2775.644									
243385011	Nitrobenzene	123 > 46			2775.644									
243385011	4-Amino-26-dinitrotoluene	197 > 167			16037.165									
243385011	2-Amino-46-dinitrotoluene	197 > 180			16037.165									
243385011	246-Trinitrotoluene	227 > 210			16037.165									
243385011	34-dinitrotoluene	182 > 152	14.56	7981.017	16037.165	7981.017	248.829	bb			278.0702	111.2	11.2	519.2
243385011	26-dinitrotoluene	182 > 152			16037.165									
243385011	24-dinitrotoluene	182 > 152			16037.165			MM-	16-Jan-10	13:36:28				
243385011	26-dinitrotoluene-d3	185 > 155	17.62	16037.165		16037.165	16037.165	bb			503.8211	100.8	0.8	1095.0
243385011	2-Nitrotoluene	137 > 46			16037.165									
243385011	4-Nitrotoluene	137 > 46			16037.165									
243385011	3-Nitrotoluene	137 > 46			16037.165									
243385011	PETN	361 > 62			16037.165									

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7583

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 243385011

Sample Amount 2

Moisture: 6.7

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070044.wiff

Date Analyzed: 08-JAN-10 01:30

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

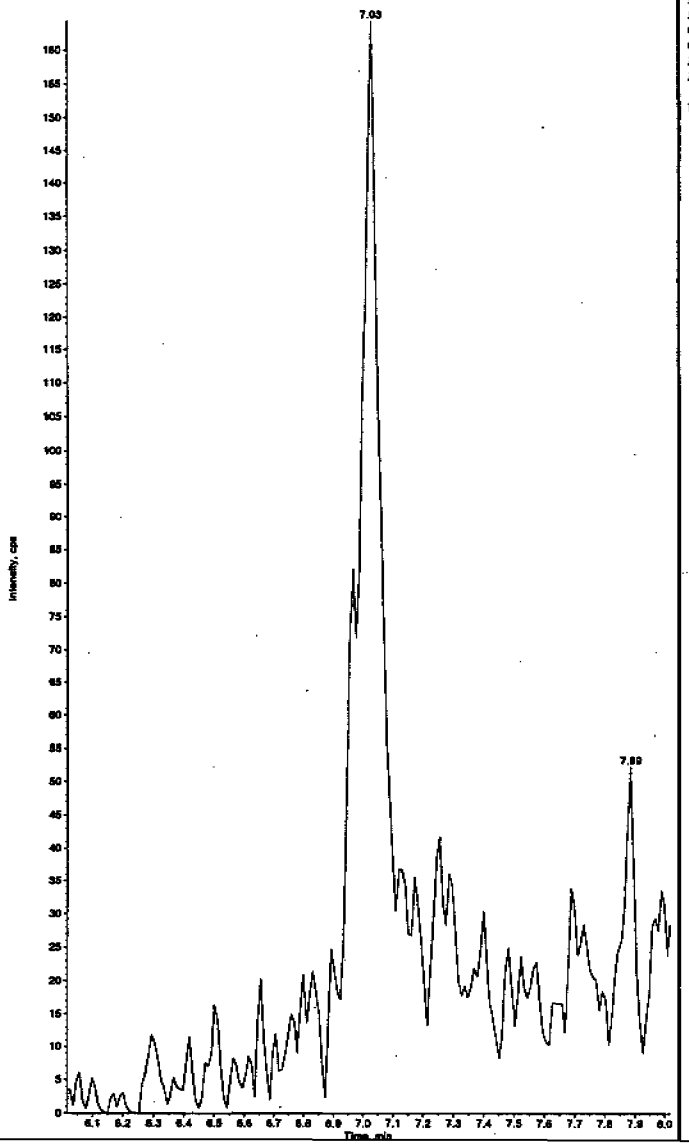
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Lar 1/8/10

Sample Name: "243385011" Sample ID: "936359[2]LER" File: "EXS01070044.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:30:47 AM

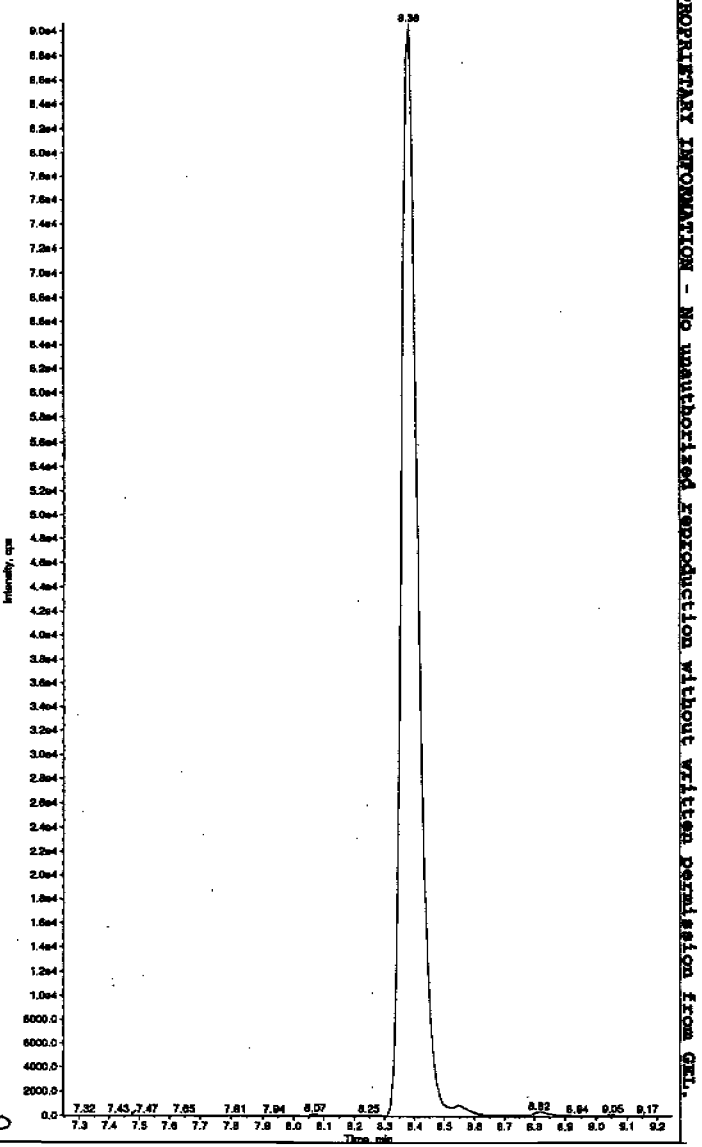
Modified: No



Sample Name: "243385011" Sample ID: "936359[2]LER" File: "EXS01070044.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:30:47 AM

Modified: No



Hmm 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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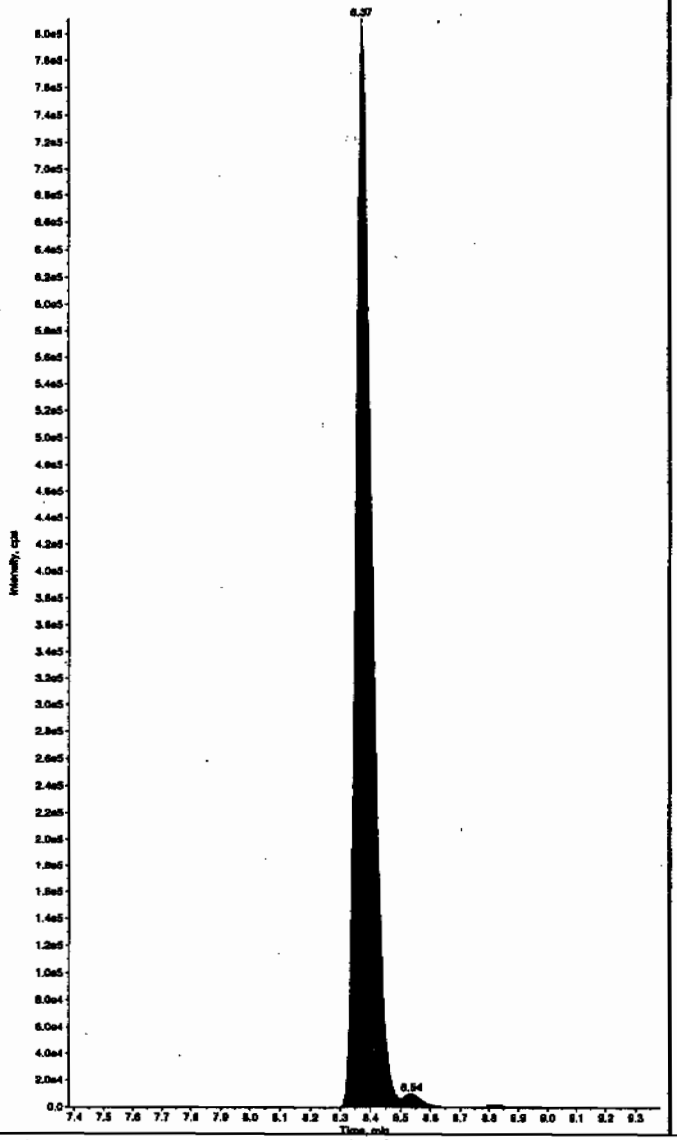
Sample Name: "243385011" Sample ID: "936359[2]LER" File: "EXS01070044.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 234. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:30:47 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

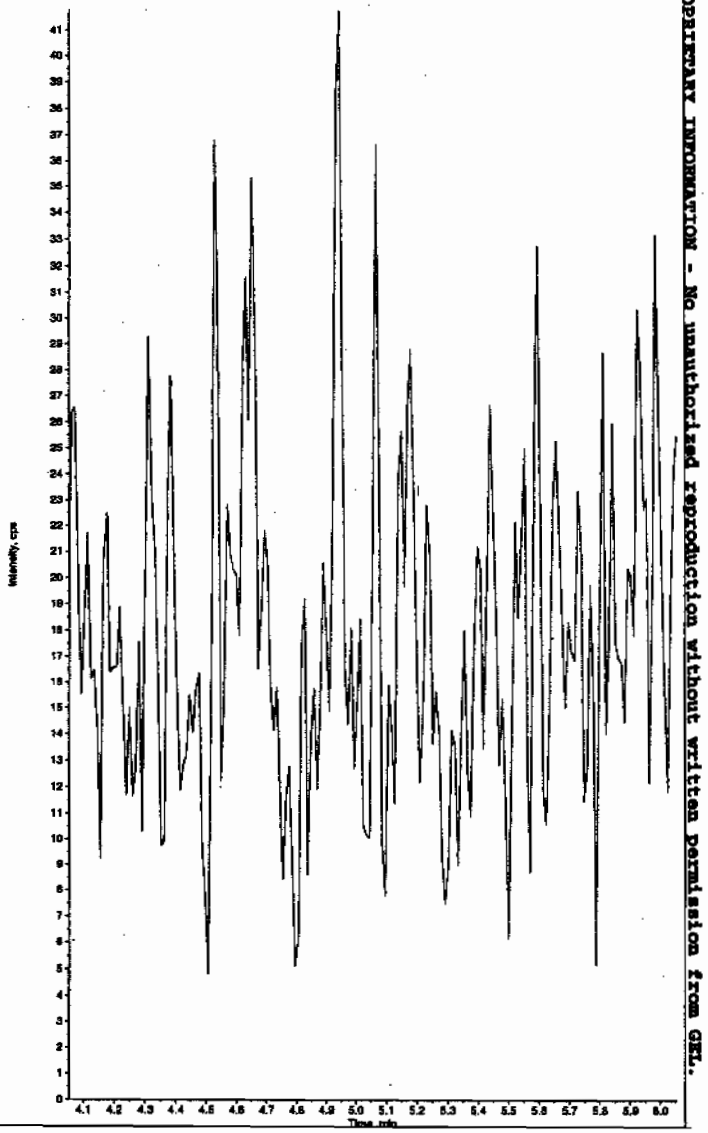
Int. Type: Valley
Retention Time: 8.37 min
Area: 3.09e+006 counts
Height: 812425.171 cps
Start Time: 8.28 min
End Time: 8.73 min



Sample Name: "243385011" Sample ID: "936359[2]LER" File: "EXS01070044.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:30:47 AM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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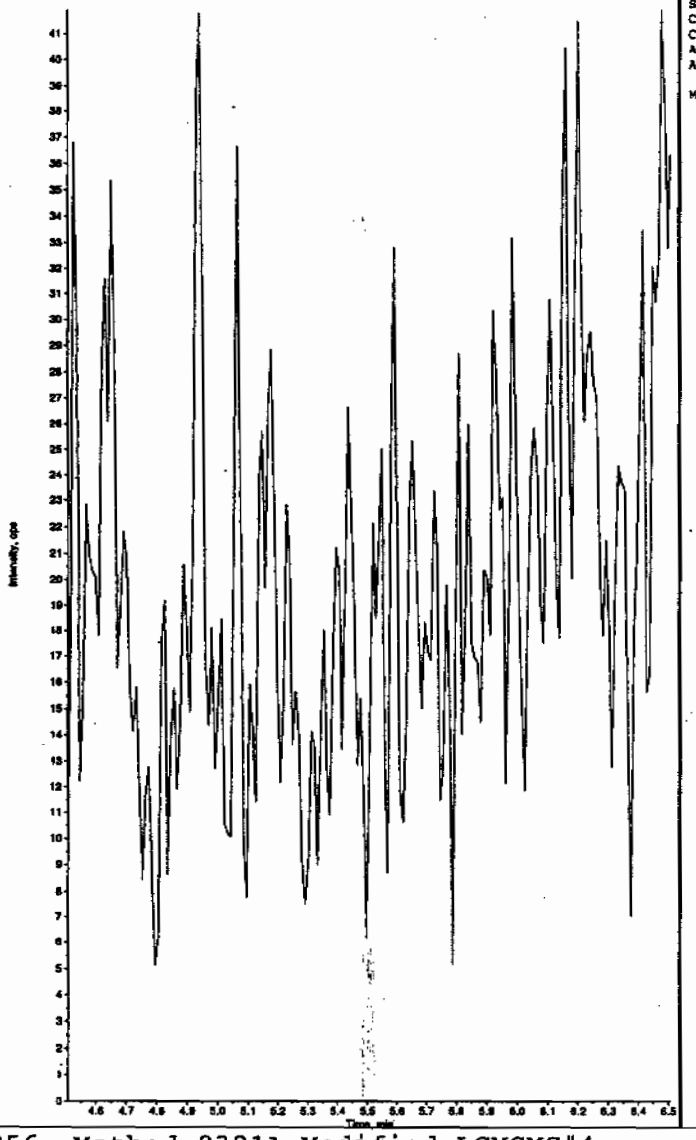
Sample Name: "243385011" Sample ID: "936359[2]LER" File: "EXS01070044.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:30:47 AM

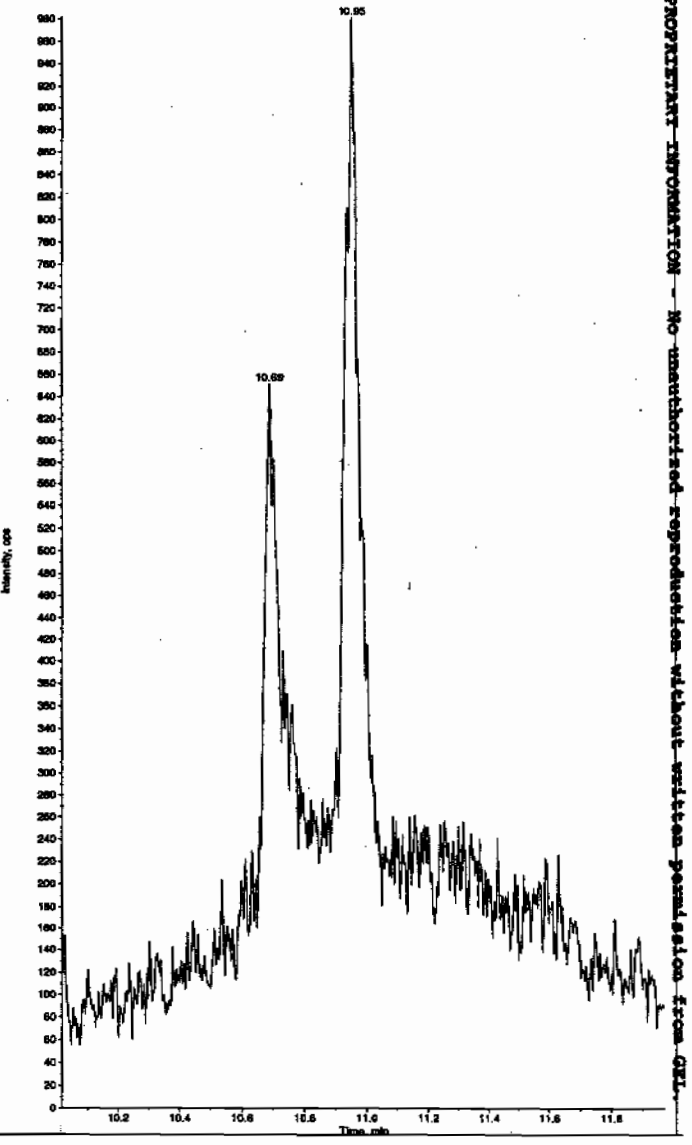
Modified: No



Sample Name: "243385011" Sample ID: "936359[2]LER" File: "EXS01070044.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:30:47 AM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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STANDARDS DATA

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SW846 8321A Modified-Explosives
Calibration Standard Concentration Levels

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	CCV
3,4-Dinitrotoluene (Surrogate)	12.5	25	100	200	400	500		300
Primary Analytes								
HMX	25	50	200	400	800	1000	na	600
RDX	25	50	200	400	800	1000	na	600
DNX	25	50	200	400	800	1000	na	600
MNX	25	50	200	400	800	1000	na	600
TNX	25	50	200	400	800	1000	na	600
1,3,5-Trinitrobenzene	25	50	200	400	800	1000	na	600
1,3-Dinitrobenzene	25	50	200	400	800	1000	na	600
Nitrobenzene	25	50	200	400	800	1000	na	600
Tetryl	25	50	200	400	800	1000	na	600
Nitroglycerin	50	100	200	400	800	1000	na	600
2,4,6-Trinitrotoluene	25	50	200	400	800	1000	na	600
2-Amino-4,6-dinitrotoluene	25	50	200	400	800	1000	na	600
4-Amino-2,6-dinitrotoluene	25	50	200	400	800	1000	na	600
2,4-Dinitrotoluene	25	50	200	400	800	1000	na	600
2,6-Dinitrotoluene	25	50	200	400	800	1000	na	600
2-Nitrotoluene	25	50	200	400	800	1000	na	600
4-Nitrotoluene	25	50	200	400	800	1000	an	600
3-Nitrotoluene	25	50	200	400	800	1000	na	600
PETN	25	50	200	400	800	1000	na	600
Picric Acid	200	400	1600	3200	6400	8000	na	4800
3,4-Dinitrotoluene (Surrogate)	25	50	125	250	375	500	1000	250
Secondary Analytes								
2,4-Diamino-6-nitrotoluene	50	100	250	500	750	1000	2000	500
2,6-Diamino-4-nitrotoluene	50	100	250	500	750	1000	2000	500
3,5-Dinitroaniline	50	100	250	500	750	1000	2000	500
TATB	50	100	250	500	750	1000	2000	500
tris(o-Cresyl)phosphate	50	100	250	500	750	1000	2000	500

All values are ug/L without the prep factor

Calibration Levels 8321A-Modified-EXPL.xls (08/09A)

Explosives Initial Calibration

Form 6

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1032

Lab Code: GEL

Run Date: 07-JAN-10,15-JAN-10,17-JAN-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: Average RF

Calibration Level:	1	2	3	4	5	6	Ave RF	RSD	Q
Data File:	EXP0115003a	EXP0115004a	EXP0115005a	EXP0115006a	EXP0115007a	EXP0115008a			
Parmname									
1,3,5-Trinitrobenzene	3.961	3.68	3.826	3.294	3.644	3.178	3.597	8.441	
1,3-Dinitrobenzene-d4	5.166	6.314	5.508	6.013	4.693	5.502	5.533	10.484	
2,4,6-Trinitrotoluene	.373	.244	.308	.341	.352	.403	0.337	16.514	
2,4-Dinitrotoluene	.263	.21	.225	.229	.254	.248	0.238	8.373	
2,6-Dinitrotoluene	1.155	1.067	1.067	1.068	1.084	1.073	1.086	3.198	
2,6-Dinitrotoluene-d3	32.825	40.575	30.818	32.505	27.107	27.157	31.831	15.587	
2-Amino-4,6-dinitrotoluene	.273	.304	.366	.373	.402	.434	0.359	16.834	
3,4-Dinitrotoluene	.894	.727	.797	.886	.926	1.138	0.895	15.62	
4-Amino-2,6-dinitrotoluene	.301	.233	.267	.264	.28	.303	0.275	9.524	
HMX	3.267	2.945	3.943	3.226	3.668	3.3	3.392	10.476	
Nitrobenzene	.857	.924	.833	.841	.929	.952	0.889	5.779	
RDX	2.845	2.648	2.758	2.338	2.634	2.309	2.589	8.478	
m-Dinitrobenzene	1.28	1.197	1.203	1.249	1.247	1.183	1.227	3.072	
m-Nitrotoluene	.108	.099	.09	.088	.099	.088	0.095	8.535	
o-Nitrotoluene	.159	.138	.145	.15	.155	.152	0.150	4.927	
p-Nitrotoluene	.079	.072	.085	.074	.076	.073	0.077	6.308	

Q column used to flag RSD values outside of Limit (>20%)
* Values outside of QC Limit

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Explosives Initial Calibration

Form 6

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1032

Lab Code: GEL

Run Date: 07-JAN-10,15-JAN-10,17-JAN-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: Linear

Calibration Level:	1	2	3	4	5	6	Slope	Intercept	COD	Q
Data File:	EXP0115003a	EXP0115004a	EXP0115005a	EXP0115006a	EXP0115007a	EXP0115008a				
Parmname										
PETN	1554.06	3324.2	11885.3	23292.5	36748	43373.8	1.611	32.772	.9965	
Tetryl	202.596	383.091	1197.58	2476.95	3903.27	4763.3	1.023	10.566	.9998	

Linear fit : Y=mx +b
where b is Intercept and m is slope

COD is Coefficient of Determination

Q column used to flag COD values outside of Limit (<0.990)
* Values outside of QC Limit

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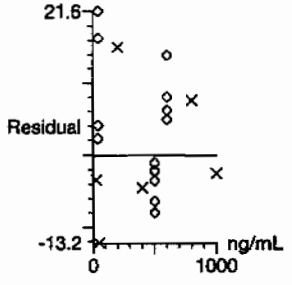
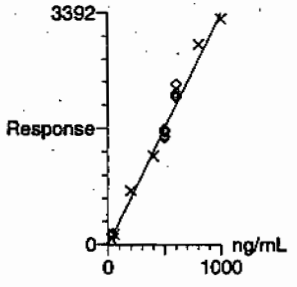
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Method: C:\MASSLYNX\New_Exp.PRO\MethDB\011510expa.mdb, Time: Sat Jan 16 13:21:47 2010
Calibration: Untitled, Time: Sat Jan 16 13:38:38 2010

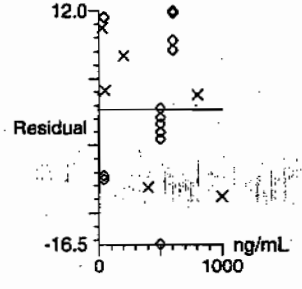
Compound name: HMX
Response Factor: 3.39152
RRF SD: 0.355285, % Relative SD: 10.4757
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF

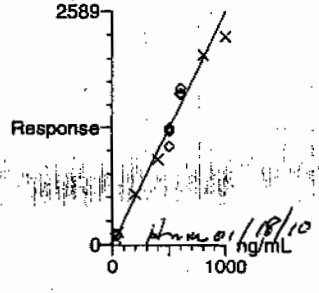




MMT
1/16/10

Compound name: RDX
Response Factor: 2.58857
RRF SD: 0.219458, % Relative SD: 8.47795
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF





MMT 1/18/10

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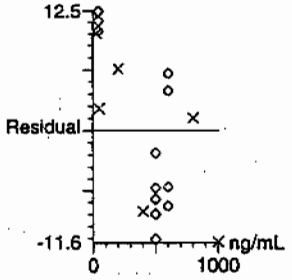
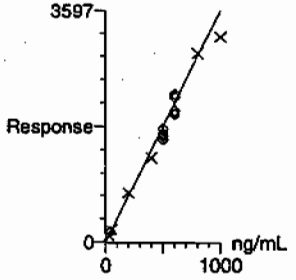
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

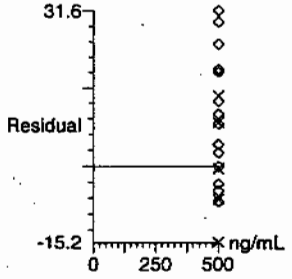
Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

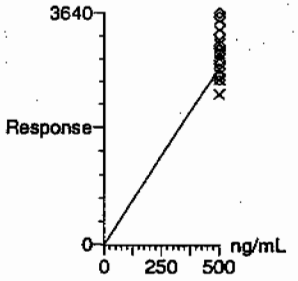
Compound name: 135-Trinitrobenzene
Response Factor: 3.59713
RRF SD: 0.303633, % Relative SD: 8.44099
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF





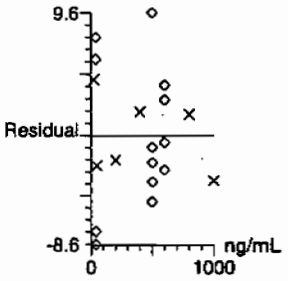
Compound name: 13-Dinitrobenzene-d4
Response Factor: 5.53259
RRF SD: 0.580046, % Relative SD: 10.4842
Response type: External Std, Area
Curve type: RF

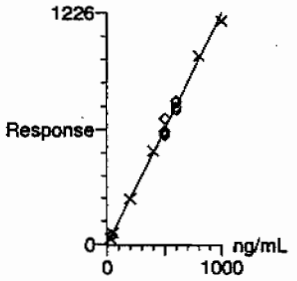




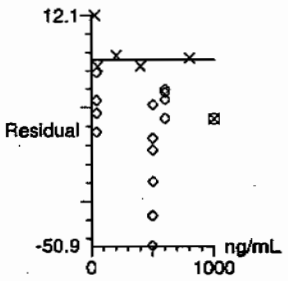
Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

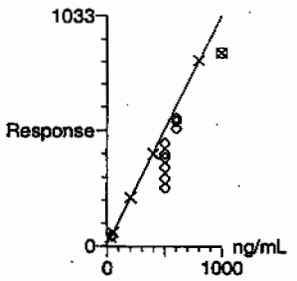
Compound name: 13-Dinitrobenzene
Response Factor: 1.22643
RRF SD: 0.0376797, % Relative SD: 3.0723
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF





Compound name: Tetryl
Correlation coefficient: r = 0.999902, r^2 = 0.999803
Calibration curve: 1.0225 * x + 10.5661
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: Null, Axis trans: None





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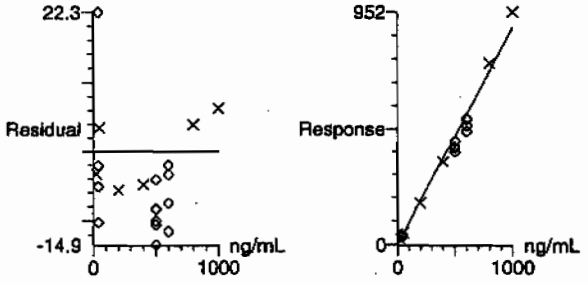
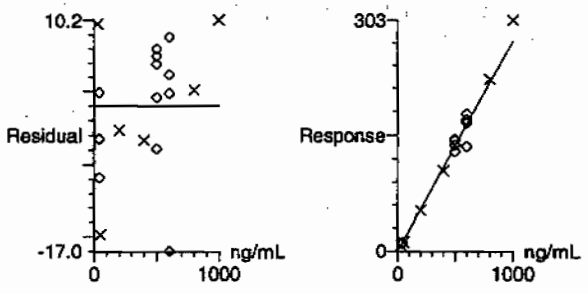
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Compound name: Nitrobenzene
Response Factor: 0.889358
RRF SD: 0.0513967, % Relative SD: 5.77908
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: 4-Amino-26-dinitrotoluene
Response Factor: 0.274517
RRF SD: 0.0261446, % Relative SD: 9.52384
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



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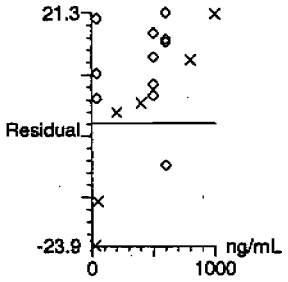
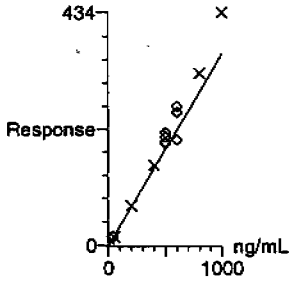
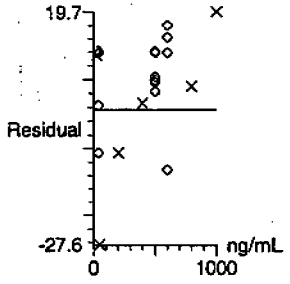
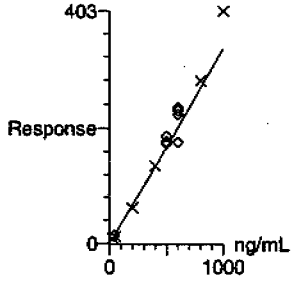
Compound name: 2-Amino-46-dinitrotoluene
Response Factor: 0.35876
RRF SD: 0.0603918, % Relative SD: 16.8335
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF





Compound name: 246-Trinitrotoluene
Response Factor: 0.33689
RRF SD: 0.0556328, % Relative SD: 16.5136
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF





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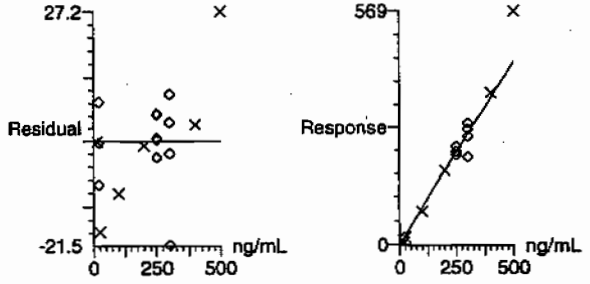
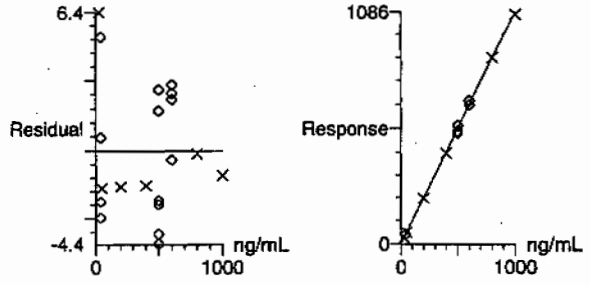
Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Compound name: 34-dinitrotoluene
Response Factor: 0.894842
RRF SD: 0.13977, % Relative SD: 15.6195
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: 26-dinitrotoluene
Response Factor: 1.08578
RRF SD: 0.0347233, % Relative SD: 3.198
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



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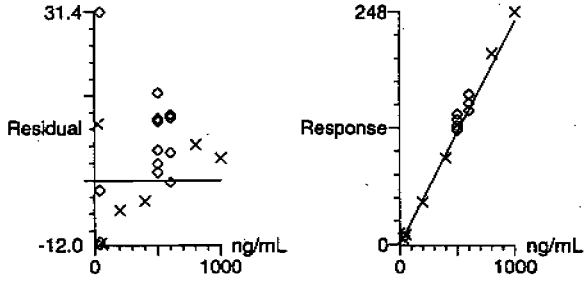
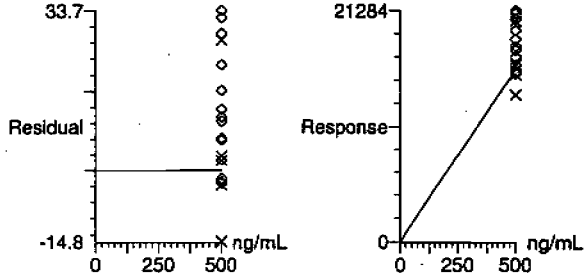
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Compound name: 24-dinitrotoluene
Response Factor: 0.238149
RRF SD: 0.0199409, % Relative SD: 8.37328
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: 26-dinitrotoluene-d3
Response Factor: 31.8311
RRF SD: 4.96154, % Relative SD: 15.5871
Response type: External Std, Area
Curve type: RF



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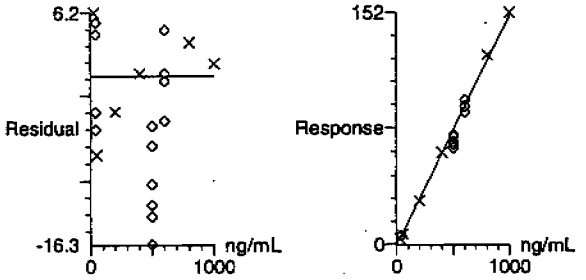
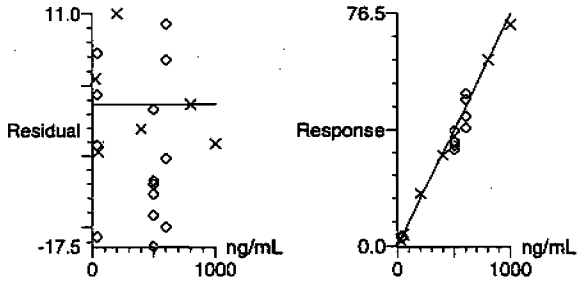
Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Compound name: 2-Nitrotoluene
Response Factor: 0.149788
RRF SD: 0.00738078, % Relative SD: 4.92749
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: 4-Nitrotoluene
Response Factor: 0.0764766
RRF SD: 0.00482402, % Relative SD: 6.30784
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



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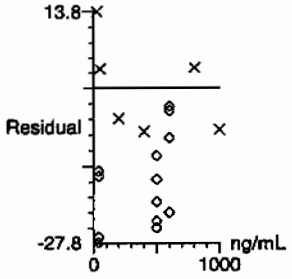
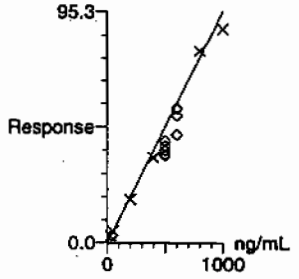
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

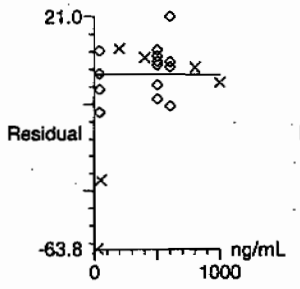
Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

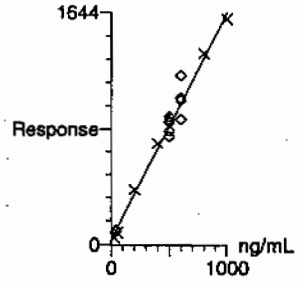
Compound name: 3-Nitrotoluene
Response Factor: 0.0952826
RRF SD: 0.00813249, % Relative SD: 8.53513
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF





Compound name: PETN
Correlation coefficient: r = 0.998254, r^2 = 0.996511
Calibration curve: 1.6112 * x + 32.7724
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: Null, Axis trans: None





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7

Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1032

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXP0115010a

Analysis Date: 15–JAN–10 19:18

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
Tetryl	600	549.613	92	
m–Dinitrobenzene	600	583.682	97	
m–Nitrotoluene	600	466.114	78	*
o–Nitrotoluene	600	601.595	100	
p–Nitrotoluene	600	508.912	85	
1,3,5–Trinitrobenzene	600	552.489	92	
1,3–Dinitrobenzene–d4	500	464.898	93	
2,4,6–Trinitrotoluene	600	527.08	88	
2,4–Dinitrotoluene	600	630.404	105	
2,6–Dinitrotoluene	600	617.985	103	
2,6–Dinitrotoluene–d3	500	552.78	111	
2–Amino–4,6–dinitrotoluene	600	549.513	92	
3,4–Dinitrotoluene	300	235.469	78	*
4–Amino–2,6–dinitrotoluene	600	498.02	83	
HMX	600	631.632	105	
Nitrobenzene	600	586.414	98	
PETN	600	531.588	89	
RDX	600	671.813	112	

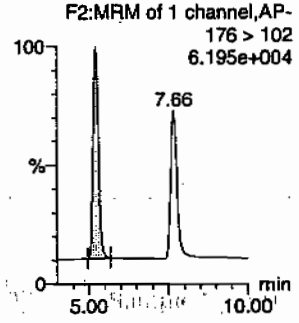
Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 70–130%
OtherTarget Analytes 80–120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

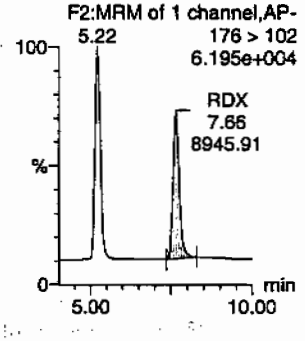
Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115010a
Date: 15-Jan-2010
Time: 19:18:54
ID: WXX100115-07ICV
Vial: 1:1,B

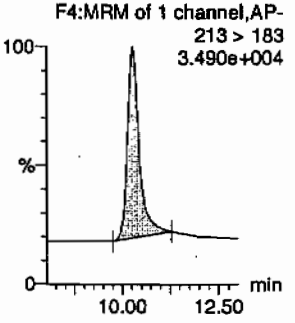
HMX



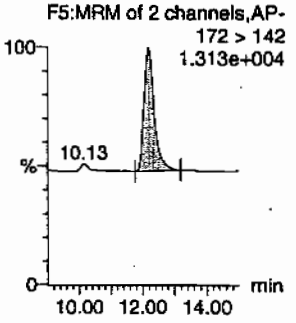
RDX



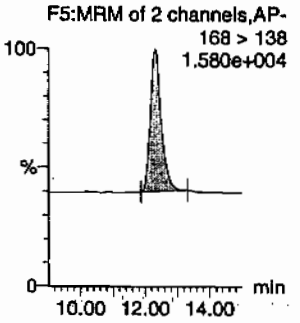
135-Trinitrobenzene



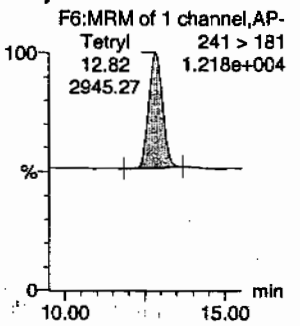
13-Dinitrobenzene-d4



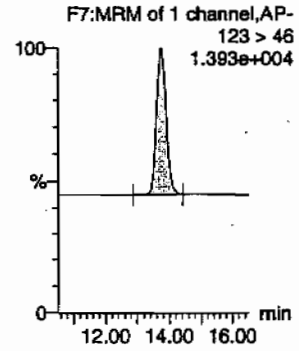
13-Dinitrobenzene



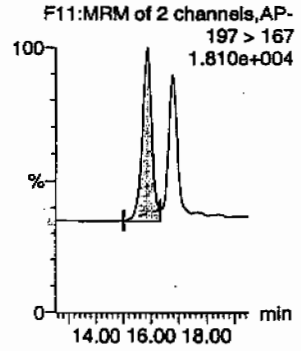
Tetryl



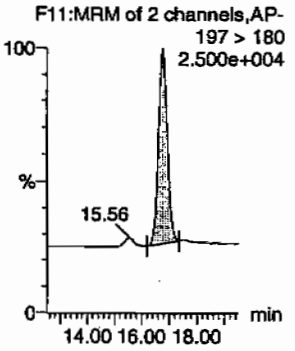
Nitrobenzene



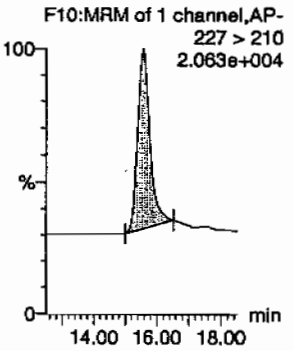
4-Amino-26-dinitrotoluene



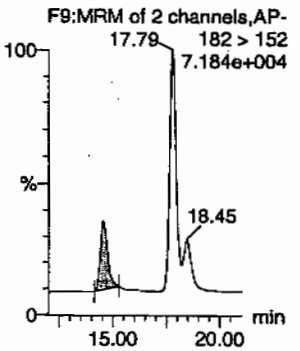
2-Amino-46-dinitrotoluene



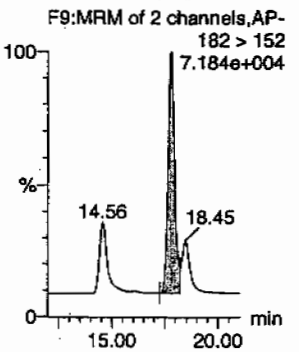
246-Trinitrotoluene



34-dinitrotoluene



26-dinitrotoluene



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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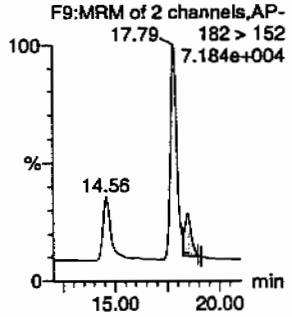
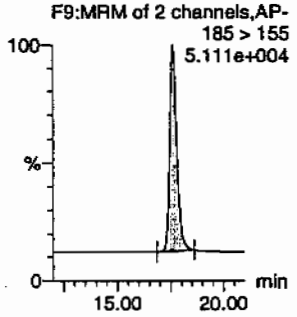
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

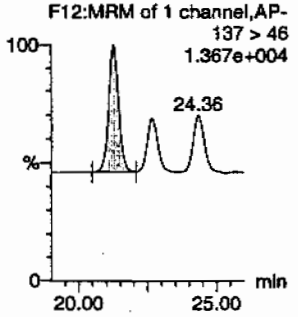
24-dinitrotoluene



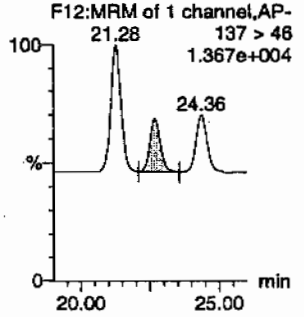
26-dinitrotoluene-d3



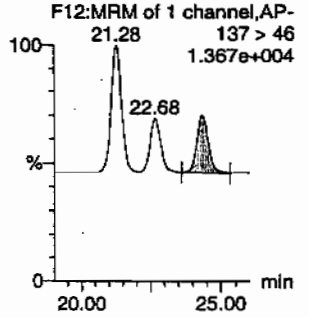
2-Nitrotoluene



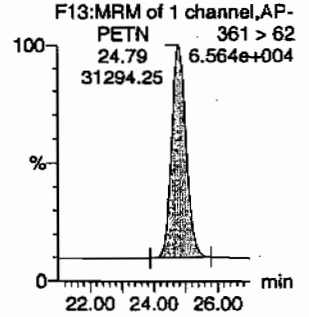
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100115-07ICV	HMX	176 > 102	5.22	11019.816	2572.091	11019.816	2142.190	bb			631.6319	105.3	5.3	1578.0
WXX100115-07ICV	RDX	176 > 102	7.66	8945.912	2572.091	8945.912	1739.035	bb			671.8132	112.0	12.0	1101.1
WXX100115-07ICV	135-Trinitrobenzene	213 > 183	10.28	10223.419	2572.091	10223.419	1987.375	bb			552.4888	92.1	-7.9	663.0
WXX100115-07ICV	13-Dinitrobenzene-d4	172 > 142	12.17	2572.091		2572.091	2572.091	bb			464.8984	93.0	-7.0	93.2
WXX100115-07ICV	13-Dinitrobenzene	168 > 138	12.31	3682.455	2572.091	3682.455	715.849	bb			583.6824	97.3	-2.7	411.3
WXX100115-07ICV	Tetryl	241 > 181	12.82	2945.274	2572.091	2945.274	572.545	bb			549.6134	91.6	-8.4	195.7
WXX100115-07ICV	Nitrobenzene	123 > 46	13.72	2682.858	2572.091	2682.858	521.532	bb			586.4144	97.7	-2.3	398.5
WXX100115-07ICV	4-Amino-26-dinitrotoluene	197 > 167	15.86	4811.165	17595.584	4811.165	136.715	MM	16-Jan-10	13:25:41	498.0198	83.0	-17.0	253.7
WXX100115-07ICV	2-Amino-46-dinitrotoluene	197 > 180	16.76	6937.704	17595.584	6937.704	197.143	bb			549.5126	91.6	-8.4	691.6
WXX100115-07ICV	246-Trinitrotoluene	227 > 210	15.58	6248.823	17595.584	6248.823	177.568	bb			527.0804	87.8	-12.2	853.8
WXX100115-07ICV	34-dinitrotoluene	182 > 152	14.56	7415.056	17595.584	7415.056	210.708	bb			235.4694	78.5	-21.5	329.6
WXX100115-07ICV	26-dinitrotoluene	182 > 152	17.79	23613.154	17595.584	23613.154	670.997	MM	16-Jan-10	13:30:35	617.9851	103.0	3.0	1136.1
WXX100115-07ICV	24-dinitrotoluene	182 > 152	18.45	5283.260	17595.584	5283.260	150.130	MM	16-Jan-10	13:34:16	630.4041	105.1	5.1	231.3
WXX100115-07ICV	26-dinitrotoluene-d3	185 > 155	17.62	17595.584		17595.584	17595.584	bb			552.7801	110.6	10.6	931.6
WXX100115-07ICV	2-Nitrotoluene	137 > 46	21.28	3171.130	17595.584	3171.130	90.112	bb			601.5948	100.3	0.3	653.2
WXX100115-07ICV	4-Nitrotoluene	137 > 46	22.68	1369.636	17595.584	1369.636	38.920	bb			508.9122	84.8	-15.2	272.8
WXX100115-07ICV	3-Nitrotoluene	137 > 46	24.36	1562.929	17595.584	1562.929	44.413	bb			466.1139	77.7	-22.3	291.3
WXX100115-07ICV	PETN	361 > 62	24.79	31294.250	17595.584	31294.250	889.264	bb			531.5876	88.6	-11.4	4399.3

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/15/10
Time of Injection: 1918
Standard Number: WXX100115-07ICV
Data File: EXP0115010a

HMX		105.3
RDX		112.0
135-TNB		92.1
13-DNB		97.3
Tetryl		91.6
Nitrobenzene		97.7
4A-26-DNT		83.0
2A-46-DNT		91.6
246-TNT		87.8
34-DNT(surr)		78.5
26-DNT		103.0
24-DNT		105.1
2-NT		100.3
4-NT		84.8
3-NT		77.7
PETN		88.6
	Total	1496.4
	Average	93.5

MAP 1/16/10

Lane 01/18/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

Explosives Initial Calibration

Form 6

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1032

Lab Code: GEL

Run Date: 07-JAN-10,15-JAN-10,17-JAN-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: Average RF

Calibration Level:	1	2	3	4	5	6	Ave RF	RSD	Q
Data File:	EXP0117003a	EXP0117004a	EXP0117005a	EXP0117006a	EXP0117007a	EXP0117008a			
Parmname									
1,3,5-Trinitrobenzene	3.59	3.377	3.185	3.44	3.411	3.213	3.369	4.478	
1,3-Dinitrobenzene-d4	7.19	7.038	6.404	6.184	6.179	7.031	6.671	6.982	
2,4,6-Trinitrotoluene	.34	.322	.346	.367	.346	.385	0.351	6.302	
2,4-Dinitrotoluene	.226	.248	.264	.245	.271	.273	0.255	7.149	
2,6-Dinitrotoluene	1.096	1.174	1.081	1.099	1.124	1.131	1.118	2.972	
2,6-Dinitrotoluene-d3	41.529	37.263	37.777	35.052	35.875	37.984	37.580	5.973	
2-Amino-4,6-dinitrotoluene	.405	.362	.395	.409	.444	.496	0.419	11.001	
3,4-Dinitrotoluene	.801	.951	.906	.942	.917	.989	0.918	6.981	
4-Amino-2,6-dinitrotoluene	.283	.282	.267	.291	.294	.328	0.291	7.002	
HMX	3.486	3.609	3.921	4.43	4.417	3.712	3.929	10.398	
Nitrobenzene	.904	.709	.82	.845	.846	.818	0.824	7.799	
PETN	2.132	2.198	1.842	1.892	1.371	.646	1.680	17.275	
RDX	2.377	2.825	2.518	3.826	3.194	2.822	2.927	17.893	
Tetryl	.812	.907	.923	.858	.881	.809	0.865	5.508	
m-Dinitrobenzene	1.443	1.45	1.19	1.218	1.247	1.229	1.296	9.109	
m-Nitrotoluene	.073	.09	.085	.096	.09	.071	0.084	12.144	
o-Nitrotoluene	.172	.151	.183	.155	.162	.12	0.157	13.713	
p-Nitrotoluene	.083	.062	.088	.081	.074	.062	0.075	14.406	

Q column used to flag RSD values outside of Limit (>20%)
* Values outside of QC Limit

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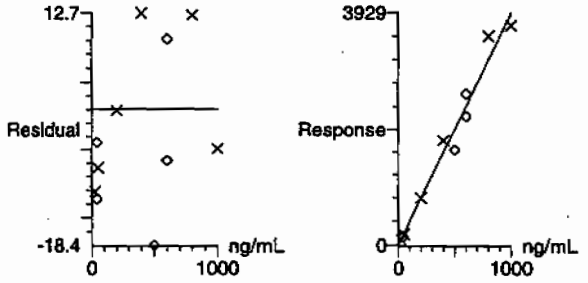
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

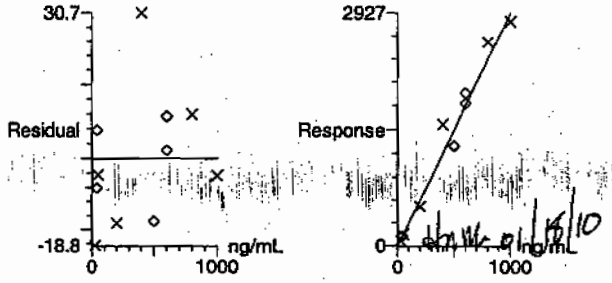
Method: C:\MASSLYNX\New_Exp.PRO\MethDB\011710expa.mdb, Time: Mon Jan 18 07:21:54 2010
Calibration: Untitled, Time: Mon Jan 18 07:34:17 2010

Compound name: HMX
Response Factor: 3.92896
RRF SD: 0.408534, % Relative SD: 10.398
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



1/18/10

Compound name: RDX
Response Factor: 2.92686
RRF SD: 0.523695, % Relative SD: 17.8927
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



1/18/10

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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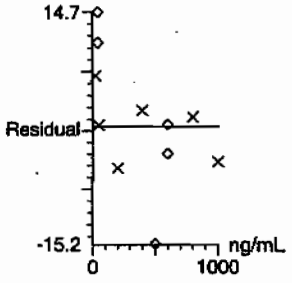
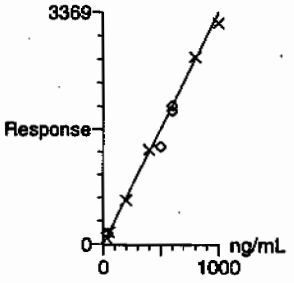
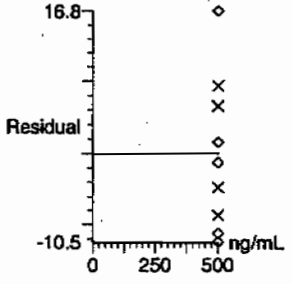
Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

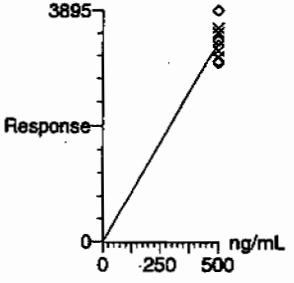
Compound name: 135-Trinitrobenzene
Response Factor: 3.3693
RRF SD: 0.150892, % Relative SD: 4.47842
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF





Compound name: 13-Dinitrobenzene-d4
Response Factor: 6.671
RRF SD: 0.46574, % Relative SD: 6.98156
Response type: External Std, Area
Curve type: RF





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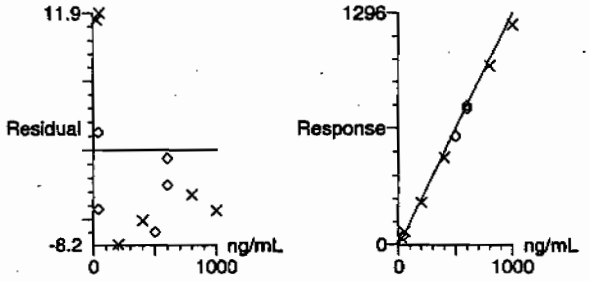
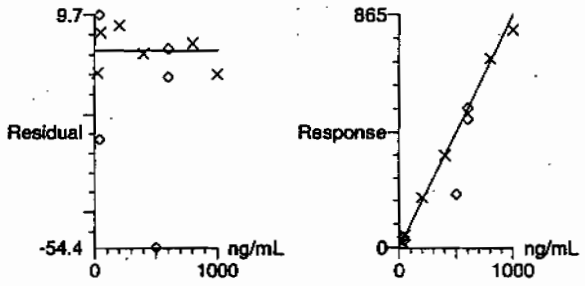
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

Compound name: 13-Dinitrobenzene
Response Factor: 1.29606
RRF SD: 0.118052, % Relative SD: 9.10852
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: Tetryl
Response Factor: 0.865057
RRF SD: 0.0476453, % Relative SD: 5.50776
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



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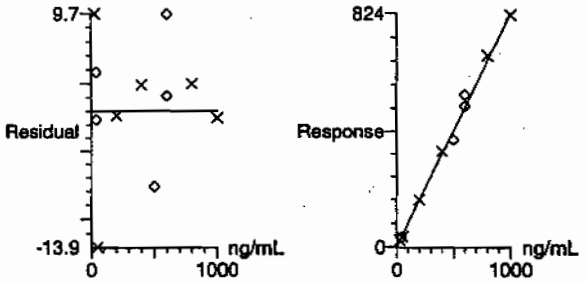
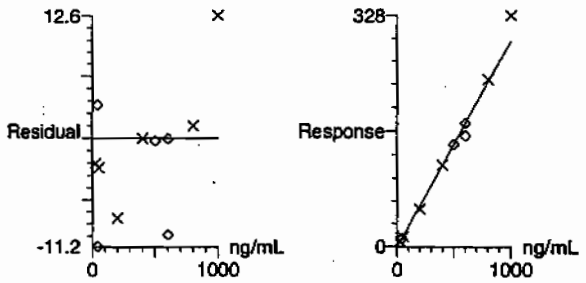
Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

Compound name: Nitrobenzene
Response Factor: 0.823702
RRF SD: 0.0642425, % Relative SD: 7.79923
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: 4-Amino-26-dinitrotoluene
Response Factor: 0.290801
RRF SD: 0.0203617, % Relative SD: 7.00194
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



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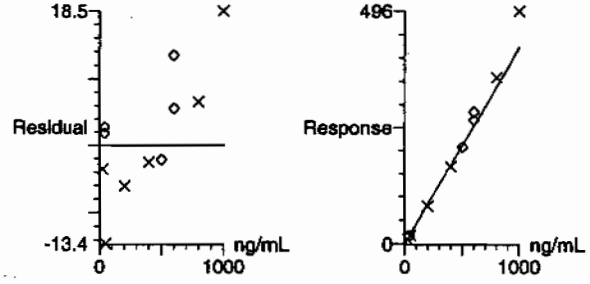
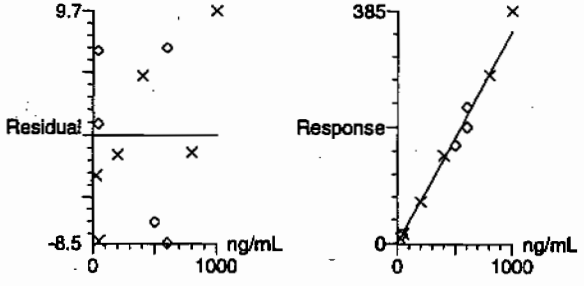
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

Compound name: 2-Amino-46-dinitrotoluene
Response Factor: 0.418363
RRF SD: 0.0460233, % Relative SD: 11.0008
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: 246-Trinitrotoluene
Response Factor: 0.351152
RRF SD: 0.022129, % Relative SD: 6.30185
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



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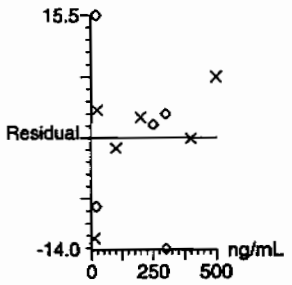
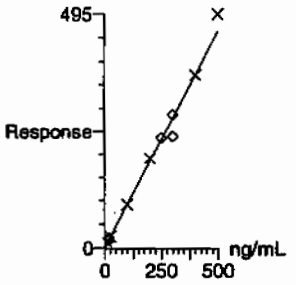
GEL Laboratories, LLC / Analyst : Michael A. Penny

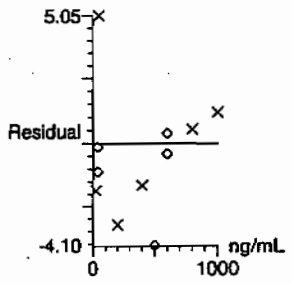
Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

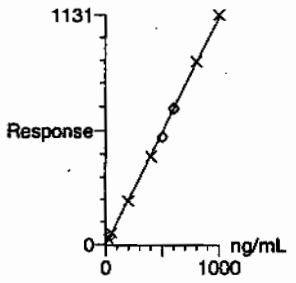
Compound name: 34-dinitrotoluene
Response Factor: 0.917938
RRF SD: 0.0640846, % Relative SD: 6.98137
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF





Compound name: 26-dinitrotoluene
Response Factor: 1.11735
RRF SD: 0.0332032, % Relative SD: 2.9716
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF





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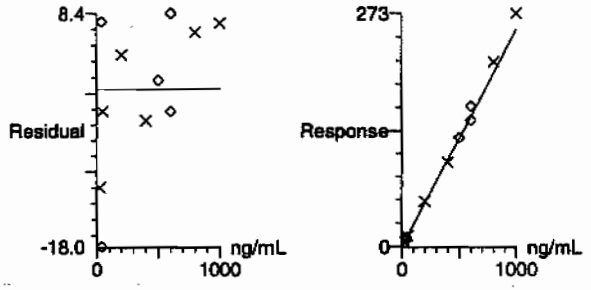
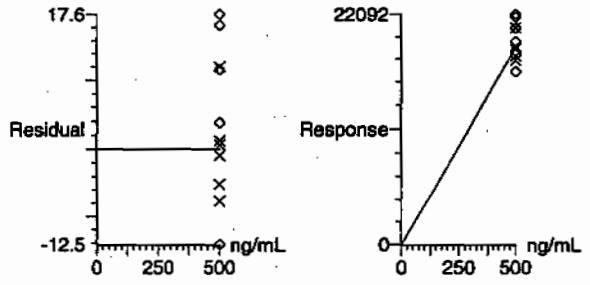
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

Compound name: 24-dinitrotoluene
Response Factor: 0.254411
RRF SD: 0.0181868, % Relative SD: 7.14859
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: 26-dinitrotoluene-d3
Response Factor: 37.5802
RRF SD: 2.24479, % Relative SD: 5.97333
Response type: External Std, Area
Curve type: RF



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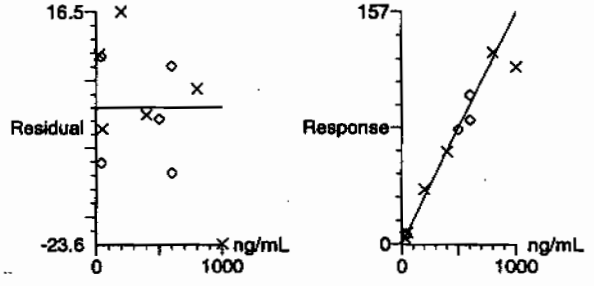
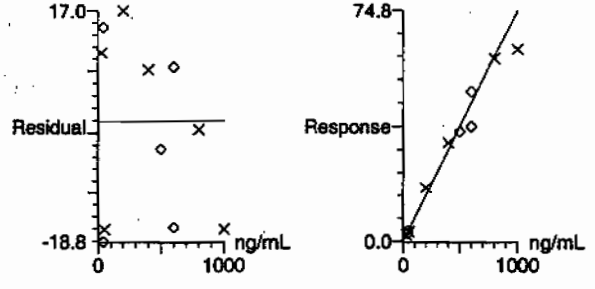
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

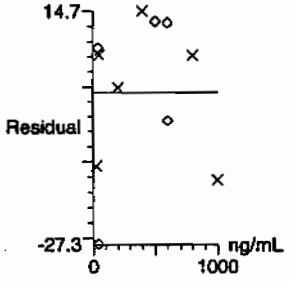
Compound name: 2-Nitrotoluene
Response Factor: 0.157113
RRF SD: 0.0215446, % Relative SD: 13.7128
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF

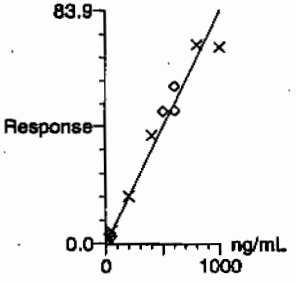


Compound name: 4-Nitrotoluene
Response Factor: 0.074833
RRF SD: 0.0107805, % Relative SD: 14.406
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF

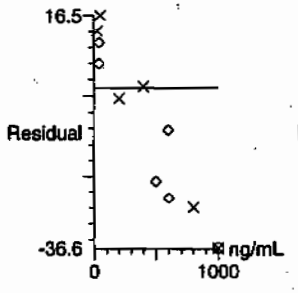


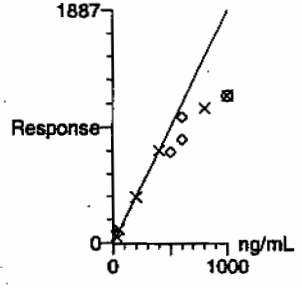
Compound name: 3-Nitrotoluene
Response Factor: 0.0839462
RRF SD: 0.0101944, % Relative SD: 12.144
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF





Compound name: PETN
Response Factor: 1.88678
RRF SD: 0.325937, % Relative SD: 17.2748
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF





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7

Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1032

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXP0117010a

Analysis Date: 17–JAN–10 22:36

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5–Trinitrobenzene	600	578.769	96	
1,3–Dinitrobenzene–d4	500	447.648	90	
2,4,6–Trinitrotoluene	600	640.786	107	
2,4–Dinitrotoluene	600	650.468	108	
2,6–Dinitrotoluene	600	602.374	100	
2,6–Dinitrotoluene–d3	500	437.521	88	
2–Amino–4,6–dinitrotoluene	600	631.181	105	
3,4–Dinitrotoluene	300	309.343	103	
4–Amino–2,6–dinitrotoluene	600	599.63	100	
HMX	600	557.174	93	
Nitrobenzene	600	609.285	102	
PETN	600	542.752	90	
RDX	600	609.99	102	
Tetryl	600	556.459	93	
m–Dinitrobenzene	600	582.084	97	
m–Nitrotoluene	600	675.725	113	
o–Nitrotoluene	600	642.996	107	
p–Nitrotoluene	600	649.188	108	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 70–130%
OtherTarget Analytes 80–120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

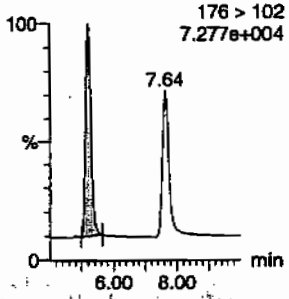
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

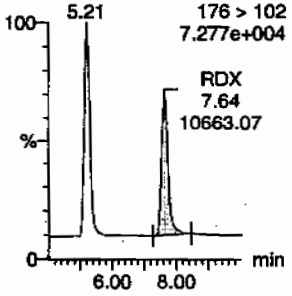
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0117010a
Date: 17-Jan-2010
Time: 22:36:26
ID: WXX100117-07ICV
Vial: 1:1,B

MAT 1/18/10

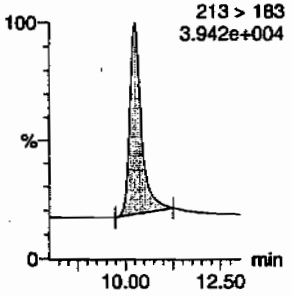
HMX
F2:MRM of 1 channel,AP-
176 > 102
7.277e+004



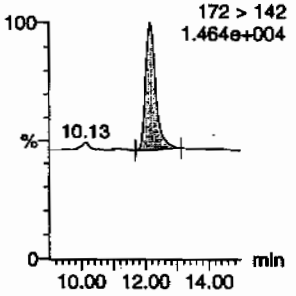
RDX
F2:MRM of 1 channel,AP-
176 > 102
7.277e+004



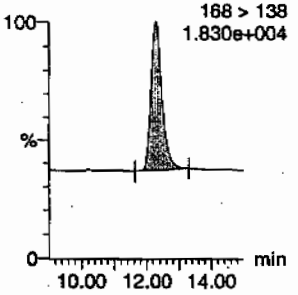
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
3.942e+004



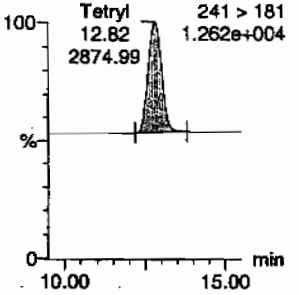
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.464e+004



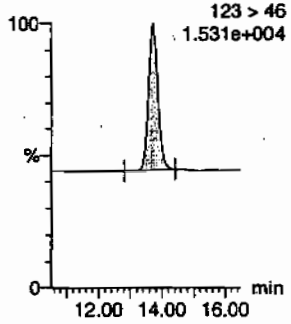
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.830e+004



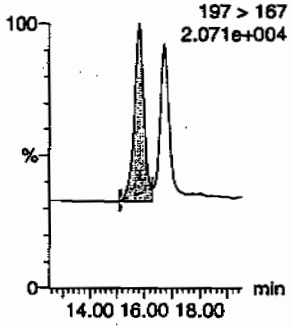
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
1.262e+004



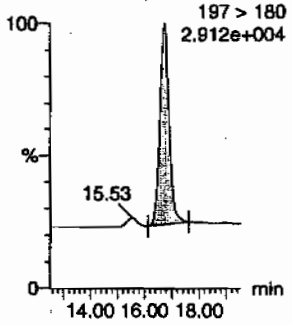
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.531e+004



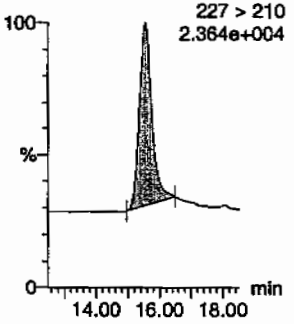
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
2.071e+004



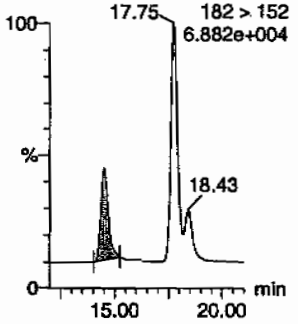
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.912e+004



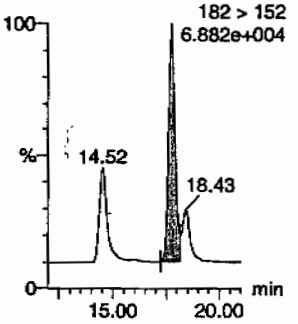
246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.364e+004



34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.882e+004



26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.882e+004



HMW 01/18/10

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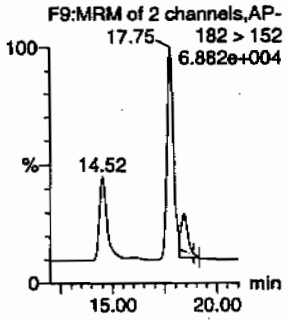
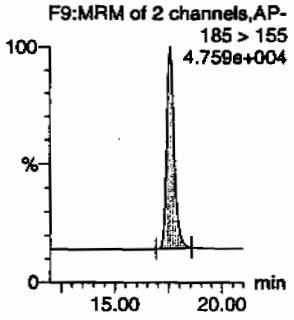
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

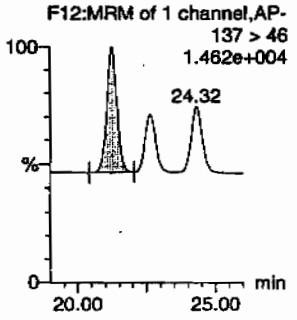
24-dinitrotoluene



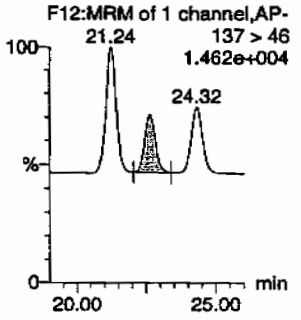
26-dinitrotoluene-d3



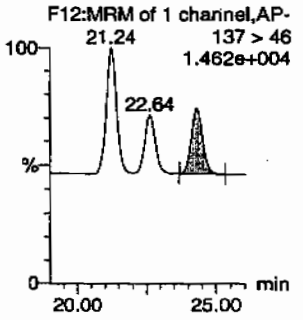
2-Nitrotoluene



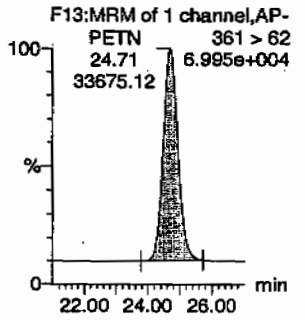
4-Nitrotoluene



3-Nitrotoluene



PETN



Dilution Factor	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100117-07ICV	HMX	176 > 102	5.21	13074.500	2986.258	13074.500	2189.111	bb			557.1737	92.9	-7.1	1670.1
WXX100117-07ICV	RDX	176 > 102	7.64	10663.072	2986.258	10663.072	1785.357	bb			609.9900	101.7	1.7	1151.3
WXX100117-07ICV	135-Trinitrobenzene	213 > 183	10.26	11646.687	2986.258	11646.687	1950.047	bb			578.7689	96.5	-3.5	1165.7
WXX100117-07ICV	13-Dinitrobenzene-d4	172 > 142	12.17	2986.258		2986.258	2986.258	bb			447.6476	89.5	-10.5	376.0
WXX100117-07ICV	13-Dinitrobenzene	168 > 138	12.31	4505.758	2986.258	4505.758	754.415	bb			582.0835	97.0	-3.0	255.3
WXX100117-07ICV	Tetryl	241 > 181	12.82	2874.985	2986.258	2874.985	481.369	bb			556.4592	92.7	-7.3	168.9
WXX100117-07ICV	Nitrobenzene	123 > 46	13.72	2997.425	2986.258	2997.425	501.870	bb			609.2852	101.5	1.5	242.2
WXX100117-07ICV	4-Amino-26-dinitrotoluene	197 > 167	15.83	5734.129	16442.119	5734.129	174.373	MM	18-Jan-10	07:23:44	599.6300	99.9	-0.1	273.1
WXX100117-07ICV	2-Amino-46-dinitrotoluene	197 > 180	16.73	8683.507	16442.119	8683.507	264.063	bb			631.1806	105.2	5.2	833.9
WXX100117-07ICV	246-Trinitrotoluene	227 > 210	15.55	7399.388	16442.119	7399.388	225.013	bb			640.7863	106.8	6.8	205.1
WXX100117-07ICV	34-dinitrotoluene	182 > 152	14.52	9337.735	16442.119	9337.735	283.958	bb			309.3431	103.1	3.1	328.1
WXX100117-07ICV	26-dinitrotoluene	182 > 152	17.75	22133.135	16442.119	22133.135	673.062	MM	18-Jan-10	07:29:48	602.3736	100.4	0.4	848.6
WXX100117-07ICV	24-dinitrotoluene	182 > 152	18.43	5441.885	16442.119	5441.885	165.486	MM	18-Jan-10	07:31:37	650.4679	108.4	8.4	179.2
WXX100117-07ICV	26-dinitrotoluene-d3	185 > 155	17.57	16442.119		16442.119	16442.119	bb			437.5212	87.5	-12.5	876.1
WXX100117-07ICV	2-Nitrotoluene	137 > 46	21.24	3322.072	16442.119	3322.072	101.023	bb			642.9961	107.2	7.2	308.2
WXX100117-07ICV	4-Nitrotoluene	137 > 46	22.64	1597.540	16442.119	1597.540	48.581	bb			649.1884	108.2	8.2	141.3
WXX100117-07ICV	3-Nitrotoluene	137 > 46	24.32	1865.344	16442.119	1865.344	56.725	bb			675.7249	112.6	12.6	159.4
WXX100117-07ICV	PETN	361 > 62	24.71	33675.121	16442.119	33675.121	1024.051	bb			542.7517	90.5	-9.5	12129.2

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/17/10
Time of Injection: 2236
Standard Number: WXX100117-07ICV
Data File: EXP0117010a

HMX	92.9
RDX	101.7
135-TNB	96.5
13-DNB	97.0
Tetryl	92.7
Nitrobenzene	101.5
4A-26-DNT	99.9
2A-46-DNT	105.2
246-TNT	106.8
34-DNT(surr)	103.1
26-DNT	100.4
24-DNT	108.4
2-NT	107.2
4-NT	108.2
3-NT	112.6
PETN	90.5
Total	1624.6
Average	101.5

MAT 1/18/10

Hmm 01/18/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

Explosives Initial Calibration

Form 6

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1032

Lab Code: GEL

Run Date: 07-JAN-10,15-JAN-10,17-JAN-10

LCMSMS Instrument ID: LCMSMS4

Method: 8321A Modified

HPLC Column: YMC J-Sphere ODS-H8O

Calibration Type: 2nd Order

Calibration Level:	19	20	21	22	23	24	25	X	X^2	Intercept	COD	Q
Data File:	EXS01070003.wifl	EXS01070004.wifl	EXS01070005.wifl	EXS01070006.wifl	EXS01070007.wifl	EXS01070008.wifl	EXS01070009.wifl					
Parmname:												
2,4-Diamino-6-nitrotoluene	128000	223000	564000	1040000	1550000	1980000	3780000	29800	2070	-.099	.9999	
2,6-Diamino-4-nitrotoluene	177000	342000	755000	1630000	2080000	2830000	5690000	73400	2780	.013	.9992	
3,4-Dinitrotoluene	337000	685000	1620000	3110000	4580000	6000000	10700000	-24100	14100	-3.44	.9986	
3,5-Dinitroaniline	505000	991000	2380000	4310000	6320000	8320000	14200000	62500	9230	-1.07	.9999	
TATB	76200	158000	384000	730000	1060000	1440000	2750000	10100	1460	-.046	.9999	
tris(o-cresyl) phosphate	1260000	2530000	6110000	11200000	16100000	20600000	32300000	77600	24700	-4.28	1	

Quadradic Fit: y = Ax^2 + Bx + C
where X^2 column above is coefficient A
X column above is coefficient B
intercept is C

COD is Coefficient of Determination

Q column used to flag COD outside of Limit (<0.990)
* Values outside of QC Limit

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010710ICAL

Peak Name: TATB
No Internal Standard
Q1/Q3 Masses: 257.20/204.90 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	1.01e+004			
a1	1.46e+003			
a2	-0.0464			

Correlation coefficient 0.9999
Use Area

Peak Name: 35-Dinitroaniline
No Internal Standard
Q1/Q3 Masses: 182.00/46.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	6.25e+004			
a1	9.23e+003			
a2	-1.07			

Correlation coefficient 0.9999
Use Area

Peak Name: 34-Dinitrotoluene
No Internal Standard
Q1/Q3 Masses: 182.08/151.90 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-2.41e+004			
a1	1.41e+004			
a2	-3.44			

Correlation coefficient 0.9986
Use Area

Peak Name: 26-Diamino-4-nitrotoluene
No Internal Standard
Q1/Q3 Masses: 165.97/46.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	7.34e+004			
a1	2.78e+003			
a2	0.0134			

Correlation coefficient 0.9992
Use Area

Peak Name: 24-Diamino-6-nitrotoluene
No Internal Standard
Q1/Q3 Masses: 165.97/46.00 amu

Lar 1/8/10

Hmm 01/08/10

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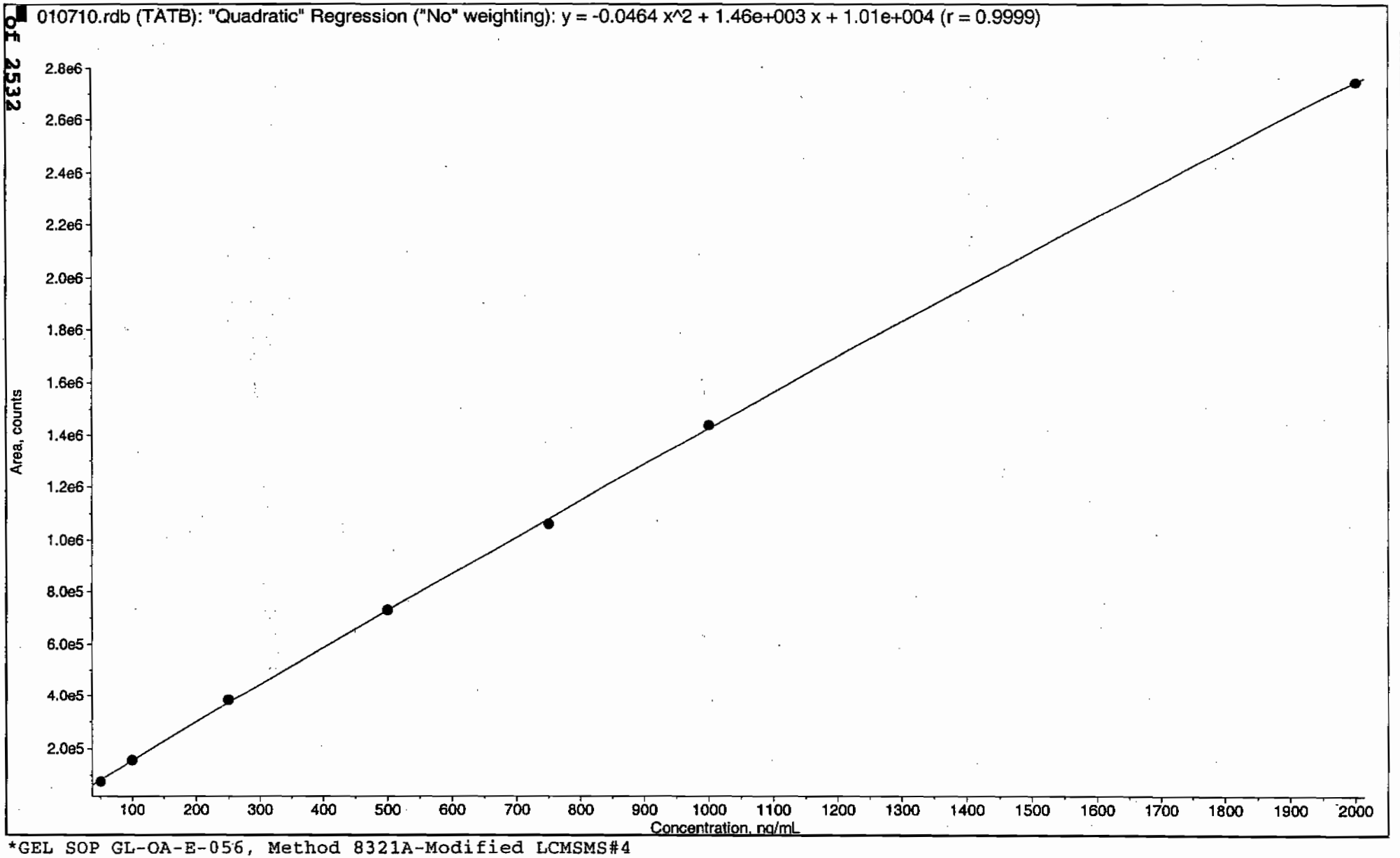
Fit	Quadratic	Weighting	None	Iterate No
a0	2.98e+004			
a1	2.07e+003			
a2	-0.099			

Correlation coefficient 0.9999
Use Area

Peak Name: tris(o-cresyl) phosphate
No Internal Standard
Q1/Q3 Masses: 369.15/91.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	7.76e+004			
a1	2.47e+004			
a2	-4.28			

Correlation coefficient 1.0000
Use Area



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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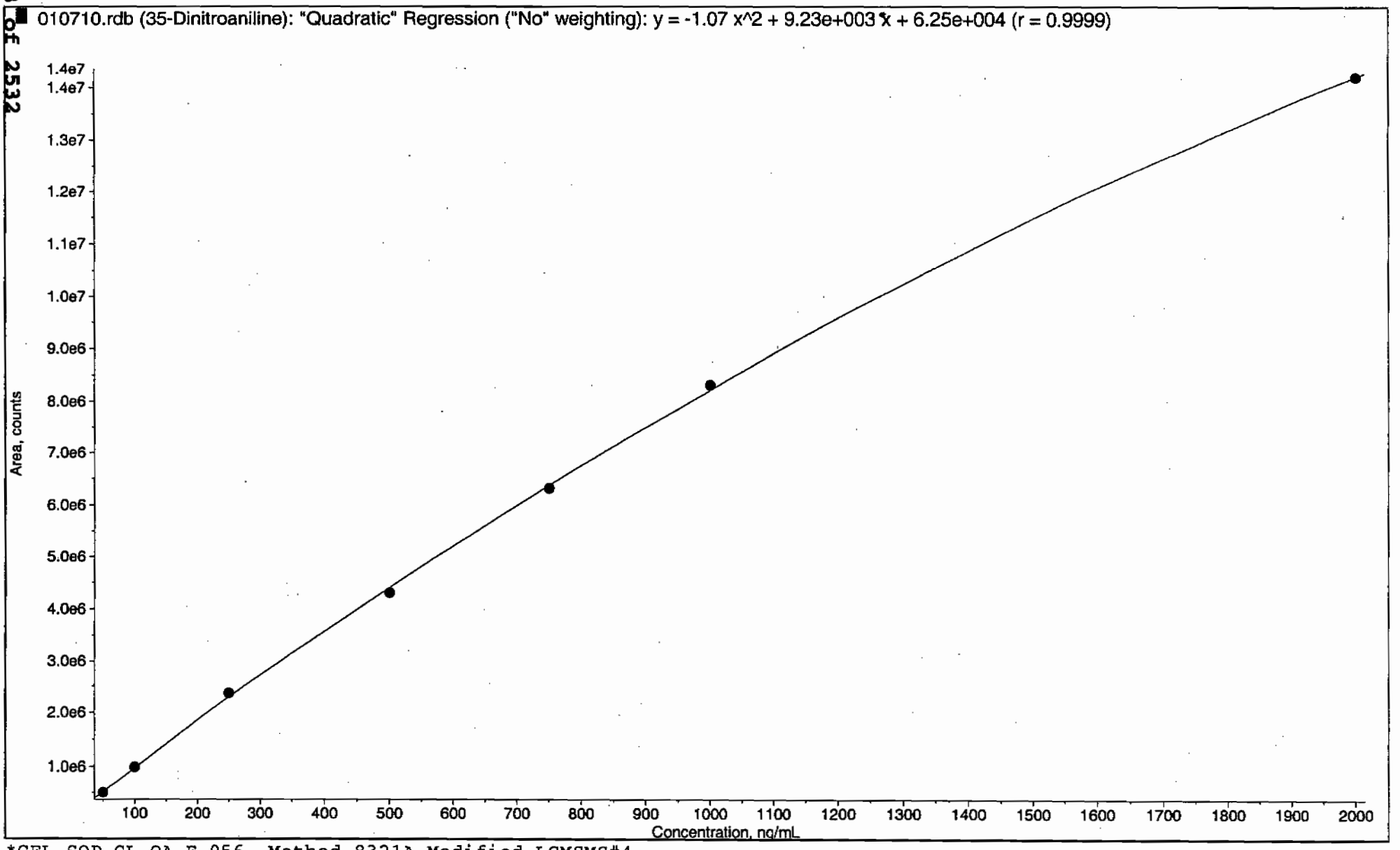

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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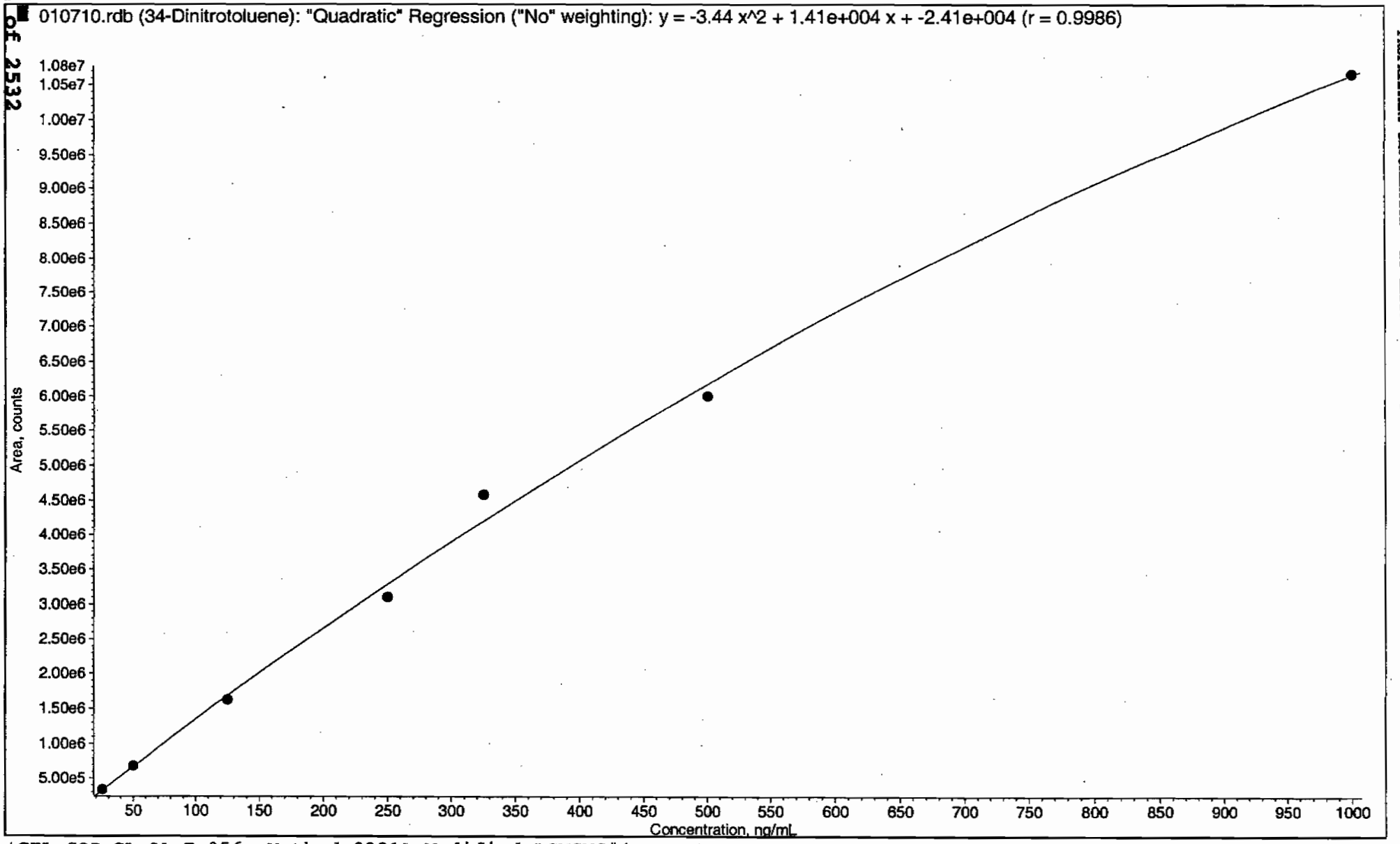

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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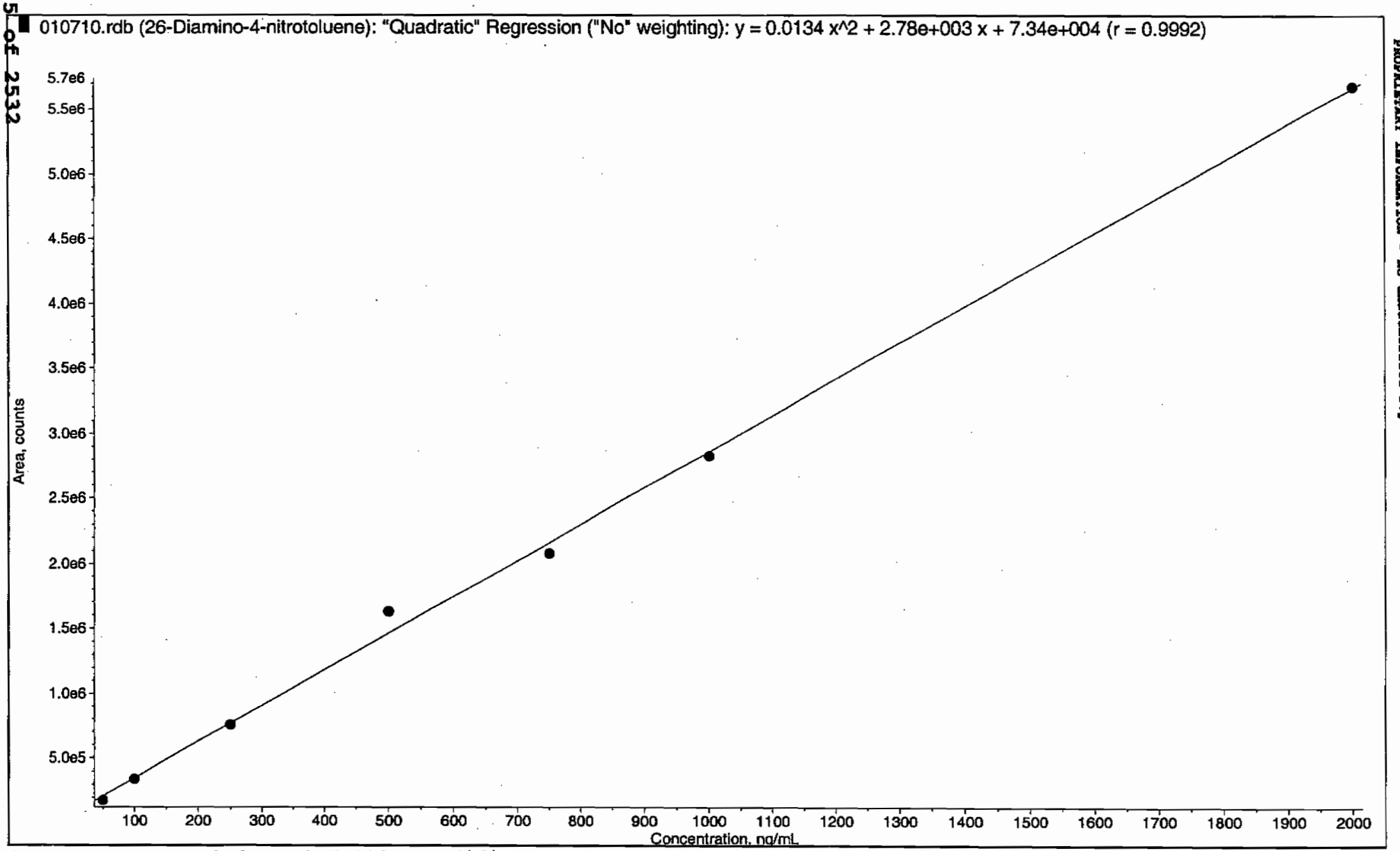

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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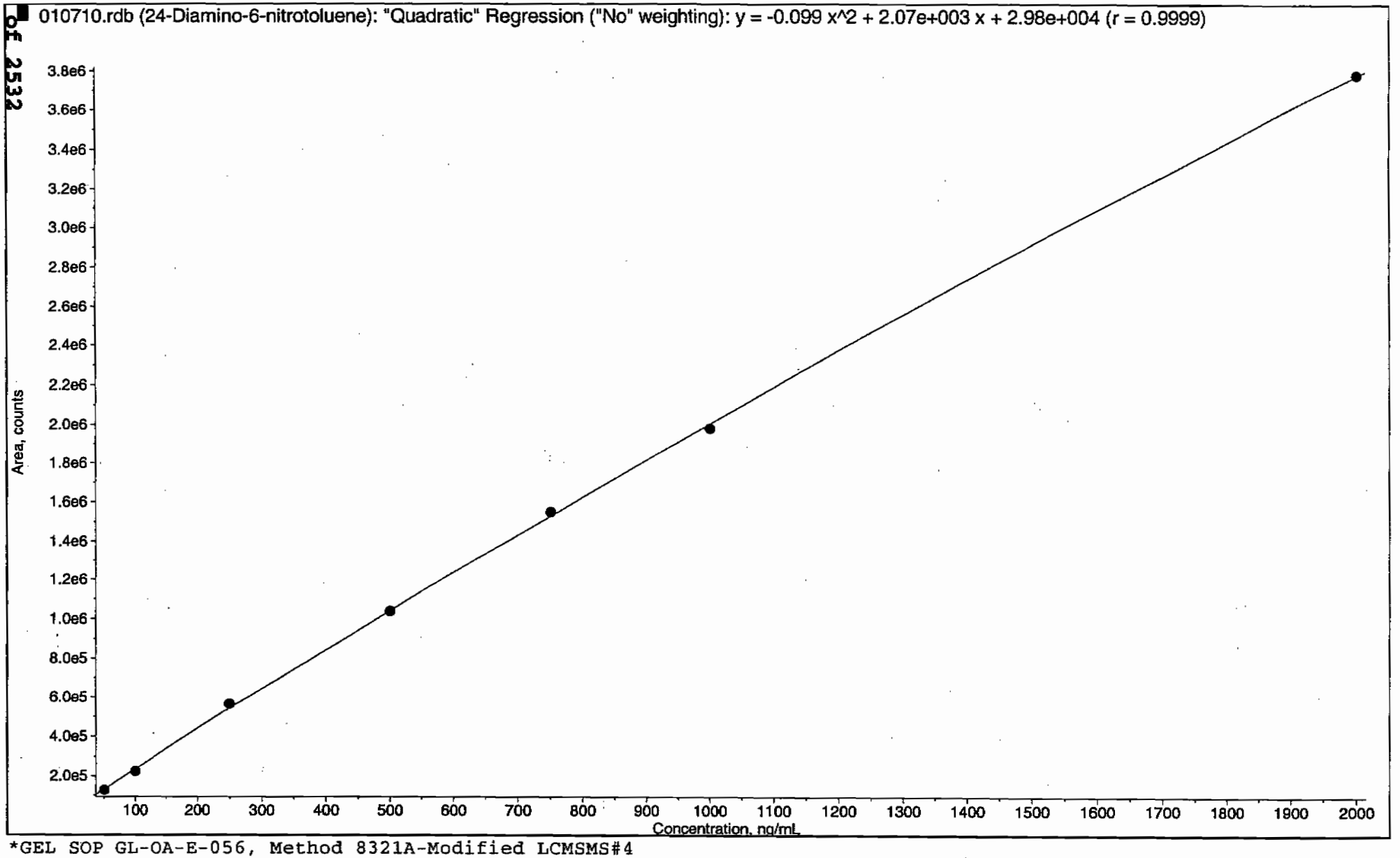

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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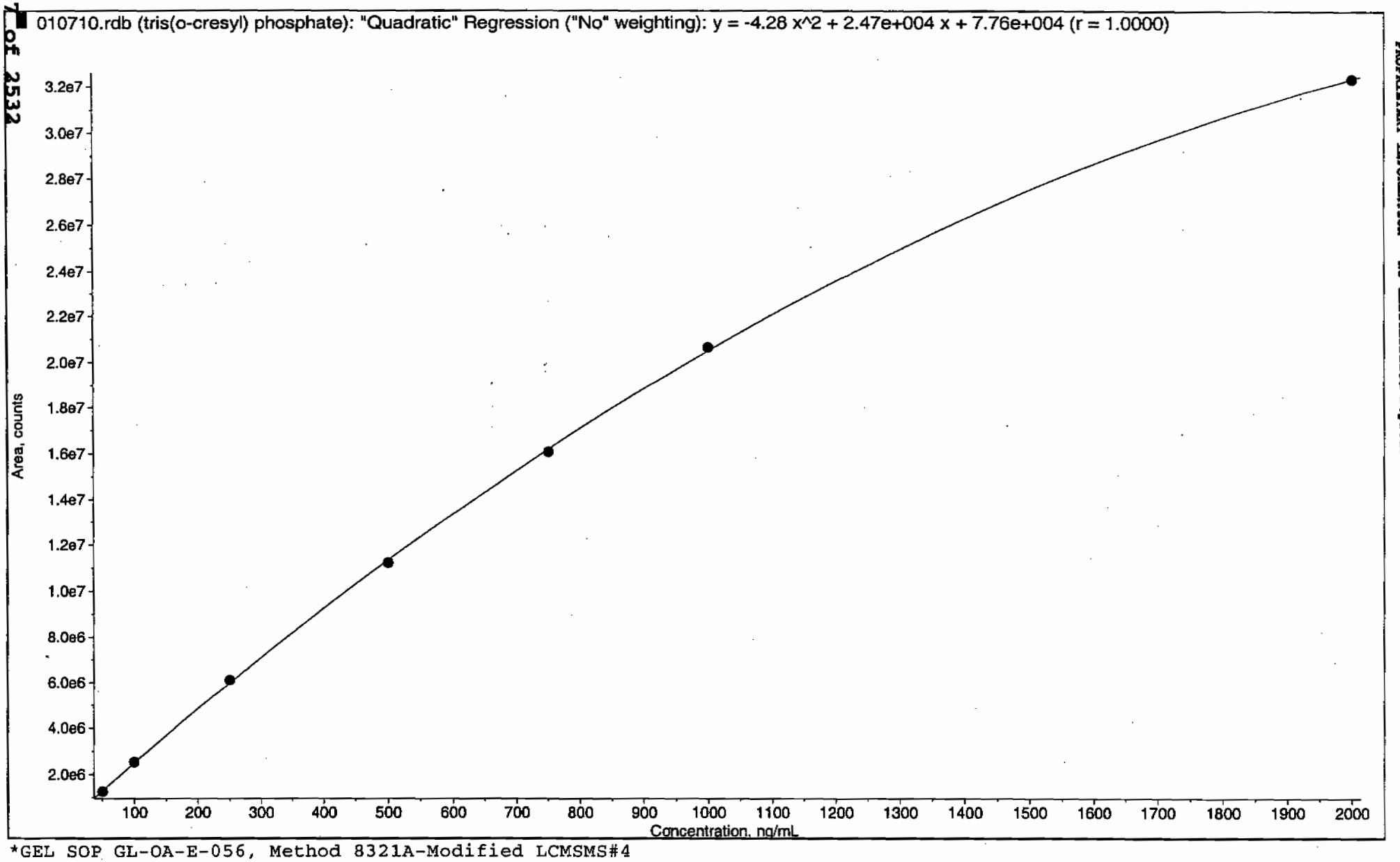

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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7

Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1032

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXS01070011.wiff

Analysis Date: 07–JAN–10 16:52

LCMSMS ID: 1358

Column ID: JSphere ODS–H80

Compound	True	Found	Recovery	Q
2,4–Diamino–6–nitrotoluene	500	447	89	
2,6–Diamino–4–nitrotoluene	500	472	95	
3,4–Dinitrotoluene	250	217	87	
3,5–Dinitroaniline	500	478	96	
TATB	500	516	103	
tris(o–cresyl) phosphate	500	489	98	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 70–130%
OtherTarget Analytes 80–120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

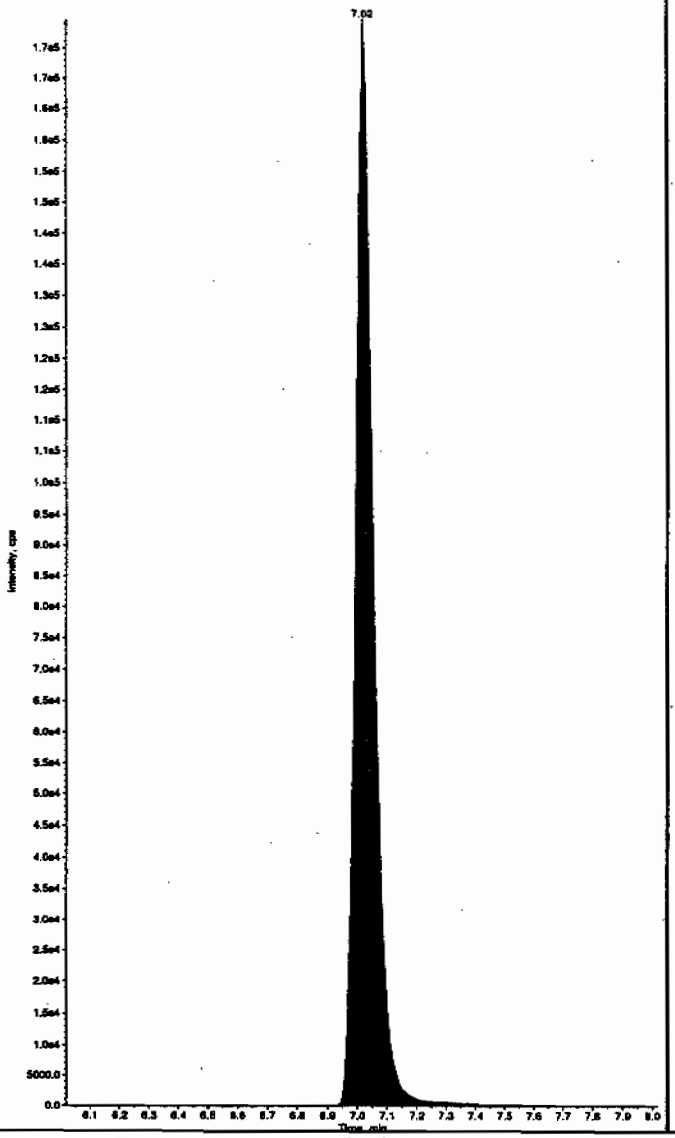
Before Ran 1/8/10

Sample Name: "WXX100107-26ICV" Sample ID: "[1]LER" File: "EXS01070011.wiff"
Peak Name: "TATB" Mass(as): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 516. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 4:52:40 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.02 min
Area: 7.52e+005 counts
Height: 174728.378 cps
Start Time: 6.90 min
End Time: 7.47 min

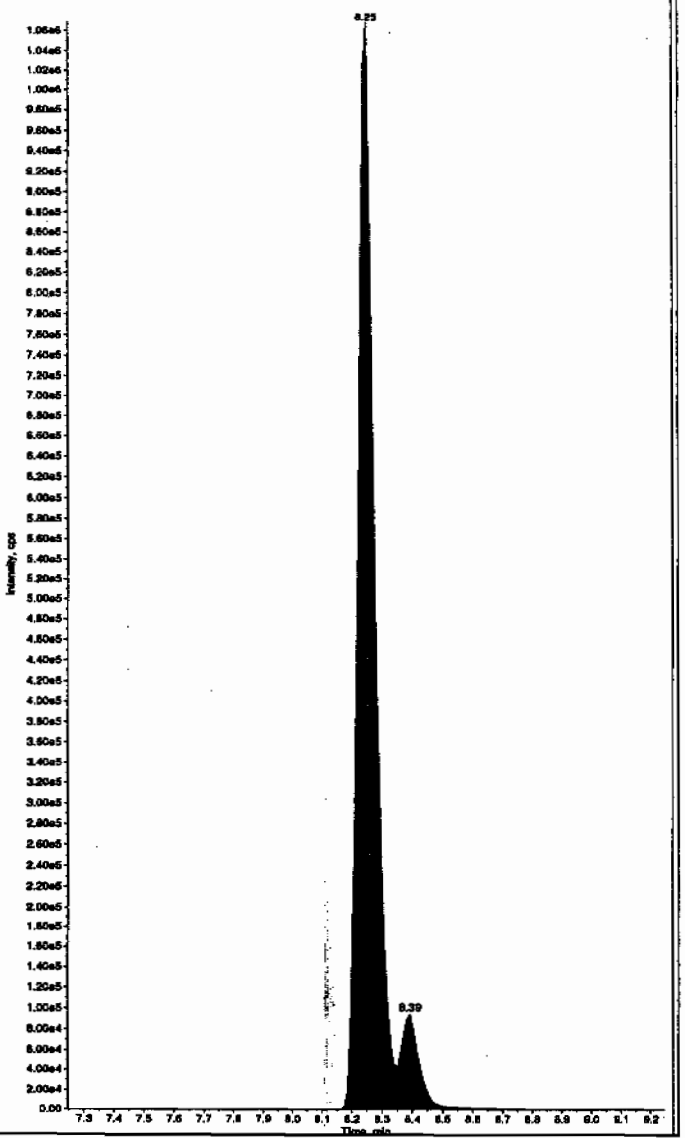


Sample Name: "WXX100107-26ICV" Sample ID: "[1]LER" File: "EXS01070011.wiff"
Peak Name: "35-Dinitroaniline" Mass(as): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 533. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 4:52:40 PM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.25 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.25 min
Area: 4.68e+006 counts
Height: 1069152.344 cps
Start Time: 8.14 min
End Time: 8.76 min



HM 1/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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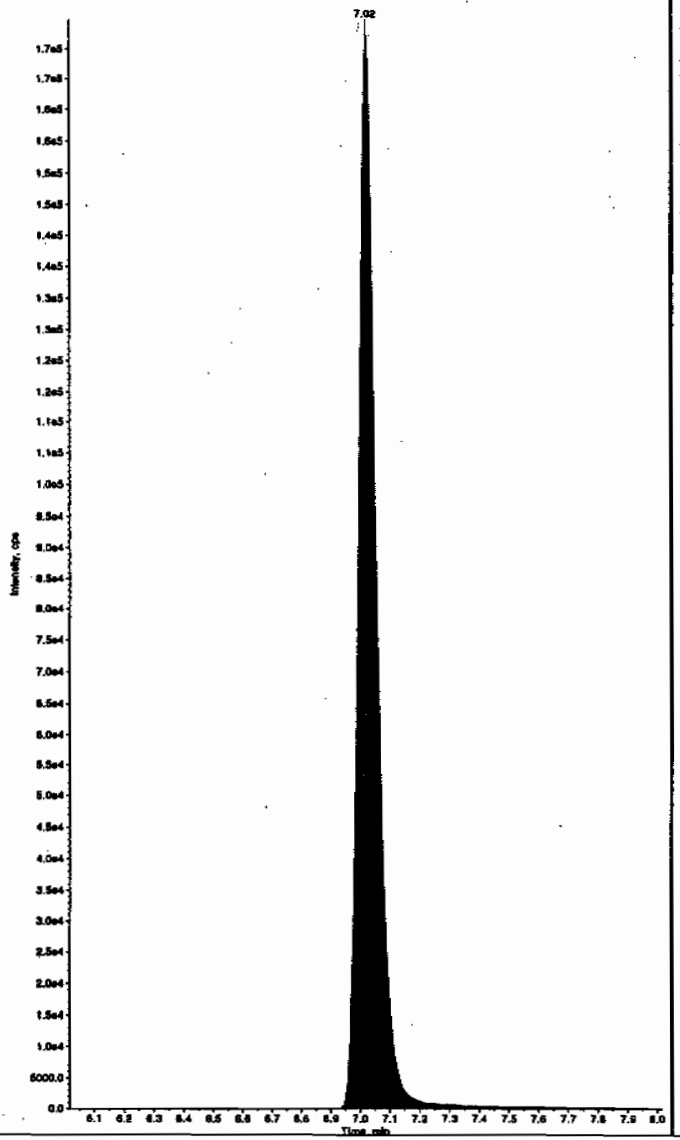
after Lar 1/8/10

Sample Name: "WXX100107-26ICV" Sample ID: "1|1|LER" File: "EXS01070011.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 516. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 4:52:40 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.02 min
Area: 7.52e+005 counts
Height: 174728.378 cps
Start Time: 6.90 min
End Time: 7.47 min

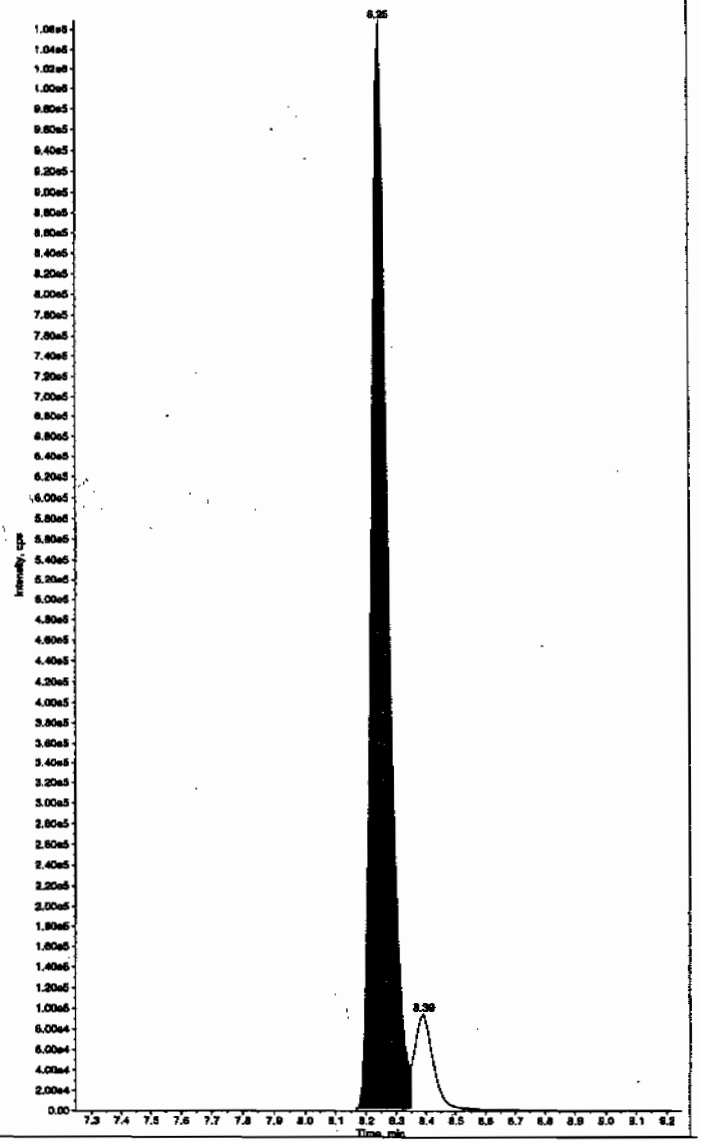


Sample Name: "WXX100107-26ICV" Sample ID: "1|1|LER" File: "EXS01070011.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 478. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 4:52:40 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.25 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.24 min
Area: 4.23e+006 counts
Height: 1075048.715 cps
Start Time: 8.16 min
End Time: 8.35 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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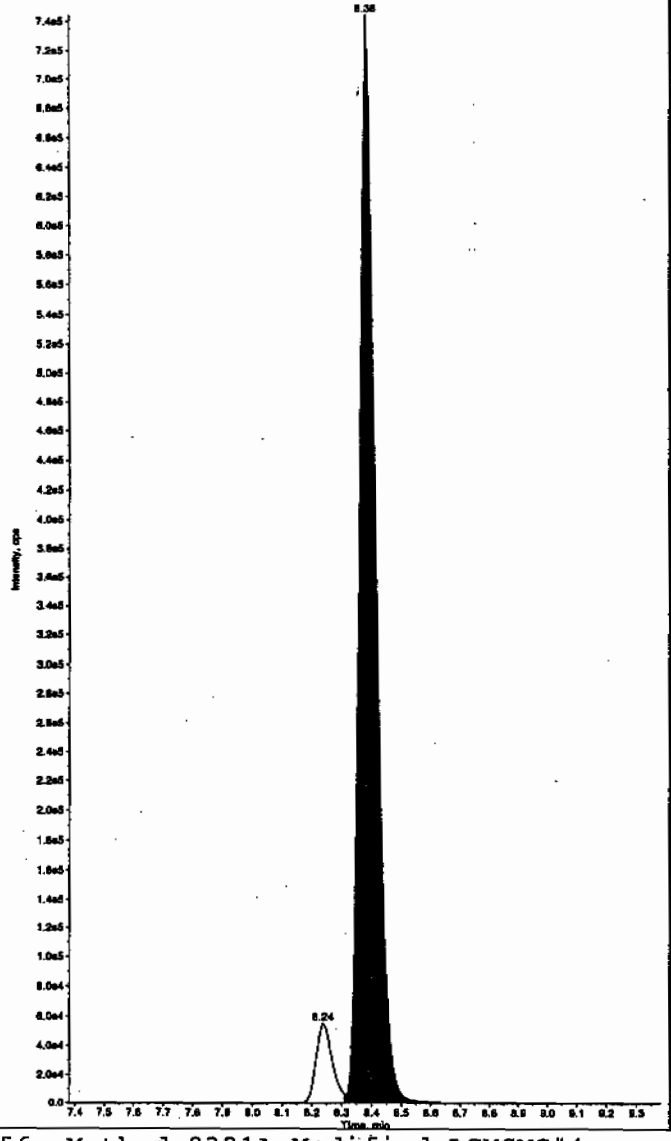
Sample Name: "WXX100107-26ICV" Sample ID: "[1]LER" File: "EXS01070011.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 250. ng/mL
Calculated Conc: 217. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 4:52:40 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.38 min
Area: 2.88e+006 counts
Height: 744687.256 cps
Start Time: 8.31 min
End Time: 8.70 min

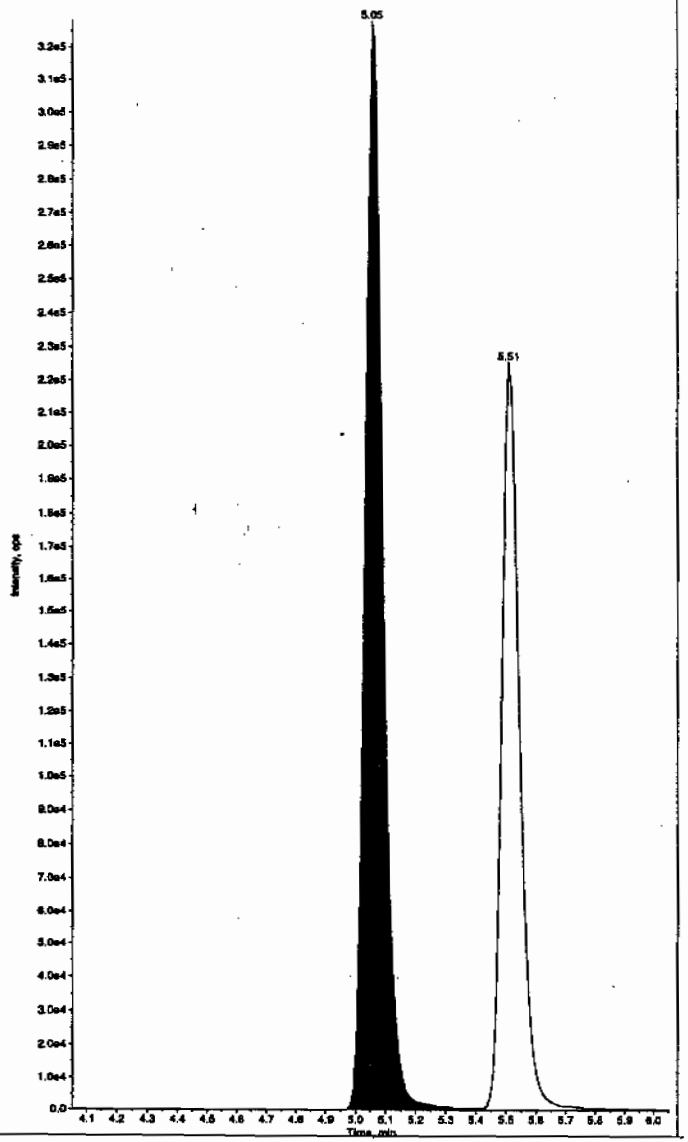


Sample Name: "WXX100107-26ICV" Sample ID: "[1]LER" File: "EXS01070011.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 472. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 4:52:40 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.05 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.05 min
Area: 1.39e+006 counts
Height: 328048.218 cps
Start Time: 4.93 min
End Time: 5.35 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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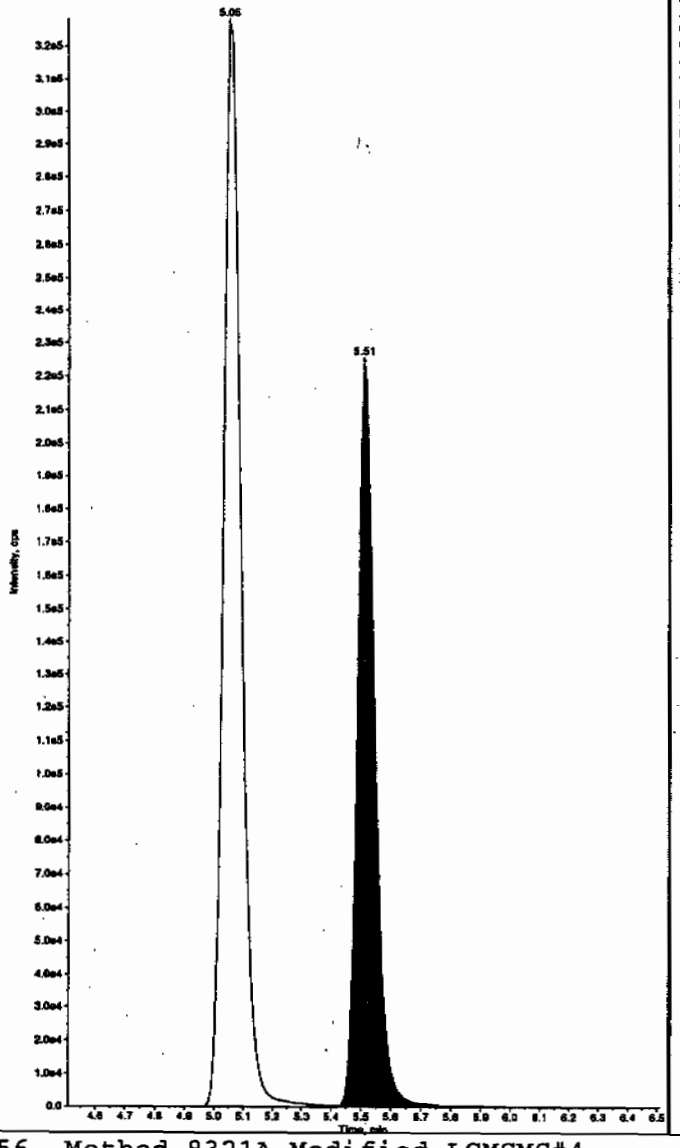
Sample Name: "WXX100107-2SICV" Sample ID: "[1]LER" File: "EXS01070011.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 447. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 4:52:40 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.51 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.51 min
Area: 9.37e+005 counts
Height: 225522.385 cps
Start Time: 5.42 min
End Time: 5.87 min

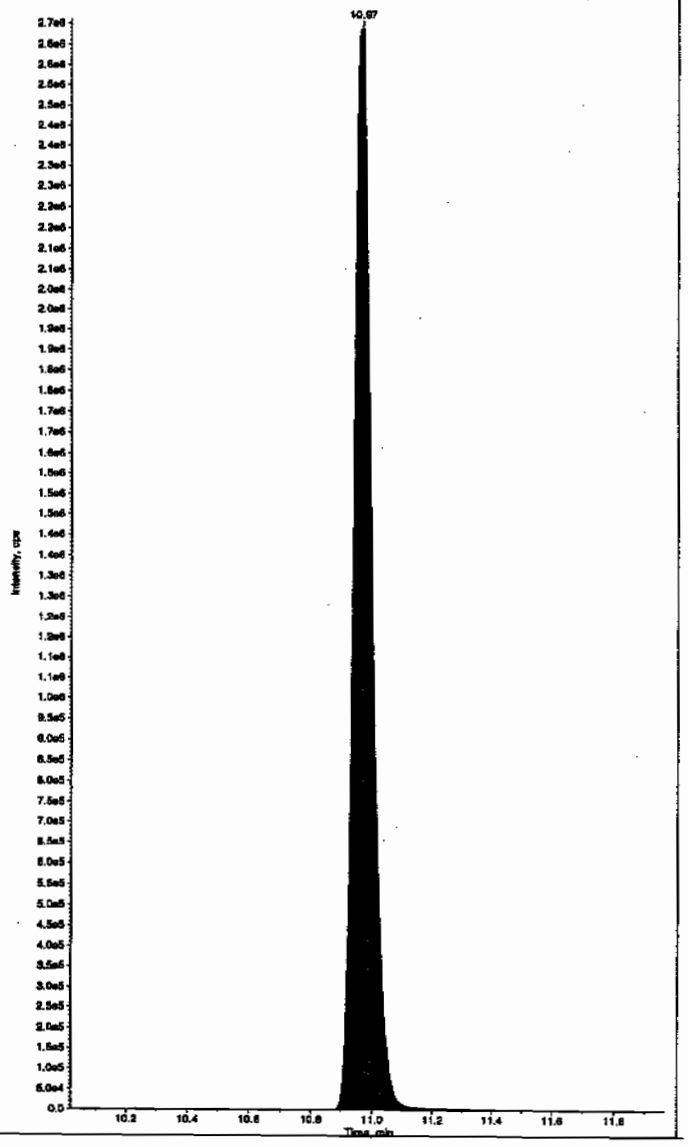


Sample Name: "WXX100107-2SICV" Sample ID: "[1]LER" File: "EXS01070011.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 489. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 4:52:40 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 11.0 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 11.0 min
Area: 1.11e+007 counts
Height: 2658823.730 cps
Start Time: 10.9 min
End Time: 11.3 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1032

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0115012a

Analysis Date: 15-JAN-10 20:17

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
Tetryl	40	35.46	89	
m-Dinitrobenzene	40	36.54	91	
m-Nitrotoluene	40	33.707	84	
o-Nitrotoluene	40	42.115	105	
p-Nitrotoluene	40	37.953	95	
1,3,5-Trinitrobenzene	40	44.594	111	
1,3-Dinitrobenzene-d4	500	482.447	96	
2,4,6-Trinitrotoluene	40	40.332	101	
2,4-Dinitrotoluene	40	39.246	98	
2,6-Dinitrotoluene	40	39.032	98	
2,6-Dinitrotoluene-d3	500	491.584	98	
2-Amino-4,6-dinitrotoluene	40	43.841	110	
3,4-Dinitrotoluene	20	18.18	91	
4-Amino-2,6-dinitrotoluene	40	40.627	102	
HMX	40	41.756	104	
Nitrobenzene	40	37.721	94	
PETN	40	40.127	100	
RDX	40	36.717	92	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

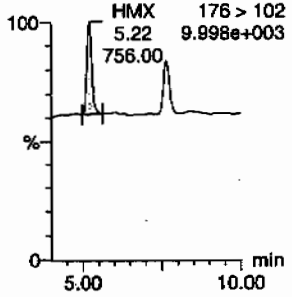
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

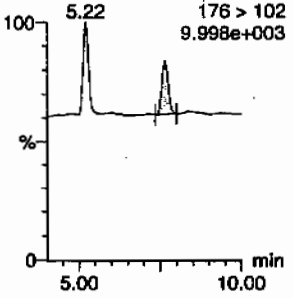
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115012a
Date: 15-Jan-2010
Time: 20:17:51
ID: WXX100115-08CRI
Vial: 1:1,C

MAP 1/16/10

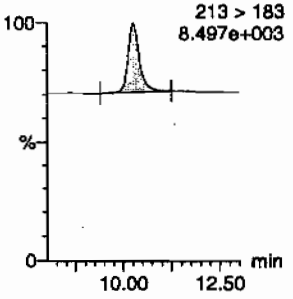
HMX
F2:MRM of 1 channel,AP-
HMX 176 > 102
5.22 9.998e+003
756.00



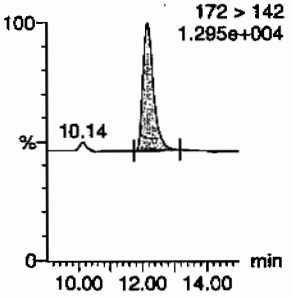
RDX
F2:MRM of 1 channel,AP-
5.22 176 > 102
9.998e+003



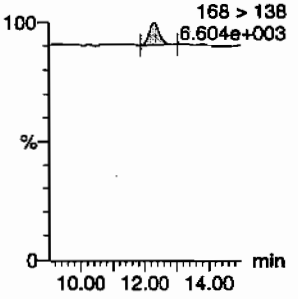
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
8.497e+003



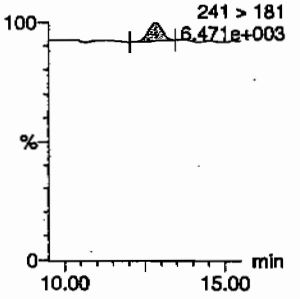
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.295e+004



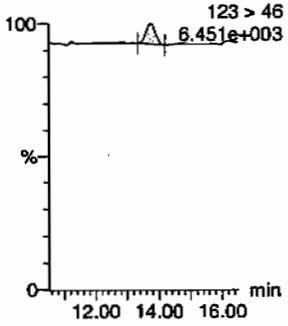
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.604e+003



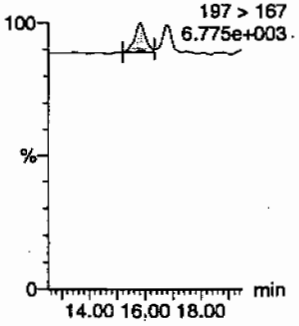
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.471e+003



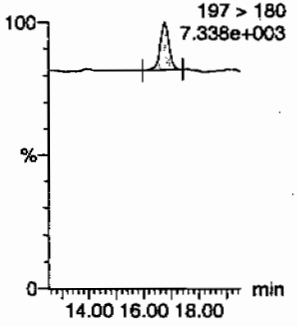
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.451e+003



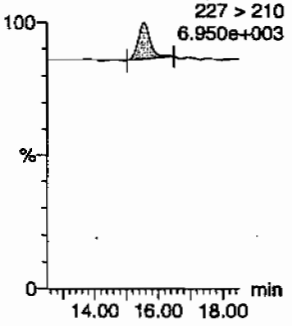
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.775e+003



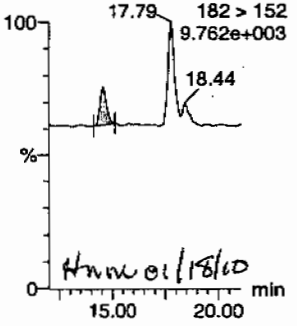
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
7.338e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.950e+003

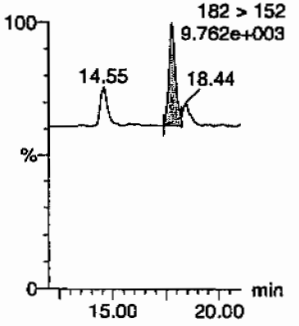


34-dinitrotoluene
F9:MRM of 2 channels,AP-
17.79 182 > 152
9.762e+003
18.44



HMW 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
9.762e+003
14.55
18.44



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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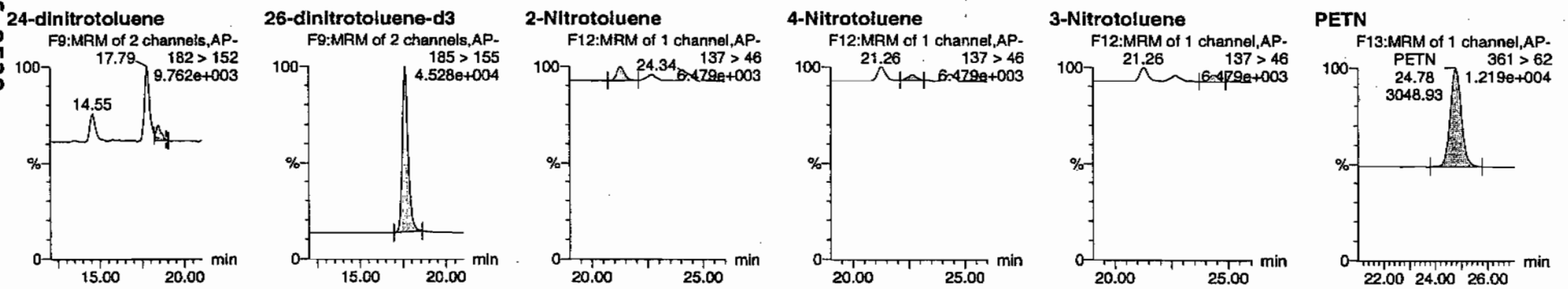
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
WXX100115-08CRI	HMX	176 > 102	5.22	756.000	2669.181	756.000	141.616	bb			41.7561	104.4	4.4	148.6
WXX100115-08CRI	RDX	176 > 102	7.66	507.383	2669.181	507.383	95.045	bb			36.7171	91.8	-8.2	85.9
WXX100115-08CRI	135-Trinitrobenzene	213 > 183	10.27	856.326	2669.181	856.326	160.410	bb			44.5938	111.5	11.5	147.4
WXX100115-08CRI	13-Dinitrobenzene-d4	172 > 142	12.17	2669.181		2669.181	2669.181	bb			482.4472	96.5	-3.5	94.7
WXX100115-08CRI	13-Dinitrobenzene	168 > 138	12.31	239.234	2669.181	239.234	44.814	bb			36.5402	91.4	-8.6	27.6
WXX100115-08CRI	Tetryl	241 > 181	12.82	249.963	2669.181	249.963	46.824	bb			35.4600	88.7	-11.3	18.4
WXX100115-08CRI	Nitrobenzene	123 > 46	13.75	179.090	2669.181	179.090	33.548	bb			37.7213	94.3	-5.7	19.8
WXX100115-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.82	349.030	15647.652	349.030	11.153	MM	16-Jan-10	13:26:06	40.6269	101.6	1.6	9.7
WXX100115-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.75	492.225	15647.652	492.225	15.728	bb			43.8410	109.6	9.6	34.7
WXX100115-08CRI	246-Trinitrotoluene	227 > 210	15.57	425.225	15647.652	425.225	13.588	bb			40.3322	100.8	0.8	45.3
WXX100115-08CRI	34-dinitrotoluene	182 > 152	14.55	509.130	15647.652	509.130	16.269	bb			18.1804	90.9	-9.1	31.4
WXX100115-08CRI	26-dinitrotoluene	182 > 152	17.79	1326.287	15647.652	1326.287	42.380	MM	16-Jan-10	13:30:42	39.0316	97.6	-2.4	85.1
WXX100115-08CRI	24-dinitrotoluene	182 > 152	18.44	292.501	15647.652	292.501	9.346	MM	16-Jan-10	13:34:28	39.2463	98.1	-1.9	17.9
WXX100115-08CRI	26-dinitrotoluene-d3	185 > 155	17.61	15647.652		15647.652	15647.652	bb			491.5842	98.3	-1.7	2193.8
WXX100115-08CRI	2-Nitrotoluene	137 > 46	21.26	197.422	15647.652	197.422	6.308	bb			42.1153	105.3	5.3	46.6
WXX100115-08CRI	4-Nitrotoluene	137 > 46	22.66	90.834	15647.652	90.834	2.902	bb			37.9525	94.9	-5.1	19.5
WXX100115-08CRI	3-Nitrotoluene	137 > 46	24.34	100.511	15647.652	100.511	3.212	bb			33.7071	84.3	-15.7	23.3
WXX100115-08CRI	PETN	361 > 62	24.78	3048.930	15647.652	3048.930	97.425	bb			40.1268	100.3	0.3	575.3

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/15/10
Time of Injection	2017
Standard Number	WXX100115-08CRI
Data File	EXP0115012a

HMX		104.4
RDX		91.8
135-TNB		111.5
13-DNB		91.4
Tetryl		88.7
Nitrobenzene		94.3
4A-26-DNT		101.6
2A-46-DNT		109.6
246-TNT		100.8
34-DNT(surr)		90.9
26-DNT		97.6
24-DNT		98.1
2-NT		105.3
4-NT		94.9
3-NT		84.3
PETN		100.3
	Total	1565.5
	Average	97.8

MAB 1/16/10

Hmk 01/18/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1032

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0115019a

Analysis Date: 15-JAN-10 23:44

LCMSMS ID: 903

Column ID Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
PETN	600	725.892	121	*
RDX	600	643.387	107	
Tetryl	600	544.621	91	
m-Dinitrobenzene	600	616.712	103	
m-Nitrotoluene	600	546.426	91	
o-Nitrotoluene	600	597.062	100	
p-Nitrotoluene	600	559.314	93	
1,3,5-Trinitrobenzene	600	624.416	104	
1,3-Dinitrobenzene-d4	500	475.652	95	
2,4,6-Trinitrotoluene	600	667.8	111	
2,4-Dinitrotoluene	600	598.357	100	
2,6-Dinitrotoluene	600	597.472	100	
2,6-Dinitrotoluene-d3	500	486.152	97	
2-Amino-4,6-dinitrotoluene	600	727.544	121	*
3,4-Dinitrotoluene	300	292.15	97	
4-Amino-2,6-dinitrotoluene	600	608.835	101	
HMX	600	640.051	107	
Nitrobenzene	600	577.316	96	

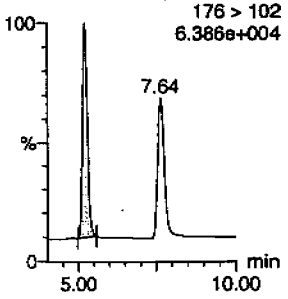
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

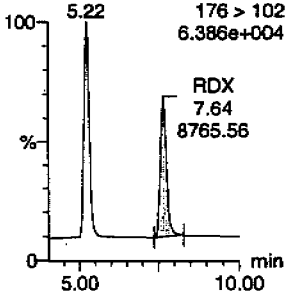
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115019a
Date: 15-Jan-2010
Time: 23:44:28
ID: WXX100115-07CCV
Vial: 1:1,B

MAT 1/16/10

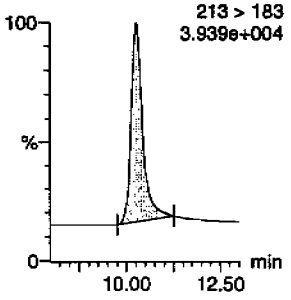
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.386e+004



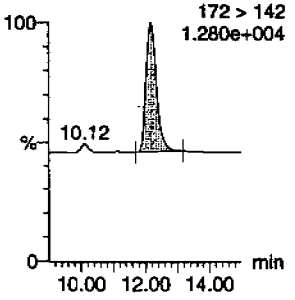
RDX
F2:MRM of 1 channel,AP-
5.22
176 > 102
6.386e+004



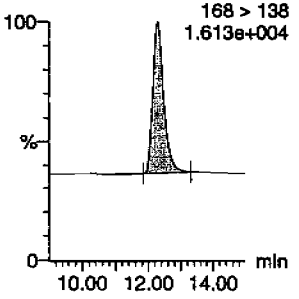
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
3.939e+004



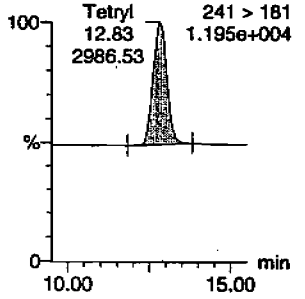
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.280e+004



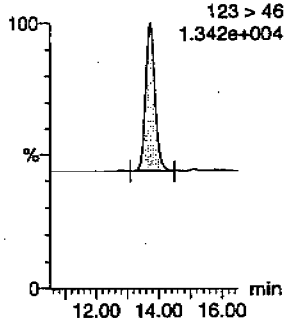
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.613e+004



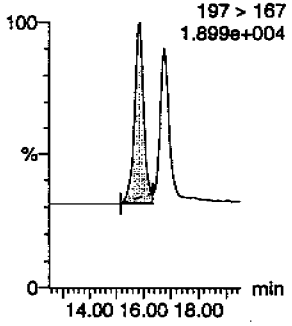
Tetryl
F6:MRM of 1 channel,AP-
Tetryl
12.83
2986.53
241 > 181
1.195e+004



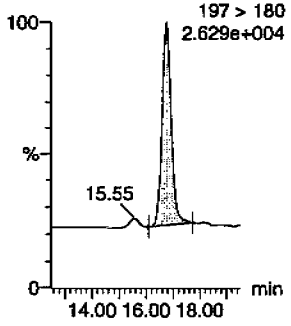
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.342e+004



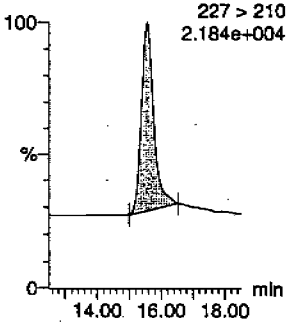
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
1.899e+004



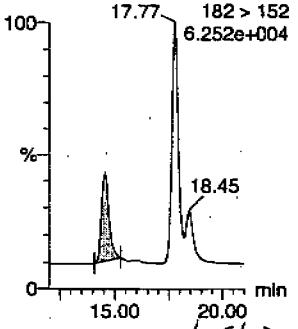
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.629e+004



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.184e+004

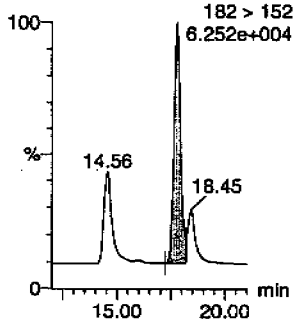


34-dinitrotoluene
F9:MRM of 2 channels,AP-
17.77
182 > 152
6.252e+004



HMW 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.252e+004



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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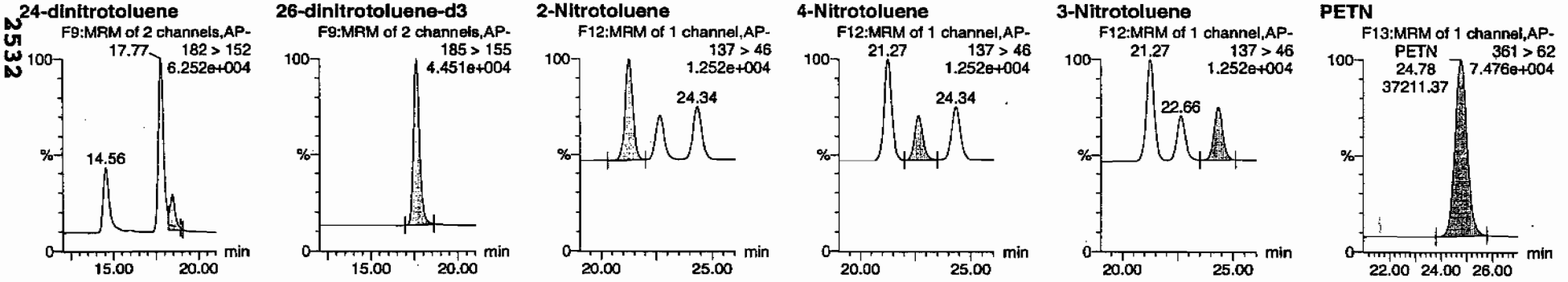
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	mg/mL	%Rec	%Dev	S/N
WXX100115-07CCV	HMX	176 > 102	5.22	11425.011	2631.587	11425.011	2170.745	bb			640.0515	106.7	6.7	1032.4
WXX100115-07CCV	RDX	176 > 102	7.64	8765.559	2631.587	8765.559	1665.451	bb			643.3868	107.2	7.2	677.5
WXX100115-07CCV	135-Trinitrobenzene	213 > 183	10.27	11821.653	2631.587	11821.653	2246.107	bb			624.4161	104.1	4.1	2226.2
WXX100115-07CCV	13-Dinitrobenzene-d4	172 > 142	12.17	2631.587		2631.587	2631.587	bb			475.6522	95.1	-4.9	247.9
WXX100115-07CCV	13-Dinitrobenzene	168 > 138	12.31	3980.839	2631.587	3980.839	756.357	bb			616.7120	102.8	2.8	370.3
WXX100115-07CCV	Tetryl	241 > 181	12.83	2986.535	2631.587	2986.535	567.440	bb			544.6210	90.8	-9.2	223.6
WXX100115-07CCV	Nitrobenzene	123 > 46	13.76	2702.330	2631.587	2702.330	513.441	bb			577.3164	96.2	-3.8	172.7
WXX100115-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.86	5172.765	15474.734	5172.765	167.136	MM	16-Jan-10	13:26:41	608.8350	101.5	1.5	470.7
WXX100115-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.76	8078.237	15474.734	8078.237	261.014	bb			727.5436	121.3	21.3	243.1
WXX100115-07CCV	246-Trinitrotoluene	227 > 210	15.58	6962.858	15474.734	6962.858	224.975	bb			667.8004	111.3	11.3	384.6
WXX100115-07CCV	34-dinitrotoluene	182 > 152	14.56	8091.053	15474.734	8091.053	261.428	bb			292.1498	97.4	-2.6	271.8
WXX100115-07CCV	26-dinitrotoluene	182 > 152	17.77	20077.662	15474.734	20077.662	648.724	MM	16-Jan-10	13:31:18	597.4721	99.6	-0.4	743.1
WXX100115-07CCV	24-dinitrotoluene	182 > 152	18.45	4410.248	15474.734	4410.248	142.498	MM	16-Jan-10	13:35:10	598.3572	99.7	-0.3	151.1
WXX100115-07CCV	26-dinitrotoluene-d3	185 > 155	17.60	15474.734		15474.734	15474.734	bb			486.1518	97.2	-2.8	1400.3
WXX100115-07CCV	2-Nitrotoluene	137 > 46	21.27	2767.892	15474.734	2767.892	89.433	bb			597.0623	99.5	-0.5	96.9
WXX100115-07CCV	4-Nitrotoluene	137 > 46	22.66	1323.846	15474.734	1323.846	42.774	bb			559.3140	93.2	-6.8	43.0
WXX100115-07CCV	3-Nitrotoluene	137 > 46	24.34	1611.381	15474.734	1611.381	52.065	bb			546.4263	91.1	-8.9	50.9
WXX100115-07CCV	PETN	361 > 62	24.78	37211.371	15474.734	37211.371	1202.327	bb			725.8919	121.0	21.0	6499.7

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/15/10
Time of Injection: 2344
Standard Number: WXX100115-07CCV
Data File: EXP0115019a

HMX	106.7
RDX	107.2
135-TNB	104.1
13-DNB	102.8
Tetryl	90.8
Nitrobenzene	96.2
4A-26-DNT	101.5
2A-46-DNT	121.3
246-TNT	111.3
34-DNT(surr)	97.4
26-DNT	99.6
24-DNT	99.7
2-NT	99.5
4-NT	93.2
3-NT	91.1
PETN	121.0
Total	1643.4
Average	102.7

MT 1/16/10

HMK 01/18/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1032

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0115021a

Analysis Date: 16–JAN–10 00:43

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5–Trinitrobenzene	40	44.987	112	
1,3–Dinitrobenzene–d4	500	521.379	104	
2,4,6–Trinitrotoluene	40	36.524	91	
2,4–Dinitrotoluene	40	35.44	89	
2,6–Dinitrotoluene	40	38.728	97	
2,6–Dinitrotoluene–d3	500	565.153	113	
2–Amino–4,6–dinitrotoluene	40	41.936	105	
3,4–Dinitrotoluene	20	18.164	91	
4–Amino–2,6–dinitrotoluene	40	40.649	102	
HMX	40	47.068	118	
Nitrobenzene	40	39.063	98	
PETN	40	34.482	86	
RDX	40	44.503	111	
Tetryl	40	38.53	96	
m–Dinitrobenzene	40	43.064	108	
m–Nitrotoluene	40	29.292	73	
o–Nitrotoluene	40	37.911	95	
p–Nitrotoluene	40	33.457	84	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 50–150%
OtherTarget Analytes 70–130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

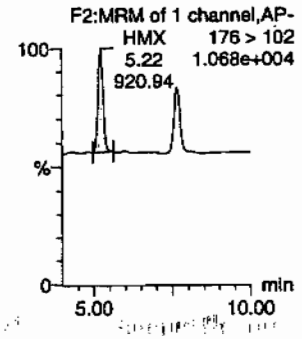
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

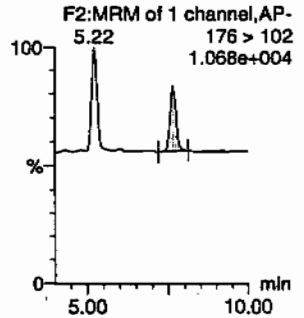
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115021a
Date: 16-Jan-2010
Time: 00:43:41
ID: WXX100115-08CRI
Vial: 1:1,C

MMT 1/16/10

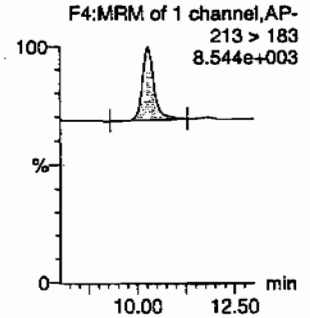
HMX



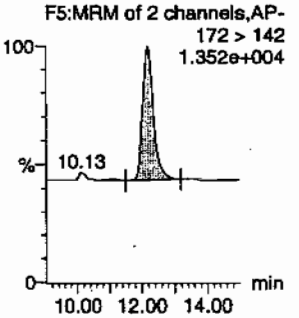
RDX



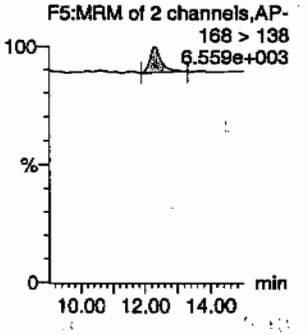
135-Trinitrobenzene



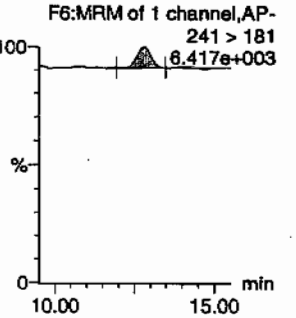
13-Dinitrobenzene-d4



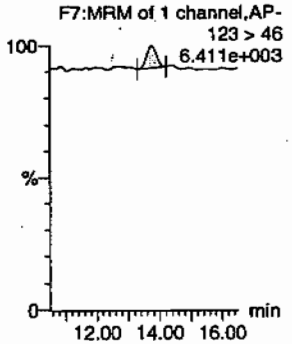
13-Dinitrobenzene



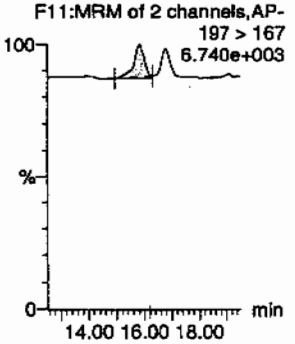
Tetryl



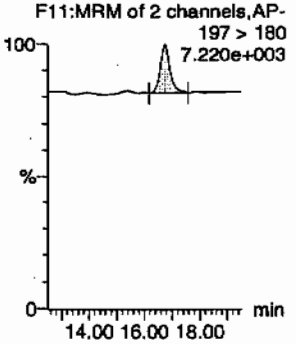
Nitrobenzene



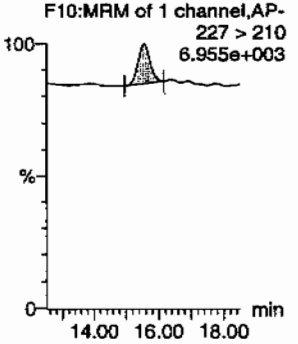
4-Amino-26-dinitrotoluene



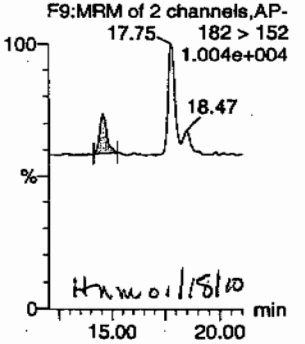
2-Amino-46-dinitrotoluene



246-Trinitrotoluene

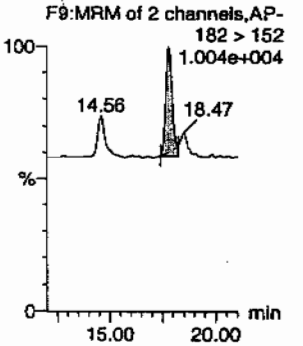


34-dinitrotoluene



HMW 01/15/10

26-dinitrotoluene



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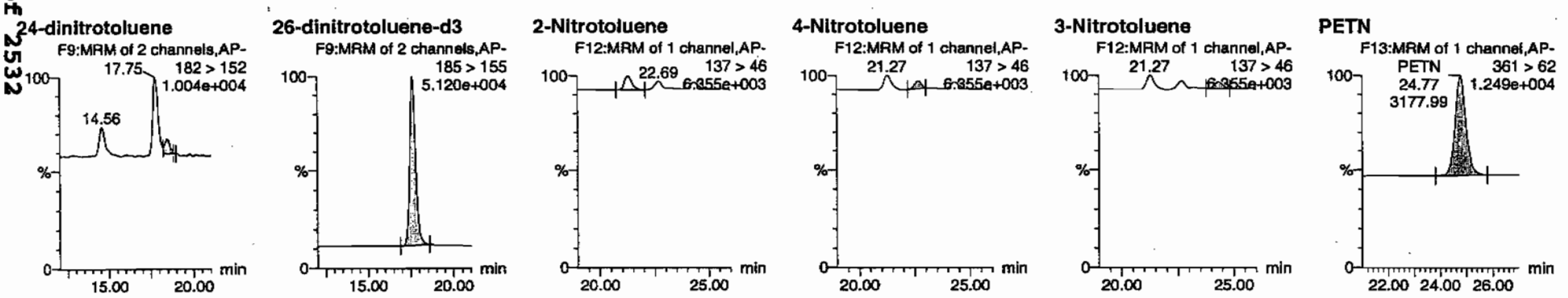
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100115-08CRI	HMX	176 > 102	5.22	920.938	2884.573	920.938	159.632	bb			47.0679	117.7	17.7	105.4
WXX100115-08CRI	RDX	176 > 102	7.64	664.597	2884.573	664.597	115.199	bb			44.5028	111.3	11.3	66.2
WXX100115-08CRI	135-Trinitrobenzene	213 > 183	10.27	933.581	2884.573	933.581	161.823	bb			44.9867	112.5	12.5	144.3
WXX100115-08CRI	13-Dinitrobenzene-d4	172 > 142	12.17	2884.573		2884.573	2884.573	bb			521.3787	104.3	4.3	140.8
WXX100115-08CRI	13-Dinitrobenzene	168 > 138	12.31	304.697	2884.573	304.697	52.815	bb			43.0638	107.7	7.7	58.6
WXX100115-08CRI	Tetryl	241 > 181	12.82	288.243	2884.573	288.243	49.963	bb			38.5299	96.3	-3.7	27.1
WXX100115-08CRI	Nitrobenzene	123 > 46	13.72	200.428	2884.573	200.428	34.741	bb			39.0634	97.7	-2.3	18.8
WXX100115-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.80	401.482	17989.414	401.482	11.159	MM	16-Jan-10	13:26:48	40.6489	101.6	1.6	24.5
WXX100115-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.76	541.301	17989.414	541.301	15.045	bb			41.9360	104.8	4.8	22.2
WXX100115-08CRI	246-Trinitrotoluene	227 > 210	15.55	442.709	17989.414	442.709	12.305	bb			36.5244	91.3	-8.7	52.1
WXX100115-08CRI	34-dinitrotoluene	182 > 152	14.56	584.808	17989.414	584.808	16.254	bb			18.1644	90.8	-9.2	26.6
WXX100115-08CRI	26-dinitrotoluene	182 > 152	17.75	1512.922	17989.414	1512.922	42.050	MM	16-Jan-10	13:31:26	38.7282	96.8	-3.2	73.7
WXX100115-08CRI	24-dinitrotoluene	182 > 152	18.47	303.662	17989.414	303.662	8.440	MM	16-Jan-10	13:35:19	35.4400	88.6	-11.4	14.1
WXX100115-08CRI	26-dinitrotoluene-d3	185 > 155	17.62	17989.414		17989.414	17989.414	bb			565.1526	113.0	13.0	826.2
WXX100115-08CRI	2-Nitrotoluene	137 > 46	21.27	204.308	17989.414	204.308	5.679	bb			37.9107	94.8	-5.2	54.7
WXX100115-08CRI	4-Nitrotoluene	137 > 46	22.69	92.057	17989.414	92.057	2.559	bb			33.4566	83.6	-16.4	28.7
WXX100115-08CRI	3-Nitrotoluene	137 > 46	24.32	100.416	17989.414	100.416	2.791	bb			29.2916	73.2	-26.8	25.7
WXX100115-08CRI	PETN	361 > 62	24.77	3177.986	17989.414	3177.986	88.329	bb			34.4818	86.2	-13.8	723.0

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/16/10
Time of Injection	0043
Standard Number	WXX100115-08CRI
Data File	EXP0115021a

HMX	117.7
RDX	111.3
135-TNB	112.5
13-DNB	107.7
Tetryl	96.3
Nitrobenzene	97.7
4A-26-DNT	101.6
2A-46-DNT	104.8
246-TNT	91.3
34-DNT(surr)	90.8
26-DNT	96.8
24-DNT	88.6
2-NT	94.8
4-NT	83.6
3-NT	73.2
PETN	86.2
Total	1554.9
Average	97.2

MAP 1/16/10

Hmm 01/18/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1032

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0115032a

Analysis Date: 16-JAN-10 06:08

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	635.32	106	
1,3-Dinitrobenzene-d4	500	513.154	103	
2,4,6-Trinitrotoluene	600	686.871	114	
2,4-Dinitrotoluene	600	669.158	112	
2,6-Dinitrotoluene	600	615.715	103	
2,6-Dinitrotoluene-d3	500	488.547	98	
2-Amino-4,6-dinitrotoluene	600	694.098	116	
3,4-Dinitrotoluene	300	312.05	104	
4-Amino-2,6-dinitrotoluene	600	622.089	104	
HMX	600	690.267	115	
Nitrobenzene	600	523.001	87	
PETN	600	627.431	105	
RDX	600	669.982	112	
Tetryl	600	533.436	89	
m-Dinitrobenzene	600	596.795	99	
m-Nitrotoluene	600	575.154	96	
o-Nitrotoluene	600	627.385	105	
p-Nitrotoluene	600	631.865	105	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

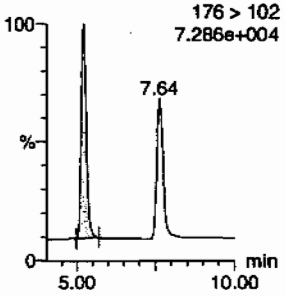
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

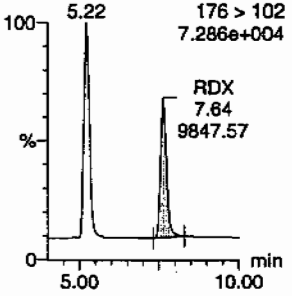
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115032a
Date: 16-Jan-2010
Time: 06:08:05
ID: WXX100115-07CCV
Vial: 1:1,B

MT 1/16/10

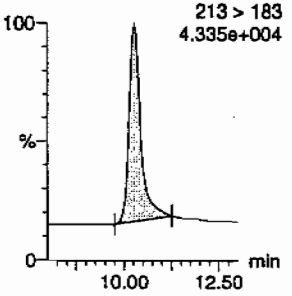
HMX
F2:MRM of 1 channel,AP-
176 > 102
7.286e+004



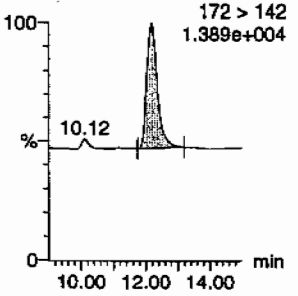
RDX
F2:MRM of 1 channel,AP-
176 > 102
7.286e+004



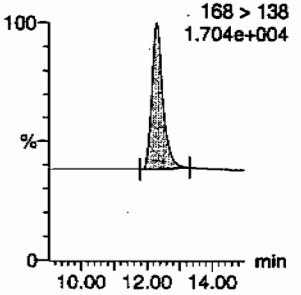
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
4.335e+004



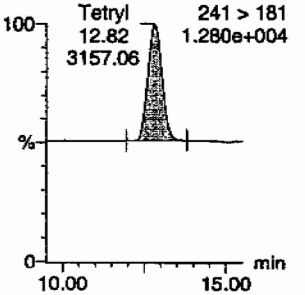
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.389e+004



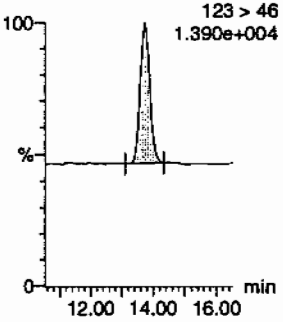
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.704e+004



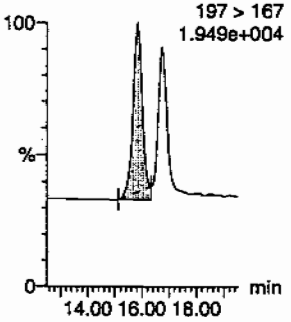
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
1.280e+004



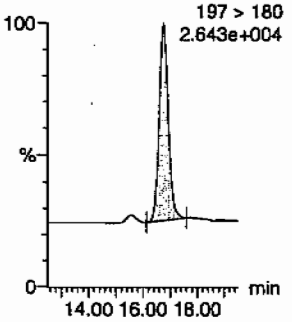
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.390e+004



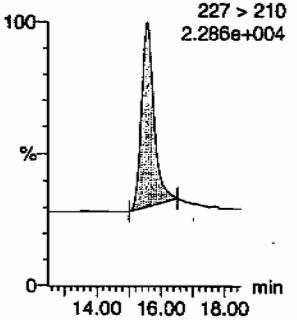
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
1.949e+004



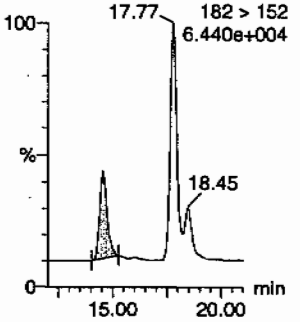
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.643e+004



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.286e+004

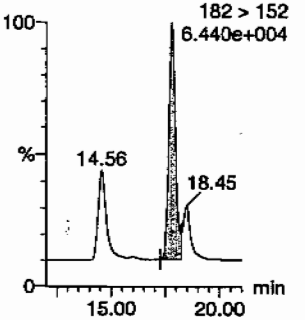


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.440e+004



HMW 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.440e+004



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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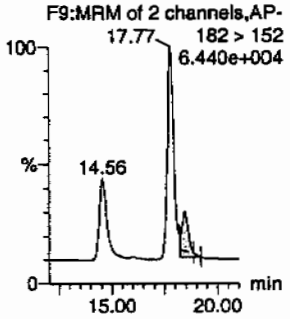
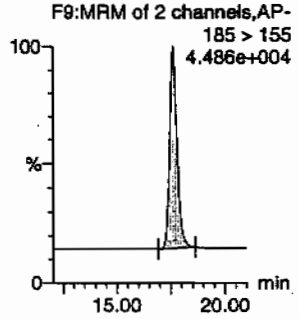
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

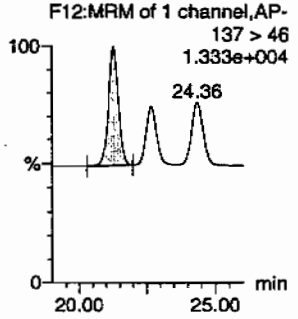
24-dinitrotoluene



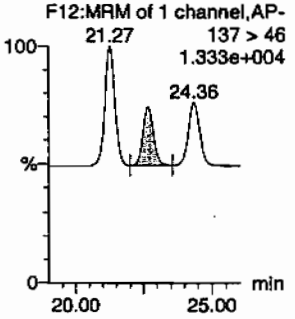
26-dinitrotoluene-d3



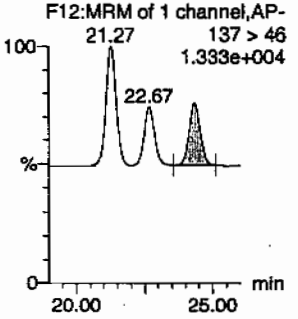
2-Nitrotoluene



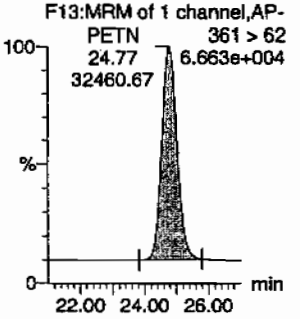
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100115-07CCV	HMX	176 > 102	5.22	13292.825	2839.071	13292.825	2341.052	bb			690.2669	115.0	15.0	1635.8
WXX100115-07CCV	RDX	176 > 102	7.64	9847.565	2839.071	9847.565	1734.294	bb			669.9816	111.7	11.7	1062.1
WXX100115-07CCV	135-Trinitrobenzene	213 > 183	10.27	12976.423	2839.071	12976.423	2285.329	bb			635.3197	105.9	5.9	1492.3
WXX100115-07CCV	13-Dinitrobenzene-d4	172 > 142	12.17	2839.071		2839.071	2839.071	bb			513.1543	102.6	2.6	525.6
WXX100115-07CCV	13-Dinitrobenzene	168 > 138	12.31	4156.004	2839.071	4156.004	731.930	bb			596.7951	99.5	-0.5	374.9
WXX100115-07CCV	Tetryl	241 > 181	12.82	3157.064	2839.071	3157.064	556.003	bb			533.4357	88.9	-11.1	427.7
WXX100115-07CCV	Nitrobenzene	123 > 46	13.72	2641.105	2839.071	2641.105	465.135	bb			523.0012	87.2	-12.8	288.7
WXX100115-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.83	5311.411	15550.967	5311.411	170.774	MM	16-Jan-10	13:27:22	622.0891	103.7	3.7	407.1
WXX100115-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.76	7744.844	15550.967	7744.844	249.015	bb			694.0981	115.7	15.7	589.7
WXX100115-07CCV	246-Trinitrotoluene	227 > 210	15.58	7196.983	15550.967	7196.983	231.400	bb			686.8713	114.5	14.5	412.3
WXX100115-07CCV	34-dinitrotoluene	182 > 152	14.56	8684.758	15550.967	8684.758	279.235	bb			312.0499	104.0	4.0	442.7
WXX100115-07CCV	26-dinitrotoluene	182 > 152	17.77	20792.623	15550.967	20792.623	668.532	MM	16-Jan-10	13:32:13	615.7147	102.6	2.6	1188.8
WXX100115-07CCV	24-dinitrotoluene	182 > 152	18.45	4956.390	15550.967	4956.390	159.360	MM	16-Jan-10	13:36:18	669.1582	111.5	11.5	258.8
WXX100115-07CCV	26-dinitrotoluene-d3	185 > 155	17.60	15550.967		15550.967	15550.967	bb			488.5468	97.7	-2.3	1328.1
WXX100115-07CCV	2-Nitrotoluene	137 > 46	21.27	2922.792	15550.967	2922.792	93.975	bb			627.3851	104.6	4.6	1153.3
WXX100115-07CCV	4-Nitrotoluene	137 > 46	22.67	1502.935	15550.967	1502.935	48.323	bb			631.8649	105.3	5.3	568.6
WXX100115-07CCV	3-Nitrotoluene	137 > 46	24.36	1704.452	15550.967	1704.452	54.802	bb			575.1537	95.9	-4.1	607.1
WXX100115-07CCV	PETN	361 > 62	24.77	32460.666	15550.967	32460.666	1043.686	bb			627.4307	104.6	4.6	2596.2

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/16/10
Time of Injection: 0608
Standard Number: WXX100115-07CCV
Data File: EXP0115032a

HMX		115.0
RDX		111.7
135-TNB		105.9
13-DNB		99.5
Tetryl		88.9
Nitrobenzene		87.2
4A-26-DNT		103.7
2A-46-DNT		115.7
246-TNT		114.5
34-DNT(surr)		104.0
26-DNT		102.6
24-DNT		111.5
2-NT		104.6
4-NT		105.3
3-NT		95.9
PETN		104.6
Total		1670.6
Average		104.4

MATP 1/16/10

Hmc 01/18/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1032

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0115034a

Analysis Date: 16-JAN-10 07:07

LCMSMS ID: 903

Column ID Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
2,6-Dinitrotoluene-d3	500	557.032	111	
2-Amino-4,6-dinitrotoluene	40	48.067	120	
3,4-Dinitrotoluene	20	21.69	108	
4-Amino-2,6-dinitrotoluene	40	36.683	92	
HMX	40	40.974	102	
Nitrobenzene	40	35.439	89	
PETN	40	37.836	95	
RDX	40	36.523	91	
Tetryl	40	32.005	80	
m-Dinitrobenzene	40	36.952	92	
m-Nitrotoluene	40	28.873	72	
o-Nitrotoluene	40	41.647	104	
p-Nitrotoluene	40	40.468	101	
1,3,5-Trinitrobenzene	40	44.144	110	
1,3-Dinitrobenzene-d4	500	598.211	120	
2,4,6-Trinitrotoluene	40	44.685	112	
2,4-Dinitrotoluene	40	35.215	88	
2,6-Dinitrotoluene	40	42.092	105	

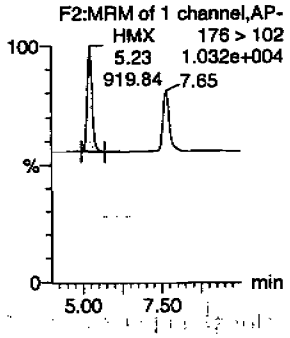
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

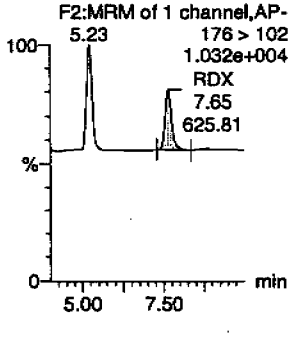
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115034a
Date: 16-Jan-2010
Time: 07:07:03
ID: WXX100115-08CRI
Vial: 1:1,C

MMT 1/16/10

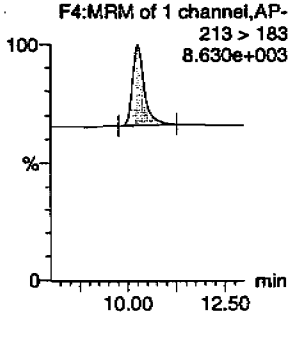
HMX



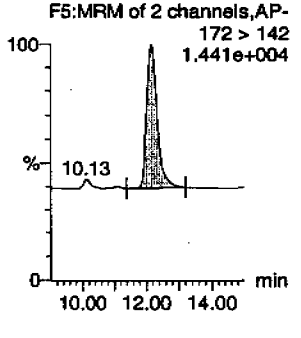
RDX



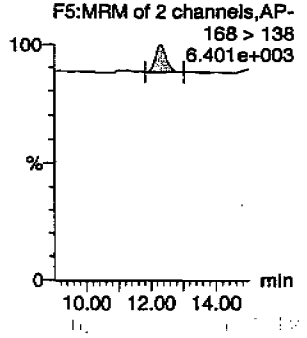
135-Trinitrobenzene



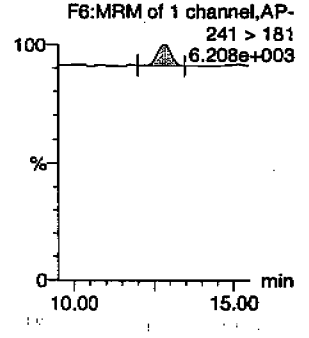
13-Dinitrobenzene-d4



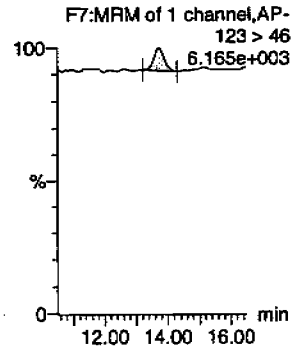
13-Dinitrobenzene



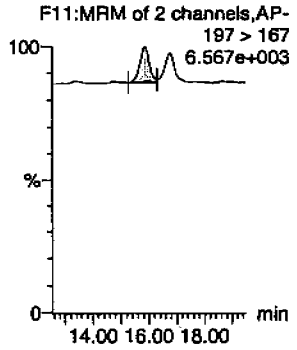
Tetryl



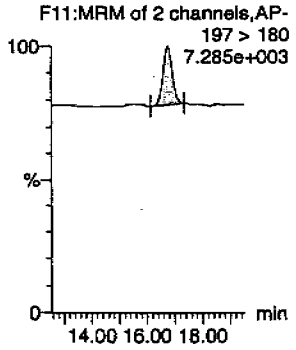
Nitrobenzene



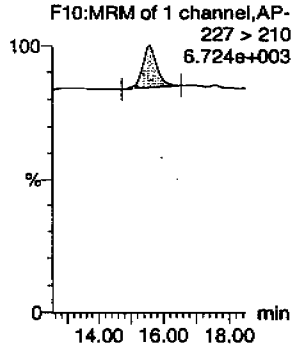
4-Amino-26-dinitrotoluene



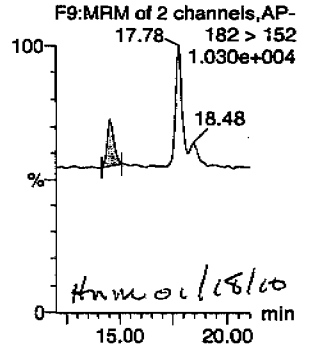
2-Amino-46-dinitrotoluene



246-Trinitrotoluene

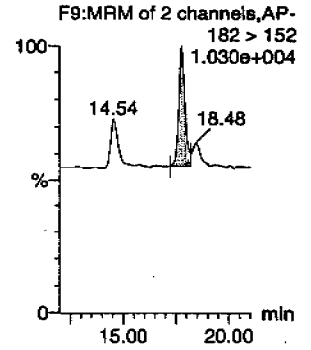


34-dinitrotoluene



Hmm 01/18/10

26-dinitrotoluene



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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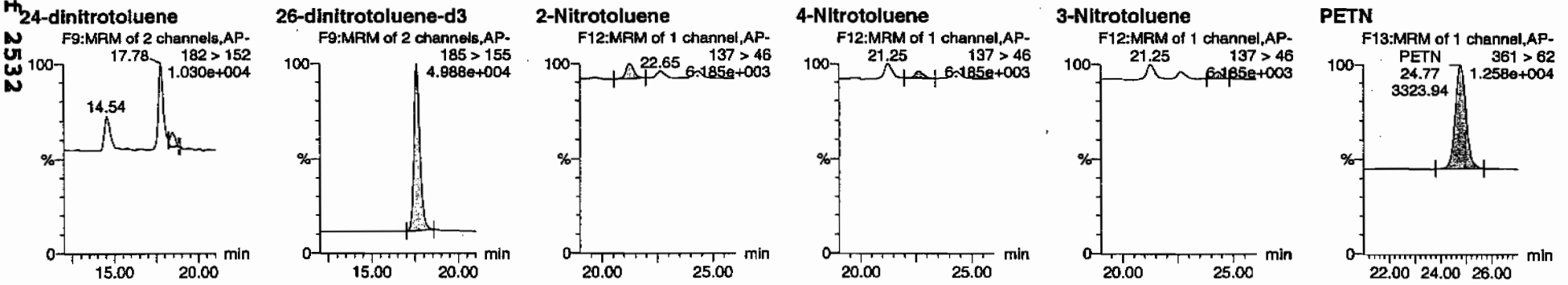
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100115-08CRI	HMX	176 > 102	5.23	919.838	3309.653	919.838	138.963	bb			40.9737	102.4	2.4	117.2
WXX100115-08CRI	RDX	176 > 102	7.65	625.811	3309.653	625.811	94.543	bb			36.5234	91.3	-8.7	65.7
WXX100115-08CRI	135-Trinitrobenzene	213 > 183	10.28	1051.084	3309.653	1051.084	158.791	bb			44.1437	110.4	10.4	297.8
WXX100115-08CRI	13-Dinitrobenzene-d4	172 > 142	12.17	3309.653		3309.653	3309.653	bb			598.2107	119.6	19.6	262.9
WXX100115-08CRI	13-Dinitrobenzene	168 > 138	12.31	299.981	3309.653	299.981	45.319	bb			36.9519	92.4	-7.6	27.9
WXX100115-08CRI	Tetryl	241 > 181	12.85	286.554	3309.653	286.554	43.291	bb			32.0045	80.0	-20.0	33.4
WXX100115-08CRI	Nitrobenzene	123 > 46	13.70	208.626	3309.653	208.626	31.518	bb			35.4388	88.6	-11.4	28.9
WXX100115-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.88	357.105	17730.928	357.105	10.070	MM	16-Jan-10	13:27:30	36.6830	91.7	-8.3	18.6
WXX100115-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.75	611.518	17730.928	611.518	17.244	bb			48.0666	120.2	20.2	63.6
WXX100115-08CRI	246-Trinitrotoluene	227 > 210	15.60	533.836	17730.928	533.836	15.054	bb			44.6847	111.7	11.7	37.6
WXX100115-08CRI	34-dinitrotoluene	182 > 152	14.54	688.293	17730.928	688.293	19.409	bb			21.6903	108.5	8.5	36.6
WXX100115-08CRI	26-dinitrotoluene	182 > 152	17.78	1620.700	17730.928	1620.700	45.703	MM	16-Jan-10	13:32:21	42.0919	105.2	5.2	93.4
WXX100115-08CRI	24-dinitrotoluene	182 > 152	18.48	297.397	17730.928	297.397	8.386	MM	16-Jan-10	13:36:25	35.2149	88.0	-12.0	15.8
WXX100115-08CRI	26-dinitrotoluene-d3	185 > 155	17.61	17730.928		17730.928	17730.928	bb			557.0321	111.4	11.4	1716.1
WXX100115-08CRI	2-Nitrotoluene	137 > 46	21.25	221.218	17730.928	221.218	6.238	bb			41.6469	104.1	4.1	70.6
WXX100115-08CRI	4-Nitrotoluene	137 > 46	22.65	109.748	17730.928	109.748	3.095	bb			40.4675	101.2	1.2	33.7
WXX100115-08CRI	3-Nitrotoluene	137 > 46	24.35	97.560	17730.928	97.560	2.751	bb			28.8733	72.2	-27.8	31.5
WXX100115-08CRI	PETN	361 > 62	24.77	3323.941	17730.928	3323.941	93.733	bb			37.8355	94.6	-5.4	266.4

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/16/10
Time of Injection	0707
Standard Number	WXX100115-08CRI
Data File	EXP0115034a

HMX		102.4
RDX		91.3
135-TNB		110.4
13-DNB		92.4
Tetryl		80.0
Nitrobenzene		88.6
4A-26-DNT		91.7
2A-46-DNT		120.2
246-TNT		111.7
34-DNT(surr)		108.5
26-DNT		105.2
24-DNT		88.0
2-NT		104.1
4-NT		101.2
3-NT		72.2
PETN		94.6
	Total	1562.5
	Average	97.7

MAP 1/16/10

Hmm 01/18/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1032

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0115040a

Analysis Date: 16–JAN–10 10:04

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
2,4–Dinitrotoluene	600	672.915	112	
2,6–Dinitrotoluene	600	614.033	102	
2,6–Dinitrotoluene–d3	500	511.294	102	
2–Amino–4,6–dinitrotoluene	600	697.487	116	
3,4–Dinitrotoluene	300	330.087	110	
4–Amino–2,6–dinitrotoluene	600	649.093	108	
HMX	600	651.98	109	
Nitrobenzene	600	549.459	92	
PETN	600	616.829	103	
RDX	600	650.307	108	
Tetryl	600	502.336	84	
m–Dinitrobenzene	600	623.461	104	
m–Nitrotoluene	600	579.773	97	
o–Nitrotoluene	600	573.743	96	
p–Nitrotoluene	600	658.057	110	
1,3,5–Trinitrobenzene	600	564.713	94	
1,3–Dinitrobenzene–d4	500	499.722	100	
2,4,6–Trinitrotoluene	600	701.83	117	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 70–130%
OtherTarget Analytes 80–120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

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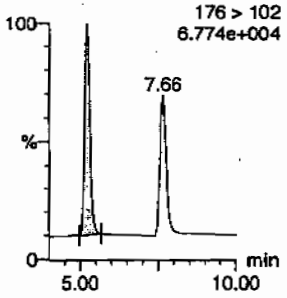
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

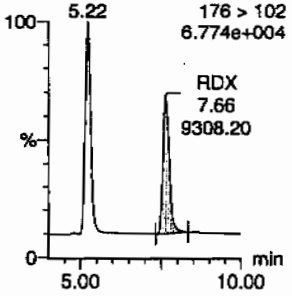
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115040a
Date: 16-Jan-2010
Time: 10:04:02
ID: WXX100115-07CCV
Vial: 1:1,B

MAP 1/16/10

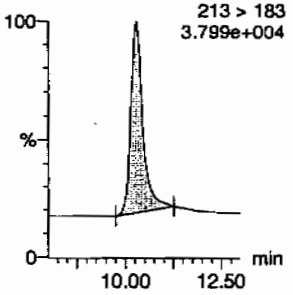
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.774e+004



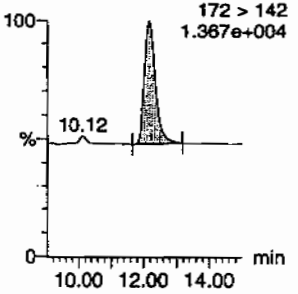
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.774e+004



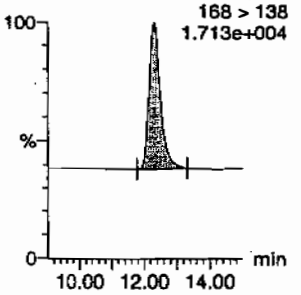
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
3.799e+004



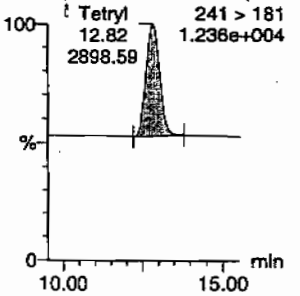
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.367e+004



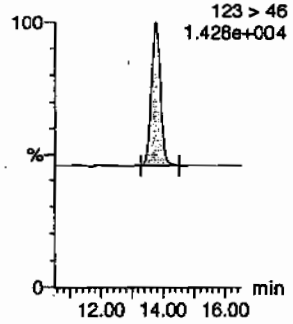
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.713e+004



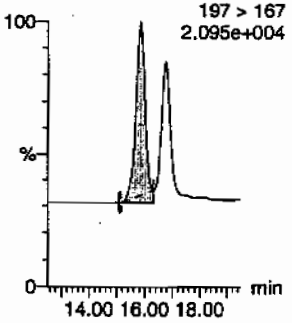
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
1.236e+004



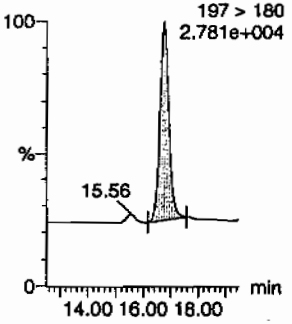
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.428e+004



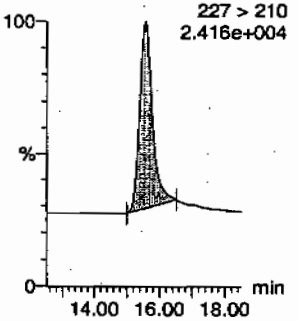
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
2.095e+004



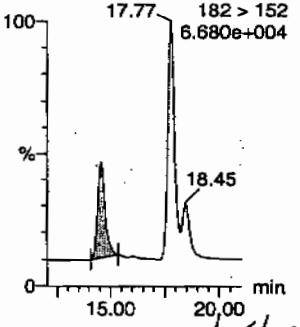
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.781e+004



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.416e+004

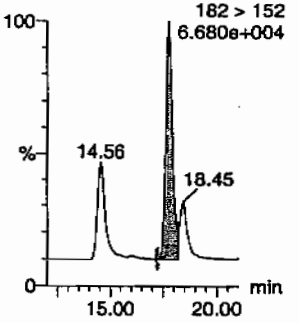


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.680e+004



tnm 01/18/10

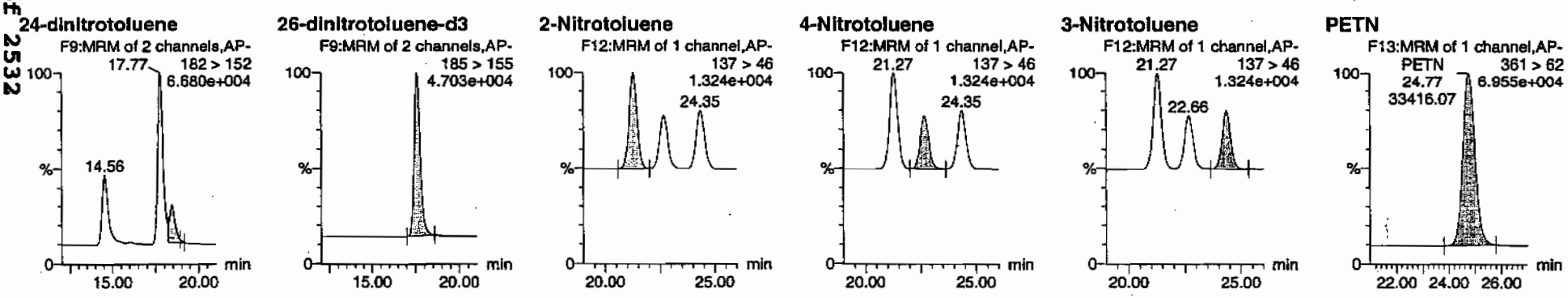
26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.680e+004



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100115-07CCV	HMX	176 > 102	5.22	12226.866	2764.758	12226.866	2211.200	bb			651.9797	108.7	8.7	1906.6
WXX100115-07CCV	RDX	176 > 102	7.66	9308.198	2764.758	9308.198	1683.366	bb			650.3075	108.4	8.4	1259.8
WXX100115-07CCV	135-Trinitrobenzene	213 > 183	10.27	11232.368	2764.758	11232.368	2031.347	bb			564.7130	94.1	-5.9	1942.9
WXX100115-07CCV	13-Dinitrobenzene-d4	172 > 142	12.17	2764.758		2764.758	2764.758	bb			499.7225	99.9	-0.1	89.7
WXX100115-07CCV	13-Dinitrobenzene	168 > 138	12.31	4228.058	2764.758	4228.058	764.634	bb			623.4610	103.9	3.9	575.5
WXX100115-07CCV	Tetryl	241 > 181	12.82	2898.593	2764.758	2898.593	524.204	bb			502.3361	83.7	-16.3	93.9
WXX100115-07CCV	Nitrobenzene	123 > 46	13.72	2702.088	2764.758	2702.088	488.666	bb			549.4594	91.6	-8.4	140.8
WXX100115-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.83	5800.014	16275.048	5800.014	178.187	MM	16-Jan-10	13:27:44	649.0929	108.2	8.2	456.6
WXX100115-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.76	8145.032	16275.048	8145.032	250.231	bb			697.4870	116.2	16.2	301.1
WXX100115-07CCV	246-Trinitrotoluene	227 > 210	15.58	7696.126	16275.048	7696.126	236.439	bb			701.8304	117.0	17.0	604.4
WXX100115-07CCV	34-dinitrotoluene	182 > 152	14.56	9614.505	16275.048	9614.505	295.376	bb			330.0870	110.0	10.0	265.7
WXX100115-07CCV	26-dinitrotoluene	182 > 152	17.77	21701.334	16275.048	21701.334	666.706	MM	16-Jan-10	13:32:30	614.0332	102.3	2.3	661.3
WXX100115-07CCV	24-dinitrotoluene	182 > 152	18.45	5216.292	16275.048	5216.292	160.254	MM	16-Jan-10	13:36:47	672.9152	112.2	12.2	147.5
WXX100115-07CCV	26-dinitrotoluene-d3	185 > 155	17.60	16275.048		16275.048	16275.048	bb			511.2944	102.3	2.3	1115.3
WXX100115-07CCV	2-Nitrotoluene	137 > 46	21.27	2797.343	16275.048	2797.343	85.940	bb			573.7426	95.6	-4.4	422.9
WXX100115-07CCV	4-Nitrotoluene	137 > 46	22.66	1638.114	16275.048	1638.114	50.326	bb			658.0566	109.7	9.7	230.7
WXX100115-07CCV	3-Nitrotoluene	137 > 46	24.35	1798.141	16275.048	1798.141	55.242	bb			579.7730	96.6	-3.4	253.0
WXX100115-07CCV	PETN	361 > 62	24.77	33416.066	16275.048	33416.066	1026.604	bb			616.8285	102.8	2.8	7390.4

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/16/10
Time of Injection: 1004
Standard Number: WXX100115-07CCV
Data File: EXP0115040a

HMX		108.7
RDX		108.4
135-TNB		94.1
13-DNB		103.9
Tetryl		83.7
Nitrobenzene		91.6
4A-26-DNT		108.2
2A-46-DNT		116.2
246-TNT		117.0
34-DNT(surr)		110.0
26-DNT		102.3
24-DNT		112.2
2-NT		95.6
4-NT		109.7
3-NT		96.6
PETN		102.8
	Total	1661.0
	Average	103.8

MAT 1/16/10

Hamm 01/18/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1032

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0115042a

Analysis Date: 16–JAN–10 11:02

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
o–Nitrotoluene	40	38.59	96	
p–Nitrotoluene	40	42.465	106	
1,3,5–Trinitrobenzene	40	45.015	113	
1,3–Dinitrobenzene–d4	500	541.971	108	
2,4,6–Trinitrotoluene	40	44.462	111	
2,4–Dinitrotoluene	40	52.543	131	*
2,6–Dinitrotoluene	40	40.241	101	
2,6–Dinitrotoluene–d3	500	532.892	107	
2–Amino–4,6–dinitrotoluene	40	43.878	110	
3,4–Dinitrotoluene	20	19.934	100	
4–Amino–2,6–dinitrotoluene	40	38.472	96	
HMX	40	48.648	122	
Nitrobenzene	40	48.918	122	
PETN	40	43.455	109	
RDX	40	44.463	111	
Tetryl	40	34.052	85	
m–Dinitrobenzene	40	42.383	106	
m–Nitrotoluene	40	34.057	85	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 50–150%
OtherTarget Analytes 70–130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

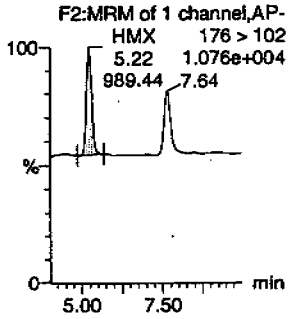
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

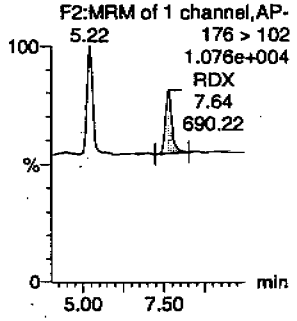
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115042a
Date: 16-Jan-2010
Time: 11:02:59
ID: WXX100115-08CRI
Vial: 1:1,C

MJP 1/16/10

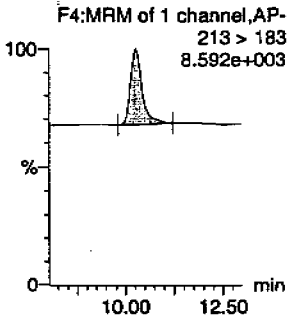
HMX



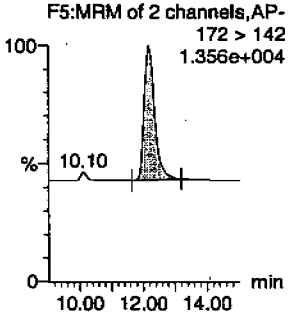
RDX



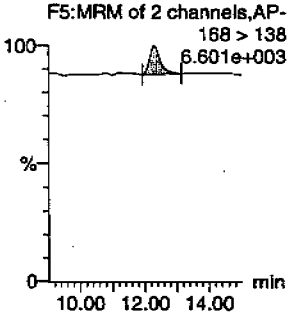
135-Trinitrobenzene



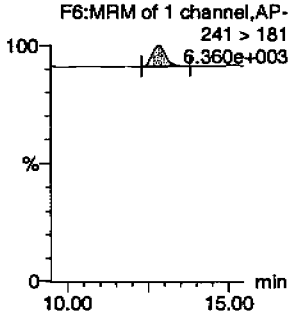
13-Dinitrobenzene-d4



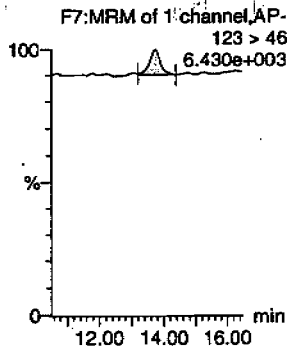
13-Dinitrobenzene



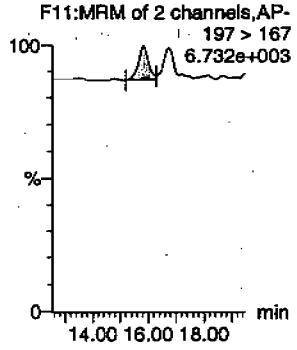
Tetryl



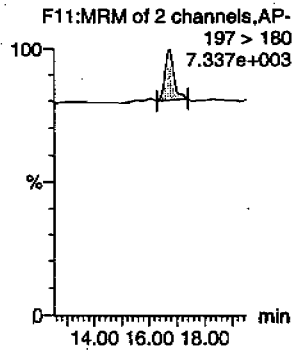
Nitrobenzene



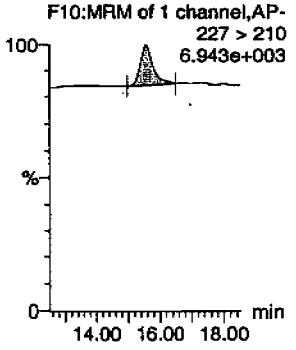
4-Amino-26-dinitrotoluene



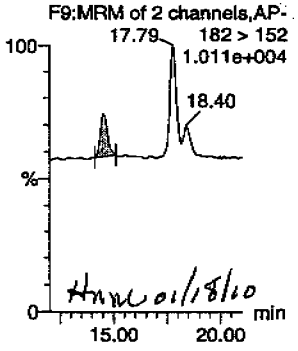
2-Amino-46-dinitrotoluene



246-Trinitrotoluene

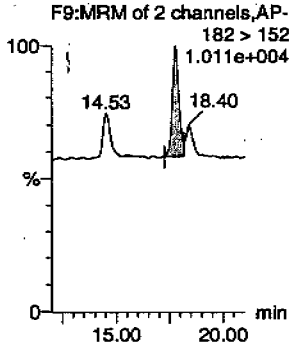


34-dinitrotoluene



HMW 01/18/10

26-dinitrotoluene



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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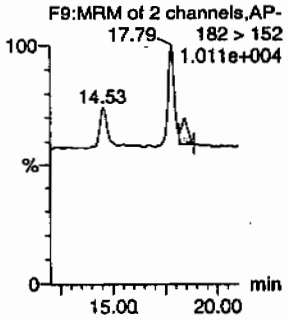
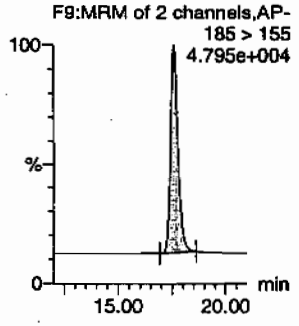
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

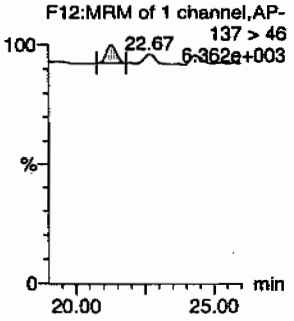
24-dinitrotoluene



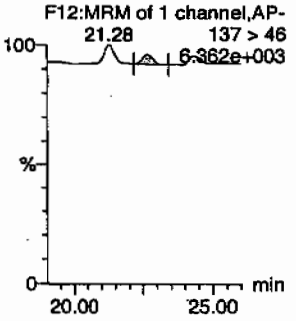
26-dinitrotoluene-d3



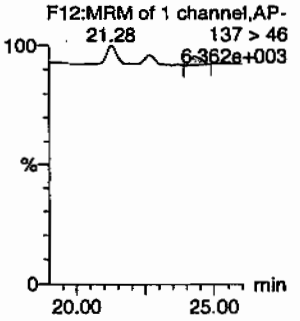
2-Nitrotoluene



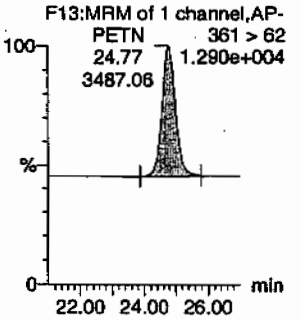
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
WXX100115-08CRI	HMX	176 > 102	5.22	989.439	2998.499	989.439	164.989	bb			48.6476	121.6	21.6	151.8
WXX100115-08CRI	RDX	176 > 102	7.64	690.224	2998.499	690.224	115.095	bb			44.4628	111.2	11.2	88.7
WXX100115-08CRI	135-Trinitrobenzene	213 > 183	10.27	971.060	2998.499	971.060	161.924	bb			45.0148	112.5	12.5	163.2
WXX100115-08CRI	13-Dinitrobenzene-d4	172 > 142	12.18	2998.499		2998.499	2998.499	bb			541.9705	108.4	8.4	213.5
WXX100115-08CRI	13-Dinitrobenzene	168 > 138	12.29	311.723	2998.499	311.723	51.980	bb			42.3829	106.0	6.0	28.1
WXX100115-08CRI	Tetryl	241 > 181	12.83	272.169	2998.499	272.169	45.384	bb			34.0520	85.1	-14.9	60.9
WXX100115-08CRI	Nitrobenzene	123 > 46	13.73	260.902	2998.499	260.902	43.505	db			48.9178	122.3	22.3	19.0
WXX100115-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.84	358.291	16962.521	358.291	10.561	MM	16-Jan-10	13:27:49	38.4721	96.2	-3.8	18.1
WXX100115-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.74	534.036	16962.521	534.036	15.742	bb			43.8779	109.7	9.7	54.4
WXX100115-08CRI	246-Trinitrotoluene	227 > 210	15.55	508.152	16962.521	508.152	14.979	bb			44.4616	111.2	11.2	45.3
WXX100115-08CRI	34-dinitrotoluene	182 > 152	14.53	605.149	16962.521	605.149	17.838	bb			19.9341	99.7	-0.3	40.8
WXX100115-08CRI	26-dinitrotoluene	182 > 152	17.79	1482.281	16962.521	1482.281	43.693	MM	16-Jan-10	13:32:37	40.2409	100.6	0.6	106.8
WXX100115-08CRI	24-dinitrotoluene	182 > 152	18.40	424.510	16962.521	424.510	12.513	MM	16-Jan-10	13:37:02	52.5434	131.4	31.4	28.2
WXX100115-08CRI	26-dinitrotoluene-d3	185 > 155	17.59	16962.521		16962.521	16962.521	bb			532.8919	106.6	6.6	1073.7
WXX100115-08CRI	2-Nitrotoluene	137 > 46	21.28	196.099	16962.521	196.099	5.780	bb			38.5903	96.5	-3.5	28.7
WXX100115-08CRI	4-Nitrotoluene	137 > 46	22.67	110.175	16962.521	110.175	3.248	bb			42.4653	106.2	6.2	14.9
WXX100115-08CRI	3-Nitrotoluene	137 > 46	24.31	110.089	16962.521	110.089	3.245	bb			34.0573	85.1	-14.9	13.9
WXX100115-08CRI	PETN	361 > 62	24.77	3487.058	16962.521	3487.058	102.787	bb			43.4551	108.6	8.6	758.9

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/16/10
Time of Injection	1102
Standard Number	WXX100115-08CRI
Data File	EXP0115042a

HMX	121.6
RDX	111.2
135-TNB	112.5
13-DNB	106.0
Tetryl	85.1
Nitrobenzene	122.3
4A-26-DNT	96.2
2A-46-DNT	109.7
246-TNT	111.2
34-DNT(surr)	99.7
26-DNT	100.6
24-DNT	131.4
2-NT	96.5
4-NT	106.2
3-NT	85.1
PETN	108.6
Total	1703.9
Average	106.5

HMM 01/16/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1032

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0117012a

Analysis Date: 17-JAN-10 23:35

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	44.311	111	
1,3-Dinitrobenzene-d4	500	494.735	99	
2,4,6-Trinitrotoluene	40	40.349	101	
2,4-Dinitrotoluene	40	32.817	82	
2,6-Dinitrotoluene	40	39.557	99	
2,6-Dinitrotoluene-d3	500	516.666	103	
2-Amino-4,6-dinitrotoluene	40	41.036	103	
3,4-Dinitrotoluene	20	18.241	91	
4-Amino-2,6-dinitrotoluene	40	41.344	103	
HMX	40	35.084	88	
Nitrobenzene	40	39.648	99	
PETN	40	44.126	110	
RDX	40	42.371	106	
Tetryl	40	30.226	76	
m-Dinitrobenzene	40	40.598	101	
m-Nitrotoluene	40	43.251	108	
o-Nitrotoluene	40	43.539	109	
p-Nitrotoluene	40	45.782	114	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

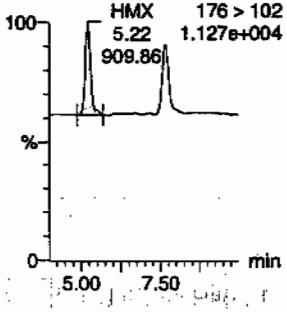
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

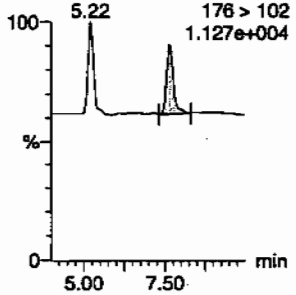
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0117012a
Date: 17-Jan-2010
Time: 23:35:23
ID: WXX100117-08CRI
Vial: 1:1,C

MM 1/18/10

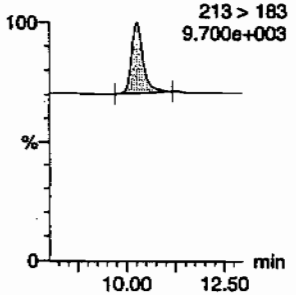
HMX
F2:MRM of 1 channel,AP-
HMX 176 > 102
5.22 1.127e+004
909.86



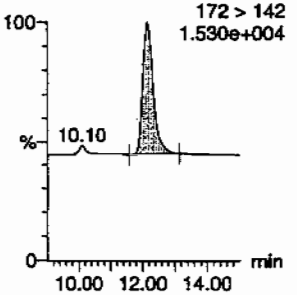
RDX
F2:MRM of 1 channel,AP-
5.22 176 > 102
1.127e+004



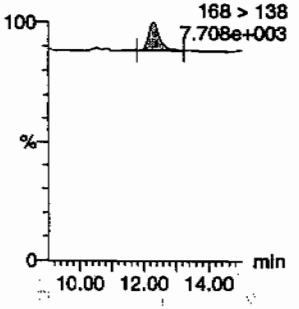
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
9.700e+003



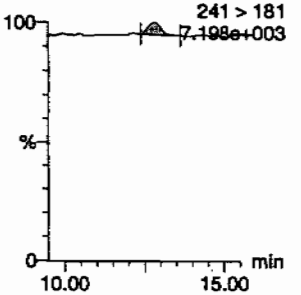
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.530e+004



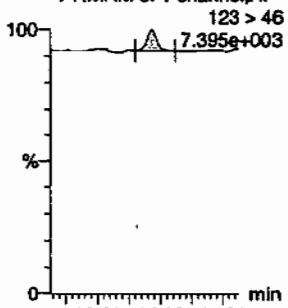
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
7.708e+003



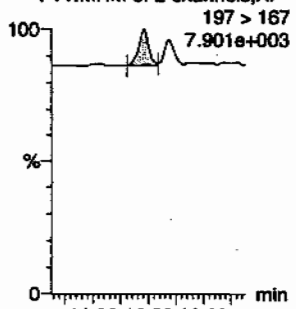
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
7.198e+003



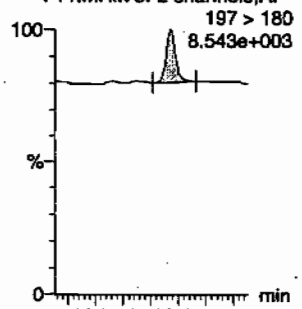
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
7.395e+003



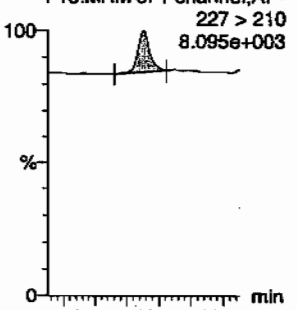
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
7.901e+003



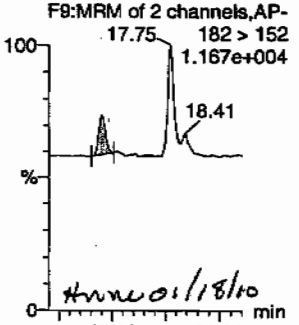
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
8.543e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
8.095e+003

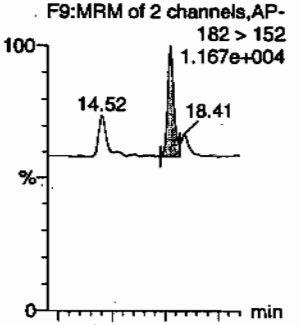


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
1.167e+004
17.75
18.41



HMM 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
1.167e+004
14.52
18.41



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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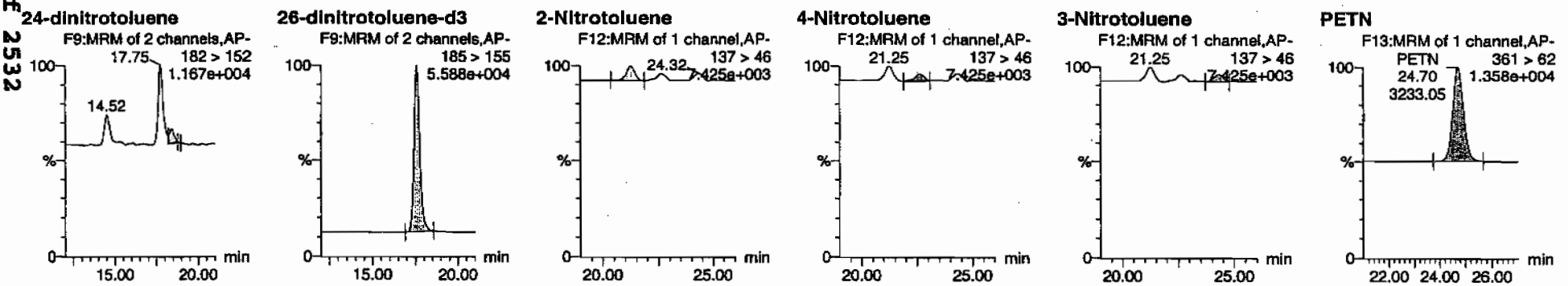
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100117-08CRI	HMX	176 > 102	5.22	909.862	3300.380	909.862	137.842	bb			35.0836	87.7	-12.3	123.4
WXX100117-08CRI	RDX	176 > 102	7.66	818.588	3300.380	818.588	124.014	bb			42.3710	105.9	5.9	93.1
WXX100117-08CRI	135-Trinitrobenzene	213 > 183	10.25	985.474	3300.380	985.474	149.297	bb			44.3110	110.8	10.8	160.4
WXX100117-08CRI	13-Dinitrobenzene-d4	172 > 142	12.14	3300.380		3300.380	3300.380	bb			494.7352	98.9	-1.1	246.6
WXX100117-08CRI	13-Dinitrobenzene	168 > 138	12.28	347.311	3300.380	347.311	52.617	bb			40.5975	101.5	1.5	57.0
WXX100117-08CRI	Tetryl	241 > 181	12.78	172.589	3300.380	172.589	26.147	bb			30.2256	75.6	-24.4	31.5
WXX100117-08CRI	Nitrobenzene	123 > 46	13.72	215.568	3300.380	215.568	32.658	bb			39.6479	99.1	-0.9	16.1
WXX100117-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.83	466.878	19416.412	466.878	12.023	MM	18-Jan-10	07:23:51	41.3436	103.4	3.4	35.6
WXX100117-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.71	666.682	19416.412	666.682	17.168	bb			41.0361	102.6	2.6	75.8
WXX100117-08CRI	246-Trinitrotoluene	227 > 210	15.52	550.202	19416.412	550.202	14.168	bb			40.3486	100.9	0.9	56.2
WXX100117-08CRI	34-dinitrotoluene	182 > 152	14.52	650.228	19416.412	650.228	16.744	bb			18.2412	91.2	-8.8	27.3
WXX100117-08CRI	26-dinitrotoluene	182 > 152	17.75	1716.390	19416.412	1716.390	44.199	MM	18-Jan-10	07:29:55	39.5574	98.9	-1.1	75.7
WXX100117-08CRI	24-dinitrotoluene	182 > 152	18.41	324.211	19416.412	324.211	8.349	MM	18-Jan-10	07:32:06	32.8166	82.0	-18.0	13.5
WXX100117-08CRI	26-dinitrotoluene-d3	185 > 155	17.57	19416.412		19416.412	19416.412	bb			516.6665	103.3	3.3	1162.2
WXX100117-08CRI	2-Nitrotoluene	137 > 46	21.25	265.636	19416.412	265.636	6.841	bb			43.5387	108.8	8.8	56.7
WXX100117-08CRI	4-Nitrotoluene	137 > 46	22.61	133.040	19416.412	133.040	3.426	bb			45.7815	114.5	14.5	26.2
WXX100117-08CRI	3-Nitrotoluene	137 > 46	24.32	140.993	19416.412	140.993	3.631	bb			43.2511	108.1	8.1	28.6
WXX100117-08CRI	PETN	361 > 62	24.70	3233.046	19416.412	3233.046	83.255	bb			44.1258	110.3	10.3	890.4

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/17/10
Time of Injection	2335
Standard Number	WXX100117-08CRI
Data File	EXP0117012a

HMX	87.7
RDX	105.9
135-TNB	110.8
13-DNB	101.5
Tetryl	75.6
Nitrobenzene	99.1
4A-26-DNT	103.4
2A-46-DNT	102.6
246-TNT	100.9
34-DNT(surr)	91.2
26-DNT	98.9
24-DNT	82.0
2-NT	108.8
4-NT	114.5
3-NT	108.1
PETN	110.3
Total	1601.3
Average	100.1

LMT 1/18/10

Hmm 01/18/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1032

Lab Code: GEI

GEL Sample ID: WXXCCV

GEL Data File EXP0117019a

Analysis Date: 18-JAN-10 03:01

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
Tetryl	600	602.948	100	
m-Dinitrobenzene	600	595.886	99	
m-Nitrotoluene	600	568.968	95	
o-Nitrotoluene	600	531.217	89	
p-Nitrotoluene	600	499.672	83	
1,3,5-Trinitrobenzene	600	601.7	100	
1,3-Dinitrobenzene-d4	500	452.532	91	
2,4,6-Trinitrotoluene	600	549.142	92	
2,4-Dinitrotoluene	600	584.654	97	
2,6-Dinitrotoluene	600	597.536	100	
2,6-Dinitrotoluene-d3	500	550.87	110	
2-Amino-4,6-dinitrotoluene	600	674.35	112	
3,4-Dinitrotoluene	300	257.899	86	
4-Amino-2,6-dinitrotoluene	600	540.096	90	
HMX	600	655.535	109	
Nitrobenzene	600	658.2	110	
PETN	600	448.407	75	*
RDX	600	652.295	109	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0117019a
Date: 18-Jan-2010
Time: 03:01:48
ID: WXX100117-07CCV
Vial: 1:1,B

MAT 1/18/10

HMX
F2:MRM of 1 channel,AP-
176 > 102
8.547e+004
7.64

RDX
F2:MRM of 1 channel,AP-
176 > 102
8.547e+004
5.22
RDX
7.64
11527.02

135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
4.108e+004

13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.469e+004
10.08

13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.878e+004

Tetryl
F6:MRM of 1 channel,AP-
241 > 181
1.327e+004
Tetryl
12.77
3149.16

Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.636e+004

4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
2.294e+004
16.70

2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
3.704e+004

246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.522e+004

34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
8.558e+004
17.73
18.40

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
8.558e+004
14.51
18.40

HMW 01/18/10

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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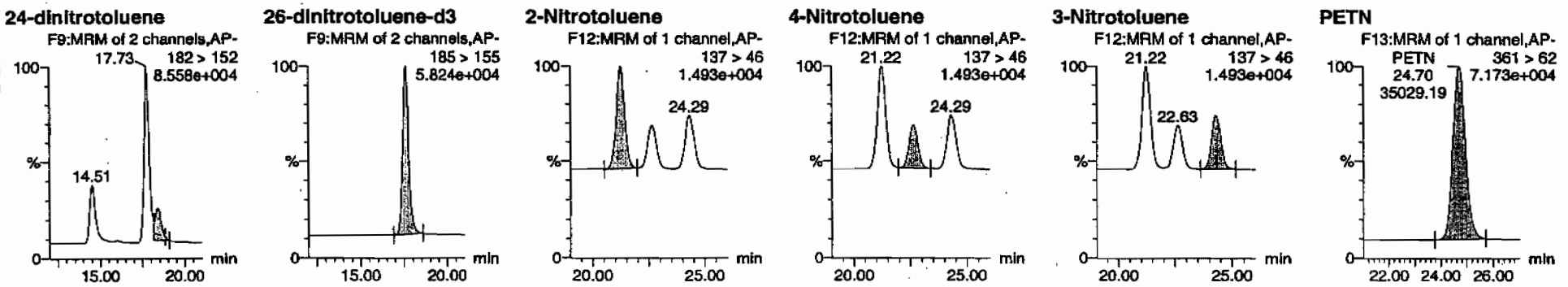
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
WXX100117-07CCV	HMX	176 > 102	5.22	15550.478	3018.842	15550.478	2575.570	bb			655.5354	109.3	9.3	517.2
WXX100117-07CCV	RDX	176 > 102	7.64	11527.018	3018.842	11527.018	1909.179	bb			652.2954	108.7	8.7	324.3
WXX100117-07CCV	135-Trinitrobenzene	213 > 183	10.25	12240.259	3018.842	12240.259	2027.310	bb			601.7004	100.3	0.3	724.6
WXX100117-07CCV	13-Dinitrobenzene-d4	172 > 142	12.14	3018.842		3018.842	3018.842	bb			452.5320	90.5	-9.5	389.7
WXX100117-07CCV	13-Dinitrobenzene	168 > 138	12.27	4662.926	3018.842	4662.926	772.304	bb			595.8856	99.3	-0.7	613.8
WXX100117-07CCV	Tetryl	241 > 181	12.77	3149.161	3018.842	3149.161	521.584	bb			602.9476	100.5	0.5	257.1
WXX100117-07CCV	Nitrobenzene	123 > 46	13.71	3273.396	3018.842	3273.396	542.161	bb			658.1999	109.7	9.7	389.6
WXX100117-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.79	6502.868	20701.775	6502.868	157.061	MM	18-Jan-10	07:24:15	540.0961	90.0	-10.0	306.1
WXX100117-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.70	11680.906	20701.775	11680.906	282.123	bb			674.3497	112.4	12.4	893.6
WXX100117-07CCV	246-Trinitrotoluene	227 > 210	15.54	7983.931	20701.775	7983.931	192.832	bb			549.1417	91.5	-8.5	258.8
WXX100117-07CCV	34-dinitrotoluene	182 > 152	14.51	9801.669	20701.775	9801.669	236.735	bb			257.8987	86.0	-14.0	154.6
WXX100117-07CCV	26-dinitrotoluene	182 > 152	17.73	27643.359	20701.775	27643.359	667.657	MM	18-Jan-10	07:30:09	597.5360	99.6	-0.4	486.9
WXX100117-07CCV	24-dinitrotoluene	182 > 152	18.40	6158.464	20701.775	6158.464	148.742	MM	18-Jan-10	07:32:17	584.6543	97.4	-2.6	88.0
WXX100117-07CCV	26-dinitrotoluene-d3	185 > 155	17.57	20701.775		20701.775	20701.775	bb			550.8697	110.2	10.2	852.6
WXX100117-07CCV	2-Nitrotoluene	137 > 46	21.22	3455.592	20701.775	3455.592	83.461	bb			531.2170	88.5	-11.5	358.3
WXX100117-07CCV	4-Nitrotoluene	137 > 46	22.63	1548.160	20701.775	1548.160	37.392	bb			499.6721	83.3	-16.7	150.9
WXX100117-07CCV	3-Nitrotoluene	137 > 46	24.29	1977.545	20701.775	1977.545	47.763	bb			568.9676	94.8	-5.2	188.0
WXX100117-07CCV	PETN	361 > 62	24.70	35029.188	20701.775	35029.188	846.043	bb			448.4069	74.7	-25.3	5145.3

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/18/10
Time of Injection: 0301
Standard Number: WXX100117-07CCV
Data File: EXP0117019a

HMX	109.3
RDX	108.7
135-TNB	100.3
13-DNB	99.3
Tetryl	100.5
Nitrobenzene	109.7
4A-26-DNT	90.0
2A-46-DNT	112.4
246-TNT	91.5
34-DNT(surr)	86.0
26-DNT	99.6
24-DNT	97.4
2-NT	88.5
4-NT	83.3
3-NT	94.8
PETN	74.7
Total	1546.0
Average	96.6

MTP 1/18/10

Hmm 01/18/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1032

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0117021a

Analysis Date: 18-JAN-10 04:00

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
4-Amino-2,6-dinitrotoluene	40	35.511	89	
HMX	40	38.157	95	
Nitrobenzene	40	41.578	104	
PETN	40	42.169	105	
RDX	40	37.528	94	
Tetryl	40	43.886	110	
m-Dinitrobenzene	40	37.971	95	
m-Nitrotoluene	40	29.079	73	
o-Nitrotoluene	40	36.118	90	
p-Nitrotoluene	40	32.463	81	
1,3,5-Trinitrobenzene	40	45.866	115	
1,3-Dinitrobenzene-d4	500	506.668	101	
2,4,6-Trinitrotoluene	40	42.621	107	
2,4-Dinitrotoluene	40	42.995	107	
2,6-Dinitrotoluene	40	39.945	100	
2,6-Dinitrotoluene-d3	500	587.862	118	
2-Amino-4,6-dinitrotoluene	40	40.682	102	
3,4-Dinitrotoluene	20	23.103	116	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

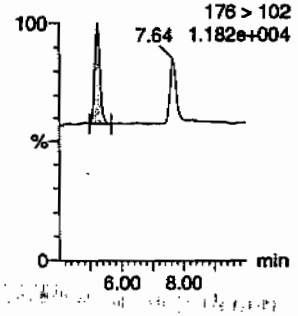
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

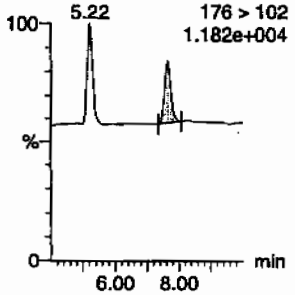
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0117021a
Date: 18-Jan-2010
Time: 04:00:45
ID: WXX100117-08CRI
Vial: 1:1,C

MAP 1/18/10

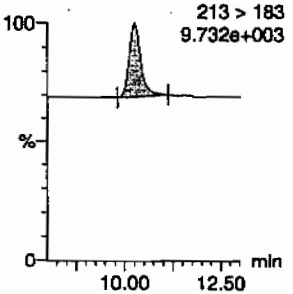
HMX
F2:MRM of 1 channel,AP-
176 > 102
7.64 1.182e+004



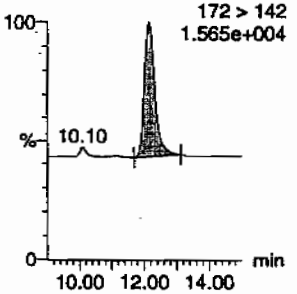
RDX
F2:MRM of 1 channel,AP-
5.22 176 > 102
1.182e+004



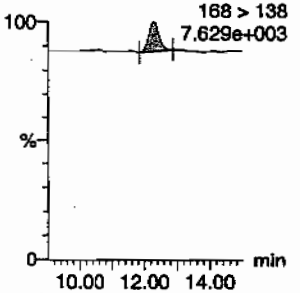
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
9.732e+003



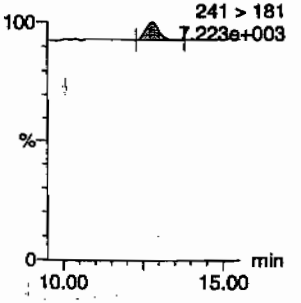
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.565e+004



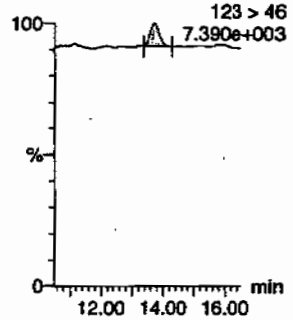
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
7.629e+003



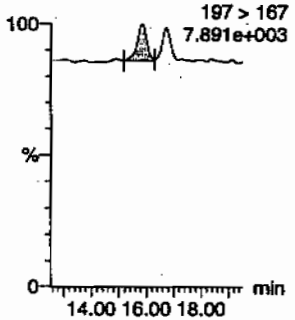
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
7.223e+003



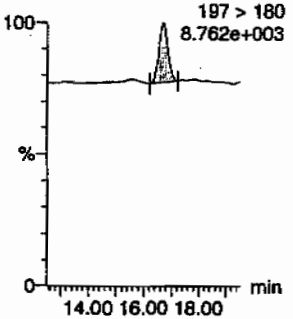
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
7.390e+003



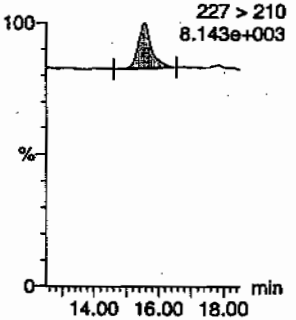
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
7.891e+003



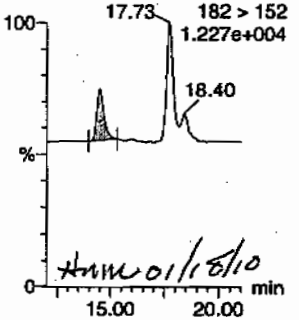
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
8.762e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
8.143e+003

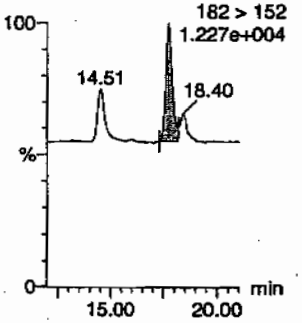


34-dinitrotoluene
F9:MRM of 2 channels,AP-
17.73 182 > 152
1.227e+004



HMW 01/18/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
1.227e+004



GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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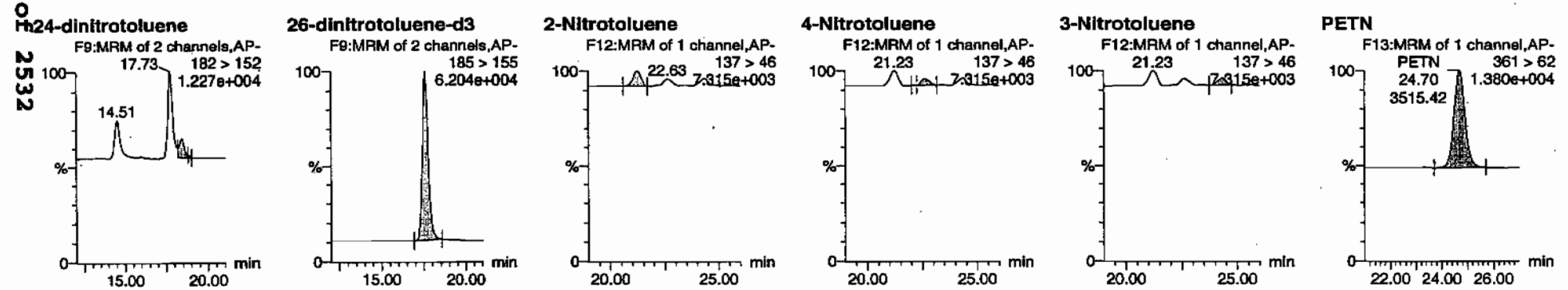
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010



ID	Name	Trace	RT	Area	S/Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100117-08CRI	HMX	176 > 102	5.22	1013.424	3379.985	1013.424	149.915	bb			38.1566	95.4	-4.6	177.7
WXX100117-08CRI	RDX	176 > 102	7.64	742.512	3379.985	742.512	109.840	bb			37.5281	93.8	-6.2	111.9
WXX100117-08CRI	135-Trinitrobenzene	213 > 183	10.25	1044.655	3379.985	1044.655	154.535	bb			45.8657	114.7	14.7	252.2
WXX100117-08CRI	13-Dinitrobenzene-d4	172 > 142	12.14	3379.985		3379.985	3379.985	bb			506.6682	101.3	1.3	216.7
WXX100117-08CRI	13-Dinitrobenzene	168 > 138	12.28	332.674	3379.985	332.674	49.212	bb			37.9707	94.9	-5.1	34.8
WXX100117-08CRI	Tetryl	241 > 181	12.78	256.633	3379.985	256.633	37.964	bb			43.8857	109.7	9.7	23.1
WXX100117-08CRI	Nitrobenzene	123 > 46	13.71	231.514	3379.985	231.514	34.248	bb			41.5779	103.9	3.9	16.5
WXX100117-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.83	456.273	22091.939	456.273	10.327	MM	18-Jan-10	07:24:23	35.5111	88.8	-11.2	36.4
WXX100117-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.71	752.008	22091.939	752.008	17.020	bb			40.6822	101.7	1.7	101.1
WXX100117-08CRI	246-Trinitrotoluene	227 > 210	15.54	661.273	22091.939	661.273	14.966	bb			42.6209	106.6	6.6	71.2
WXX100117-08CRI	34-dinitrotoluene	182 > 152	14.51	936.994	22091.939	936.994	21.207	bb			23.1025	115.5	15.5	28.3
WXX100117-08CRI	26-dinitrotoluene	182 > 152	17.73	1972.053	22091.939	1972.053	44.633	MM	18-Jan-10	07:30:17	39.9453	99.9	-0.1	64.0
WXX100117-08CRI	24-dinitrotoluene	182 > 152	18.40	483.299	22091.939	483.299	10.938	MM	18-Jan-10	07:32:34	42.9948	107.5	7.5	14.5
WXX100117-08CRI	26-dinitrotoluene-d3	185 > 155	17.57	22091.939		22091.939	22091.939	bb			587.8617	117.6	17.6	1248.8
WXX100117-08CRI	2-Nitrotoluene	137 > 46	21.23	250.726	22091.939	250.726	5.675	bb			36.1179	90.3	-9.7	31.1
WXX100117-08CRI	4-Nitrotoluene	137 > 46	22.63	107.336	22091.939	107.336	2.429	MM	18-Jan-10	07:33:56	32.4630	81.2	-18.8	13.0
WXX100117-08CRI	3-Nitrotoluene	137 > 46	24.36	107.856	22091.939	107.856	2.441	bb			29.0790	72.7	-27.3	13.9
WXX100117-08CRI	PETN	361 > 62	24.70	3515.416	22091.939	3515.416	79.563	bb			42.1689	105.4	5.4	269.3

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/18/10
Time of Injection	0400
Standard Number	WXX100117-08CRI
Data File	EXP0117021a

HMX		95.4
RDX		93.8
135-TNB		114.7
13-DNB		94.9
Tetryl		109.7
Nitrobenzene		103.9
4A-26-DNT		88.8
2A-46-DNT		101.7
246-TNT		106.6
34-DNT(surr)		115.5
26-DNT		99.9
24-DNT		107.5
2-NT		90.3
4-NT		81.2
3-NT		72.7
PETN		105.4
	Total	1582.0
	Average	98.9

1/18/10

Hmm 01/18/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1032

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01070013.wiff

Analysis Date: 07–JAN–10 17:24

LCMSMS ID: 1358

Column ID: JSphere ODS–H80

Compound	True	Found	Recovery	Q
2,4–Diamino–6–nitrotoluene	100	80.1	80	
2,6–Diamino–4–nitrotoluene	100	71.9	72	
3,4–Dinitrotoluene	50	45.1	90	
3,5–Dinitroaniline	100	95.7	96	
TATB	100	102	102	
tris(o–cresyl) phosphate	100	102	102	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene ,
2,4–Diamino–6–nitrotoluene 50–150%
OtherTarget Analytes 70–130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

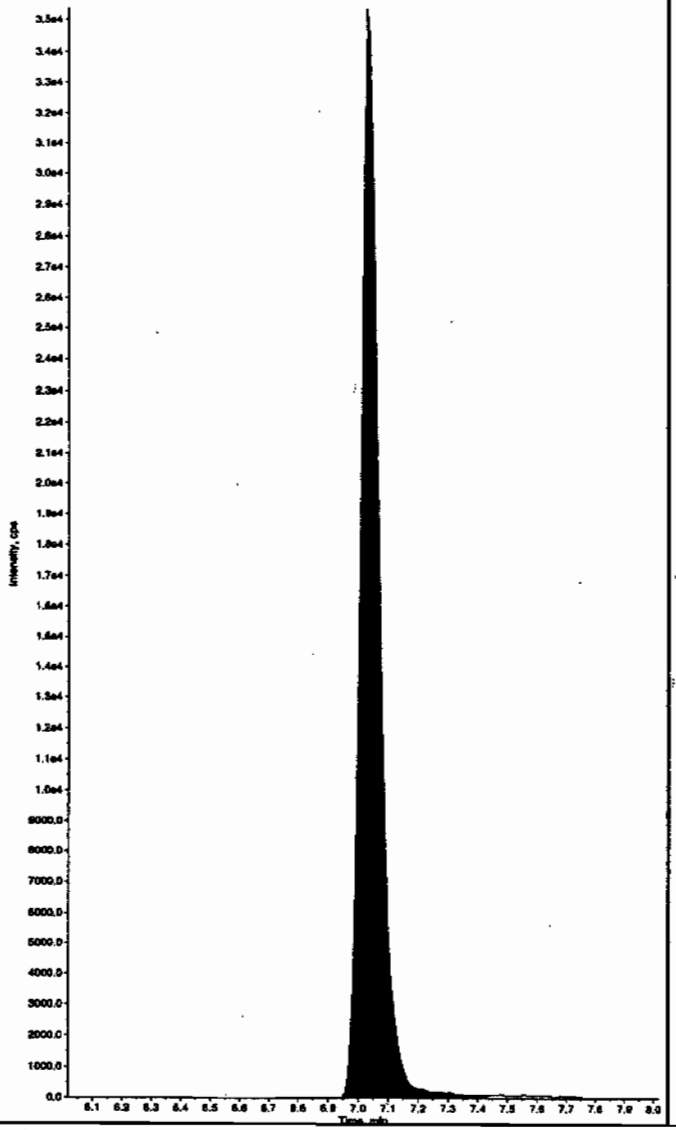
Before Dan 1/8/10

Sample Name: "WXX100107-27CRI" Sample ID: "|1|LER" File: "EXS01070013.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 102. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 5:24:05 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 1.59e+005 counts
Height: 35383.797 cps
Start Time: 6.90 min
End Time: 7.43 min

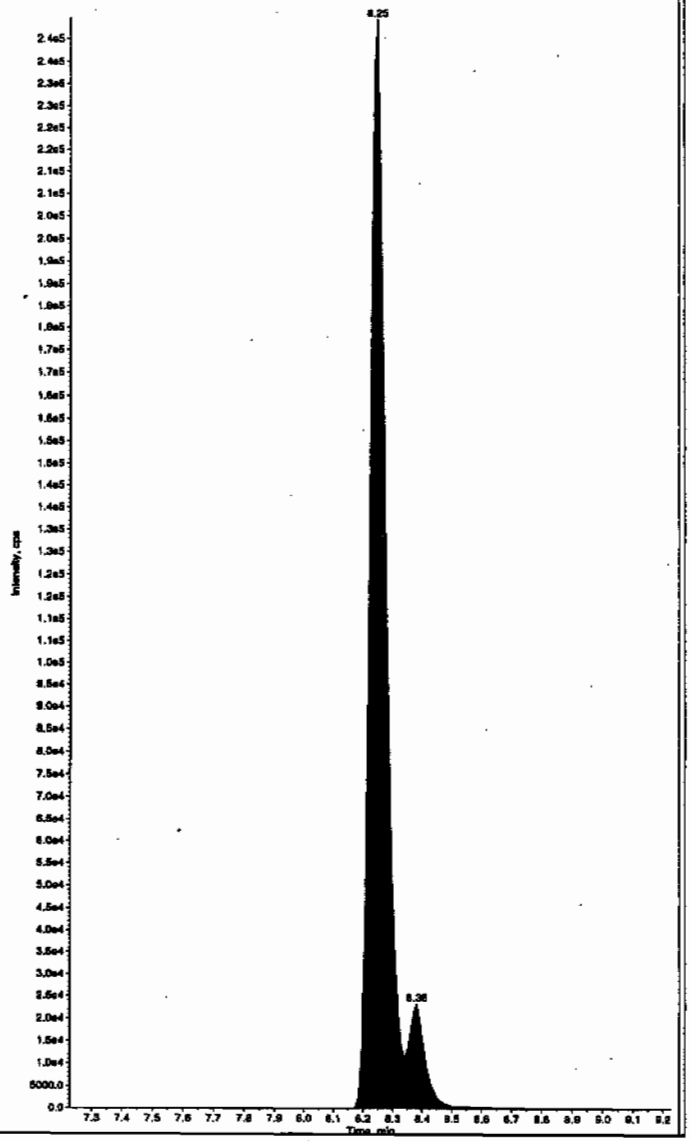


Sample Name: "WXX100107-27CRI" Sample ID: "|1|LER" File: "EXS01070013.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 107. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 5:24:05 PM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.23 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.25 min
Area: 1.04e+006 counts
Height: 244664.230 cps
Start Time: 8.11 min
End Time: 8.81 min



Hnm 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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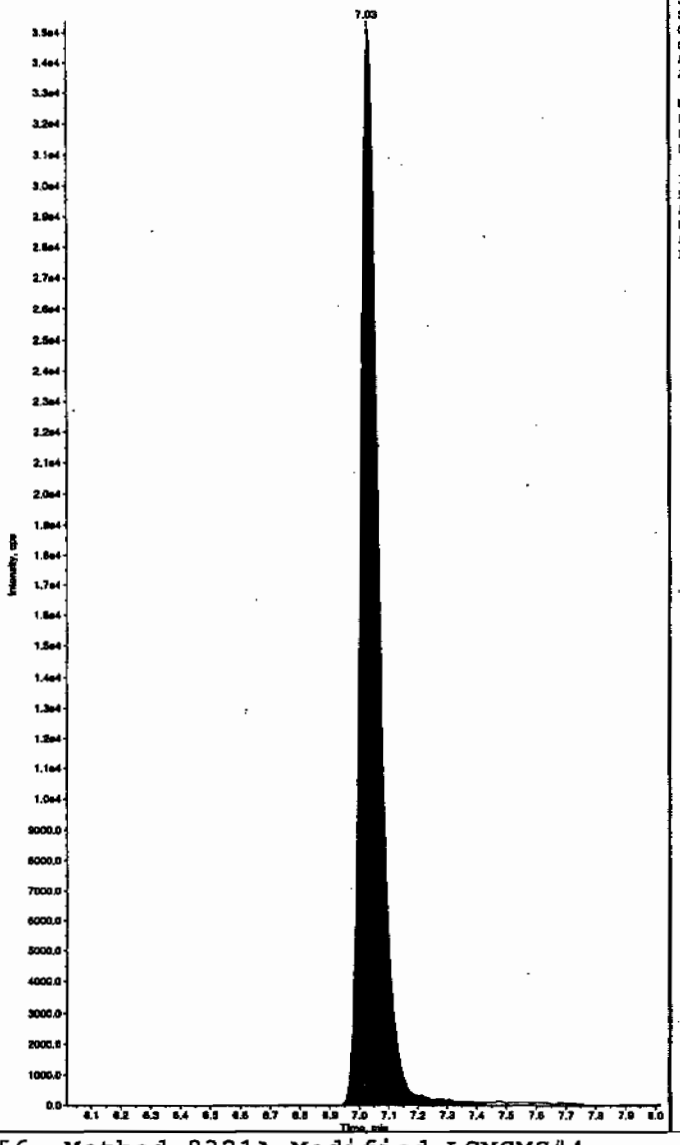
after Dan 1/8/10

Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070013.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 101. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 5:24:05 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 1.59e+005 counts
Height: 35383.797 cps
Start Time: 6.90 min
End Time: 7.43 min

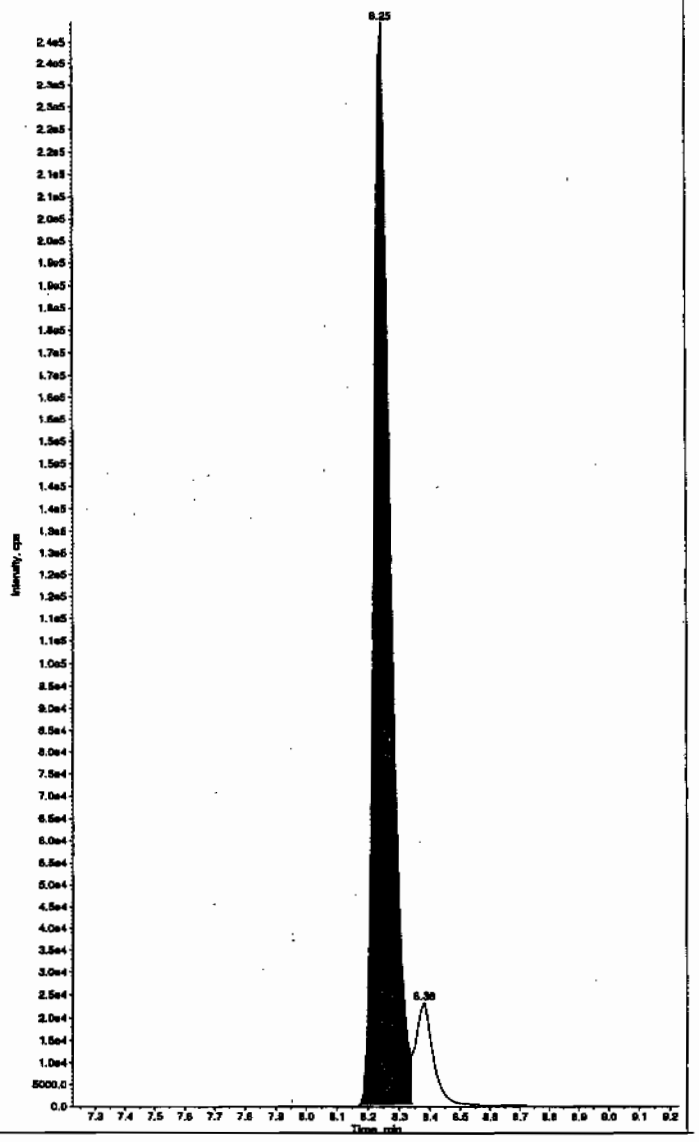


Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070013.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 95.7 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 5:24:05 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.23 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.24 min
Area: 9.36e+005 counts
Height: 245680.502 cps
Start Time: 8.17 min
End Time: 8.34 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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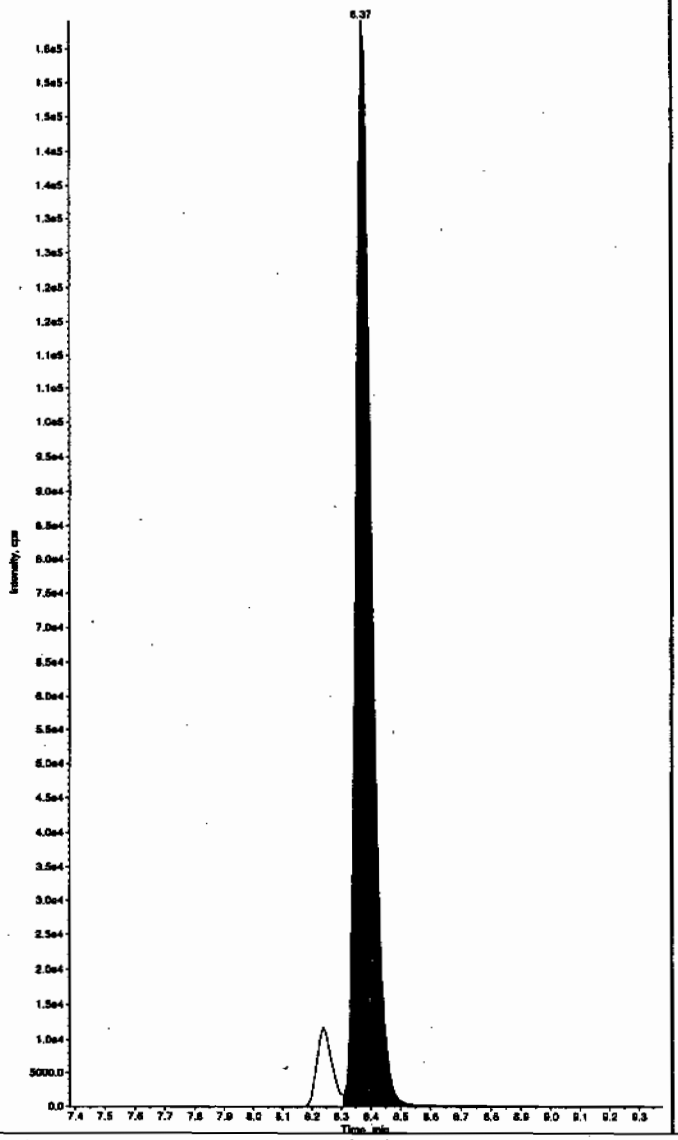
Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070013.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 50.0 ng/mL
Calculated Conc: 45.1 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 5:24:05 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.37 min
Area: 6.05e+005 counts
Height: 159269.913 cps
Start Time: 8.31 min
End Time: 8.71 min

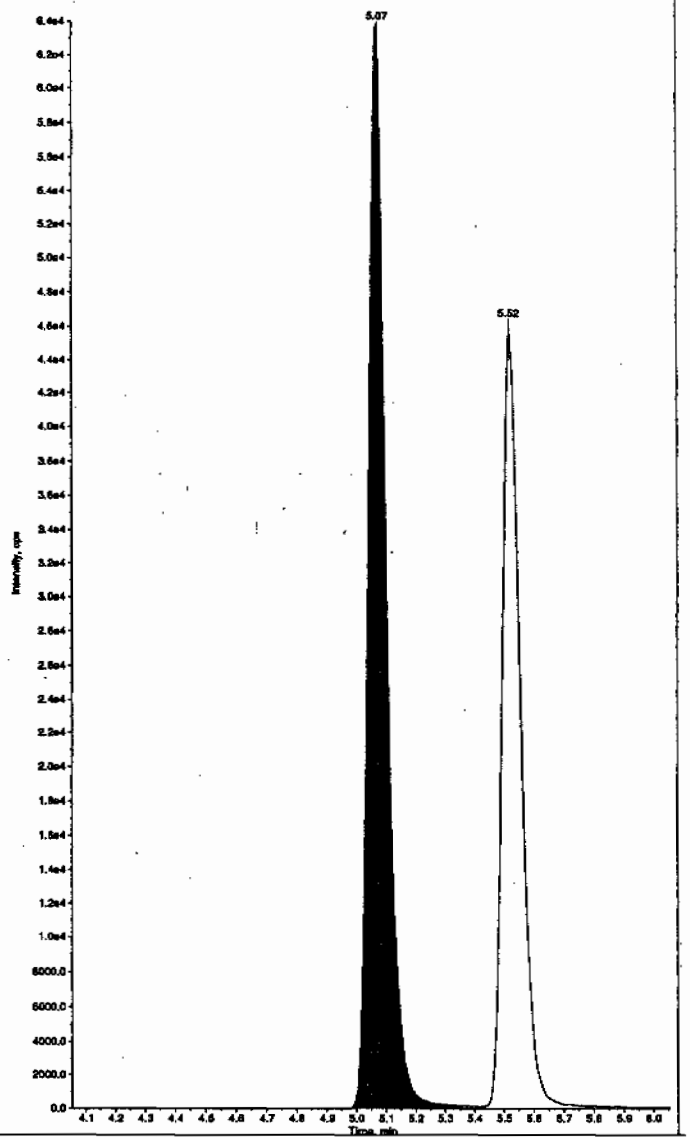


Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070013.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 71.9 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 5:24:05 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 10.0 sec
Expected RT: 5.05 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.07 min
Area: 2.73e+005 counts
Height: 63963.177 cps
Start Time: 4.96 min
End Time: 5.35 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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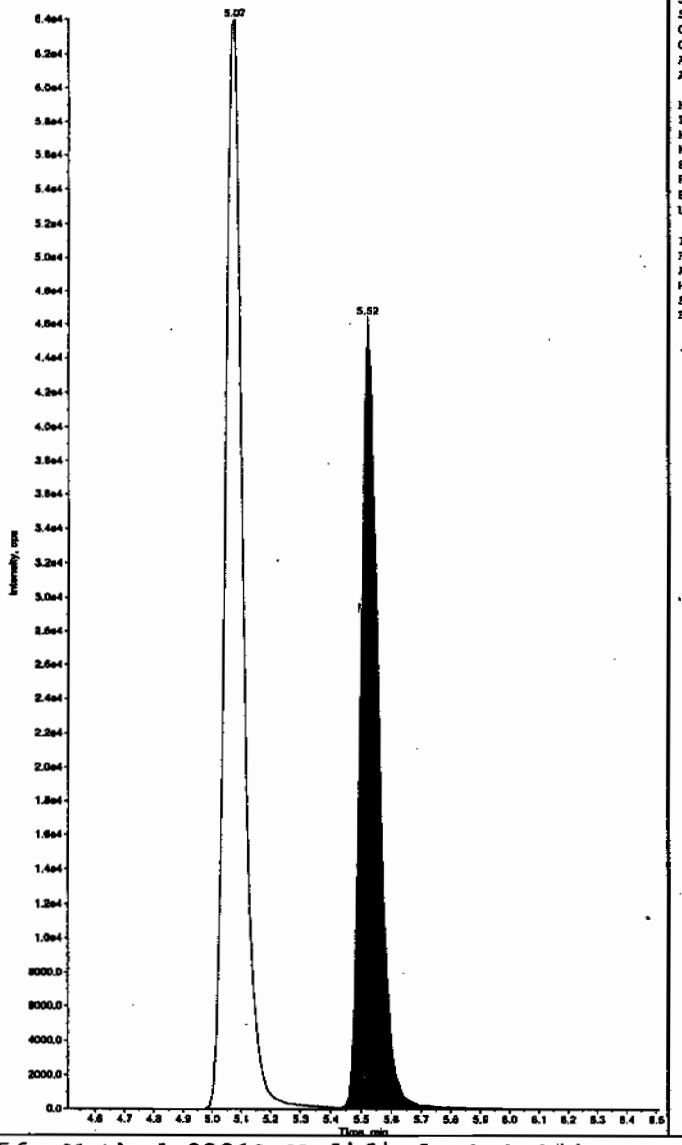
Sample Name: "WXX100107-27CRI" Sample ID: "|1|LER" File: "EXS01070013.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 80.1 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 5:24:05 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.51 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.52 min
Area: 1.95e+005 counts
Height: 46445.995 cps
Start Time: 5.42 min
End Time: 5.94 min

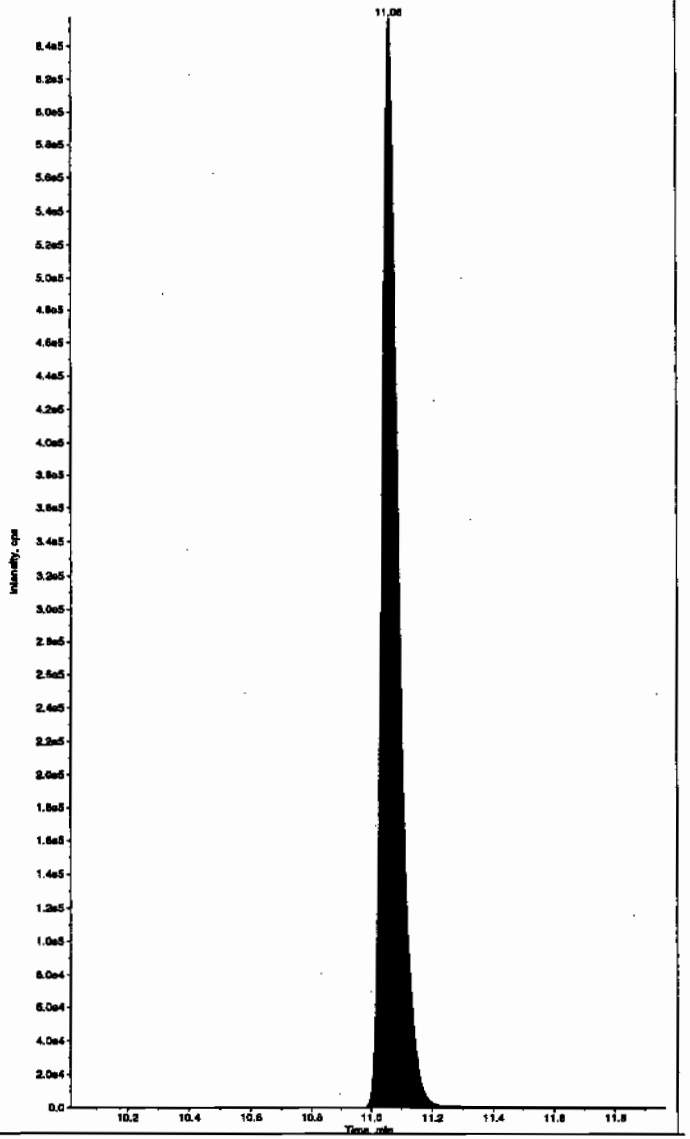


Sample Name: "WXX100107-27CRI" Sample ID: "|1|LER" File: "EXS01070013.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 102. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 5:24:05 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 11.0 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 11.1 min
Area: 2.56e+006 counts
Height: 656577.393 cps
Start Time: 11.0 min
End Time: 11.4 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1032

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01070024.wiff

Analysis Date; 07-JAN-10 20:16

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	416	83	
2,6-Diamino-4-nitrotoluene	500	470	94	
3,4-Dinitrotoluene	250	216	86	
3,5-Dinitroaniline	500	471	94	
TATB	500	533	107	
tris(o-cresyl) phosphate	500	482	96	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

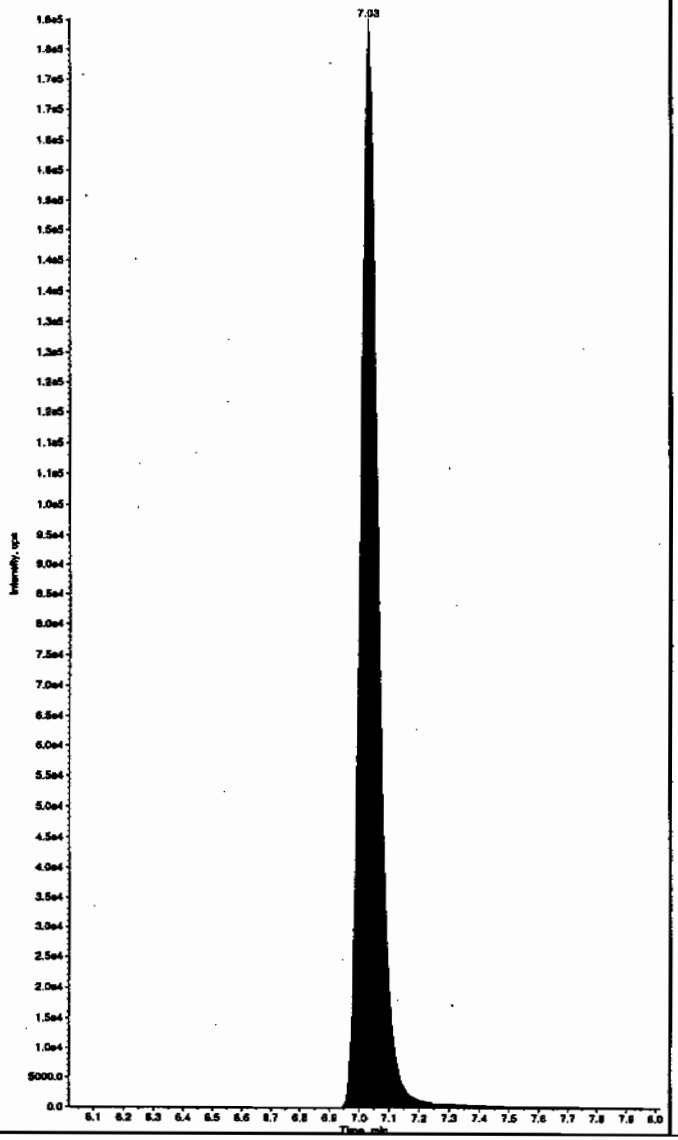
Before Blank 1/8/10

Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070024.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 533. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:16:42 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 7.76e+005 counts
Height: 180225.632 cps
Start Time: 6.91 min
End Time: 7.55 min

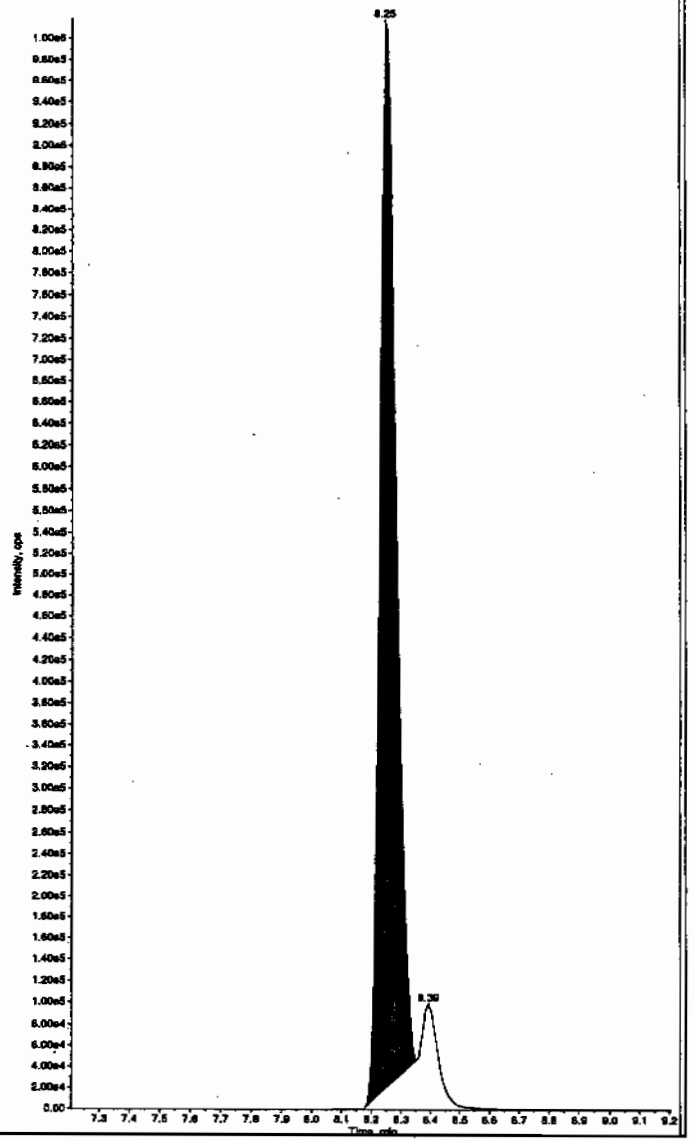


Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070024.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/45.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 444. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:16:42 PM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.21 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.25 min
Area: 3.95e+006 counts
Height: 999719.666 cps
Start Time: 8.17 min
End Time: 8.35 min



Hnm 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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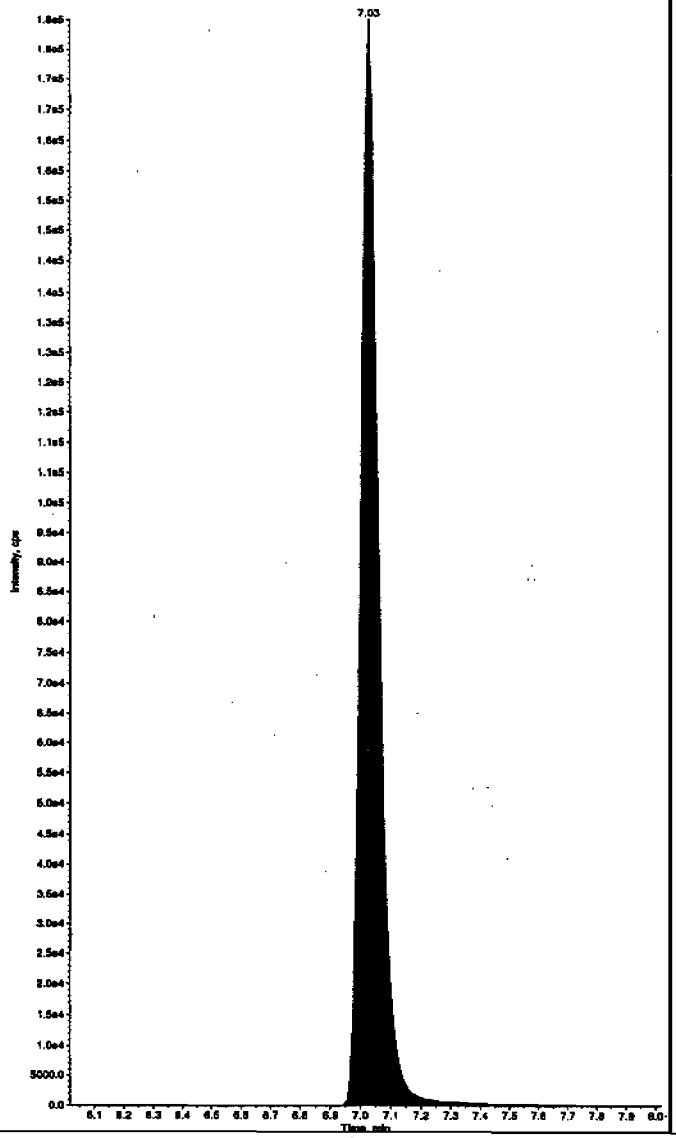
Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070024.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 533. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:16:42 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 7.76e+005 counts
Height: 180225.632 cps
Start Time: 6.91 min
End Time: 7.55 min

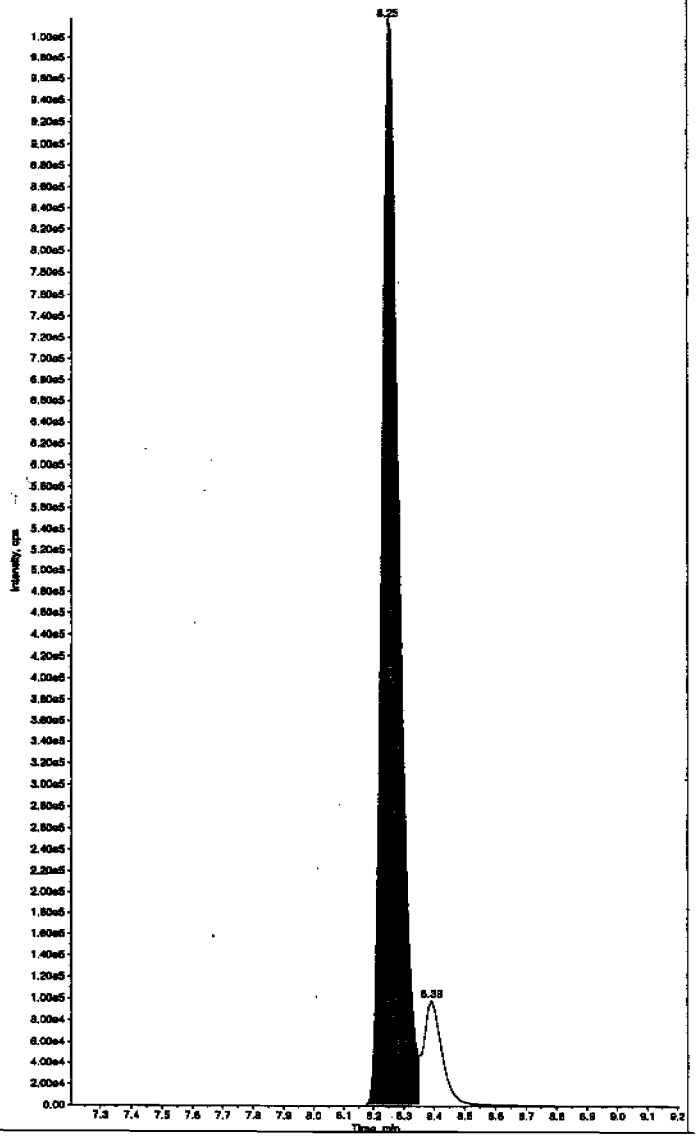


Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070024.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 471. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:16:42 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.21 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.25 min
Area: 4.17e+006 counts
Height: 1034329.489 cps
Start Time: 8.17 min
End Time: 8.35 min



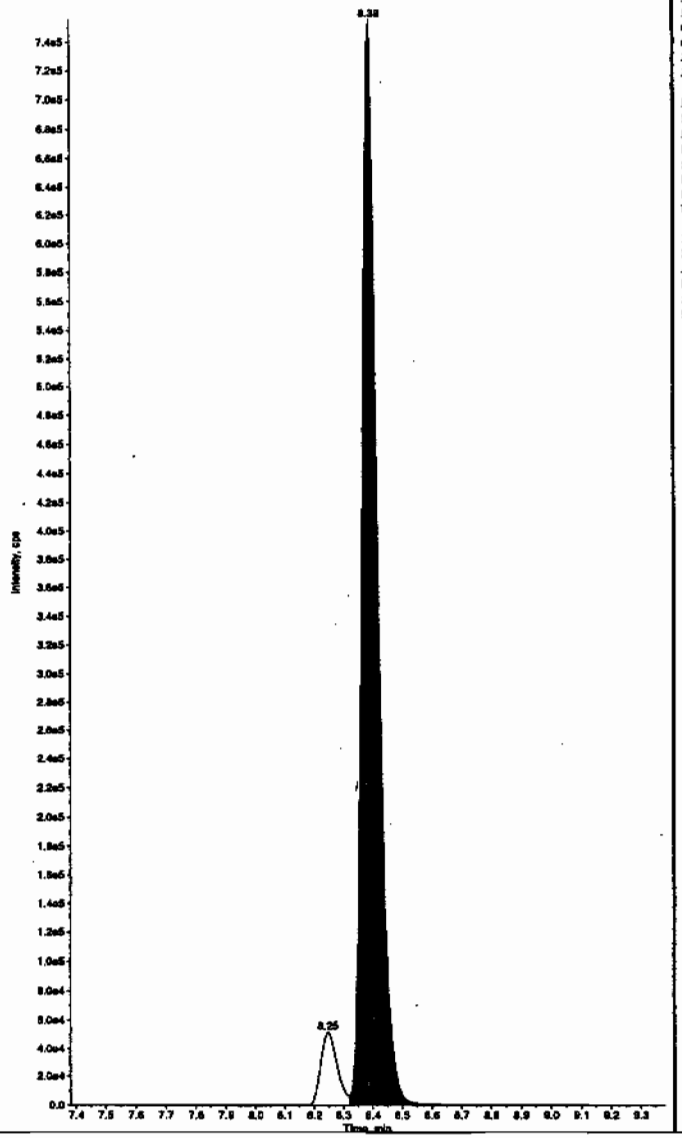
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070024.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 250. ng/mL
Calculated Conc: 216. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:16:42 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.39 min
Area: 2.87e+006 counts
Height: 755894.165 cps
Start Time: 8.32 min
End Time: 8.69 min

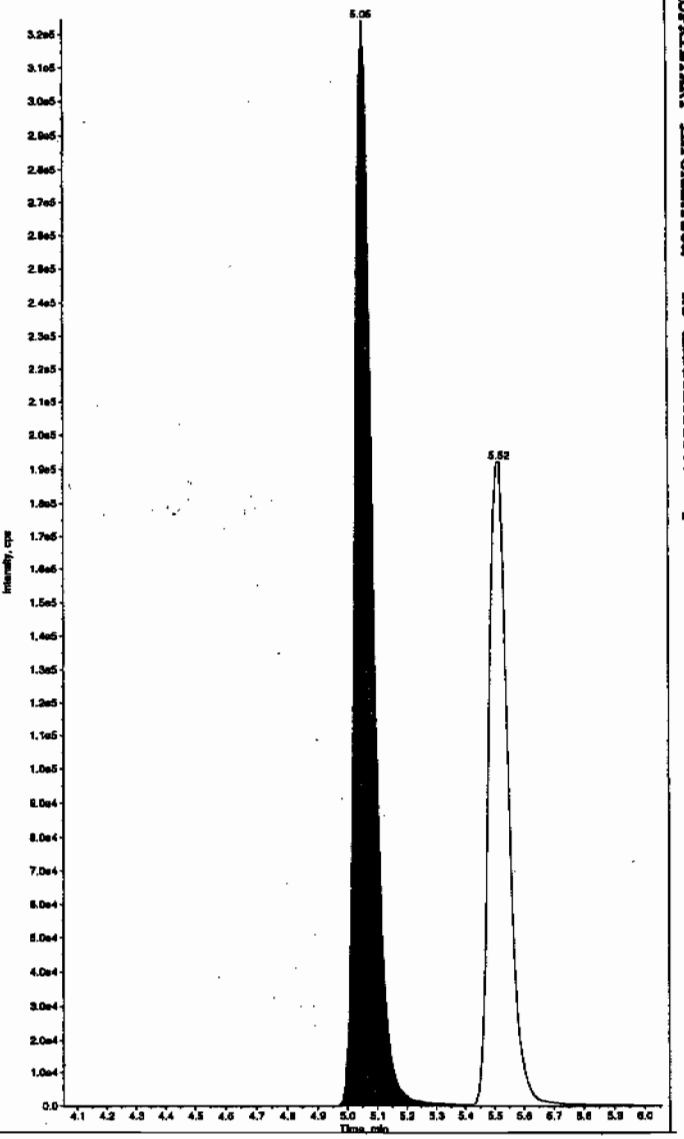


Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070024.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 470. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:16:42 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.05 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.05 min
Area: 1.38e+006 counts
Height: 324530.823 cps
Start Time: 4.95 min
End Time: 5.35 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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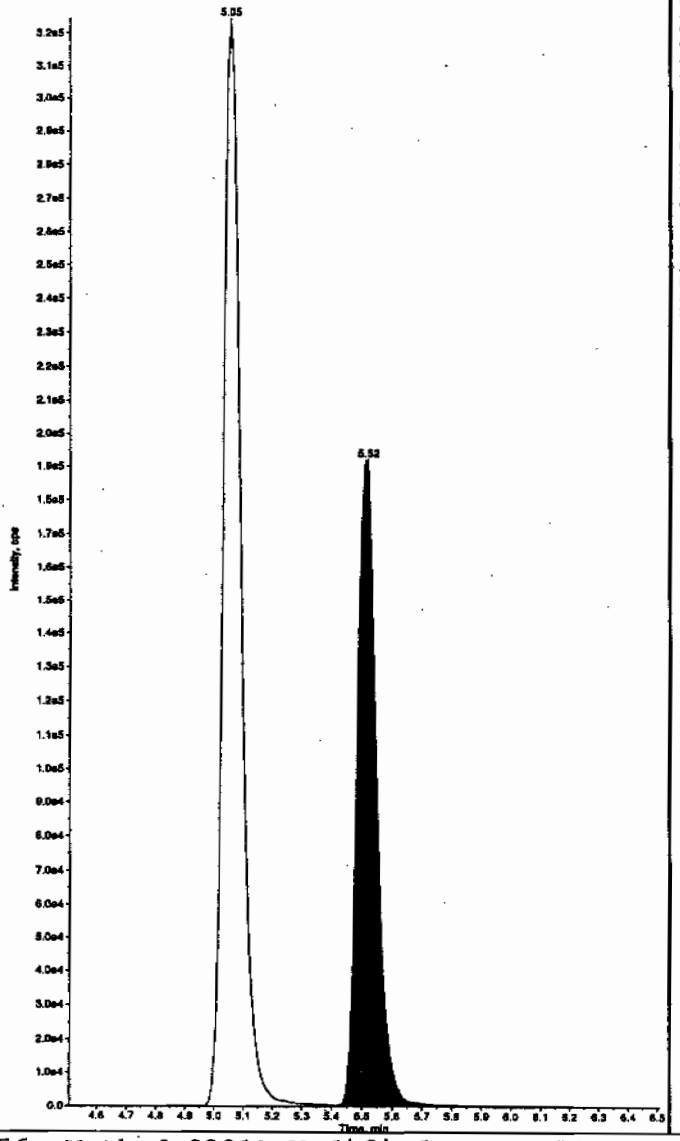
Sample Name: "WXX100107-26CCV" Sample ID: "|1|LER" File: "EXS01070024.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 416. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:16:42 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.51 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.52 min
Area: 8.75e+005 counts
Height: 191949.524 cps
Start Time: 5.43 min
End Time: 5.96 min

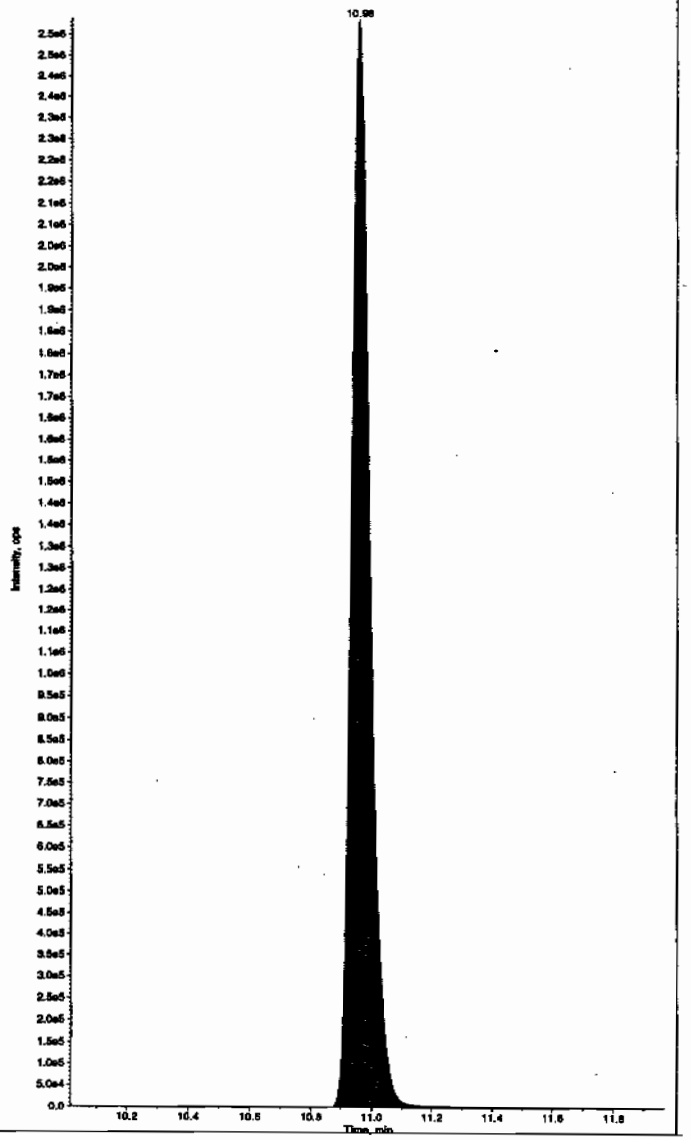


Sample Name: "WXX100107-26CCV" Sample ID: "|1|LER" File: "EXS01070024.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "368.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 482. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:16:42 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 11.0 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 11.0 min
Area: 1.10e+007 counts
Height: 2538548.096 cps
Start Time: 10.8 min
End Time: 11.3 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1032

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01070026.wiff

Analysis Date: 07-JAN-10 20:48

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,6-Diamino-4-nitrotoluene	100	74	74	
3,4-Dinitrotoluene	50	43.4	87	
3,5-Dinitroaniline	100	93.9	94	
TATB	100	101	101	
tris(o-cresyl) phosphate	100	108	108	
2,4-Diamino-6-nitrotoluene	100	76.7	77	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

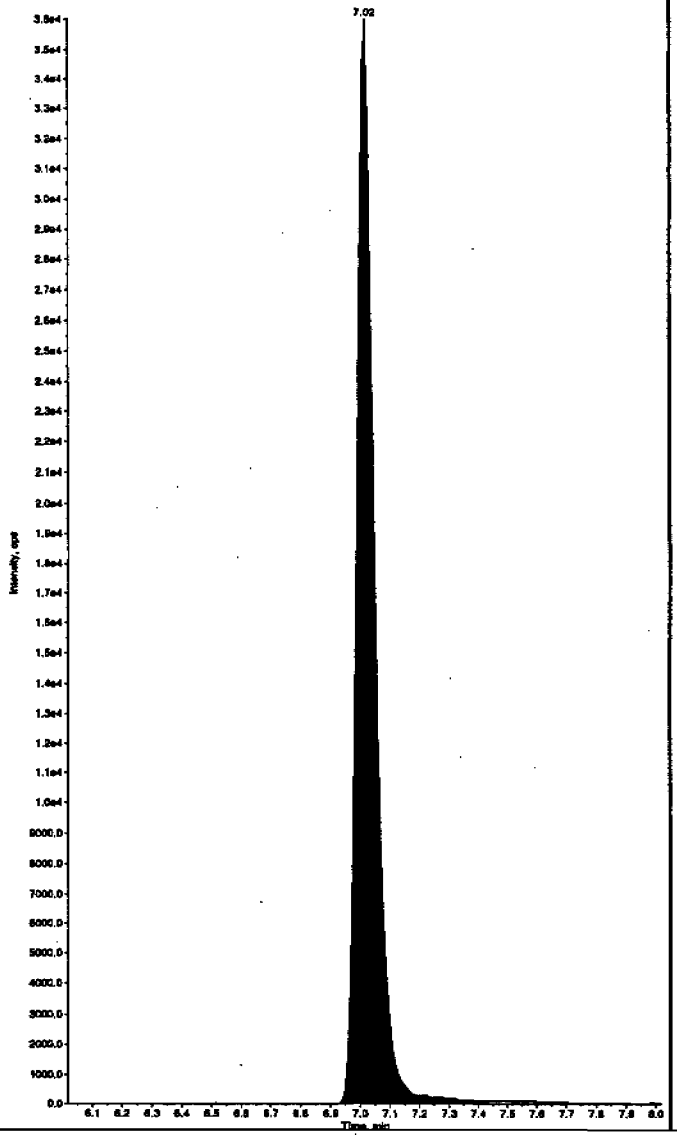
Lar 1/8/10

Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070026.wtf"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 101. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:48:06 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.02 min
Area: 1.57e+005 counts
Height: 36020.020 cps
Start Time: 6.91 min
End Time: 7.43 min

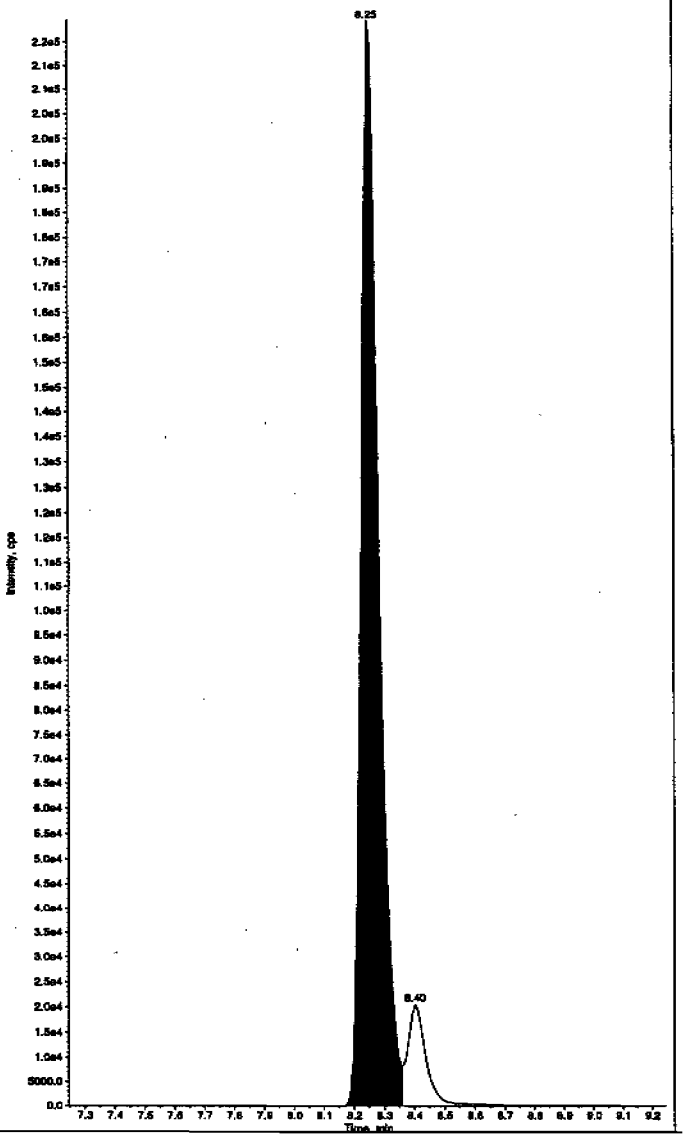


Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070026.wtf"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 93.9 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:48:06 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.25 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.25 min
Area: 9.20e+005 counts
Height: 219462.112 cps
Start Time: 8.14 min
End Time: 8.36 min



Hnm 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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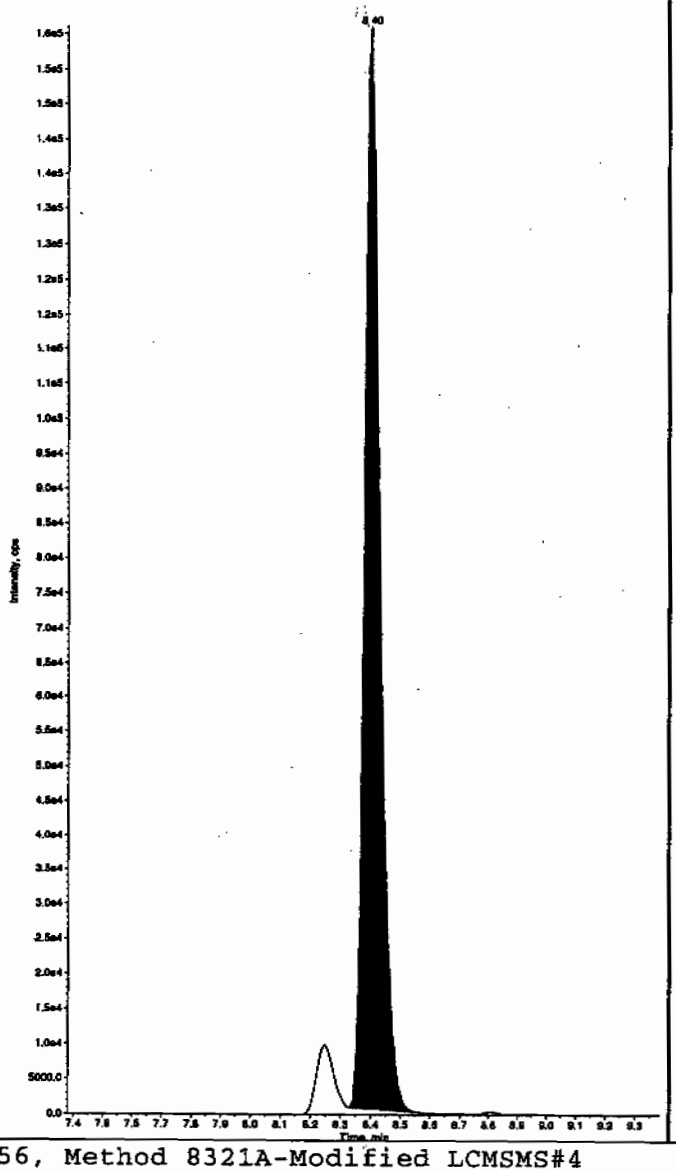
Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070026.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 50.0 ng/mL
Calculated Conc: 43.4 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:48:06 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.40 min
Area: 5.83e+005 counts
Height: 155401.962 cps
Start Time: 8.33 min
End Time: 8.58 min

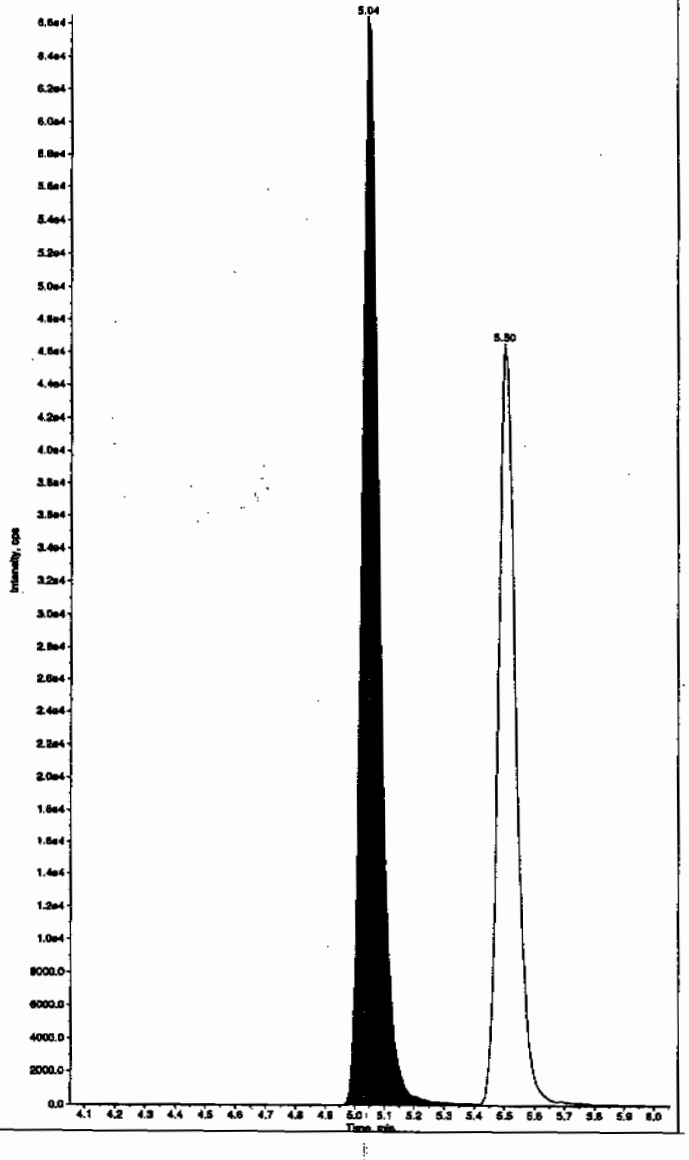


Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070026.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 74.0 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 8:48:06 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.05 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.04 min
Area: 2.79e+005 counts
Height: 66462.502 cps
Start Time: 4.94 min
End Time: 5.35 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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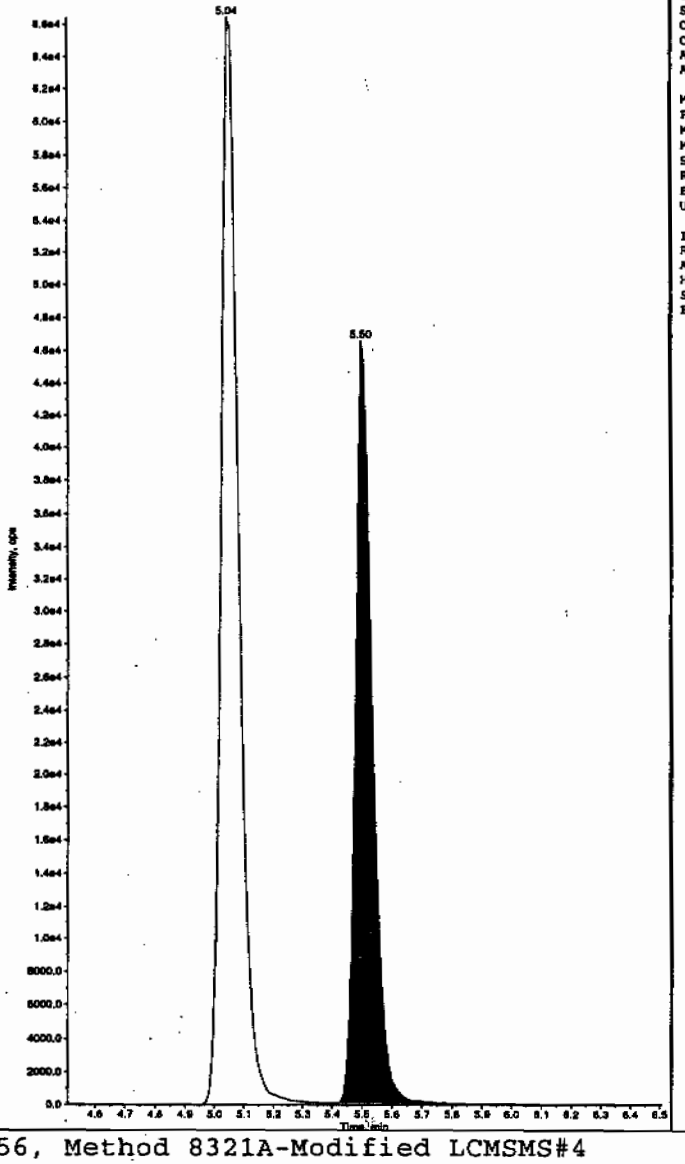
Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070026.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

```
Sample Index:          1
Sample Type:           QC
Concentration:       100.     ng/mL
Calculated Conc:     76.7     ng/mL
Acq. Date:        1/7/2010
Acq. Time:        8:48:06 PM

Modified:            No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00    cps
Min. Peak Width:    0.00    sec
Smoothing Width:  3        points
RT Window:          30.0    sec
Expected RT:         5.51   min
Use Relative RT:     No

Int. Type:         Valley
Retention Time:      5.50   min
Area:          1.88e+005   counts
Height:        46453.865   cps
Start Time:          5.43   min
End Time:            5.88   min
```

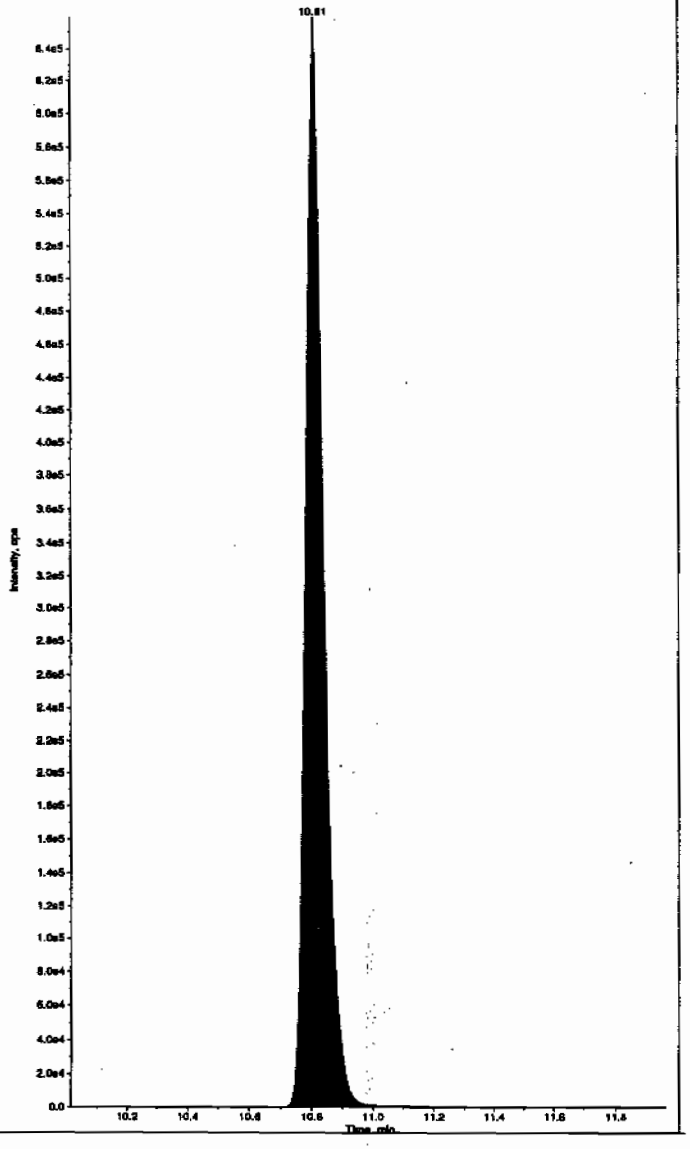


Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070026.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

```
Sample Index:          1
Sample Type:           QC
Concentration:       100.     ng/mL
Calculated Conc:     108.     ng/mL
Acq. Date:        1/7/2010
Acq. Time:        8:48:06 PM

Modified:            No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4    cps
Min. Peak Width:    0.00    sec
Smoothing Width:  3        points
RT Window:          30.0    sec
Expected RT:         11.0   min
Use Relative RT:     No

Int. Type:         Valley
Retention Time:      10.8   min
Area:          2.68e+006   counts
Height:       658869.568   cps
Start Time:          10.7   min
End Time:            11.1   min
```



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1032

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01070037.wiff

Analysis Date: 07–JAN–10 23:40

LCMSMS ID: 1358

Column ID: JSphere ODS–H80

Compound	True	Found	Recovery	Q
2,4–Diamino–6–nitrotoluene	500	484	97	
2,6–Diamino–4–nitrotoluene	500	513	103	
3,4–Dinitrotoluene	250	223	89	
3,5–Dinitroaniline	500	471	94	
TATB	500	536	107	
tris(o–cresyl) phosphate	500	470	94	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 70–130%
OtherTarget Analytes 80–120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

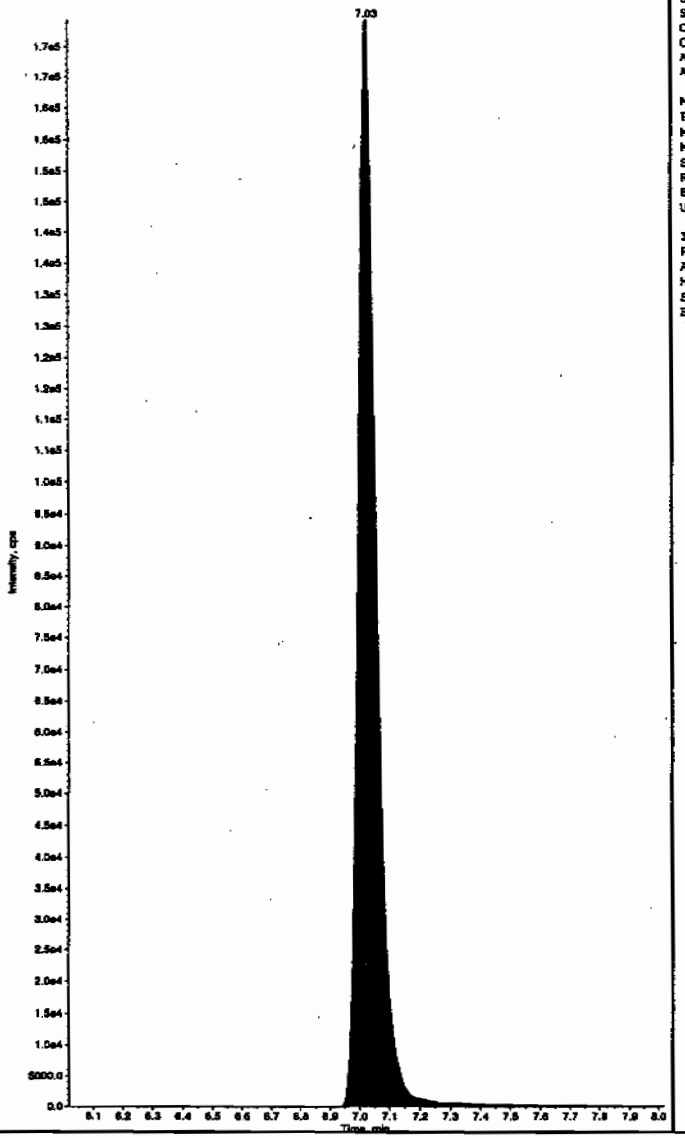
Before Run 1/8/10

Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070037.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 536. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:40:49 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 7.81e+005 counts
Height: 174503.296 cps
Start Time: 6.88 min
End Time: 7.48 min

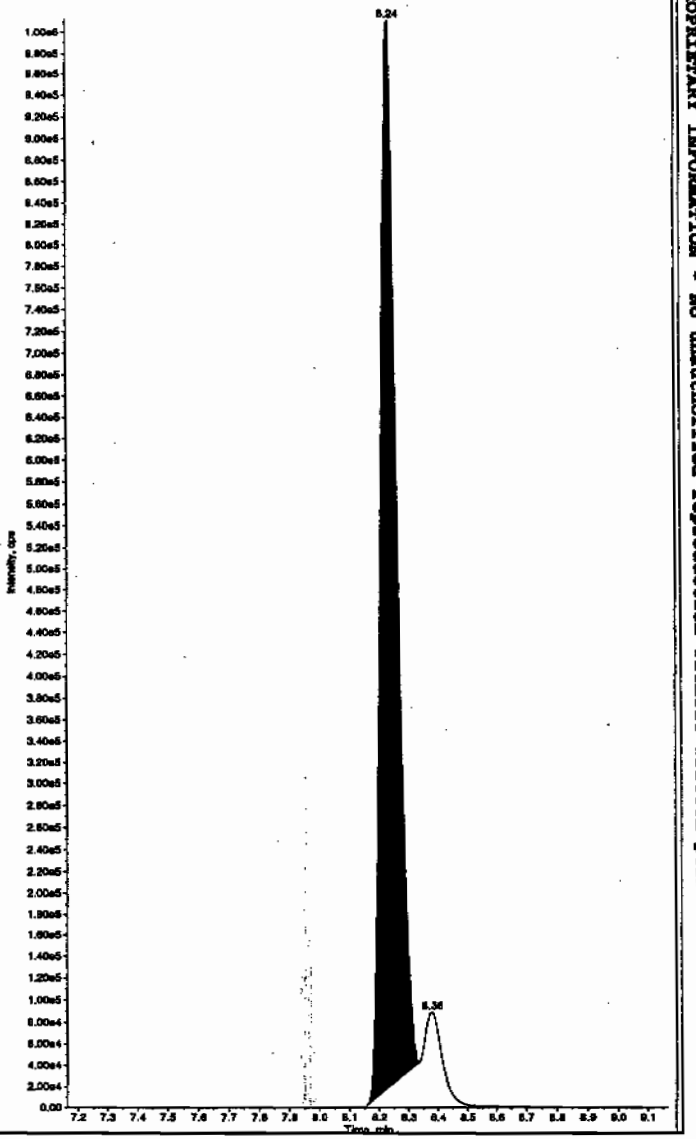


Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070037.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 447. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:40:49 PM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.15 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.24 min
Area: 3.97e+006 counts
Height: 992182.007 cps
Start Time: 8.16 min
End Time: 8.34 min



thm 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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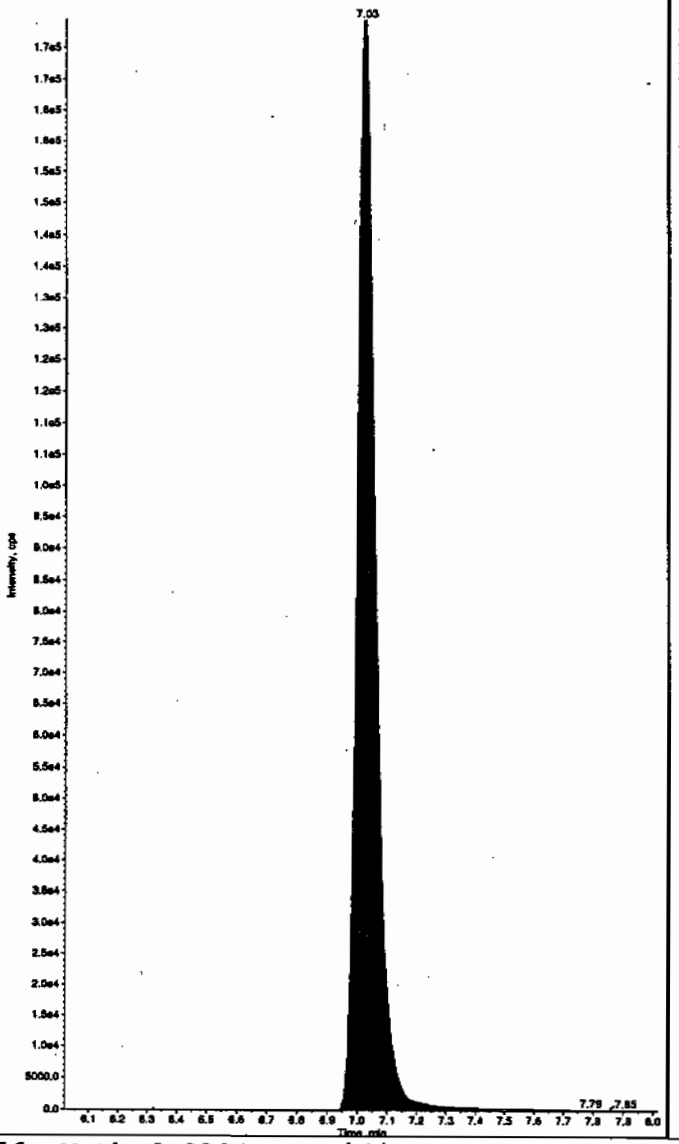
after Lan 1/8/10

Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070037.wiff"
Peak Name: "TATS" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

```
Sample Index:          1
Sample Type:             QC
Concentration:         500.     ng/mL
Calculated Conc:       536.     ng/mL
Acq. Date:          1/7/2010
Acq. Time:          11:40:49 PM

Modified:              No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height:2500.00    cps
Min. Peak Width:     0.00    sec
Smoothing Width:  3         points
RT Window:           30.0    sec
Expected RT:          7.02   min
Use Relative RT:      No

Int. Type:          Valley
Retention Time:       7.03   min
Area:            7.81e+005   counts
Height:           174503.296  cps
Start Time:           6.88   min
End Time:             7.48   min
```

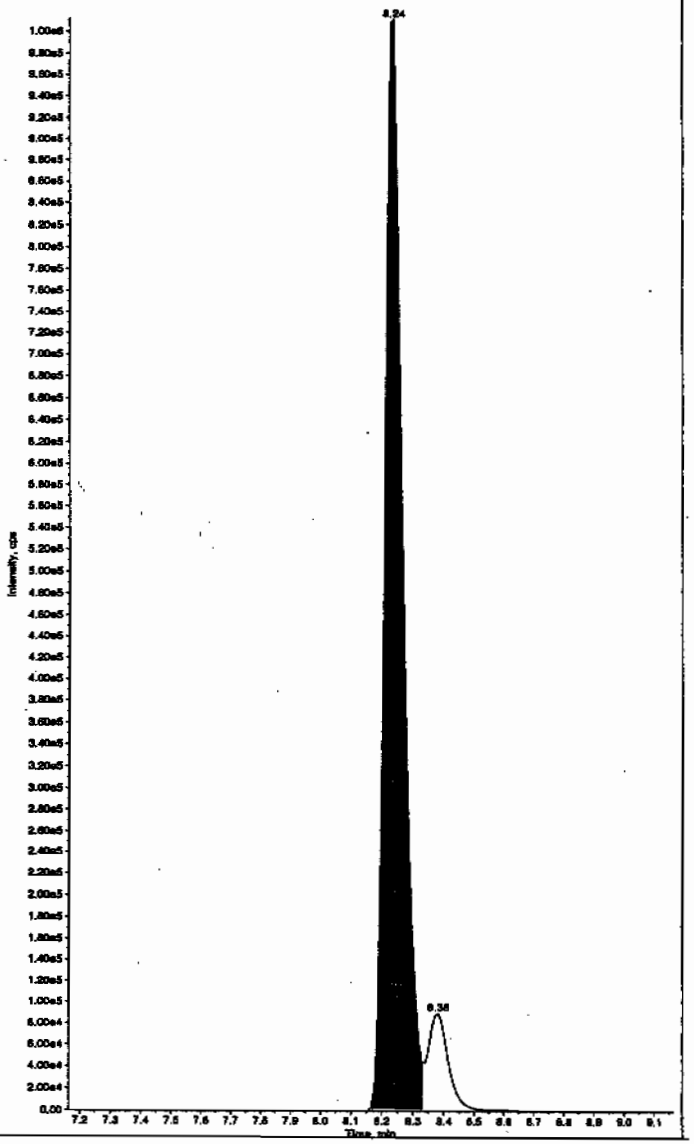


Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070037.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

```
Sample Index:          1
Sample Type:             QC
Concentration:         500.     ng/mL
Calculated Conc:       471.     ng/mL
Acq. Date:          1/7/2010
Acq. Time:          11:40:49 PM

Modified:              Yes
RT Window:           15.0    sec
Expected RT:          8.16   min
Use Relative RT:      No

Int. Type:          Manual
Retention Time:       8.23   min
Area:            4.17e+006   counts
Height:           1026007.764  cps
Start Time:           8.16   min
End Time:             8.33   min
```



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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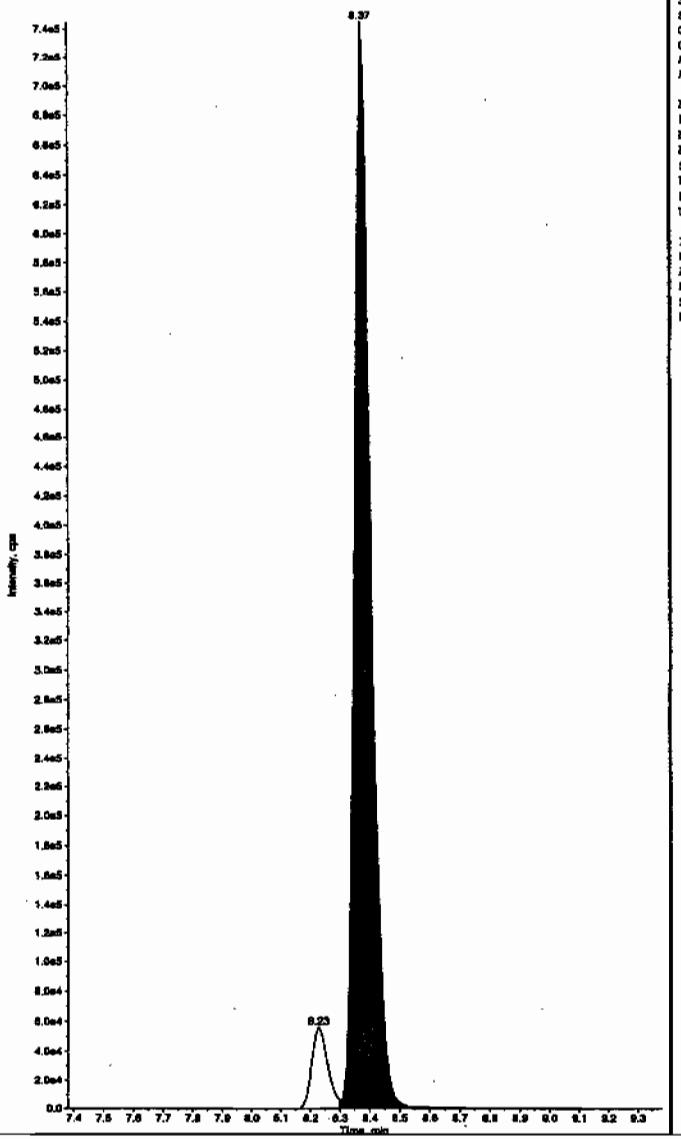
Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070037.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 250. ng/mL
Calculated Conc: 221. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:40:49 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.37 min
Area: 2.95e+006 counts
Height: 744940.491 cps
Start Time: 8.30 min
End Time: 8.68 min

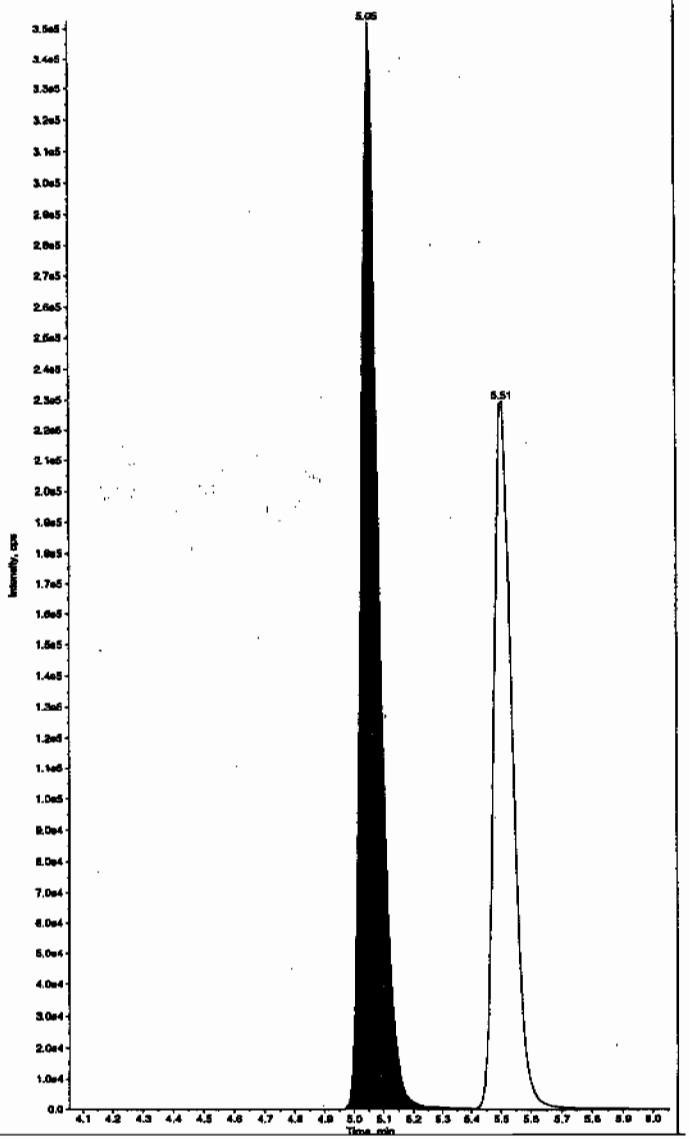


Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070037.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 513. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:40:49 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.05 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.05 min
Area: 1.50e+006 counts
Height: 352323.395 cps
Start Time: 4.95 min
End Time: 5.34 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

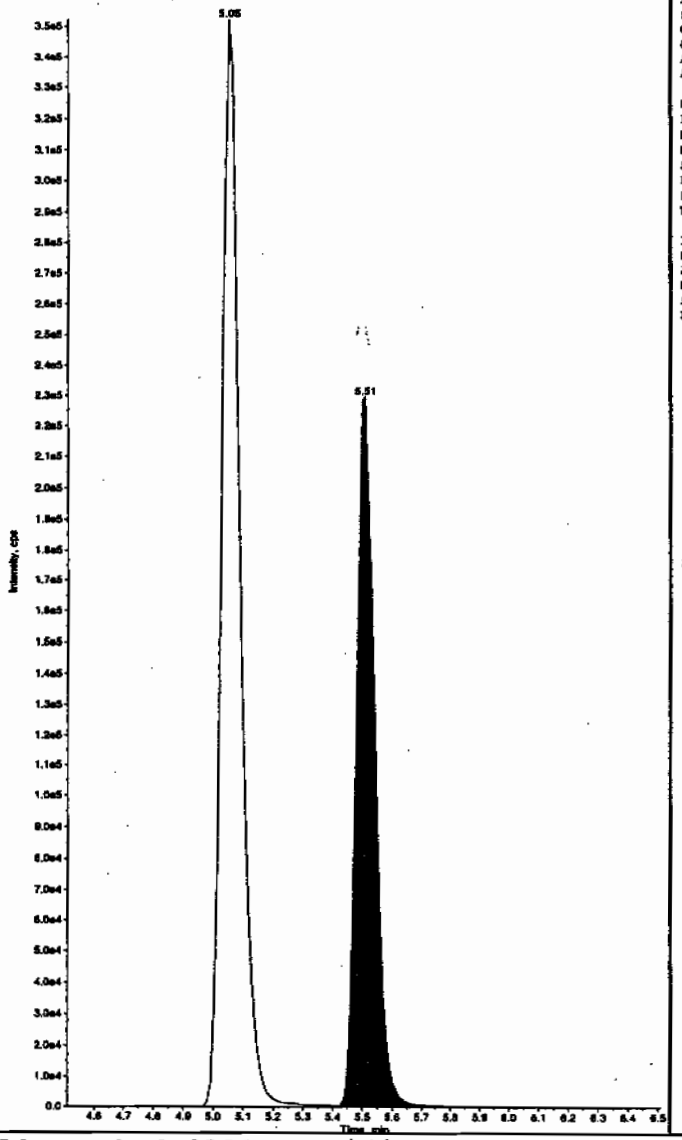
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100107-26CCV" Sample ID: "1|1|LER" File: "EXS01070037.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 484. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:40:49 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.51 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.51 min
Area: 1.01e+006 counts
Height: 229683.289 cps
Start Time: 5.41 min
End Time: 5.93 min

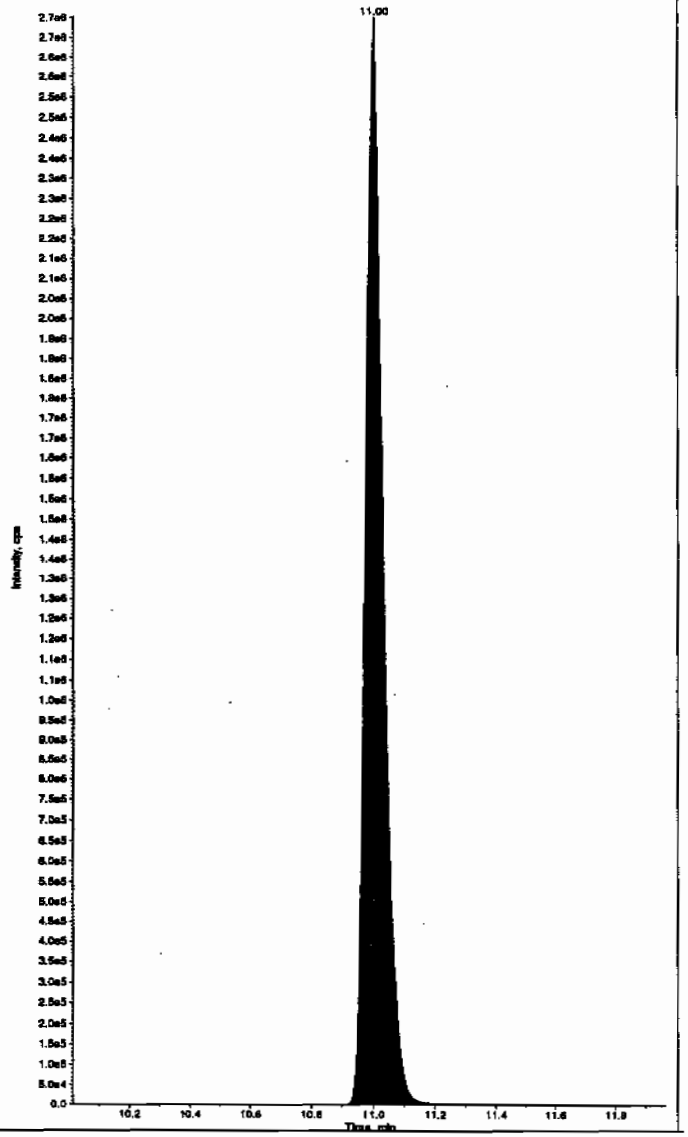


Sample Name: "WXX100107-26CCV" Sample ID: "1|1|LER" File: "EXS01070037.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 470. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 11:40:49 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 11.0 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 11.0 min
Area: 1.07e+007 counts
Height: 2704525.635 cps
Start Time: 10.9 min
End Time: 11.3 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1032

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01070039.wiff

Analysis Date: 08–JAN–10 00:12

LCMSMS ID: 1358

Column ID: JSphere ODS–H80

Compound	True	Found	Recovery	Q
2,4–Diamino–6–nitrotoluene	100	79.6	80	
2,6–Diamino–4–nitrotoluene	100	71.1	71	
3,4–Dinitrotoluene	50	41.5	83	
3,5–Dinitroaniline	100	94.4	94	
TATB	100	105	105	
tris(o–cresyl) phosphate	100	96.6	97	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 50–150%
OtherTarget Analytes 70–130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

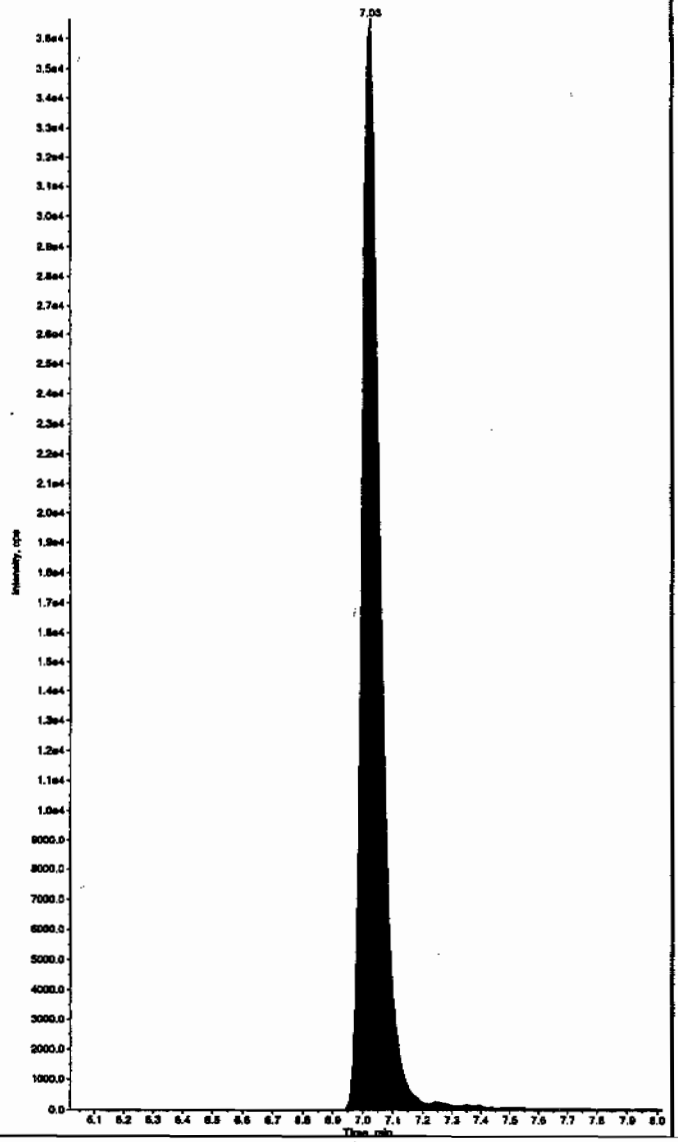
Lan 1/8/10

Sample Name: "WXX100107-27CRI" Sample ID: "|1|LER" File: "EXS01070039.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 105. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:12:14 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 1.63e+005 counts
Height: 36673.294 cps
Start Time: 6.92 min
End Time: 7.59 min

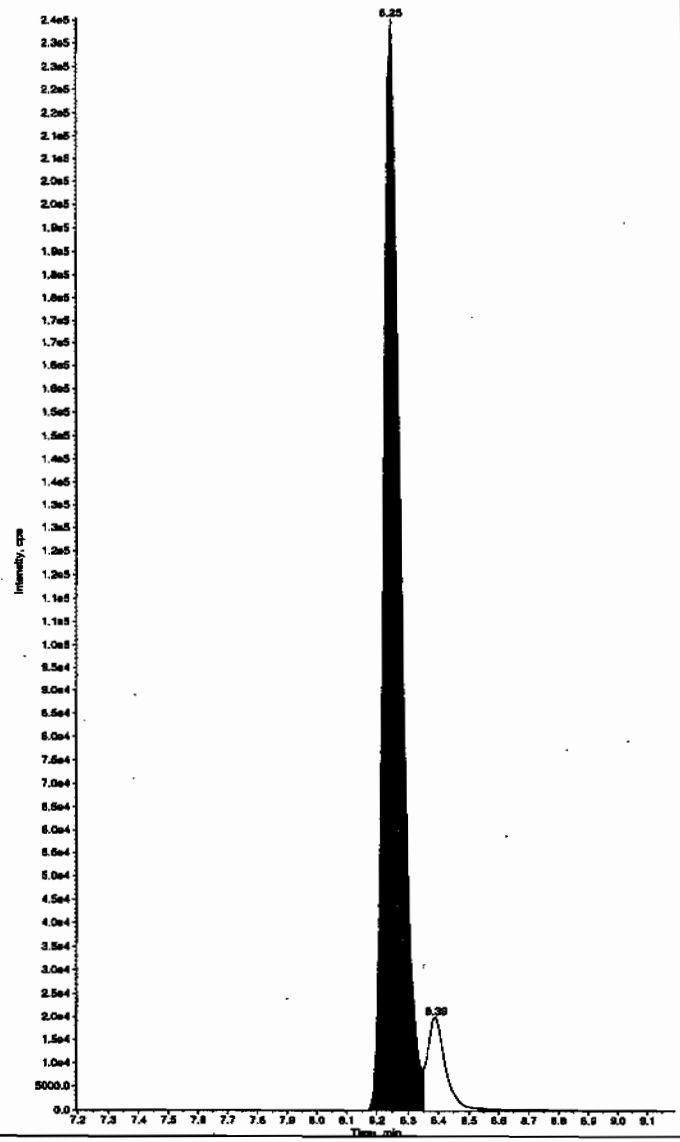


Sample Name: "WXX100107-27CRI" Sample ID: "|1|LER" File: "EXS01070039.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/45.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 94.4 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:12:14 AM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.20 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.25 min
Area: 9.24e+005 counts
Height: 235511.215 cps
Start Time: 8.11 min
End Time: 8.35 min



HMM 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

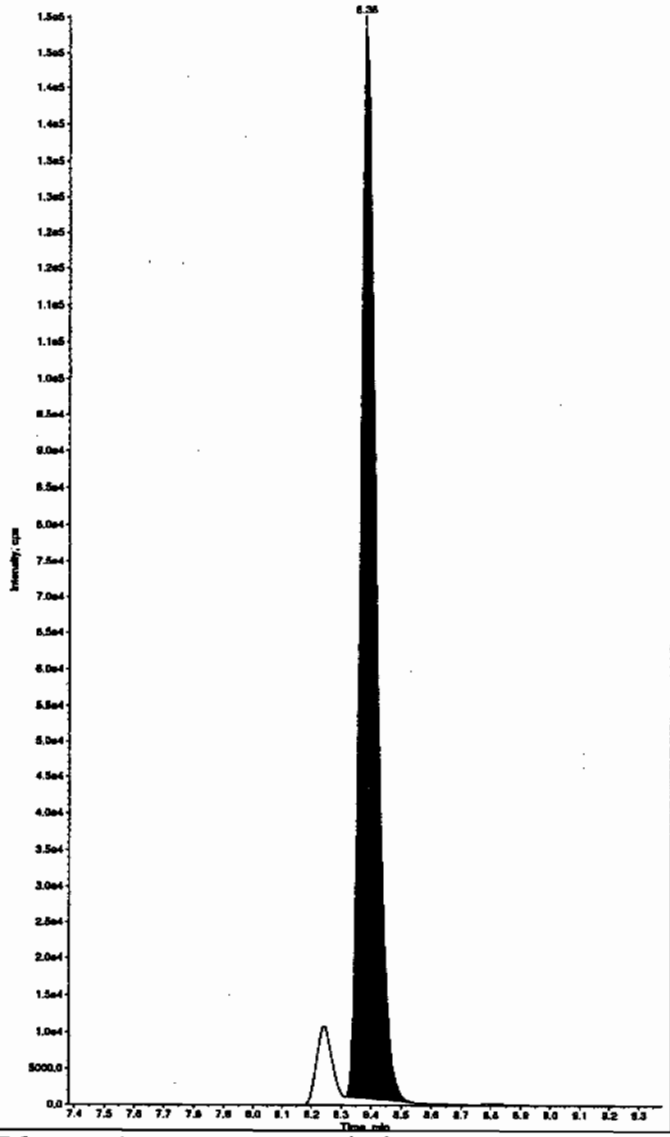
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070039.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 50.0 ng/mL
Calculated Conc: 41.5 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:12:14 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.18 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.38 min
Area: 5.56e+005 counts
Height: 149324.173 cps
Start Time: 8.31 min
End Time: 8.55 min

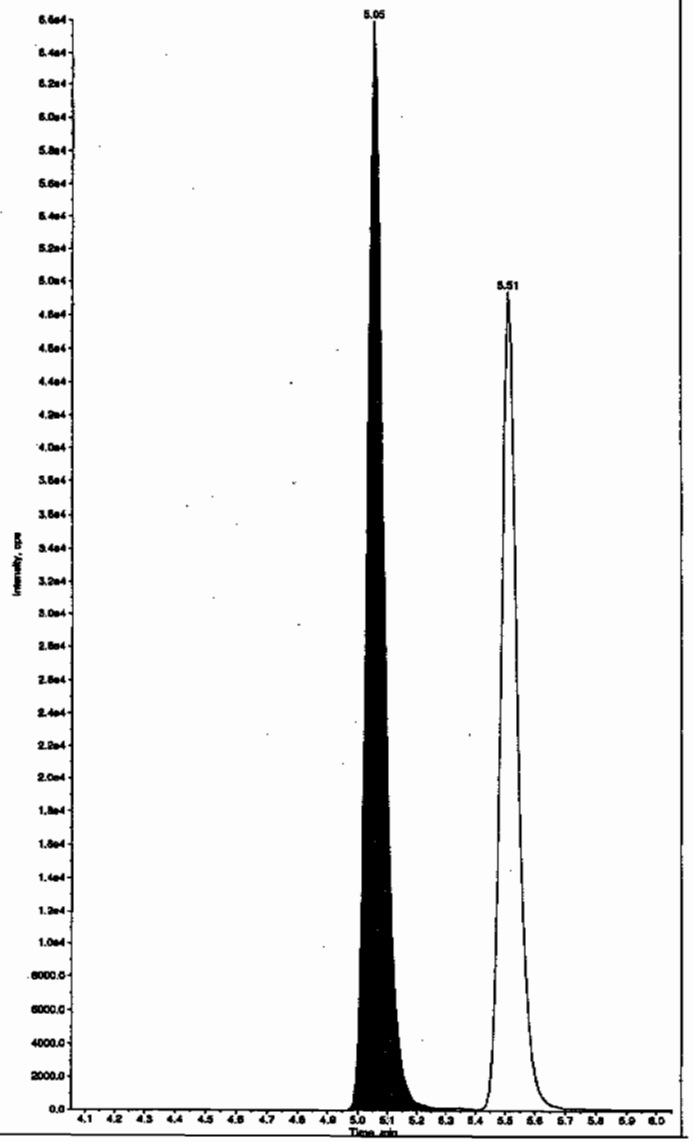


Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070039.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 71.1 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:12:14 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.05 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.05 min
Area: 2.71e+005 counts
Height: 66016.106 cps
Start Time: 4.95 min
End Time: 5.32 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

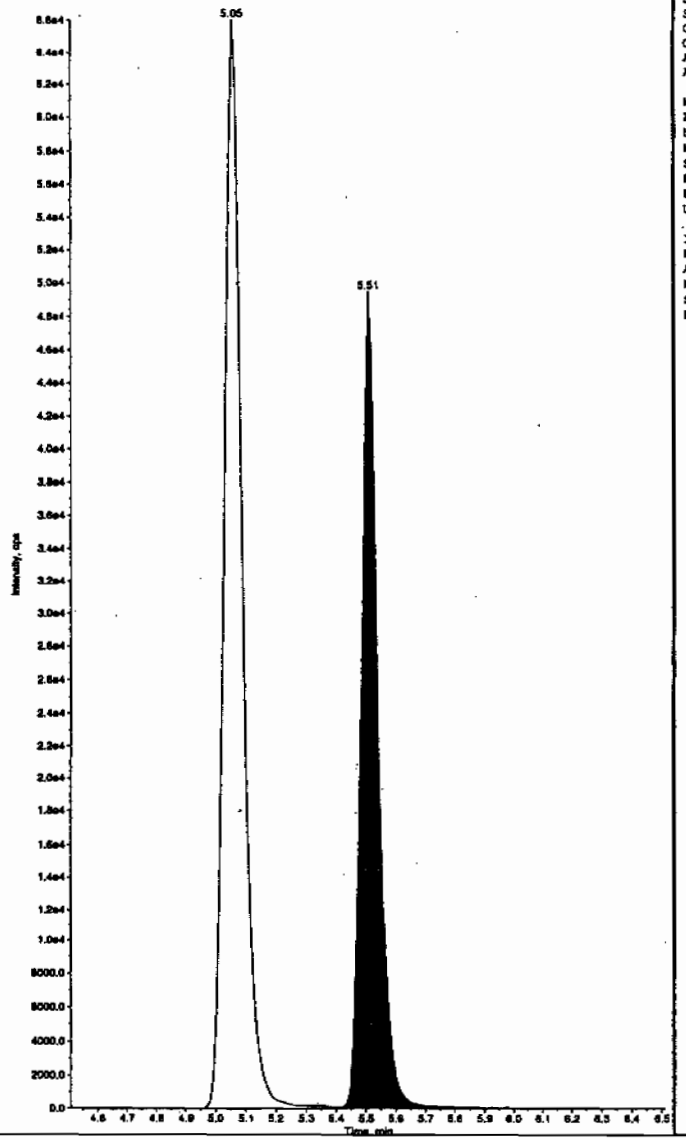
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070039.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 79.6 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:12:14 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.51 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.51 min
Area: 1.94e+005 counts
Height: 49438.969 cps
Start Time: 5.41 min
End Time: 5.91 min

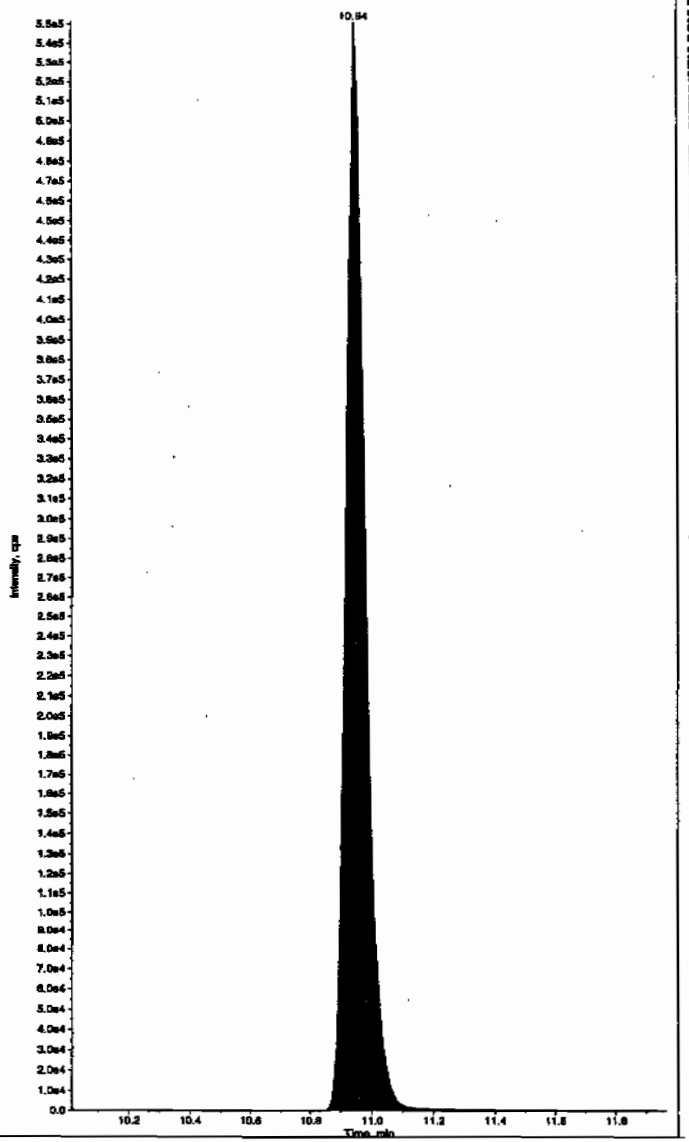


Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070039.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 96.6 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 12:12:14 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 11.0 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 2.42e+006 counts
Height: 551261.169 cps
Start Time: 10.8 min
End Time: 11.2 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1032

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01070045.wiff

Analysis Date: 08-JAN-10 01:46

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	480	96	
2,6-Diamino-4-nitrotoluene	500	470	94	
3,4-Dinitrotoluene	250	227	91	
3,5-Dinitroaniline	500	486	97	
TATB	500	531	106	
tris(o-cresyl) phosphate	500	482	96	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

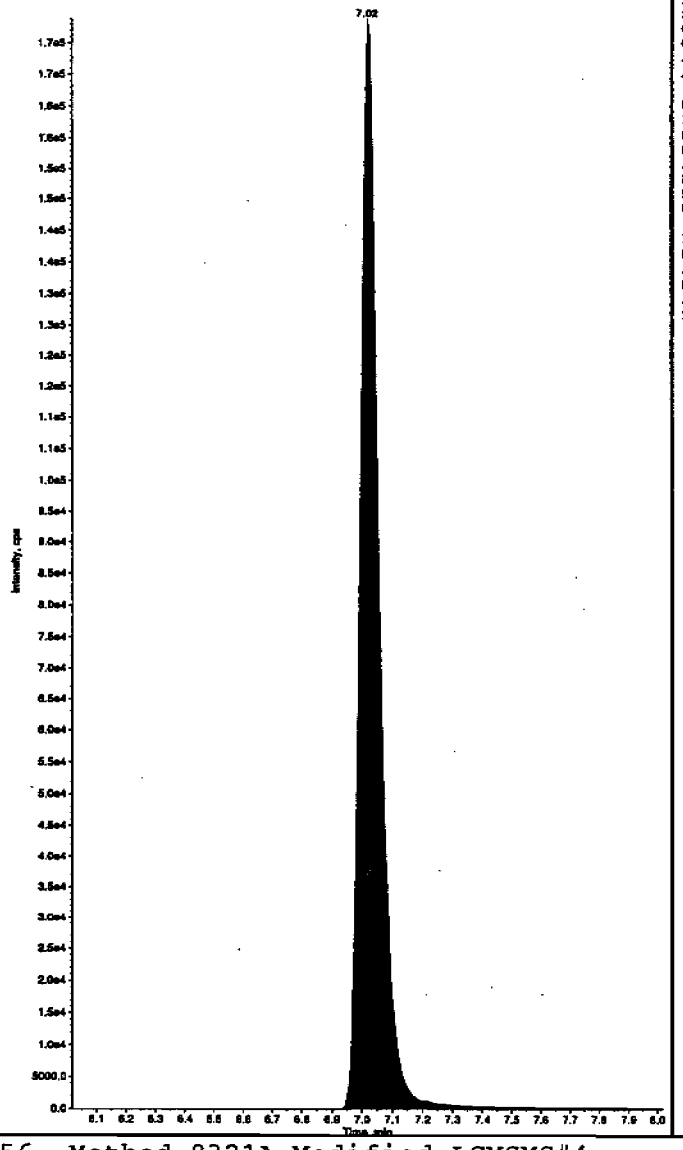
Before Ran 1/8/10

Sample Name: "WXX100107-26CCV" Sample ID: "|1|LER" File: "EXS01070045.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 531. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:46:30 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.02 min
Area: 7.74e+005 counts
Height: 173988.144 cps
Start Time: 6.89 min
End Time: 7.53 min

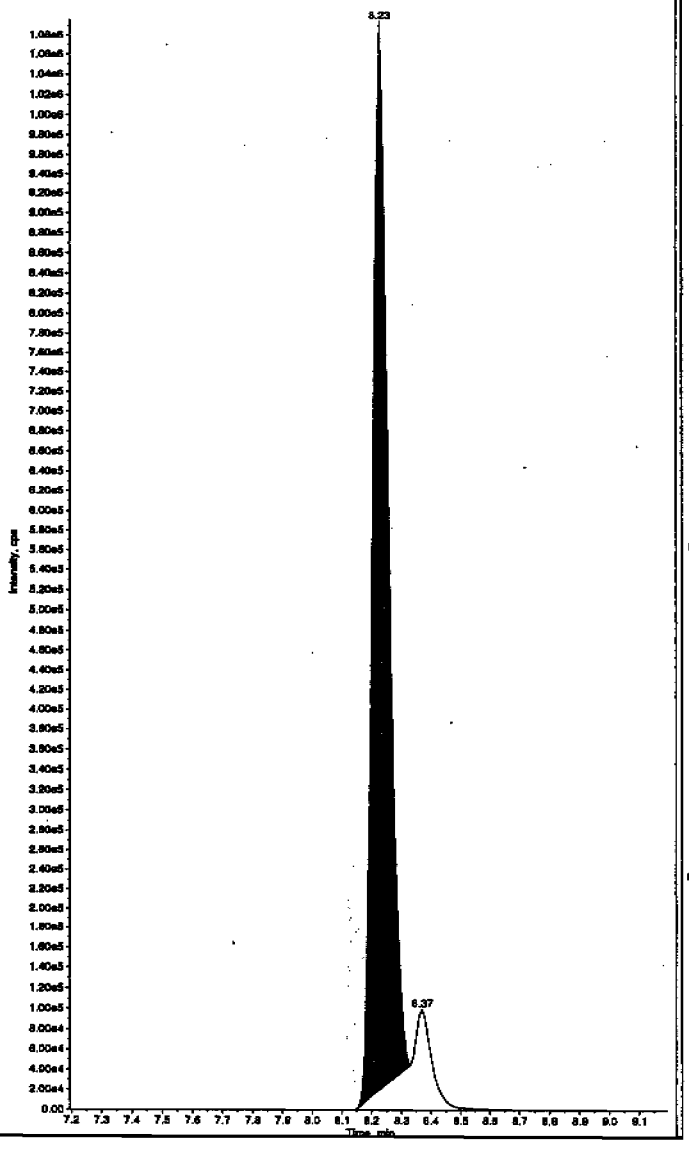


Sample Name: "WXX100107-26CCV" Sample ID: "|1|LER" File: "EXS01070045.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 459. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:46:30 AM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.20 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.23 min
Area: 4.07e+006 counts
Height: 1076597.168 cps
Start Time: 8.15 min
End Time: 8.33 min



Hnm 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

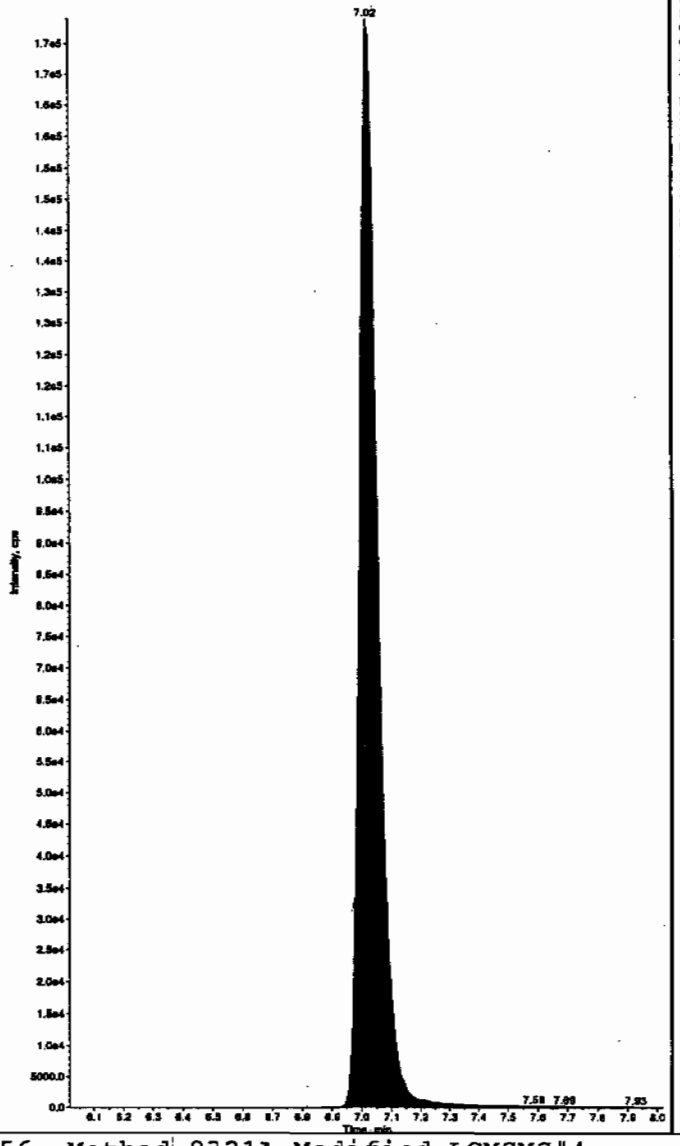
after Lee 1/8/10

Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070045.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: "

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 531. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:46:30 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.02 min
Area: 7.74e+005 counts
Height: 173988.144 cps
Start Time: 6.89 min
End Time: 7.53 min

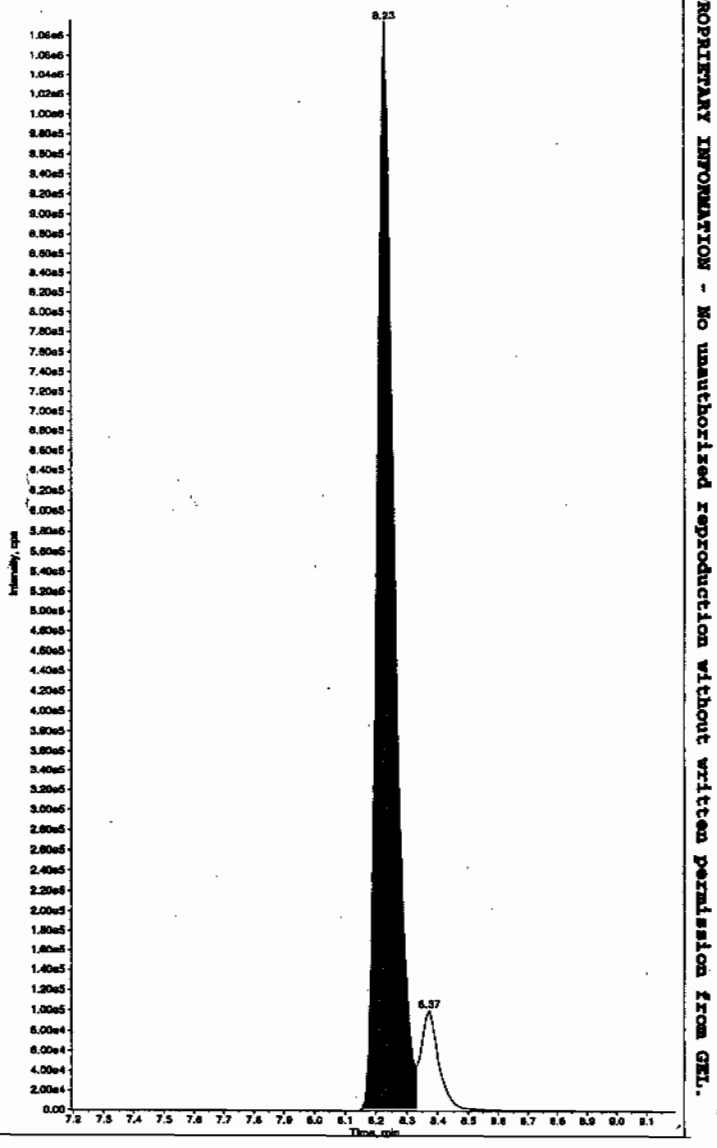


Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070045.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: "

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 486. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:46:30 AM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.20 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.23 min
Area: 4.29e+006 counts
Height: 1094522.184 cps
Start Time: 8.15 min
End Time: 8.33 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

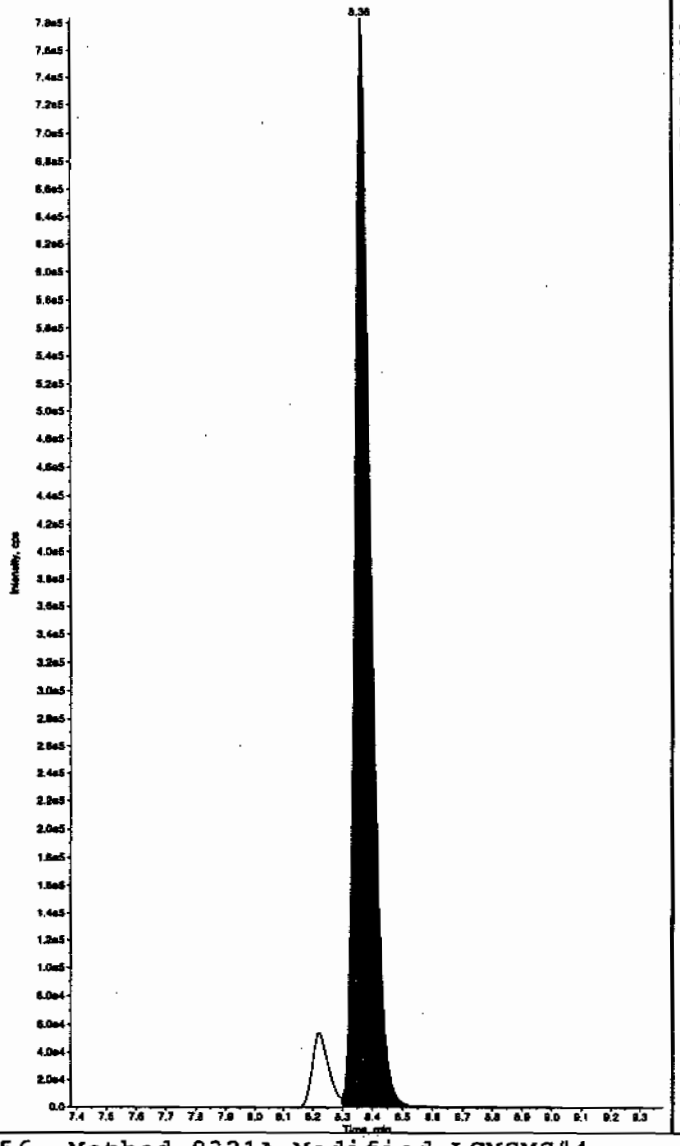
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070045.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 250. ng/mL
Calculated Conc: 227. ng/mL
Acq. Date: 1/6/2010
Acq. Time: 1:46:30 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.36 min
Area: 3.00e+006 counts
Height: 783226.196 cps
Start Time: 8.30 min
End Time: 8.66 min

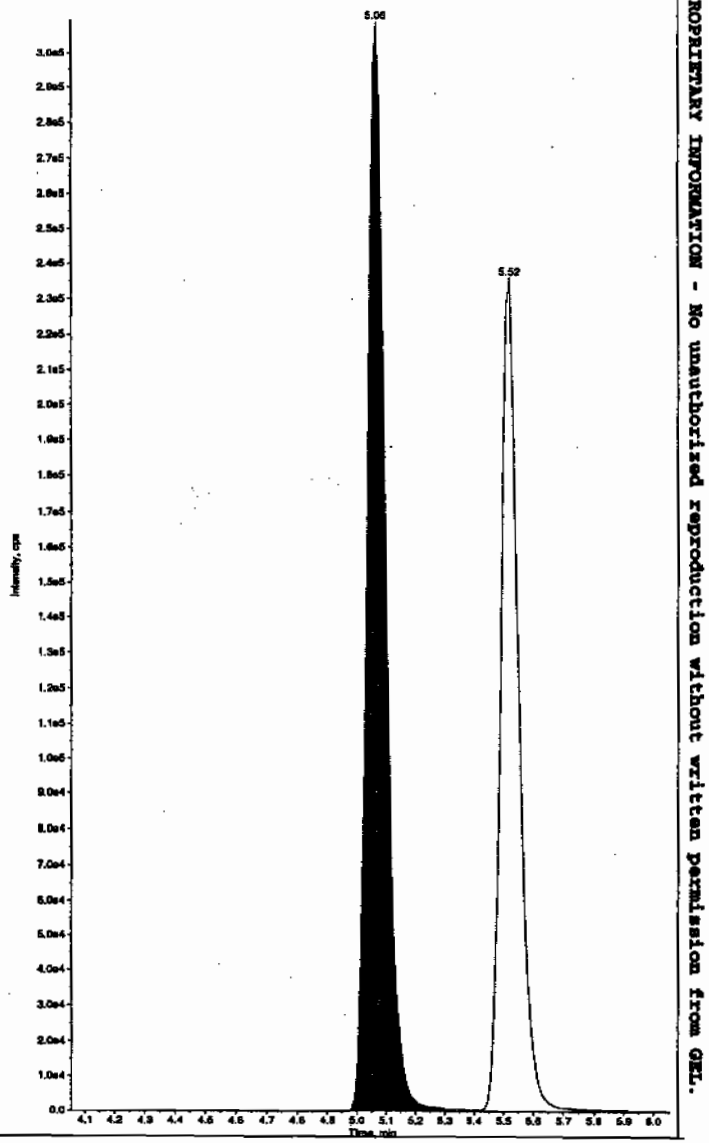


Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070045.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 470. ng/mL
Acq. Date: 1/6/2010
Acq. Time: 1:46:30 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.05 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.06 min
Area: 1.38e+006 counts
Height: 309414.673 cps
Start Time: 4.96 min
End Time: 5.32 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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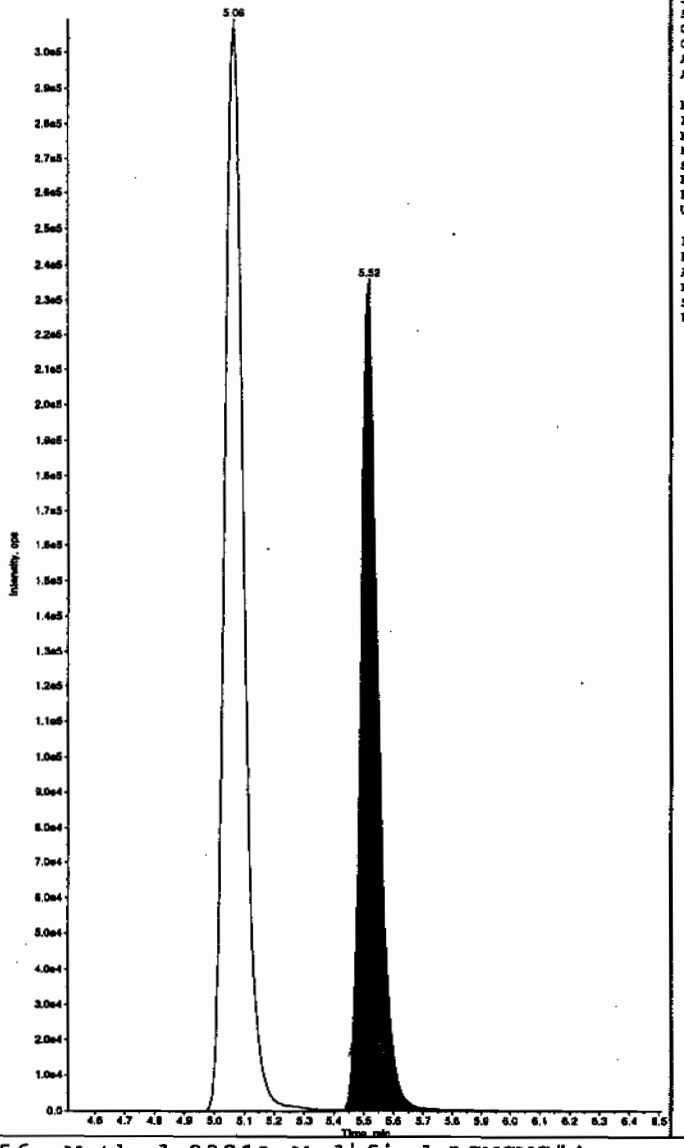
Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070045.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 480. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:46:30 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.51 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.52 min
Area: 1.00e+006 counts
Height: 236222.565 cps
Start Time: 5.41 min
End Time: 6.12 min

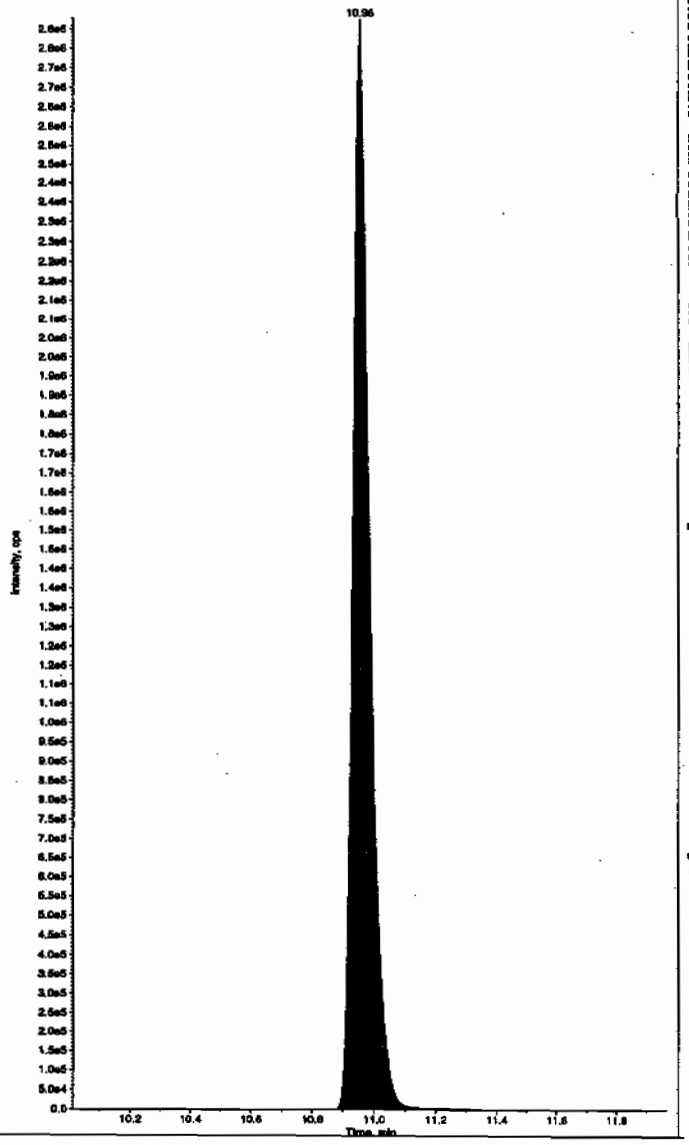


Sample Name: "WXX100107-26CCV" Sample ID: "[1]LER" File: "EXS01070045.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 482. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 1:46:30 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 11.0 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 11.0 min
Area: 1.10e+007 counts
Height: 2830355.957 cps
Start Time: 10.9 min
End Time: 11.3 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1032

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01070047.wiff

Analysis Date: 08–JAN–10 02:17

LCMSMS ID: 1358

Column ID JSphere ODS–H80

Compound	True	Found	Recovery	Q
2,4–Diamino–6–nitrotoluene	100	90.1	90	
2,6–Diamino–4–nitrotoluene	100	78.5	79	
3,4–Dinitrotoluene	50	43.9	88	
3,5–Dinitroaniline	100	88.9	89	
TATB	100	101	101	
tris(o–cresyl) phosphate	100	103	103	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 50–150%
OtherTarget Analytes 70–130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

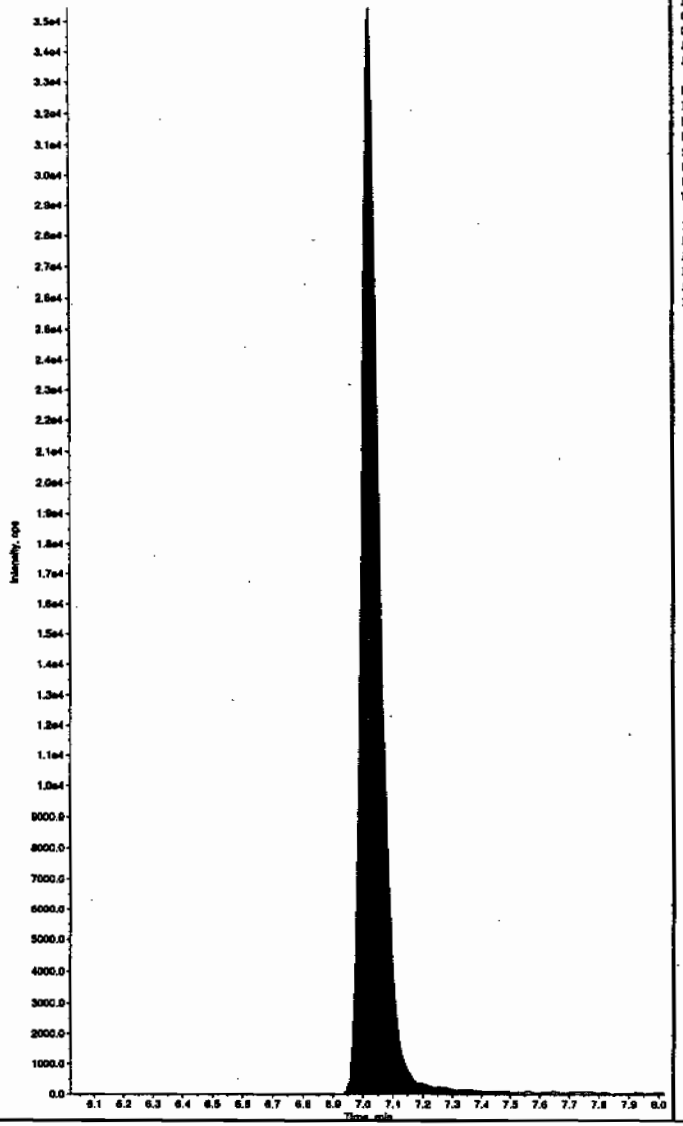
Before Ken 1/8/10

Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070047.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 101. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 2:17:54 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 1.57e+005 counts
Height: 35462.952 cps
Start Time: 6.92 min
End Time: 7.51 min

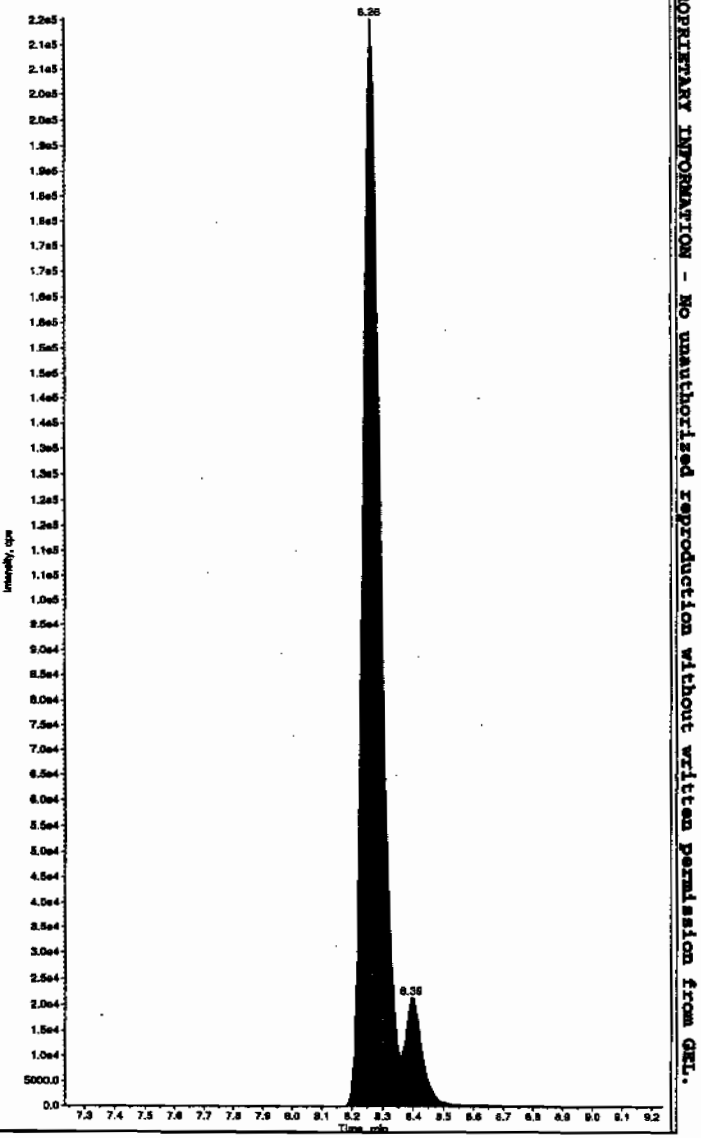


Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070047.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 99.3 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 2:17:54 AM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.24 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.26 min
Area: 9.69e+005 counts
Height: 215562.180 cps
Start Time: 8.12 min
End Time: 8.61 min



HMK 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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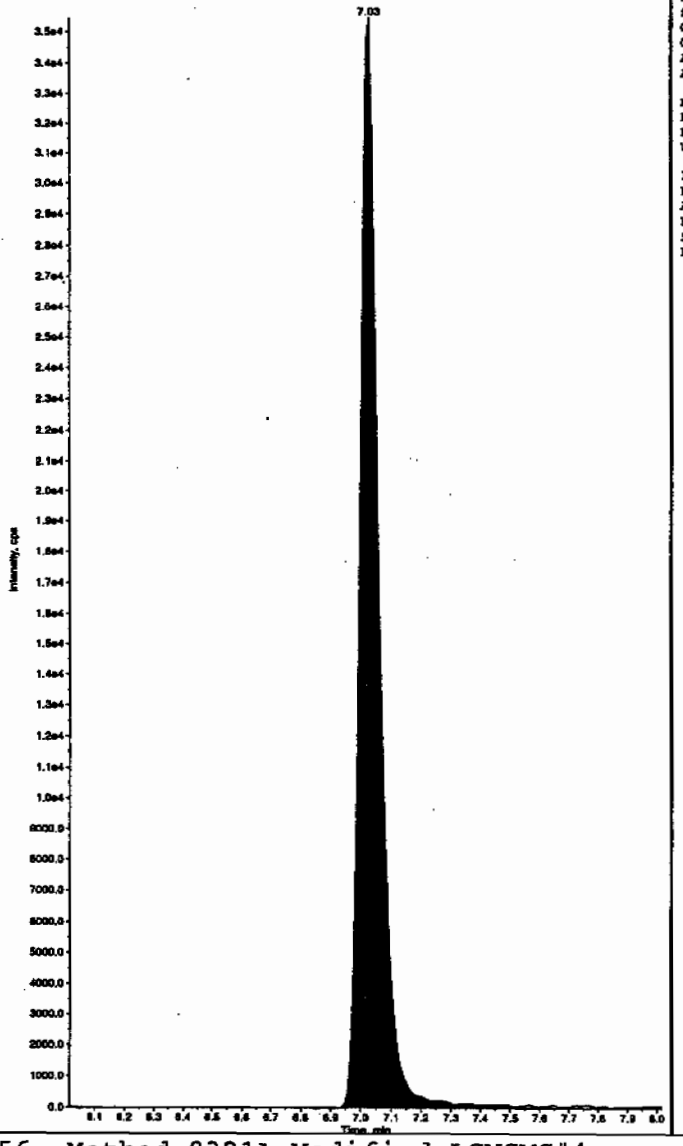
after hour 1/8/10

Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070047.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 101. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 2:17:54 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 1.57e+005 counts
Height: 35462.952 cps
Start Time: 6.92 min
End Time: 7.51 min

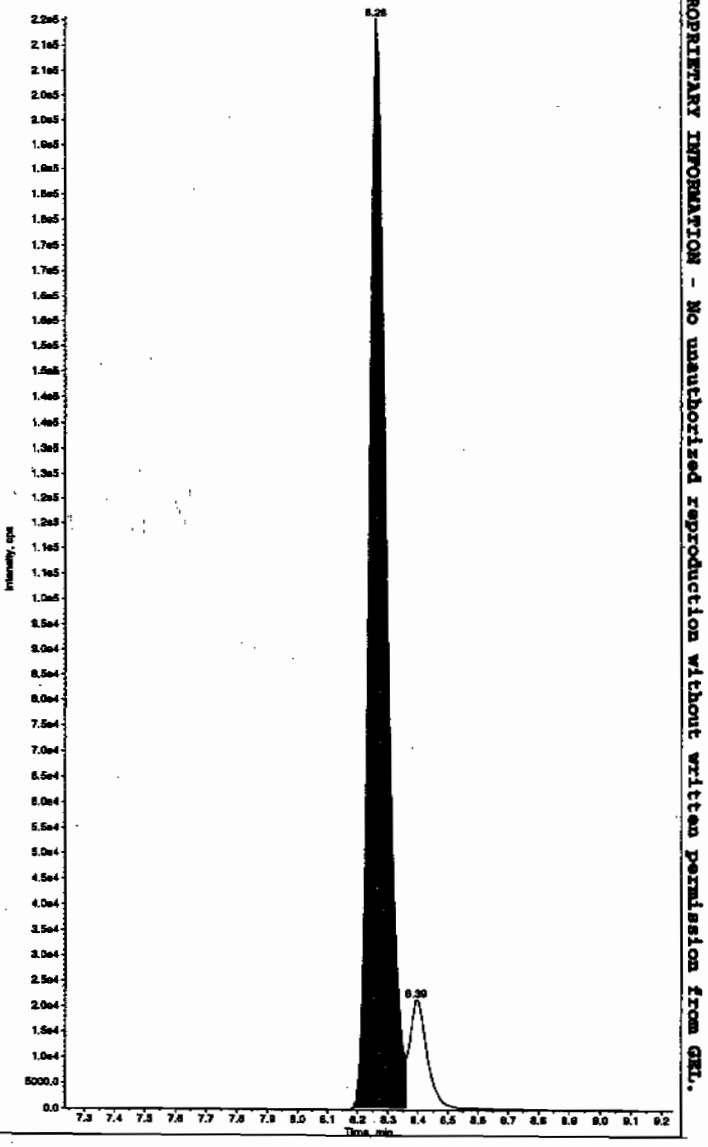


Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070047.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 88.9 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 2:17:54 AM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.24 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.26 min
Area: 8.75e+005 counts
Height: 216505.073 cps
Start Time: 8.19 min
End Time: 8.36 min



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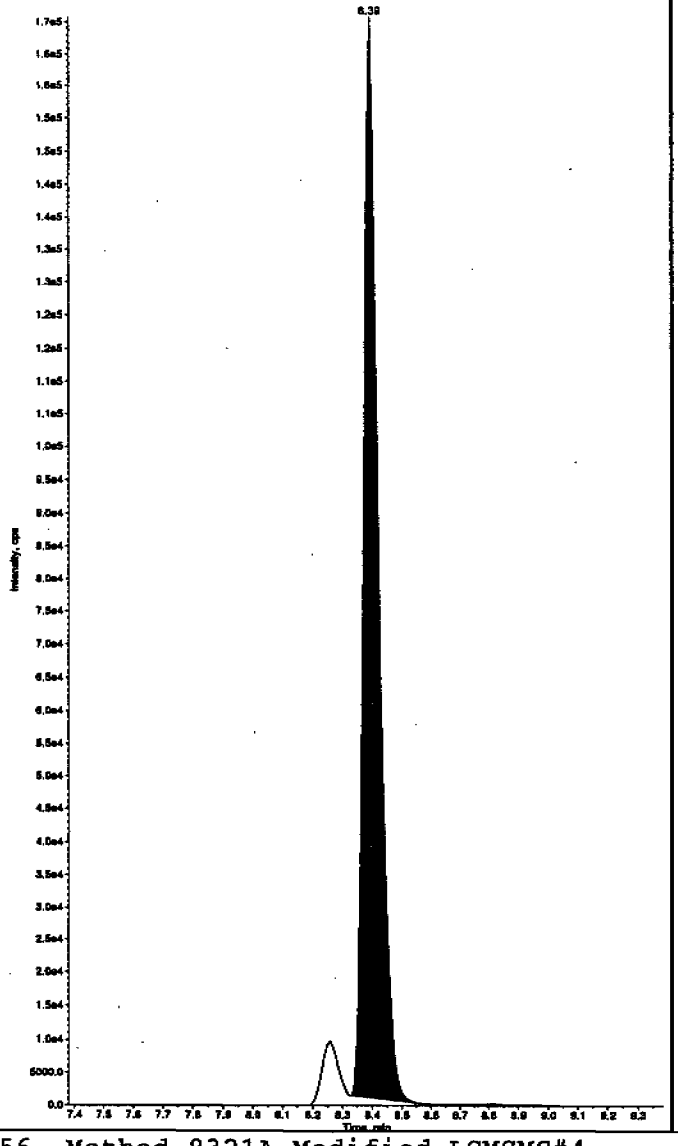
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "WXX100107-27CRI" Sample ID: "|1|LER" File: "EXS01070047.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 50.0 ng/mL
Calculated Conc: 43.9 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 2:17:54 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.39 min
Area: 5.89e+005 counts
Height: 164733.994 cps
Start Time: 8.33 min
End Time: 8.56 min

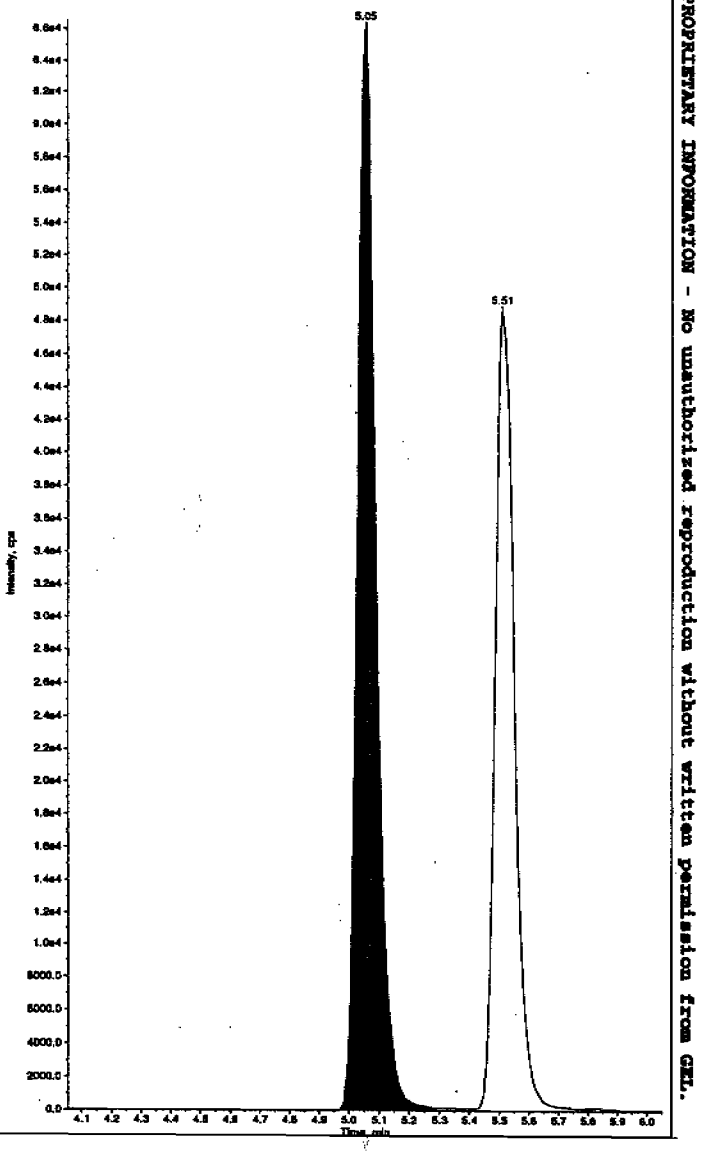


Sample Name: "WXX100107-27CRI" Sample ID: "|1|LER" File: "EXS01070047.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 78.5 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 2:17:54 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.05 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.05 min
Area: 2.91e+005 counts
Height: 66474.609 cps
Start Time: 4.90 min
End Time: 5.29 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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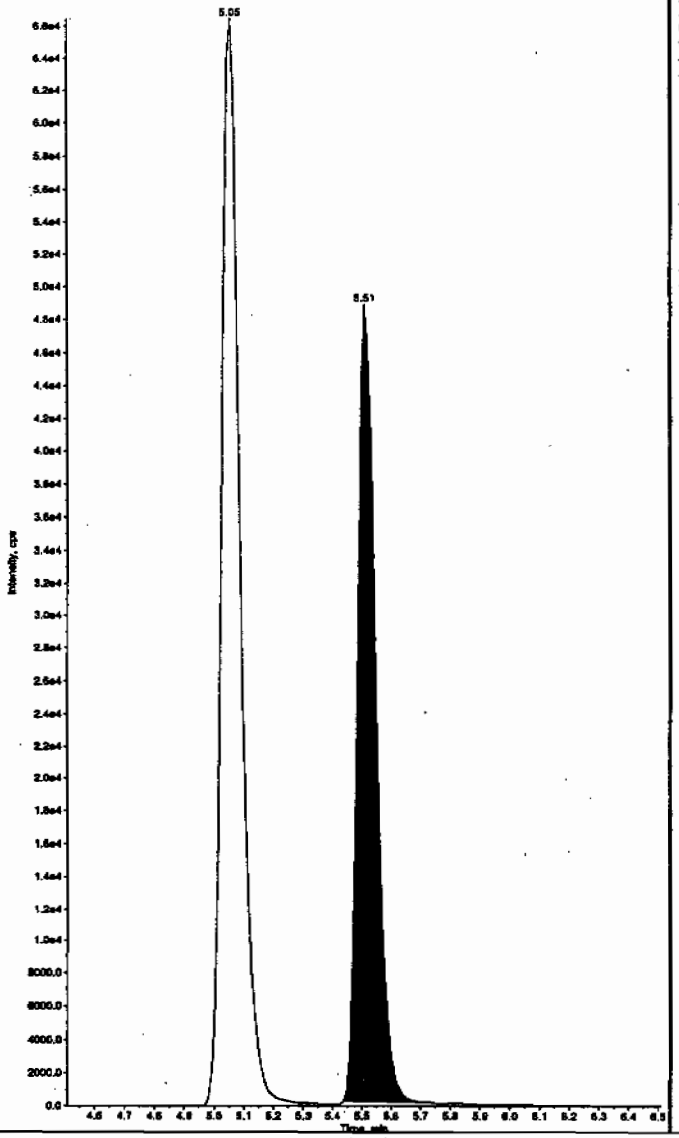
Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070047.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 90.1 ng/mL
Acq. Date: 1/8/2010
Acq. Time: 2:17:54 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.51 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.51 min
Area: 2.16e+005 counts
Height: 48724.499 cps
Start Time: 5.44 min
End Time: 5.73 min

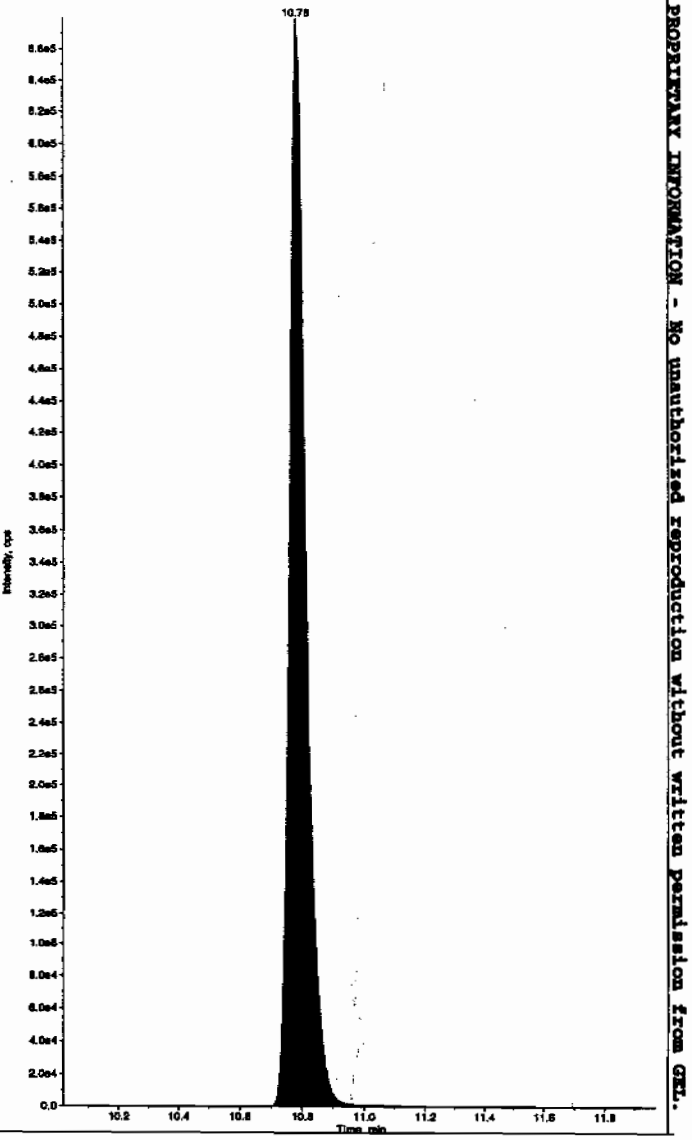


Sample Name: "WXX100107-27CRI" Sample ID: "[1]LER" File: "EXS01070047.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 103. ng/mL
Acq. Date: 1/8/2010
Acq. Time: 2:17:54 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 11.0 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.8 min
Area: 2.58e+006 counts
Height: 679546.265 cps
Start Time: 10.7 min
End Time: 11.1 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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QUALITY CONTROL DATA

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 936358

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 1202003510

Sample Amount 2

Moisture:

Amount Units g

Date Received: 23-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115022a

Date Analyzed: 16-JAN-10 01:13

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	500	U
121-14-2	2,4-Dinitrotoluene	500	U
121-82-4	RDX	500	U
19406-51-0	4-Amino-2,6-dinitrotoluene	500	U
2691-41-0	HMX	500	U
35572-78-2	2-Amino-4,6-dinitrotoluene	500	U
479-45-8	Tetryl	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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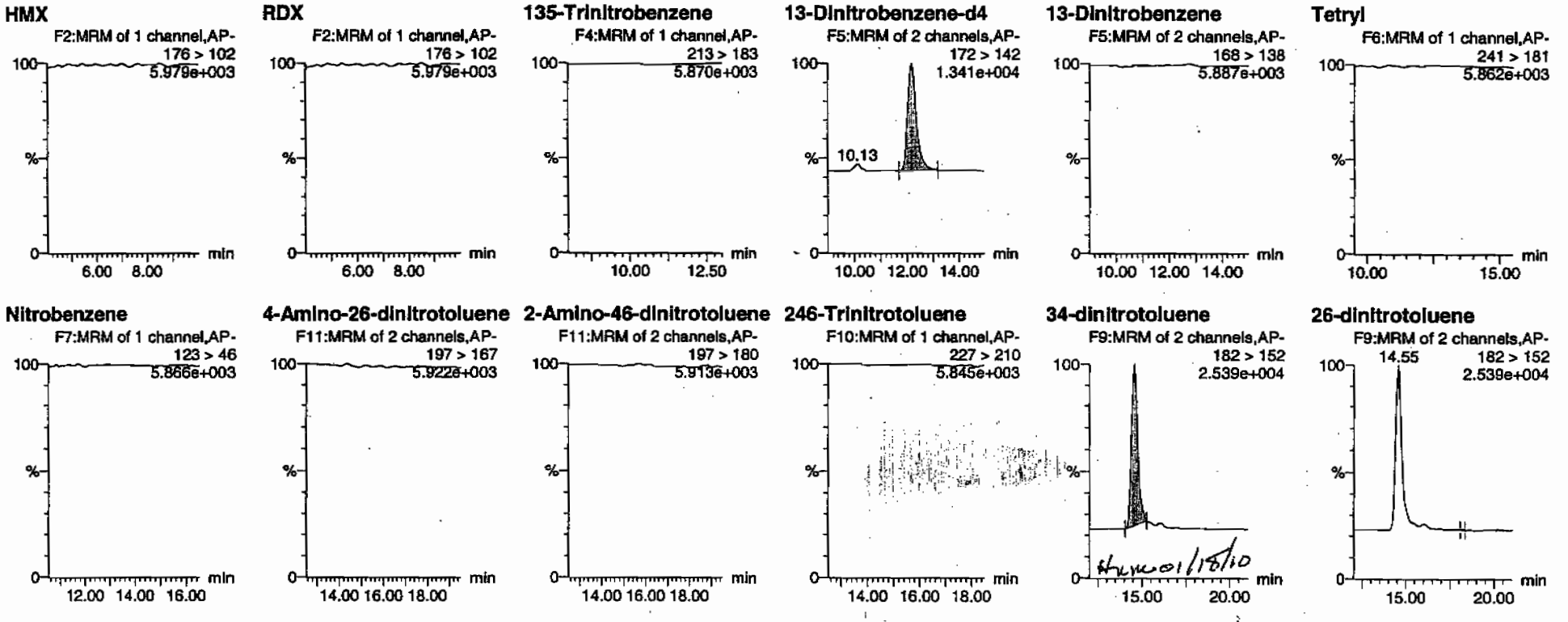
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115022a
Date: 16-Jan-2010
Time: 01:13:09
ID: 1202003510 | LANC | 936359 | Solid | MB | 2 |
Vial: 1:5,A

MMT 1/16/10

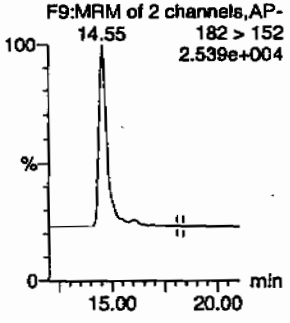


GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

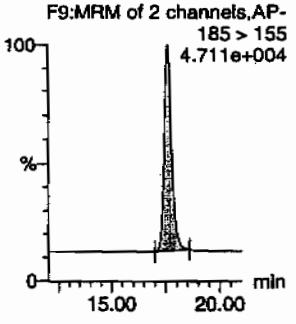
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

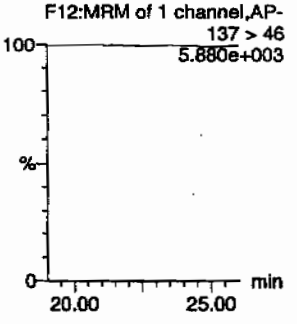
24-dinitrotoluene



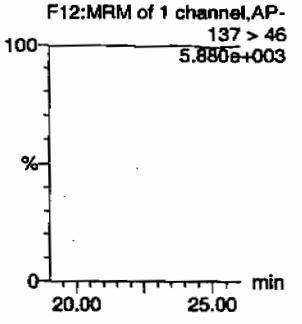
26-dinitrotoluene-d3



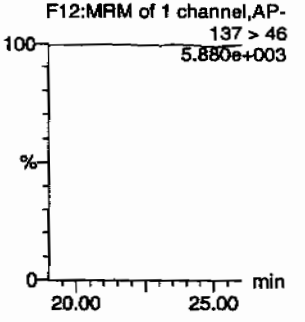
2-Nitrotoluene



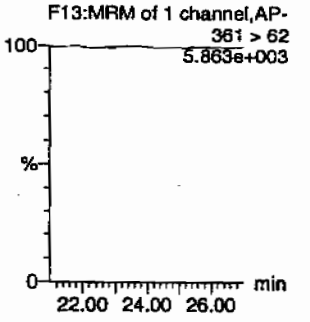
4-Nitrotoluene



3-Nitrotoluene



PETN



ID Number	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
1202003510	HMX	176 > 102			2930.368									
1202003510	RDX	176 > 102			2930.368									
1202003510	135-Trinitrobenzene	213 > 183			2930.368									
1202003510	13-Dinitrobenzene-d4	172 > 142	12.17	2930.368		2930.368	2930.368	bb			529.6560	105.9	5.9	314.4
1202003510	13-Dinitrobenzene	168 > 138			2930.368									
1202003510	Tetryl	241 > 181			2930.368									
1202003510	Nitrobenzene	123 > 46			2930.368									
1202003510	4-Amino-26-dinitrotoluene	197 > 167			16597.801									
1202003510	2-Amino-46-dinitrotoluene	197 > 180			16597.801									
1202003510	246-Trinitrotoluene	227 > 210			16597.801									
1202003510	34-dinitrotoluene	182 > 152	14.55	7676.924	16597.801	7676.924	231.263	bb			258.4404	103.4	3.4	339.4
1202003510	26-dinitrotoluene	182 > 152			16597.801			MM-	16-Jan-10	13:31:30				
1202003510	24-dinitrotoluene	182 > 152			16597.801			MM-	16-Jan-10	13:35:23				
1202003510	26-dinitrotoluene-d3	185 > 155	17.61	16597.801		16597.801	16597.801	bb			521.4339	104.3	4.3	487.8
1202003510	2-Nitrotoluene	137 > 46			16597.801									
1202003510	4-Nitrotoluene	137 > 46			16597.801									
1202003510	3-Nitrotoluene	137 > 46			16597.801									
1202003510	PETN	361 > 62			16597.801									

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 936358

Lab Code: GEL

GEL Job No (SDG) 10–1032

Matrix: SOIL

GEL Sample ID: 1202003510

Sample Amount 2

Moisture:

Amount Units g

Date Received: 23–DEC–09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29–DEC–09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070027.wiff

Date Analyzed: 07–JAN–10 21:03

Units: ug/kg

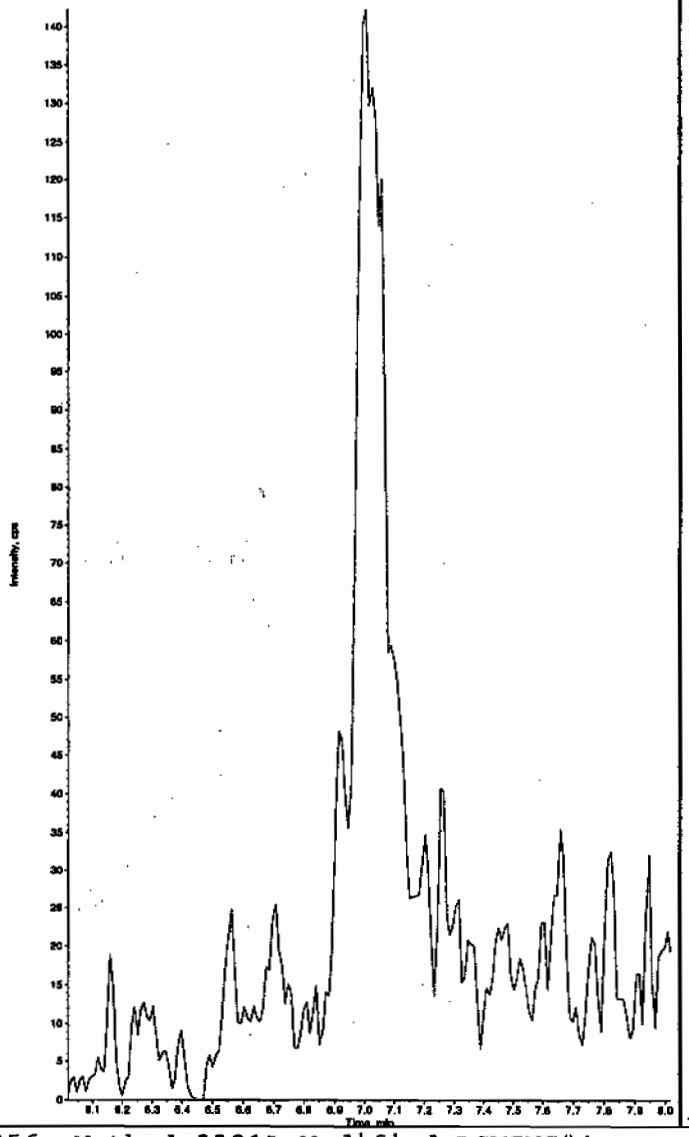
Cas No.	Compound	Concentration*	Q
3058–38–6	TATB	1000	U
59229–75–3	2,6–Diamino–4–nitrotoluene	2000	U
618–87–1	3,5–Dinitroaniline	1000	U
6629–29–4	2,4–Diamino–6–nitrotoluene	2000	U
78–30–8	tris(o–cresyl) phosphate	1000	U

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

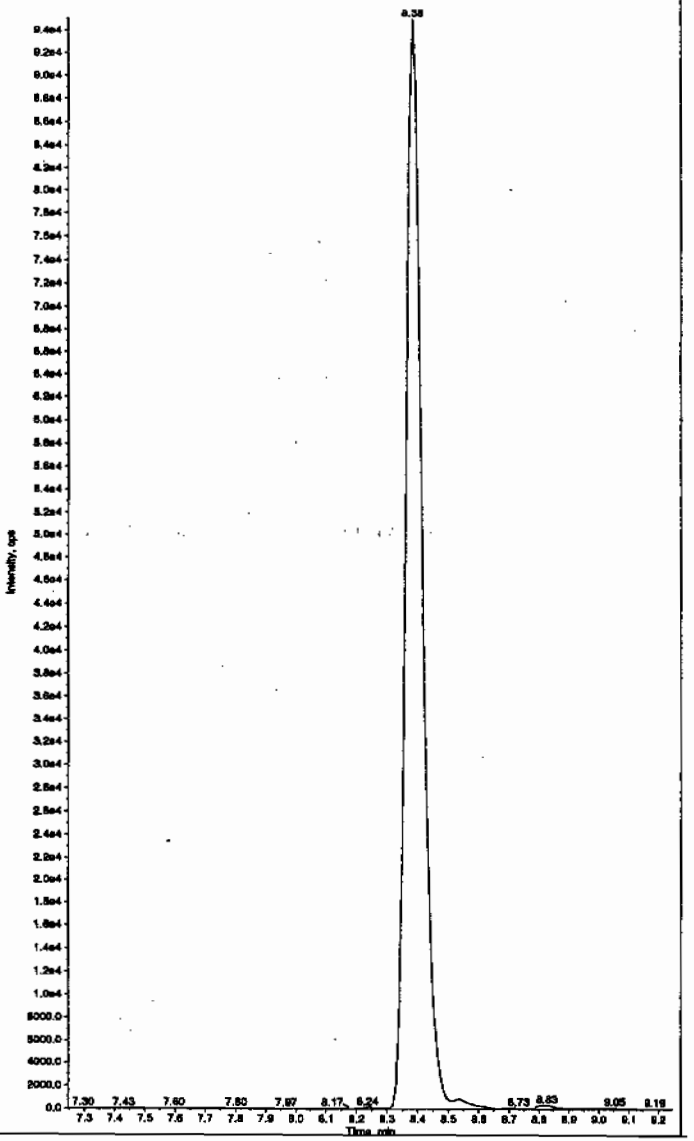
Sample Name: "1202003510" Sample ID: "936359[2]LER" File: "EXS01070027.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:03:48 PM

Modified: No



Sample Name: "1202003510" Sample ID: "936359[2]LER" File: "EXS01070027.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:03:48 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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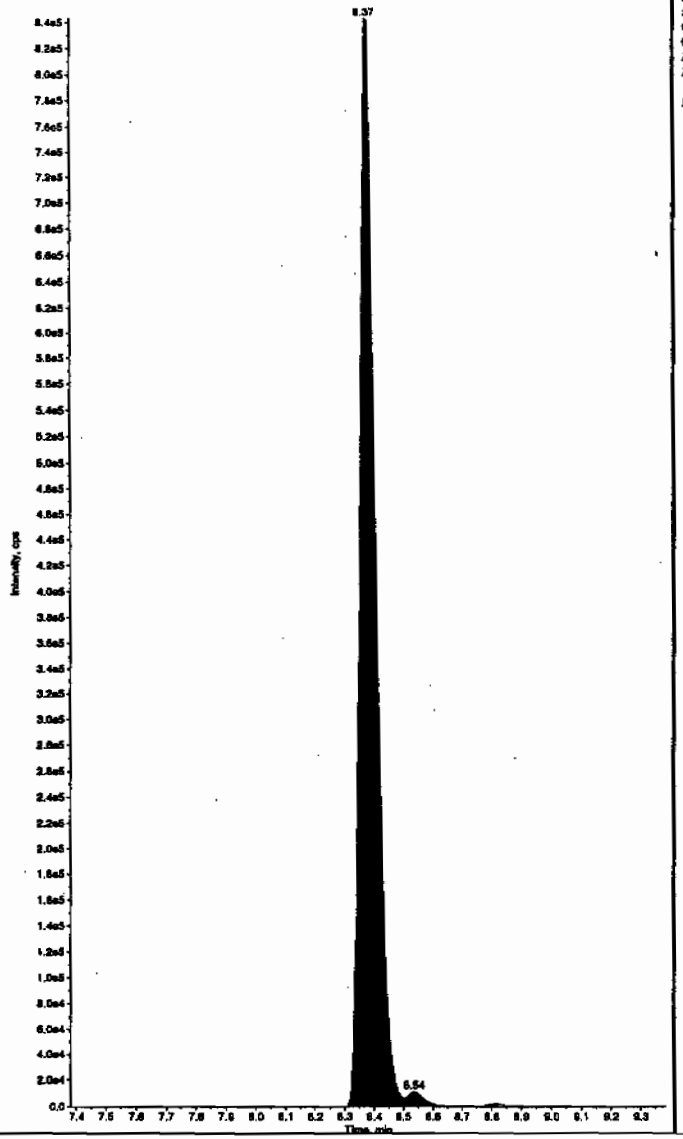
Sample Name: "1202003510" Sample ID: "936359[2]LER" File: "EXS01070027.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 246. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:03:48 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

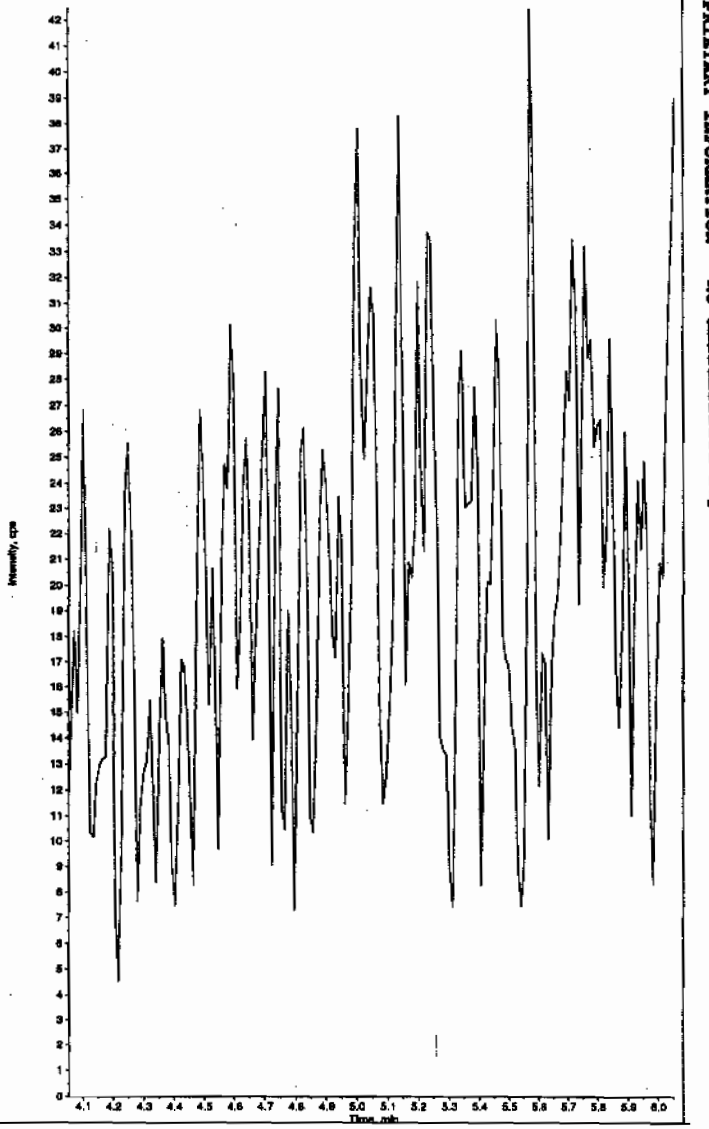
Int. Type: Valley
Retention Time: 8.37 min
Area: 3.24e+006 counts
Height: 843851.624 cps
Start Time: 8.29 min
End Time: 8.73 min



Sample Name: "1202003510" Sample ID: "936359[2]LER" File: "EXS01070027.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:03:48 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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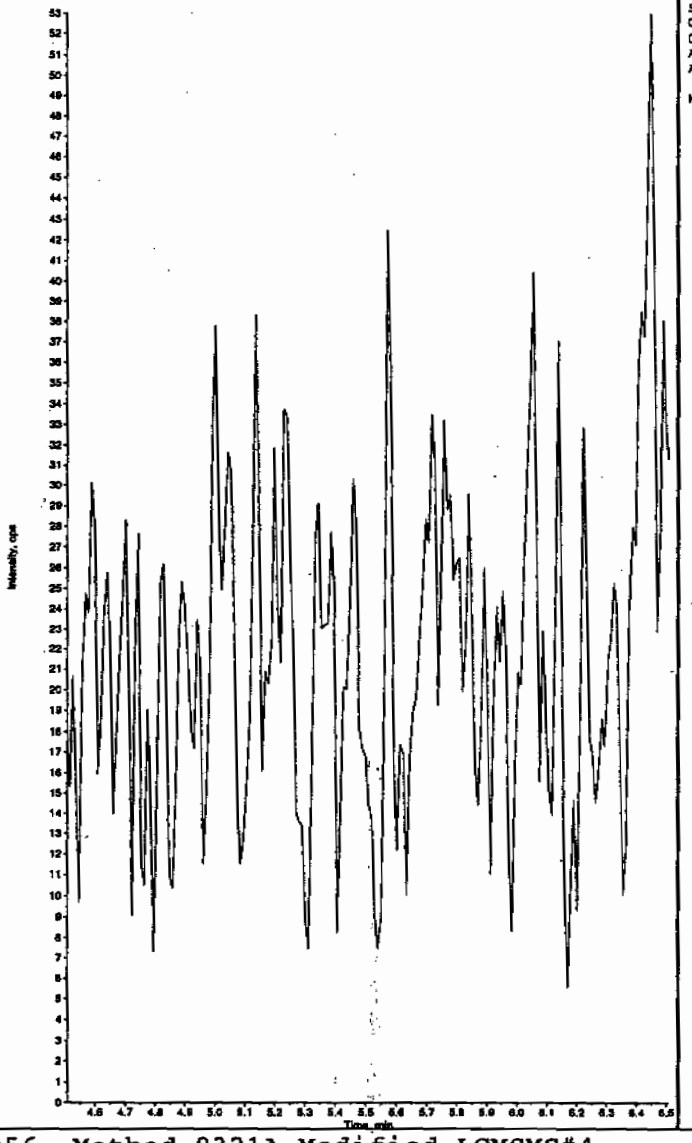
Sample Name: "1202003510" Sample ID: "936359[2].LER" File: "EXS01070027.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:03:48 PM

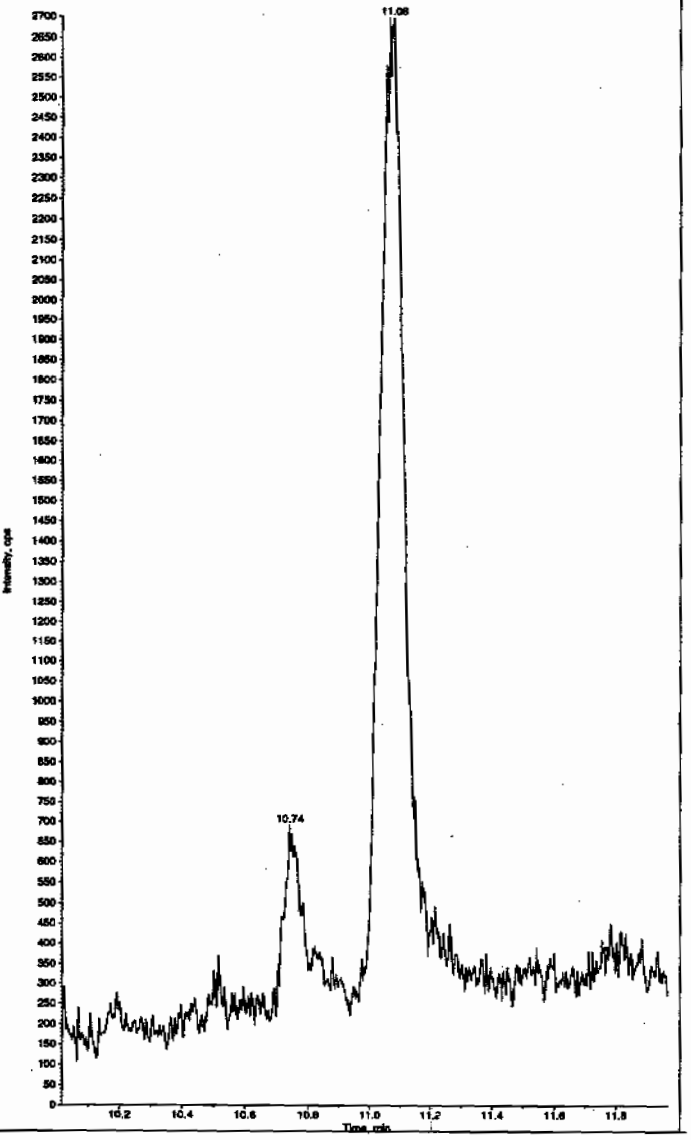
Modified: No



Sample Name: "1202003510" Sample ID: "936359[2].LER" File: "EXS01070027.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:03:48 PM

Modified: No



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 936358

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 1202003511

Sample Amount 2

Moisture:

Amount Units g

Date Received: 23-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115023a

Date Analyzed: 16-JAN-10 01:42

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	5580	
121-14-2	2,4-Dinitrotoluene	5540	
121-82-4	RDX	5010	
19406-51-0	4-Amino-2,6-dinitrotoluene	5300	
2691-41-0	HMX	4940	
35572-78-2	2-Amino-4,6-dinitrotoluene	5870	
479-45-8	Tetryl	3760	
606-20-2	2,6-Dinitrotoluene	5090	
78-11-5	PETN	5450	
88-72-2	o-Nitrotoluene	4760	
98-95-3	Nitrobenzene	4440	
99-08-1	m-Nitrotoluene	4390	
99-35-4	1,3,5-Trinitrobenzene	4560	
99-65-0	m-Dinitrobenzene	4730	
99-99-0	p-Nitrotoluene	4970	

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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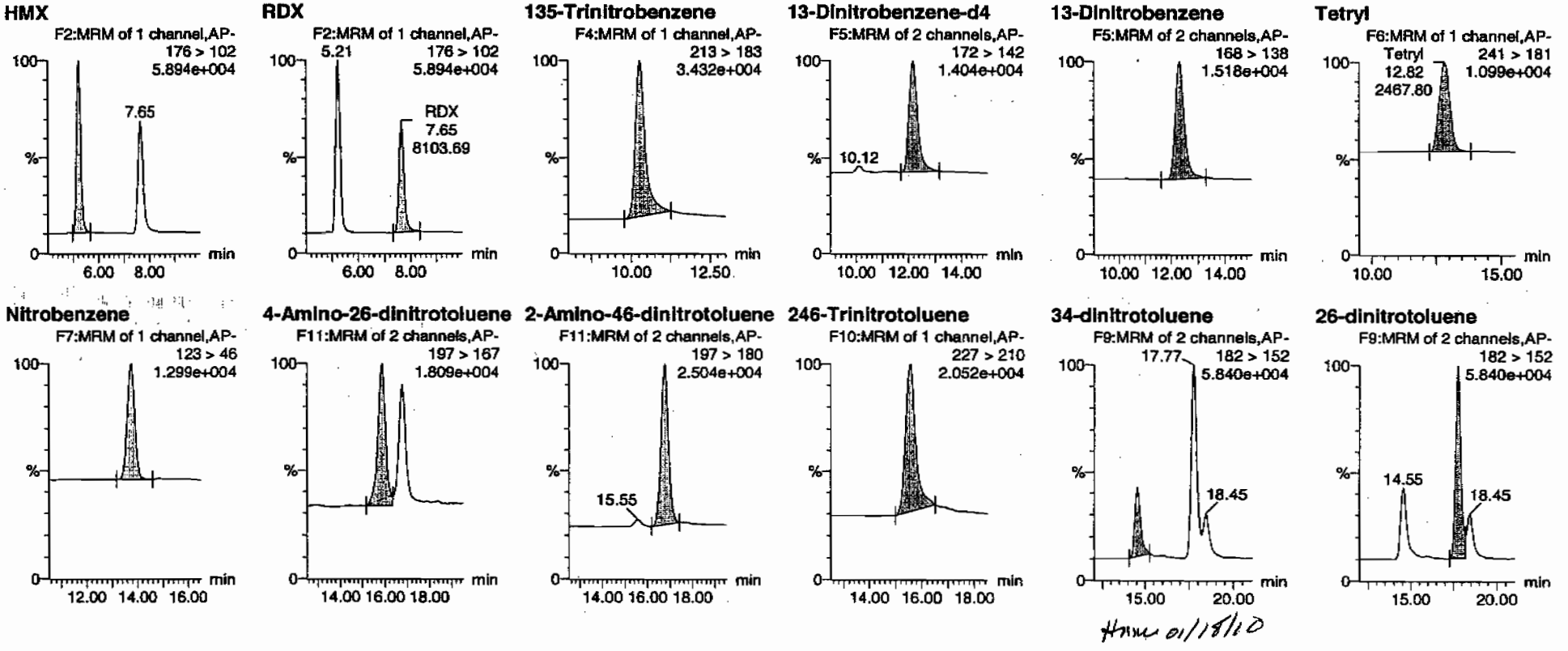
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115023a
Date: 16-Jan-2010
Time: 01:42:40
ID: 1202003511 | LANL | 936359 | Solid | LCS | 2 |
Vial: 1:5,B

MAP 1/16/10

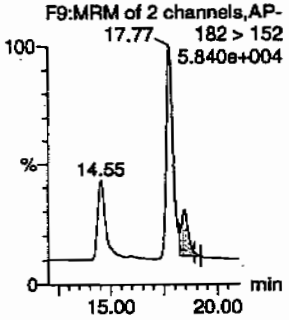


Hmw 01/18/10

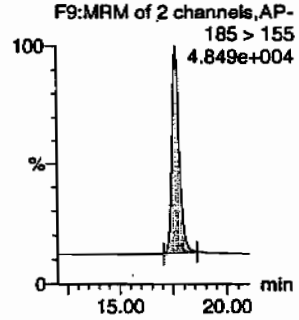
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

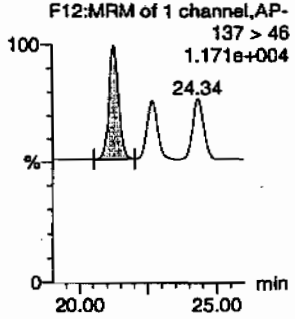
24-dinitrotoluene



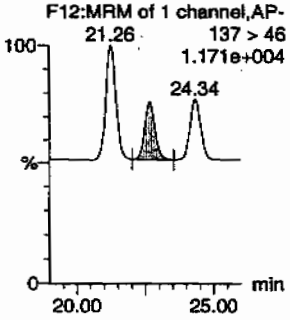
26-dinitrotoluene-d3



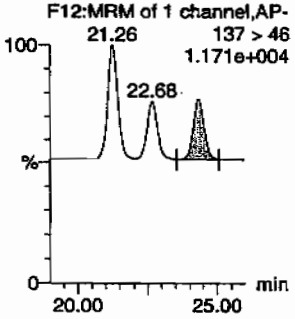
2-Nitrotoluene



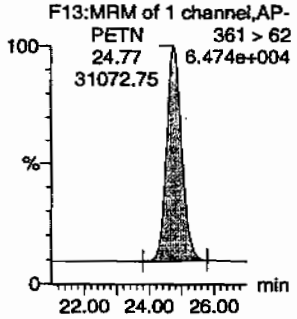
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	S/Area	Abs.Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
1202003511	HMX	176 > 102	5.21	10487.032	3127.020	10487.032	1676.841	bb			494.4222	98.9	-1.1	1178.5
1202003511	RDX	176 > 102	7.65	8103.685	3127.020	8103.685	1295.752	bb			500.5669	100.1	0.1	771.0
1202003511	135-Trinitrobenzene	213 > 183	10.27	10263.862	3127.020	10263.862	1641.157	bb			456.2404	91.2	-8.8	3972.6
1202003511	13-Dinitrobenzene-d4	172 > 142	12.17	3127.020		3127.020	3127.020	bb			565.2003	113.0	13.0	613.3
1202003511	13-Dinitrobenzene	168 > 138	12.31	3631.400	3127.020	3631.400	580.649	bb			473.4444	94.7	-5.3	368.2
1202003511	Tetryl	241 > 181	12.82	2467.798	3127.020	2467.798	394.593	bb			375.5768	75.1	-24.9	143.1
1202003511	Nitrobenzene	123 > 46	13.75	2469.648	3127.020	2469.648	394.888	bb			444.0150	88.8	-11.2	186.9
1202003511	4-Amino-26-dinitrotoluene	197 > 167	15.86	4959.494	17054.992	4959.494	145.397	MM	16-Jan-10	13:26:57	529.6463	105.9	5.9	222.3
1202003511	2-Amino-46-dinitrotoluene	197 > 180	16.76	7188.783	17054.992	7188.783	210.753	bb			587.4480	117.5	17.5	264.2
1202003511	246-Trinitrotoluene	227 > 210	15.57	6413.286	17054.992	6413.286	188.018	bb			558.0992	111.6	11.6	369.4
1202003511	34-dinitrotoluene	182 > 152	14.55	7370.637	17054.992	7370.637	216.084	bb			241.4778	96.6	-3.4	113.6
1202003511	26-dinitrotoluene	182 > 152	17.77	18855.064	17054.992	18855.064	552.773	MM	16-Jan-10	13:31:37	509.1012	101.8	1.8	317.6
1202003511	24-dinitrotoluene	182 > 152	18.45	4501.392	17054.992	4501.392	131.967	MM	16-Jan-10	13:35:31	554.1356	110.8	10.8	67.5
1202003511	26-dinitrotoluene-d3	185 > 155	17.59	17054.992		17054.992	17054.992	bb			535.7970	107.2	7.2	1691.9
1202003511	2-Nitrotoluene	137 > 46	21.26	2430.352	17054.992	2430.352	71.250	bb			475.6761	95.1	-4.9	664.6
1202003511	4-Nitrotoluene	137 > 46	22.68	1295.634	17054.992	1295.634	37.984	bb			496.6749	99.3	-0.7	339.9
1202003511	3-Nitrotoluene	137 > 46	24.34	1428.283	17054.992	1428.283	41.873	bb			439.4599	87.9	-12.1	356.3
1202003511	PETN	361 > 62	24.77	31072.752	17054.992	31072.752	910.958	bb			545.0517	109.0	9.0	2040.9

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 936358

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 1202003511

Sample Amount 2

Moisture:

Amount Units g

Date Received: 23-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070028.wiff

Date Analyzed: 07-JAN-10 21:19

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	7300	
59229-75-3	2,6-Diamino-4-nitrotoluene	4330	
618-87-1	3,5-Dinitroaniline	5320	
6629-29-4	2,4-Diamino-6-nitrotoluene	3870	
78-30-8	tris(o-cresyl) phosphate	4950	

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

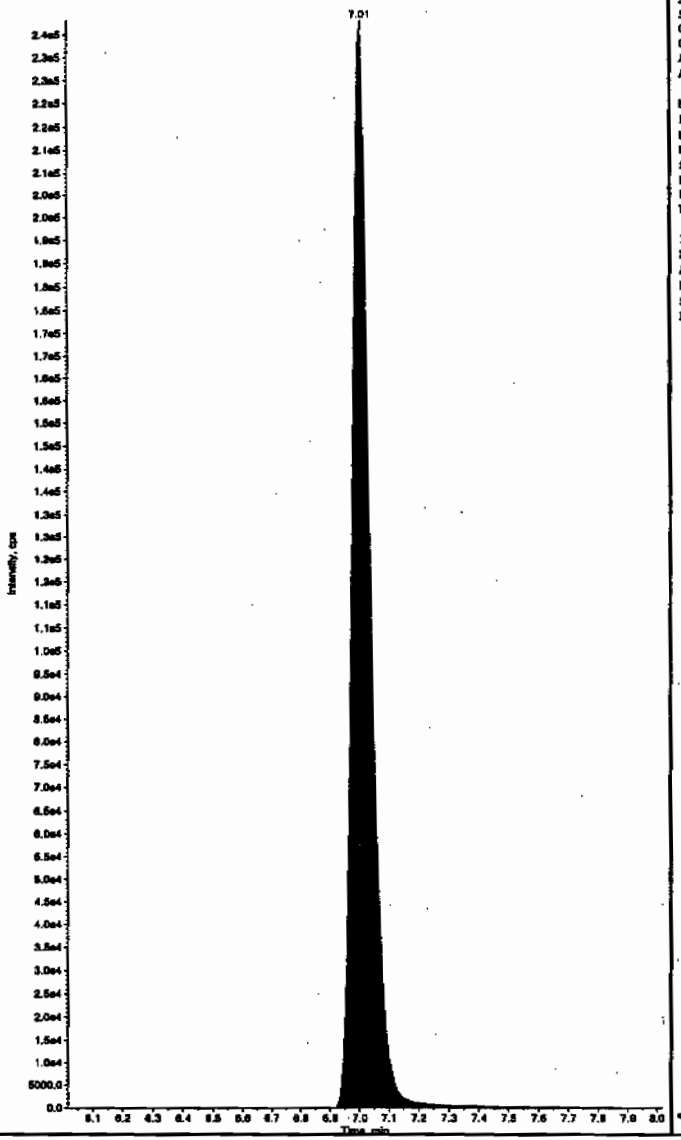
Before Ran 1/8/10

Sample Name: "1202003511" Sample ID: "936359|2|LER" File: "EXS01070028.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 730. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:19:28 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.01 min
Area: 1.05e+006 counts
Height: 238422.150 cps
Start Time: 6.89 min
End Time: 7.54 min

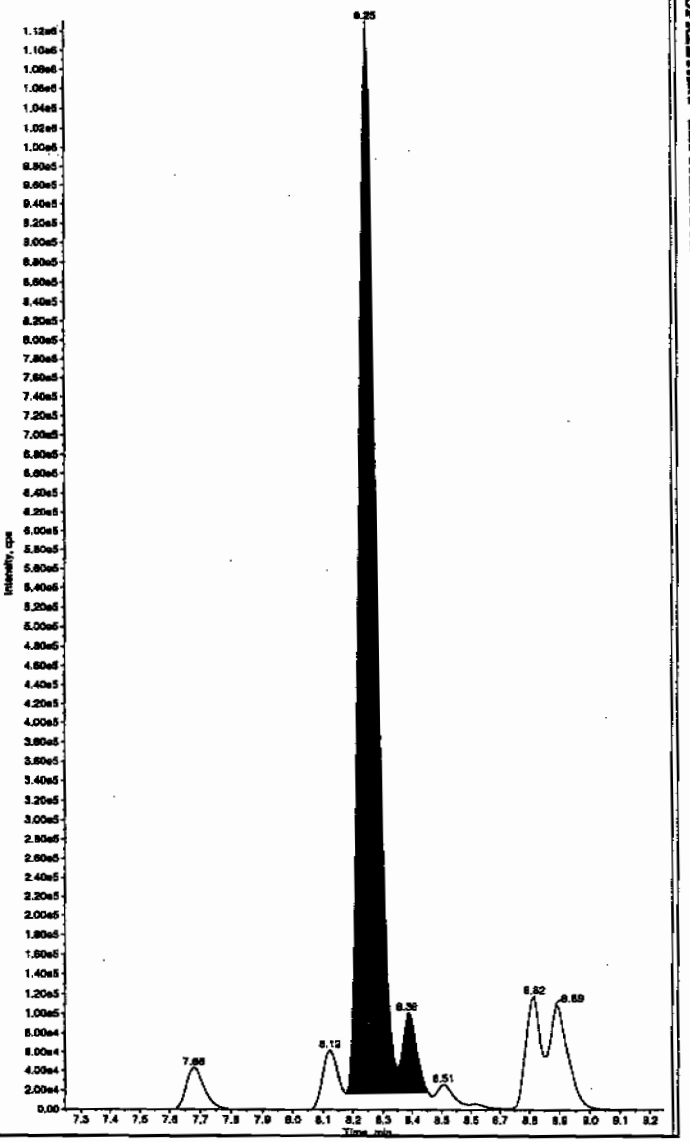


Sample Name: "1202003511" Sample ID: "936359|2|LER" File: "EXS01070028.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 549. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:19:28 PM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.25 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.25 min
Area: 4.81e+006 counts
Height: 1114794.312 cps
Start Time: 8.17 min
End Time: 8.45 min



Hmm 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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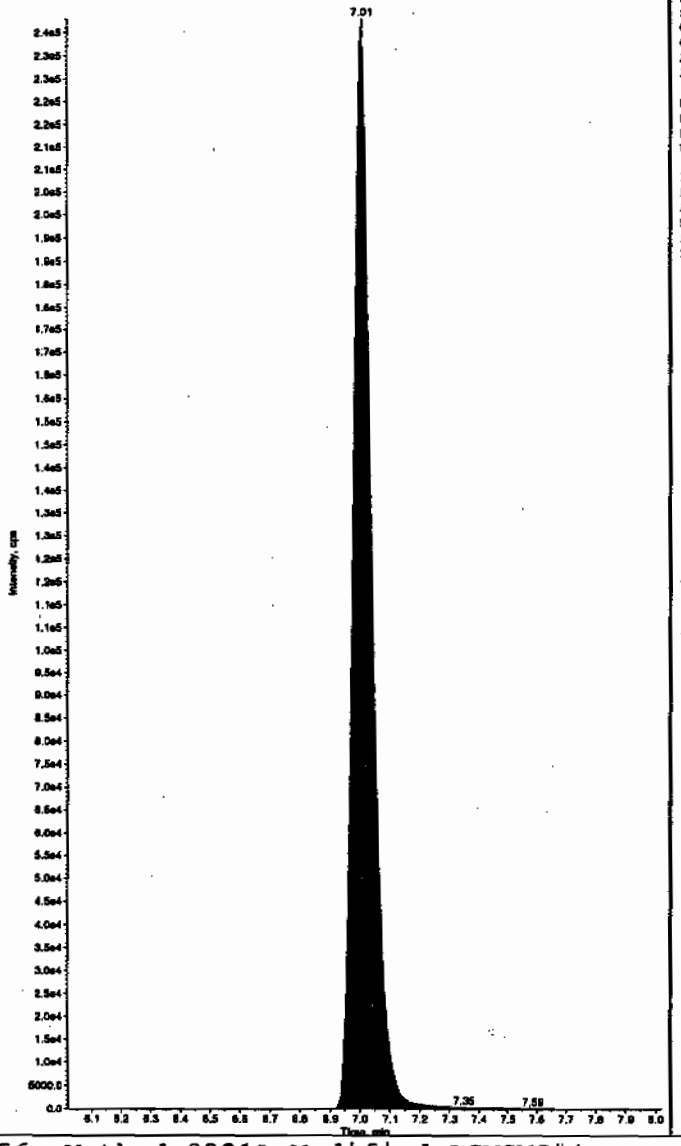
after Lar 1/8/10

Sample Name: "1202003511" Sample ID: "936359[2]LER" File: "EXS01070028.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 730. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:19:28 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.01 min
Area: 1.05e+006 counts
Height: 238422.150 cps
Start Time: 6.89 min
End Time: 7.54 min

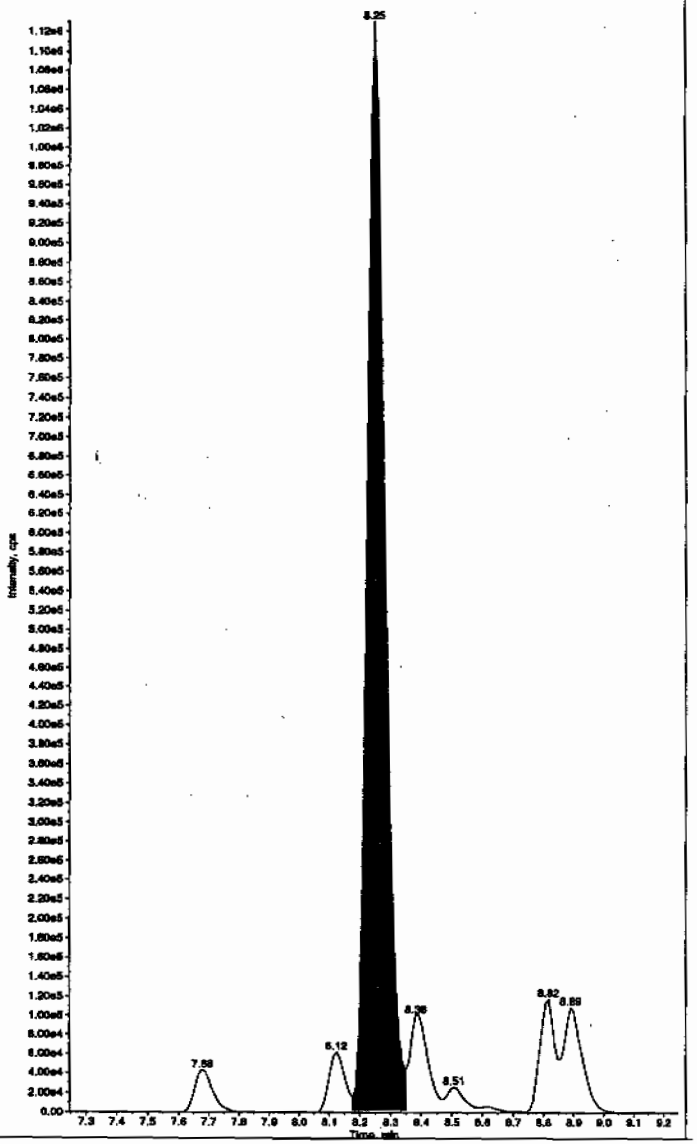


Sample Name: "1202003511" Sample ID: "936359[2]LER" File: "EXS01070028.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 532. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:19:28 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.25 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.25 min
Area: 4.67e+006 counts
Height: 1129428.072 cps
Start Time: 8.17 min
End Time: 8.35 min



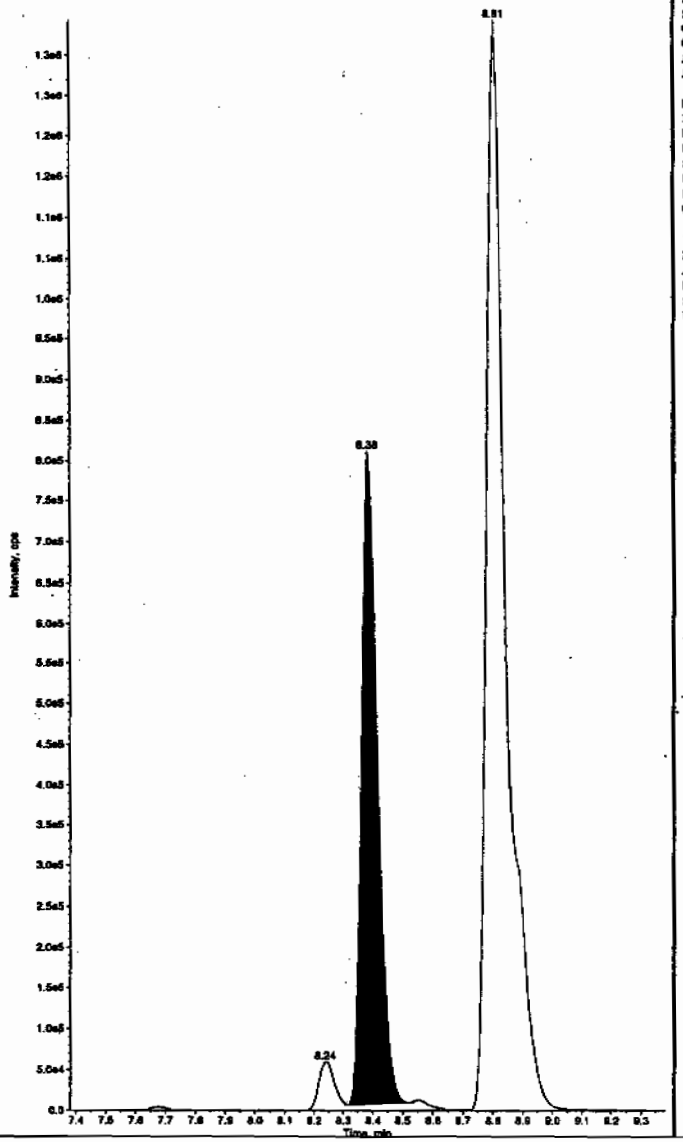
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "1202003511" Sample ID: "936359[2]LER" File: "EXS01070028.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 232. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:19:28 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.38 min
Area: 3.06e+006 counts
Height: 804674.500 cps
Start Time: 8.32 min
End Time: 8.53 min

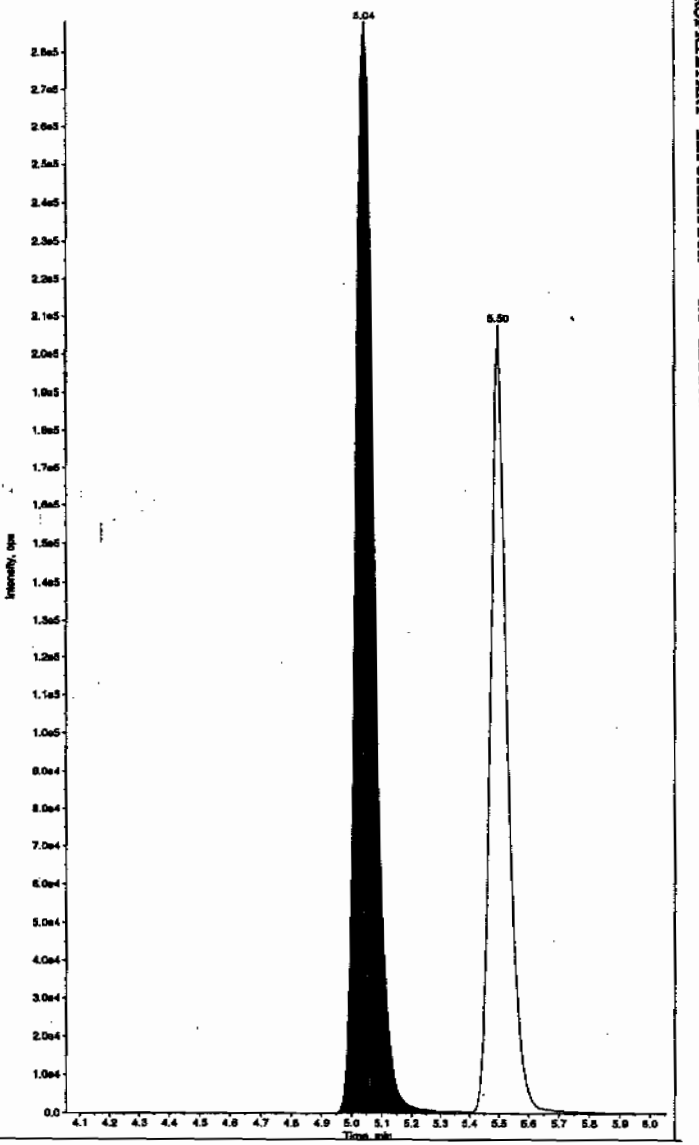


Sample Name: "1202003511" Sample ID: "936359[2]LER" File: "EXS01070028.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 433. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:19:28 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.05 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.04 min
Area: 1.28e+006 counts
Height: 288210.419 cps
Start Time: 4.94 min
End Time: 5.31 min



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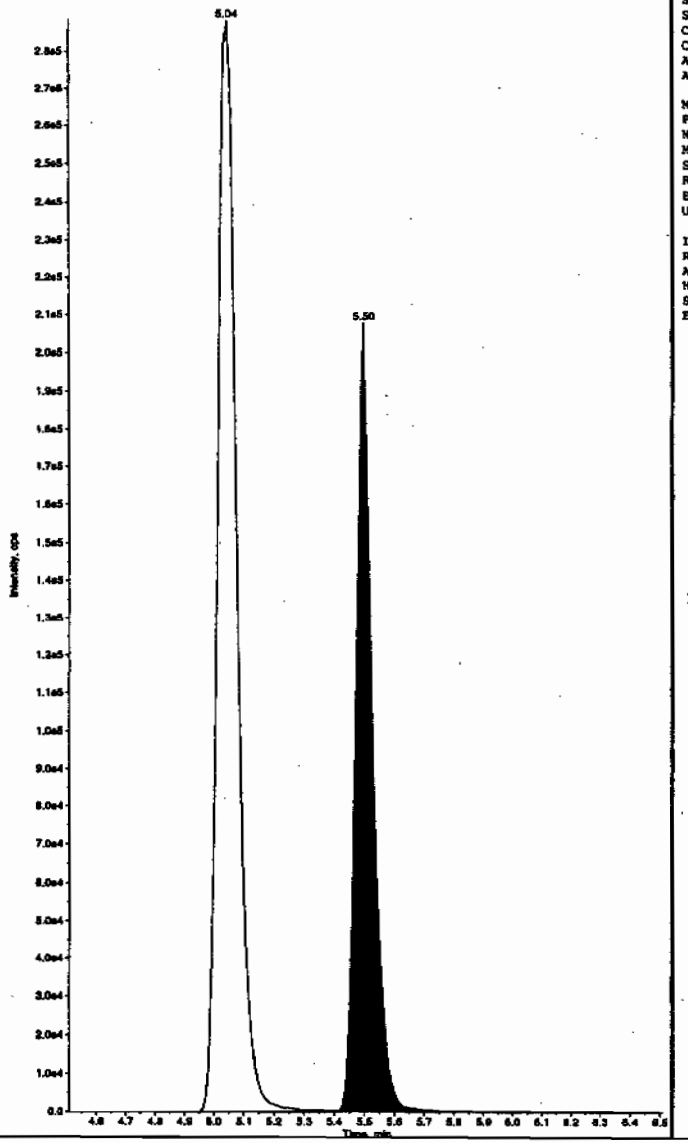
Sample Name: "1202003511" Sample ID: "936359|2|LER" File: "EXS01070028.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 387. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:19:28 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.51 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.50 min
Area: 8.18e+005 counts
Height: 207950.180 cps
Start Time: 5.41 min
End Time: 5.98 min

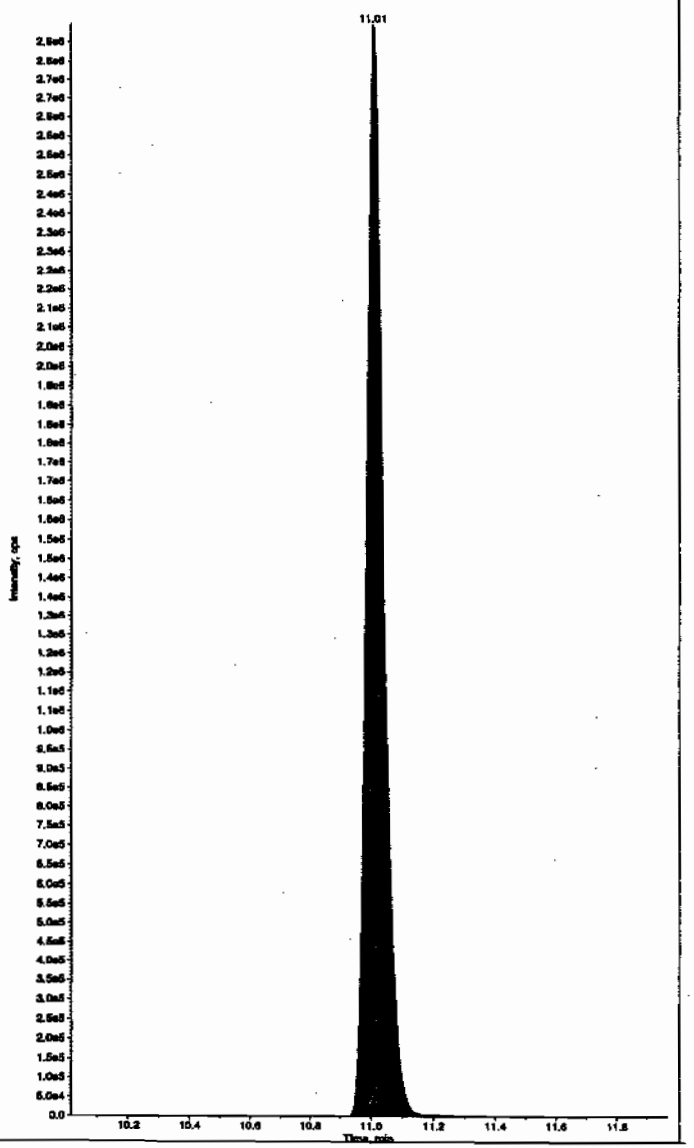


Sample Name: "1202003511" Sample ID: "936359|2|LER" File: "EXS01070028.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "368.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 495. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:19:28 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 11.0 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 11.0 min
Area: 1.12e+007 counts
Height: 2846899.414 cps
Start Time: 10.9 min
End Time: 11.3 min



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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7580(243385001MS)

Lab Code: GEL

GEL Job No (SDG) 10--1032

Matrix: SOIL

GEL Sample ID: 1202003512

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0115025a

Date Analyzed: 16-JAN-10 02:41

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	5290	
121-14-2	2,4-Dinitrotoluene	5810	
121-82-4	RDX	4850	
19406-51-0	4-Amino-2,6-dinitrotoluene	4750	
2691-41-0	HMX	4880	
35572-78-2	2-Amino-4,6-dinitrotoluene	5870	
479-45-8	Tetryl	2860	
606-20-2	2,6-Dinitrotoluene	4870	
78-11-5	PETN	4810	
88-72-2	o-Nitrotoluene	4660	
98-95-3	Nitrobenzene	4770	
99-08-1	m-Nitrotoluene	3750	
99-35-4	1,3,5-Trinitrobenzene	4880	
99-65-0	m-Dinitrobenzene	5480	
99-99-0	p-Nitrotoluene	4130	

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0115025a
Date: 16-Jan-2010
Time: 02:41:39
ID: 1202003512 | LANL | 936359 | Soils | 243385001MS | 2
Vial: 1:5,D

MOP 1/16/10

HMX
F2:MRM of 1 channel,AP-
176 > 102
5.675e+004
7.66

RDX
F2:MRM of 1 channel,AP-
176 > 102
5.675e+004
5.22
RDX
7.66
7674.34

135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
3.653e+004

13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.430e+004
10.14

13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.676e+004

Tetryl
F6:MRM of 1 channel,AP-
Tetryl
241 > 181
12.83
9.905e+003
1852.75

Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.349e+004

4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
1.878e+004

2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.734e+004

246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.276e+004

34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
17.77
5.786e+004
18.45

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.786e+004
14.56
18.45

HMW 01/18/10

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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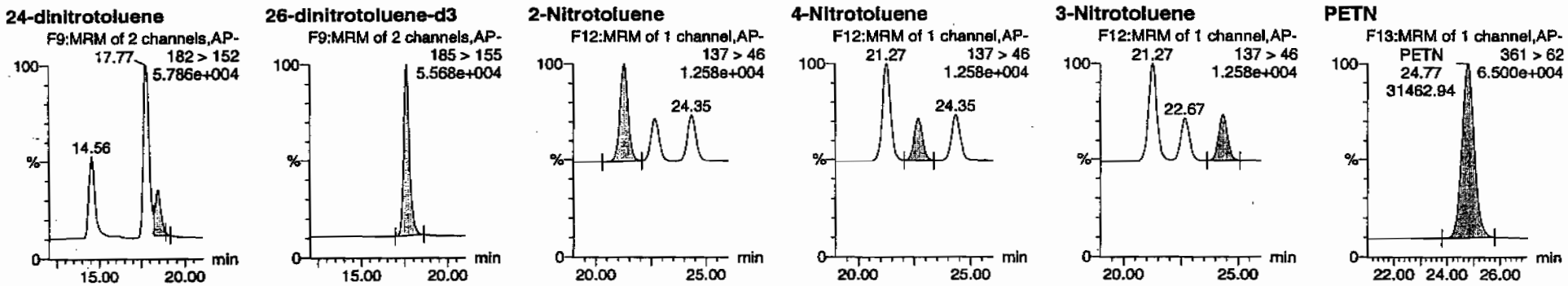
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011510expA.qld, Time: Sat Jan 16 13:38:38 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
1202003512	HMX	176 > 102	5.22	10105.733	3053.757	10105.733	1654.639	db			487.8759	97.6	-2.4	815.2
1202003512	RDX	176 > 102	7.66	7674.339	3053.757	7674.339	1256.541	bb			485.4190	97.1	-2.9	533.0
1202003512	135-Trinitrobenzene	213 > 183	10.27	10728.823	3053.757	10728.823	1756.660	bb			488.3500	97.7	-2.3	708.8
1202003512	13-Dinitrobenzene-d4	172 > 142	12.18	3053.757		3053.757	3053.757	bb			551.9582	110.4	10.4	224.4
1202003512	13-Dinitrobenzene	168 > 138	12.31	4104.012	3053.757	4104.012	671.961	bb			547.8979	109.6	9.6	483.1
1202003512	Tetryl	241 > 181	12.83	1852.746	3053.757	1852.746	303.355	bb			286.3469	57.3	-42.7	370.5
1202003512	Nitrobenzene	123 > 46	13.72	2589.999	3053.757	2589.999	424.068	bb			476.8243	95.4	-4.6	316.6
1202003512	4-Amino-26-dinitrotoluene	197 > 167	15.86	5080.472	19471.318	5080.472	130.460	MM	16-Jan-10	13:27:07	475.2354	95.0	-5.0	103.2
1202003512	2-Amino-46-dinitrotoluene	197 > 180	16.76	8196.615	19471.318	8196.615	210.479	bb			586.6847	117.3	17.3	571.9
1202003512	246-Trinitrotoluene	227 > 210	15.55	6941.197	19471.318	6941.197	178.242	bb			529.0800	105.8	5.8	268.5
1202003512	34-dinitrotoluene	182 > 152	14.56	9232.271	19471.318	9232.271	237.074	bb			264.9335	106.0	6.0	270.1
1202003512	26-dinitrotoluene	182 > 152	17.77	20601.893	19471.318	20601.893	529.032	MM	16-Jan-10	13:31:44	487.2361	97.4	-2.6	581.6
1202003512	24-dinitrotoluene	182 > 152	18.45	5388.601	19471.318	5388.601	138.373	MM	16-Jan-10	13:35:48	581.0338	116.2	16.2	151.7
1202003512	26-dinitrotoluene-d3	185 > 155	17.60	19471.318		19471.318	19471.318	bb			611.7079	122.3	22.3	2212.6
1202003512	2-Nitrotoluene	137 > 46	21.27	2719.797	19471.318	2719.797	69.841	bb			466.2672	93.3	-6.7	556.5
1202003512	4-Nitrotoluene	137 > 46	22.67	1228.955	19471.318	1228.955	31.558	bb			412.6502	82.5	-17.5	242.9
1202003512	3-Nitrotoluene	137 > 46	24.35	1390.755	19471.318	1390.755	35.713	bb			374.8106	75.0	-25.0	263.6
1202003512	PETN	361 > 62	24.77	31462.941	19471.318	31462.941	807.930	bb			481.1072	96.2	-3.8	5460.8

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7580(243385001MS)

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 1202003512

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070030.wiff

Date Analyzed: 07-JAN-10 21:50

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	12400	
59229-75-3	2,6-Diamino-4-nitrotoluene	4080	
618-87-1	3,5-Dinitroaniline	4290	
6629-29-4	2,4-Diamino-6-nitrotoluene	3430	
78-30-8	tris(o-cresyl) phosphate	4090	

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

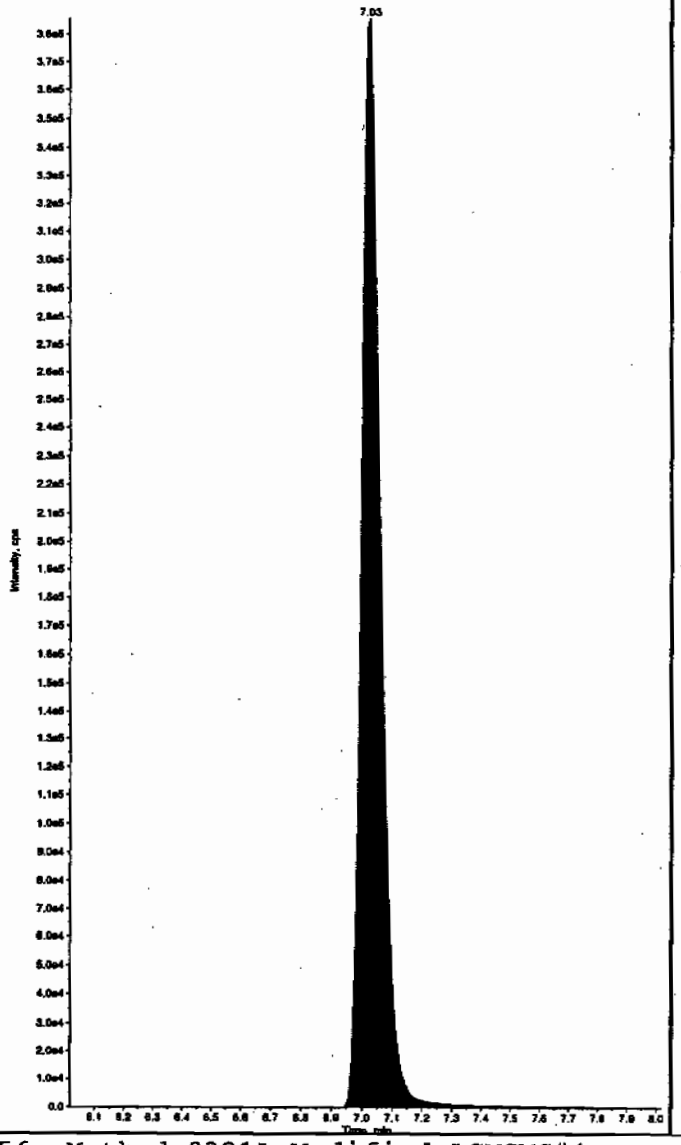
Before Sen 1/8/10

Sample Name: "1202003512" Sample ID: "936359|2|LER" File: "EXS01070030.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 1240. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:50:54 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 1.75e+006 counts
Height: 386290.131 cps
Start Time: 6.91 min
End Time: 7.53 min

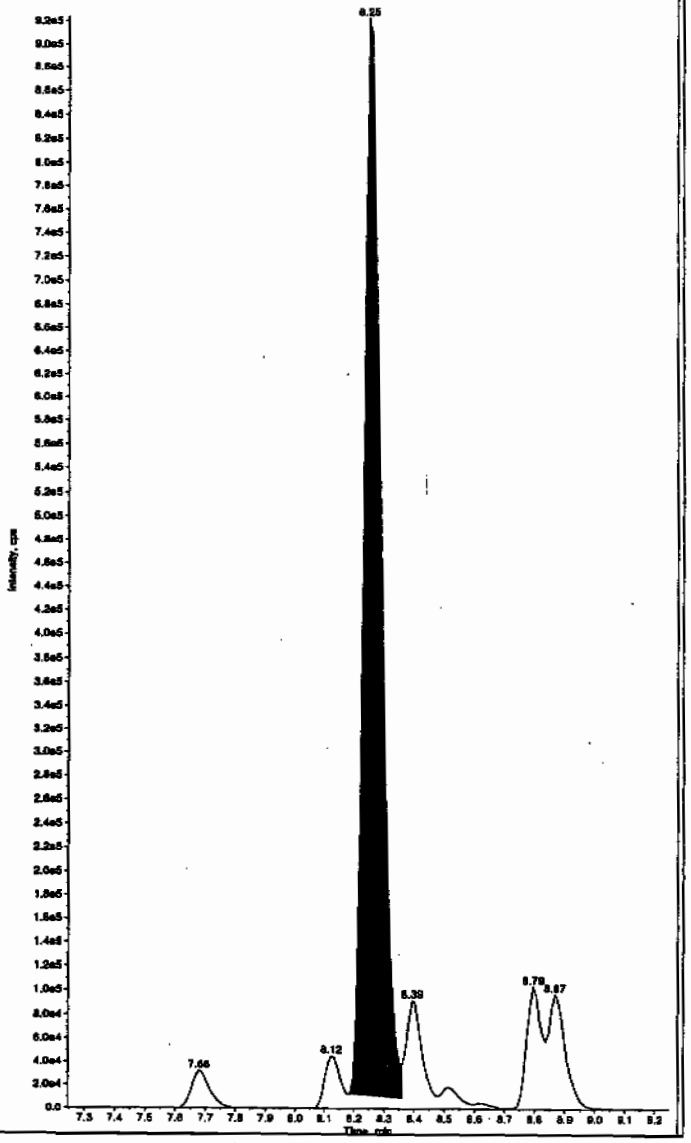


Sample Name: "1202003512" Sample ID: "936359|2|LER" File: "EXS01070030.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "162.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 419. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:50:54 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.25 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.25 min
Area: 3.74e+006 counts
Height: 912678.589 cps
Start Time: 8.19 min
End Time: 8.36 min



HMM 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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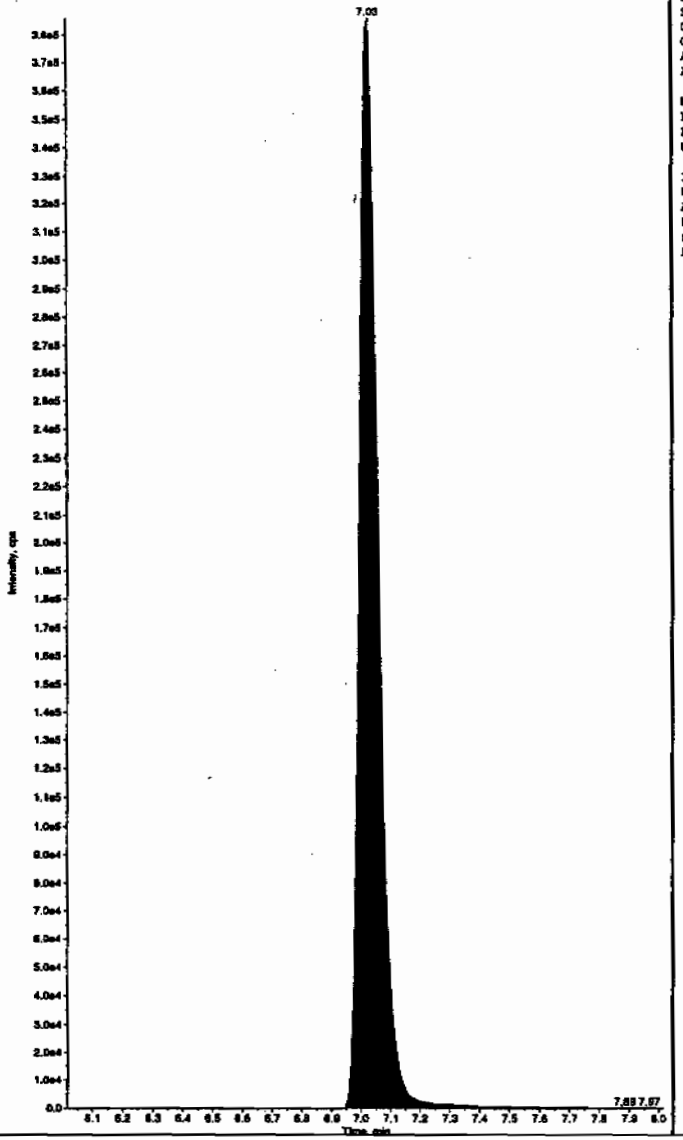
after Lan 1/8/10

Sample Name: "1202003512" Sample ID: "936359|2|LER" File: "EXS01070030.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 1240. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:50:54 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 1.75e+006 counts
Height: 366290.131 cps
Start Time: 6.91 min
End Time: 7.53 min

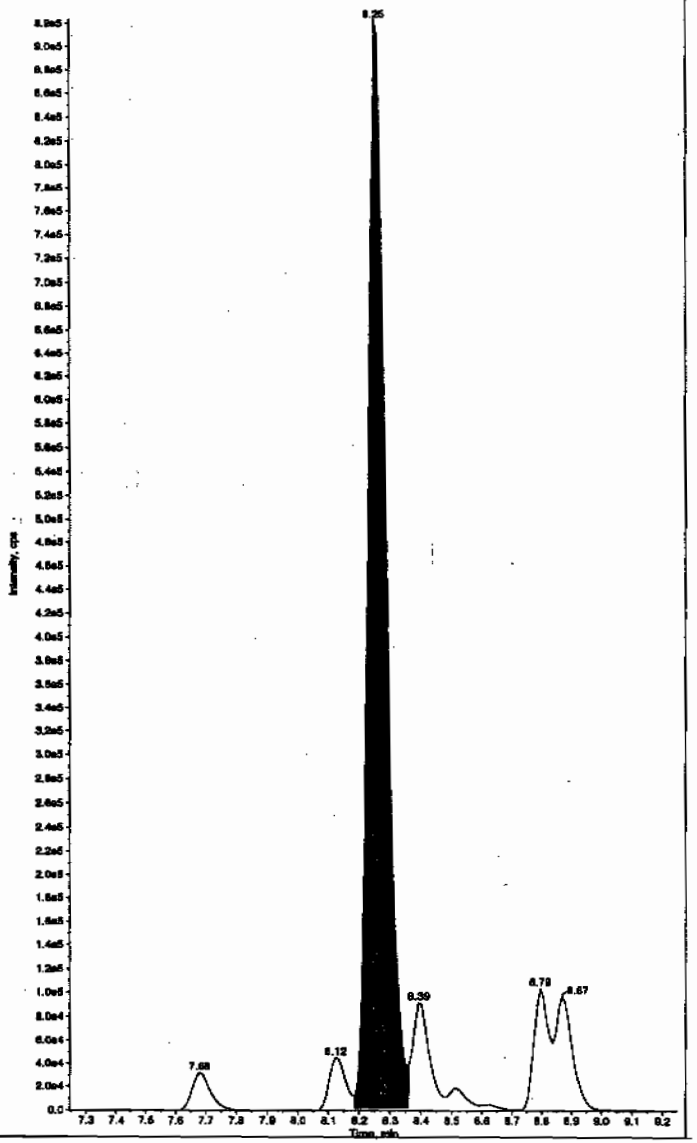


Sample Name: "1202003512" Sample ID: "936359|2|LER" File: "EXS01070030.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 429. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:50:54 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.25 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.25 min
Area: 3.82e+006 counts
Height: 939364.646 cps
Start Time: 8.19 min
End Time: 8.36 min



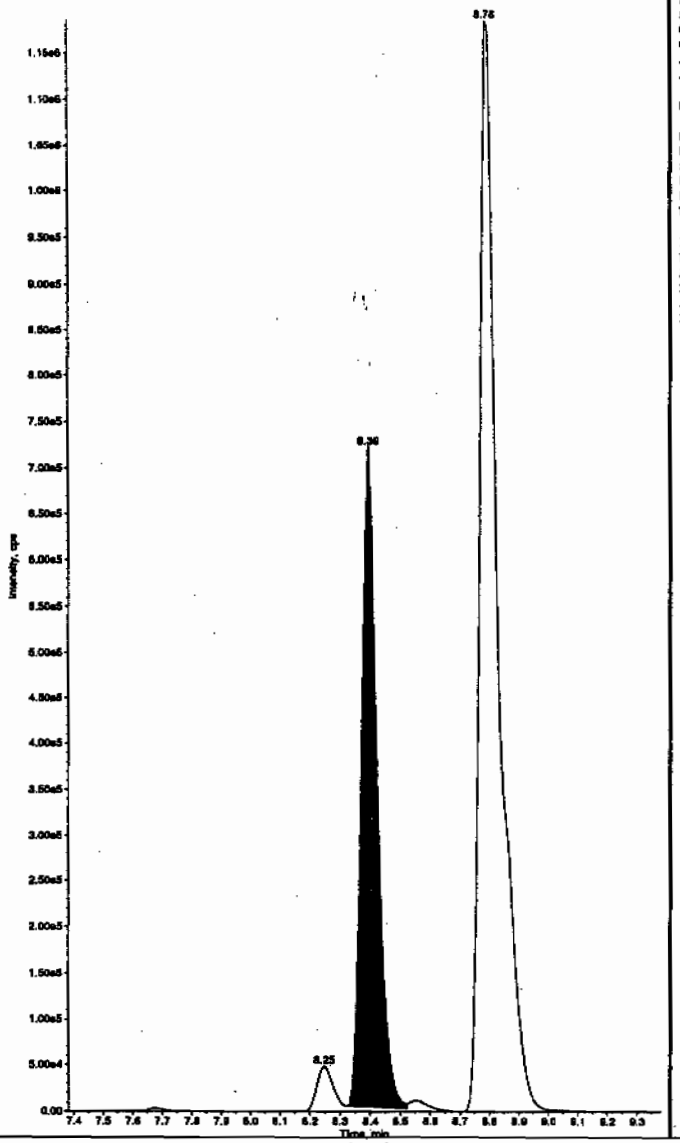
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "1202003512" Sample ID: "936359[2]LER" File: "EXS01070030.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 198. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:50:54 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.39 min
Area: 2.53e+006 counts
Height: 718726.563 cps
Start Time: 8.32 min
End Time: 8.53 min

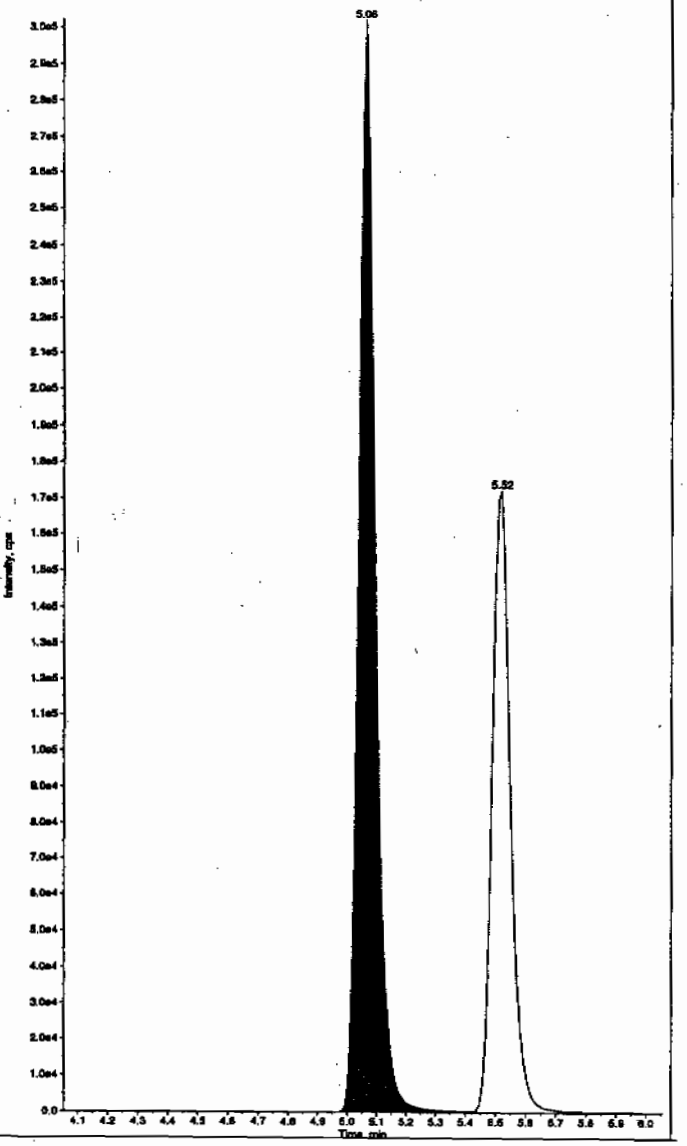


Sample Name: "1202003512" Sample ID: "936359[2]LER" File: "EXS01070030.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 408. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:50:54 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.05 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.06 min
Area: 1.21e+006 counts
Height: 302313.141 cps
Start Time: 4.93 min
End Time: 5.35 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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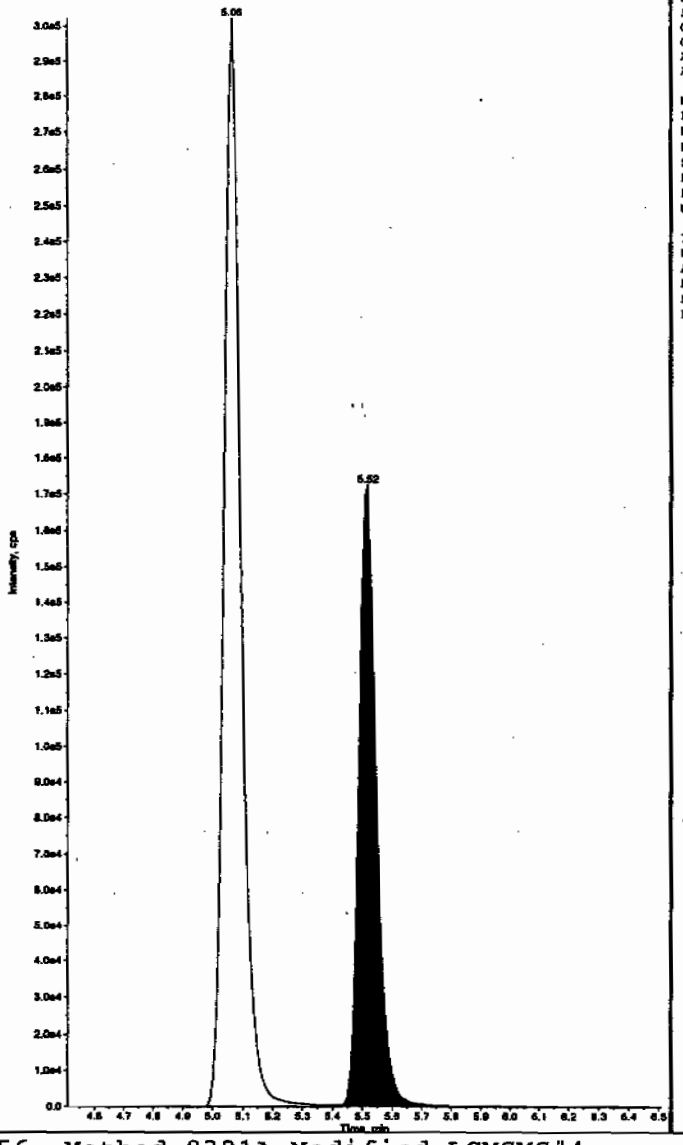
Sample Name: "1202003512" Sample ID: "936359[2]LER" File: "EXS01070030.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 343. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:50:54 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.51 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.52 min
Area: 7.29e+005 counts
Height: 172355.820 cps
Start Time: 5.43 min
End Time: 5.85 min

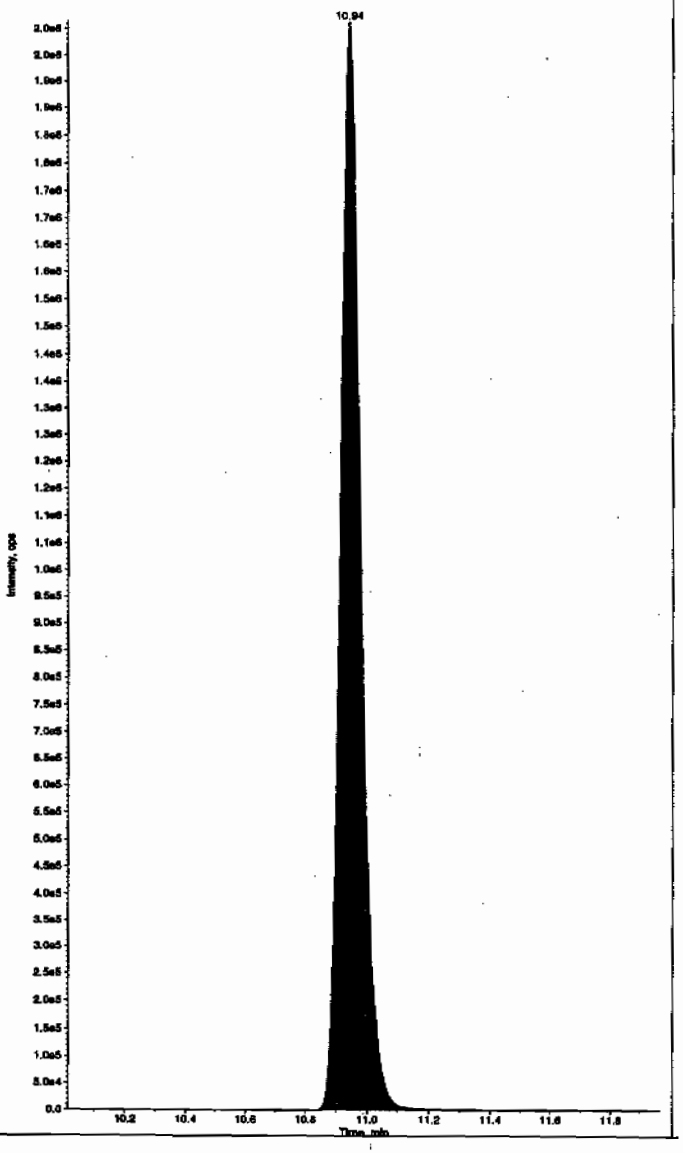


Sample Name: "1202003512" Sample ID: "936359[2]LER" File: "EXS01070030.wiff"
Peak Name: "Iris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 409. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 9:50:54 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 11.0 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 9.45e+006 counts
Height: 2015736.572 cps
Start Time: 10.8 min
End Time: 11.2 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7580(243385001MSD)

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 1202003513

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0117013a

Date Analyzed: 18-JAN-10 00:04

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	4660	
121-14-2	2,4-Dinitrotoluene	5050	
121-82-4	RDX	4330	
19406-51-0	4-Amino-2,6-dinitrotoluene	4990	
2691-41-0	HMX	4080	
35572-78-2	2-Amino-4,6-dinitrotoluene	4900	
479-45-8	Tetryl	2280	
606-20-2	2,6-Dinitrotoluene	4800	
78-11-5	PETN	3940	
88-72-2	o-Nitrotoluene	4890	
98-95-3	Nitrobenzene	4610	
99-08-1	m-Nitrotoluene	5650	
99-35-4	1,3,5-Trinitrobenzene	4240	
99-65-0	m-Dinitrobenzene	4650	
99-99-0	p-Nitrotoluene	4780	

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0117013a
Date: 18-Jan-2010
Time: 00:04:53
ID: 1202003513 | LANC | 936359 | Soil | 243385001MSD | 2 |
Vial: 1:4,A

MAT 1/18/10

HMX
F2:MRM of 1 channel,AP-
176 > 102
6.924e+004
7.64

RDX
F2:MRM of 1 channel,AP-
176 > 102
6.924e+004
5.22
RDX
7.64
9860.55

135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
3.814e+004

13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.690e+004
10.10

13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.877e+004

Tetryl
F6:MRM of 1 channel,AP-
241 > 181
9.809e+003
Tetryl
12.78
1536.97

Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.517e+004

4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
2.210e+004

2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.968e+004

246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.272e+004

34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
7.144e+004
17.75
18.41

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
7.144e+004
14.52
18.41

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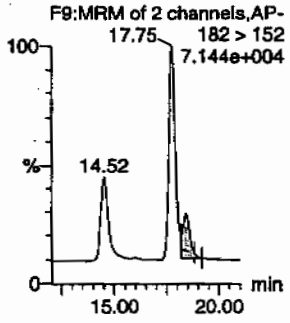
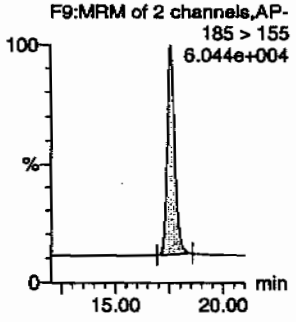
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\011710expA.qld, Time: Mon Jan 18 07:34:18 2010

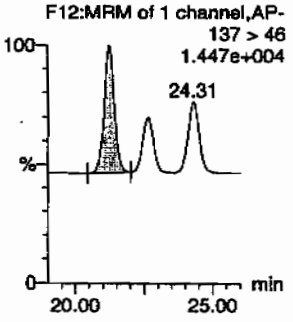
24-dinitrotoluene



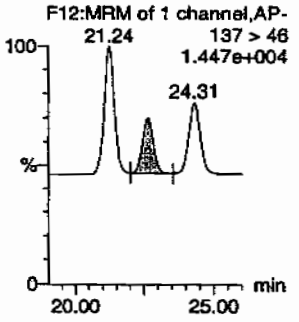
26-dinitrotoluene-d3



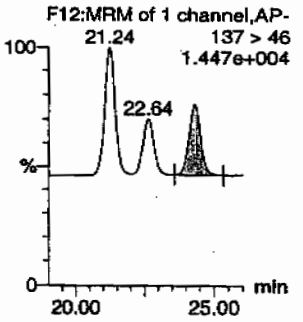
2-Nitrotoluene



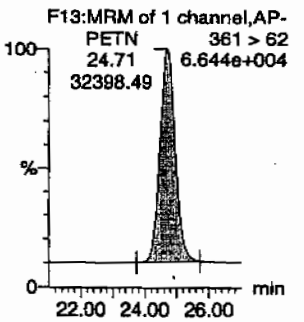
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IStd Area	Abs Resp	Response	Flags	Mod Date	Mod Time	Ng/mL	%Rec	%Dev	S/N
1202003513	HMX	176 > 102	5.22	12487.079	3894.596	12487.079	1603.129	bb			408.0292	81.6	-18.4	1428.3
1202003513	RDX	176 > 102	7.64	9860.549	3894.596	9860.549	1265.927	bb			432.5202	86.5	-13.5	952.9
1202003513	135-Trinitrobenzene	213 > 183	10.25	11122.716	3894.596	11122.716	1427.968	bb			423.8172	84.8	-15.2	1560.4
1202003513	13-Dinitrobenzene-d4	172 > 142	12.14	3894.596		3894.596	3894.596	bb			583.8097	116.8	16.8	216.1
1202003513	13-Dinitrobenzene	168 > 138	12.28	4691.740	3894.596	4691.740	602.340	bb			464.7467	92.9	-7.1	511.6
1202003513	Tetryl	241 > 181	12.78	1536.972	3894.596	1536.972	197.321	bb			228.1018	45.6	-54.4	92.7
1202003513	Nitrobenzene	123 > 46	13.72	2956.406	3894.596	2956.406	379.552	bb			460.7882	92.2	-7.8	379.8
1202003513	4-Amino-26-dinitrotoluene	197 > 167	15.80	6326.332	21814.586	6326.332	145.002	MM	18-Jan-10	07:23:59	498.6303	99.7	-0.3	426.0
1202003513	2-Amino-46-dinitrotoluene	197 > 180	16.71	8942.386	21814.586	8942.386	204.963	bb			489.9172	98.0	-2.0	381.5
1202003513	246-Trinitrotoluene	227 > 210	15.55	7133.220	21814.586	7133.220	163.497	bb			465.6010	93.1	-6.9	382.2
1202003513	34-dinitrotoluene	182 > 152	14.52	10187.715	21814.586	10187.715	233.507	bb			254.3821	101.8	1.8	239.1
1202003513	26-dinitrotoluene	182 > 152	17.75	23375.959	21814.586	23375.959	535.787	MM	18-Jan-10	07:30:01	479.5162	95.9	-4.1	613.9
1202003513	24-dinitrotoluene	182 > 152	18.41	5601.688	21814.586	5601.688	128.393	MM	18-Jan-10	07:31:56	504.6686	100.9	0.9	126.8
1202003513	26-dinitrotoluene-d3	185 > 155	17.57	21814.586		21814.586	21814.586	bb			580.4814	116.1	16.1	1624.7
1202003513	2-Nitrotoluene	137 > 46	21.24	3354.558	21814.586	3354.558	76.888	bb			489.3791	97.9	-2.1	497.5
1202003513	4-Nitrotoluene	137 > 46	22.64	1561.723	21814.586	1561.723	35.795	bb			478.3369	95.7	-4.3	217.2
1202003513	3-Nitrotoluene	137 > 46	24.31	2068.209	21814.586	2068.209	47.404	bb			564.6980	112.9	12.9	276.6
1202003513	PETN	361 > 62	24.71	32398.494	21814.586	32398.494	742.588	bb			393.5751	78.7	-21.3	3949.3

GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7580(243385001MSD)

Lab Code: GEL

GEL Job No (SDG) 10-1032

Matrix: SOIL

GEL Sample ID: 1202003513

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 22-DEC-09

Extraction Type Sonication

Extraction Batch ID: 936358

Concentrated Extract Volume (mL) 10

Date Extracted: 29-DEC-09

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01070031.wiff

Date Analyzed: 07-JAN-10 22:06

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	8680	
59229-75-3	2,6-Diamino-4-nitrotoluene	4350	
618-87-1	3,5-Dinitroaniline	4590	
6629-29-4	2,4-Diamino-6-nitrotoluene	3720	
78-30-8	tris(o-cresyl) phosphate	4410	

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

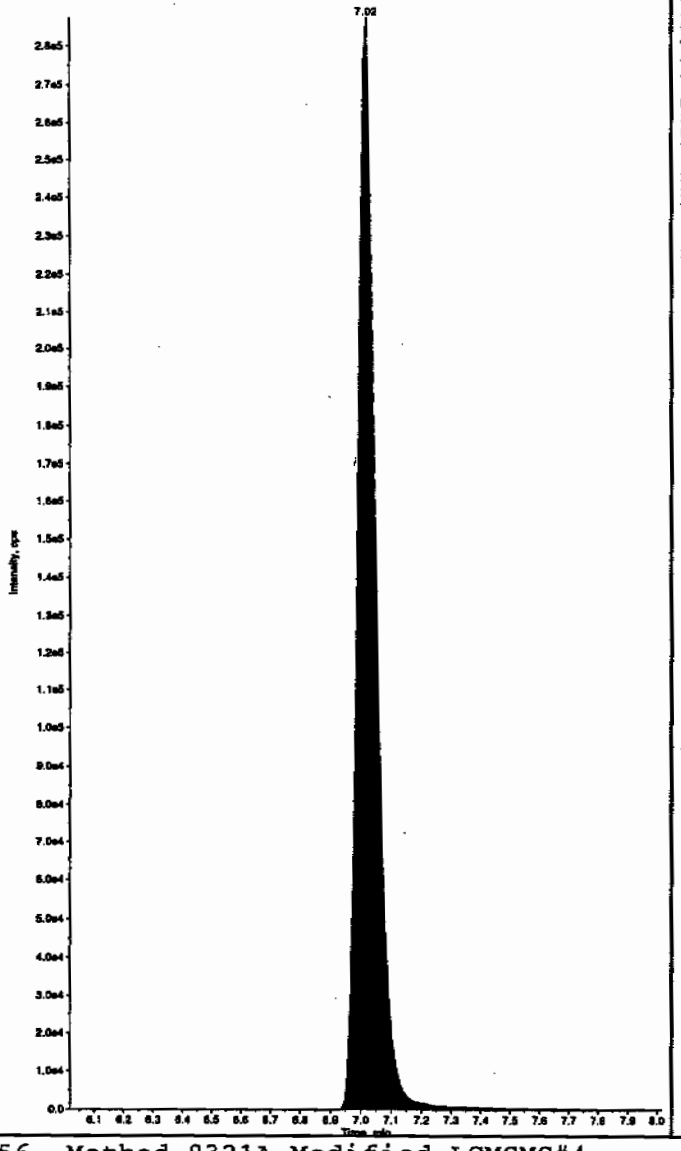
Before Lar 1/8/10

Sample Name: "1202003513" Sample ID: "936359|2|LER" File: "EXS01070031.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 868. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:06:36 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.02 min
Area: 1.24e+006 counts
Height: 287689.026 cps
Start Time: 6.87 min
End Time: 7.60 min

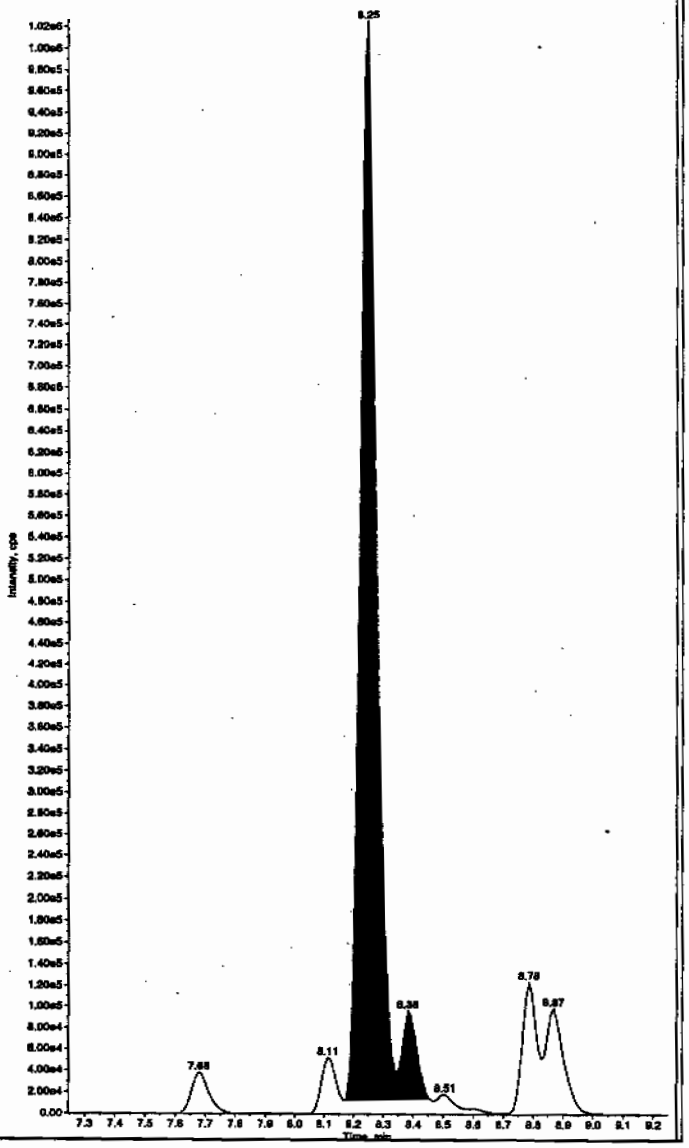


Sample Name: "1202003513" Sample ID: "936359|2|LER" File: "EXS01070031.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 481. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:06:36 PM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.25 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.25 min
Area: 4.25e+006 counts
Height: 1013229.431 cps
Start Time: 8.16 min
End Time: 8.45 min



Hmm 01/08/10

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

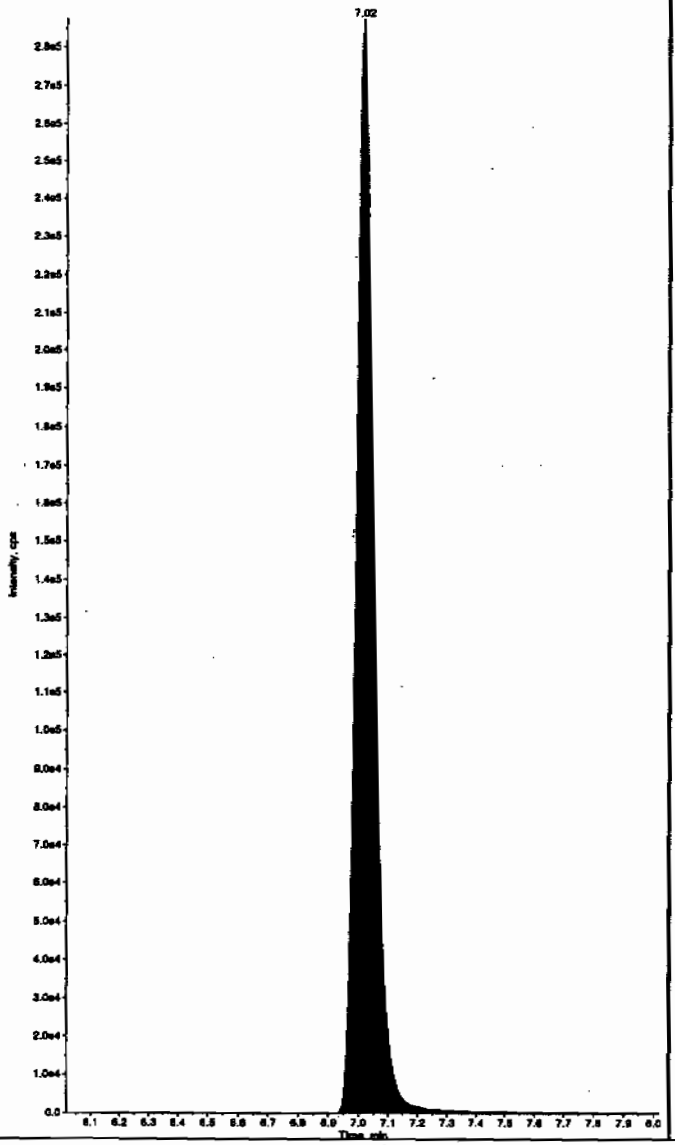
after Lab 1/8/10

Sample Name: "1202003513" Sample ID: "936359|2|LER" File: "EXS01070031.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX832125" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 868. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:06:36 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 7.02 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.02 min
Area: 1.24e+006 counts
Height: 287689.026 cps
Start Time: 6.87 min
End Time: 7.60 min

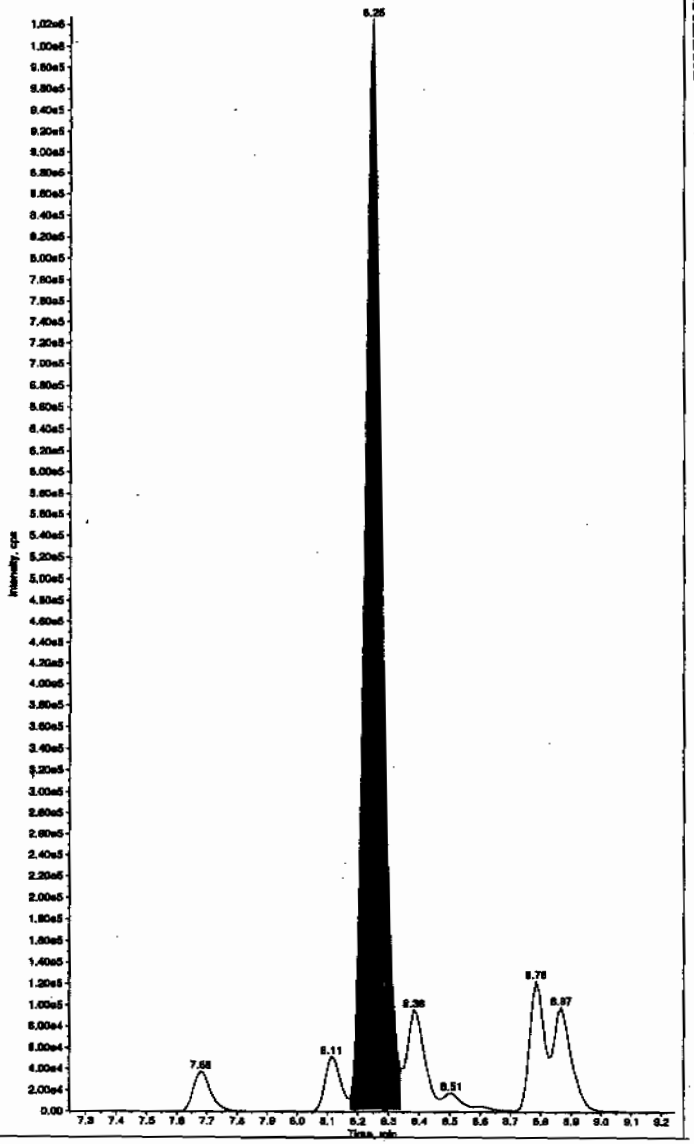


Sample Name: "1202003513" Sample ID: "936359|2|LER" File: "EXS01070031.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX832125" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 459. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:06:36 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.25 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.24 min
Area: 4.07e+006 counts
Height: 1030807.090 cps
Start Time: 8.17 min
End Time: 8.34 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

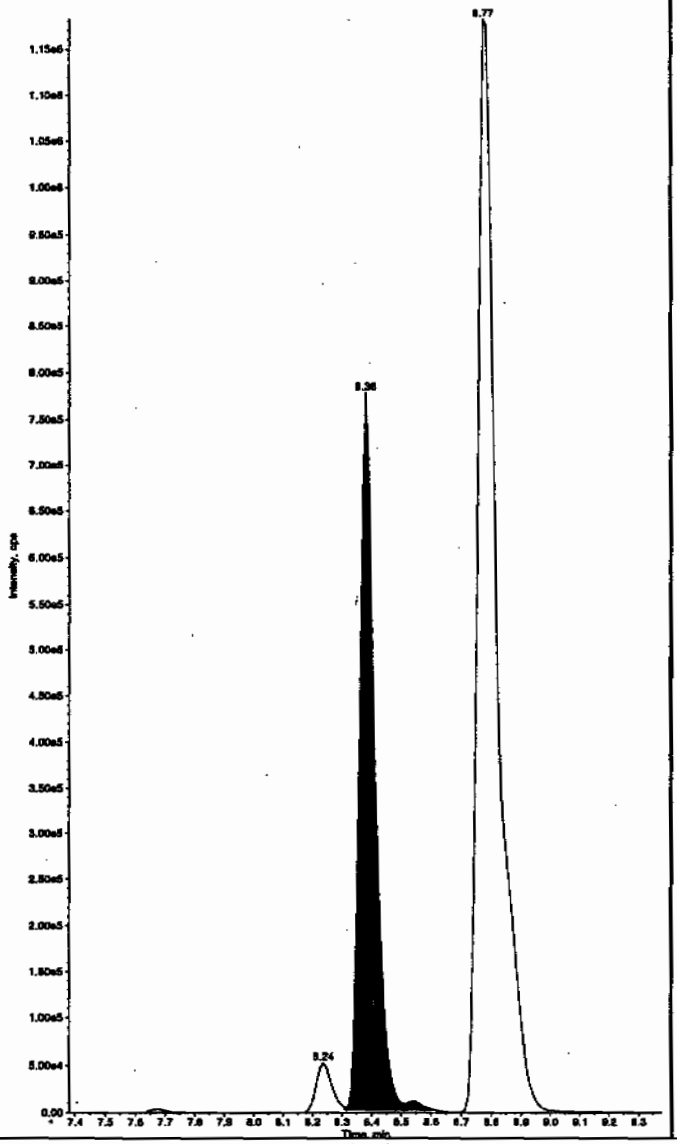
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "1202003513" Sample ID: "936359|2|LER" File: "EXS01070031.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 216. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:06:36 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.38 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.38 min
Area: 2.86e+006 counts
Height: 776421.936 cps
Start Time: 8.31 min
End Time: 8.62 min

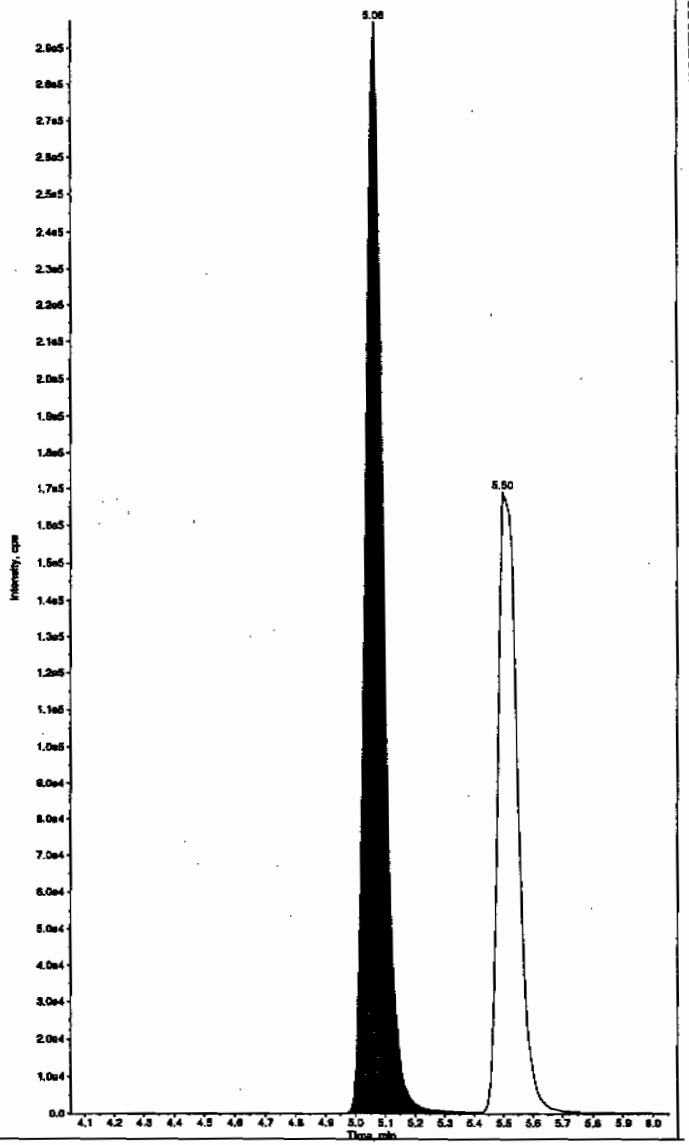


Sample Name: "1202003513" Sample ID: "936359|2|LER" File: "EXS01070031.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 435. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:06:36 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.05 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.06 min
Area: 1.28e+006 counts
Height: 297208.984 cps
Start Time: 4.96 min
End Time: 5.31 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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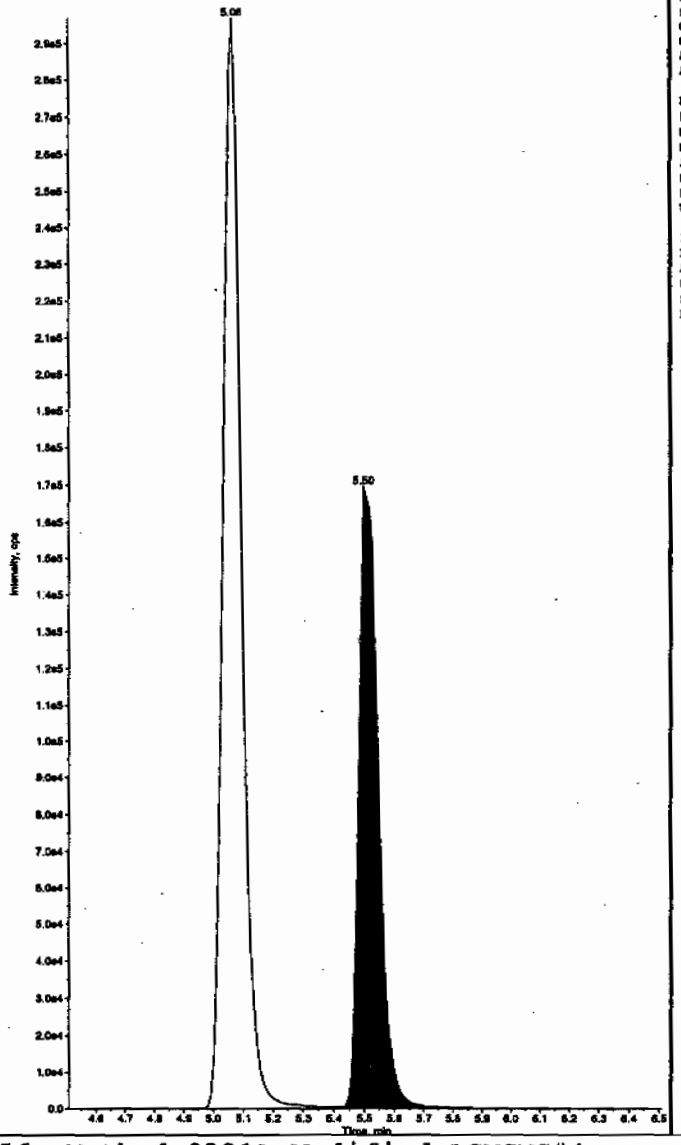
Sample Name: "1202003513" Sample ID: "936359|2|LER" File: "EXS01070031.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 372. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:06:36 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.51 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.50 min
Area: 7.88e+005 counts
Height: 169207.382 cps
Start Time: 5.43 min
End Time: 5.64 min

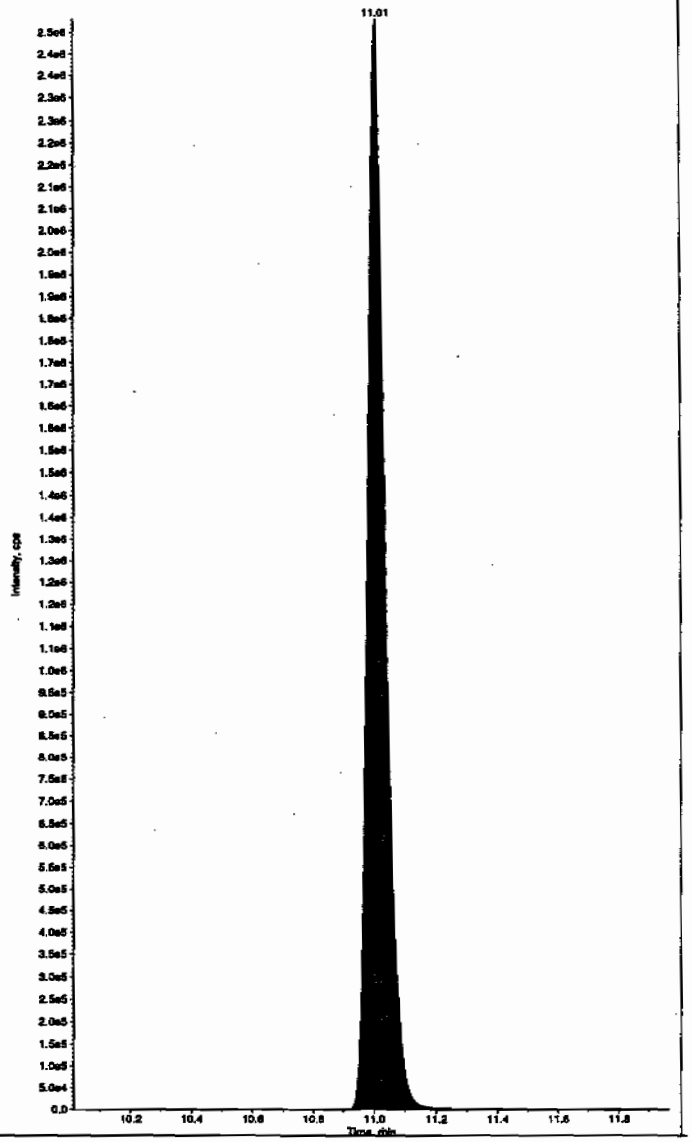


Sample Name: "1202003513" Sample ID: "936359|2|LER" File: "EXS01070031.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 441. ng/mL
Acq. Date: 1/7/2010
Acq. Time: 10:06:36 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 11.0 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 11.0 min
Area: 1.01e+007 counts
Height: 2483741.455 cps
Start Time: 10.9 min
End Time: 11.3 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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MISCELLANEOUS DATA

Prep Logbook

Nitroaromatics and Nitramines by High Performance Liquid Chromatography (HPLC)

Batch ID: 936358 **Verified by:** _____

Analyst: Sirena White

Method: SW846 8330 PREP

Lab SOP: GL-OA-E-033 REV# 17

Instrument: Semi-Volatiles Manual

Sample ID	Run Date	Aliquot (g)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1202003510 MB	29-DEC-2009 17:13:54	2	10	5
1202003511 LCS	29-DEC-2009 17:13:54	2	10	5
243385001	29-DEC-2009 17:13:54	2	10	5
1202003512 MS (243385001)	29-DEC-2009 17:13:54	2	10	5
1202003513 MSD (243385001)	29-DEC-2009 17:13:54	2	10	5
243385002	29-DEC-2009 17:13:54	2	10	5
243385003	29-DEC-2009 17:13:54	2	10	5
243385004	29-DEC-2009 17:13:54	2	10	5
243385005	29-DEC-2009 17:13:54	2	10	5
243385006	29-DEC-2009 17:13:54	2	10	5
243385007	29-DEC-2009 17:13:54	2	10	5
243385008	29-DEC-2009 17:13:54	2	10	5
243385009	29-DEC-2009 17:13:54	2	10	5
243385010	29-DEC-2009 17:13:54	2	10	5
243385011	29-DEC-2009 17:13:54	2	10	5

Type	Sample Id	Description	Serial Number	Spike Amt	Units
LCS	1202003511	8321 Explosives LCS	DXX091127-03	.1	mL
LCS	1202003511	8321 LANL Explosives Mix 10mg/L	UXX091117-03.2	1	mL
MS	1202003512	8321 Explosives LCS	DXX091127-03	.1	mL
MS	1202003512	8321 LANL Explosives Mix 10mg/L	UXX091117-03.2	1	mL
MSD	1202003513	8321 Explosives LCS	DXX091127-03	.1	mL
MSD	1202003513	8321 LANL Explosives Mix 10mg/L	UXX091117-03.2	1	mL
SURR	All	3,4-Dinitrotoluene (8330 Surr.) 100ppm	DXP091223-02	.05	mL

Comments:

Final Solvent: ACN

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GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS #1

Date: 01/15/10
Extr. Injection Volume: 50uL
Sequence Number: 011510expA
Initial Calibration Date: 01/15/10

Method: SW846 8321A-Modified
Int. Std.: UXX091230-01.1
Mobile Phase Lot#: 1255172, 1236350
Standard-Samp Reagent Lot#: 1253092, 1246195

Reviewed BY: [illegible]
Date: 01/18/10
SOP: GL-OA-E-056 Rev.12
Alt Check Std. ID: WXX100115-07

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
EXP0115001a	XIBLK01	MAP	1/15/10 14:53			1		USE	B
EXP0115002a	XIBLK01	MAP	1/15/10 15:23			1		USE	B
EXP0115003a	WXXICAL-01	MAP	1/15/10 15:52			1		USE	I
EXP0115004a	WXXICAL-02	MAP	1/15/10 16:22			1		USE	I
EXP0115005a	WXXICAL-03	MAP	1/15/10 16:51			1		USE	I
EXP0115006a	WXXICAL-04	MAP	1/15/10 17:21			1		USE	I
EXP0115007a	WXXICAL-05	MAP	1/15/10 17:50			1		USE	I
EXP0115008a	WXXICAL-06	MAP	1/15/10 18:19			1		USE	I
EXP0115009a	XIBLK02	MAP	1/15/10 18:49			1		USE	B
EXP0115010a	WXXICV	MAP	1/15/10 19:18			1		USE	C
EXP0115011a	XIBLK03	MAP	1/15/10 19:48			1		USE	B
EXP0115012a	WXXCRI	MAP	1/15/10 20:17			1		USE	C
EXP0115013a	1202003490	MAP	1/15/10 20:47	936351	10-1015	2	LANL	USE	S
EXP0115014a	1202003491	MAP	1/15/10 21:16	936351	10-1015	2	LANL	USE	S
EXP0115015a	243402001	MAP	1/15/10 21:46	936351	10-1015	2	LANL	USE	S
EXP0115016a	1202003492	MAP	1/15/10 22:16	936351	10-1015	2	LANL	USE	S
EXP0115017a	1202003493	MAP	1/15/10 22:45	936351	10-1015	2	LANL	USE	S
EXP0115018a	243402002	MAP	1/15/10 23:15	936351	10-1015	2	LANL	USE	S
EXP0115019a	WXXCCV	MAP	1/15/10 23:44			1		USE	C
EXP0115020a	XIBLK04	MAP	1/16/10 0:14			1		USE	B
EXP0115021a	WXXCRI	MAP	1/16/10 0:43			1		USE	C
EXP0115022a	1202003510	MAP	1/16/10 1:13	936359	10-1032	2	LANL	USE	S
EXP0115023a	1202003511	MAP	1/16/10 1:42	936359	10-1032	2	LANL	USE	S
EXP0115024a	243385001	MAP	1/16/10 2:12	936359	10-1032	2	LANL	USE	S
EXP0115025a	1202003512	MAP	1/16/10 2:41	936359	10-1032	2	LANL	USE	S
EXP0115026a	1202003513	MAP	1/16/10 3:11	936359	10-1032	2	LANL	DUSE-RA	S
EXP0115027a	243385002	MAP	1/16/10 3:40	936359	10-1032	2	LANL	USE	S
EXP0115028a	243385003	MAP	1/16/10 4:10	936359	10-1032	2	LANL	USE	S
EXP0115029a	243385004	MAP	1/16/10 4:39	936359	10-1032	2	LANL	USE	S

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EXP0115030a	243385005	MAP	1/16/10 5:09	936359	10-1032	2	LANL	USE	S
EXP0115031a	243385006	MAP	1/16/10 5:38	936359	10-1032	2	LANL	USE	S
EXP0115032a	WXXCCV	MAP	1/16/10 6:08			1		USE	C
EXP0115033a	XIBLK05	MAP	1/16/10 6:37			1		USE	B
EXP0115034a	WXXCRI	MAP	1/16/10 7:07			1		USE	C
EXP0115035a	243385007	MAP	1/16/10 7:36	936359	10-1032	2	LANL	USE	S
EXP0115036a	243385008	MAP	1/16/10 8:06	936359	10-1032	2	LANL	USE	S
EXP0115037a	243385009	MAP	1/16/10 8:35	936359	10-1032	2	LANL	USE	S
EXP0115038a	243385010	MAP	1/16/10 9:05	936359	10-1032	2	LANL	USE	S
EXP0115039a	243385011	MAP	1/16/10 9:34	936359	10-1032	2	LANL	USE	S
EXP0115040a	WXXCCV	MAP	1/16/10 10:04			1		USE	C
EXP0115041a	XIBLK06	MAP	1/16/10 10:33			1		USE	B
EXP0115042a	WXXCRI	MAP	1/16/10 11:02			1		USE	C
EXP0115043a	1202006166	MAP	1/16/10 11:32	937537	10-1090-1	2	LANL	DUSE-RA	S
EXP0115044a	1202006169	MAP	1/16/10 12:02	937537	10-1090-1	2	LANL	USE	S
EXP0115045a	243596002	MAP	1/16/10 12:31	937537	10-1090-1	2	LANL	USE	S
EXP0115046a	243596003	MAP	1/16/10 13:00	937537	10-1090-1	2	LANL	USE	S
EXP0115047a	1202004628	MAP	1/16/10 13:30	937537	10-1090-1	2	LANL	USE	S
EXP0115048a	1202004629	MAP	1/16/10 13:59	937537	10-1090-1	2	LANL	USE	S
EXP0115049a	243596004	MAP	1/16/10 14:29	937537	10-1090-1	2	LANL	USE	S
EXP0115050a	243596005	MAP	1/16/10 14:58	937537	10-1090-1	2	LANL	USE	S
EXP0115051a	243596006	MAP	1/16/10 15:28	937537	10-1090-1	2	LANL	USE	S
EXP0115052a	WXXCCV	MAP	1/16/10 15:57			1		USE	C
EXP0115053a	XIBLK07	MAP	1/16/10 16:27			1		USE	B
EXP0115054a	WXXCRI	MAP	1/16/10 16:56			1		USE	C
EXP0115055a	1202006170	MAP	1/16/10 17:26	937541	10-1093	2	LANL	DUSE-RA	S
EXP0115056a	1202006171	MAP	1/16/10 17:55	937541	10-1093	2	LANL	USE	S
EXP0115057a	243605003	MAP	1/16/10 18:25	937541	10-1093	2	LANL	DUSE-RA	S
EXP0115058a	1202006172	MAP	1/16/10 18:54	937541	10-1093	2	LANL	USE	S
EXP0115059a	1202006173	MAP	1/16/10 19:24	937541	10-1093	2	LANL	USE	S
EXP0115060a	243605004	MAP	1/16/10 19:53	937541	10-1093	2	LANL	USE	S
EXP0115061a	243605005	MAP	1/16/10 20:23	937541	10-1093	2	LANL	USE	S
EXP0115062a	243605006	MAP	1/16/10 20:52	937541	10-1093	2	LANL	USE	S
EXP0115063a	243605007	MAP	1/16/10 21:22	937541	10-1093	2	LANL	USE	S
EXP0115064a	243605008	MAP	1/16/10 21:51	937541	10-1093	2	LANL	USE	S
EXP0115065a	WXXCCV	MAP	1/16/10 22:21			1		USE	C
EXP0115066a	XIBLK08	MAP	1/16/10 22:50			1		USE	B

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EXP0115067a	WXXCRI	MAP	1/16/10 23:20			1		USE	C
EXP0115068a	243605009	MAP	1/16/10 23:49	937541	10-1093	2	LANL	USE	S
EXP0115069a	243605010	MAP	1/17/10 0:19	937541	10-1093	2	LANL	USE	S
EXP0115070a	243605011	MAP	1/17/10 0:48	937541	10-1093	2	LANL	USE	S
EXP0115071a	243605012	MAP	1/17/10 1:18	937541	10-1093	2	LANL	USE	S
EXP0115072a	243605013	MAP	1/17/10 1:47	937541	10-1093	2	LANL	DUSE-RA	S
EXP0115073a	243605014	MAP	1/17/10 2:17	937541	10-1093	2	LANL	USE	S
EXP0115074a	243605015	MAP	1/17/10 2:46	937541	10-1093	2	LANL	USE	S
EXP0115075a	243605016	MAP	1/17/10 3:16	937541	10-1093	2	LANL	USE	S
EXP0115076a	243605017	MAP	1/17/10 3:45	937541	10-1093	2	LANL	USE	S
EXP0115077a	243605018	MAP	1/17/10 4:15	937541	10-1093	2	LANL	USE	S
EXP0115078a	WXXCCV	MAP	1/17/10 4:44			1		USE	C
EXP0115079a	XIBLK09	MAP	1/17/10 5:14			1		USE	B
EXP0115080a	WXXCRI	MAP	1/17/10 5:43			1		USE	C
EXP0115081a	243605019	MAP	1/17/10 6:13	937541	10-1093	2	LANL	DUSE-RA	S
EXP0115082a	XIBLK10	MAP	1/17/10 6:42			1		USE	B
EXP0115083a	IXP100114-02	MAP	1/17/10 7:12	SCREEN	NA	1	GEL	USE	S
EXP0115084a	1202003490	MAP	1/17/10 7:41	936351	10-1015	2	LANL	DUSE	S
EXP0115085a	243402001	MAP	1/17/10 8:11	936351	10-1015	2	LANL	DUSE	S
EXP0115086a	1202003492	MAP	1/17/10 8:40	936351	10-1015	2	LANL	DUSE	S
EXP0115087a	1202003493	MAP	1/17/10 9:10	936351	10-1015	2	LANL	DUSE	S
EXP0115088a	243402002	MAP	1/17/10 9:39	936351	10-1015	2	LANL	DUSE	S
EXP0115089a	1202003513	MAP	1/17/10 10:09	936359	10-1032	2	LANL	DUSE	S
EXP0115090a	WXXCCV	MAP	1/17/10 10:38			1		DUSE	C
EXP0115091a	XIBLK11	MAP	1/17/10 11:08			1		DUSE	B
EXP0115092a	WXXCRI	MAP	1/17/10 11:37			1		DUSE	C

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS #1

Date: 01/17/10
Extr. Injection Volume: 50uL
Sequence Number: 011710expA
Initial Calibration Date: 01/17/10

Method: SW846 8321A-Modified
Int. Std.: UXX091230-01.2
Mobile Phase Lot#: 1255172, 1236350
Standard-Samp Reagent Lot#: 1253092, 1246195

Reviewed BY: [illegible]
Date: 01/18/10
SOP: GL-OA-E-056 Rev.12
Alt Check Std. ID: WXX100117-07

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
EXP0117001a	XIBLK01	MAP	1/17/10 18:11			1		USE	B
EXP0117002a	XIBLK01	MAP	1/17/10 18:40			1		USE	B
EXP0117003a	WXXICAL-01	MAP	1/17/10 19:10			1		USE	I
EXP0117004a	WXXICAL-02	MAP	1/17/10 19:39			1		USE	I
EXP0117005a	WXXICAL-03	MAP	1/17/10 20:09			1		USE	I
EXP0117006a	WXXICAL-04	MAP	1/17/10 20:38			1		USE	I
EXP0117007a	WXXICAL-05	MAP	1/17/10 21:08			1		USE	I
EXP0117008a	WXXICAL-06	MAP	1/17/10 21:37			1		USE	I
EXP0117009a	XIBLK02	MAP	1/17/10 22:06			1		USE	B
EXP0117010a	WXXICV	MAP	1/17/10 22:36			1		USE	C
EXP0117011a	XIBLK03	MAP	1/17/10 23:05			1		USE	B
EXP0117012a	WXXCRI	MAP	1/17/10 23:35			1		USE	C
EXP0117013a	1202003513	MAP	1/18/10 0:04	936359	10-1032	2	LANL	USE	S
EXP0117014a	1202006166	MAP	1/18/10 0:34	937537	10-1090-1	2	LANL	USE	S
EXP0117015a	1202006170	MAP	1/18/10 1:03	937541	10-1093	2	LANL	USE	S
EXP0117016a	243605003	MAP	1/18/10 1:33	937541	10-1093	2	LANL	USE	S
EXP0117017a	243605013	MAP	1/18/10 2:02	937541	10-1093	2	LANL	USE	S
EXP0117018a	243605019	MAP	1/18/10 2:32	937541	10-1093	2	LANL	USE	S
EXP0117019a	WXXCCV	MAP	1/18/10 3:01			1		USE	C
EXP0117020a	XIBLK04	MAP	1/18/10 3:31			1		USE	B
EXP0117021a	WXXCRI	MAP	1/18/10 4:00			1		USE	C

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GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS4

Date: 01/07/10
Extr. Injection Volume: 10uL
Sequence Number: 010710exs
Initial Calibration Date: 010710

Method: 8321A-Modified
Int. Std.: N/A
Mobile Phase Lot#:1236350, 1246467
Standard-Samp Reagent Lot# :1233976, 1246693

Reviewed By: [illegible]
Date: 01/08/10
SOP: GL-OA-E-056 Rev.12
Alt Check Std. ID: WXX100107-26

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC Flag
EXS01070001.wiff	XIBLK01	LER	1/7/2010 14:15			1		USE	B
EXS01070002.wiff	XIBLK01	LER	1/7/2010 14:31			1		USE	B
EXS01070003.wiff	WXXICAL-19	LER	1/7/2010 14:47			1		USE	I
EXS01070004.wiff	WXXICAL-20	LER	1/7/2010 15:02			1		USE	I
EXS01070005.wiff	WXXICAL-21	LER	1/7/2010 15:18			1		USE	I
EXS01070006.wiff	WXXICAL-22	LER	1/7/2010 15:34			1		USE	I
EXS01070007.wiff	WXXICAL-23	LER	1/7/2010 15:49			1		USE	I
EXS01070008.wiff	WXXICAL-24	LER	1/7/2010 16:05			1		USE	I
EXS01070009.wiff	WXXICAL-25	LER	1/7/2010 16:21			1		USE	I
EXS01070010.wiff	XIBLK02	LER	1/7/2010 16:36			1		USE	B
EXS01070011.wiff	WXXICV	LER	1/7/2010 16:52			1		USE	C
EXS01070012.wiff	XIBLK03	LER	1/7/2010 17:08			1		USE	B
EXS01070013.wiff	WXXCRI	LER	1/7/2010 17:24			1		USE	C
EXS01070014.wiff	1202006166	LER	1/7/2010 17:39	937537	10-1090-1	2	LANL	USE	S
EXS01070015.wiff	1202006169	LER	1/7/2010 17:55	937537	10-1090-1	2	LANL	USE	S
EXS01070016.wiff	243596002	LER	1/7/2010 18:11	937537	10-1090-1	2	LANL	USE	S
EXS01070017.wiff	243596003	LER	1/7/2010 18:26	937537	10-1090-1	2	LANL	USE	S
EXS01070018.wiff	1202006167	LER	1/7/2010 18:42	937537	10-1090-1	2	LANL	USE	S
EXS01070019.wiff	1202006168	LER	1/7/2010 18:58	937537	10-1090-1	2	LANL	USE	S
EXS01070020.wiff	243596004	LER	1/7/2010 19:13	937537	10-1090-1	2	LANL	USE	S
EXS01070021.wiff	243596005	LER	1/7/2010 19:29	937537	10-1090-1	2	LANL	USE	S
EXS01070022.wiff	243596006	LER	1/7/2010 19:45	937537	10-1090-1	2	LANL	USE	S
EXS01070023.wiff	UXX091229-02.1	LER	1/7/2010 20:01	screen	SOLID	2	O2SI	USE	S
EXS01070024.wiff	WXXCCV	LER	1/7/2010 20:16			1		USE	C
EXS01070025.wiff	XIBLK04	LER	1/7/2010 20:32			1		USE	B
EXS01070026.wiff	WXXCRI	LER	1/7/2010 20:48			1		USE	C
EXS01070027.wiff	1202003510	LER	1/7/2010 21:03	936359	10-1032	2	LANL	USE	S
EXS01070028.wiff	1202003511	LER	1/7/2010 21:19	936359	10-1032	2	LANL	USE	S
EXS01070029.wiff	243385001	LER	1/7/2010 21:35	936359	10-1032	2	LANL	USE	S
EXS01070030.wiff	1202003512	LER	1/7/2010 21:50	936359	10-1032	2	LANL	USE	S

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EXS01070031.wiff	1202003513	LER	1/7/2010 22:06	936359	10-1032	2	LANL	USE	S
EXS01070032.wiff	243385002	LER	1/7/2010 22:22	936359	10-1032	2	LANL	USE	S
EXS01070033.wiff	243385003	LER	1/7/2010 22:38	936359	10-1032	2	LANL	USE	S
EXS01070034.wiff	243385004	LER	1/7/2010 22:53	936359	10-1032	2	LANL	USE	S
EXS01070035.wiff	243385005	LER	1/7/2010 23:09	936359	10-1032	2	LANL	USE	S
EXS01070036.wiff	243385006	LER	1/7/2010 23:25	936359	10-1032	2	LANL	USE	S
EXS01070037.wiff	WXXCCV	LER	1/7/2010 23:40			1		USE	C
EXS01070038.wiff	XIBLK05	LER	1/7/2010 23:56			1		USE	B
EXS01070039.wiff	WXXCRI	LER	1/8/2010 0:12			1		USE	C
EXS01070040.wiff	243385007	LER	1/8/2010 0:27	936359	10-1032	2	LANL	USE	S
EXS01070041.wiff	243385008	LER	1/8/2010 0:43	936359	10-1032	2	LANL	USE	S
EXS01070042.wiff	243385009	LER	1/8/2010 0:59	936359	10-1032	2	LANL	USE	S
EXS01070043.wiff	243385010	LER	1/8/2010 1:15	936359	10-1032	2	LANL	USE	S
EXS01070044.wiff	243385011	LER	1/8/2010 1:30	936359	10-1032	2	LANL	USE	S
EXS01070045.wiff	WXXCCV	LER	1/8/2010 1:46			1		USE	C
EXS01070046.wiff	XIBLK06	LER	1/8/2010 2:02			1		USE	B
EXS01070047.wiff	WXXCRI	LER	1/8/2010 2:17			1		USE	C

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GEL Laboratories LLC
Form GEL-DER

DER Report No.: 780781
Revision No.:

DATA EXCEPTION REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
18-JAN-10	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
LC-MS/MS	SW846 8321A Modified	Solid	LANL
Batch ID:	**Sample Numbers:**		
936359	See Below		

Potentially affected work order(s)(SDG): 243385(10-1032)

Application Issues:

Failed Recovery for MSD/PSD

Failed Recovery for LCS/LCSD

Failed RPD for MS/MSD, or PS/PSD

Specification and Requirements Exception Description:	DER Disposition:
1. The Laboratory Control Sample (1202003511) did not meet spike recovery limits for TATB at 41.7%. The recovery limits are 47-166%.	1. Since the Matrix Spike and Matrix Spike Duplicate both met acceptance limits for TATB, the data are reported with the appropriate DER. The discrepancy is noted in the case narrative.
2. The Matrix Spike Duplicate (1202003513) did not meet spike recovery limits for Tetryl at 45.6%. The recovery limits are 47-138%.	2. Since the Laboratory Control Sample and Matrix Spike met acceptance limits for Tetryl, the noted exception is attributed to vagaries in the extraction process. The data are reported with the appropriate DER. The discrepancy is noted in the case narrative.
3. The MS/MSD pair (1202003512/3) did not meet RPD acceptance limits for m-Nitrotoluene at 40.4% and TATB at 35.3%. The acceptance limits are 0-30%.	3. Since all other RPD recoveries met acceptance criteria, the noted exceptions are attributed to vagaries in the extraction process. The data are reported with the appropriate DER. The discrepancies are noted in the case narrative.

Originator's Name:

Michael Penny 18-JAN-10

Data Validator/Group Leader:

Herbert Maier 18-JAN-10

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LC/MS/MS PERCHLORATE ANALYSIS

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Perchlorate by LC/MSMS
Los Alamos National Laboratory (LANL)
SDG 10-1032

Method/Analysis Information

Procedure:	**Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)**
Analytical Method:	SW846 6850 Modified
Prep Method:	SW846 6850 Modified
Analytical Batch Number:	936666
Prep Batch Number:	936665

Sample Analysis

Sample ID	Client ID
243385001	RE12-10-7580
243385002	RE12-10-7590
243385003	RE12-10-7592
243385004	RE12-10-7591
243385005	RE12-10-7581
243385006	RE12-10-7586
243385007	RE12-10-7587
243385008	RE12-10-7585
243385009	RE12-10-7582
243385010	RE12-10-7584
243385011	RE12-10-7583
1202004142	Interference Check Sample (ICS)
1202004138	Method Blank (MB)
1202004139	Laboratory Control Sample (LCS)
1202004140	243393002(WST12-10-8879) Matrix Spike (MS)
1202004141	243393002(WST12-10-8879) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

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Preparation/Analytical Method Verification

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-067 REV# 6.

Calibration Information

Initial Calibration
All initial calibration requirements have been met for this SDG. Due to software constraints, all Initial Calibration Blanks must be designated as IPB001.

CCV Requirements
All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

CCB Requirements
All continuing calibration blanks (CCB) bracketing the analyses associated with this batch were within acceptance criteria.

CCV Requirements
All continuing calibration checks (CCV) requirements were met by all bracketing CCV standards.

Low Level Standard (CRI) Requirements
All low level calibration verification (CRI) requirements were met by all bracketing CRI standards.

Quality Control (QC) Information

Method Blank (MB) Statement
The MB(s) analyzed with this SDG met the acceptance criteria.

Interference Check Sample (ICS)
The interference check sample (ICS) met all recovery acceptance criteria.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

QC Sample Designation
Client sample 243393002 (WST12-10-8879) from SDG 10-1005 was chosen for matrix spike and matrix spike duplicate analysis. Please see the raw data in the Miscellaneous Section.

Matrix Spike (MS) Recovery Statement
The MS recoveries were within the established acceptance limits.

Matrix Spike Duplicate (MSD) Recovery Statement
The MSD recoveries were within the established acceptance limits.

MS/MSD Relative Percent Difference (RPD) Statement
The RPD(s) between the MS and MSD met the acceptance limits.

Retention Time Standard Area Acceptance
The retention time standard areas were within the required acceptance criteria for all samples and QC.

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Retention Time
During the analysis of Perchlorate by LC/MS/MS, retention time shifts are commonly observed. These retention time shifts, which are caused by fouling of the column by the sample matrices, are problematic when the retention time is used as one of the criterion for confirmation. To overcome this problem, a known amount of O(18) labeled Perchlorate was added to each sample as a retention time standard. The presence of Perchlorate was confirmed by the relative retention time (RRT) of the Perchlorate peak and the O(18) standard. A RRT window of 0.98 to 1.02, as required by Method 332.0, has been used. In addition to the isotopic ratio, the presence of Perchlorate in the samples associated with this data package have been confirmed using the relative retention criteria stated above, not the absolute retention time.

Technical Information

Holding Time Specifications
All samples in this SDG in this analytical batch met the specified holding time. GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis
Re-extractions or re-analyses were not required in this SDG except for dilutions.

Miscellaneous Information

Data Exception (DER) Documentation
Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception reports (DER) was not generated for this SDG.

Manual Integrations
Some initial calibration standards, continuing calibration standards, and/or samples may require manual integrations due to software limitations.

Method Comments
The samples in this SDG were not originally analyzed using EPA Method 314.0.

Additional Comments
The Perchlorate Isotope Ratio on the Form I may differ slightly from the ratio on the corresponding raw data due to rounding rules and/or significant figures or due to software limitations when there are manual integrations, dilutions or other factors. The ratio value of the Form I is the correct value.

The retention time marker, Perchlorate-O (18), is added to all samples, instrument blanks, and standards prior to injection. It is used to verify the retention time of Perchlorate and Perchlorate-101 and to insure an accurate injection occurred. Due to various anions affecting the recovery of Perchlorate-O (18) and not Perchlorate and Perchlorate-101, the calibration curves of Perchlorate and Perchlorate-101 are not internally corrected for using Perchlorate-O (18). They are external calibrations.

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Perchlorate Isotope Ratio
The Perchlorate isotope ratio met acceptance criteria for all samples and QC samples. Please see the isotope ratio criteria in the Miscellaneous Section.

System Configuration

The laboratory utilizes a Waters LC 2795 liquid chromatography instrument for perchlorate analysis. It is coupled with either a Micromass Quattro Micro Mass Spectrometer/ Mass Spectrometer, or a Micromass Quattro Ultima Mass Spectrometer/ Mass Spectrometer. Each being designated as LCMSMS #1, and LCMSMS #2, respectively. It is fitted with an electrospray probe that is operated in the negative electrospray ionization mode for perchlorate analysis. The laboratory may also utilize an Agilent 1100 liquid chromatography instrument for perchlorate analysis. It is coupled with an Applied Biosystems 4000 Mass Spectrometer/ Mass Spectrometer, designated as LCMSMS #3 or LCMSMS #4. It is also fitted with an electrospray probe that is operated in the negative electrospray ionization mode for perchlorate analysis.

Chromatographic Columns

Chromatographic separation of perchlorate is accomplished through analysis on the following anion column:

Dionex: IonPac AG-16 2 x 50 mm.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Heather M Maier **Date:** 01/14/10

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SAMPLE DATA SUMMARY

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7580

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385001

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 86

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.582	2.33	0.582	ug/kg	U	1	04-JAN-10 18:59	per0104015a
	Perchlorate Isotope Ratio						1	04-JAN-10 18:59	per0104015a
14797-73-0	Perchlorate-101	.582	2.33	0.582	ug/kg	U	1	04-JAN-10 18:59	per0104015a
	Perchlorate-O(18)			5.79	ug/kg		1	04-JAN-10 18:59	per0104015a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7590

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385002

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 90.6

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.552	2.21	0.552	ug/kg	U	1	04-JAN-10 19:05	per0104016a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:05	per0104016a
14797-73-0	Perchlorate-101	.552	2.21	0.552	ug/kg	U	1	04-JAN-10 19:05	per0104016a
	Perchlorate-O(18)			5.51	ug/kg		1	04-JAN-10 19:05	per0104016a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7592

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385003

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 89

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.564	2.26	0.664	ug/kg	J	1	04-JAN-10 19:11	per0104017a
	Perchlorate Isotope Ratio			2.94			1	04-JAN-10 19:11	per0104017a
14797-73-0	Perchlorate-101	.564	2.26	0.670	ug/kg	J	1	04-JAN-10 19:11	per0104017a
	Perchlorate-O(18)			5.66	ug/kg		1	04-JAN-10 19:11	per0104017a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7591

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385004

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 89

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.565	2.26	0.655	ug/kg	J	1	04-JAN-10 19:17	per0104018a
	Perchlorate Isotope Ratio			3.1			1	04-JAN-10 19:17	per0104018a
14797-73-0	Perchlorate-101	.565	2.26	0.625	ug/kg	J	1	04-JAN-10 19:17	per0104018a
	Perchlorate-O(18)			5.71	ug/kg		1	04-JAN-10 19:17	per0104018a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7581

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385005

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 88

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.566	2.26	0.566	ug/kg	U	1	04-JAN-10 19:23	per0104019a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:23	per0104019a
14797-73-0	Perchlorate-101	.566	2.26	0.566	ug/kg	U	1	04-JAN-10 19:23	per0104019a
	Perchlorate-O(18)			5.76	ug/kg		1	04-JAN-10 19:23	per0104019a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7586

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385006

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 89

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.561	2.24	0.561	ug/kg	U	1	04-JAN-10 19:29	per0104020a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:29	per0104020a
14797-73-0	Perchlorate-101	.561	2.24	0.561	ug/kg	U	1	04-JAN-10 19:29	per0104020a
	Perchlorate-O(18)			5.43	ug/kg		1	04-JAN-10 19:29	per0104020a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7587

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385007

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 90.1

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.555	2.22	0.555	ug/kg	U	1	04-JAN-10 19:35	per0104021a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:35	per0104021a
14797-73-0	Perchlorate-101	.555	2.22	0.555	ug/kg	U	1	04-JAN-10 19:35	per0104021a
	Perchlorate-O(18)			5.73	ug/kg		1	04-JAN-10 19:35	per0104021a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7585

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385008

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 91.6

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.546	2.18	0.546	ug/kg	U	1	04-JAN-10 19:59	per0104025a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:59	per0104025a
14797-73-0	Perchlorate-101	.546	2.18	0.546	ug/kg	U	1	04-JAN-10 19:59	per0104025a
	Perchlorate-O(18)			5.49	ug/kg		1	04-JAN-10 19:59	per0104025a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7582

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385009

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 92.8

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.539	2.15	0.539	ug/kg	U	1	04-JAN-10 20:05	per0104026a
	Perchlorate Isotope Ratio						1	04-JAN-10 20:05	per0104026a
14797-73-0	Perchlorate-101	.539	2.15	0.539	ug/kg	U	1	04-JAN-10 20:05	per0104026a
	Perchlorate-O(18)			5.35	ug/kg		1	04-JAN-10 20:05	per0104026a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7584

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385010

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 92.7

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.539	2.16	0.539	ug/kg	U	1	04-JAN-10 20:11	per0104027a
	Perchlorate Isotope Ratio						1	04-JAN-10 20:11	per0104027a
14797-73-0	Perchlorate-101	.539	2.16	0.539	ug/kg	U	1	04-JAN-10 20:11	per0104027a
	Perchlorate-O(18)			5.26	ug/kg		1	04-JAN-10 20:11	per0104027a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7583

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385011

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 93.3

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.536	2.14	1.64	ug/kg	J	1	04-JAN-10 20:17	per0104028a
	Perchlorate Isotope Ratio			2.95			1	04-JAN-10 20:17	per0104028a
14797-73-0	Perchlorate-101	.536	2.14	1.65	ug/kg	J	1	04-JAN-10 20:17	per0104028a
	Perchlorate-O(18)			5.44	ug/kg		1	04-JAN-10 20:17	per0104028a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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QUALITY CONTROL SUMMARY

Perchlorate Laboratory Control Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No. (SDG): 10–1032

Extract Batch Code: 936665

Date Filtered: 30–DEC–09

Matrix: SOIL

Sample ID: 1202004139

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	2.02	ug/kg	101		70 – 130
Perchlorate Isotope Ratio		2.91				–
Perchlorate–101	2.00	2.06	ug/kg	103		70 – 130
Perchlorate–O(18)		4.89	ug/kg			–

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate–101 peak area. The Perchlorate–101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

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Form 5a

Perchlorate Interference Check Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No. (SDG): 10–1032

Extract Batch Code: 936665

Date Filtered: 30–DEC–09

Matrix: SOIL

Sample ID: 1202004142

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	2.09	ug/kg	105		70 – 130
Perchlorate Isotope Ratio		2.98				
Perchlorate–101	2.00	2.08	ug/kg	104		70 – 130
Perchlorate–O(18)		5.05	ug/kg			

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate–101 peak area. The Perchlorate–101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

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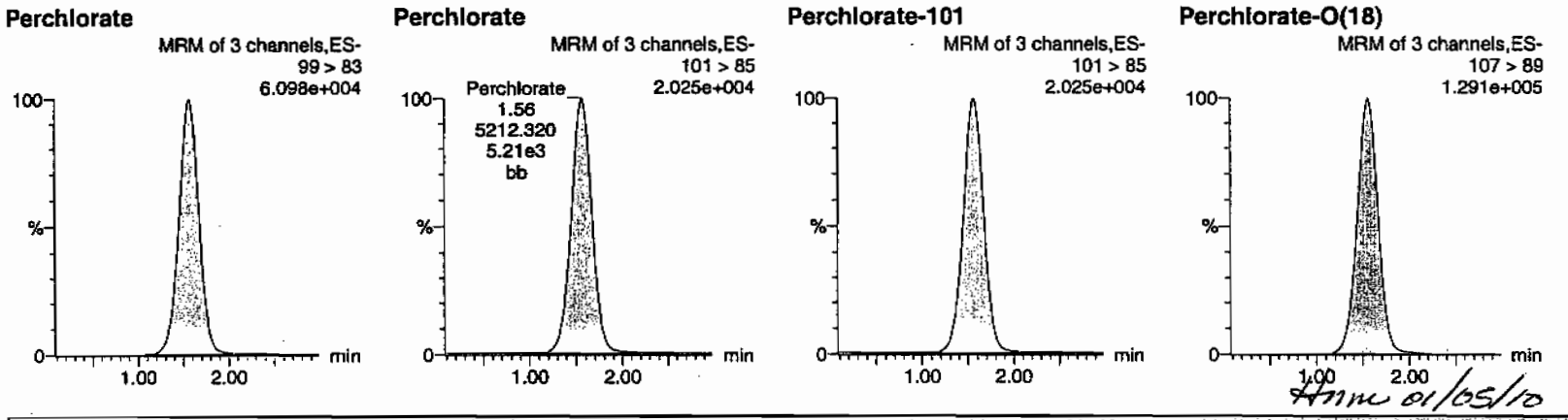
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104014a
Date: 04-Jan-2010
Time: 18:53:26
ID: 1202004142 |LANL|936666|SOLID|ICS|1|
Vial: 1:3,C

CWW
01-05-10



Hmm 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202004142	Perchlorate	99 > 83	1.57	15555.662	15555.662	bb			0.2095	104.75	4.75	3192.9...	2.98
1202004142	Perchlorate-101	101 > 85	1.56	5212.320	5212.320	bb			0.2080	103.99	3.99	676.524	
1202004142	Perchlorate-O(18)	107 > 89	1.56	33230.414	33230.414	bb			0.5055	101.10	1.10	11468....	

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Form 6

Perchlorate Spike/Spike Duplicate Summary

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No (SDG): 10–1032

Extract Batch Code: 936665

Date Extracted: 30–DEC–09

GEL MS/PS ID: 1202004140

Client ID: WST12–10–8879

GEL MSD/PSD ID: 1202004141

QC Type: MS

Compound^	Spike Added	Sample Conc	Units	MS Conc	MS Rec #	MSD Conc	MSD Rec #	RPD #	RPD Limit	Recovery Limit
Perchlorate	2.28	0.427	ug/kg	2.61	96.1	2.78	103	6.25	30	75 – 125
Perchlorate Isotope Ratio	0	0.00		2.93		3.01		0		–
Perchlorate–101	2.28	0.425	ug/kg	2.64	97.3	2.74	102	3.52	30	75 – 125
Perchlorate–O(18)	0	5.65	ug/kg	5.71		5.53		3.13		–

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate–101 peak area. The Perchlorate–101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

Comments:

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Form 4

Perchlorate Initial Calibration Blank

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10–1032

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	04–JAN–10	per0104001a	IPB001
Perchlorate–101	0.00	0	NA	04–JAN–10	per0104001a	IPB001
Perchlorate	0.00	0	NA	04–JAN–10	per0104002a	IPB001
Perchlorate–101	0.00	0	NA	04–JAN–10	per0104002a	IPB001

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

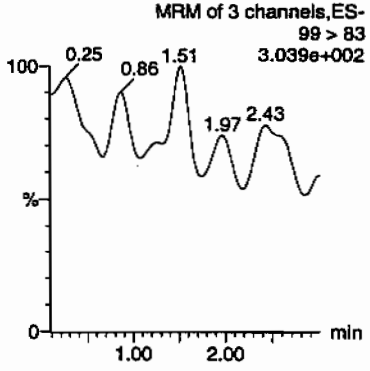
Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per010410a.mdb 04 Jan 2010 17:28:18
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per010410a.cdb 05 Jan 2010 07:54:35

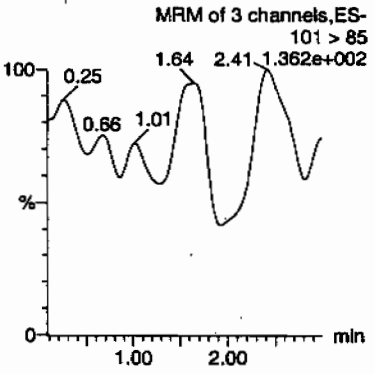
Name: per0104001a
Date: 04-Jan-2010
Time: 17:34:59
ID: IPB001
Vial: 1:1,A

CW
01-05-10

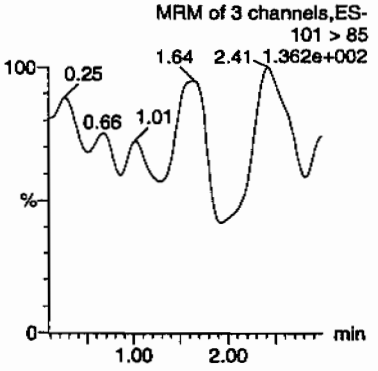
Perchlorate



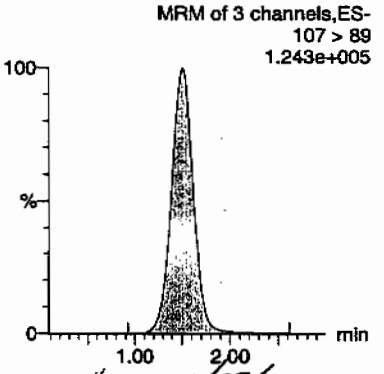
Perchlorate



Perchlorate-101



Perchlorate-O(18)



dmw 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83											0.00
IPB001	Perchlorate-101	101 > 85											
IPB001	Perchlorate-O(18)	107 > 89	1.51	32853.219	32853.219	bb			0.4998	99.95	-0.05	12593....	

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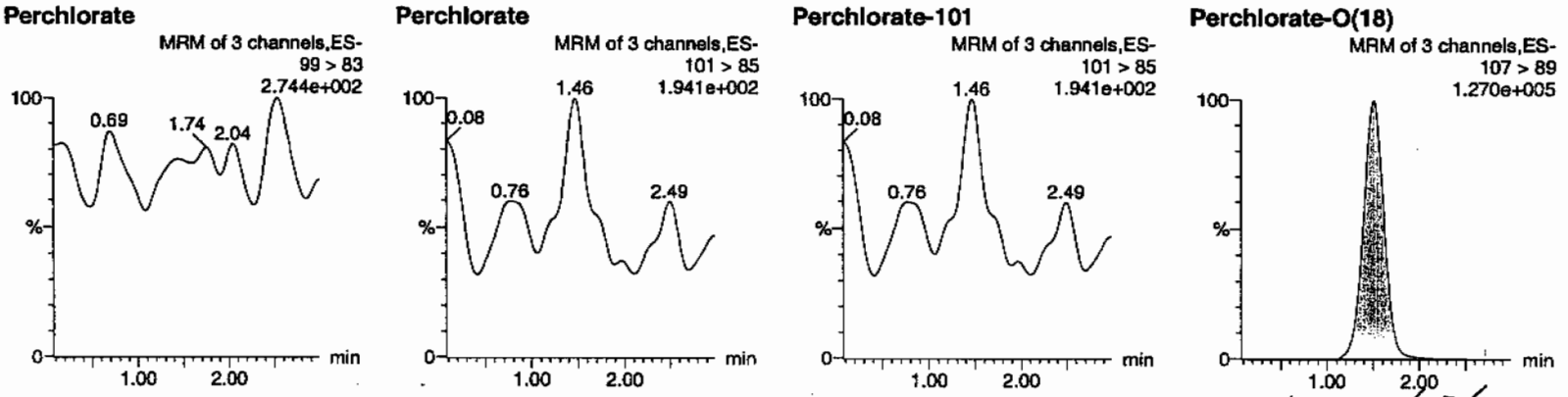
Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104002a
Date: 04-Jan-2010
Time: 17:41:00
ID: IPB001
Vial: 1:1,A

CWW
01-05-10



HMW 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83											0.00
IPB001	Perchlorate-101	101 > 85											
IPB001	Perchlorate-O(18)	107 > 89	1.51	33218.234	33218.234	bb			0.5053	101.06	1.06	3756.0...	

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Form 4

Perchlorate Continuing Calibration Blank

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10–1032

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	04–JAN–10	per0104008a	IPB002
Perchlorate–101	0.00	0	NA	04–JAN–10	per0104008a	IPB002
Perchlorate	0.00	0	NA	04–JAN–10	per0104010a	IPB003
Perchlorate–101	0.00	0	NA	04–JAN–10	per0104010a	IPB003
Perchlorate	0.00	0	NA	04–JAN–10	per0104023a	IPB004
Perchlorate–101	0.00	0	NA	04–JAN–10	per0104023a	IPB004
Perchlorate	0.00	0	NA	04–JAN–10	per0104036a	IPB005
Perchlorate–101	0.00	0	NA	04–JAN–10	per0104036a	IPB005

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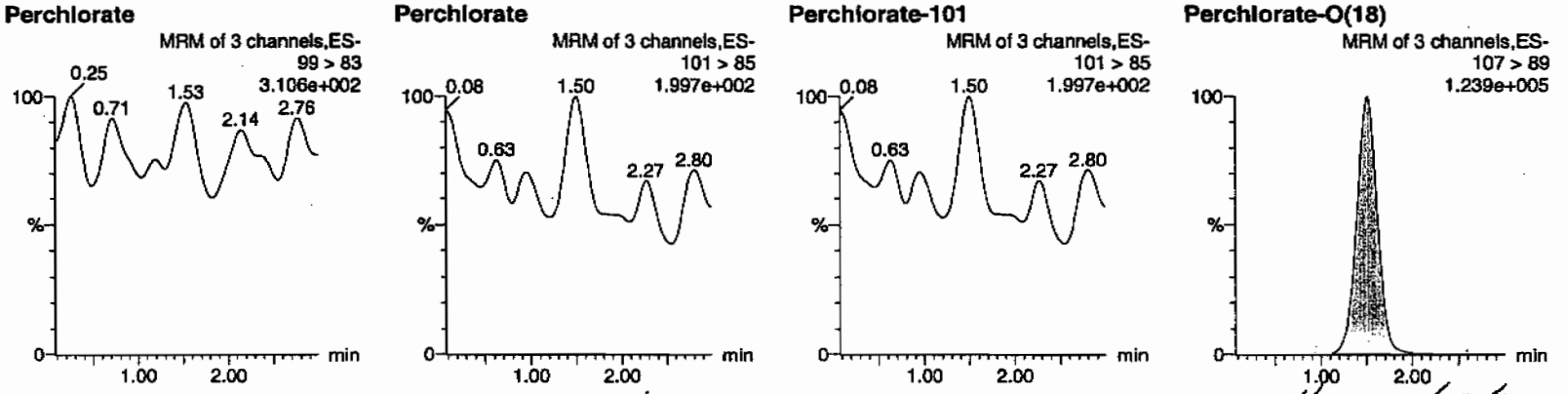
Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104008a
Date: 04-Jan-2010
Time: 18:17:09
ID: IPB002
Vial: 1:1,A

CWW
01-05-10



Hmm 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB002	Perchlorate	99 > 83											0.00
IPB002	Perchlorate-101	101 > 85											
IPB002	Perchlorate-O(18)	107 > 89	1.51	32647.947	32647.947	bb			0.4966	99.33	-0.67	5431.9...	

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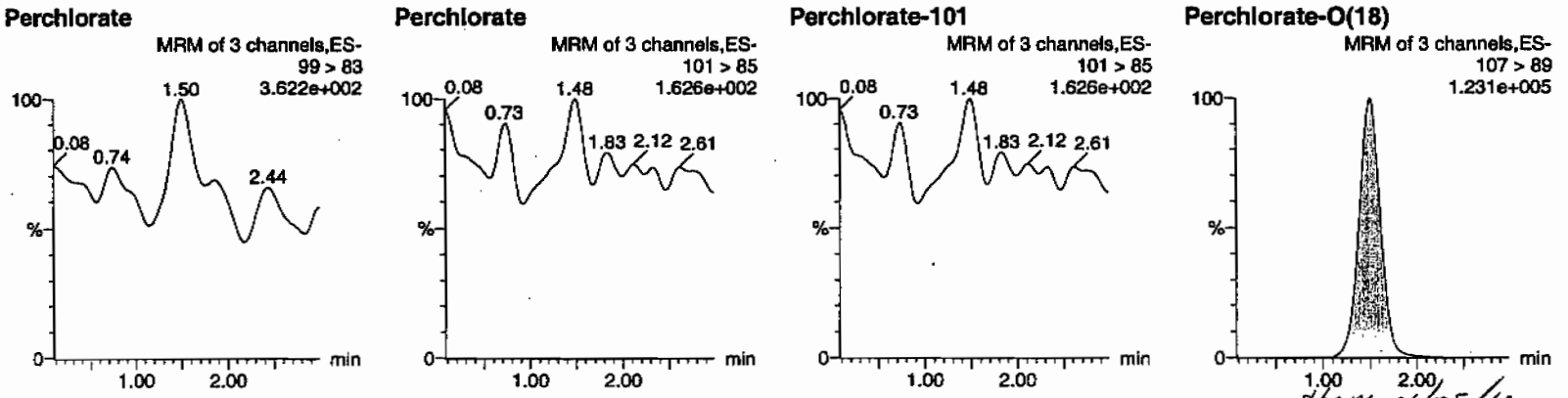
Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104010a
Date: 04-Jan-2010
Time: 18:29:14
ID: IPB003
Vial: 1:1,A

CWW
01-05-10



HMM 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB003	Perchlorate	99 > 83											0.00
IPB003	Perchlorate-101	101 > 85											
IPB003	Perchlorate-O(18)	107 > 89	1.51	32486.686	32486.686	bb			0.4942	98.84	-1.16	4110.6...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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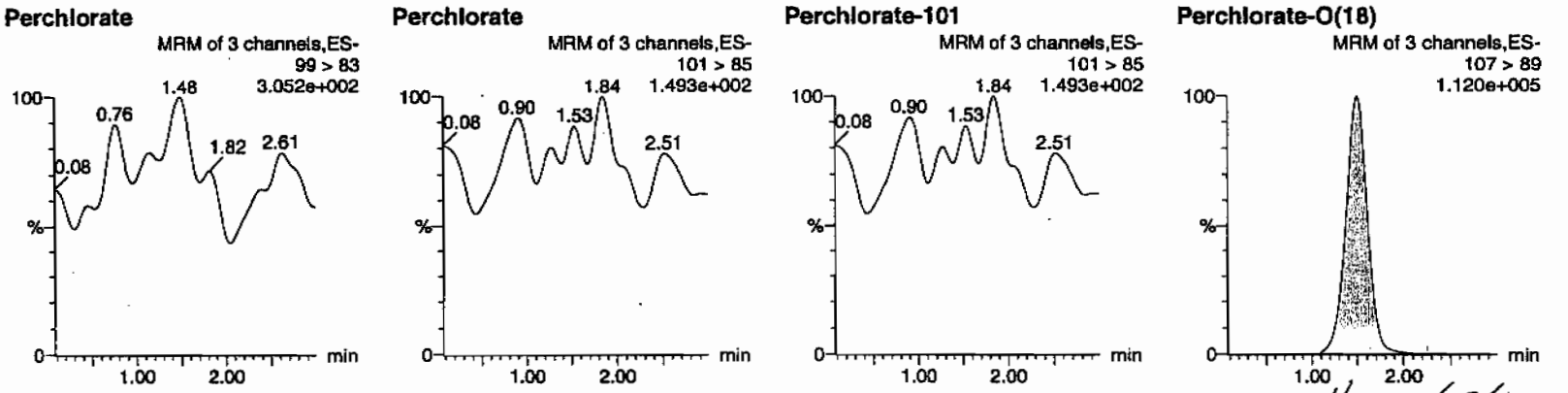
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104023a
Date: 04-Jan-2010
Time: 19:47:47
ID: IPB004
Vial: 1:1,A

CWW
01-05-10



HMW 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB004	Perchlorate	99 > 83											0.00
IPB004	Perchlorate-101	101 > 85											
IPB004	Perchlorate-O(18)	107 > 89	1.50	30302.695	30302.695	bb			0.4610	92.19	-7.81	4337.7...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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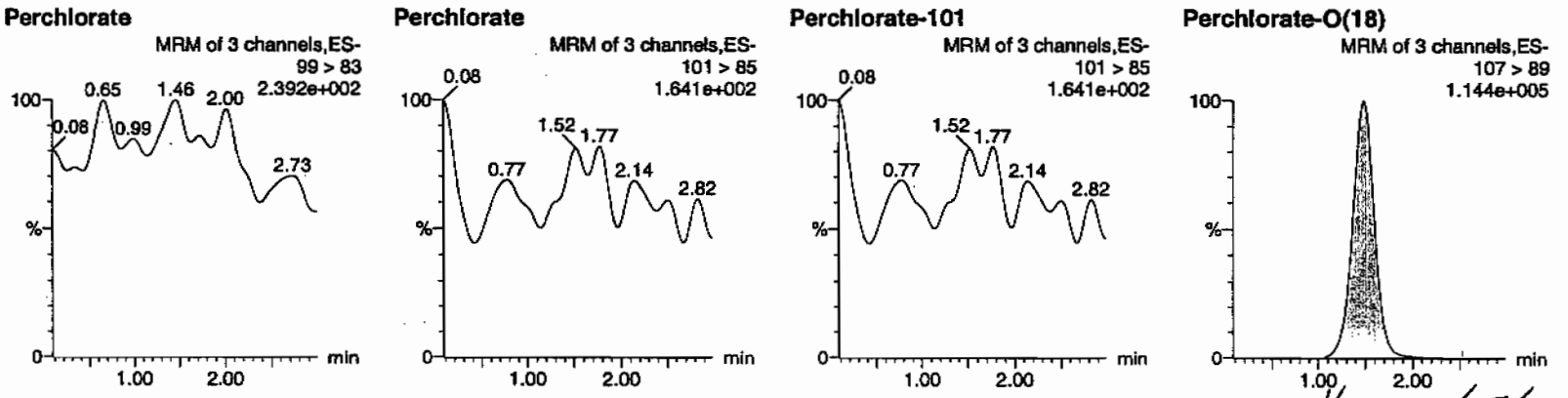
Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104036a
Date: 04-Jan-2010
Time: 21:06:22
ID: IPB005
Vial: 1:1,A

CWW
01-05-10



HNM 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB005	Perchlorate	99 > 83											0.00
IPB005	Perchlorate-101	101 > 85											
IPB005	Perchlorate-O(18)	107 > 89	1.48	30867.195	30867.195	bb			0.4695	93.91	-6.09	3416.4...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Nairb.ref

;Positive ion monoisotopic and average masses from solution
;of NaI/RbI (2.0/0.05ug/ul) in 50/20 2-propanol/H2O.
;Most useful general purpose calibrant for all low
;MW applications, including MS/MS work.
;At high resolution, readily covers from m/z 50-2000.
;At reduced resolution, can be used to over m/z 3000.
;NOT RECOMMENDED FOR PROTEIN WORK. USE MYO, MYOTRP or TRP.
Updated 20 April '95

22.9898	100
84.9118	100
172.8840	100
322.7782	100
472.6725	100
622.5667	100
772.4610	100
922.3552	100
1072.2494	100
; 1222.1437	100
; 1372.0379	100
; 1521.9321	100
; 1671.8264	100
; 1821.7206	100
; 1971.6149	100
; 2121.5091	100
; 2271.4033	100
; 2421.2976	100
; 2571.1918	100
; 2721.0861	100
; 2870.9803	100
; 3020.8745	100
; 3170.7688	100
; 3320.6630	100
; 3470.5572	100
; 3620.4515	100
; 3770.3457	100
; 3920.2400	100

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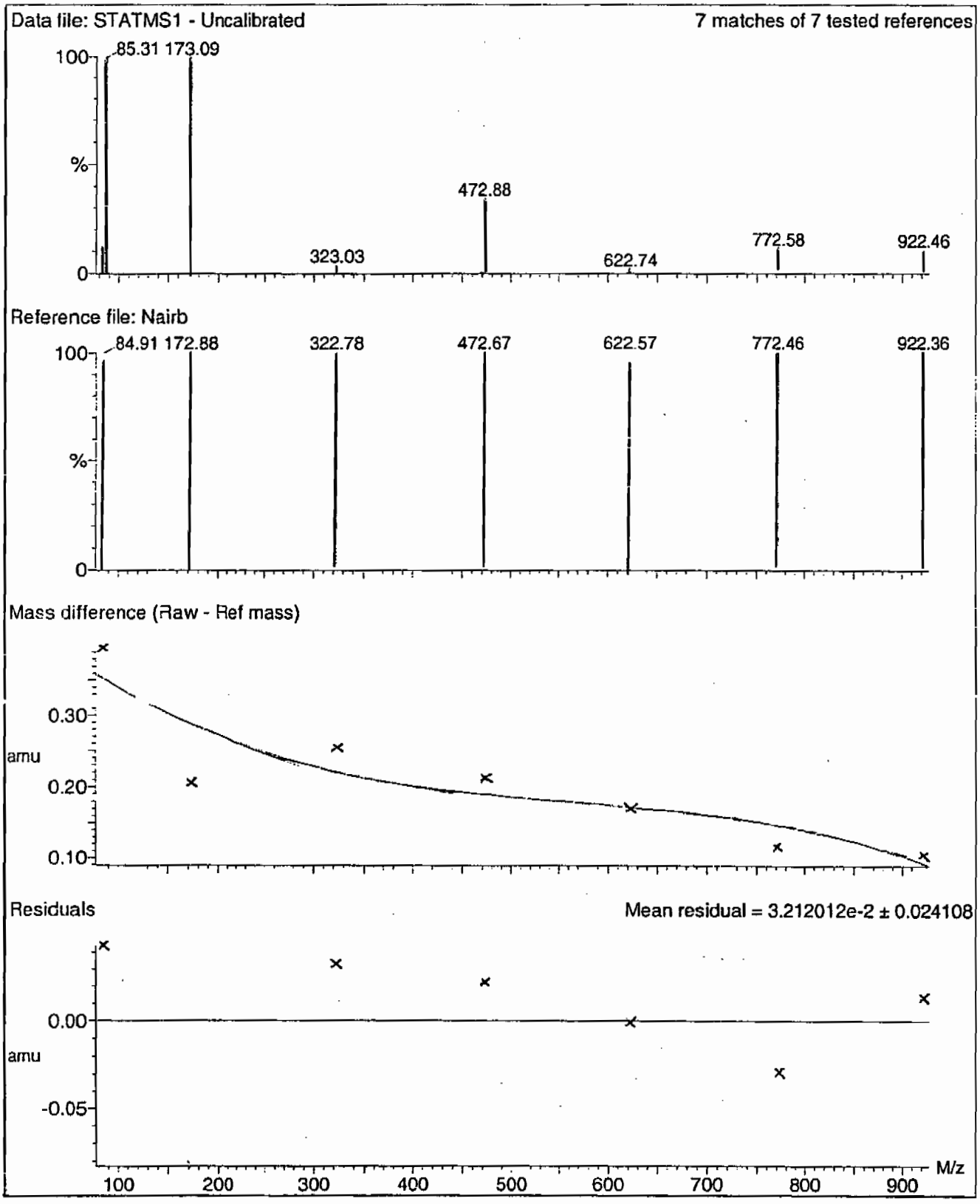
QUATTRO ULTIMA: nairb_01_08_08.cal

Calibration Report - MS1 Static

Printed: Tue Jan 08 12:19:12 2008

PARTS HIGHLIGHTED BY CWW 01-09-08



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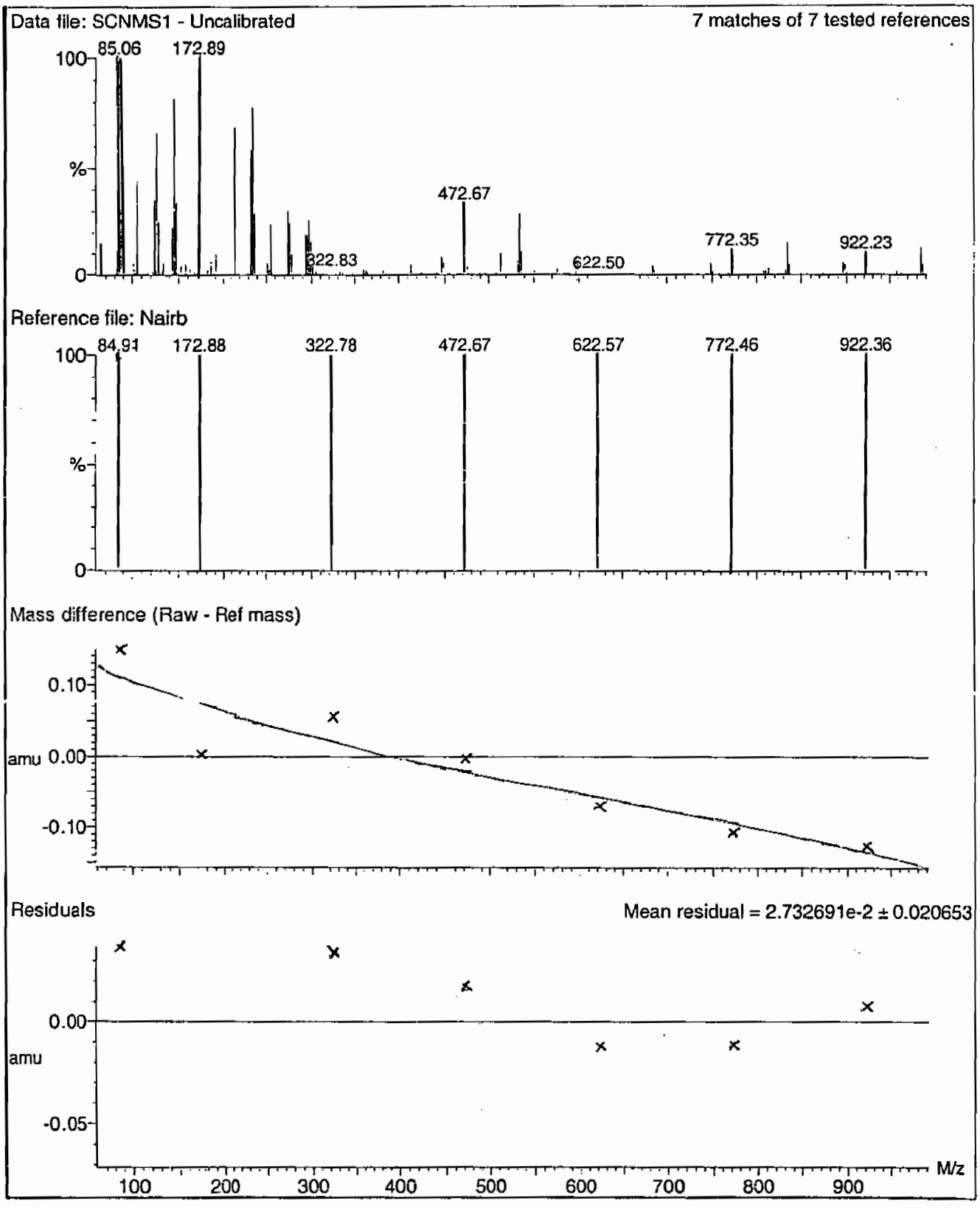
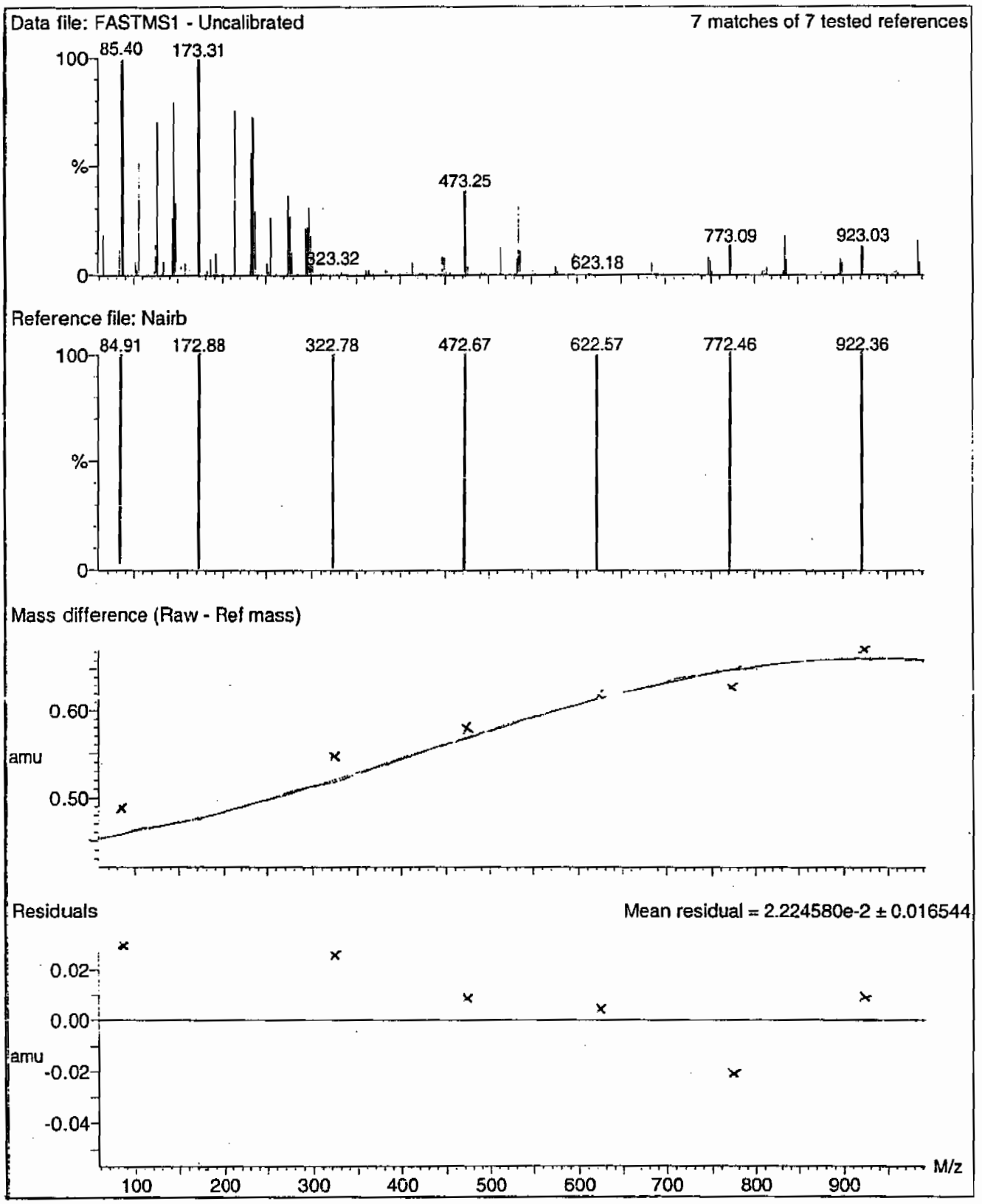
Calibration Report - MS1 Scanning

Printed: Tue Jan 08 12:20:09 2008



PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

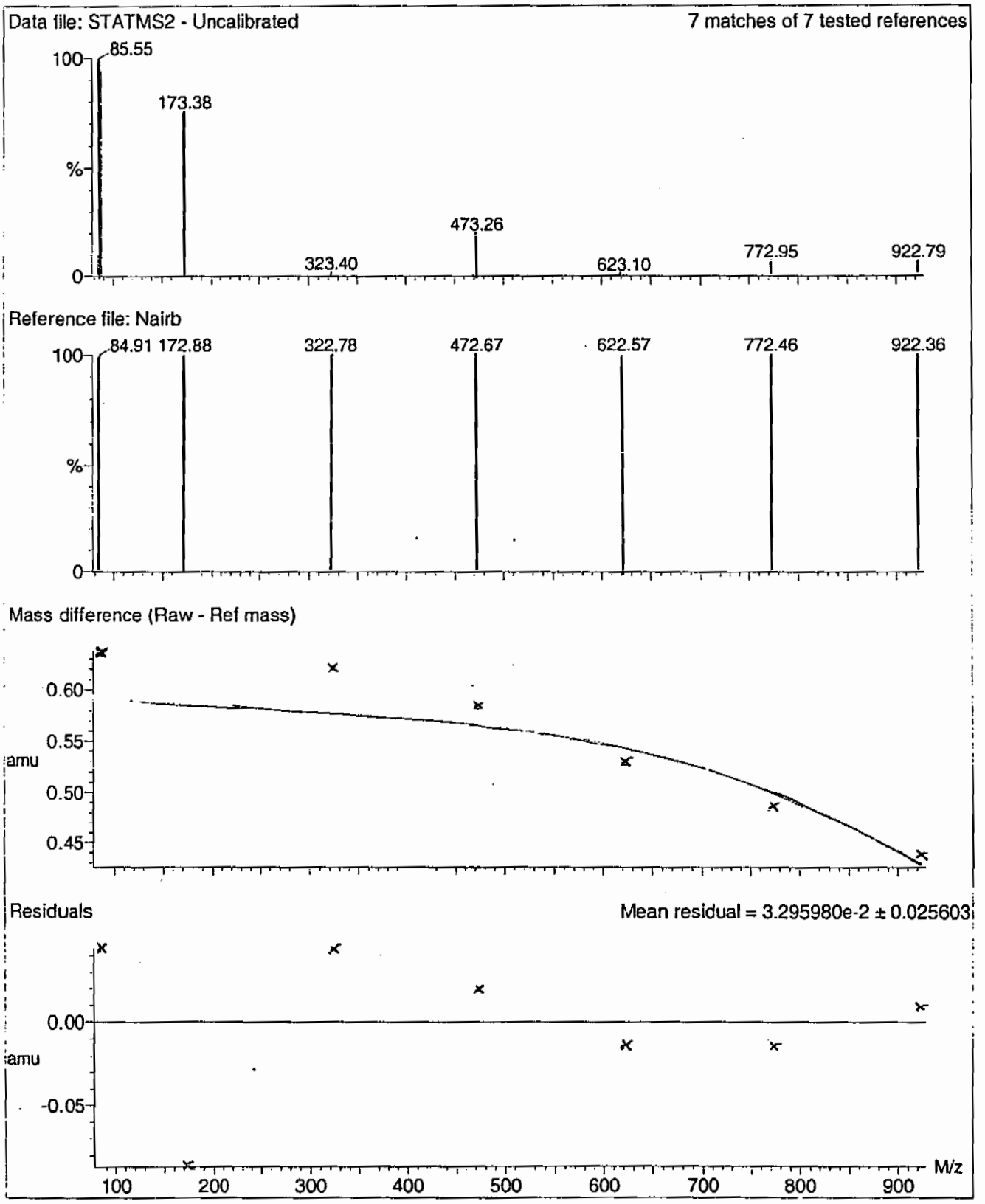
Printed: Tue Jan 08 12:21:04 2006



PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Calibration Report - MS2 Static

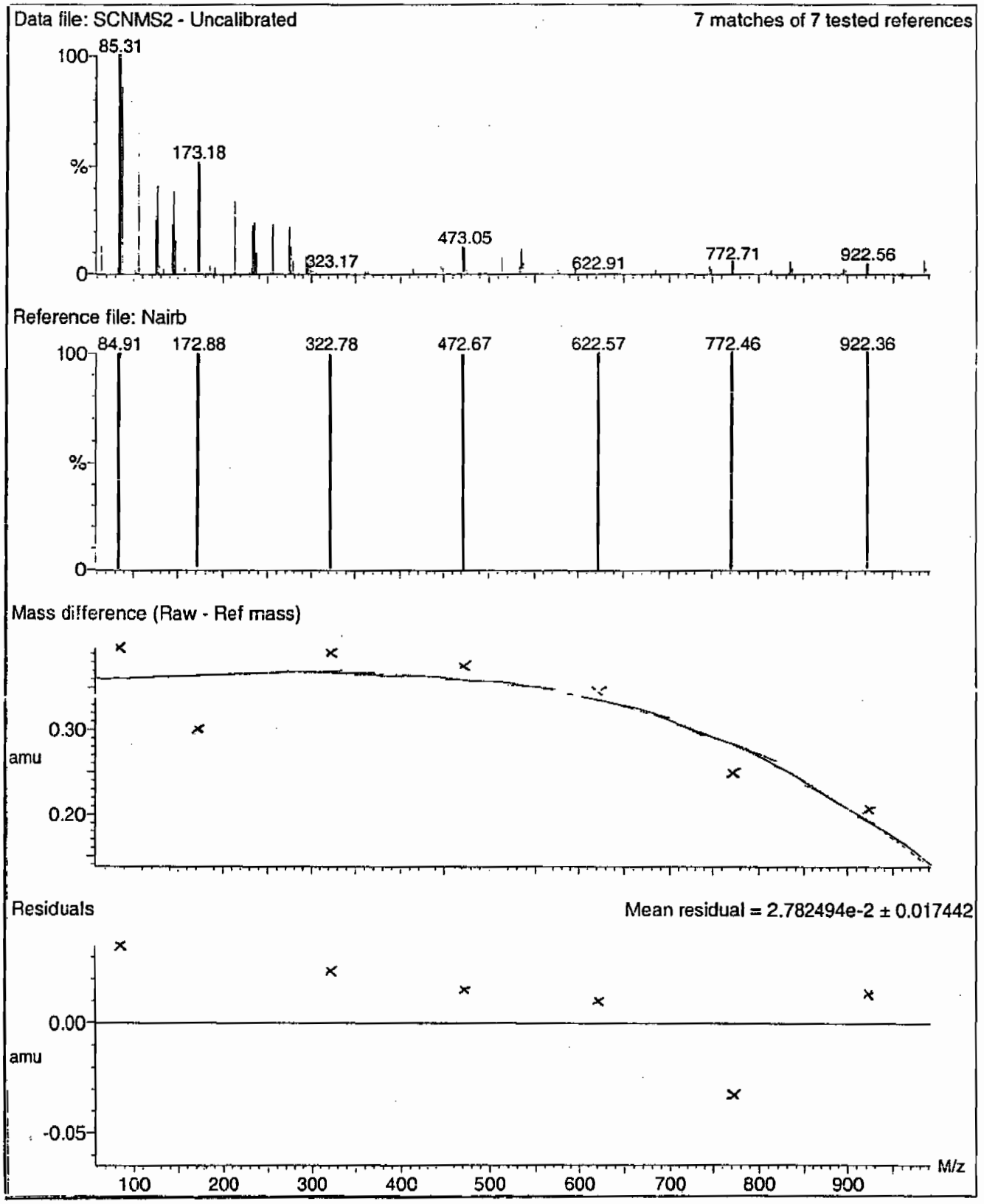
Printed: Tue Jan 08 12:21:59 2008



PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Calibration Report - MS2 Scanning

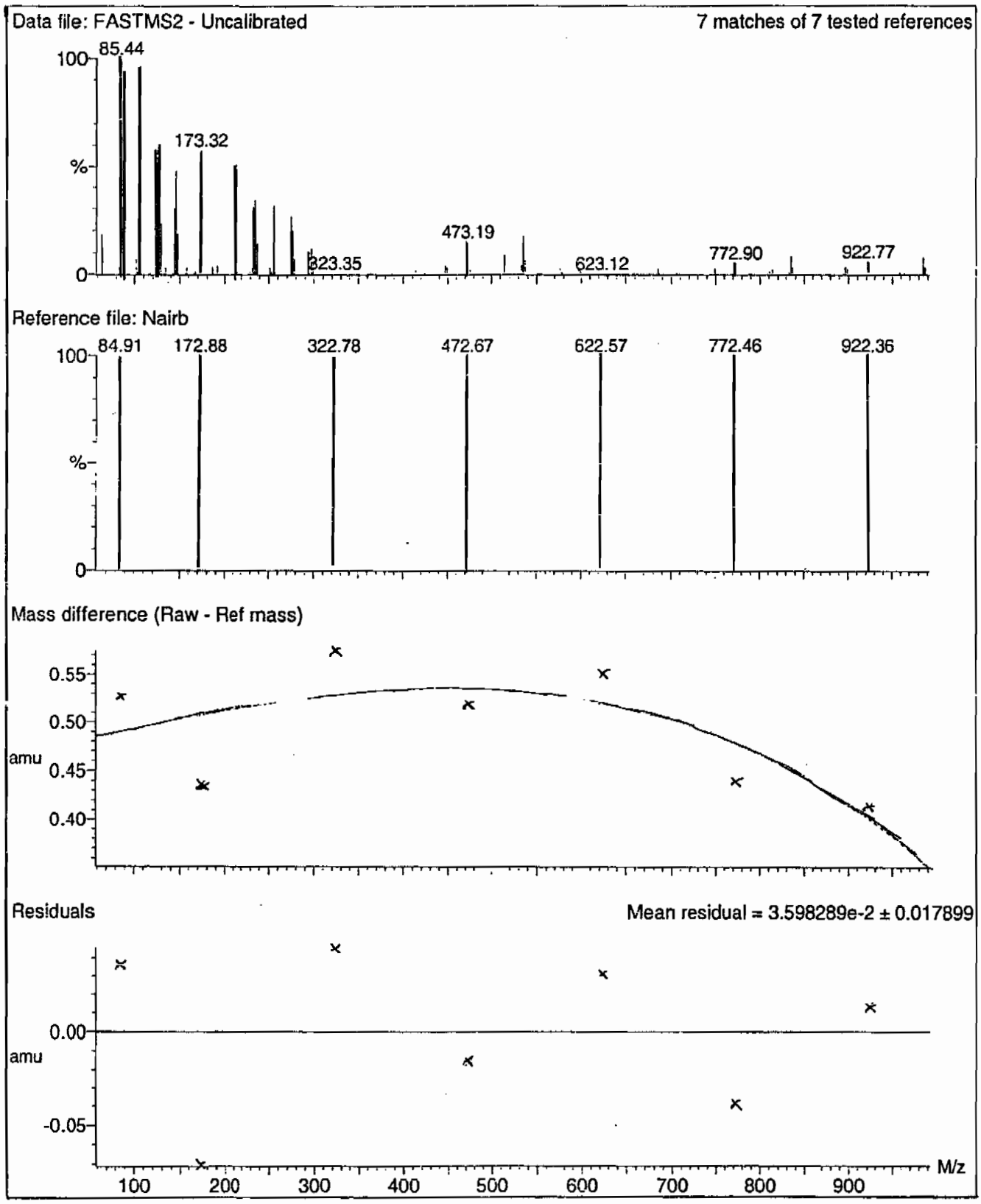
Printed: Tue Jan 08 12:22:56 2008



PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Calibration Report - MS2 Scan Speed Compensation

Printed: Tue Jan 08 12:23:51 2008



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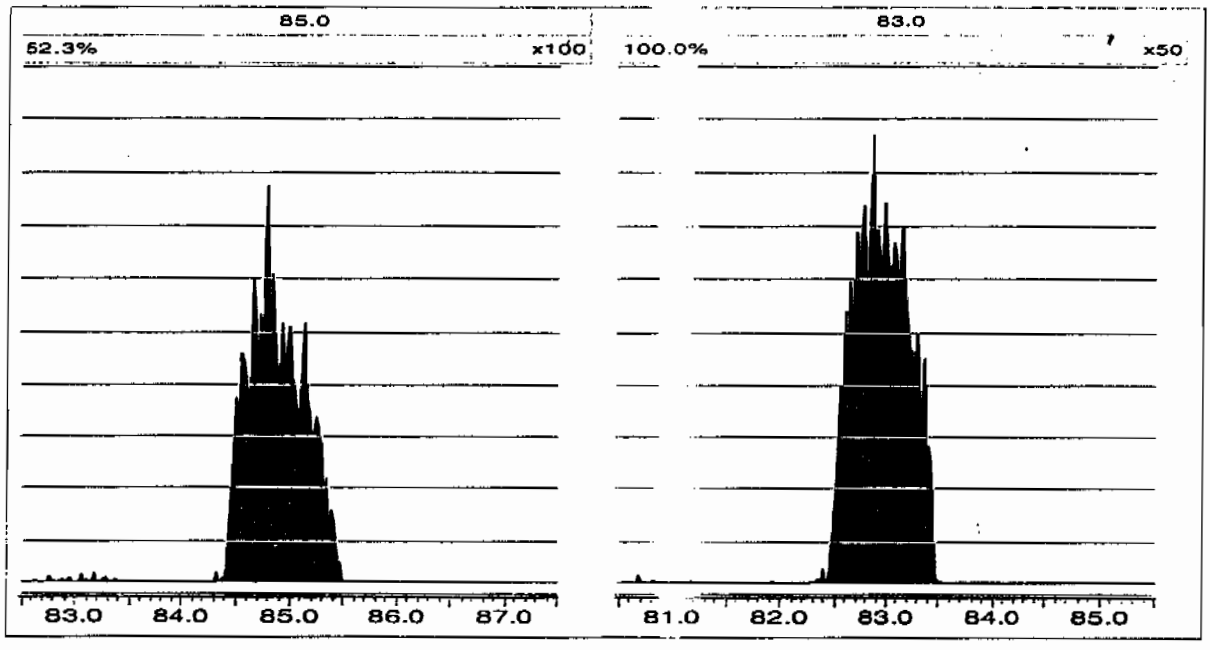
Tune Parameters **MassLynx 4.0 SP4**

File: C:\MassLynx\Perchlorate.PRO\ACQUDB\Perchlorate.IPR

Printed: Monday, January 04, 2010 14:32:13 Eastern Standard Time



Form 8

Perchlorate RT And Area Summary

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10–1032

Lab Code: GEL

Instrument ID: LCMSMS

HPLC Column: Phenomenex Ion Pac AG–16 2 X 50 mm

Sample ID	Datafile	Run Date	Area	RT	RT CLO4	RRT	Q 0.98–1.02
MidLevel Standard Area	**per0104006a**	**04–JAN–10**	**33392.4**				
Lower Area Limit			**16696.2**				
Upper Area Limit			**66784.8**				
1202004138	per0104012a	04–JAN–10 18:41	32341.2	1.51	1.5201	1.007	
1202004139	per0104013a	04–JAN–10 18:47	32132.1	1.51	1.5201	1.007	
1202004142	per0104014a	04–JAN–10 18:53	33230.4	1.56	1.56987	1.006	
243385001	per0104015a	04–JAN–10 18:59	32722.9	1.5	1.50762	1.005	
243385002	per0104016a	04–JAN–10 19:05	32793.8	1.51	1.52012	1.007	
243385003	per0104017a	04–JAN–10 19:11	32973.9	1.5	1.50763	1.005	
243385004	per0104018a	04–JAN–10 19:17	33210.2	1.5	1.5076	1.005	
243385005	per0104019a	04–JAN–10 19:23	33469.4	1.51	1.52008	1.007	

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Form 8

Perchlorate RT And Area Summary

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10–1032

Lab Code: GEL

Instrument ID: LCMSMS

HPLC Column: Phenomenex Ion Pac AG–16 2 X 50 mm

Sample ID	Datafile	Run Date	Area	RT	RT CLO4	RRT	Q 0.98–1.02
MidLevel Standard Area	**per0104006a**	**04–JAN–10**	**33392.4**				
Lower Area Limit			**16696.2**				
Upper Area Limit			**66784.8**				
243385006	per0104020a	04–JAN–10 19:29	31807.3	1.51	1.52015	1.007	
243385007	per0104021a	04–JAN–10 19:35	33931.9	1.51	1.50762	.998	
243385008	per0104025a	04–JAN–10 19:59	33054.6	1.51	1.5201	1.007	
243385009	per0104026a	04–JAN–10 20:05	32681.8	1.5	1.50762	1.005	
243385010	per0104027a	04–JAN–10 20:11	32095	1.5	1.50765	1.005	
243385011	per0104028a	04–JAN–10 20:17	33377.1	1.51	1.5076	.998	

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SAMPLE
DATA

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7580

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385001

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 86

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.582	2.33	0.582	ug/kg	U	1	04-JAN-10 18:59	per0104015a
	Perchlorate Isotope Ratio						1	04-JAN-10 18:59	per0104015a
14797-73-0	Perchlorate-101	.582	2.33	0.582	ug/kg	U	1	04-JAN-10 18:59	per0104015a
	Perchlorate-O(18)			5.79	ug/kg		1	04-JAN-10 18:59	per0104015a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

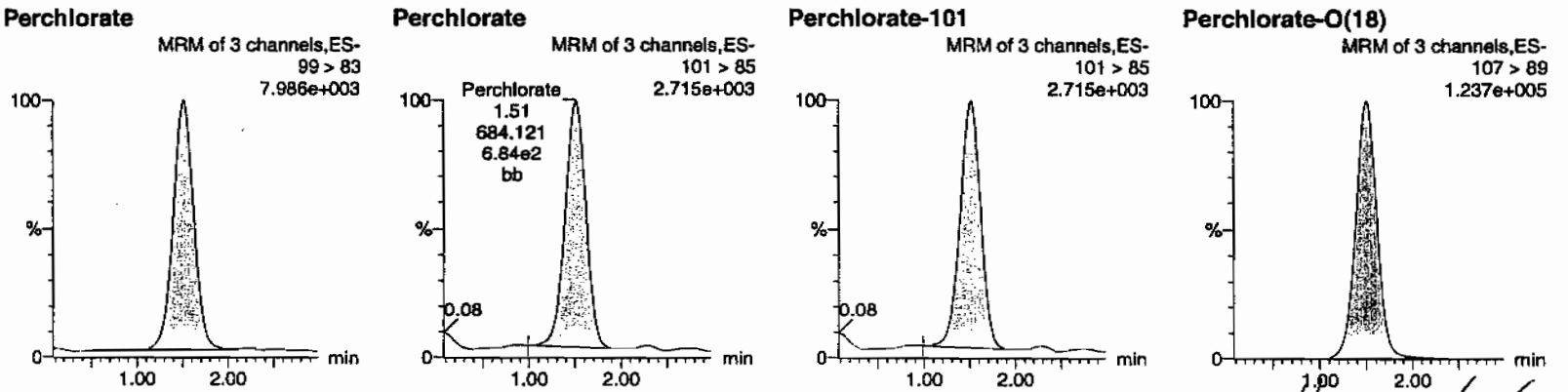
Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104015a
Date: 04-Jan-2010
Time: 18:59:29
ID: 243385001
Vial: 1:3,D

|LANL|936666|SOLID|1|

01-05-10



Hume 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
243385001	Perchlorate	99 > 83	1.51	2047.257	2047.257	bb			0.0276			512.587	2.99
243385001	Perchlorate-101	101 > 85	1.51	684.121	684.121	bb			0.0273			405.256	
243385001	Perchlorate-O(18)	107 > 89	1.50	32722.932	32722.932	bb			0.4978	99.55	-0.45	15962....	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7590

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385002

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 90.6

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.552	2.21	0.552	ug/kg	U	1	04-JAN-10 19:05	per0104016a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:05	per0104016a
14797-73-0	Perchlorate-101	.552	2.21	0.552	ug/kg	U	1	04-JAN-10 19:05	per0104016a
	Perchlorate-O(18)			5.51	ug/kg		1	04-JAN-10 19:05	per0104016a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

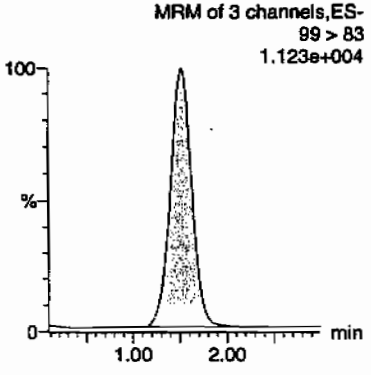
Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

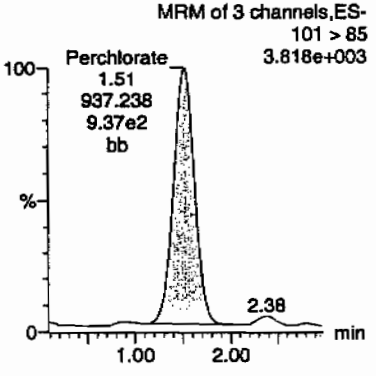
Name: per0104016a
Date: 04-Jan-2010
Time: 19:05:30
ID: 243385002 |LANL|936666|SOLID|1|
Vial: 1:3,E

01-05-10

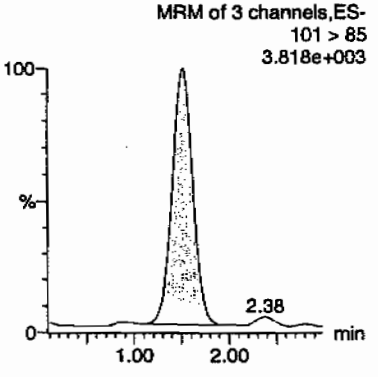
Perchlorate



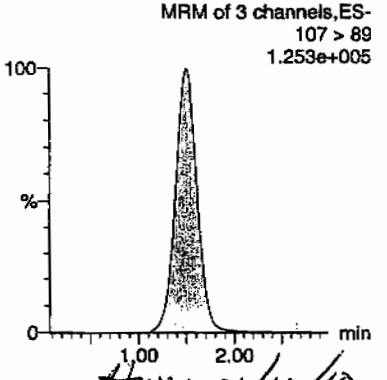
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Anne 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
243385002	Perchlorate	99 > 83	1.52	2932.441	2932.441	bb			0.0395			867.598	3.13
243385002	Perchlorate-101	101 > 85	1.51	937.238	937.238	bb			0.0374			90.357	
243385002	Perchlorate-O(18)	107 > 89	1.51	32793.805	32793.805	bb			0.4989	99.77	-0.23	2971.0...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7592

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385003

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 89

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.564	2.26	0.664	ug/kg	J	1	04-JAN-10 19:11	per0104017a
	Perchlorate Isotope Ratio			2.94			1	04-JAN-10 19:11	per0104017a
14797-73-0	Perchlorate-101	.564	2.26	0.670	ug/kg	J	1	04-JAN-10 19:11	per0104017a
	Perchlorate-O(18)			5.66	ug/kg		1	04-JAN-10 19:11	per0104017a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

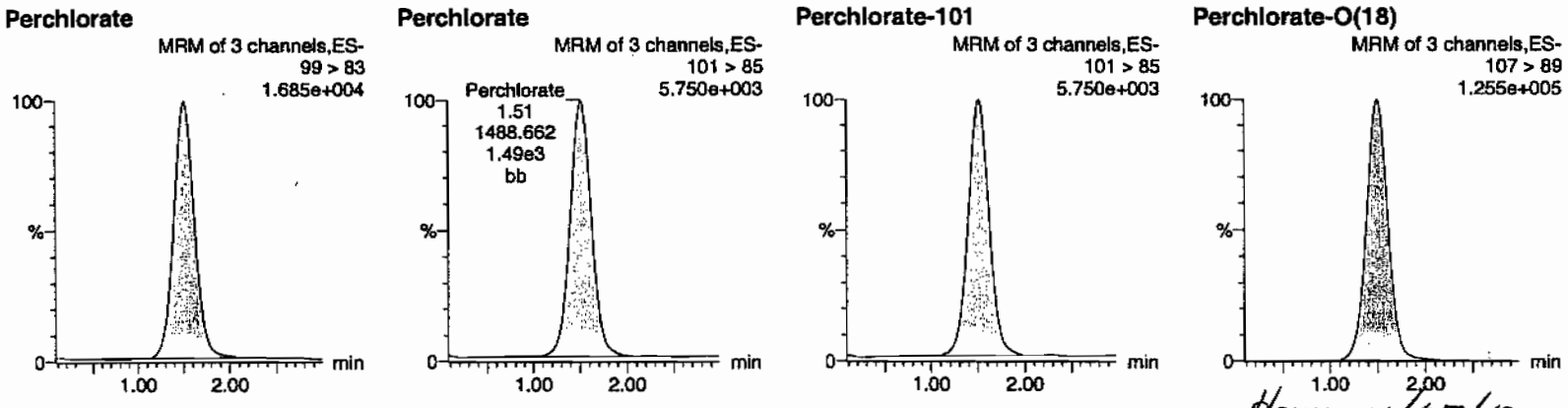
Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104017a
Date: 04-Jan-2010
Time: 19:11:32
ID: 243385003
Vial: 1:3,F

|LANL|936666|SOLID|1|

01-05-10



Hmm 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
243385003	Perchlorate	99 > 83	1.51	4372.313	4372.313	bb			0.0589			573.375	2.94
243385003	Perchlorate-101	101 > 85	1.51	1488.662	1488.662	bb			0.0594			433.351	
243385003	Perchlorate-O(18)	107 > 89	1.50	32973.926	32973.926	bb			0.5016	100.32	0.32	6288.0...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7591

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385004

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 89

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.565	2.26	0.655	ug/kg	J	1	04-JAN-10 19:17	per0104018a
	Perchlorate Isotope Ratio			3.1			1	04-JAN-10 19:17	per0104018a
14797-73-0	Perchlorate-101	.565	2.26	0.625	ug/kg	J	1	04-JAN-10 19:17	per0104018a
	Perchlorate-O(18)			5.71	ug/kg		1	04-JAN-10 19:17	per0104018a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

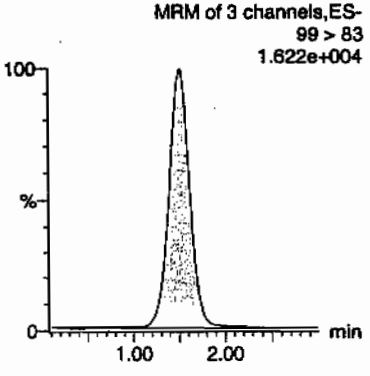
Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104018a
Date: 04-Jan-2010
Time: 19:17:33
ID: 243385004
Vial: 1:4,A

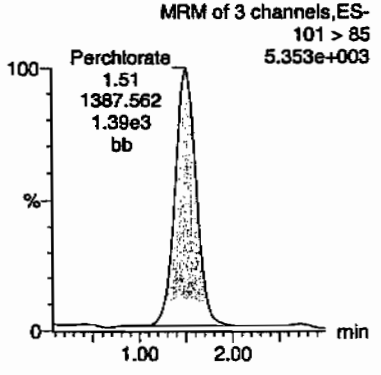
|LANL|936646|SOLID|11

CWW
01-05-10

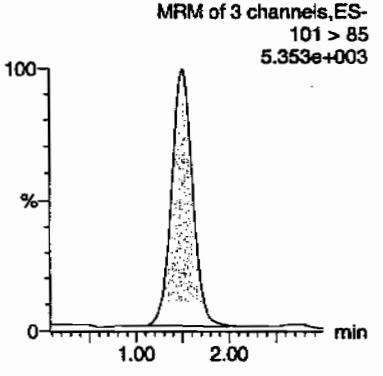
Perchlorate



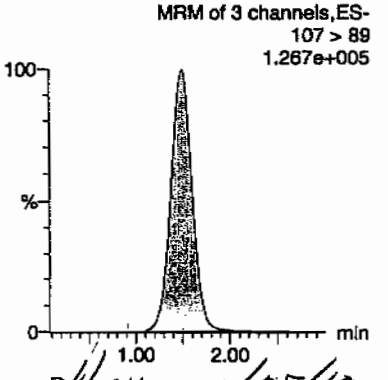
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hnm 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
243385004	Perchlorate	99 > 83	1.51	4303.050	4303.050	bb			0.0580			812.009	3.10
243385004	Perchlorate-101	101 > 85	1.51	1387.562	1387.562	bb			0.0554			325.444	
243385004	Perchlorate-O(18)	107 > 89	1.50	33210.195	33210.195	bb			0.5052	101.04	1.04	8665.4...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7581

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385005

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 88

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.566	2.26	0.566	ug/kg	U	1	04-JAN-10 19:23	per0104019a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:23	per0104019a
14797-73-0	Perchlorate-101	.566	2.26	0.566	ug/kg	U	1	04-JAN-10 19:23	per0104019a
	Perchlorate-O(18)			5.76	ug/kg		1	04-JAN-10 19:23	per0104019a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

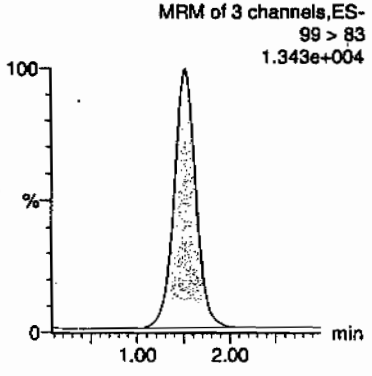
Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104019a
Date: 04-Jan-2010
Time: 19:23:36
ID: 243385005
Vial: 1:4,B

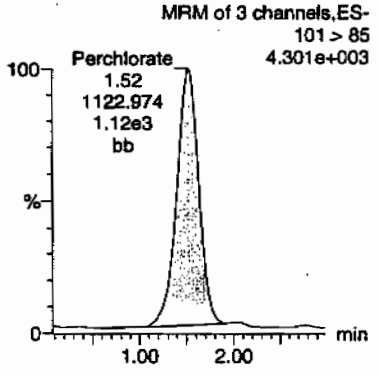
|LANL|936666|SOLID|1|

CWW
01-05-10

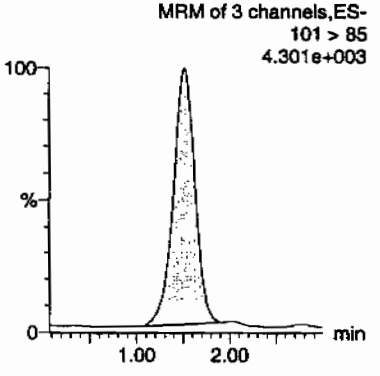
Perchlorate



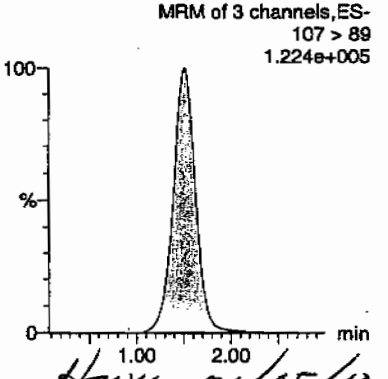
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
243385005	Perchlorate	99 > 83	1.52	3613.297	3613.297	bb			0.0487			320.287	3.22
243385005	Perchlorate-101	101 > 85	1.52	1122.974	1122.974	bb			0.0448			190.269	
243385005	Perchlorate-O(18)	107 > 89	1.51	33469.434	33469.434	bb			0.5091	101.83	1.83	6790.7...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7586

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385006

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 89

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.561	2.24	0.561	ug/kg	U	1	04-JAN-10 19:29	per0104020a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:29	per0104020a
14797-73-0	Perchlorate-101	.561	2.24	0.561	ug/kg	U	1	04-JAN-10 19:29	per0104020a
	Perchlorate-O(18)			5.43	ug/kg		1	04-JAN-10 19:29	per0104020a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

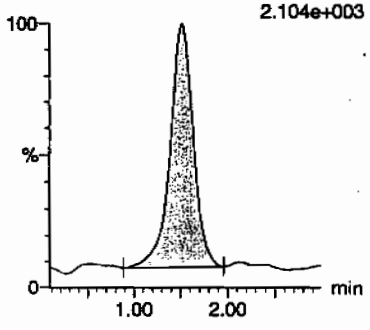
Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104020a
Date: 04-Jan-2010
Time: 19:29:39
ID: 243385006
Vial: 1:4,C

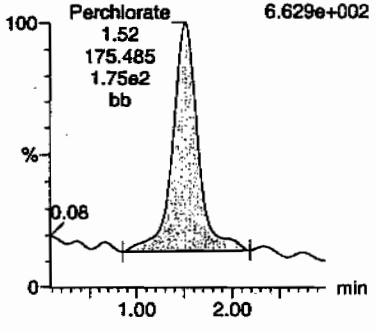
|LANL|9366666|SDWD|1|

CWW
01-05-10

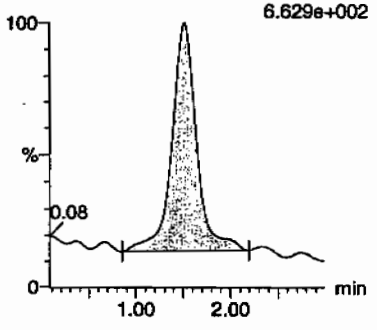
Perchlorate



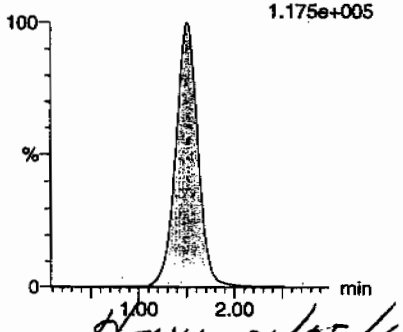
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Amw 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
243385006	Perchlorate	99 > 83	1.52	558.469	558.469	bb			0.0075			223.225	3.18
243385006	Perchlorate-101	101 > 85	1.52	175.485	175.485	bb			0.0070			58.582	
243385006	Perchlorate-O(18)	107 > 89	1.51	31807.262	31807.262	bb			0.4838	96.77	-3.23	9856.5...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7587

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385007

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 90.1

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.555	2.22	0.555	ug/kg	U	1	04-JAN-10 19:35	per0104021a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:35	per0104021a
14797-73-0	Perchlorate-101	.555	2.22	0.555	ug/kg	U	1	04-JAN-10 19:35	per0104021a
	Perchlorate-O(18)			5.73	ug/kg		1	04-JAN-10 19:35	per0104021a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

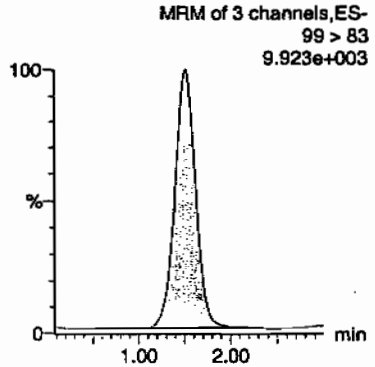
Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104021a
Date: 04-Jan-2010
Time: 19:35:42
ID: 243385007
Vial: 1:4,D

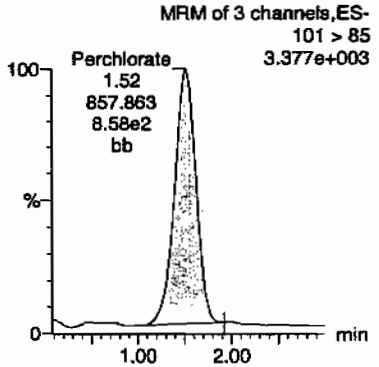
|LANL|936666|SDZD|11

WW 01-05-10

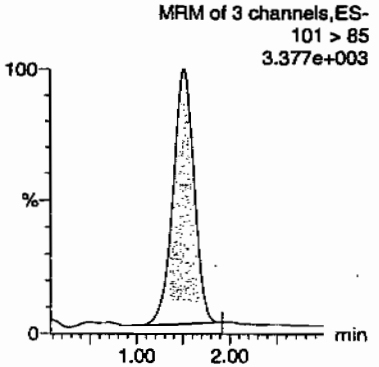
Perchlorate



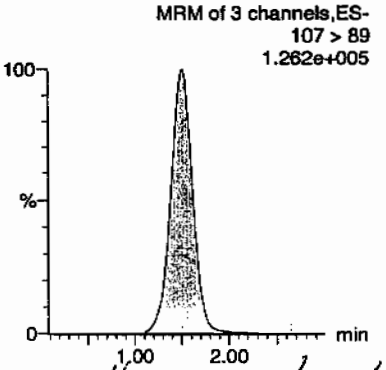
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HMM 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
243385007	Perchlorate	99 > 83	1.51	2558.782	2558.782	bb			0.0345			567.405	2.98
243385007	Perchlorate-101	101 > 85	1.52	857.863	857.863	bb			0.0342			303.117	
243385007	Perchlorate-O(18)	107 > 89	1.51	33931.891	33931.891	bb			0.5162	103.23	3.23	11788....	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7585

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385008

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 91.6

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.546	2.18	0.546	ug/kg	U	1	04-JAN-10 19:59	per0104025a
	Perchlorate Isotope Ratio						1	04-JAN-10 19:59	per0104025a
14797-73-0	Perchlorate-101	.546	2.18	0.546	ug/kg	U	1	04-JAN-10 19:59	per0104025a
	Perchlorate-O(18)			5.49	ug/kg		1	04-JAN-10 19:59	per0104025a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

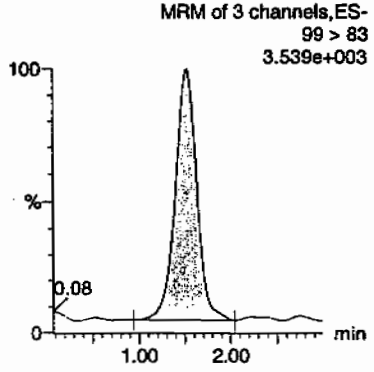
Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104025a
Date: 04-Jan-2010
Time: 19:59:51
ID: 243385008
Vial: 1:4,E

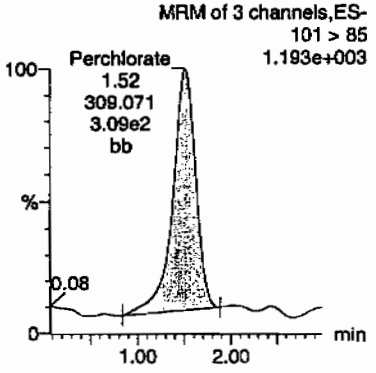
|LANL|936666|50120|1|

CWW
01-05-10

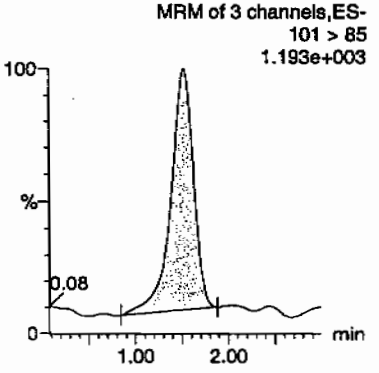
Perchlorate



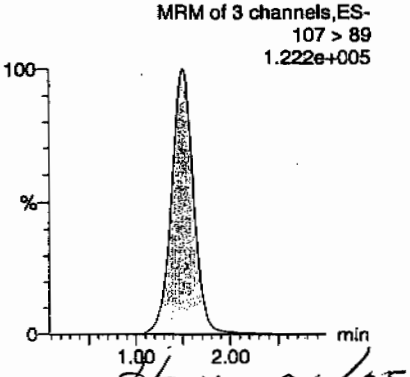
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
243385008	Perchlorate	99 > 83	1.52	924.422	924.422	bb			0.0124			156.144	2.99
243385008	Perchlorate-101	101 > 85	1.52	309.071	309.071	bb			0.0123			99.218	
243385008	Perchlorate-O(18)	107 > 89	1.51	33054.629	33054.629	bb			0.5028	100.56	0.56	2354.1...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7582

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385009

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 92.8

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.539	2.15	0.539	ug/kg	U	1	04-JAN-10 20:05	per0104026a
	Perchlorate Isotope Ratio						1	04-JAN-10 20:05	per0104026a
14797-73-0	Perchlorate-101	.539	2.15	0.539	ug/kg	U	1	04-JAN-10 20:05	per0104026a
	Perchlorate-O(18)			5.35	ug/kg		1	04-JAN-10 20:05	per0104026a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

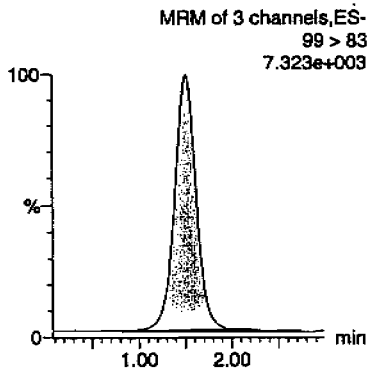
Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

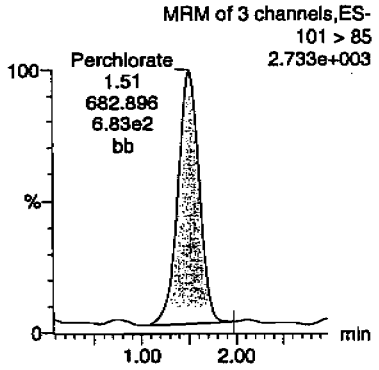
Name: per0104026a
Date: 04-Jan-2010
Time: 20:05:52
ID: 243385009 |LANL|936666|SDL20|1|
Vial: 1:4,F

CWW
01-05-10

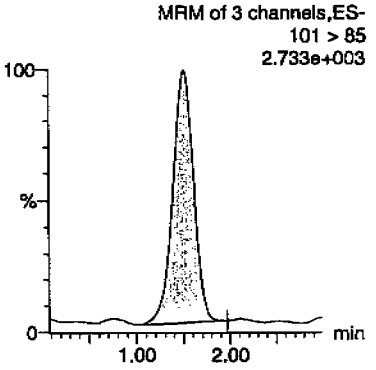
Perchlorate



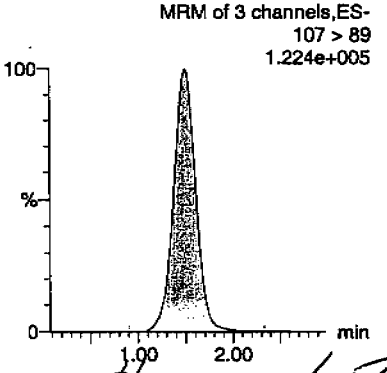
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HMM 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
243385009	Perchlorate	99 > 83	1.51	1944.562	1944.562	bb			0.0262			187.445	2.85
243385009	Perchlorate-101	101 > 85	1.51	682.896	682.896	bb			0.0272			360.277	
243385009	Perchlorate-O(18)	107 > 89	1.50	32681.836	32681.836	bb			0.4971	99.43	-0.57	7573.7...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7584

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385010

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 92.7

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.539	2.16	0.539	ug/kg	U	1	04-JAN-10 20:11	per0104027a
	Perchlorate Isotope Ratio						1	04-JAN-10 20:11	per0104027a
14797-73-0	Perchlorate-101	.539	2.16	0.539	ug/kg	U	1	04-JAN-10 20:11	per0104027a
	Perchlorate-O(18)			5.26	ug/kg		1	04-JAN-10 20:11	per0104027a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

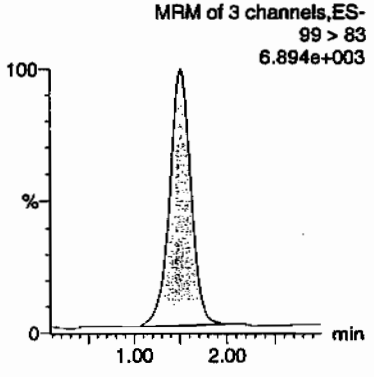
Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104027a
Date: 04-Jan-2010
Time: 20:11:54
ID: 243385010
Vial: 1:5,A

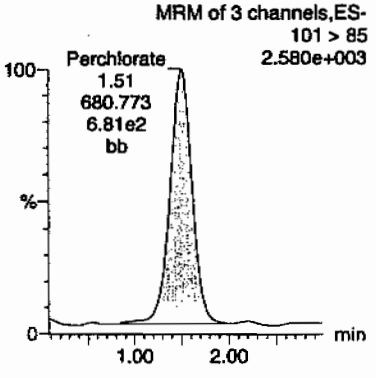
|LANL|936666|SOLID|1|

GWW
01-05-10

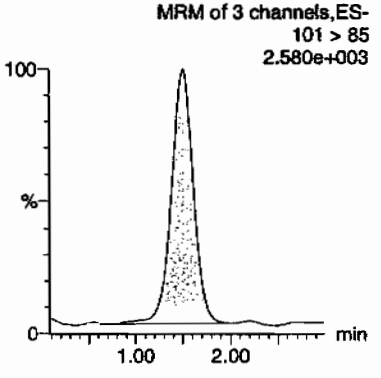
Perchlorate



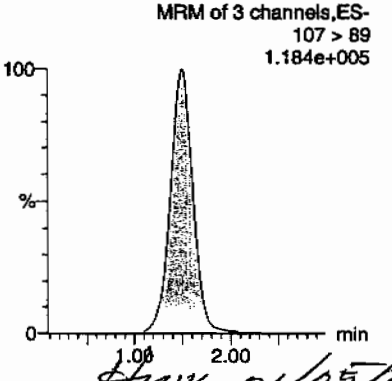
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HMM 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
243385010	Perchlorate	99 > 83	1.51	1811.268	1811.268	bb			0.0244			124.351	2.66
243385010	Perchlorate-101	101 > 85	1.51	680.773	680.773	bb			0.0272			88.755	
243385010	Perchlorate-O(18)	107 > 89	1.50	32094.980	32094.980	bb			0.4882	97.64	-2.36	763.655	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7583

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 243385011

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 93.3

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.536	2.14	1.64	ug/kg	J	1	04-JAN-10 20:17	per0104028a
	Perchlorate Isotope Ratio			2.95			1	04-JAN-10 20:17	per0104028a
14797-73-0	Perchlorate-101	.536	2.14	1.65	ug/kg	J	1	04-JAN-10 20:17	per0104028a
	Perchlorate-O(18)			5.44	ug/kg		1	04-JAN-10 20:17	per0104028a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

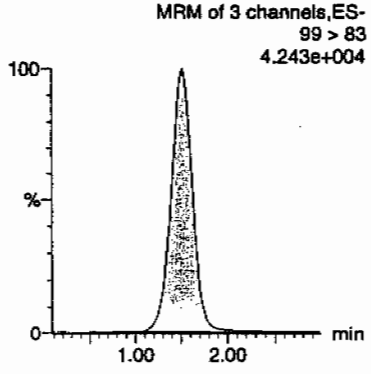
Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

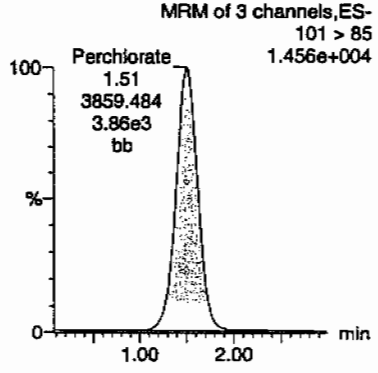
Name: per0104028a
Date: 04-Jan-2010
Time: 20:17:58
ID: 243385011 |LANL|936666|SOLID|1|
Vial: 1:5,B

CWW 01-05-10

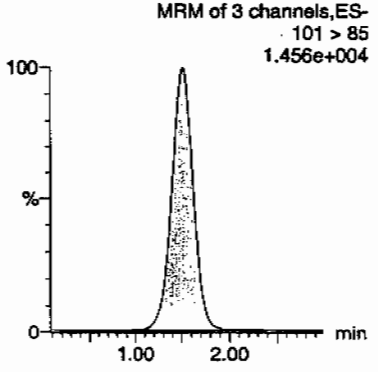
Perchlorate



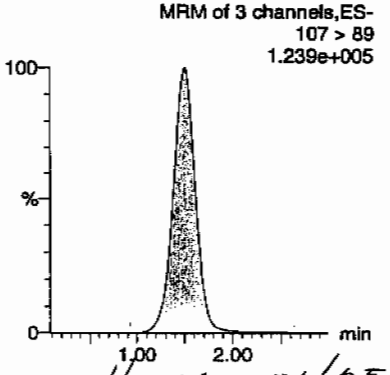
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HWM 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
243385011	Perchlorate	99 > 83	1.51	11381.039	11381.039	bb			0.1533			2347.7...	2.95
243385011	Perchlorate-101	101 > 85	1.51	3859.484	3859.484	bb			0.1540			644.631	
243385011	Perchlorate-O(18)	107 > 89	1.51	33377.086	33377.086	bb			0.5077	101.54	1.54	29873....	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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STANDARDS DATA

Form 2

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10-1032

Lab Code: GEL

Instrument ID: LCMSMS **Date Analyzed:** 04-JAN-10

HPLC Column: Phenomenex Ion Pac AG-16 2 X 50 mm

Calibration Level	1	2	3	4	5
Cal Concentration (ug/L)	0.05	0.1	0.25	0.50	1.0

Parmname Perchlorate

Coefficient of Determination:

Calibration Curve: 74252.86

Response Type: External Standard

Curve Type: RF

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Form 2

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10–1032

Lab Code: GEL

Instrument ID: LCMSMS **Date Analyzed:** 04–JAN–10

HPLC Column: Phenomenex Ion Pac AG–16 2 X 50 mm

Calibration Level	1	2	3	4	5
Cal Concentration (ug/L)	0.05	0.1	0.25	0.50	1.0

Parmname Perchlorate–101

Coefficient of Determination:

Calibration Curve: 25061.62

Response Type: External Standard

Curve Type: RF

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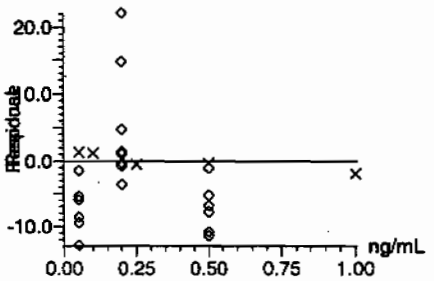
Quantify Calibration Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

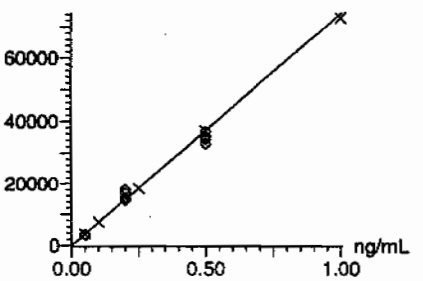
Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per010410a.mdb 04 Jan 2010 17:28:18
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per010410a.cdb 05 Jan 2010 07:54:35

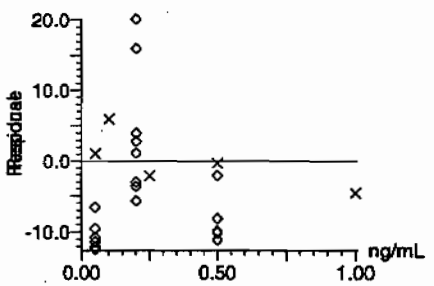
Compound name: Perchlorate
Response Factor: 74252.9
RRF SD: 998.094, % Relative SD: 1.34418
Response type: External Std, Area
Curve type: RF

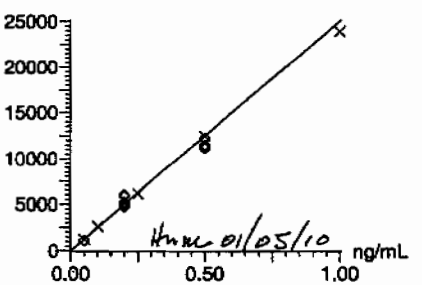




CW
01-05-10

Compound name: Perchlorate-101
Response Factor: 25061.6
RRF SD: 978.712, % Relative SD: 3.90522
Response type: External Std, Area
Curve type: RF





HMW 01/05/10

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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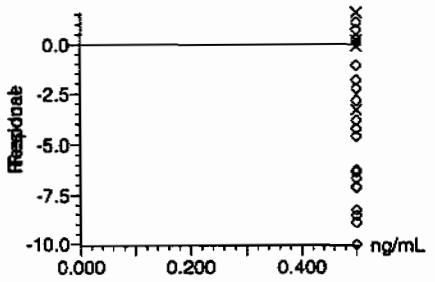
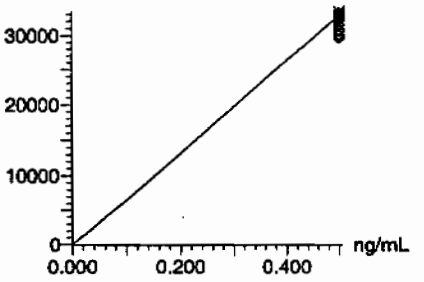
Quantify Calibration Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Compound name: Perchlorate-O(18)
Response Factor: 65738.6
RRF SD: 1318.52, % Relative SD: 2.0057
Response type: External Std, Area
Curve type: RF





GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Form 3

Perchlorate Initial Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10–1032

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.49	98.94	04–JAN–10 18:23	per0104009a
Perchlorate Isotope Ratio		2.99		04–JAN–10 18:23	per0104009a
Perchlorate–101	.5	.49	97.89	04–JAN–10 18:23	per0104009a

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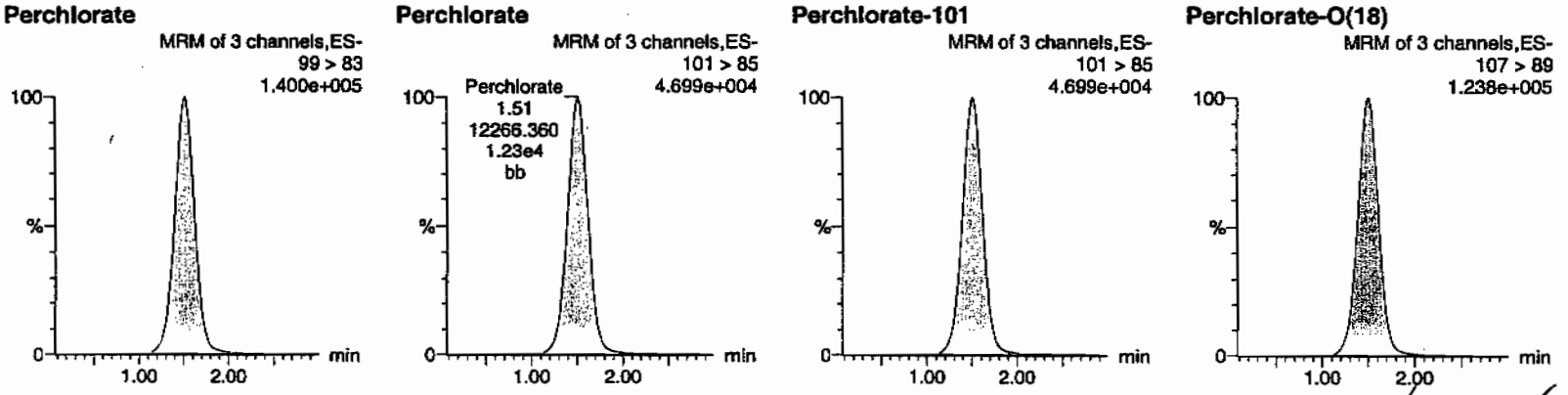
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104009a
Date: 04-Jan-2010
Time: 18:23:12
ID: WCL100104-06ICV
Vial: 1:2,A

Pass
AWW
01-05-10



AMW 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-06ICV	Perchlorate	99 > 83	1.51	36733.895	36733.895	bb			0.4947	98.94	-1.06	2777.3...	2.99
WCL100104-06ICV	Perchlorate-101	101 > 85	1.51	12266.360	12266.360	bb			0.4894	97.89	-2.11	2938.0...	
WCL100104-06ICV	Perchlorate-O(18)	107 > 89	1.50	32512.113	32512.113	bb			0.4946	98.91	-1.09	755.351	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Form 3

Perchlorate Continuing Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10–1032

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.47	94.73	04–JAN–10 19:41	per0104022a
Perchlorate Isotope Ratio		3.11		04–JAN–10 19:41	per0104022a
Perchlorate–101	.5	.45	90.11	04–JAN–10 19:41	per0104022a
Perchlorate	.5	.47	93.16	04–JAN–10 21:00	per0104035a
Perchlorate Isotope Ratio		3		04–JAN–10 21:00	per0104035a
Perchlorate–101	.5	.46	91.89	04–JAN–10 21:00	per0104035a

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

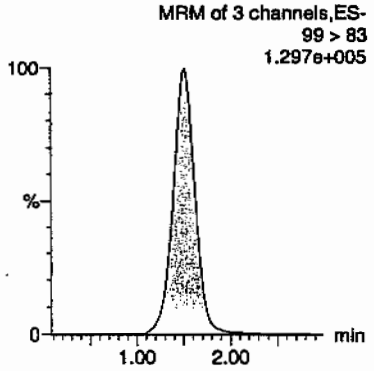
Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

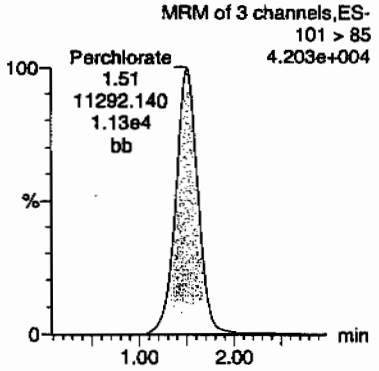
Name: per0104022a
Date: 04-Jan-2010
Time: 19:41:44
ID: WCL100104-06CCV
Vial: 1:2,A

Pass
CWW
01-05-10

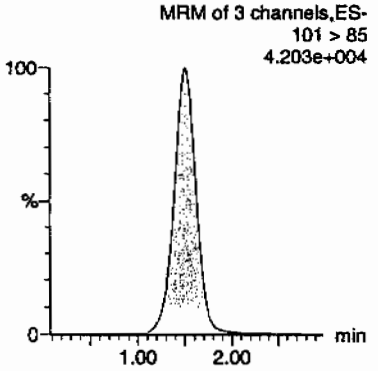
Perchlorate



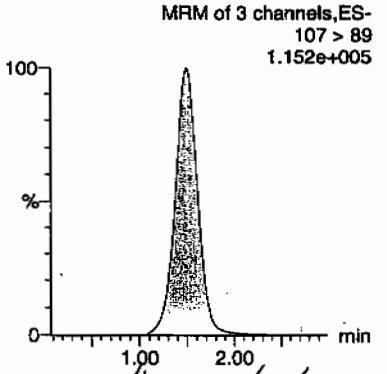
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmw 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-06CCV	Perchlorate	99 > 83	1.51	35169.371	35169.371	bb			0.4736	94.73	-5.27	8925.0...	3.11
WCL100104-06CCV	Perchlorate-101	101 > 85	1.51	11292.140	11292.140	bb			0.4506	90.11	-9.89	1935.6...	
WCL100104-06CCV	Perchlorate-O(18)	107 > 89	1.50	31358.557	31358.557	bb			0.4770	95.40	-4.60	8990.0...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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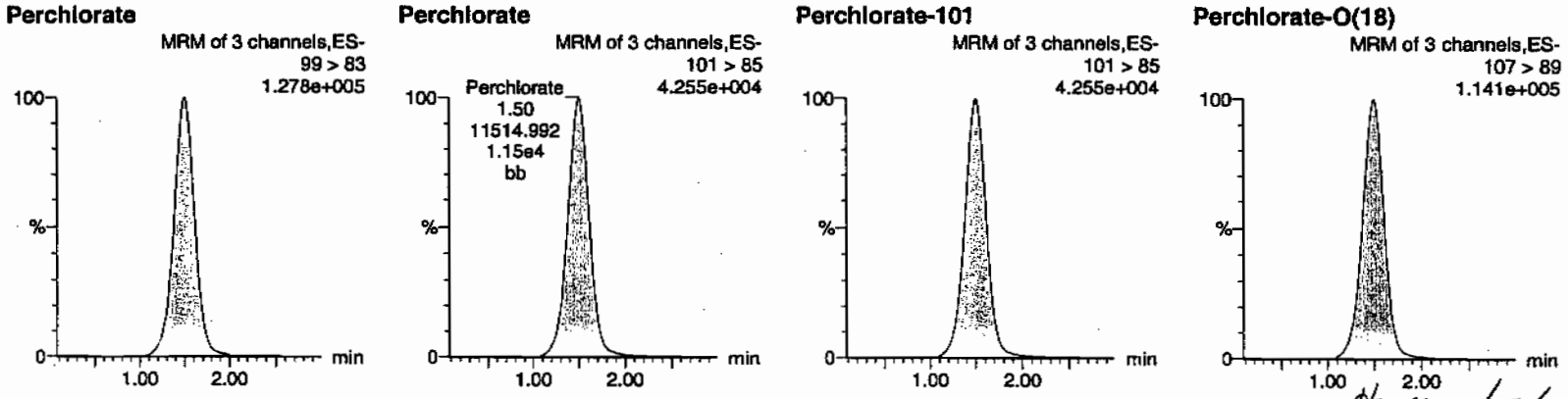
Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104035a
Date: 04-Jan-2010
Time: 21:00:19
ID: WCL100104-06CCV
Vial: 1:2,A

Prep
CWW
01-05-10



HWM 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-06CCV	Perchlorate	99 > 83	1.50	34587.762	34587.762	bb			0.4658	93.16	-6.84	6783.9...	3.00
WCL100104-06CCV	Perchlorate-101	101 > 85	1.50	11514.992	11514.992	bb			0.4595	91.89	-8.11	2423.8...	
WCL100104-06CCV	Perchlorate-O(18)	107 > 89	1.48	30814.723	30814.723	bb			0.4687	93.75	-6.25	14170....	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Form 3

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10–1032

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.05	.05	98.59	04–JAN–10 18:35	per0104011a
Perchlorate Isotope Ratio		3.23		04–JAN–10 18:35	per0104011a
Perchlorate–101	.05	.05	90.46	04–JAN–10 18:35	per0104011a
Perchlorate	.05	.05	94.05	04–JAN–10 19:53	per0104024a
Perchlorate Isotope Ratio		3.17		04–JAN–10 19:53	per0104024a
Perchlorate–101	.05	.04	87.9	04–JAN–10 19:53	per0104024a
Perchlorate	.05	.05	94.59	04–JAN–10 21:12	per0104037a
Perchlorate Isotope Ratio		3.16		04–JAN–10 21:12	per0104037a
Perchlorate–101	.05	.04	88.62	04–JAN–10 21:12	per0104037a

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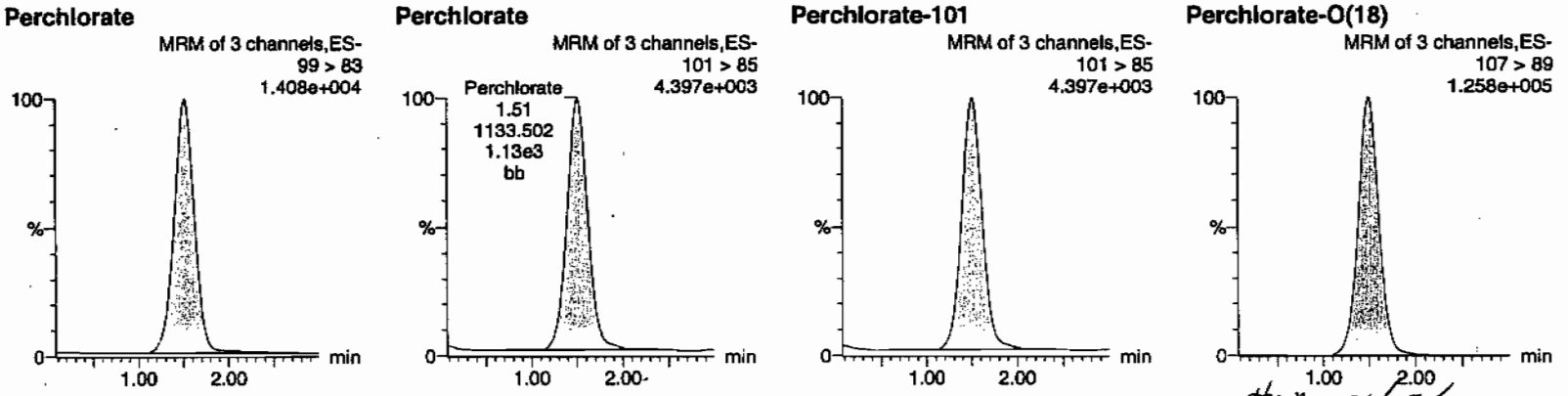
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104011a
Date: 04-Jan-2010
Time: 18:35:17
ID: WCL100104-07CRI
Vial: 1:2,B

Pers
CWW
01-05-10



HWM 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-07CRI	Perchlorate	99 > 83	1.51	3660.209	3660.209	bb			0.0493	98.59	-1.41	990.526	3.23
WCL100104-07CRI	Perchlorate-101	101 > 85	1.51	1133.502	1133.502	bb			0.0452	90.46	-9.54	722.518	
WCL100104-07CRI	Perchlorate-O(18)	107 > 89	1.50	33109.957	33109.957	bb			0.5037	100.73	0.73	12326....	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

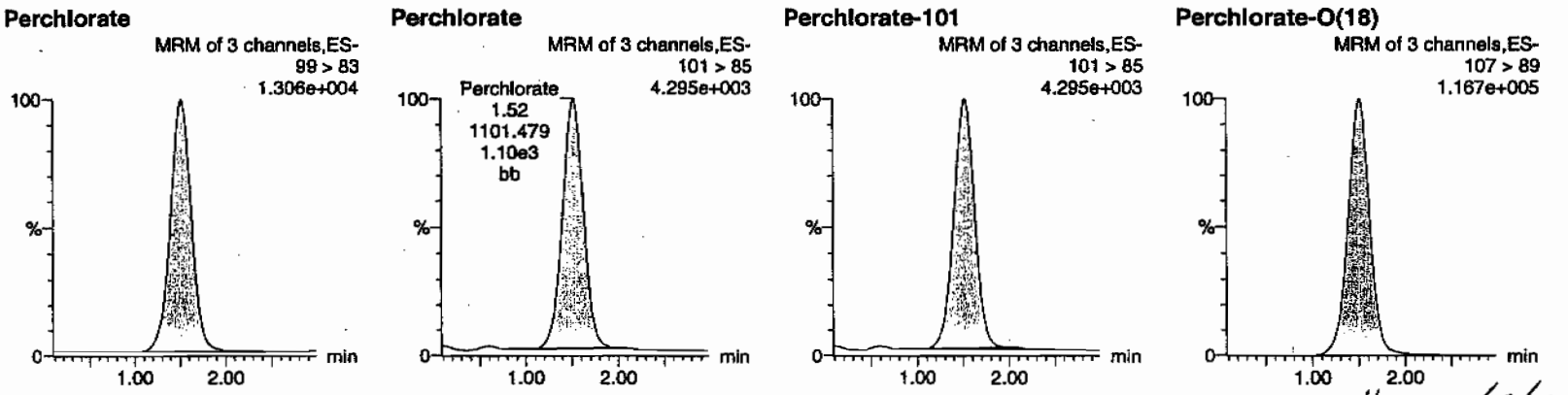
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104024a
Date: 04-Jan-2010
Time: 19:53:48
ID: WCL100104-07CRI
Vial: 1:2,B

Pers
aw
01-05-10



HMM 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-07CRI	Perchlorate	99 > 83	1.52	3491.791	3491.791	bb			0.0470	94.05	-5.95	1262.2...	3.17
WCL100104-07CRI	Perchlorate-101	101 > 85	1.52	1101.479	1101.479	bb			0.0440	87.90	-12.10	593.833	
WCL100104-07CRI	Perchlorate-O(18)	107 > 89	1.51	31610.471	31610.471	bb			0.4809	96.17	-3.83	4315.8...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

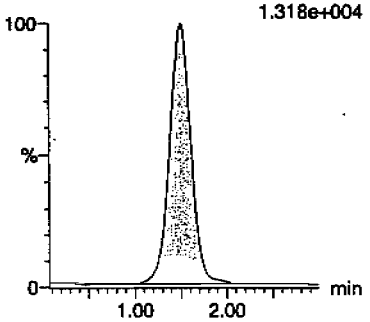
Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

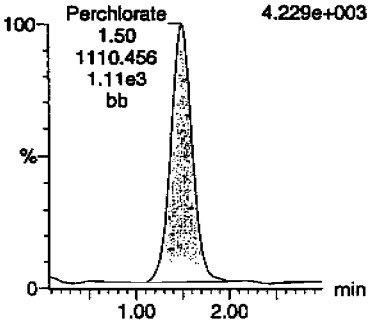
Name: per0104037a
Date: 04-Jan-2010
Time: 21:12:24
ID: WCL100104-07CRI
Vial: 1:2,B

Pass
CWW
01-05-10

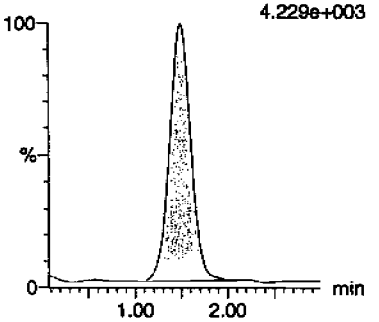
Perchlorate
MRM of 3 channels,ES-
99 > 83
1.318e+004



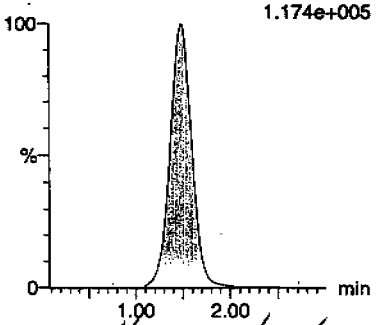
Perchlorate
MRM of 3 channels,ES-
101 > 85
4.229e+003



Perchlorate-101
MRM of 3 channels,ES-
101 > 85
4.229e+003



Perchlorate-O(18)
MRM of 3 channels,ES-
107 > 89
1.174e+005



tmm 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-07CRI	Perchlorate	99 > 83	1.50	3511.787	3511.787	bb			0.0473	94.59	-5.41	545.054	3.16
WCL100104-07CRI	Perchlorate-101	101 > 85	1.50	1110.456	1110.456	bb			0.0443	88.62	-11.38	416.240	
WCL100104-07CRI	Perchlorate-O(18)	107 > 89	1.48	31479.846	31479.846	bb			0.4789	95.77	-4.23	6650.0...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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QUALITY CONTROL

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
MB

Date Received: 30–DEC–09

GEL Job No (SDG): 10–1032

GEL Sample ID: 1202004138

Date Filtered: 30–DEC–09

Injection Volume (uL): 20

%Solids: 100

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797–73–0	Perchlorate	.5	2	0.500	ug/kg	U	1	04–JAN–10 18:41	per0104012a
	Perchlorate Isotope Ratio						1	04–JAN–10 18:41	per0104012a
14797–73–0	Perchlorate–101	.5	2	0.500	ug/kg	U	1	04–JAN–10 18:41	per0104012a
	Perchlorate–O(18)			4.92	ug/kg		1	04–JAN–10 18:41	per0104012a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate–101 peak area. The Perchlorate–101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

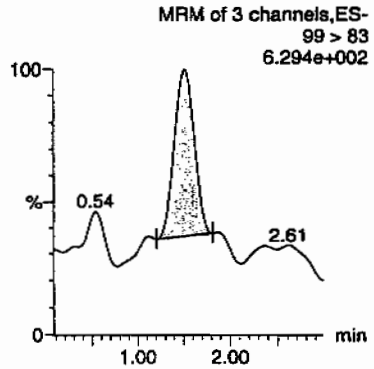
Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104012a
Date: 04-Jan-2010
Time: 18:41:21
ID: 1202004138
Vial: 1:3,A

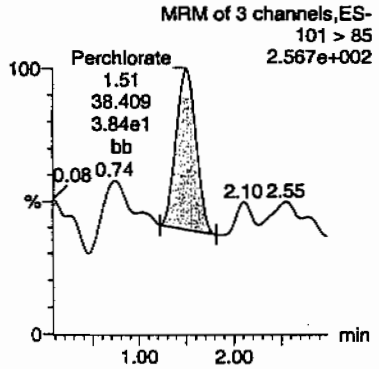
|LANL|9366666|SOLID|MB|1|

CWW 01-05-10

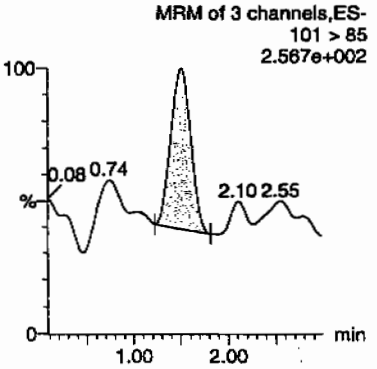
Perchlorate



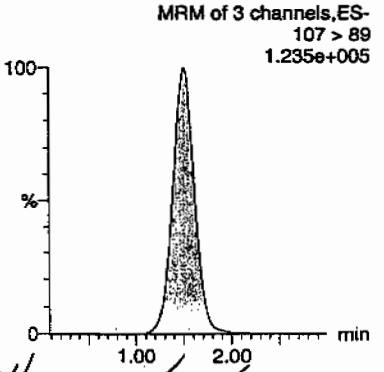
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202004138	Perchlorate	99 > 83	1.52	101.484	101.484	bb			0.0014			21.895	2.64
1202004138	Perchlorate-101	101 > 85	1.51	38.409	38.409	bb			0.0015			4.370	
1202004138	Perchlorate-O(18)	107 > 89	1.51	32341.172	32341.172	bb			0.4920	98.39	-1.61	19481....	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: SOIL

Extraction Batch ID: 936665

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
LCS

Date Received: 30-DEC-09

GEL Job No (SDG): 10-1032

GEL Sample ID: 1202004139

Date Filtered: 30-DEC-09

Injection Volume (uL): 20

%Solids: 100

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.5	2	2.02	ug/kg		1	04-JAN-10 18:47	per0104013a
	Perchlorate Isotope Ratio			2.91			1	04-JAN-10 18:47	per0104013a
14797-73-0	Perchlorate-101	.5	2	2.06	ug/kg		1	04-JAN-10 18:47	per0104013a
	Perchlorate-O(18)			4.89	ug/kg		1	04-JAN-10 18:47	per0104013a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

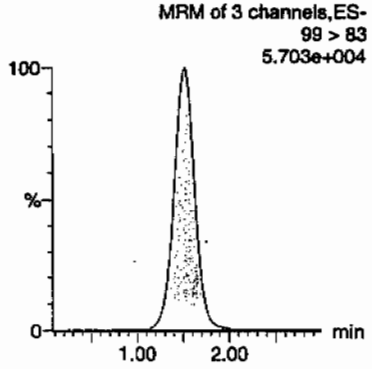
Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104013a
Date: 04-Jan-2010
Time: 18:47:23
ID: 1202004139
Vial: 1:3,B

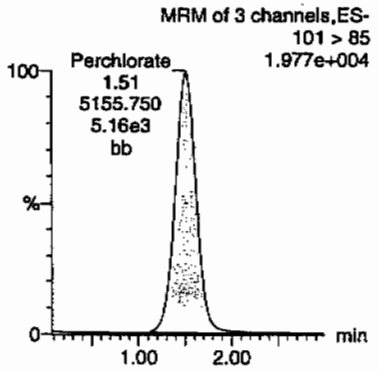
|LANL|936666|50120|LCS|1|

CWW
01-05-10

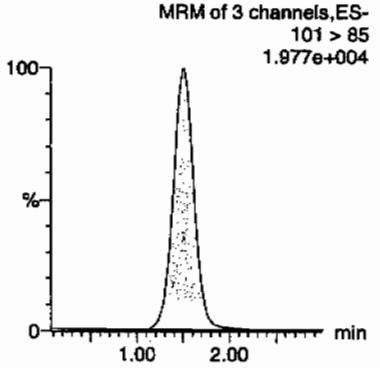
Perchlorate



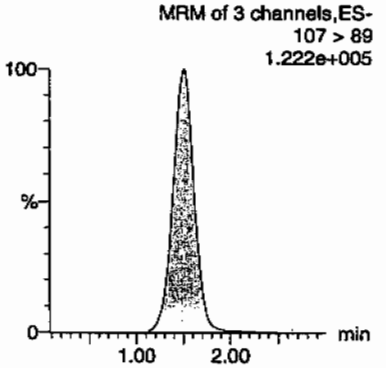
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202004139	Perchlorate	99 > 83	1.52	15012.533	15012.533	bb			0.2022	101.09	1.09	6545.4...	2.91
1202004139	Perchlorate-101	101 > 85	1.51	5155.750	5155.750	bb			0.2057	102.86	2.86	936.053	
1202004139	Perchlorate-O(18)	107 > 89	1.51	32132.059	32132.059	bb			0.4888	97.76	-2.24	4727.0...	

$\frac{15012.533}{74252.9} = 0.2022$
AHW 01/05/10

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MISCELLANEOUS DATA

Prep Logbook

Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)

Batch ID: 936665 **Verified by:** _____

Analyst: Lynne Russell

Method: SW846 6850 Modified

Lab SOP: GL-OA-E-067 REV# 6

Instrument: MicroMass Quatro Ultima

Sample ID	Run Date	Aliquot (g)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1202004138 MB	30-DEC-2009 16:41:46	2	20	10
1202004139 LCS	30-DEC-2009 16:41:46	2	20	10
243385001	30-DEC-2009 16:41:46	2	20	10
243385002	30-DEC-2009 16:41:46	2	20	10
243385003	30-DEC-2009 16:41:46	2	20	10
243385004	30-DEC-2009 16:41:46	2	20	10
243385005	30-DEC-2009 16:41:46	2	20	10
243385006	30-DEC-2009 16:41:46	2	20	10
243385007	30-DEC-2009 16:41:46	2	20	10
243385008	30-DEC-2009 16:41:46	2	20	10
243385009	30-DEC-2009 16:41:46	2	20	10
243385010	30-DEC-2009 16:41:46	2	20	10
243385011	30-DEC-2009 16:41:46	2	20	10
243393002	30-DEC-2009 16:41:46	2	20	10
1202004140 MS (243393002)	30-DEC-2009 16:41:46	2	20	10
1202004141 MSD (243393002)	30-DEC-2009 16:41:46	2	20	10
243397001	30-DEC-2009 16:41:46	2	20	10
243397002	30-DEC-2009 16:41:46	2	20	10
243397003	30-DEC-2009 16:41:46	2	20	10
243397004	30-DEC-2009 16:41:46	2	20	10
243397005	30-DEC-2009 16:41:46	2	20	10
1202004142 ICS	30-DEC-2009 16:41:46	2	20	10

Type	Sample Id	Description	Serial Number	Spike Amt	Units
ICS	1202004142	10 ug/L ICV/CCV Second Source	UCL091201-01.2	.4	mL
LCS	1202004139	10 ug/L ICV/CCV Second Source	UCL091201-01.2	.4	mL
MS	1202004140	10 ug/L ICV/CCV Second Source	UCL091201-01.2	.4	mL
MSD	1202004141	10 ug/L ICV/CCV Second Source	UCL091201-01.2	.4	mL

Comments:

De-salting cartridges used: 091029-1-H and 090403-1-Ba.

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GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS#2

Date: 01/04/10
Extr. Injection Volume: 20uL
Sequence Number: per010410a
Initial Calibration Date: 01/04/10

Method: EPA 6850-Modified
Int. Std.: UCL091019-03.2
Mobile Phase Lot#: 1233781, 1233976
Standard-Samp Reagent Lot#:: 1233976

Reviewed BY: Hm
Date: 01/05/10
SOP: GL-OA-E-067 Rev.6
Alt Check Std. ID: WCL100104-06

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
per0104001a	IPB001	CWW	1/4/2010 17:34			1		USE	B
per0104002a	IPB001	CWW	1/4/2010 17:41			1		USE	B
per0104003a	WCLICAL-01	CWW	1/4/2010 17:47			1		USE	I
per0104004a	WCLICAL-02	CWW	1/4/2010 17:53			1		USE	I
per0104005a	WCLICAL-03	CWW	1/4/2010 17:59			1		USE	I
per0104006a	WCLICAL-04	CWW	1/4/2010 18:05			1		USE	I
per0104007a	WCLICAL-05	CWW	1/4/2010 18:11			1		USE	I
per0104008a	IPB002	CWW	1/4/2010 18:17			1		USE	B
per0104009a	WCLICV	CWW	1/4/2010 18:23			1		USE	C
per0104010a	IPB003	CWW	1/4/2010 18:29			1		USE	B
per0104011a	WCLCRI	CWW	1/4/2010 18:35			1		USE	C
per0104012a	1202004138	CWW	1/4/2010 18:41	936666	VARIOUS	1	LANL	USE	S
per0104013a	1202004139	CWW	1/4/2010 18:47	936666	VARIOUS	1	LANL	USE	S
per0104014a	1202004142	CWW	1/4/2010 18:53	936666	VARIOUS	1	LANL	USE	S
per0104015a	243385001	CWW	1/4/2010 18:59	936666	10-1032	1	LANL	USE	S
per0104016a	243385002	CWW	1/4/2010 19:05	936666	10-1032	1	LANL	USE	S
per0104017a	243385003	CWW	1/4/2010 19:11	936666	10-1032	1	LANL	USE	S
per0104018a	243385004	CWW	1/4/2010 19:17	936666	10-1032	1	LANL	USE	S
per0104019a	243385005	CWW	1/4/2010 19:23	936666	10-1032	1	LANL	USE	S
per0104020a	243385006	CWW	1/4/2010 19:29	936666	10-1032	1	LANL	USE	S
per0104021a	243385007	CWW	1/4/2010 19:35	936666	10-1032	1	LANL	USE	S
per0104022a	WCLCCV	CWW	1/4/2010 19:41			1		USE	C
per0104023a	IPB004	CWW	1/4/2010 19:47			1		USE	B
per0104024a	WCLCRI	CWW	1/4/2010 19:53			1		USE	C
per0104025a	243385008	CWW	1/4/2010 19:59	936666	10-1032	1	LANL	USE	S
per0104026a	243385009	CWW	1/4/2010 20:05	936666	10-1032	1	LANL	USE	S
per0104027a	243385010	CWW	1/4/2010 20:11	936666	10-1032	1	LANL	USE	S
per0104028a	243385011	CWW	1/4/2010 20:17	936666	10-1032	1	LANL	USE	S
per0104029a	243393002	CWW	1/4/2010 20:24	936666	10-1005	1	LANL	USE	S

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per0104030a	1202004140	CWW	1/4/2010 20:30	936666	10-1005	1	LANL	USE	S
per0104031a	1202004141	CWW	1/4/2010 20:36	936666	10-1005	1	LANL	USE	S
per0104032a	243397001	CWW	1/4/2010 20:42	936666	10-1010-1	1	LANL	USE	S
per0104033a	243397002	CWW	1/4/2010 20:48	936666	10-1010-1	1	LANL	USE	S
per0104034a	243397003	CWW	1/4/2010 20:54	936666	10-1010-1	1	LANL	USE	S
per0104035a	WCLCCV	CWW	1/4/2010 21:00			1		USE	C
per0104036a	IPB005	CWW	1/4/2010 21:06			1		USE	B
per0104037a	WCLCRI	CWW	1/4/2010 21:12			1		USE	C
per0104038a	243397004	CWW	1/4/2010 21:18	936666	10-1010-1	1	LANL	USE	S
per0104039a	243397005	CWW	1/4/2010 21:24	936666	10-1010-1	1	LANL	USE	S
per0104040a	IPB006	CWW	1/4/2010 21:30			1		USE	B
per0104041a	1202004334	CWW	1/4/2010 21:36	936767	VARIOUS	1	LANL	USE	S
per0104042a	1202004337	CWW	1/4/2010 21:42	936767	VARIOUS	1	LANL	USE	S
per0104043a	1202004338	CWW	1/4/2010 21:48	936767	VARIOUS	1	LANL	USE	S
per0104044a	243514001	CWW	1/4/2010 21:54	936767	10-1071-1	1	LANL	USE	S
per0104045a	1202004335	CWW	1/4/2010 22:00	936767	10-1071-1	1	LANL	USE	S
per0104046a	1202004336	CWW	1/4/2010 22:06	936767	10-1071-1	1	LANL	USE	S
per0104047a	243514002	CWW	1/4/2010 22:12	936767	10-1071-1	1	LANL	USE	S
per0104048a	WCLCCV	CWW	1/4/2010 22:18			1		USE	C
per0104049a	IPB007	CWW	1/4/2010 22:25			1		USE	B
per0104050a	WCLCRI	CWW	1/4/2010 22:31			1		USE	C
per0104051a	243514003	CWW	1/4/2010 22:37	936767	10-1071-1	1	LANL	USE	S
per0104052a	243514004	CWW	1/4/2010 22:43	936767	10-1071-1	1	LANL	USE	S
per0104053a	243514005	CWW	1/4/2010 22:49	936767	10-1071-1	1	LANL	USE	S
per0104054a	243514006	CWW	1/4/2010 22:55	936767	10-1071-1	1	LANL	USE	S
per0104055a	243514007	CWW	1/4/2010 23:01	936767	10-1071-1	1	LANL	USE	S
per0104056a	243514008	CWW	1/4/2010 23:07	936767	10-1071-1	1	LANL	USE	S
per0104057a	243514009	CWW	1/4/2010 23:13	936767	10-1071-1	1	LANL	USE	S
per0104058a	243514010	CWW	1/4/2010 23:19	936767	10-1071-1	1	LANL	USE	S
per0104059a	243514011	CWW	1/4/2010 23:25	936767	10-1071-1	1	LANL	USE	S
per0104060a	WCLCCV	CWW	1/4/2010 23:31			1		USE	C
per0104061a	IPB008	CWW	1/4/2010 23:38			1		USE	B
per0104062a	WCLCRI	CWW	1/4/2010 23:44			1		USE	C
per0104063a	243514012	CWW	1/4/2010 23:50	936767	10-1071-1	1	LANL	USE	S
per0104064a	243514013	CWW	1/4/2010 23:56	936767	10-1071-1	1	LANL	USE	S
per0104065a	243514014	CWW	1/5/2010 0:02	936767	10-1071-1	1	LANL	USE	S
per0104066a	243514015	CWW	1/5/2010 0:08	936767	10-1071-1	1	LANL	USE	S

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per0104067a	243514016	CWW	1/5/2010 0:14	936767	10-1071-1	1	LANL	USE	S
per0104068a	243514017	CWW	1/5/2010 0:20	936767	10-1071-1	1	LANL	USE	S
per0104069a	243540001	CWW	1/5/2010 0:26	936767	10-1077	1	LANL	USE	S
per0104070a	243540002	CWW	1/5/2010 0:32	936767	10-1077	1	LANL	USE	S
per0104071a	243540003	CWW	1/5/2010 0:38	936767	10-1077	1	LANL	USE	S
per0104072a	WCLCCV	CWW	1/5/2010 0:44			1		USE	C
per0104073a	IPB009	CWW	1/5/2010 0:50			1		USE	B
per0104074a	WCLCRI	CWW	1/5/2010 0:56			1		USE	C

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

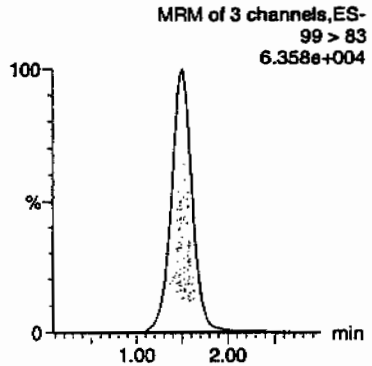
Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

Name: per0104030a
Date: 04-Jan-2010
Time: 20:30:04
ID: 1202004140
Vial: 1:5,D

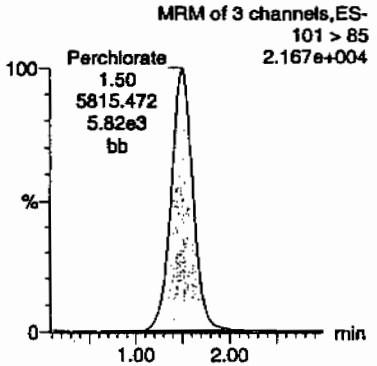
| LANL | 936666 | 50120 | MS | 1 |

CWW
01-05-10

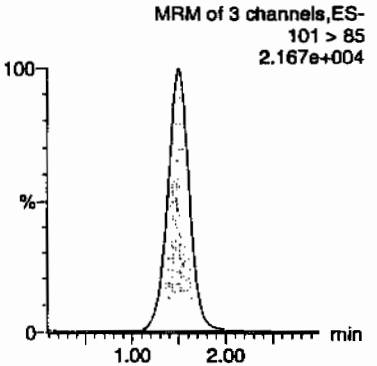
Perchlorate



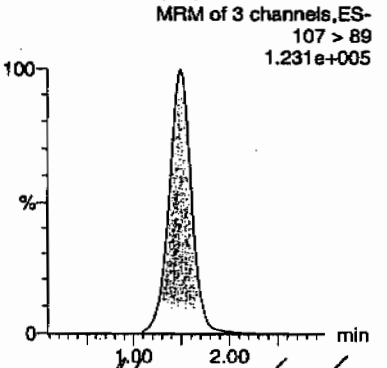
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmw, 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202004140	Perchlorate	99 > 83	1.51	17050.768	17050.768	bb			0.2296	114.82	14.82	390.898	2.93
1202004140	Perchlorate-101	101 > 85	1.50	5815.472	5815.472	bb			0.2320	116.02	16.02	2545.7...	
1202004140	Perchlorate-O(18)	107 > 89	1.50	32951.930	32951.930	bb			0.5013	100.25	0.25	3337.6...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

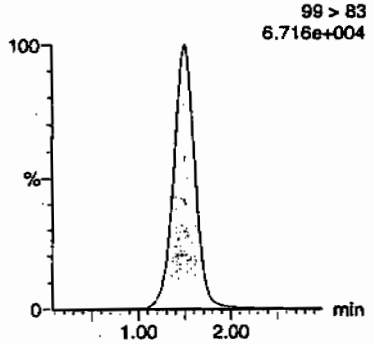
Dataset: C:\MassLynx\Perchlorate.PRO\per010410a.qld

Last Altered: Tuesday, January 05, 2010 7:54:36 AM Eastern Standard Time
Printed: Tuesday, January 05, 2010 8:39:27 AM Eastern Standard Time

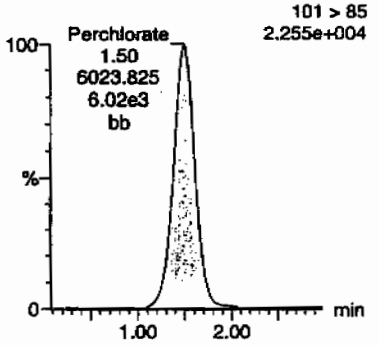
Name: per0104031a
Date: 04-Jan-2010
Time: 20:36:07
ID: 1202004141 |LANL|936666|50L20|MSD|1|
Vial: 1:5,E

CWW 01-05-10

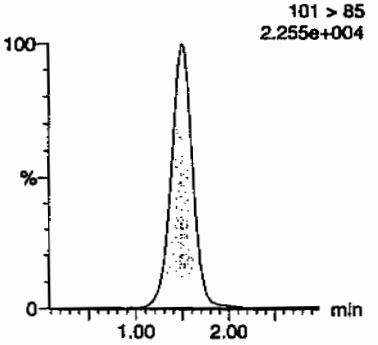
Perchlorate



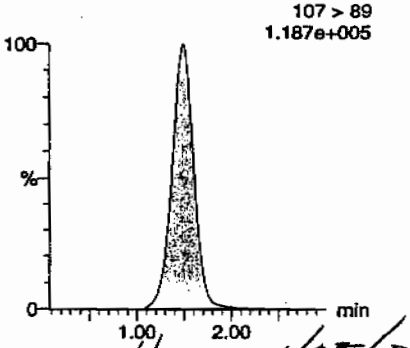
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 01/05/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202004141	Perchlorate	99 > 83	1.51	18151.443	18151.443	bb			0.2445	122.23	22.23	2855.8...	3.01
1202004141	Perchlorate-101	101 > 85	1.50	6023.825	6023.825	bb			0.2404	120.18	20.18	4198.0...	
1202004141	Perchlorate-O(18)	107 > 89	1.50	31935.025	31935.025	bb			0.4858	97.16	-2.84	3549.3...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Isotope Ratio Criteria

Isotope Ratio $_{35}Cl/_{37}CL$

2.31-3.85

Tune Criteria

The tuning solution is introduced directly into the mass spectrometer using the ESI interface in the positive ion mode. The mass range scanned is 20 to 1 100 amu using at least six scans. The observed mass for the target compound in the daily calibration standards must be within 0.2 amu of the expected value. If it is greater than 0.2 amu, then a mass calibration is performed and the instrument is re-calibrated.

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LC/MS/MS PERCHLORATE ANALYSIS

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Perchlorate by LC/MSMS
Los Alamos National Laboratory (LANL)
SDG 10-1032-1

Method/Analysis Information

Procedure:	**Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)**
Analytical Method:	SW846 6850 Modified
Prep Method:	SW846 6850 Modified
Analytical Batch Number:	936066
Prep Batch Number:	936065

Sample Analysis

Sample ID	Client ID
243386001	RE12-10-7595
1202002920	Interference Check Sample (ICS)
1202002916	Method Blank (MB)
1202002917	Laboratory Control Sample (LCS)
1202003536	243396001(RE16-10-2848) Matrix Spike (MS)
1202003537	243396001(RE16-10-2848) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Preparation/Analytical Method Verification

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-067 REV# 6.

Calibration Information

Initial Calibration
All initial calibration requirements have been met for this SDG. Due to software constraints, all Initial Calibration Blanks must be designated as IPB001.

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CCV Requirements
All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

CCB Requirements
All continuing calibration blanks (CCB) bracketing the analyses associated with this batch were within acceptance criteria.

CCV Requirements
All continuing calibration checks (CCV) requirements were met by all bracketing CCV standards.

Low Level Standard (CRI) Requirements
All low level calibration verification (CRI) requirements were met by all bracketing CRI standards.

Quality Control (QC) Information

Method Blank (MB) Statement
The MB(s) analyzed with this SDG met the acceptance criteria.

Interference Check Sample (ICS)
The interference check sample (ICS) met all recovery acceptance criteria.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

QC Sample Designation
Client sample 243286004 (CAPA-10-6747) from SDG 10-1010 was chosen for matrix spike and matrix spike duplicate analysis. Please see the raw data in the Miscellaneous Section.

Matrix Spike (MS) Recovery Statement
The MS recoveries were within the established acceptance limits.

Matrix Spike Duplicate (MSD) Recovery Statement
The MSD recoveries were within the established acceptance limits.

MS/MSD Relative Percent Difference (RPD) Statement
The RPD(s) between the MS and MSD met the acceptance limits.

Retention Time Standard Area Acceptance
The retention time standard areas were within the required acceptance criteria for all samples and QC.

Retention Time
During the analysis of Perchlorate by LC/MS/MS, retention time shifts are commonly observed. These retention time shifts, which are caused by fouling of the column by the sample matrices, are problematic when the retention time is used as one of the criterion for confirmation. To overcome this problem, a known amount of O(18) labeled Perchlorate was added to each sample as a retention time standard. The presence of Perchlorate was confirmed by the relative retention time (RRT) of the Perchlorate peak and the O(18) standard. A RRT window of 0.98 to 1.02, as required by Method 332.0, has been used. In addition to the isotopic ratio, the presence of Perchlorate in the samples associated with this data package have been confirmed using the relative retention criteria stated above, not the absolute retention time.

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Technical Information

Holding Time Specifications
All samples in this SDG in this analytical batch met the specified holding time. GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis
Re-extractions or re-analyses were not required in this SDG except for dilutions.

Miscellaneous Information

Nonconformance (NCR) Documentation
Nonconformance reports (NCRs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integrations
Some initial calibration standards, continuing calibration standards, and/or samples may require manual integrations due to software limitations.

Method Comments
The sample in this SDG was not originally analyzed using EPA Method 314.0.

Additional Comments
The Perchlorate Isotope Ratio on the Form I may differ slightly from the ratio on the corresponding raw data due to rounding rules and/or significant figures or due to software limitations when there are manual integrations, dilutions or other factors. The ratio value of the Form I is the correct value.

The retention time marker, Perchlorate-O (18), is added to all samples, instrument blanks, and standards prior to injection. It is used to verify the retention time of Perchlorate and Perchlorate-101 and to insure an accurate injection occurred. Due to various anions affecting the recovery of Perchlorate-O (18) and not Perchlorate and Perchlorate-101, the calibration curves of Perchlorate and Perchlorate-101 are not internally corrected for using Perchlorate-O (18). They are external calibrations.

Perchlorate Isotope Ratio
The Perchlorate isotope ratio met acceptance criteria for all samples and QC samples. Please see the isotope ratio criteria in the Miscellaneous Section.

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System Configuration

The laboratory utilizes a Waters LC 2795 liquid chromatography instrument for perchlorate analysis. It is coupled with either a Micromass Quattro Micro Mass Spectrometer/ Mass Spectrometer, or a Micromass Quattro Ultima Mass Spectrometer/ Mass Spectrometer. Each being designated as LCMSMS #1, and LCMSMS #2, respectively. It is fitted with an electrospray probe that is operated in the negative electrospray ionization mode for perchlorate analysis. The laboratory may also utilize an Agilent 1100 liquid chromatography instrument for perchlorate analysis. It is coupled with an Applied Biosystems 4000 Mass Spectrometer/ Mass Spectrometer, designated as LCMSMS #3 or LCMSMS #4. It is also fitted with an electrospray probe that is operated in the negative electrospray ionization mode for perchlorate analysis.

Chromatographic Columns

Chromatographic separation of perchlorate is accomplished through analysis on the following anion column:

Dionex: IonPac AG-16 2 x 50 mm.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Herbert M Mauer **Date:** 01/12/10

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SAMPLE DATA SUMMARY

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: WATER

Extraction Batch ID: 936065

Extraction Type: Filter/DAI

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

Client Sample No.
RE12-10-7595

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032-1

GEL Sample ID: 243386001

Date Filtered: 29-DEC-09

Injection Volume (uL): 20

%Solids:

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	29-DEC-09 20:49	per1229064a
	Perchlorate Isotope Ratio						1	29-DEC-09 20:49	per1229064a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	29-DEC-09 20:49	per1229064a
	Perchlorate-O(18)			0.446	ug/L		1	29-DEC-09 20:49	per1229064a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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QUALITY CONTROL SUMMARY

Perchlorate Laboratory Control Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No. (SDG): 10–1032–1

Extract Batch Code: 936065

Date Filtered: 29–DEC–09

Matrix: GROUND WATER

Sample ID: 1202002917

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	0.200	.183	ug/L	91.5		85 – 115
Perchlorate Isotope Ratio		3.02				–
Perchlorate–101	0.200	.184	ug/L	92.2		85 – 115
Perchlorate–O(18)		.463	ug/L			–

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate–101 peak area. The Perchlorate–101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

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Form 5a

Perchlorate Interference Check Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No. (SDG): 10–1032–1

Extract Batch Code: 936065

Date Filtered: 29–DEC–09

Matrix: GROUND WATER

Sample ID: 1202002920

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	0.200	.199	ug/L	99.6		70 – 130
Perchlorate Isotope Ratio		2.97				
Perchlorate–101	0.200	.204	ug/L	102		70 – 130
Perchlorate–O(18)		.546	ug/L			

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate–101 peak area. The Perchlorate–101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Michael A. Penny

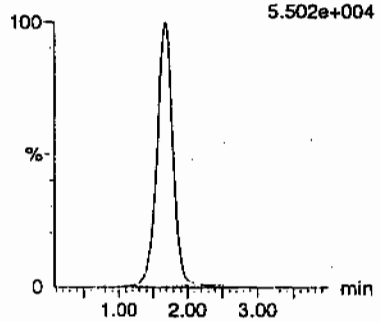
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

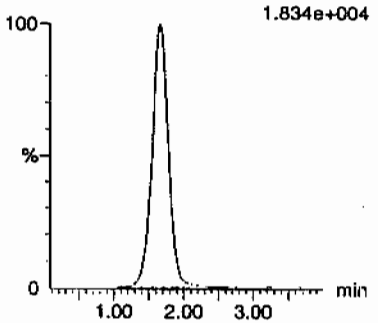
Name: per1229058a
Date: 29-Dec-2009
Time: 20:07:03
ID: 1202002920 | LANL | 936066 | LIQ | ICS | 1 |
Vial: 2:4,C

12/30/09

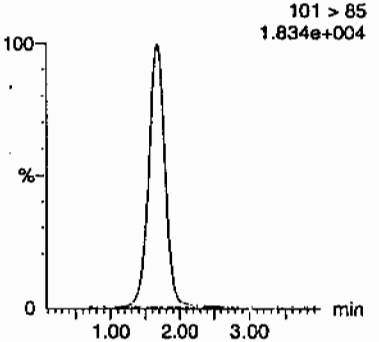
Perchlorate



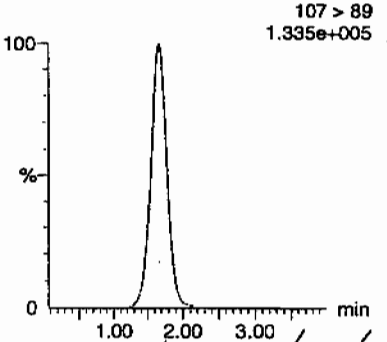
Perchlorate



Perchlorate-101



Perchlorate-O(18)



12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202002920	Perchlorate	99 > 83	1.68	14811.310	14811.310	bb			0.1993	99.63	-0.37	723.005	2.97
1202002920	Perchlorate-101	101 > 85	1.67	4987.850	4987.850	bb			0.2038	101.92	1.92	1557.5...	
1202002920	Perchlorate-O(18)	107 > 89	1.67	36368.996	36368.996	bb			0.5463	109.27	9.27	6107.0...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Form 6

Perchlorate Spike/Spike Duplicate Summary

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No (SDG): 10-1032-1

Extract Batch Code: 936065

Date Extracted: 29-DEC-09

GEL MS/PS ID: 1202003536

Client ID: RE16-10-2848

GEL MSD/PSD ID: 1202003537

QC Type: MS

Compound^	Spike Added	Sample Conc	Units	MS Conc	MS Rec #	MSD Conc	MSD Rec #	RPD #	RPD Limit	Recovery Limit
Perchlorate	0.200	0.00154	ug/L	0.184	91.2	.182	90.4	.955	30	75 - 125
Perchlorate Isotope Ratio	0	0.00		3.07		3.22		0		-
Perchlorate-101	0.200	0.00	ug/L	0.182	91.1	.172	86	5.76	30	75 - 125
Perchlorate-O(18)	0	0.438	ug/L	0.448		.436		2.62		-

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

Comments:

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Form 4

Perchlorate Initial Calibration Blank

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1032-1

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	29-DEC-09	per1229001a	IPB001
Perchlorate-101	0.00	0	NA	29-DEC-09	per1229001a	IPB001
Perchlorate	0.00	0	NA	29-DEC-09	per1229002a	IPB001
Perchlorate-101	0.00	0	NA	29-DEC-09	per1229002a	IPB001

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

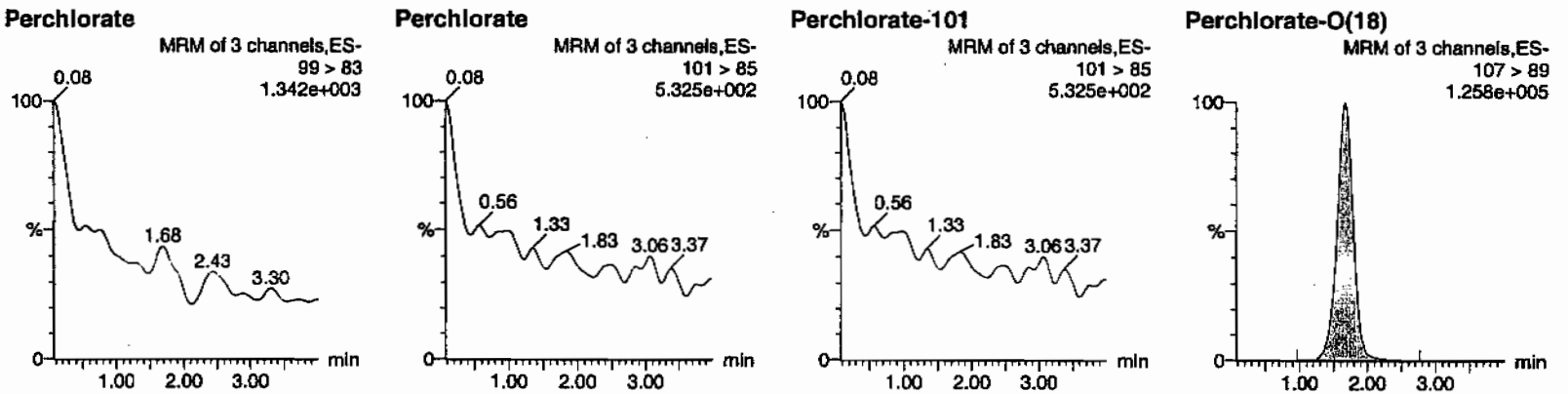
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per122909a.mdb 29 Dec 2009 14:36:05
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per122909a.cdb 30 Dec 2009 06:51:17

Name: per1229001a
Date: 29-Dec-2009
Time: 13:24:44
ID: IPB001
Vial: 1:1,A

MM 12/30/09



HMM 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83											0.00
IPB001	Perchlorate-101	101 > 85											
IPB001	Perchlorate-O(18)	107 > 89	1.67	35086.422	35086.422	bb			0.5271	105.42	5.42	10266....	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

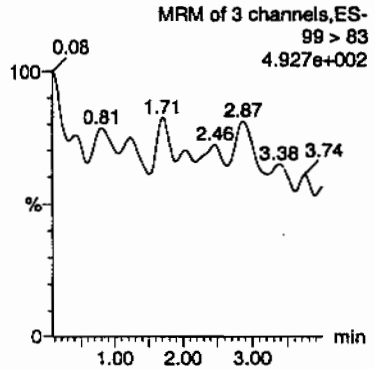
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

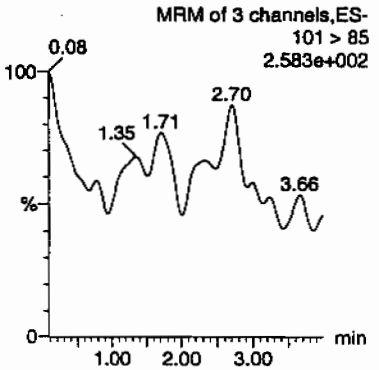
Name: per1229002a
Date: 29-Dec-2009
Time: 13:31:57
ID: IPB001
Vial: 1:1,A

LMT 12/30/09

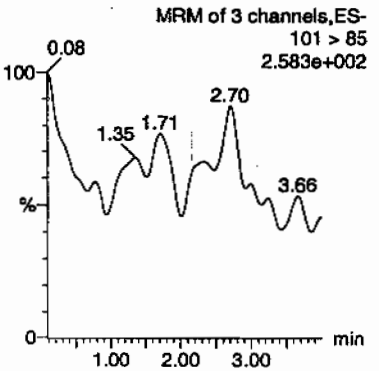
Perchlorate



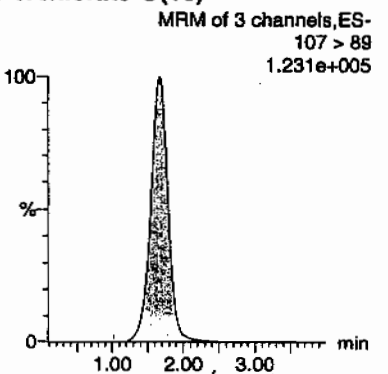
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83											0.00
IPB001	Perchlorate-101	101 > 85											
IPB001	Perchlorate-O(18)	107 > 89	1.67	34490.836	34490.836	bb			0.5181	103.63	3.63	3293.3...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Form 4

Perchlorate Continuing Calibration Blank

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1032-1

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	29-DEC-09	per1229008a	IPB002
Perchlorate-101	0.00	0	NA	29-DEC-09	per1229008a	IPB002
Perchlorate	0.00	0	NA	29-DEC-09	per1229010a	IPB003
Perchlorate-101	0.00	0	NA	29-DEC-09	per1229010a	IPB003
Perchlorate	0.00	0	NA	29-DEC-09	per1229023a	IPB004
Perchlorate-101	0.00	0	NA	29-DEC-09	per1229023a	IPB004
Perchlorate	0.00	0	NA	29-DEC-09	per1229030a	IPB005
Perchlorate-101	0.00	0	NA	29-DEC-09	per1229030a	IPB005
Perchlorate	0.00	0	NA	29-DEC-09	per1229043a	IPB006
Perchlorate-101	0.00	0	NA	29-DEC-09	per1229043a	IPB006
Perchlorate	0.00	0	NA	29-DEC-09	per1229054a	IPB007
Perchlorate-101	0.00	0	NA	29-DEC-09	per1229054a	IPB007
Perchlorate	0.00	0	NA	29-DEC-09	per1229066a	IPB008

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Form 4

Perchlorate Continuing Calibration Blank

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1032-1

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate-101	0.00	0	NA	29-DEC-09	per1229066a	IPB008

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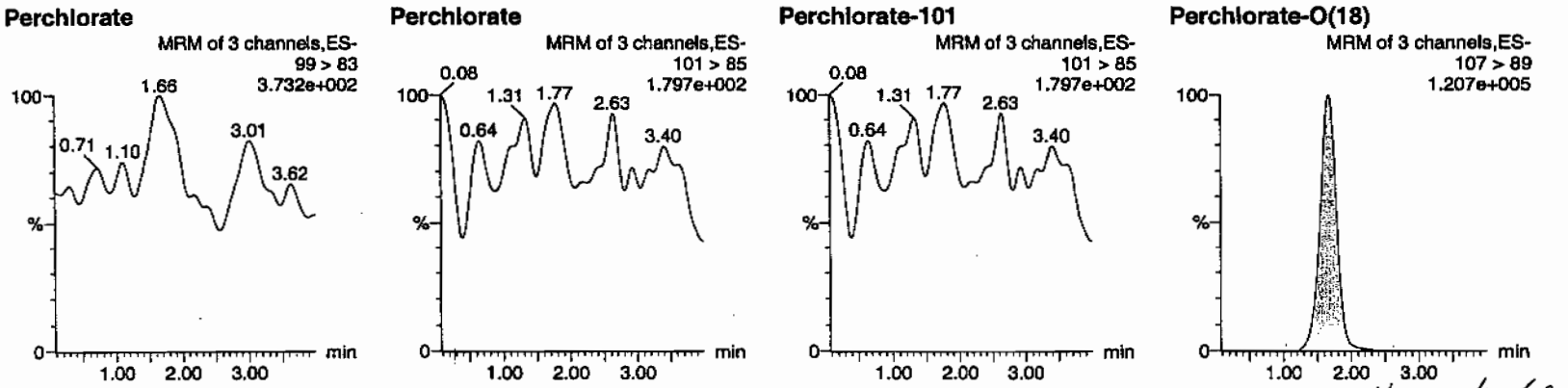
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

Name: per1229008a
Date: 29-Dec-2009
Time: 14:14:07
ID: IPB002
Vial: 1:1,A

MM 12/29/09



Hnm 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB002	Perchlorate	99 > 83											0.00
IPB002	Perchlorate-101	101 > 85											
IPB002	Perchlorate-O(18)	107 > 89	1.67	33924.273	33924.273	bb			0.5096	101.92	1.92	7224.2...	

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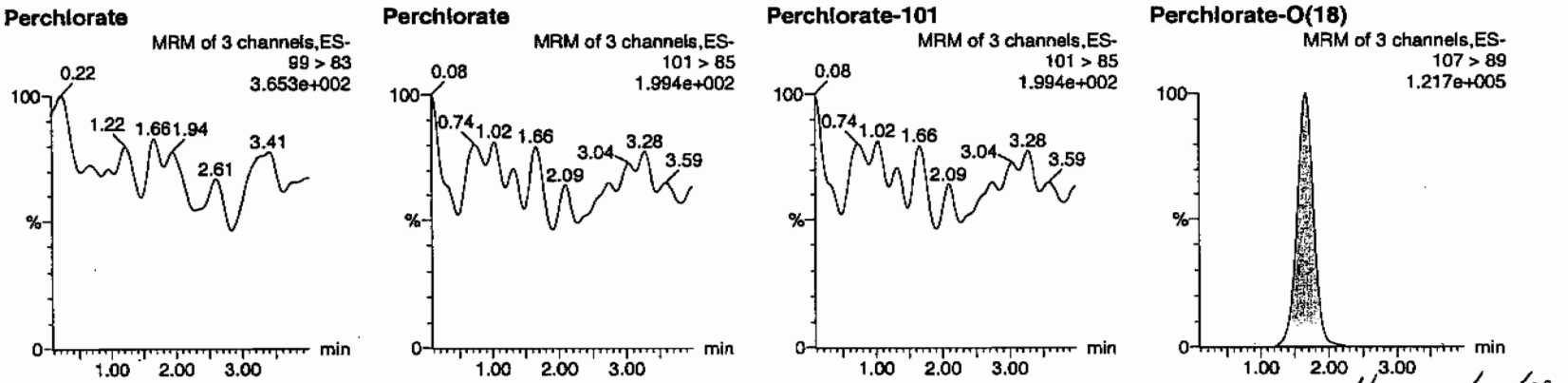
Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Michael A. Penny

Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

Name: per1229010a
Date: 29-Dec-2009
Time: 14:28:12
ID: IPB003
Vial: 1:1,A

MMT 12/30/09



HMM 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB003	Perchlorate	99 > 83											0.00
IPB003	Perchlorate-101	101 > 85											
IPB003	Perchlorate-O(18)	107 > 89	1.67	34074.816	34074.816	bb			0.5119	102.38	2.38	3513.1...	

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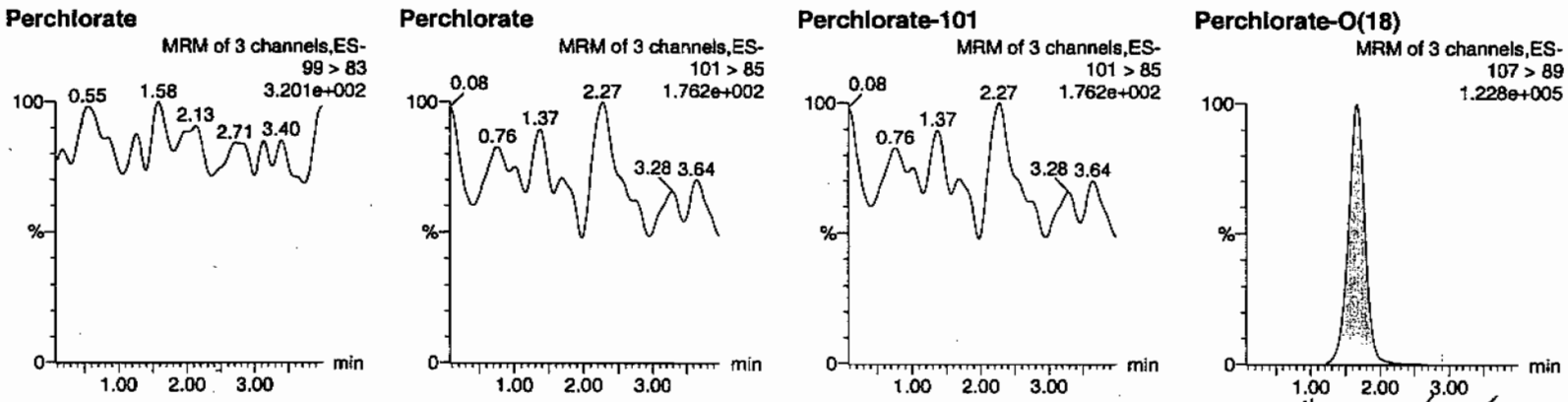
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

Name: per1229023a
Date: 29-Dec-2009
Time: 15:59:47
ID: IPB004
Vial: 1:1,A

MMT 12/30/09



Hmm 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB004	Perchlorate	99 > 83											0.00
IPB004	Perchlorate-101	101 > 85											
IPB004	Perchlorate-O(18)	107 > 89	1.67	34397.980	34397.980	bb			0.5167	103.35	3.35	5102.0...	

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Michael A. Penny

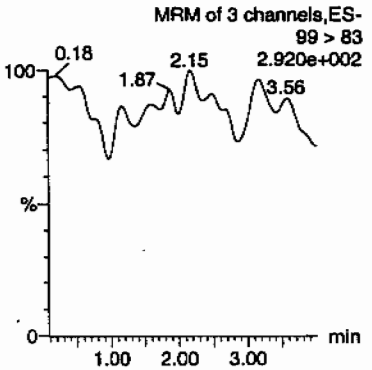
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

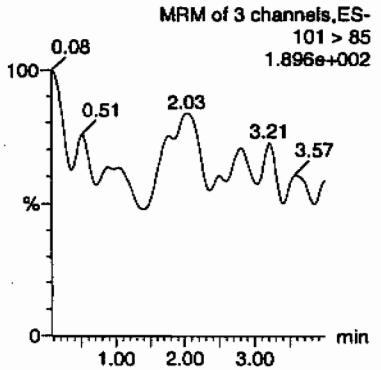
Name: per1229030a
Date: 29-Dec-2009
Time: 16:49:06
ID: IPB005
Vial: 1:1,A

MM 12/30/09

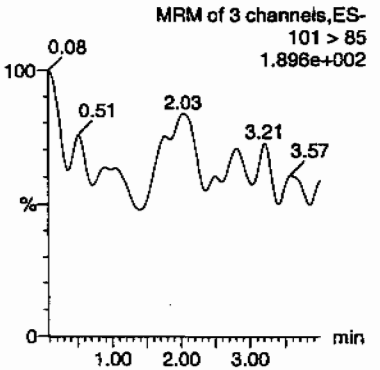
Perchlorate



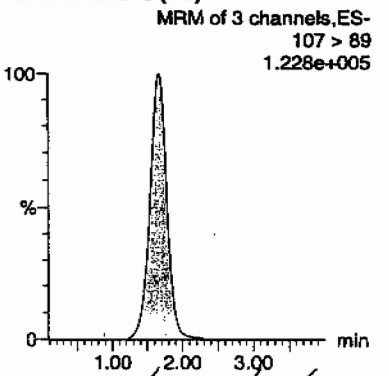
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HMM 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB005	Perchlorate	99 > 83											0.00
IPB005	Perchlorate-101	101 > 85											
IPB005	Perchlorate-O(18)	107 > 89	1.67	34324.867	34324.867	bb			0.5156	103.13	3.13	20032....	

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

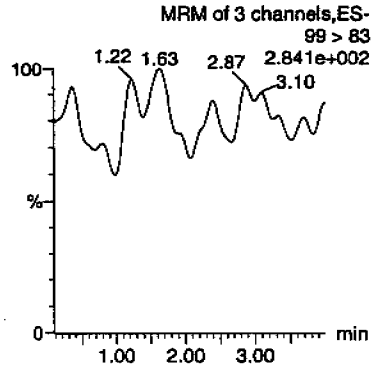
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

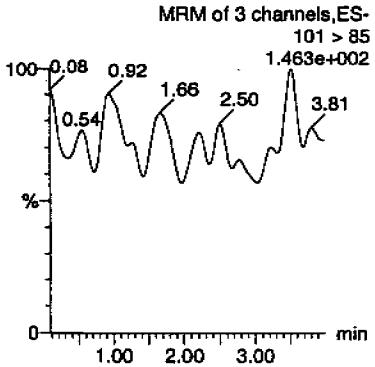
Name: per1229043a
Date: 29-Dec-2009
Time: 18:20:54
ID: IPB006
Vial: 1:1,A

MATT 12/30/09

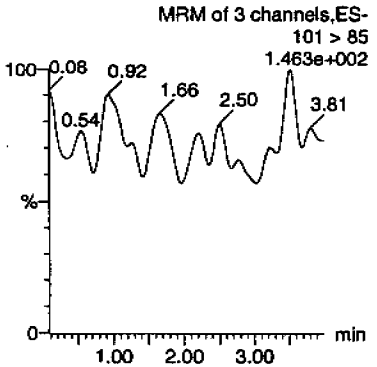
Perchlorate



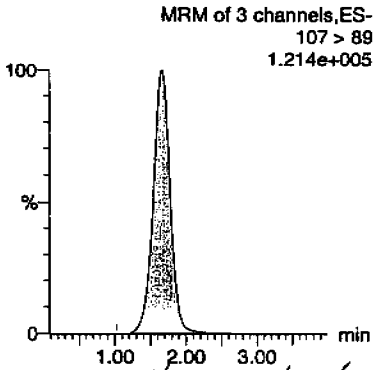
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB006	Perchlorate	99 > 83											0.00
IPB006	Perchlorate-101	101 > 85											
IPB006	Perchlorate-O(18)	107 > 89	1.66	33675.824	33675.824	bb			0.5059	101.18	1.18	6382.0...	

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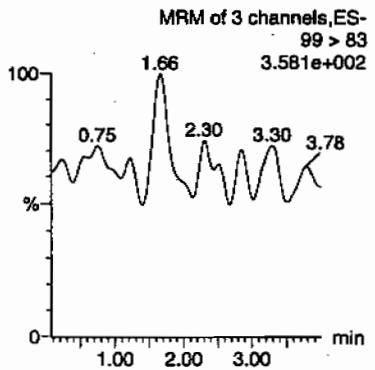
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

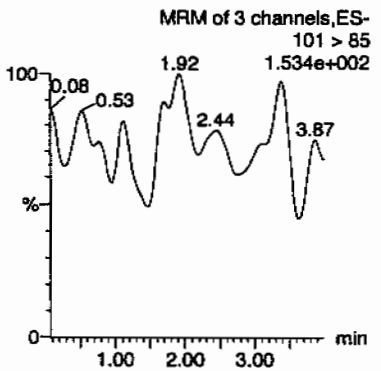
Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

Name: per1229054a
Date: 29-Dec-2009
Time: 19:38:41
ID: IPB007
Vial: 1:1,A

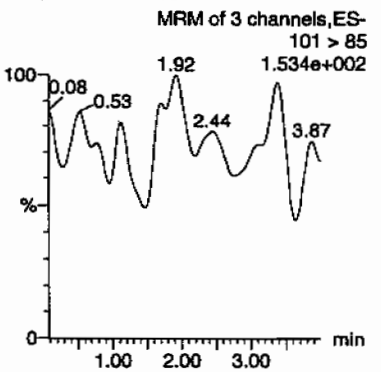
Perchlorate



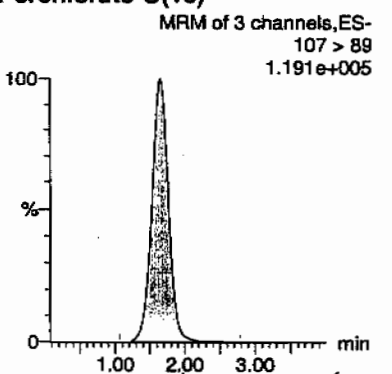
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB007	Perchlorate	99 > 83											0.00
IPB007	Perchlorate-101	101 > 85											
IPB007	Perchlorate-O(18)	107 > 89	1.66	32852.363	32852.363	bb			0.4935	98.70	-1.30	3290.1...	

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

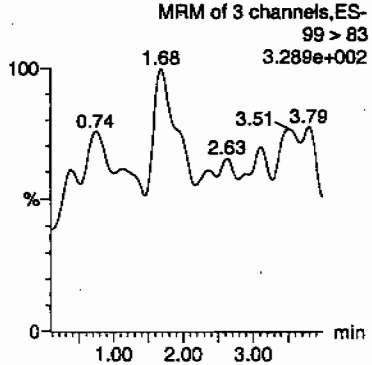
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

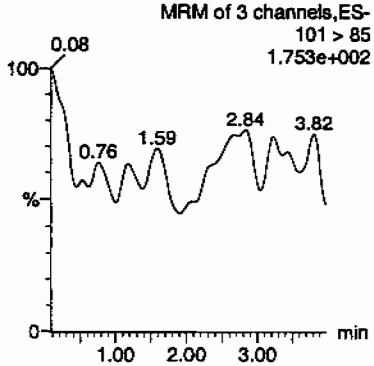
Name: per1229066a
Date: 29-Dec-2009
Time: 21:03:40
ID: IPB008
Vial: 1:1,A

MAP 12/30/09

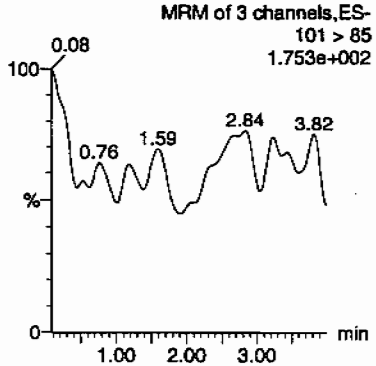
Perchlorate



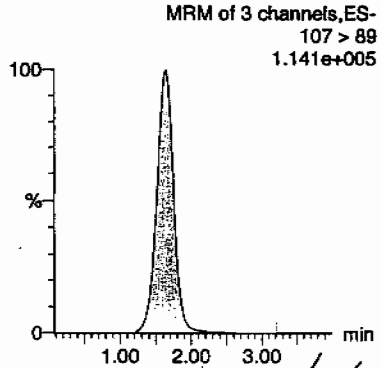
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB008	Perchlorate	99 > 83											0.00
IPB008	Perchlorate-101	101 > 85											
IPB008	Perchlorate-O(18)	107 > 89	1.63	31623.988	31623.988	bb			0.4751	95.01	-4.99	16903....	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Nairb.ref

;Positive ion monoisotopic and average masses from solution
;of NaI/Rbi (2.0/0.05ug/ul) in 50/20 2-propanol/H2O.
;Most useful general purpose calibrant for all low
;MW applications, including MS/MS work.
;At high resolution, readily covers from m/z 50-2000.
;At reduced resolution, can be used to over m/z 3000.
;NOT RECOMMENDED FOR PROTEIN WORK. USE MYO, MYOTRP or TRP.
Updated 20 April '95

22.9898	100
84.9118	100
172.8840	100
322.7782	100
472.6725	100
622.5667	100
772.4610	100
922.3552	100
1072.2494	100
; 1222.1437	100
; 1372.0379	100
; 1521.9321	100
; 1671.8264	100
; 1821.7206	100
; 1971.6149	100
; 2121.5091	100
; 2271.4033	100
; 2421.2976	100
; 2571.1918	100
; 2721.0861	100
; 2870.9803	100
; 3020.8745	100
; 3170.7688	100
; 3320.6630	100
; 3470.5572	100
; 3620.4515	100
; 3770.3457	100
; 3920.2400	100

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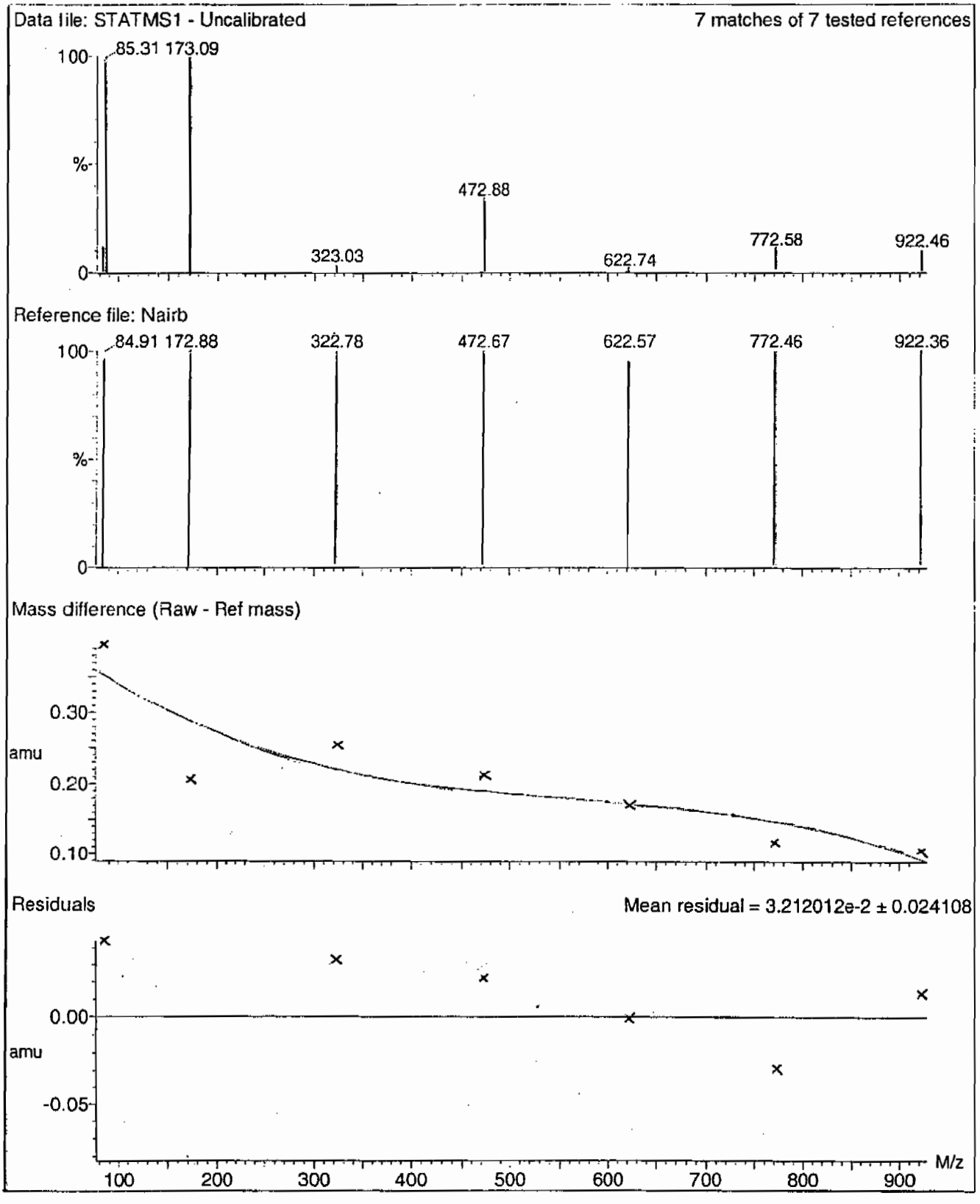
QUATTRO ULTIMA: nairb_01_08_08.cal

Calibration Report - MS1 Static

Printed: Tue Jan 08 12:19:12 2008

PEAKS HIGHLIGHTED BY CWJ 01-09-08



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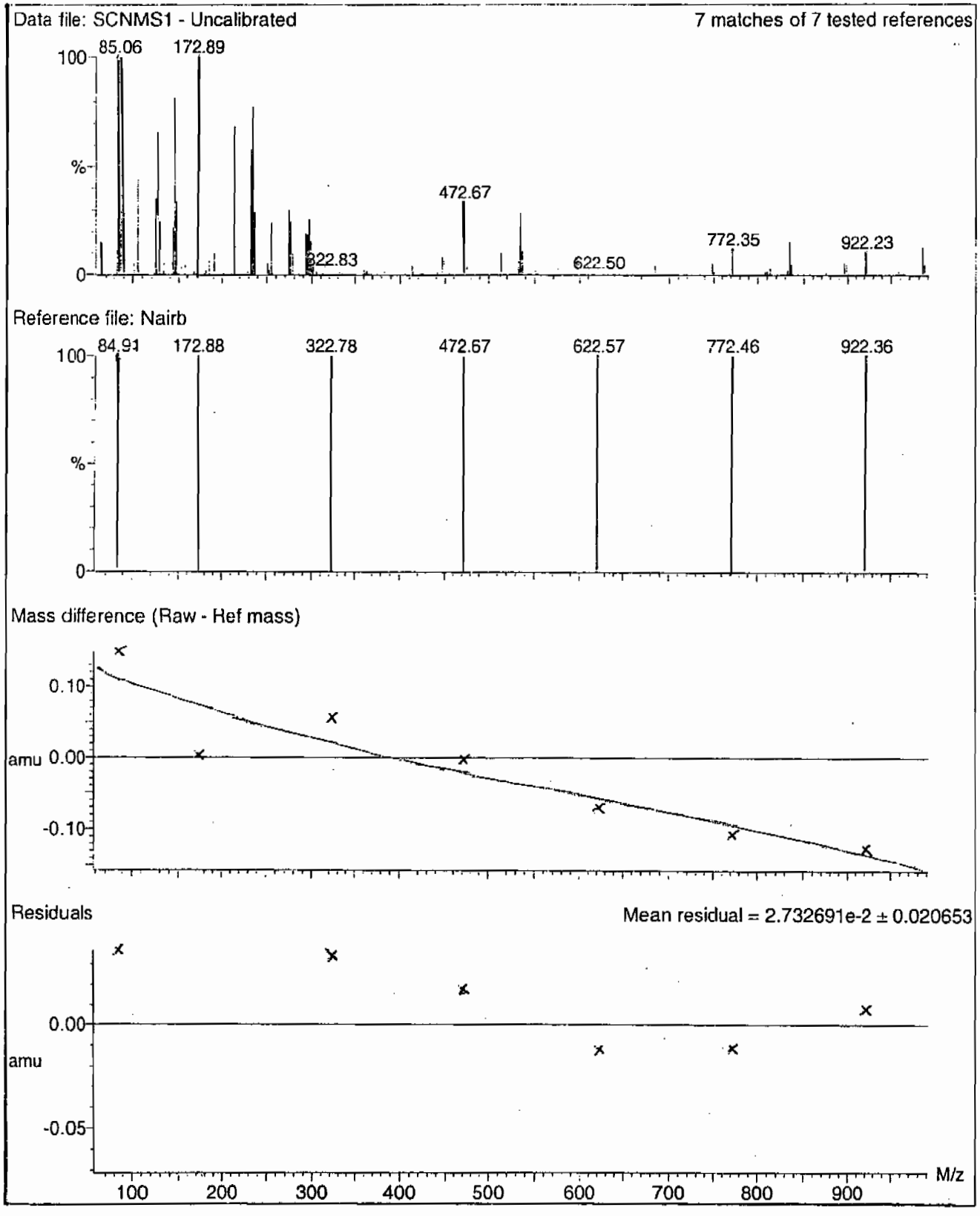
Calibration Report - MS1 Scanning

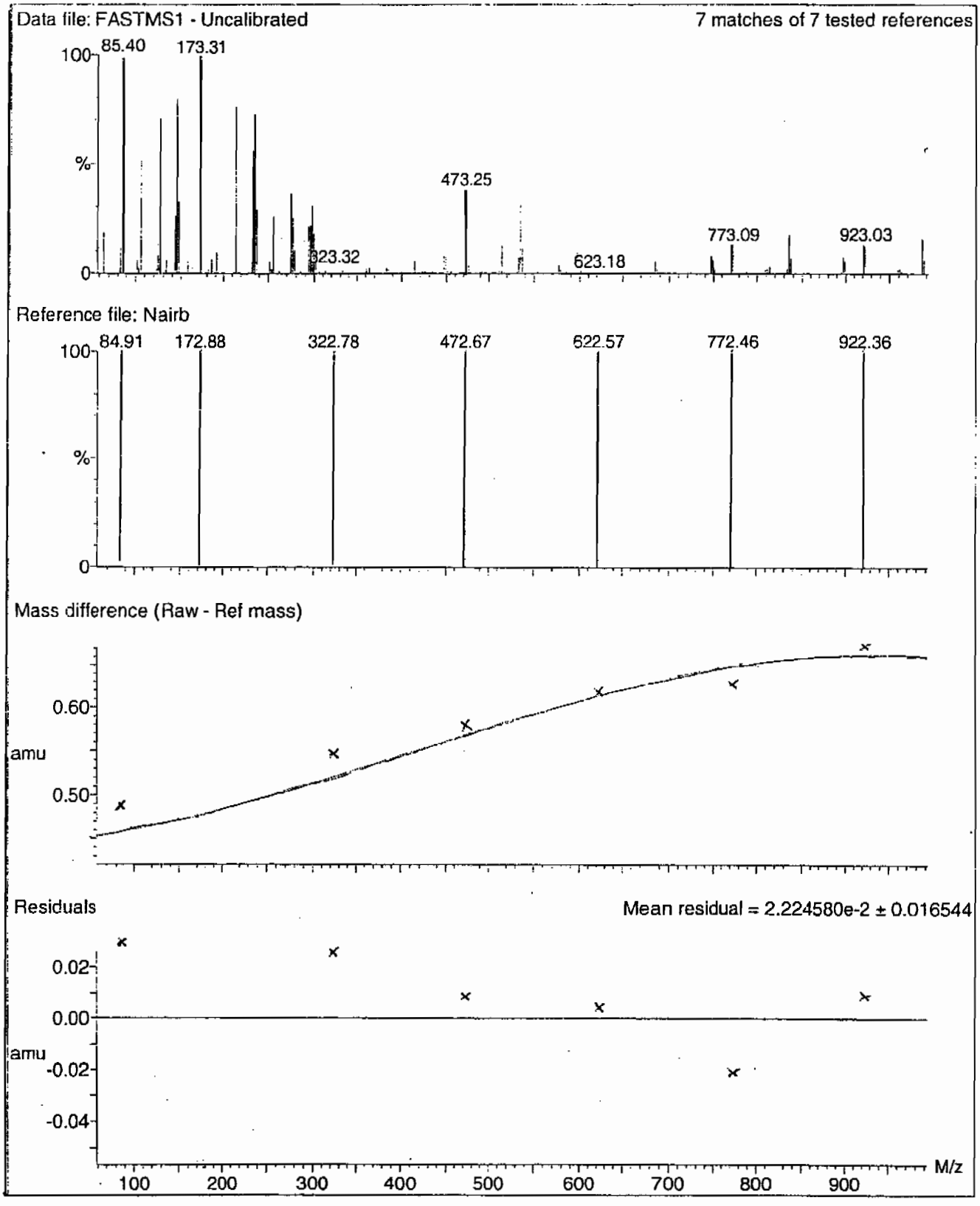
Printed: Tue Jan 08 12:20:09 2008



PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

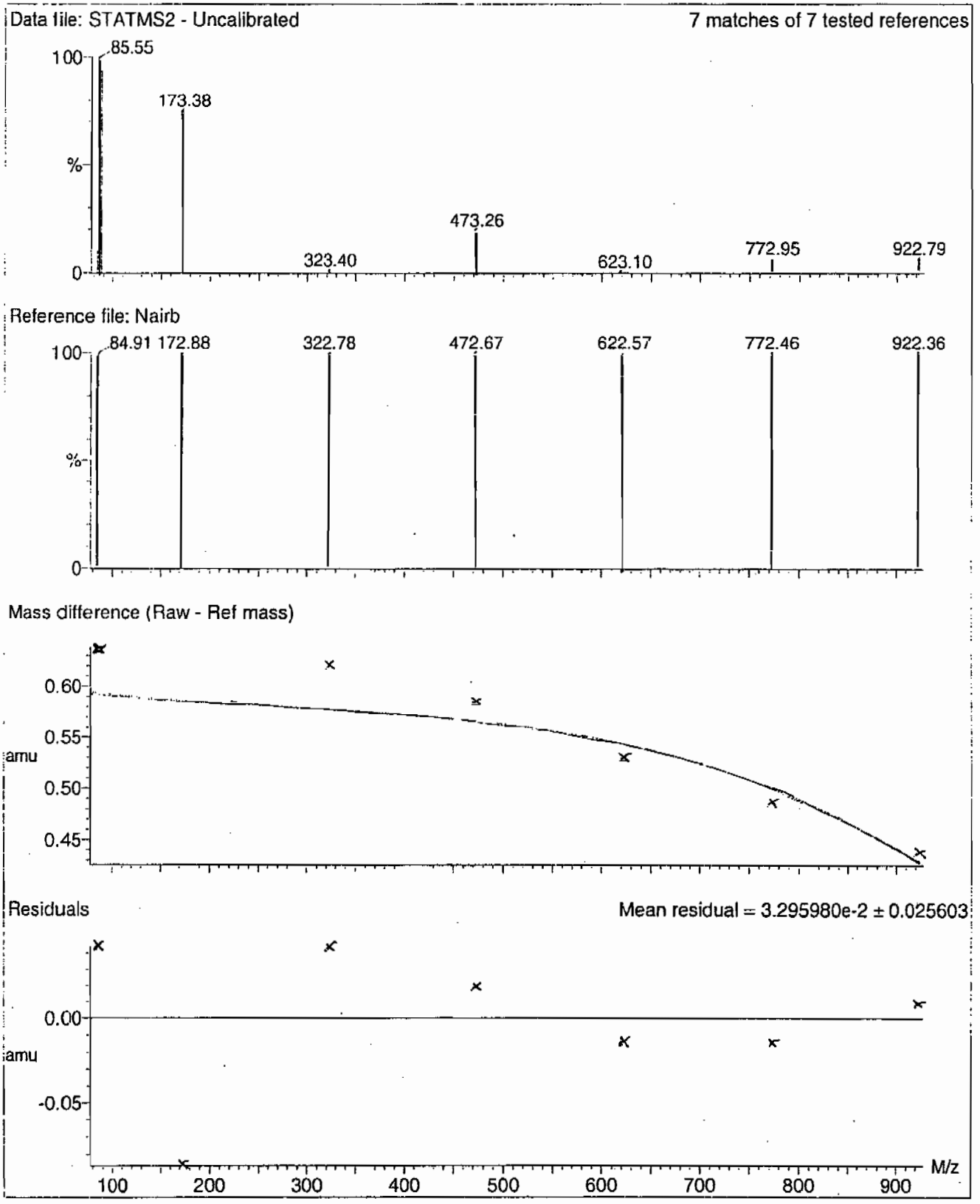
Calibration Report - MS1 Scan Speed Compensation

Printed: Tue Jan 08 12:21:04 2008



PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Printed: Tue Jan 08 12:21:59 2008



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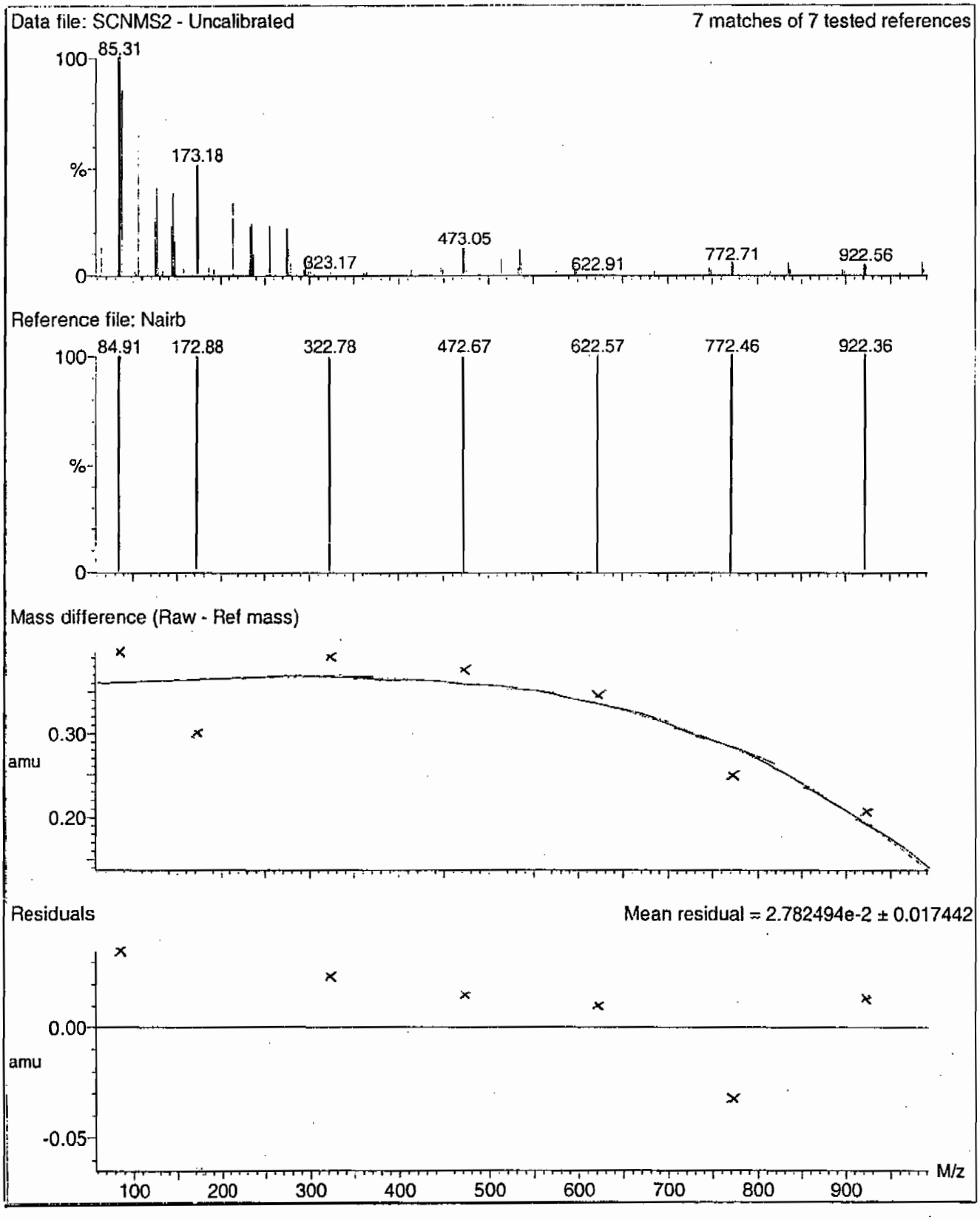
Calibration Report - MS2 Scanning

Printed: Tue Jan 08 12:22:56 2008



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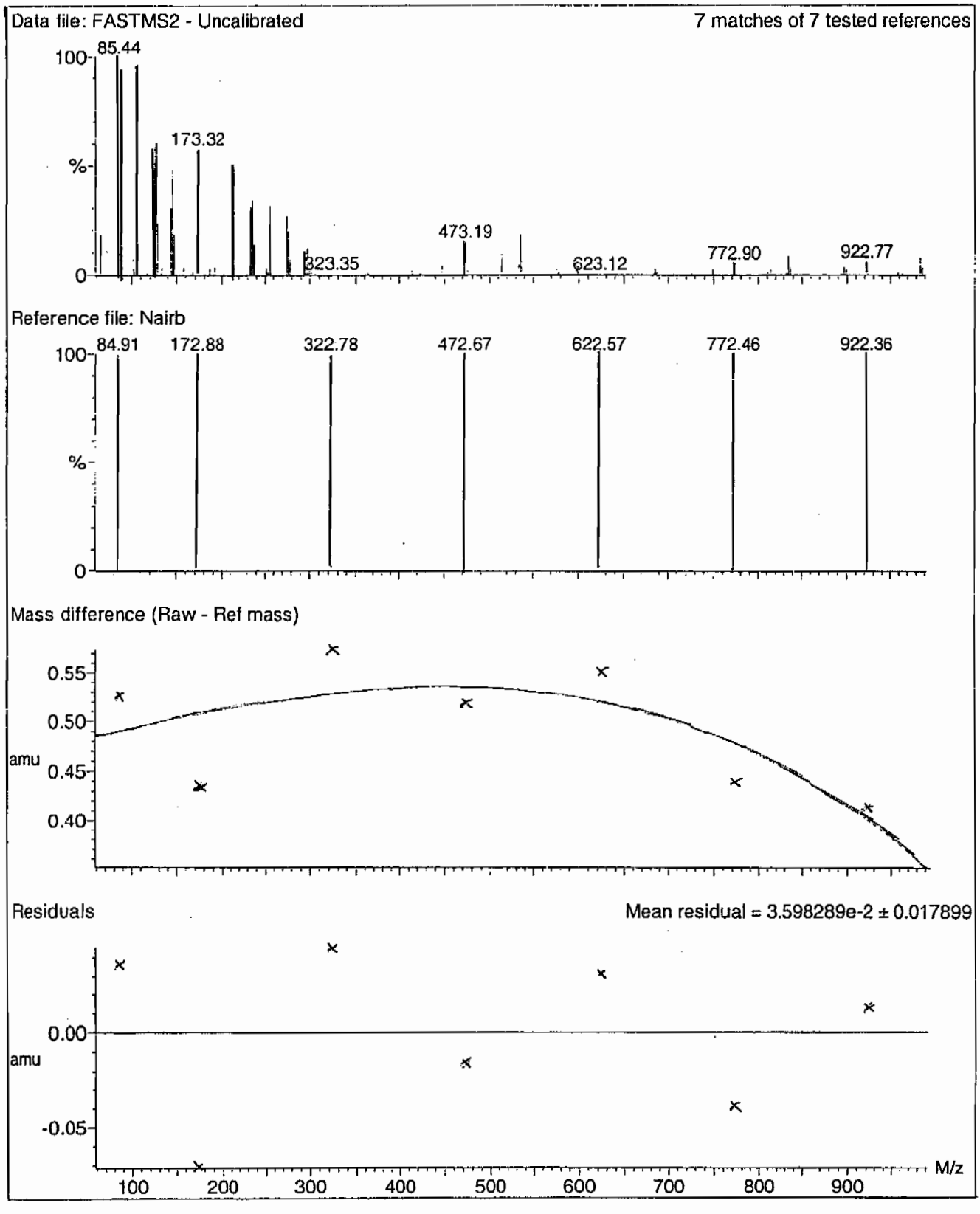
Calibration Report - MS2 Scan Speed Compensation

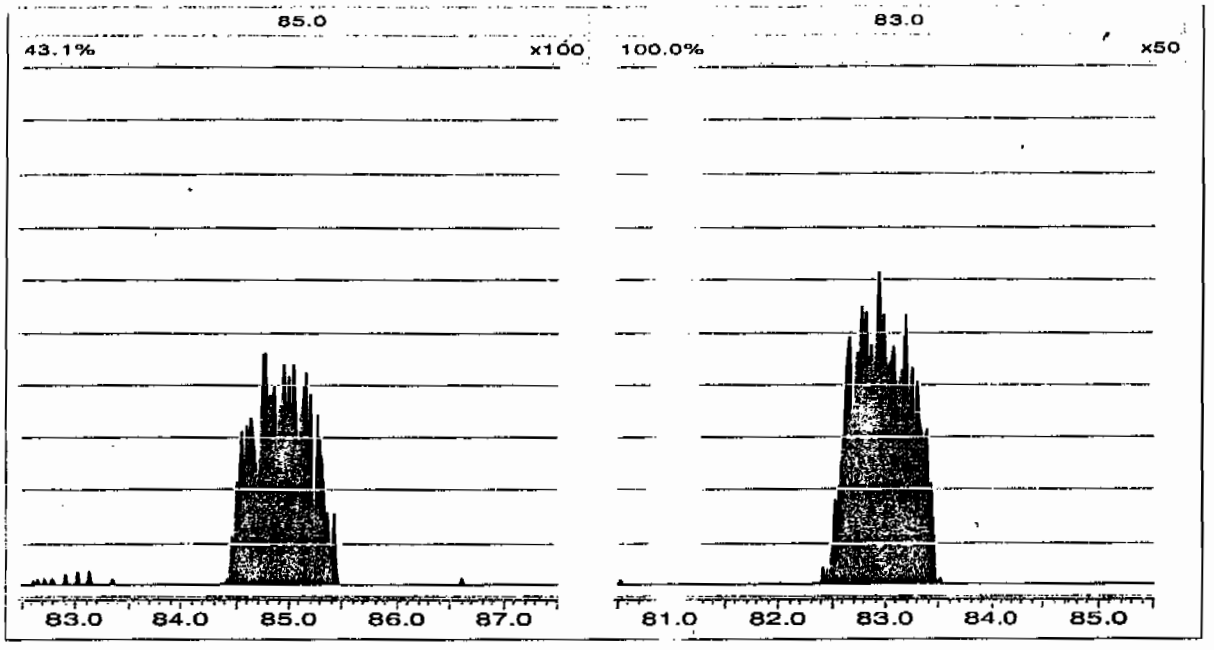
Printed: Tue Jan 08 12:23:51 2008



PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

File: C:\MassLynx\Perchlorate.PRO\ACQUDB\Perchlorate.IPR

Printed: Tuesday, December 29, 2009 13:23:13 Eastern Standard Time



Form 8

Perchlorate RT And Area Summary

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10–1032–1

Lab Code: GEL

Instrument ID: LCMSMS

HPLC Column: Phenomenex Ion Pac AG–16 2 X 50 mm

Sample ID	Datafile	Run Date	Area	RT	RT CLO4	RRT	Q 0.98–1.02
MidLevel Standard Area	**per1229006a**	**29–DEC–09**	**33335.8**				
Lower Area Limit			**16667.9**				
Upper Area Limit			**66671.6**				
1202002916	per1229056a	29–DEC–09 19:52	31050.6	1.66	1.64433	.991	
1202002917	per1229057a	29–DEC–09 20:00	30836.8	1.64	1.65668	1.01	
1202002920	per1229058a	29–DEC–09 20:07	36369	1.67	1.68162	1.007	
243386001	per1229064a	29–DEC–09 20:49	29663.3	1.63	1.65667	1.016	

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SAMPLE
DATA

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: WATER

Extraction Batch ID: 936065

Extraction Type: Filter/DAI

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

Client Sample No.
RE12-10-7595

Date Received: 22-DEC-09

GEL Job No (SDG): 10-1032-1

GEL Sample ID: 243386001

Date Filtered: 29-DEC-09

Injection Volume (uL): 20

%Solids:

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	29-DEC-09 20:49	per1229064a
	Perchlorate Isotope Ratio						1	29-DEC-09 20:49	per1229064a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	29-DEC-09 20:49	per1229064a
	Perchlorate-O(18)			0.446	ug/L		1	29-DEC-09 20:49	per1229064a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Michael A. Penny

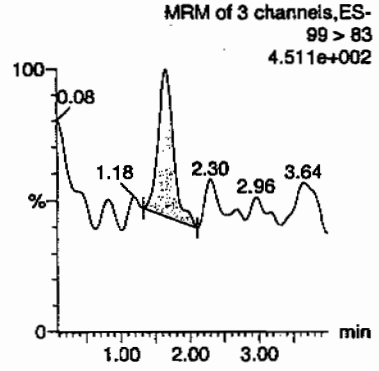
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

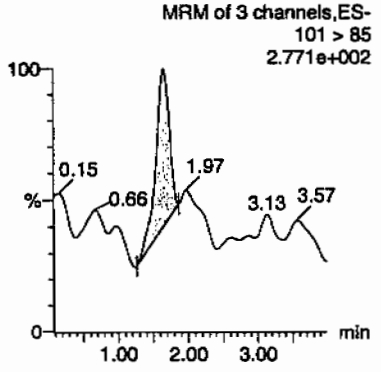
Name: per1229064a
Date: 29-Dec-2009
Time: 20:49:20
ID: 243386001 | LANL | 936066 | LIQ | 1 |
Vial: 2:5,C

MM 12/30/09

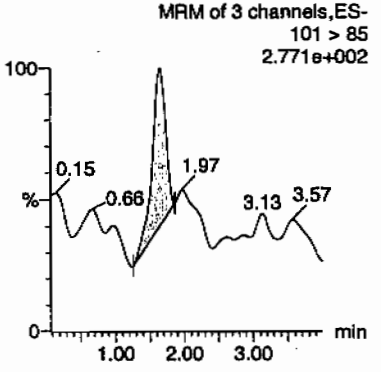
Perchlorate



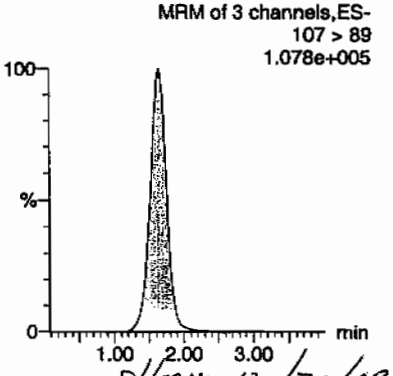
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HMK 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
243386001	Perchlorate	99 > 83	1.66	65.455	65.455	bb			0.0009			11.029	1.72
243386001	Perchlorate-101	101 > 85	1.66	37.976	37.976	bb			0.0016			31.170	
243386001	Perchlorate-O(18)	107 > 89	1.63	29663.287	29663.287	bb			0.4456	89.12	-10.88	9311.9...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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STANDARDS DATA

Form 2

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10-1032-1

Lab Code: GEL

Instrument ID: LCMSMS **Date Analyzed:** 29-DEC-09

HPLC Column: Phenomenex Ion Pac AG-16 2 X 50 mm

Calibration Level	1	2	3	4	5
Cal Concentration (ug/L)	0.05	0.1	0.25	0.50	1.0

Parmname Perchlorate

Coefficient of Determination:

Calibration Curve: 74334.32

Response Type: External Standard

Curve Type: RF

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Form 2

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10–1032–1

Lab Code: GEL

Instrument ID: LCMSMS **Date Analyzed:** 29–DEC–09

HPLC Column: Phenomenex Ion Pac AG–16 2 X 50 mm

Calibration Level	1	2	3	4	5
Cal Concentration (ug/L)	0.05	0.1	0.25	0.50	1.0

Parmname Perchlorate–101

Coefficient of Determination:

Calibration Curve: 24468.6

Response Type: External Standard

Curve Type: RF

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

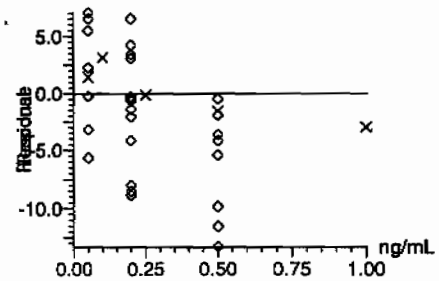
Quantify Calibration Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

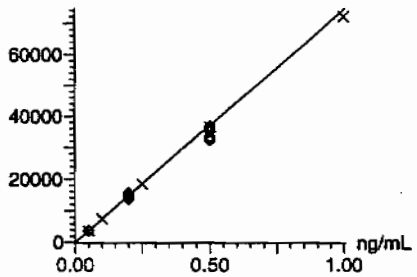
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per122909a.mdb 29 Dec 2009 14:36:05
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per122909a.cdb 30 Dec 2009 06:51:17

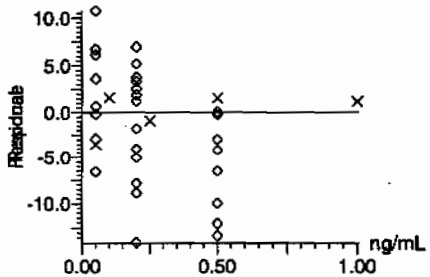
Compound name: Perchlorate
Response Factor: 74334.3
RRF SD: 1798.79, % Relative SD: 2.41986
Response type: External Std, Area
Curve type: RF

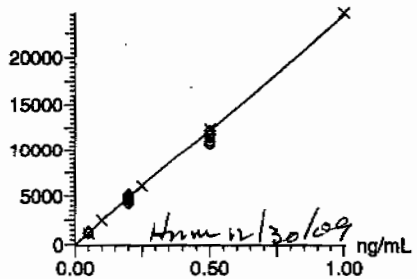




MH
12/30/09

Compound name: Perchlorate-101
Response Factor: 24468.6
RRF SD: 542.853, % Relative SD: 2.21857
Response type: External Std, Area
Curve type: RF





Hmm 12/30/09

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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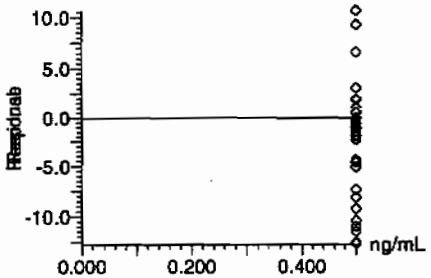
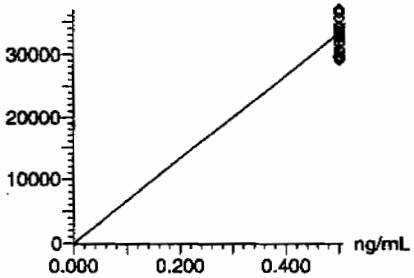
Quantify Calibration Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Michael A. Penny

Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

Compound name: Perchlorate-O(18)
Response Factor: 66568.2
RRF SD: 652.618, % Relative SD: 0.980376
Response type: External Std, Area
Curve type: RF





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Form 3

Perchlorate Initial Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1032-1

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.5	99.53	29-DEC-09 14:21	per1229009a
Perchlorate Isotope Ratio		3.02		29-DEC-09 14:21	per1229009a
Perchlorate-101	.5	.5	100.07	29-DEC-09 14:21	per1229009a

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Michael A. Penny

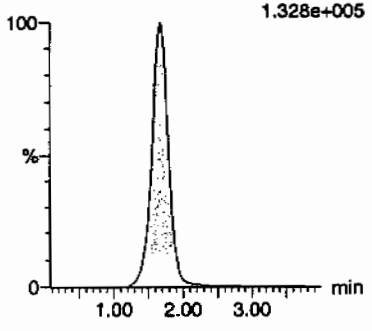
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

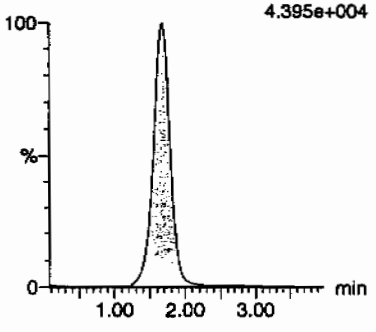
Name: per1229009a
Date: 29-Dec-2009
Time: 14:21:09
ID: WCL091218-06ICV
Vial: 1:2,A

LMT 12/30/09

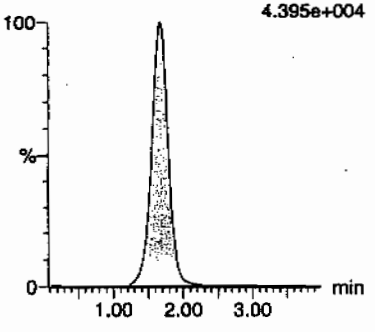
Perchlorate



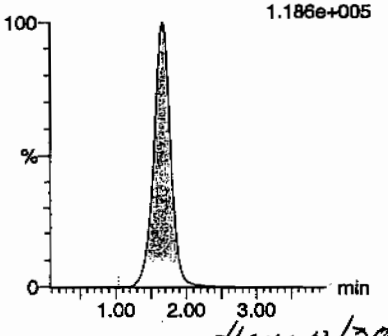
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL091218-06ICV	Perchlorate	99 > 83	1.68	36993.602	36993.602	bb			0.4977	99.53	-0.47	3237.0...	3.02
WCL091218-06ICV	Perchlorate-101	101 > 85	1.67	12242.883	12242.883	bb			0.5004	100.07	0.07	2677.3...	
WCL091218-06ICV	Perchlorate-O(18)	107 > 89	1.67	33292.156	33292.156	bb			0.5001	100.02	0.02	9403.9...	

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Form 3

Perchlorate Continuing Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1032-1

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.49	98.1	29-DEC-09 15:52	per1229022a
Perchlorate Isotope Ratio		2.99		29-DEC-09 15:52	per1229022a
Perchlorate-101	.5	.5	99.76	29-DEC-09 15:52	per1229022a
Perchlorate	.5	.48	96.39	29-DEC-09 16:42	per1229029a
Perchlorate Isotope Ratio		3.06		29-DEC-09 16:42	per1229029a
Perchlorate-101	.5	.48	95.84	29-DEC-09 16:42	per1229029a
Perchlorate	.5	.48	95.84	29-DEC-09 18:13	per1229042a
Perchlorate Isotope Ratio		3		29-DEC-09 18:13	per1229042a
Perchlorate-101	.5	.49	97.07	29-DEC-09 18:13	per1229042a
Perchlorate	.5	.47	94.57	29-DEC-09 19:31	per1229053a
Perchlorate Isotope Ratio		3.07		29-DEC-09 19:31	per1229053a
Perchlorate-101	.5	.47	93.48	29-DEC-09 19:31	per1229053a
Perchlorate	.5	.45	90.16	29-DEC-09 20:56	per1229065a

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Form 3

Perchlorate Continuing Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1032-1

Lab Code: GEL

Reporting Units: ug/L

Perchlorate Isotope Ratio		3.04		29-DEC-09 20:56	per1229065a
Perchlorate-101	.5	.45	90.08	29-DEC-09 20:56	per1229065a

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

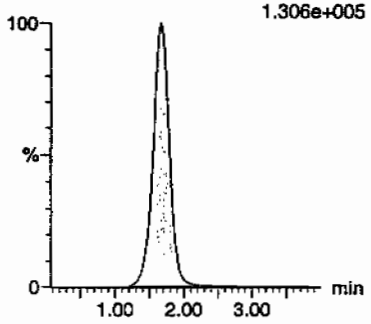
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

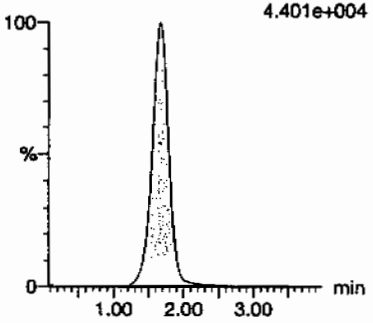
Name: per1229022a
Date: 29-Dec-2009
Time: 15:52:44
ID: WCL091218-06CCV
Vial: 1:2,A

MMT 12/30/09

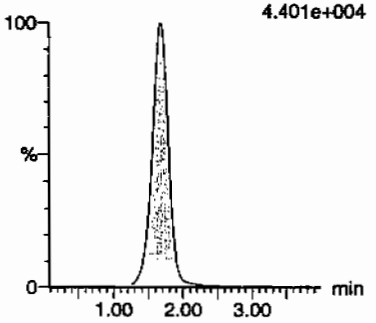
Perchlorate



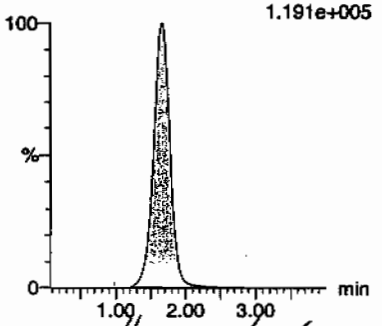
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HMC 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL091218-06CCV	Perchlorate	99 > 83	1.68	36461.191	36461.191	bb			0.4905	98.10	-1.90	3999.9...	2.99
WCL091218-06CCV	Perchlorate-101	101 > 85	1.67	12204.641	12204.641	bb			0.4988	99.76	-0.24	3695.9...	
WCL091218-06CCV	Perchlorate-O(18)	107 > 89	1.67	32995.398	32995.398	bb			0.4957	99.13	-0.87	10703....	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

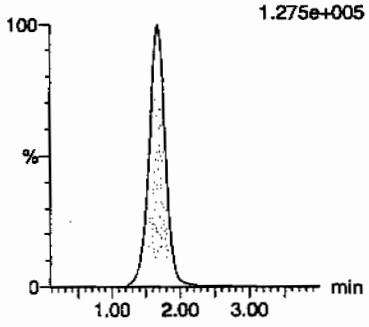
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

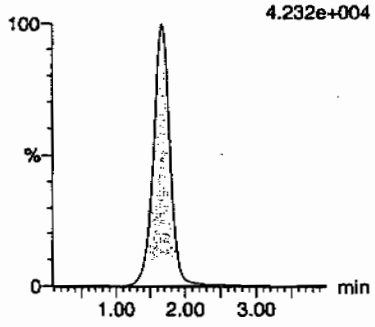
Name: per1229029a
Date: 29-Dec-2009
Time: 16:42:03
ID: WCL091218-06CCV
Vial: 1:2,A

MAP 12/30/09

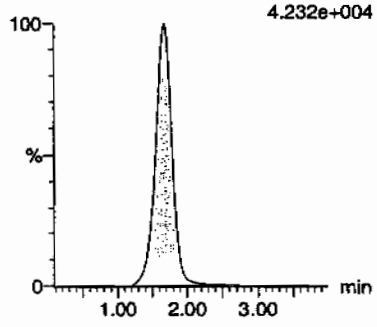
Perchlorate



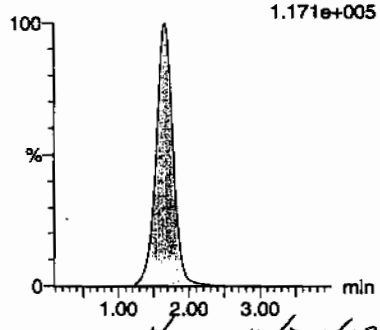
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Anne 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL091218-06CCV	Perchlorate	99 > 83	1.67	35824.668	35824.668	bb			0.4819	96.39	-3.61	5571.2...	3.06
WCL091218-06CCV	Perchlorate-101	101 > 85	1.67	11724.945	11724.945	bb			0.4792	95.84	-4.16	2980.9...	
WCL091218-06CCV	Perchlorate-O(18)	107 > 89	1.66	32661.146	32661.146	bb			0.4906	98.13	-1.87	5311.3...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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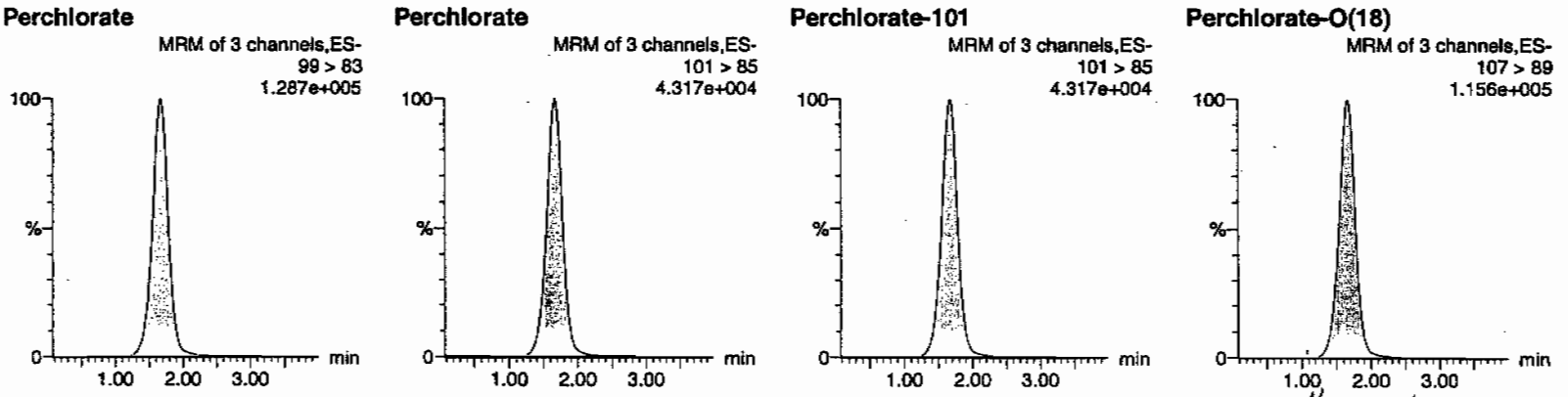
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

Name: per1229042a
Date: 29-Dec-2009
Time: 18:13:37
ID: WCL091218-06CCV
Vial: 1:2,A



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL091218-06CCV	Perchlorate	99 > 83	1.67	35622.629	35622.629	bb			0.4792	95.84	-4.16	4705.1...	3.00
WCL091218-06CCV	Perchlorate-101	101 > 85	1.66	11875.902	11875.902	bb			0.4854	97.07	-2.93	3464.2...	
WCL091218-06CCV	Perchlorate-O(18)	107 > 89	1.66	31837.980	31837.980	bb			0.4783	95.66	-4.34	2223.5...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Michael A. Penny

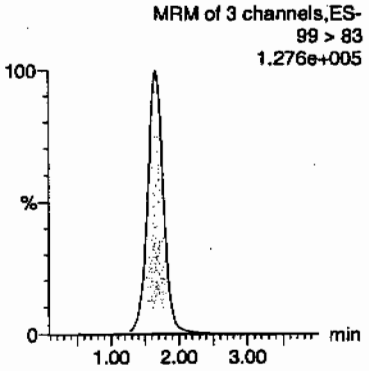
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

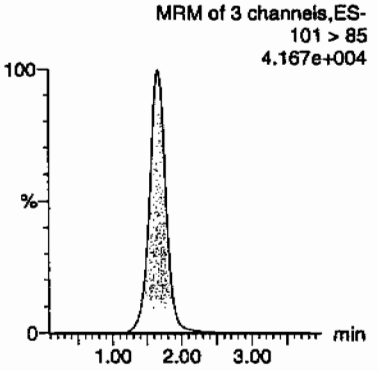
Name: per1229053a
Date: 29-Dec-2009
Time: 19:31:24
ID: WCL091218-06CCV
Vial: 1:2,A

MMP 12/30/09

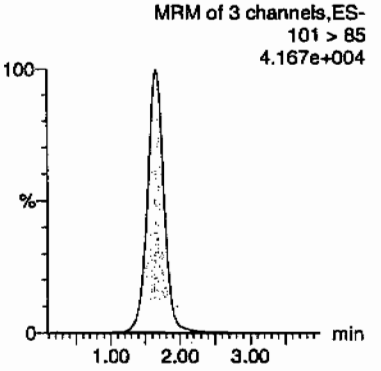
Perchlorate



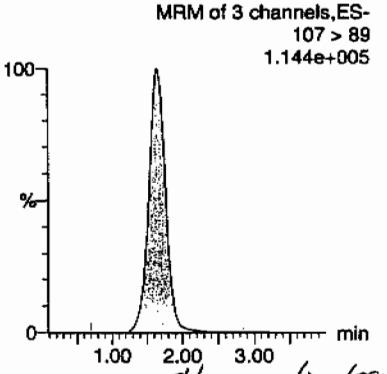
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmc 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL091218-06CCV	Perchlorate	99 > 83	1.66	35149.563	35149.563	bb			0.4729	94.57	-5.43	4413.5...	3.07
WCL091218-06CCV	Perchlorate-101	101 > 85	1.66	11436.879	11436.879	bb			0.4674	93.48	-6.52	1527.3...	
WCL091218-06CCV	Perchlorate-O(18)	107 > 89	1.64	31572.385	31572.385	bb			0.4743	94.86	-5.14	9724.2...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

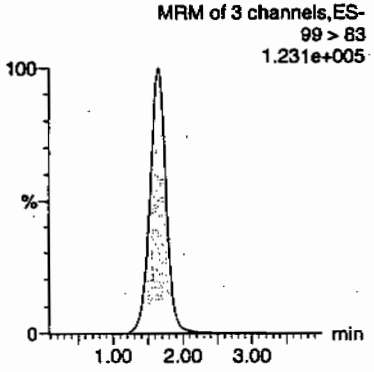
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

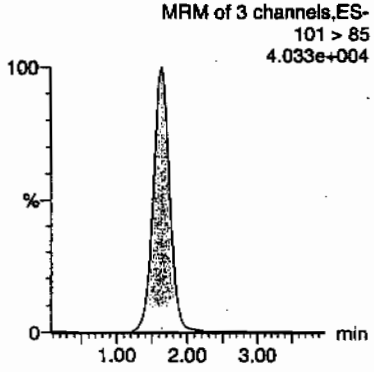
Name: per1229065a
Date: 29-Dec-2009
Time: 20:56:23
ID: WCL091218-06CCV
Vial: 1:2,A

MMT 12/30/09

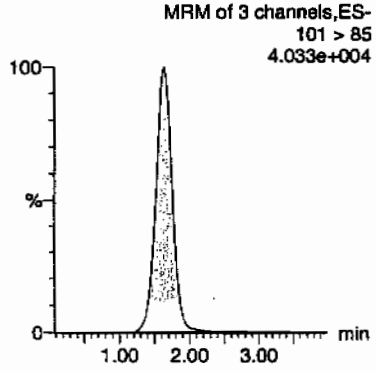
Perchlorate



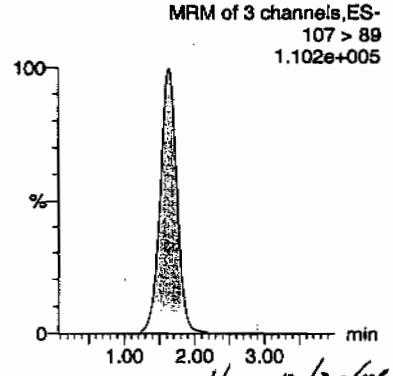
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmc 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL091218-06CCV	Perchlorate	99 > 83	1.64	33508.137	33508.137	bb			0.4508	90.16	-9.84	2316.7...	3.04
WCL091218-06CCV	Perchlorate-101	101 > 85	1.64	11020.529	11020.529	bb			0.4504	90.08	-9.92	2074.1...	
WCL091218-06CCV	Perchlorate-O(18)	107 > 89	1.63	30210.842	30210.842	bb			0.4538	90.77	-9.23	4885.1...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Form 3

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1032-1

Lab Code: GEL

Reporting Units: ug/L

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.05	.05	106.51	29-DEC-09 14:35	per1229011a
Perchlorate Isotope Ratio		3.12		29-DEC-09 14:35	per1229011a
Perchlorate-101	.05	.05	103.65	29-DEC-09 14:35	per1229011a
Perchlorate	.05	.05	102.28	29-DEC-09 16:06	per1229024a
Perchlorate Isotope Ratio		2.8		29-DEC-09 16:06	per1229024a
Perchlorate-101	.05	.06	110.81	29-DEC-09 16:06	per1229024a
Perchlorate	.05	.05	107.05	29-DEC-09 16:56	per1229031a
Perchlorate Isotope Ratio		3.05		29-DEC-09 16:56	per1229031a
Perchlorate-101	.05	.05	106.72	29-DEC-09 16:56	per1229031a
Perchlorate	.05	.05	105.47	29-DEC-09 18:27	per1229044a
Perchlorate Isotope Ratio		3.02		29-DEC-09 18:27	per1229044a

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Form 3

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1032-1

Lab Code: GEL

Reporting Units: ug/L

Perchlorate-101	.05	.05	106.16	29-DEC-09 18:27	per1229044a
Perchlorate	.05	.05	99.78	29-DEC-09 19:45	per1229055a
Perchlorate Isotope Ratio		3.01		29-DEC-09 19:45	per1229055a
Perchlorate-101	.05	.05	100.67	29-DEC-09 19:45	per1229055a
Perchlorate	.05	.05	94.36	29-DEC-09 21:10	per1229067a
Perchlorate Isotope Ratio		2.95		29-DEC-09 21:10	per1229067a
Perchlorate-101	.05	.05	97.14	29-DEC-09 21:10	per1229067a

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Michael A. Penny

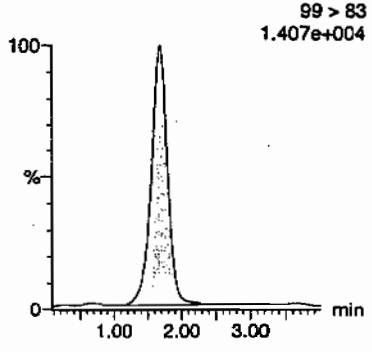
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

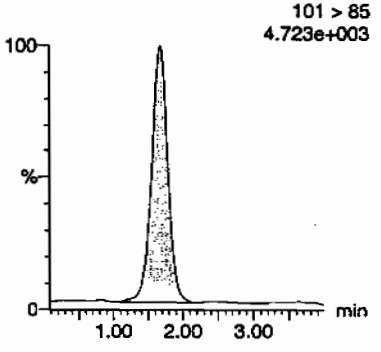
Name: per1229011a
Date: 29-Dec-2009
Time: 14:35:14
ID: WCL091218-07CRI
Vial: 1:2,B

MAP 12/30/09

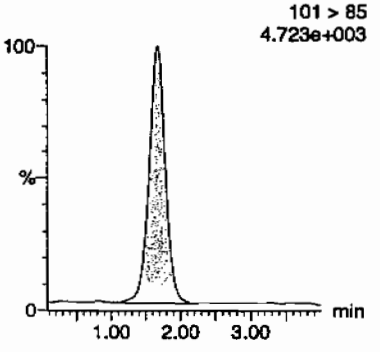
Perchlorate



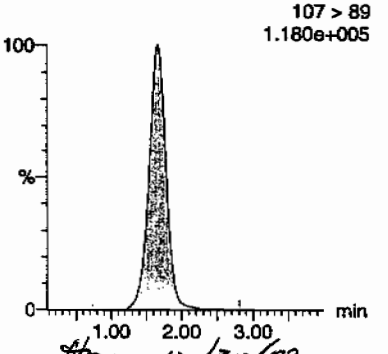
Perchlorate



Perchlorate-101



Perchlorate-O(18)



AMM 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL091218-07CRI	Perchlorate	99 > 83	1.68	3958.786	3958.786	bb			0.0533	106.51	6.51	363.360	3.12
WCL091218-07CRI	Perchlorate-101	101 > 85	1.67	1268.100	1268.100	bb			0.0518	103.65	3.65	235.884	
WCL091218-07CRI	Perchlorate-O(18)	107 > 89	1.67	33050.422	33050.422	bb			0.4965	99.30	-0.70	5866.9...	

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Michael A. Penny

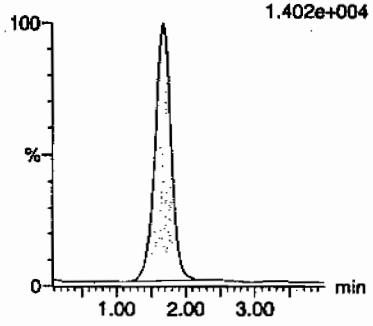
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

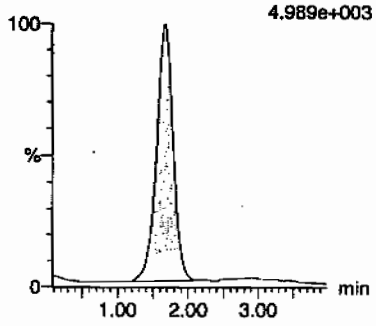
Name: per1229024a
Date: 29-Dec-2009
Time: 16:06:49
ID: WCL091218-07CRI
Vial: 1:2,B

MMT 12/30/09

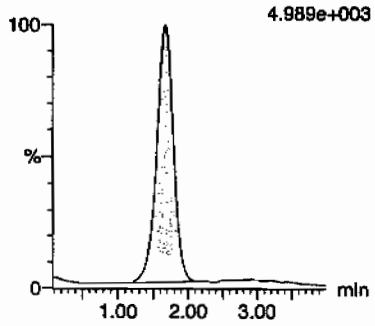
Perchlorate



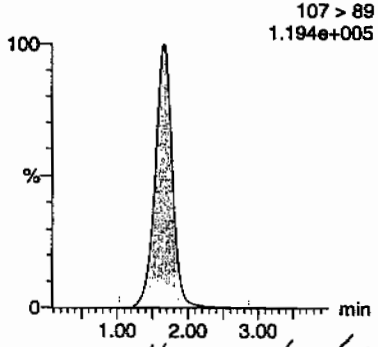
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HWL 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL091218-07CRI	Perchlorate	99 > 83	1.67	3801.353	3801.353	bb			0.0511	102.28	2.28	372.962	2.80
WCL091218-07CRI	Perchlorate-101	101 > 85	1.67	1355.651	1355.651	bb			0.0554	110.81	10.81	171.230	
WCL091218-07CRI	Perchlorate-O(18)	107 > 89	1.66	33458.375	33458.375	bb			0.5026	100.52	0.52	8206.0...	

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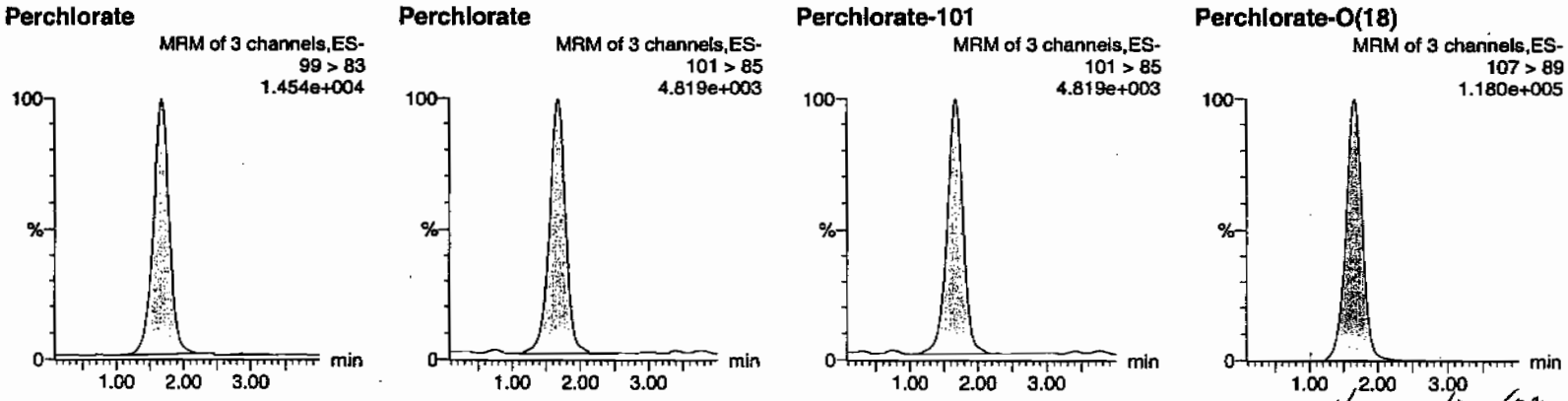
Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Michael A. Penny

Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

Name: per1229031a
Date: 29-Dec-2009
Time: 16:56:08
ID: WCL091218-07CRI
Vial: 1:2,B

MMT 12/30/09



Anne 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL091218-07CRI	Perchlorate	99 > 83	1.67	3978.753	3978.753	bb			0.0535	107.05	7.05	1632.9...	3.05
WCL091218-07CRI	Perchlorate-101	101 > 85	1.67	1305.628	1305.628	bb			0.0534	106.72	6.72	556.260	
WCL091218-07CRI	Perchlorate-O(18)	107 > 89	1.66	32789.859	32789.859	bb			0.4926	98.52	-1.48	4096.5...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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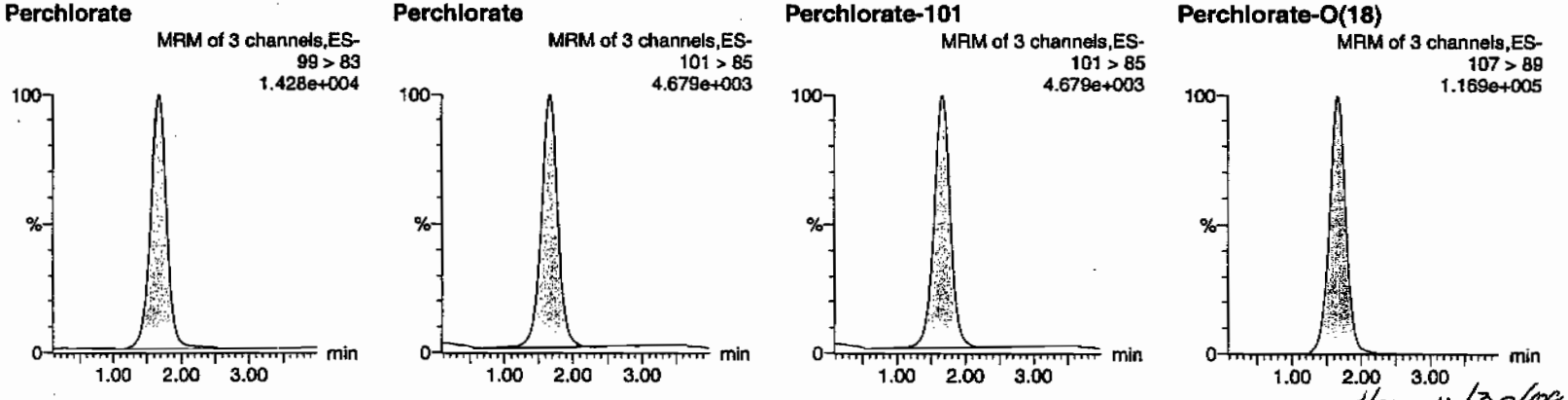
Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Michael A. Penny

Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

Name: per1229044a
Date: 29-Dec-2009
Time: 18:27:56
ID: WCL091218-07CRI
Vial: 1:2,B

MMT 12/30/09



Hmm 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL091218-07CRI	Perchlorate	99 > 83	1.67	3920.063	3920.063	bb			0.0527	105.47	5.47	653.754	3.02
WCL091218-07CRI	Perchlorate-101	101 > 85	1.67	1298.797	1298.797	bb			0.0531	106.16	6.16	251.043	
WCL091218-07CRI	Perchlorate-O(18)	107 > 89	1.66	32513.240	32513.240	bb			0.4884	97.68	-2.32	2527.9...	

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

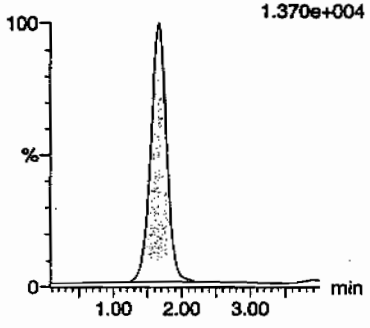
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

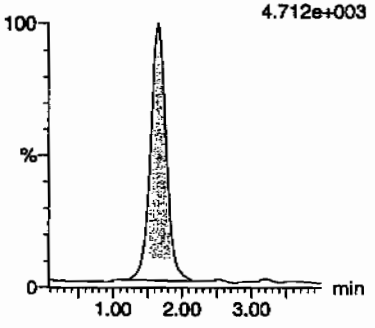
Name: per1229055a
Date: 29-Dec-2009
Time: 19:45:43
ID: WCL091218-07CRI
Vial: 1:2,B

MMT 12/30/09

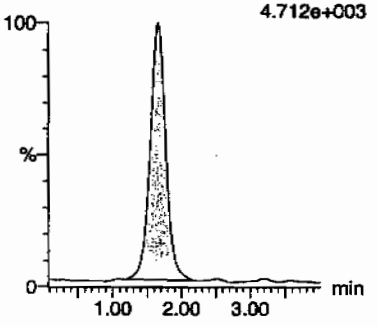
Perchlorate



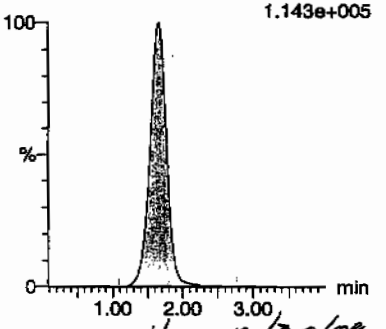
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmc 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL091218-07CRI	Perchlorate	99 > 83	1.67	3708.720	3708.720	bb			0.0499	99.78	-0.22	588.082	3.01
WCL091218-07CRI	Perchlorate-101	101 > 85	1.66	1231.665	1231.665	bb			0.0503	100.67	0.67	180.729	
WCL091218-07CRI	Perchlorate-O(18)	107 > 89	1.66	31600.350	31600.350	bb			0.4747	94.94	-5.06	6698.1...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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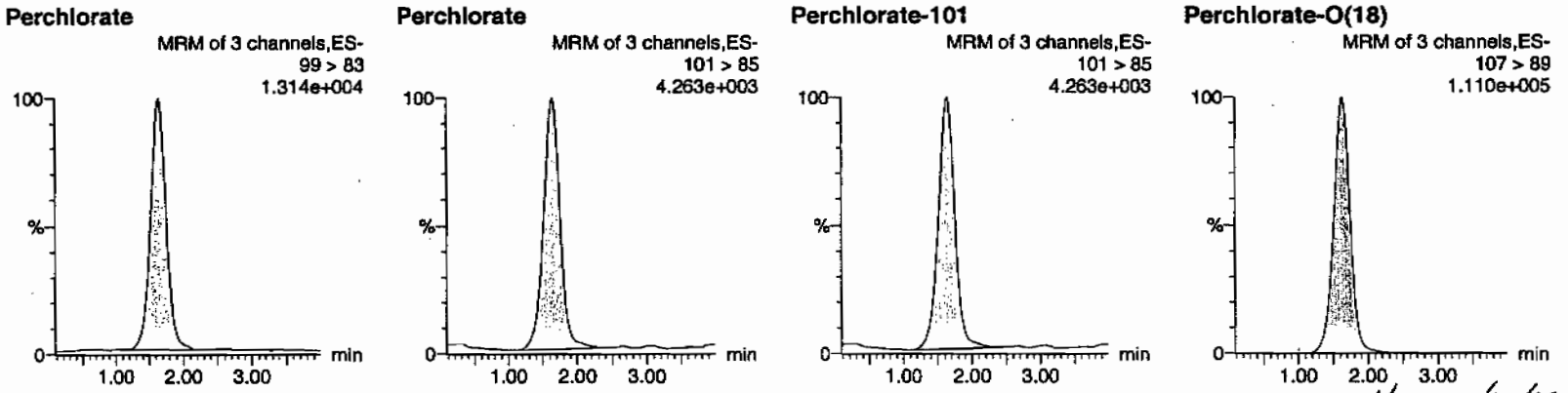
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

Name: per1229067a
Date: 29-Dec-2009
Time: 21:10:42
ID: WCL091218-07CRI
Vial: 1:2,B



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL091218-07CRI	Perchlorate	99 > 83	1.64	3507.066	3507.066	bb			0.0472	94.36	-5.64	669.069	2.95
WCL091218-07CRI	Perchlorate-101	101 > 85	1.63	1188.469	1188.469	bb			0.0486	97.14	-2.86	224.189	
WCL091218-07CRI	Perchlorate-O(18)	107 > 89	1.63	30583.959	30583.959	bb			0.4594	91.89	-8.11	4818.5...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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QUALITY CONTROL

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: GROUND WATER

Extraction Batch ID: 936065

Extraction Type: Filter/DAI

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

Client Sample No.
MB

Date Received: 29-DEC-09

GEL Job No (SDG): 10-1032-1

GEL Sample ID: 1202002916

Date Filtered: 29-DEC-09

Injection Volume (uL): 20

%Solids:

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.050	ug/L	U	1	29-DEC-09 19:52	per1229056a
	Perchlorate Isotope Ratio						1	29-DEC-09 19:52	per1229056a
14797-73-0	Perchlorate-101	.05	.2	0.050	ug/L	U	1	29-DEC-09 19:52	per1229056a
	Perchlorate-O(18)			0.466	ug/L		1	29-DEC-09 19:52	per1229056a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Michael A. Penny

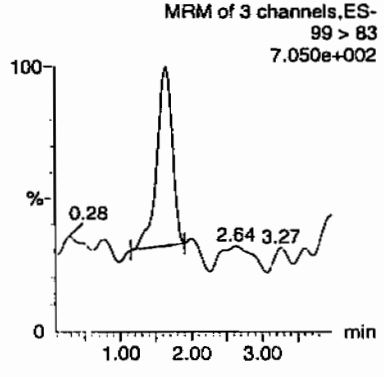
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

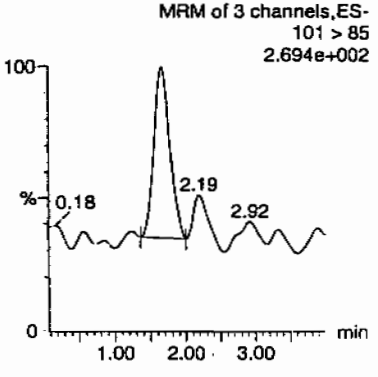
Name: per1229056a
Date: 29-Dec-2009
Time: 19:52:47
ID: 1202002916 | LANL | 936066 | LIQ | MB | 1 |
Vial: 2:4,A

MAP 12/30/09

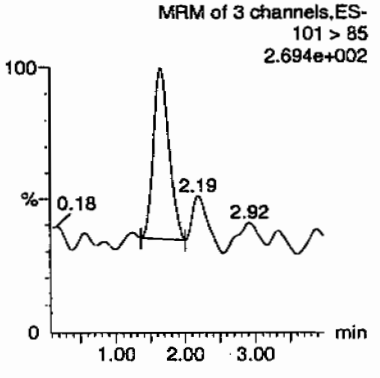
Perchlorate



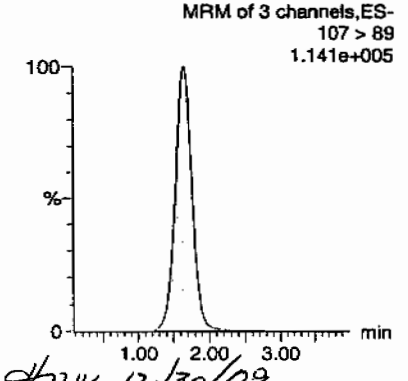
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HMM 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202002916	Perchlorate	99 > 83	1.64	122.341	122.341	bb			0.0016			16.810	2.62
1202002916	Perchlorate-101	101 > 85	1.66	46.639	46.639	bb			0.0019			6.498	
1202002916	Perchlorate-O(18)	107 > 89	1.66	31050.627	31050.627	bb			0.4664	93.29	-6.71	3575.2...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: GROUND WATER

Extraction Batch ID: 936065

Extraction Type: Filter/DAI

Sample Volume/Weight: 10.0 mL

Concentrated Extract Volume: 10.0

Client Sample No.
LCS

Date Received: 29-DEC-09

GEL Job No (SDG): 10-1032-1

GEL Sample ID: 1202002917

Date Filtered: 29-DEC-09

Injection Volume (uL): 20

%Solids:

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.05	.2	0.183	ug/L	J	1	29-DEC-09 20:00	per1229057a
	Perchlorate Isotope Ratio			3.02			1	29-DEC-09 20:00	per1229057a
14797-73-0	Perchlorate-101	.05	.2	0.184	ug/L	J	1	29-DEC-09 20:00	per1229057a
	Perchlorate-O(18)			0.463	ug/L		1	29-DEC-09 20:00	per1229057a

^ When the analyte name is Perchlorate Isotope Ratio the concentration is a unitless value calculated from the ratio of Perchlorate peak area to Perchlorate-101 peak area. The Perchlorate-101 and isotopic ratio results are provided for qualitative purposes only. The results are used to verify the presence and quantitation of Perchlorate.

*Concentration =

$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Aliquot}} \times \frac{1}{\%\text{Solids}}$$

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Michael A. Penny

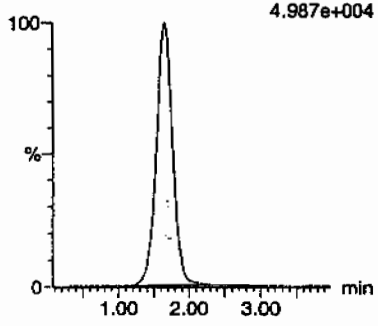
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

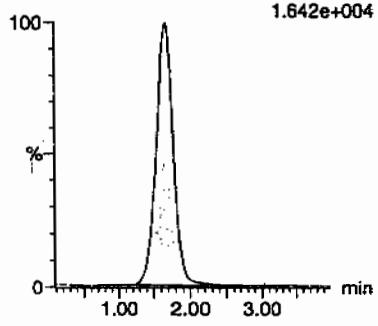
Name: per1229057a
Date: 29-Dec-2009
Time: 20:00:00
ID: 1202002917 | LANL | 936066 | LCS | 1 |
Vial: 2:4,B

MM 12/30/09

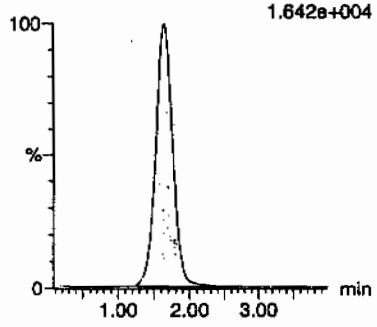
Perchlorate
MRM of 3 channels,ES-
99 > 83
4.987e+004



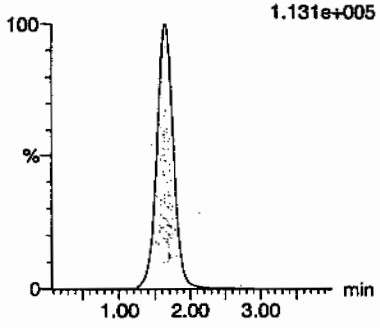
Perchlorate
MRM of 3 channels,ES-
101 > 85
1.642e+004



Perchlorate-101
MRM of 3 channels,ES-
101 > 85
1.642e+004



Perchlorate-O(18)
MRM of 3 channels,ES-
107 > 89
1.131e+005



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202002917	Perchlorate	99 > 83	1.66	13602.565	13602.565	bb			0.1830	91.50	-8.50	1408.8...	3.02
1202002917	Perchlorate-101	101 > 85	1.66	4510.471	4510.471	bb			0.1843	92.17	-7.83	506.288	
1202002917	Perchlorate-O(18)	107 > 89	1.64	30836.791	30836.791	bb			0.4632	92.65	-7.35	4099.3...	

$$\frac{13602.565}{74334.3} = 0.1830$$

HM 12/30/09

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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MISCELLANEOUS DATA

Prep Logbook

Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)

Batch ID: 936065 **Verified by:** _____

Analyst: Lynne Russell

Method: SW846 6850 Modified

Lab SOP: GL-OA-E-067 REV# 6

Instrument: MicroMass Quatro Ultima

Sample ID	Run Date	Initial Volume (mL)	Final Volume (mL)	Prepped Factor (mL/mL)
1202002916 MB	29-DEC-2009 15:24:56	10	10	1
1202002917 LCS	29-DEC-2009 15:24:56	10	10	1
243285002	29-DEC-2009 15:24:56	10	10	1
243286001	29-DEC-2009 15:24:56	10	10	1
243286004	29-DEC-2009 15:24:56	10	10	1
1202002918 MS (243286004)	29-DEC-2009 15:24:56	10	10	1
1202002919 MSD (243286004)	29-DEC-2009 15:24:56	10	10	1
243386001	29-DEC-2009 15:24:56	10	10	1
1202002920 ICS	29-DEC-2009 15:24:56	10	10	1
243396001	29-DEC-2009 15:24:56	10	10	1
1202003536 MS (243396001)	29-DEC-2009 15:24:56	10	10	1
1202003537 MSD (243396001)	29-DEC-2009 15:24:56	10	10	1
243400001	29-DEC-2009 15:24:56	10	10	1
243400004	29-DEC-2009 15:24:56	10	10	1
243405001	29-DEC-2009 15:24:56	10	10	1
243459001	29-DEC-2009 15:24:56	10	10	1
243459002	29-DEC-2009 15:24:56	10	10	1
243461002	29-DEC-2009 15:24:56	10	10	1
243466001	29-DEC-2009 15:24:56	10	10	1
243466002	29-DEC-2009 15:24:56	10	10	1
243493001	29-DEC-2009 15:24:56	10	10	1

Type	Sample Id	Description	Serial Number	Spike Amt	Units
ICS	1202002920	10 ug/L ICV/CCV Second Source	UCL091201-01.1	.2	mL
LCS	1202002917	10 ug/L ICV/CCV Second Source	UCL091201-01.1	.2	mL
MS	1202002918	10 ug/L ICV/CCV Second Source	UCL091201-01.1	.2	mL
MS	1202003536	10 ug/L ICV/CCV Second Source	UCL091201-01.1	.2	mL
MSD	1202002919	10 ug/L ICV/CCV Second Source	UCL091201-01.1	.2	mL
MSD	1202003537	10 ug/L ICV/CCV Second Source	UCL091201-01.1	.2	mL
RGNT	All	500 ppm Carbonate, Bicarbonate, Chloride, Sulfate	1236492	10	mL

Comments:

De-salting cartridges used: 090403-1-Ba and 091029-1-H.

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GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS#2

Date: 12/29/09
Extr. Injection Volume: 20uL
Sequence Number: per122909a
Initial Calibration Date: 12/29/09

Method: EPA 6850-Modified
Int. Std.: UCL091019-03.2
Mobile Phase Lot#: 1233781, 1233976
Standard-Samp Reagent Lot#:: 1233976

Reviewed BY: [illegible]
Date: 12/30/09
SOP: GL-OA-E-067 Rev.6
Alt Check Std. ID: WCL091218-06

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
per1229001a	IPB001	MAP	12/29/2009 13:24			1		USE	B
per1229002a	IPB001	MAP	12/29/2009 13:31			1		USE	B
per1229003a	WCLICAL-01	MAP	12/29/2009 13:39			1		USE	I
per1229004a	WCLICAL-02	MAP	12/29/2009 13:46			1		USE	I
per1229005a	WCLICAL-03	MAP	12/29/2009 13:53			1		USE	I
per1229006a	WCLICAL-04	MAP	12/29/2009 14:00			1		USE	I
per1229007a	WCLICAL-05	MAP	12/29/2009 14:07			1		USE	I
per1229008a	IPB002	MAP	12/29/2009 14:14			1		USE	B
per1229009a	WCLICV	MAP	12/29/2009 14:21			1		USE	C
per1229010a	IPB003	MAP	12/29/2009 14:28			1		USE	B
per1229011a	WCLCRI	MAP	12/29/2009 14:35			1		USE	C
per1229012a	1202004322	MAP	12/29/2009 14:42	936761	Various	1	LANL	USE	S
per1229013a	1202004325	MAP	12/29/2009 14:49	936761	Various	1	LANL	USE	S
per1229014a	1202004326	MAP	12/29/2009 14:56	936761	Various	1	LANL	USE	S
per1229015a	243506001	MAP	12/29/2009 15:03	936761	10-1066-1	1	LANL	USE	S
per1229016a	1202004323	MAP	12/29/2009 15:10	936761	10-1066-1	1	LANL	USE	S
per1229017a	1202004324	MAP	12/29/2009 15:17	936761	10-1066-1	1	LANL	USE	S
per1229018a	243513001	MAP	12/29/2009 15:24	936761	10-1071	1	LANL	USE	S
per1229019a	243513002	MAP	12/29/2009 15:31	936761	10-1071	1	LANL	USE	S
per1229020a	243539001	MAP	12/29/2009 15:38	936761	10-1079	1	LANL	USE	S
per1229021a	243539002	MAP	12/29/2009 15:45	936761	10-1079	1	LANL	USE	S
per1229022a	WCLCCV	MAP	12/29/2009 15:52			1		USE	C
per1229023a	IPB004	MAP	12/29/2009 15:59			1		USE	B
per1229024a	WCLCRI	MAP	12/29/2009 16:06			1		USE	C
per1229025a	243554001	MAP	12/29/2009 16:13	936761	10-1087-1	1	LANL	USE	S
per1229026a	243554002	MAP	12/29/2009 16:20	936761	10-1087-1	1	LANL	USE	S
per1229027a	243554003	MAP	12/29/2009 16:27	936761	10-1087-1	1	LANL	USE	S
per1229028a	243554004	MAP	12/29/2009 16:34	936761	10-1087-1	1	LANL	USE	S
per1229029a	WCLCCV	MAP	12/29/2009 16:42			1		USE	C

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per1229030a	IPB005	MAP	12/29/2009 16:49			1		USE	B
per1229031a	WCLCRI	MAP	12/29/2009 16:56			1		USE	C
per1229032a	1202004143	MAP	12/29/2009 17:03	936669	Various	1	LANL	USE	S
per1229033a	1202004144	MAP	12/29/2009 17:10	936669	Various	1	LANL	USE	S
per1229034a	1202004147	MAP	12/29/2009 17:17	936669	Various	1	LANL	USE	S
per1229035a	243407001	MAP	12/29/2009 17:24	936669	10-1012-1	1	LANL	USE	S
per1229036a	243407002	MAP	12/29/2009 17:31	936669	10-1012-1	1	LANL	USE	S
per1229037a	243407003	MAP	12/29/2009 17:38	936669	10-1012-1	1	LANL	USE	S
per1229038a	243407004	MAP	12/29/2009 17:45	936669	10-1012-1	1	LANL	USE	S
per1229039a	243407005	MAP	12/29/2009 17:52	936669	10-1012-1	1	LANL	USE	S
per1229040a	243407006	MAP	12/29/2009 17:59	936669	10-1012-1	1	LANL	USE	S
per1229041a	243407007	MAP	12/29/2009 18:06	936669	10-1012-1	1	LANL	USE	S
per1229042a	WCLCCV	MAP	12/29/2009 18:13			1		USE	C
per1229043a	IPB006	MAP	12/29/2009 18:20			1		USE	B
per1229044a	WCLCRI	MAP	12/29/2009 18:27			1		USE	C
per1229045a	243407008	MAP	12/29/2009 18:34	936669	10-1012-1	1	LANL	USE	S
per1229046a	243407009	MAP	12/29/2009 18:42	936669	10-1012-1	1	LANL	USE	S
per1229047a	243457001	MAP	12/29/2009 18:49	936669	10-1038	1	LANL	USE	S
per1229048a	1202004145	MAP	12/29/2009 18:56	936669	10-1038	1	LANL	USE	S
per1229049a	1202004146	MAP	12/29/2009 19:03	936669	10-1038	1	LANL	USE	S
per1229050a	243457002	MAP	12/29/2009 19:10	936669	10-1038	1	LANL	USE	S
per1229051a	243457003	MAP	12/29/2009 19:17	936669	10-1038	1	LANL	USE	S
per1229052a	243457004	MAP	12/29/2009 19:24	936669	10-1038	1	LANL	USE	S
per1229053a	WCLCCV	MAP	12/29/2009 19:31			1		USE	C
per1229054a	IPB007	MAP	12/29/2009 19:38			1		USE	B
per1229055a	WCLCRI	MAP	12/29/2009 19:45			1		USE	C
per1229056a	1202002916	MAP	12/29/2009 19:52	936066	Various	1	LANL	USE	S
per1229057a	1202002917	MAP	12/29/2009 20:00	936066	Various	1	LANL	USE	S
per1229058a	1202002920	MAP	12/29/2009 20:07	936066	Various	1	LANL	USE	S
per1229059a	243285002	MAP	12/29/2009 20:14	936066	10-995	1	LANL	USE	S
per1229060a	243286001	MAP	12/29/2009 20:21	936066	10-998	1	LANL	USE	S
per1229061a	243286004	MAP	12/29/2009 20:28	936066	10-998	1	LANL	USE	S
per1229062a	1202002918	MAP	12/29/2009 20:35	936066	10-998	1	LANL	USE	S
per1229063a	1202002919	MAP	12/29/2009 20:42	936066	10-998	1	LANL	USE	S
per1229064a	243386001	MAP	12/29/2009 20:49	936066	10-1032-1	1	LANL	USE	S
per1229065a	WCLCCV	MAP	12/29/2009 20:56			1		USE	C
per1229066a	IPB008	MAP	12/29/2009 21:03			1		USE	B

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per1229067a	WCLCRI	MAP	12/29/2009 21:10			1		USE	C
per1229068a	243396001	MAP	12/29/2009 21:17	936066	10-1010	1	LANL	USE	S
per1229069a	1202003536	MAP	12/29/2009 21:24	936066	10-1010	1	LANL	USE	S
per1229070a	1202003537	MAP	12/29/2009 21:31	936066	10-1010	1	LANL	USE	S
per1229071a	243400001	MAP	12/29/2009 21:39	936066	10-1021	1	LANL	USE	S
per1229072a	243400004	MAP	12/29/2009 21:46	936066	10-1021	1	LANL	USE	S
per1229073a	243405001	MAP	12/29/2009 21:53	936066	10-1012	1	LANL	USE	S
per1229074a	243459001	MAP	12/29/2009 22:00	936066	10-1045	1	LANL	USE	S
per1229075a	243459002	MAP	12/29/2009 22:07	936066	10-1045	1	LANL	USE	S
per1229076a	243461002	MAP	12/29/2009 22:14	936066	10-1050	1	LANL	USE	S
per1229077a	WCLCCV	MAP	12/29/2009 22:21			1		USE	C
per1229078a	IPB009	MAP	12/29/2009 22:28			1		USE	B
per1229079a	WCLCRI	MAP	12/29/2009 22:35			1		USE	C
per1229080a	243466001	MAP	12/29/2009 22:42	936066	10-1056	1	LANL	DUSE-DL	S
per1229081a	243466002	MAP	12/29/2009 22:49	936066	10-1056	1	LANL	DUSE-DL	S
per1229082a	243493001	MAP	12/29/2009 22:56	936066	10-1037-1	1	LANL	USE	S
per1229083a	WCLCCV	MAP	12/29/2009 23:04			1		USE	C
per1229084a	IPB010	MAP	12/29/2009 23:11			1		USE	B
per1229085a	WCLCRI	MAP	12/29/2009 23:18			1		USE	C

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

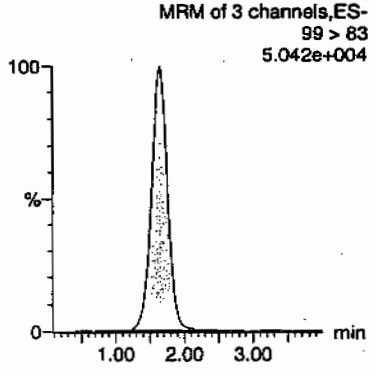
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

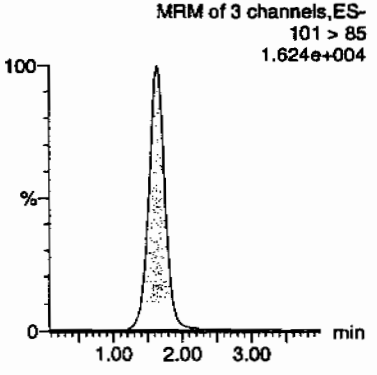
Name: per1229069a
Date: 29-Dec-2009
Time: 21:24:58
ID: 1202003536 | LANL | 936066 | LIQ | 243396001 MS | 1 |
Vial: 2:5,E

MAP 12/30/09

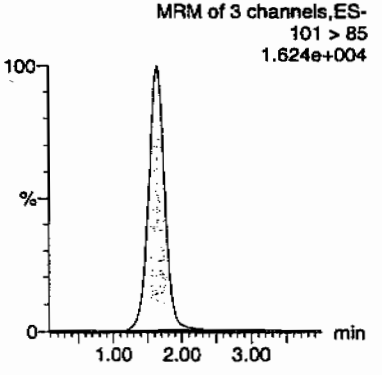
Perchlorate



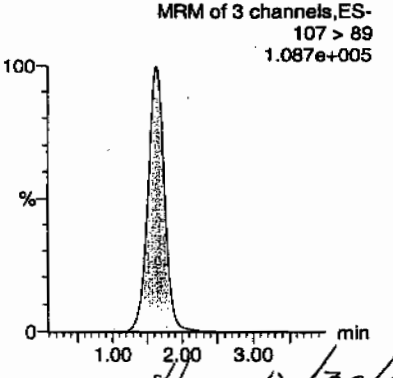
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202003536	Perchlorate	99 > 83	1.64	13679.760	13679.760	bb			0.1840	92.02	-7.98	1496.8...	3.07
1202003536	Perchlorate-101	101 > 85	1.64	4458.971	4458.971	bb			0.1822	91.12	-8.88	1939.8...	
1202003536	Perchlorate-O(18)	107 > 89	1.63	29823.100	29823.100	bb			0.4480	89.60	-10.40	4121.7...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Michael A. Penny

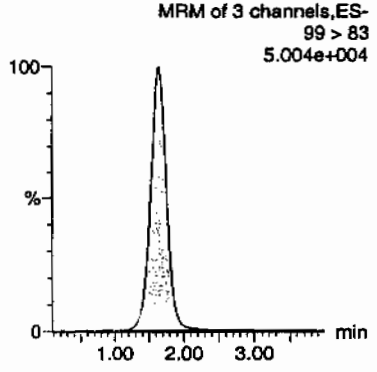
Dataset: C:\MassLynx\Perchlorate.PRO\per122909a.qld

Last Altered: Wednesday, December 30, 2009 6:51:18 AM Eastern Standard Time
Printed: Wednesday, December 30, 2009 6:56:40 AM Eastern Standard Time

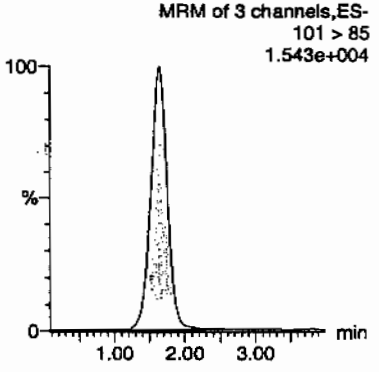
Name: per1229070a
Date: 29-Dec-2009
Time: 21:31:59
ID: 1202003537 | LANL | 936066 | LIQ | 243396001 MSD | 1 |
Vial: 2:5,F

MM 12/30/09

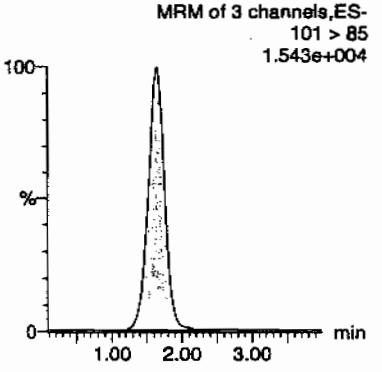
Perchlorate



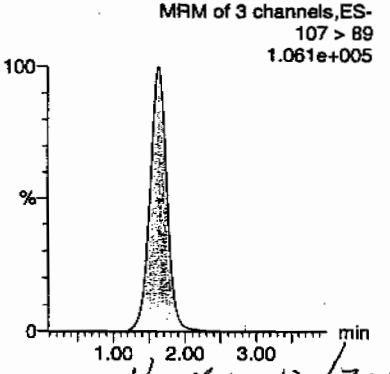
Perchlorate



Perchlorate-101



Perchlorate-O(18)



12/30/09

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202003537	Perchlorate	99 > 83	1.64	13549.634	13549.634	bb			0.1823	91.14	-8.86	5376.9...	3.22
1202003537	Perchlorate-101	101 > 85	1.64	4209.393	4209.393	bb			0.1720	86.02	-13.98	677.871	
1202003537	Perchlorate-O(18)	107 > 89	1.63	29051.781	29051.781	bb			0.4364	87.28	-12.72	3965.5...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Isotope Ratio Criteria

Isotope Ratio $_{35}Cl/_{37}CL$

2.31-3.85

Tune Criteria

The tuning solution is introduced directly into the mass spectrometer using the ESI interface in the positive ion mode. The mass range scanned is 20 to 1100 amu using at least six scans. The observed mass for the target compound in the daily calibration standards must be within 0.2 amu of the expected value. If it is greater than 0.2 amu, then a mass calibration is performed and the instrument is re-calibrated.

GC SEMIVOLATILE PCB ANALYSIS

PCB Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1032

Method/Analysis Information

Procedure:	**Analysis of Polychlorinated Biphenyls by ECD**
Analytical Method:	SW846 8082
Prep Method:	SW846 3550B
Analytical Batch Number:	936264
Prep Batch Number:	936263

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 8082:

Sample ID	Client ID
243385001	RE12-10-7580
243385002	RE12-10-7590
243385003	RE12-10-7592
243385004	RE12-10-7591
243385005	RE12-10-7581
243385006	RE12-10-7586
243385007	RE12-10-7587
243385008	RE12-10-7585
243385009	RE12-10-7582
243385010	RE12-10-7584
243385011	RE12-10-7583
1202003307	Method Blank (MB)
1202003308	Laboratory Control Sample (LCS)
1202003309	243385001(RE12-10-7580) Matrix Spike (MS)
1202003310	243385001(RE12-10-7580) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

Preparation/Analytical Method Verification

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-040 REV# 14.

Raw data reports are processed and reviewed by the analyst using the Target software package. False positives have been removed from the Target quantitation reports per standard operating procedures (SOP) section 23.0.

Calibration Information

Please note that the 'Cal Date' indicated on each quantitation report reflects the date and time of the most recent calibrated analyte(s) in the Target processing method. Since the laboratory may calibrate with multiple solutions on different days using the same processing method, the Target software will update the 'Cal Date' to the last calibration file, date and time. The correct dates and times for all calibration files are located on the Calibration History report in the Standard Data section in the data package.

Due to software limitations, the Calibration Summary Form 6 may not indicate all the calibration files comprising the initial calibration. A complete list of the initial calibration data files are shown in the Calibration History report located in the Standard Data section of the data package.

Initial Calibration
All initial calibration requirements have been met for this sample delivery group (SDG).

The linear equation used in Target and indicated on the initial calibration summary form is not a conventional linear equation (slope intercept formula) and does not match the equation found in SW-846 method 8000B. The x and y axes are inversed in Target, so that the instrument response is treated as the independent variable (x) and the concentration ratio is treated as the dependent variable (y). The equation used in Target to calculate sample results is adjusted to account for the linear equation inversion and reciprocal slope. The adjusted calculation has been independently verified to produce valid results.

Continuing Calibration Verification (CCV) Requirements
All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

Quality Control (QC) Information

Method Blank (MB) Statement
The MB analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries
All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

QC Sample Designation
Sample 243385001 (RE12-10-7580) was selected for the matrix spike and matrix spike duplicate analysis.

Matrix Spike (MS) Recovery Statement
The MS recoveries for this SDG were within the established acceptance limits.

Matrix Spike Duplicate (MSD) Recovery Statement
The MSD recoveries for this SDG were within the established acceptance limits.

MS/MSD Relative Percent Difference (RPD) Statement
The RPD between the MS and MSD met the acceptance limits.

Technical Information

Holding Time Specifications
GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
Sample 243385005 (RE12-10-7581) was diluted at 1:5 due to the oily matrix of the extract.

Sample Re-extraction/Re-analysis
Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Electronic Package Comment

The following package was generated using an electronic data processing program referred to as "virtual packaging". In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from "traditional" packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the analyst, reviewer, and report specialist names associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Data Exception (DER) Documentation
Data exception report (DER) is for documentation of any procedural anomalies that may deviate from referenced SOP or contractual document. A DER was not required for this SDG.

Manual Integration
Certain standards and samples may have required manual integration to correctly position the baseline as set in the calibration standard injections. If manual integration was performed, copies of all manual integration peak profiles are included in the raw data section of this PCB fraction.

Additional Comments
The additional comments field is used to address special issues associated with each analysis, clarify method/contractual issues pertaining to the analysis, and to list any report documents generated as a result of sample analysis or review. The following additional comments were required:

The higher results from either column have been chosen and reported in the data package for the client samples, MB and LCS. The data reported for the MS and MSD are from the same analytical column as the parent sample.

The data reported on the form I and III may differ slightly from the data reported on the form X. This is due to software limitations in rounding differences between the forms.

Aroclors quantitated on the raw data report by the Target data system do not necessarily represent positive Aroclor identification. In order for positive identification to be made, the Aroclor must match in pattern and retention time; as well as quantitate relatively close between the primary and confirmation columns, as specified in SW846 method 8000. When these conditions are not met, the Aroclor is reported as a non-detect on the data report. These situations will be noted on the raw data as DMP, representing does not match pattern, or DNC does not confirm.

Due to software limitation, the Form VIIs will display the results either in the % difference or % drift depending on the type of the calibration curve. If the curve of all analytes is generated using an average response factor (RF), the Form VII will display results using the %difference calculation (RF). If the curve of one or more analytes is generated using a linear curve, the Form VII will display results using the % drift calculation (by concentration) for all analytes.

System Configuration

The Semi-Volatiles-PCB analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
ECD2A.I_1	HP Gas Chromatograph	HP6890 Series ECD	Rtx-CLP I	30m x 0.25mm, 0.25um (Rtx-CLPesticide)
ECD2A.I_2	HP Gas Chromatograph	HP6890 Series ECD	Rtx-CLP II	30m x 0.25mm, 0.20um (Rtx-CLPesticide II)

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Jimmi Cao Date: 1/15/10

Roadmap for LANL 10-1032 PCB

This roadmap was analyzed by jen01212 on 12-28-2009, 09:35.
This roadmap was reviewed by rob01090 on 12-30-2009, 08:35.
This roadmap was packaged by yml on 01-15-2010, 09:37.
This roadmap was validated by jim01140 on 01-15-2010, 15:55.

Front Sample Column

exclude	manual	datafile	smpid	sampletype	injdate	injtime	sublist	clientid	dilution	prepbatchid	comment
☐	N	/chem/ecd2a.i/122409.b/045f4501.d	243385001	sample	24-DEC-2009	16:34	10-1032.sub	RE12-10-7580	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/048f4801.d	243385002	sample	24-DEC-2009	17:07	10-1032.sub	RE12-10-7590	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/049f4901.d	243385003	sample	24-DEC-2009	17:18	10-1032.sub	RE12-10-7592	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/050f5001.d	243385004	sample	24-DEC-2009	17:29	10-1032.sub	RE12-10-7591	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/051f5101.d	243385005	sample	24-DEC-2009	17:41	10-1032.sub	RE12-10-7581	5.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/052f5201.d	243385006	sample	24-DEC-2009	17:52	10-1032.sub	RE12-10-7586	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/055f5501.d	243385007	sample	24-DEC-2009	18:25	10-1032.sub	RE12-10-7587	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/056f5601.d	243385008	sample	24-DEC-2009	18:36	10-1032.sub	RE12-10-7585	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/057f5701.d	243385009	sample	24-DEC-2009	18:47	10-1032.sub	RE12-10-7582	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/058f5801.d	243385010	sample	24-DEC-2009	18:58	10-1032.sub	RE12-10-7584	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/059f5901.d	243385011	sample	24-DEC-2009	19:09	10-1032.sub	RE12-10-7583	1.00000	936264	UPLOAD BOTH, USE HIGHER

Back Sample Column

exclude	manual	datafile	smpid	sampletype	injdate	injtime	sublist	clientid	dilution	prepbatchid	comment
☐	N	/chem/ecd2a.i/122409.b/045b4501.d	243385001	sample	24-DEC-2009	16:34	10-1032.sub	RE12-10-7580	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/048b4801.d	243385002	sample	24-DEC-2009	17:07	10-1032.sub	RE12-10-7590	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/049b4901.d	243385003	sample	24-DEC-2009	17:18	10-1032.sub	RE12-10-7592	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/050b5001.d	243385004	sample	24-DEC-2009	17:29	10-1032.sub	RE12-10-7591	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/051b5101.d	243385005	sample	24-DEC-2009	17:41	10-1032.sub	RE12-10-7581	5.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/052b5201.d	243385006	sample	24-DEC-2009	17:52	10-1032.sub	RE12-10-7586	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/055b5501.d	243385007	sample	24-DEC-2009	18:25	10-1032.sub	RE12-10-7587	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/056b5601.d	243385008	sample	24-DEC-2009	18:36	10-1032.sub	RE12-10-7585	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/057b5701.d	243385009	sample	24-DEC-2009	18:47	10-1032.sub	RE12-10-7582	1.00000	936264	UPLOAD BOTH, USE HIGHER

☐	N	/chem/ecd2a.i/122409.b/058b5801.d	243385010	sample	24-DEC-2009	18:58	10-1032.sub	RE12-10-7584	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/059b5901.d	243385011	sample	24-DEC-2009	19:09	10-1032.sub	RE12-10-7583	1.00000	936264	UPLOAD BOTH, USE HIGHER

Front QC Sample Column

exclude	manual	datafile	smpid	sampletype	injdate	injtime	sublist	clientid	dilution	prepbatchid	comment
☐	N	/chem/ecd2a.i/122409.b/043f4301.d	1202003307	mb	24-DEC-2009	16:12	10-1032.sub	PBLK01	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/044f4401.d	1202003308	lcs	24-DEC-2009	16:23	10-1032.sub	PBLK01LCS	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/046f4601.d	1202003309	ms	24-DEC-2009	16:45	10-1032.sub	RE12-10-7580MS	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/047f4701.d	1202003310	msd	24-DEC-2009	16:56	10-1032.sub	RE12-10-7580MSD	1.00000	936264	UPLOAD BOTH, USE HIGHER

Back QC Sample Column

exclude	manual	datafile	smpid	sampletype	injdate	injtime	sublist	clientid	dilution	prepbatchid	comment
☐	N	/chem/ecd2a.i/122409.b/043b4301.d	1202003307	mb	24-DEC-2009	16:12	10-1032.sub	PBLK01	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/044b4401.d	1202003308	lcs	24-DEC-2009	16:23	10-1032.sub	PBLK01LCS	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/046b4601.d	1202003309	ms	24-DEC-2009	16:45	10-1032.sub	RE12-10-7580MS	1.00000	936264	UPLOAD BOTH, USE HIGHER
☐	N	/chem/ecd2a.i/122409.b/047b4701.d	1202003310	msd	24-DEC-2009	16:56	10-1032.sub	RE12-10-7580MSD	1.00000	936264	UPLOAD BOTH, USE HIGHER

SAMPLE DATA SUMMARY

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385001	**Date Received:**	12/22/2009 09:55	**%Moisture:**	14
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7580	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 16:34	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.11 g	**Final Volume:**	1 mL
Data File:	045f4501.d	**Column:**	1 CLP1	**Level:**	LOW
	045b4501.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.86	ug/kg	1.29	3.86	1
11104-28-2	Aroclor-1221	U	3.86	ug/kg	1.29	3.86	1
11141-16-5	Aroclor-1232	U	3.86	ug/kg	1.29	3.86	1
53469-21-9	Aroclor-1242	U	3.86	ug/kg	1.29	3.86	1
12672-29-6	Aroclor-1248	U	3.86	ug/kg	1.29	3.86	1
11097-69-1	Aroclor-1254	U	3.86	ug/kg	1.29	3.86	1
11096-82-5	Aroclor-1260	U	3.86	ug/kg	1.29	3.86	1

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10–1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385005	**Date Received:**	12/22/2009 09:55	**%Moisture:**	11.6
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12–10–7581	**Method:**	SW846 8082	**SOP Ref:**	GL–OA–E–040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	5
Run Date:	12/24/2009 17:41	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.16 g	**Final Volume:**	1 mL
Data File:	051f5101.d	**Column:**	1 CLP1	**Level:**	LOW
	051b5101.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674–11–2	Aroclor–1016	U	18.8	ug/kg	6.25	18.8	1
11104–28–2	Aroclor–1221	U	18.8	ug/kg	6.25	18.8	1
11141–16–5	Aroclor–1232	U	18.8	ug/kg	6.25	18.8	1
53469–21–9	Aroclor–1242	U	18.8	ug/kg	6.25	18.8	1
12672–29–6	Aroclor–1248	U	18.8	ug/kg	6.25	18.8	1
11097–69–1	Aroclor–1254	U	18.8	ug/kg	6.25	18.8	1
11096–82–5	Aroclor–1260	U	18.8	ug/kg	6.25	18.8	1

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10–1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385009	**Date Received:**	12/22/2009 09:55	**%Moisture:**	7.2
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12–10–7582	**Method:**	SW846 8082	**SOP Ref:**	GL–OA–E–040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 18:47	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.09 g	**Final Volume:**	1 mL
Data File:	057f5701.d	**Column:**	1 CLP1	**Level:**	LOW
	057b5701.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674–11–2	Aroclor–1016	U	3.58	ug/kg	1.19	3.58	1
11104–28–2	Aroclor–1221	U	3.58	ug/kg	1.19	3.58	1
11141–16–5	Aroclor–1232	U	3.58	ug/kg	1.19	3.58	1
53469–21–9	Aroclor–1242	U	3.58	ug/kg	1.19	3.58	1
12672–29–6	Aroclor–1248	U	3.58	ug/kg	1.19	3.58	1
11097–69–1	Aroclor–1254	U	3.58	ug/kg	1.19	3.58	1
11096–82–5	Aroclor–1260	U	3.58	ug/kg	1.19	3.58	1

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385011	**Date Received:**	12/22/2009 09:55	**%Moisture:**	6.7
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7583	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 19:09	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.04 g	**Final Volume:**	1 mL
Data File:	059f5901.d	**Column:**	1 CLP1	**Level:**	LOW
	059b5901.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.57	ug/kg	1.19	3.57	1
11104-28-2	Aroclor-1221	U	3.57	ug/kg	1.19	3.57	1
11141-16-5	Aroclor-1232	U	3.57	ug/kg	1.19	3.57	1
53469-21-9	Aroclor-1242	U	3.57	ug/kg	1.19	3.57	1
12672-29-6	Aroclor-1248	U	3.57	ug/kg	1.19	3.57	1
11097-69-1	Aroclor-1254	U	3.57	ug/kg	1.19	3.57	1
11096-82-5	Aroclor-1260	U	3.57	ug/kg	1.19	3.57	1

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385010	**Date Received:**	12/22/2009 09:55	**%Moisture:**	7.3
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7584	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 18:58	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.15 g	**Final Volume:**	1 mL
Data File:	058f5801.d	**Column:**	1 CLP1	**Level:**	LOW
	058b5801.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.58	ug/kg	1.19	3.58	1
11104-28-2	Aroclor-1221	U	3.58	ug/kg	1.19	3.58	1
11141-16-5	Aroclor-1232	U	3.58	ug/kg	1.19	3.58	1
53469-21-9	Aroclor-1242	U	3.58	ug/kg	1.19	3.58	1
12672-29-6	Aroclor-1248	U	3.58	ug/kg	1.19	3.58	1
11097-69-1	Aroclor-1254	U	3.58	ug/kg	1.19	3.58	1
11096-82-5	Aroclor-1260	U	3.58	ug/kg	1.19	3.58	1

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385008	**Date Received:**	12/22/2009 09:55	**%Moisture:**	8.4
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7585	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 18:36	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.05 g	**Final Volume:**	1 mL
Data File:	056f5601.d	**Column:**	1 CLP1	**Level:**	LOW
	056b5601.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.63	ug/kg	1.21	3.63	1
11104-28-2	Aroclor-1221	U	3.63	ug/kg	1.21	3.63	1
11141-16-5	Aroclor-1232	U	3.63	ug/kg	1.21	3.63	1
53469-21-9	Aroclor-1242	U	3.63	ug/kg	1.21	3.63	1
12672-29-6	Aroclor-1248	U	3.63	ug/kg	1.21	3.63	1
11097-69-1	Aroclor-1254	U	3.63	ug/kg	1.21	3.63	1
11096-82-5	Aroclor-1260	U	3.63	ug/kg	1.21	3.63	1

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10–1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385006	**Date Received:**	12/22/2009 09:55	**%Moisture:**	10.8
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12–10–7586	**Method:**	SW846 8082	**SOP Ref:**	GL–OA–E–040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 17:52	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.11 g	**Final Volume:**	1 mL
Data File:	052f5201.d	**Column:**	1 CLP1	**Level:**	LOW
	052b5201.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674–11–2	Aroclor–1016	U	3.72	ug/kg	1.24	3.72	1
11104–28–2	Aroclor–1221	U	3.72	ug/kg	1.24	3.72	1
11141–16–5	Aroclor–1232	U	3.72	ug/kg	1.24	3.72	1
53469–21–9	Aroclor–1242	U	3.72	ug/kg	1.24	3.72	1
12672–29–6	Aroclor–1248	U	3.72	ug/kg	1.24	3.72	1
11097–69–1	Aroclor–1254	U	3.72	ug/kg	1.24	3.72	1
11096–82–5	Aroclor–1260	U	3.72	ug/kg	1.24	3.72	1

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385007	**Date Received:**	12/22/2009 09:55	**%Moisture:**	9.9
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7587	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 18:25	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.12 g	**Final Volume:**	1 mL
Data File:	055f5501.d	**Column:**	1 CLP1	**Level:**	LOW
	055b5501.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.68	ug/kg	1.23	3.68	1
11104-28-2	Aroclor-1221	U	3.68	ug/kg	1.23	3.68	1
11141-16-5	Aroclor-1232	U	3.68	ug/kg	1.23	3.68	1
53469-21-9	Aroclor-1242	U	3.68	ug/kg	1.23	3.68	1
12672-29-6	Aroclor-1248	U	3.68	ug/kg	1.23	3.68	1
11097-69-1	Aroclor-1254	U	3.68	ug/kg	1.23	3.68	1
11096-82-5	Aroclor-1260	U	3.68	ug/kg	1.23	3.68	1

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385002	**Date Received:**	12/22/2009 09:55	**%Moisture:**	9.4
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7590	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 17:07	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.06 g	**Final Volume:**	1 mL
Data File:	048f4801.d	**Column:**	1 CLP1	**Level:**	LOW
	048b4801.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.67	ug/kg	1.22	3.67	1
11104-28-2	Aroclor-1221	U	3.67	ug/kg	1.22	3.67	1
11141-16-5	Aroclor-1232	U	3.67	ug/kg	1.22	3.67	1
53469-21-9	Aroclor-1242	U	3.67	ug/kg	1.22	3.67	1
12672-29-6	Aroclor-1248	U	3.67	ug/kg	1.22	3.67	1
11097-69-1	Aroclor-1254	U	3.67	ug/kg	1.22	3.67	1
11096-82-5	Aroclor-1260	U	3.67	ug/kg	1.22	3.67	1

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385004	**Date Received:**	12/22/2009 09:55	**%Moisture:**	11.5
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7591	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 17:29	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.14 g	**Final Volume:**	1 mL
Data File:	050f5001.d	**Column:**	1 CLP1	**Level:**	LOW
	050b5001.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.75	ug/kg	1.25	3.75	1
11104-28-2	Aroclor-1221	U	3.75	ug/kg	1.25	3.75	1
11141-16-5	Aroclor-1232	U	3.75	ug/kg	1.25	3.75	1
53469-21-9	Aroclor-1242	U	3.75	ug/kg	1.25	3.75	1
12672-29-6	Aroclor-1248	U	3.75	ug/kg	1.25	3.75	1
11097-69-1	Aroclor-1254	U	3.75	ug/kg	1.25	3.75	1
11096-82-5	Aroclor-1260	U	3.75	ug/kg	1.25	3.75	1

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**10-1032**	**Date Collected:**	**12/17/2009 12:00**	**Matrix:**	**S**
Lab Sample ID:	**243385003**	**Date Received:**	**12/22/2009 09:55**	**%Moisture:**	**11.4**
		Client:	**LANL010**	**Project:**	**LANL01004**
Client ID:	**RE12-10-7592**	**Method:**	**SW846 8082**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**936264**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**12/24/2009 17:18**	**Analyst:**	**JAOC**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/23/2009 19:38**	**Aliquot:**	**30.01 g**	**Final Volume:**	**1 mL**
Data File:	**049f4901.d**	**Column:**	**1 CLP1**	**Level:**	**LOW**
	049b4901.d		**2 CLP2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.76	ug/kg	1.25	3.76	1
11104-28-2	Aroclor-1221	U	3.76	ug/kg	1.25	3.76	1
11141-16-5	Aroclor-1232	U	3.76	ug/kg	1.25	3.76	1
53469-21-9	Aroclor-1242	U	3.76	ug/kg	1.25	3.76	1
12672-29-6	Aroclor-1248	U	3.76	ug/kg	1.25	3.76	1
11097-69-1	Aroclor-1254	U	3.76	ug/kg	1.25	3.76	1
11096-82-5	Aroclor-1260	U	3.76	ug/kg	1.25	3.76	1

QUALITY CONTROL SUMMARY

PCB

Surrogate Recovery Report

SDG Number: 10–1032

Matrix Type: SOLID

CAP Column (1) : CLP1 **CAP Column (2) : CLP2**

Sample ID	Client ID	4CMX 1 %REC #		4CMX 2 %REC #		DCB 1 %REC #		DCB 2 %REC #	
1202003307	MB for batch 936263	68		72		80		80	
1202003308	LCS for batch 936263	66		70		77		81	
243385001	RE12–10–7580	61		65		67		69	
1202003309	RE12–10–7580MS	60		64		69		65	
1202003310	RE12–10–7580MSD	56		61		64		62	
243385002	RE12–10–7590	59		63		73		65	
243385003	RE12–10–7592	58		62		66		65	
243385004	RE12–10–7591	59		63		69		66	
243385005	RE12–10–7581	52	D	51	D	58	D	55	D
243385006	RE12–10–7586	62		66		74		75	
243385007	RE12–10–7587	60		63		71		73	
243385008	RE12–10–7585	60		65		69		70	
243385009	RE12–10–7582	57		61		72		70	
243385010	RE12–10–7584	61		65		73		72	
243385011	RE12–10–7583	60		62		69		65	

Surrogate		Acceptance Limits
4CMX	= 4cmx	(34%–105%)
DCB	= Decachlorobiphenyl	(33%–115%)

* Recovery outside Acceptance Limits

\# Column to be used to flag recovery values

D Sample Diluted

PCB

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1032
Client ID: LCS for batch 936263
Lab Sample ID: 1202003308
Instrument: ECD2A.I
Analyst: JAOC
Inj. Vol: 1 uL

Sample Type: Laboratory Control Sample
Matrix: SOIL
Analysis Date: 12/24/2009 16:23
Dilution: 1
Prep Batch ID: 936263
Batch ID: 936264

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
12674-11-2	LCS	Aroclor-1016	33.3	0.0	22.7	68	41-110
11096-82-5	LCS	Aroclor-1260	33.3	0.0	28.4	85	48-110

PCB

Quality Control Summary
Spike Recovery Report

SDG Number:	**10–1032**	**Sample Type:**	**Matrix Spike**
Client ID:	**RE12–10–7580MS**	**Matrix:**	**S**
Lab Sample ID:	**1202003309**	**%Moisture:**	**14**
Instrument:	**ECD2A.I**	**Analysis Date:**	**12/24/2009 16:45**
Analyst:	**JAOC**	**Prep Batch ID:**	**936263**
Inj. Vol:	**1 uL**	**Batch ID:**	**936264**

Dilution: 1

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits
12674–11–2	MS	Aroclor–1016	38.6	0.00	U	24.8	64	23–117
11096–82–5	MS	Aroclor–1260	38.6	0.00	U	28.7	74	27–116

PCB

Quality Control Summary
Spike Recovery Report

SDG Number:	10-1032	**Sample Type:**	Matrix Spike Duplicate
Client ID:	RE12-10-7580MSD	**Matrix:**	S
Lab Sample ID:	1202003310	**%Moisture:**	14
Instrument:	ECD2A.I	**Analysis Date:**	12/24/2009 16:56
Analyst:	JAOC	**Prep Batch ID:**	936263
Inj. Vol:	1 uL	**Batch ID:**	936264

Dilution: 1

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
12674-11-2	MSD Aroclor-1016	38.7	0.00	U	22.5	58	23-117	10	0-30
11096-82-5	MSD Aroclor-1260	38.7	0.00	U	26.1	68	27-116	9	0-30

Method Blank Summary

SDG Number:	10-1032	Client:	LANL010	Matrix:	SOIL
Client ID:	MB for batch 936263	Instrument ID:	ECD2A.I_2 ECD2A.I_1	Data File:	043b4301-1.d 043f4301-1.d
Lab Sample ID:	1202003307				
Column:	CLP2 CLP1	Prep Date:	12/23/2009 19:38	Analyzed:	12/24/09 16:12
		Level:	LOW		

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 936263	1202003308	044f4401-1.d 044b4401-1.d	12/24/09	1623
02 RE12-10-7580	243385001	045f4501.d 045b4501.d	12/24/09	1634
03 RE12-10-7580MS	1202003309	046f4601.d 046b4601.d	12/24/09	1645
04 RE12-10-7580MSD	1202003310	047f4701.d 047b4701.d	12/24/09	1656
05 RE12-10-7590	243385002	048f4801.d 048b4801.d	12/24/09	1707
06 RE12-10-7592	243385003	049f4901.d 049b4901.d	12/24/09	1718
07 RE12-10-7591	243385004	050f5001.d 050b5001.d	12/24/09	1729
08 RE12-10-7581	243385005	051f5101.d 051b5101.d	12/24/09	1741
09 RE12-10-7586	243385006	052f5201.d 052b5201.d	12/24/09	1752
10 RE12-10-7587	243385007	055f5501.d 055b5501.d	12/24/09	1825
11 RE12-10-7585	243385008	056f5601.d 056b5601.d	12/24/09	1836
12 RE12-10-7582	243385009	057f5701.d 057b5701.d	12/24/09	1847
13 RE12-10-7584	243385010	058f5801.d 058b5801.d	12/24/09	1858
14 RE12-10-7583	243385011	059f5901.d 059b5901.d	12/24/09	1909

SAMPLE
DATA

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10–1032	Date Collected:	12/17/2009 12:00	Matrix:	S
Lab Sample ID:	243385001	Date Received:	12/22/2009 09:55	%Moisture:	14
		Client:	LANL010	Project:	LANL01004
Client ID:	RE12–10–7580	Method:	SW846 8082	SOP Ref:	GL–OA–E–040
Batch ID:	936264	Inst:	ECD2A.I	Dilution:	1
Run Date:	12/24/2009 16:34	Analyst:	JAOC	Inj. Vol:	1 uL
Prep Date:	12/23/2009 19:38	Aliquot:	30.11 g	Final Volume:	1 mL
Data File:	045f4501.d	Column:	1 CLP1	Level:	LOW
	045b4501.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674–11–2	Aroclor–1016	U	3.86	ug/kg	1.29	3.86	1
11104–28–2	Aroclor–1221	U	3.86	ug/kg	1.29	3.86	1
11141–16–5	Aroclor–1232	U	3.86	ug/kg	1.29	3.86	1
53469–21–9	Aroclor–1242	U	3.86	ug/kg	1.29	3.86	1
12672–29–6	Aroclor–1248	U	3.86	ug/kg	1.29	3.86	1
11097–69–1	Aroclor–1254	U	3.86	ug/kg	1.29	3.86	1
11096–82–5	Aroclor–1260	U	3.86	ug/kg	1.29	3.86	1

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RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/045f4501.d
Lab Smp Id: 243385001 Client Smp ID: RE12-10-7580
Inj Date : 24-DEC-2009 16:34
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385001|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7580|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 45
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.11000	Weight of sample extracted (g)
M	14.04750	% Moisture

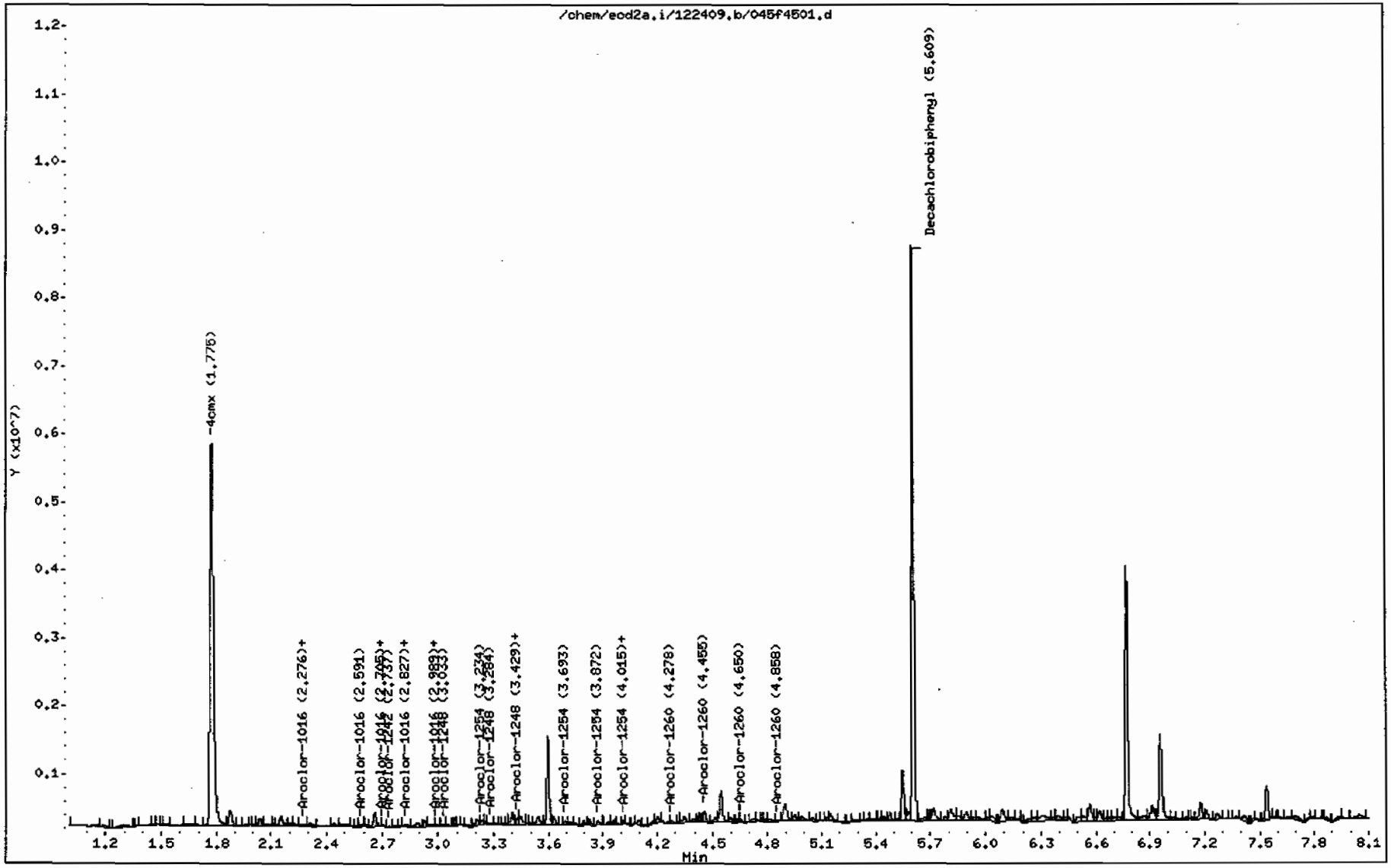
Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.775	1.773	0.002	7617618	122.290	4.7	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	7242859	133.850	5.2	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/045f4501.d
Date : 24-DEC-2009 16:34
Client ID: RE12-10-7580
Sample Info: !243385001!1!
Volume Injected (uL): 1.0
Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/045b4501.d
Lab Smp Id: 243385001 Client Smp ID: RE12-10-7580
Inj Date : 24-DEC-2009 16:34
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385001|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7580|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 45
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.11000	Weight of sample extracted (g)
M	14.04750	% Moisture

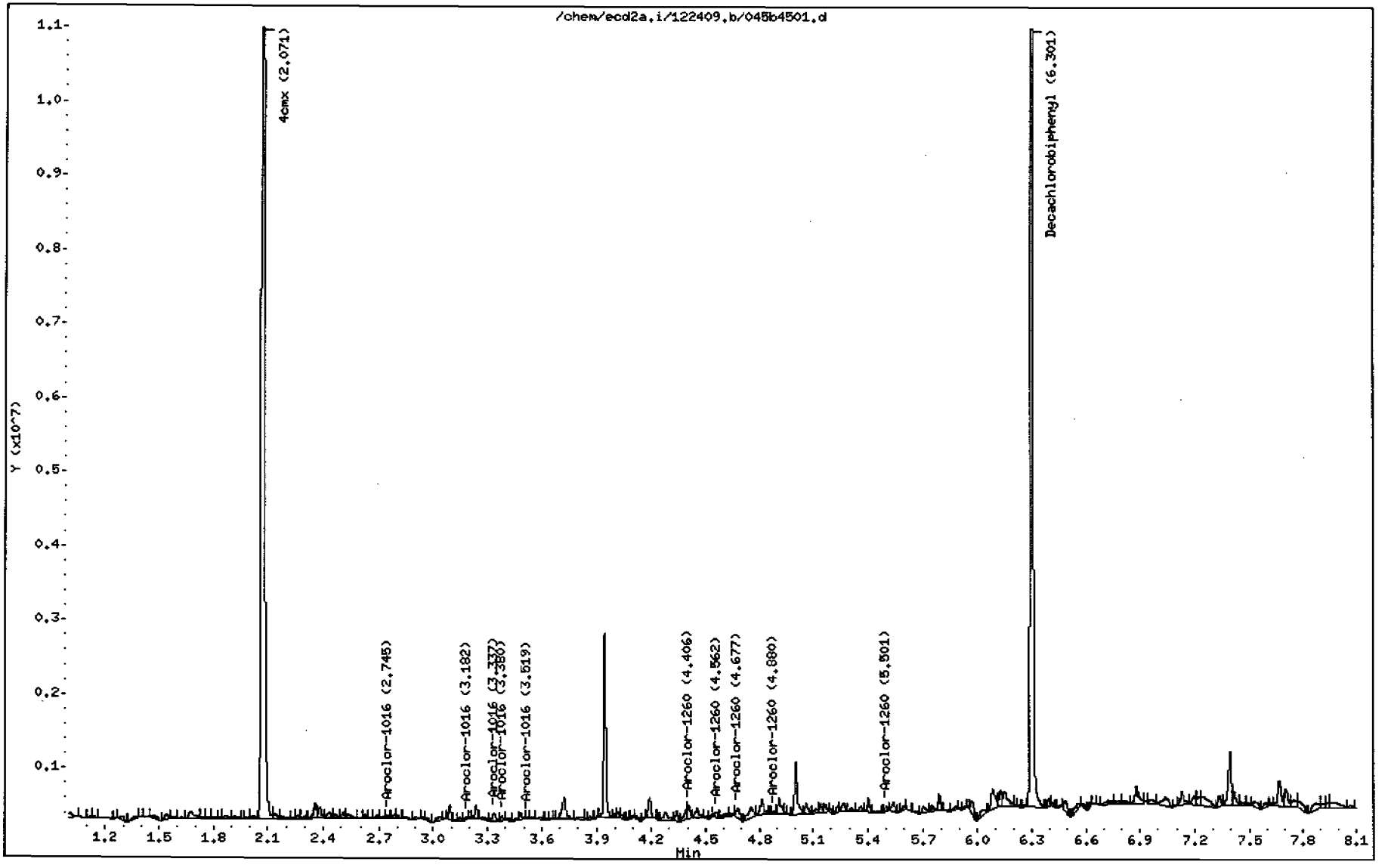
Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.071	2.070	0.001	16896011	130.655	5.0	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	15592255	138.250	5.3	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/045b4501.d
Date : 24-DEC-2009 16:34
Client ID: RE12-10-7580
Sample Info: |243385001|1|
Volume Injected (uL): 1.0
Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC
Column diameter: 0.25



PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385005	**Date Received:**	12/22/2009 09:55	**%Moisture:**	11.6
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7581	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	5
Run Date:	12/24/2009 17:41	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.16 g	**Final Volume:**	1 mL
Data File:	051f5101.d	**Column:**	1 CLP1	**Level:**	LOW
	051b5101.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	18.8	ug/kg	6.25	18.8	1
11104-28-2	Aroclor-1221	U	18.8	ug/kg	6.25	18.8	1
11141-16-5	Aroclor-1232	U	18.8	ug/kg	6.25	18.8	1
53469-21-9	Aroclor-1242	U	18.8	ug/kg	6.25	18.8	1
12672-29-6	Aroclor-1248	U	18.8	ug/kg	6.25	18.8	1
11097-69-1	Aroclor-1254	U	18.8	ug/kg	6.25	18.8	1
11096-82-5	Aroclor-1260	U	18.8	ug/kg	6.25	18.8	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/051f5101.d
Lab Smp Id: 243385005 Client Smp ID: RE12-10-7581
Inj Date : 24-DEC-2009 17:41
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385005|5|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7581|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 51
Dil Factor: 5.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

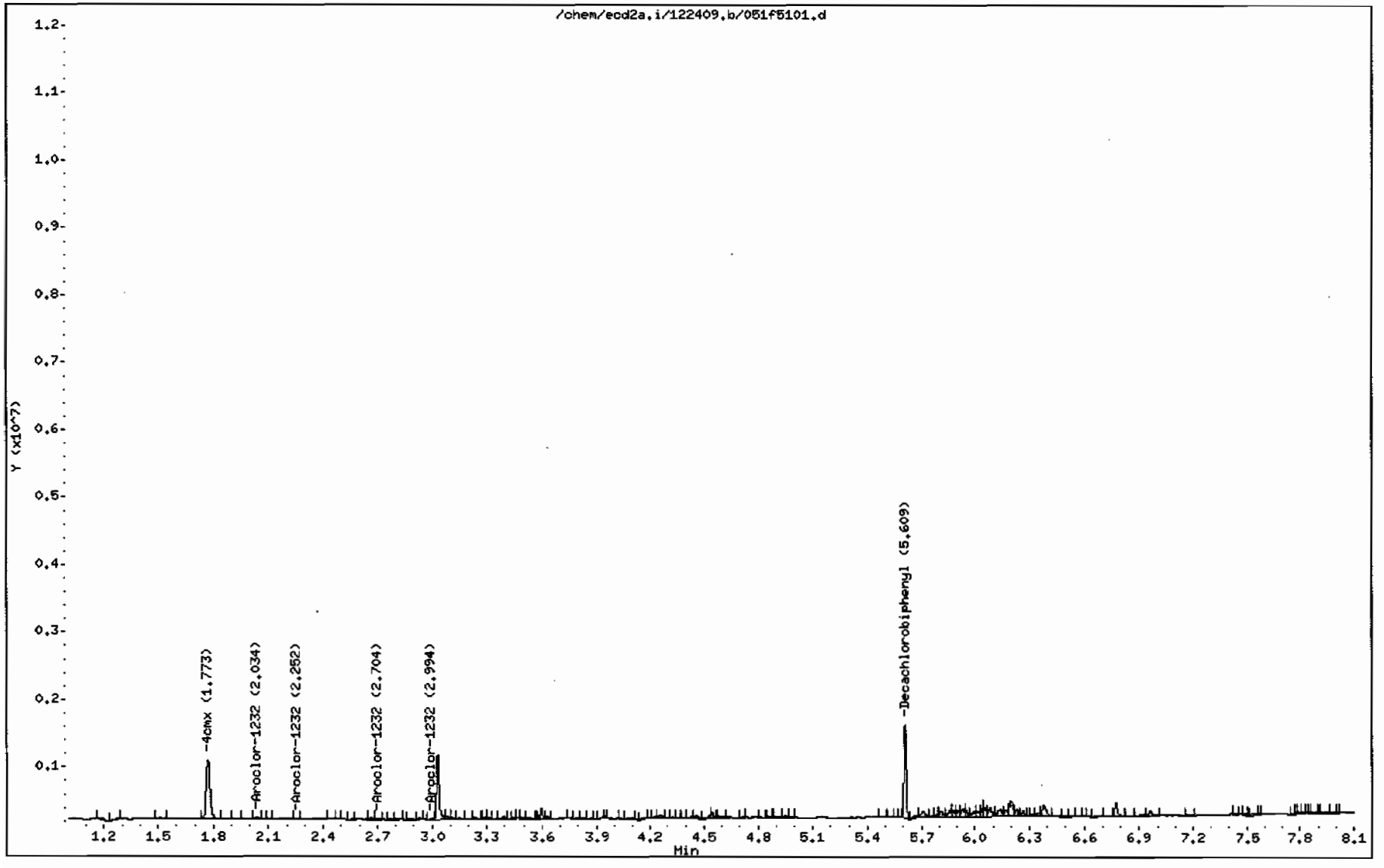
Name	Value	Description
DF	5.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.16000	Weight of sample extracted (g)
M	11.62050	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.773	1.773	0.000	1292367	20.7470	3.9	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	1262261	23.3270	4.4	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/051f5101.d
Date : 24-DEC-2009 17:41
Client ID: RE12-10-7581
Sample Info: |243385005151
Volume Injected (uL): 1.0
Column phase: CLP1

Instrument: ecd2a.i
Operator: JADC
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/051b5101.d
Lab Smp Id: 243385005 Client Smp ID: RE12-10-7581
Inj Date : 24-DEC-2009 17:41
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385005|5|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7581|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 51
Dil Factor: 5.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	5.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.16000	Weight of sample extracted (g)
M	11.62050	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.069	2.070	-0.001	2662049	20.5853	3.9	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.302	6.301	0.001	2484490	22.0289	4.1	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/051b5101.d

Date : 24-DEC-2009 17:41

Client ID: RE12-10-7581

Sample Info: |243385005|5|

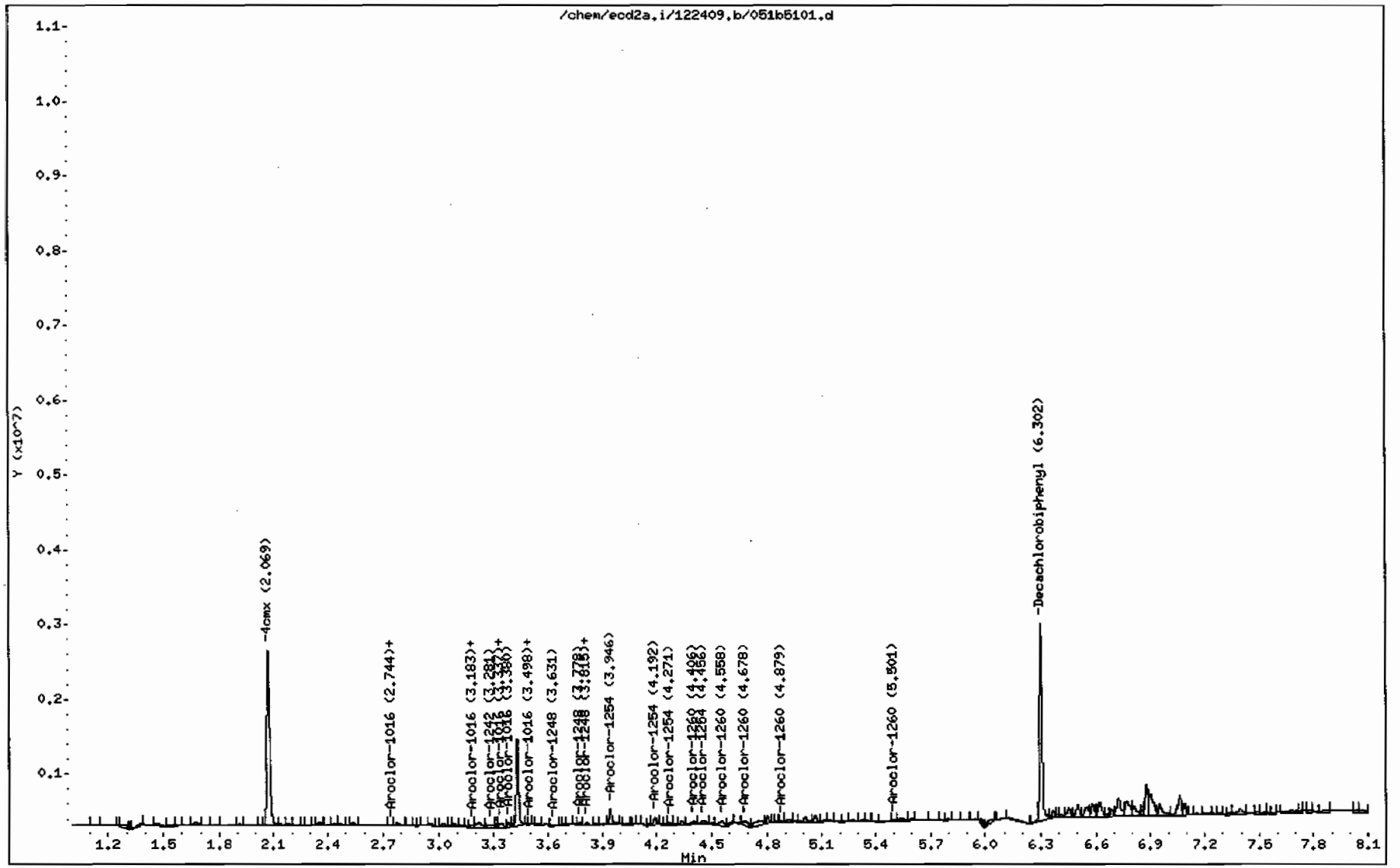
Volume Injected (uL): 1.0

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385009	**Date Received:**	12/22/2009 09:55	**%Moisture:**	7.2
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7582	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 18:47	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.09 g	**Final Volume:**	1 mL
Data File:	057f5701.d	**Column:**	1 CLP1	**Level:**	LOW
	057b5701.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.58	ug/kg	1.19	3.58	1
11104-28-2	Aroclor-1221	U	3.58	ug/kg	1.19	3.58	1
11141-16-5	Aroclor-1232	U	3.58	ug/kg	1.19	3.58	1
53469-21-9	Aroclor-1242	U	3.58	ug/kg	1.19	3.58	1
12672-29-6	Aroclor-1248	U	3.58	ug/kg	1.19	3.58	1
11097-69-1	Aroclor-1254	U	3.58	ug/kg	1.19	3.58	1
11096-82-5	Aroclor-1260	U	3.58	ug/kg	1.19	3.58	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/057f5701.d
Lab Smp Id: 243385009 Client Smp ID: RE12-10-7582
Inj Date : 24-DEC-2009 18:47
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385009|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7582|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 57
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.09000	Weight of sample extracted (g)
M	7.15170	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.773	1.773	0.000	7161237	114.963	4.1	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	7782158	143.817	5.1	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/057f5701.d

Date : 24-DEC-2009 18:47

Client ID: RE12-10-7582

Sample Info: |243385009|1|

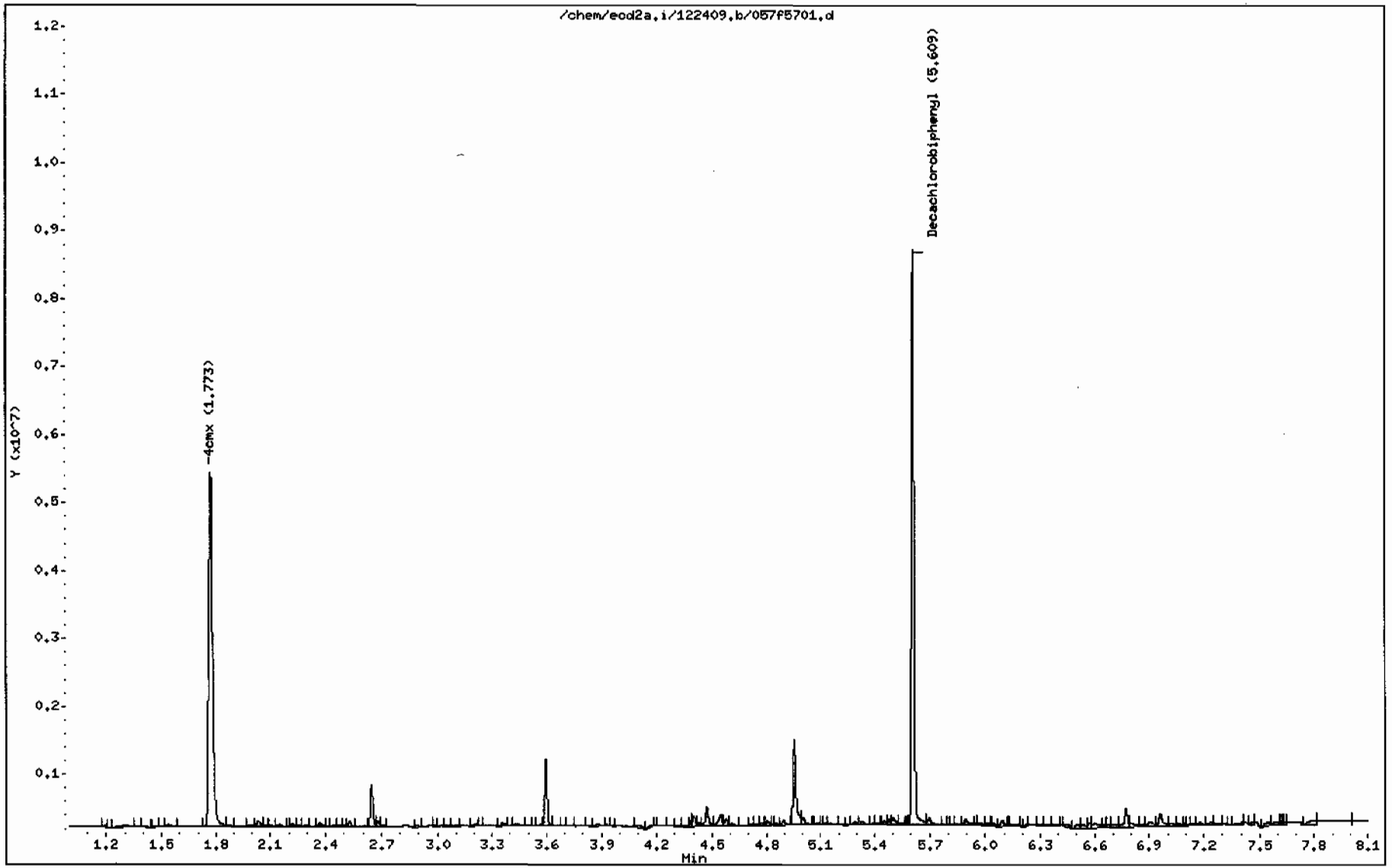
Volume Injected (uL): 1.0

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/057b5701.d
Lab Smp Id: 243385009 Client Smp ID: RE12-10-7582
Inj Date : 24-DEC-2009 18:47
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385009|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7582|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 57
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.09000	Weight of sample extracted (g)
M	7.15170	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.070	2.070	0.000	15697992	121.391	4.3	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	15886315	140.857	5.0	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/057b5701.d

Date : 24-DEC-2009 18:47

Client ID: RE12-10-7582

Sample Info: |243385009|1|

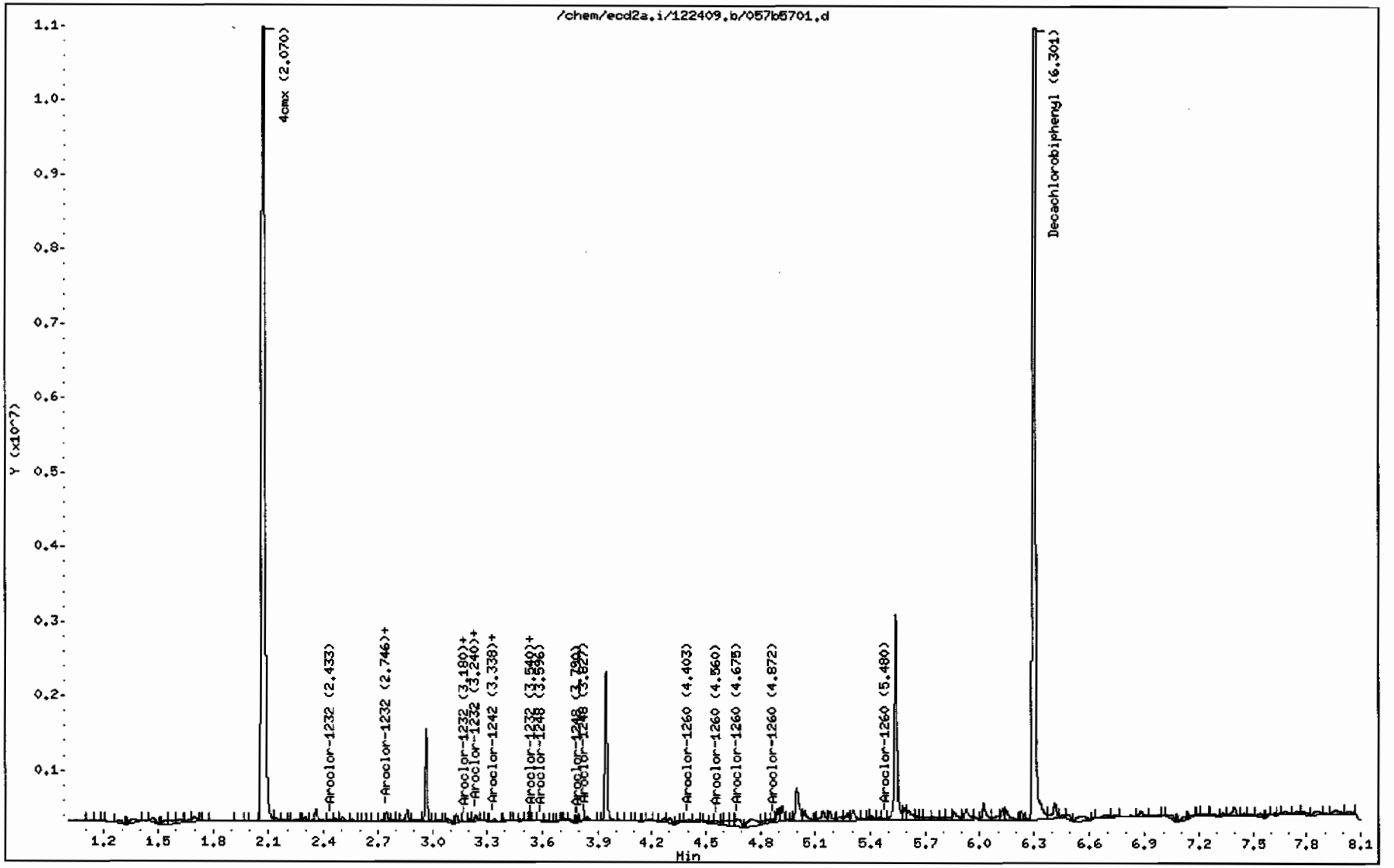
Volume Injected (uL): 1.0

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



PCB
Certificate of Analysis
Sample Summary

SDG Number:	10–1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385011	**Date Received:**	12/22/2009 09:55	**%Moisture:**	6.7
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12–10–7583	**Method:**	SW846 8082	**SOP Ref:**	GL–OA–E–040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 19:09	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.04 g	**Final Volume:**	1 mL
Data File:	059f5901.d	**Column:**	1 CLP1	**Level:**	LOW
	059b5901.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674–11–2	Aroclor–1016	U	3.57	ug/kg	1.19	3.57	1
11104–28–2	Aroclor–1221	U	3.57	ug/kg	1.19	3.57	1
11141–16–5	Aroclor–1232	U	3.57	ug/kg	1.19	3.57	1
53469–21–9	Aroclor–1242	U	3.57	ug/kg	1.19	3.57	1
12672–29–6	Aroclor–1248	U	3.57	ug/kg	1.19	3.57	1
11097–69–1	Aroclor–1254	U	3.57	ug/kg	1.19	3.57	1
11096–82–5	Aroclor–1260	U	3.57	ug/kg	1.19	3.57	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/059f5901.d
Lab Smp Id: 243385011 Client Smp ID: RE12-10-7583
Inj Date : 24-DEC-2009 19:09
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385011|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7583|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 59
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.04000	Weight of sample extracted (g)
M	6.72600	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.774	1.773	0.001	7428877	119.260	4.2	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	7474758	138.136	4.9	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/059f5901.d

Date : 24-DEC-2009 19:09

Client ID: RE12-10-7583

Sample Info: |2433850111|1|

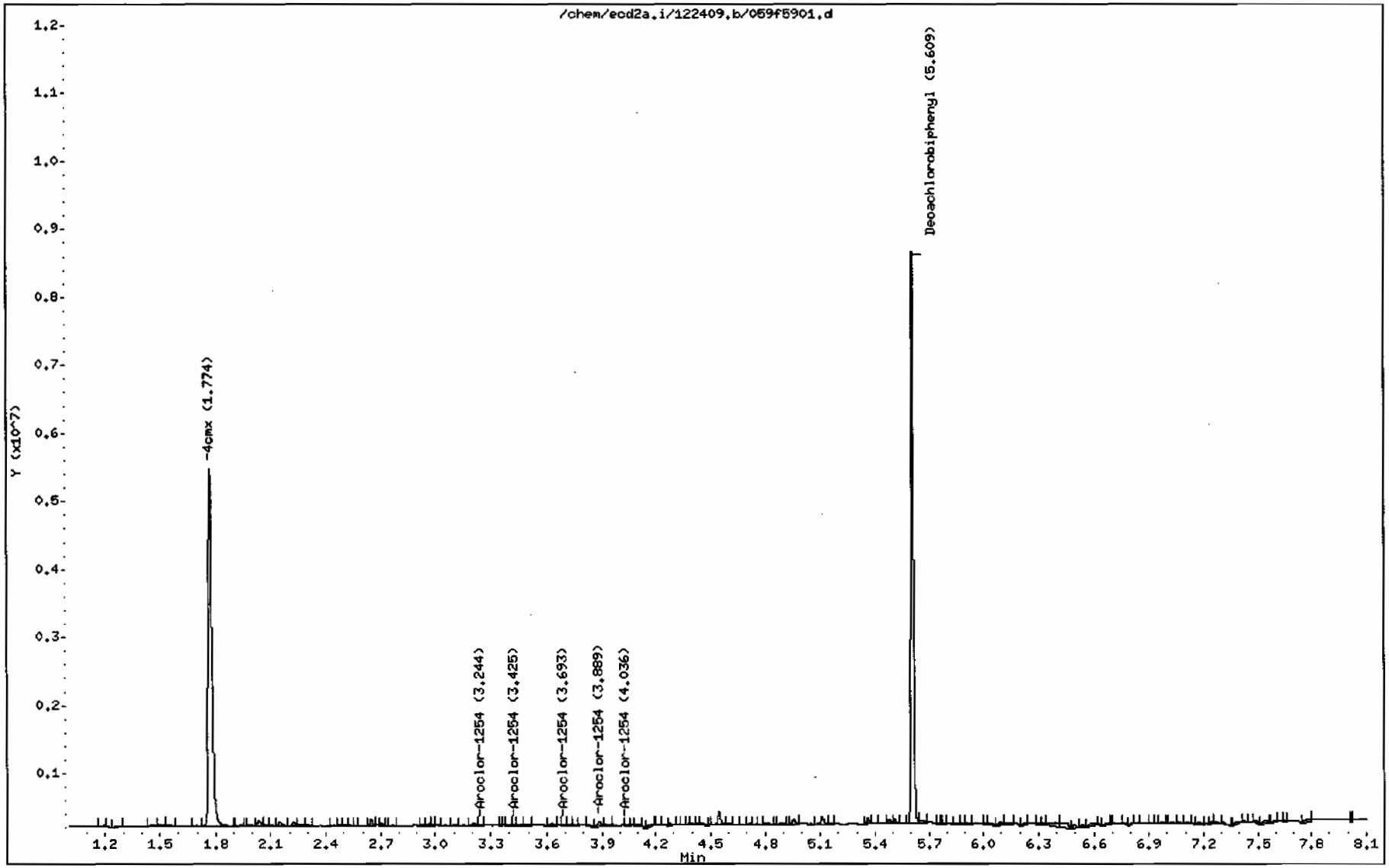
Volume Injected (uL): 1.0

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/059b5901.d
Lab Smp Id: 243385011 Client Smp ID: RE12-10-7583
Inj Date : 24-DEC-2009 19:09
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385011|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7583|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 59
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.04000	Weight of sample extracted (g)
M	6.72600	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.070	2.070	0.000	16135698	124.775	4.4	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.303	6.301	0.002	14748943	130.773	4.7	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/059b5901.d

Date : 24-DEC-2009 19:09

Client ID: RE12-10-7583

Sample Info: |243385011|1|

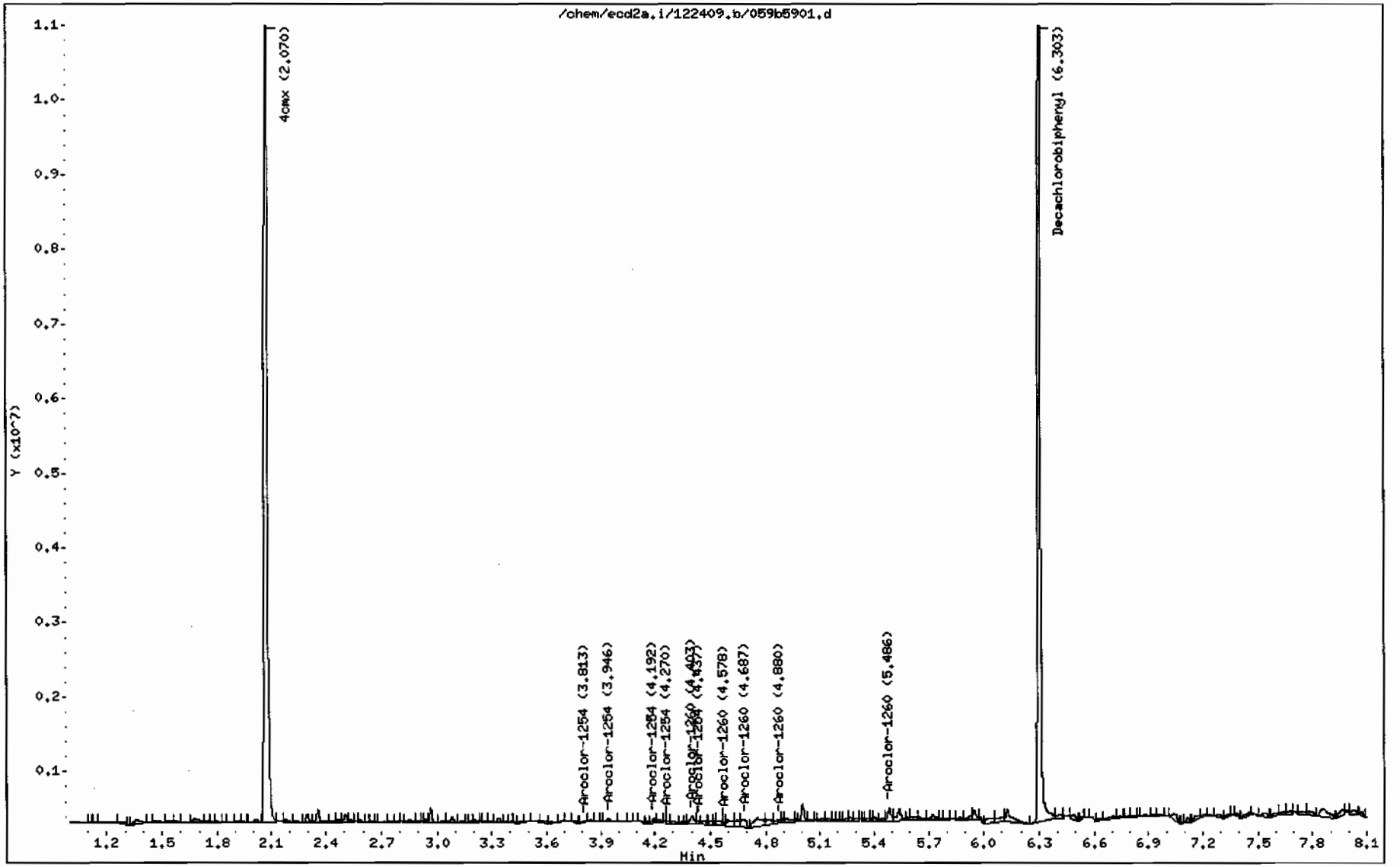
Volume Injected (uL): 1.0

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385010	**Date Received:**	12/22/2009 09:55	**%Moisture:**	7.3
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7584	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 18:58	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.15 g	**Final Volume:**	1 mL
Data File:	058f5801.d	**Column:**	1 CLP1	**Level:**	LOW
	058b5801.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.58	ug/kg	1.19	3.58	1
11104-28-2	Aroclor-1221	U	3.58	ug/kg	1.19	3.58	1
11141-16-5	Aroclor-1232	U	3.58	ug/kg	1.19	3.58	1
53469-21-9	Aroclor-1242	U	3.58	ug/kg	1.19	3.58	1
12672-29-6	Aroclor-1248	U	3.58	ug/kg	1.19	3.58	1
11097-69-1	Aroclor-1254	U	3.58	ug/kg	1.19	3.58	1
11096-82-5	Aroclor-1260	U	3.58	ug/kg	1.19	3.58	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/058f5801.d
Lab Smp Id: 243385010 Client Smp ID: RE12-10-7584
Inj Date : 24-DEC-2009 18:58
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385010|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7584|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 58
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.15000	Weight of sample extracted (g)
M	7.26640	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.775	1.773	0.002	7588838	121.828	4.4	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.608	5.609	-0.001	7912116	146.219	5.2	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/058f5801.d

Date : 24-DEC-2009 18:58

Client ID: RE12-10-7584

Sample Info: |2433850101|1|

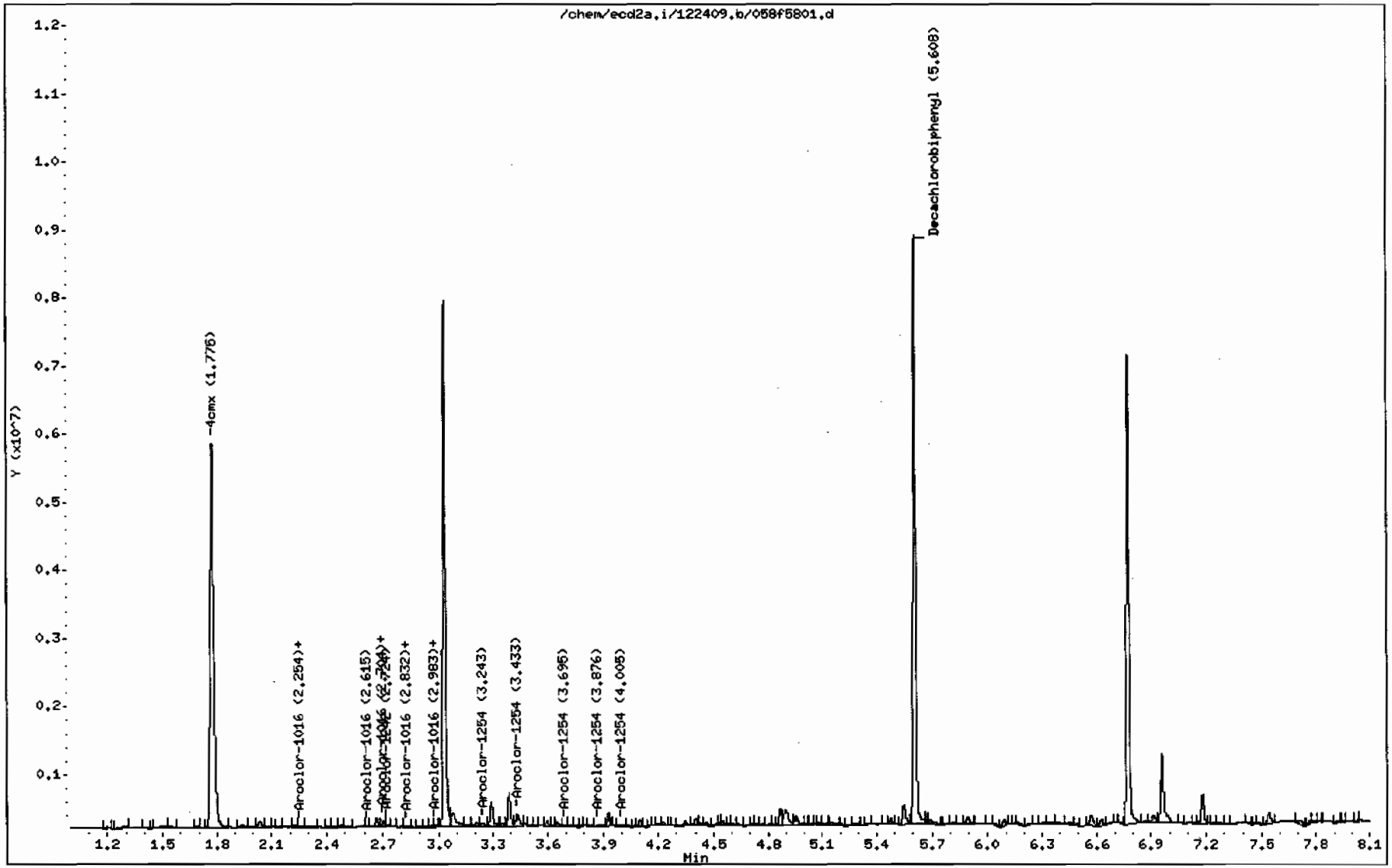
Volume Injected (uL): 1.0

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/058b5801.d
Lab Smp Id: 243385010 Client Smp ID: RE12-10-7584
Inj Date : 24-DEC-2009 18:58
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385010|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7584|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 58
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.15000	Weight of sample extracted (g)
M	7.26640	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.071	2.070	0.001	16785440	129.800	4.6	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	16292035	144.455	5.2	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/058b5801.d

Date : 24-DEC-2009 18:58

Client ID: RE12-10-7584

Sample Info: |243385010|1|

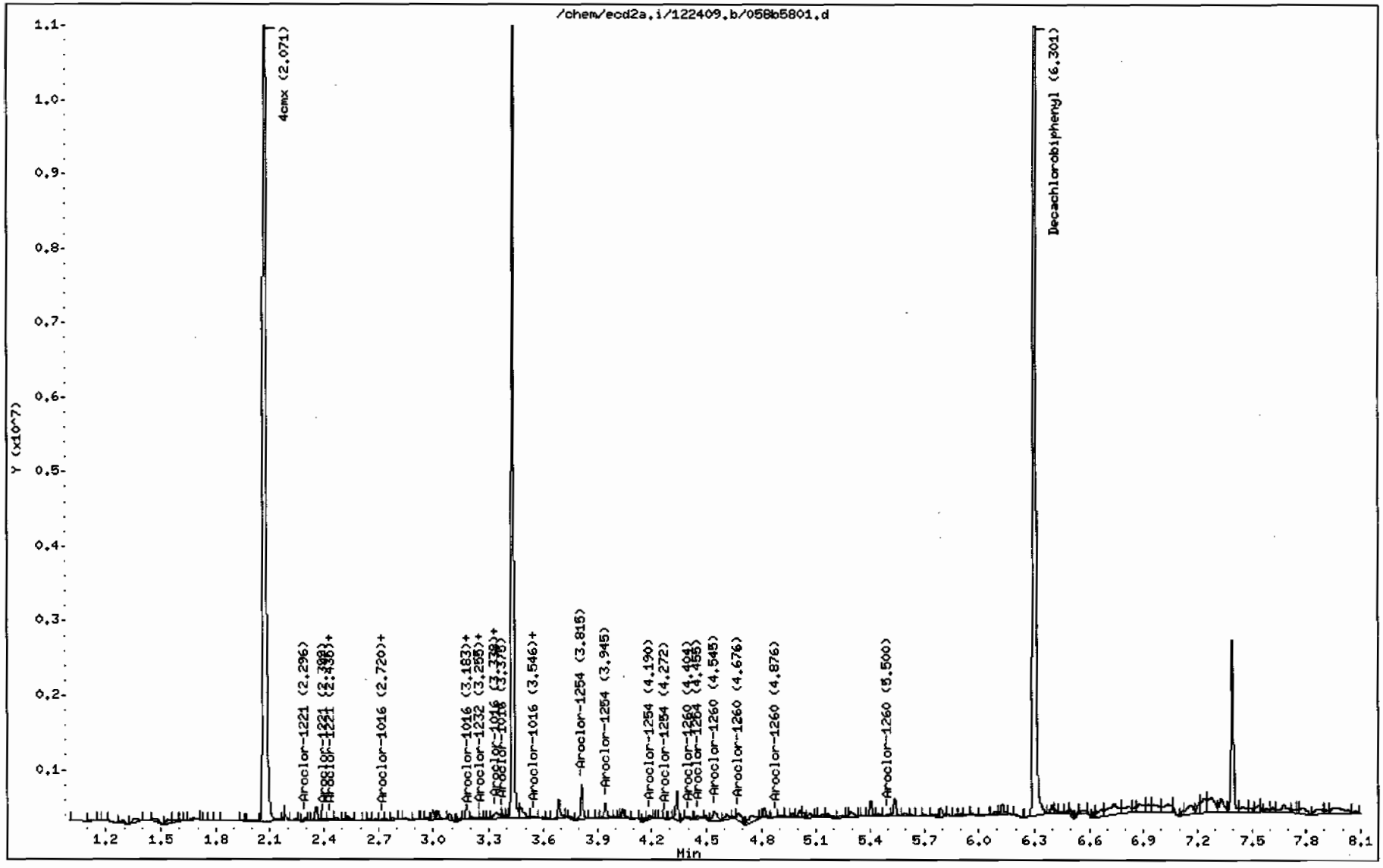
Volume Injected (uL): 1.0

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



PCB
Certificate of Analysis
Sample Summary

SDG Number:	10–1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385008	**Date Received:**	12/22/2009 09:55	**%Moisture:**	8.4
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12–10–7585	**Method:**	SW846 8082	**SOP Ref:**	GL–OA–E–040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 18:36	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.05 g	**Final Volume:**	1 mL
Data File:	056f5601.d	**Column:**	1 CLP1	**Level:**	LOW
	056b5601.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674–11–2	Aroclor–1016	U	3.63	ug/kg	1.21	3.63	1
11104–28–2	Aroclor–1221	U	3.63	ug/kg	1.21	3.63	1
11141–16–5	Aroclor–1232	U	3.63	ug/kg	1.21	3.63	1
53469–21–9	Aroclor–1242	U	3.63	ug/kg	1.21	3.63	1
12672–29–6	Aroclor–1248	U	3.63	ug/kg	1.21	3.63	1
11097–69–1	Aroclor–1254	U	3.63	ug/kg	1.21	3.63	1
11096–82–5	Aroclor–1260	U	3.63	ug/kg	1.21	3.63	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/056f5601.d
Lab Smp Id: 243385008 Client Smp ID: RE12-10-7585
Inj Date : 24-DEC-2009 18:36
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385008|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7585|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 56
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.05000	Weight of sample extracted (g)
M	8.40530	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.773	1.773	0.000	7533852	120.945	4.4	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.608	5.609	-0.001	7489812	138.414	5.0	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/056f5601.d

Date : 24-DEC-2009 18:36

Client ID: RE12-10-7585

Sample Info: |243385008|1|

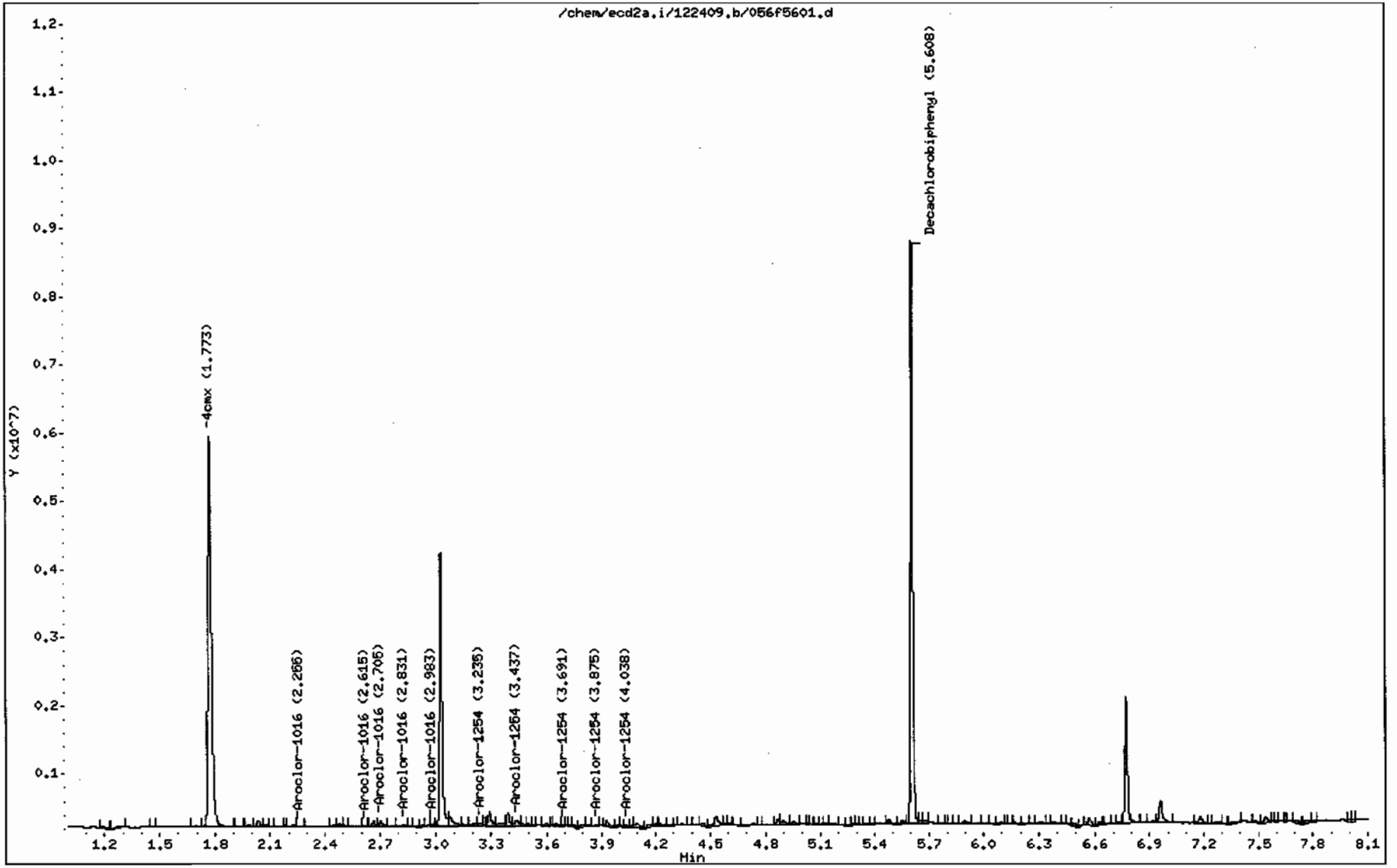
Volume Injected (uL): 1.0

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/056b5601.d
Lab Smp Id: 243385008 Client Smp ID: RE12-10-7585
Inj Date : 24-DEC-2009 18:36
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385008|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7585|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 56
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.05000	Weight of sample extracted (g)
M	8.40530	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.070	2.070	0.000	16713134	129.241	4.7	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	15722439	139.404	5.1	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/056b5601.d

Date : 24-DEC-2009 18:36

Client ID: RE12-10-7585

Sample Info: |243385008|1|

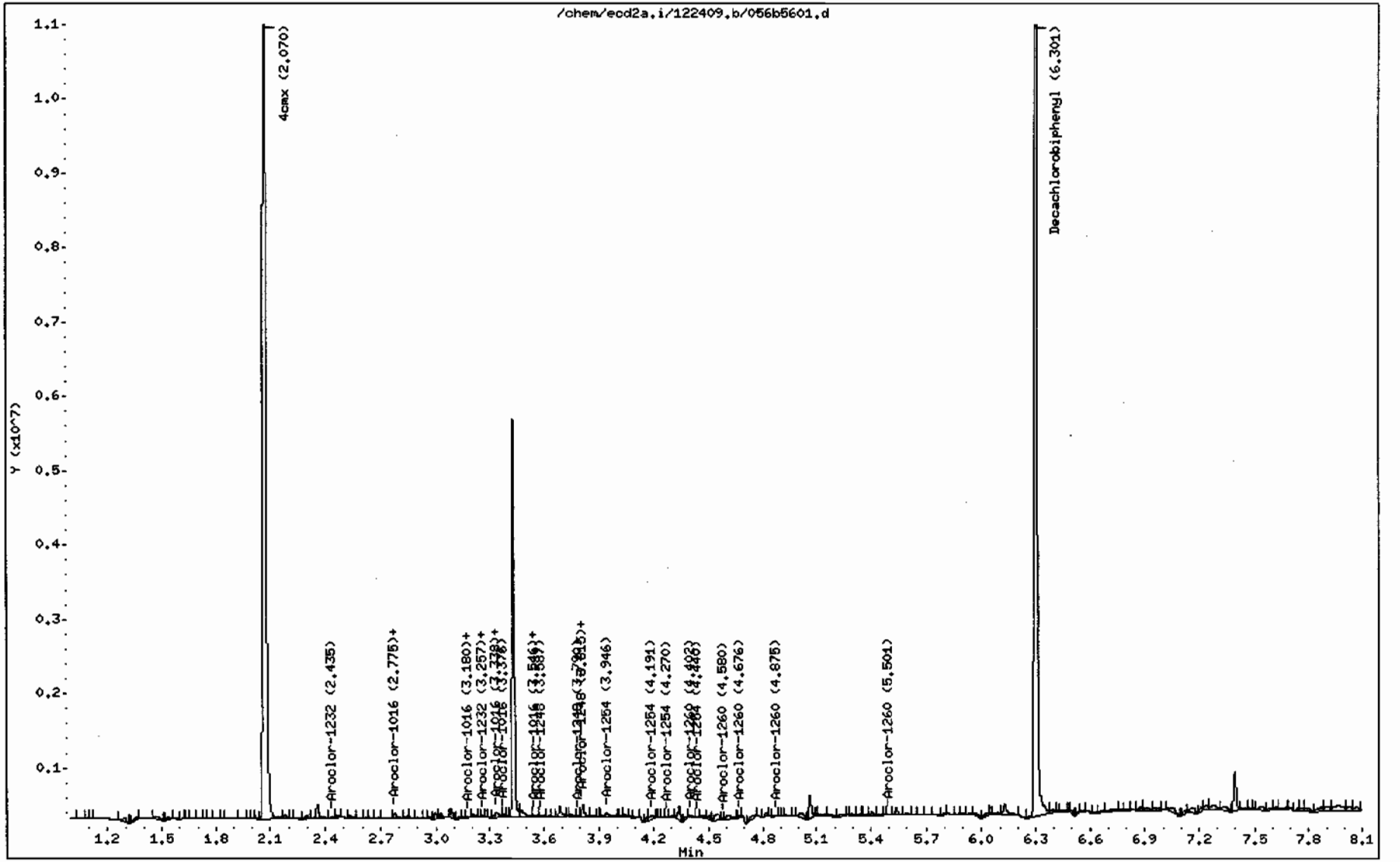
Volume Injected (uL): 1.0

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385006	**Date Received:**	12/22/2009 09:55	**%Moisture:**	10.8
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7586	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 17:52	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.11 g	**Final Volume:**	1 mL
Data File:	052f5201.d	**Column:**	1 CLP1	**Level:**	LOW
	052b5201.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.72	ug/kg	1.24	3.72	1
11104-28-2	Aroclor-1221	U	3.72	ug/kg	1.24	3.72	1
11141-16-5	Aroclor-1232	U	3.72	ug/kg	1.24	3.72	1
53469-21-9	Aroclor-1242	U	3.72	ug/kg	1.24	3.72	1
12672-29-6	Aroclor-1248	U	3.72	ug/kg	1.24	3.72	1
11097-69-1	Aroclor-1254	U	3.72	ug/kg	1.24	3.72	1
11096-82-5	Aroclor-1260	U	3.72	ug/kg	1.24	3.72	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/052f5201.d
Lab Smp Id: 243385006 Client Smp ID: RE12-10-7586
Inj Date : 24-DEC-2009 17:52
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385006|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7586|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 52
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

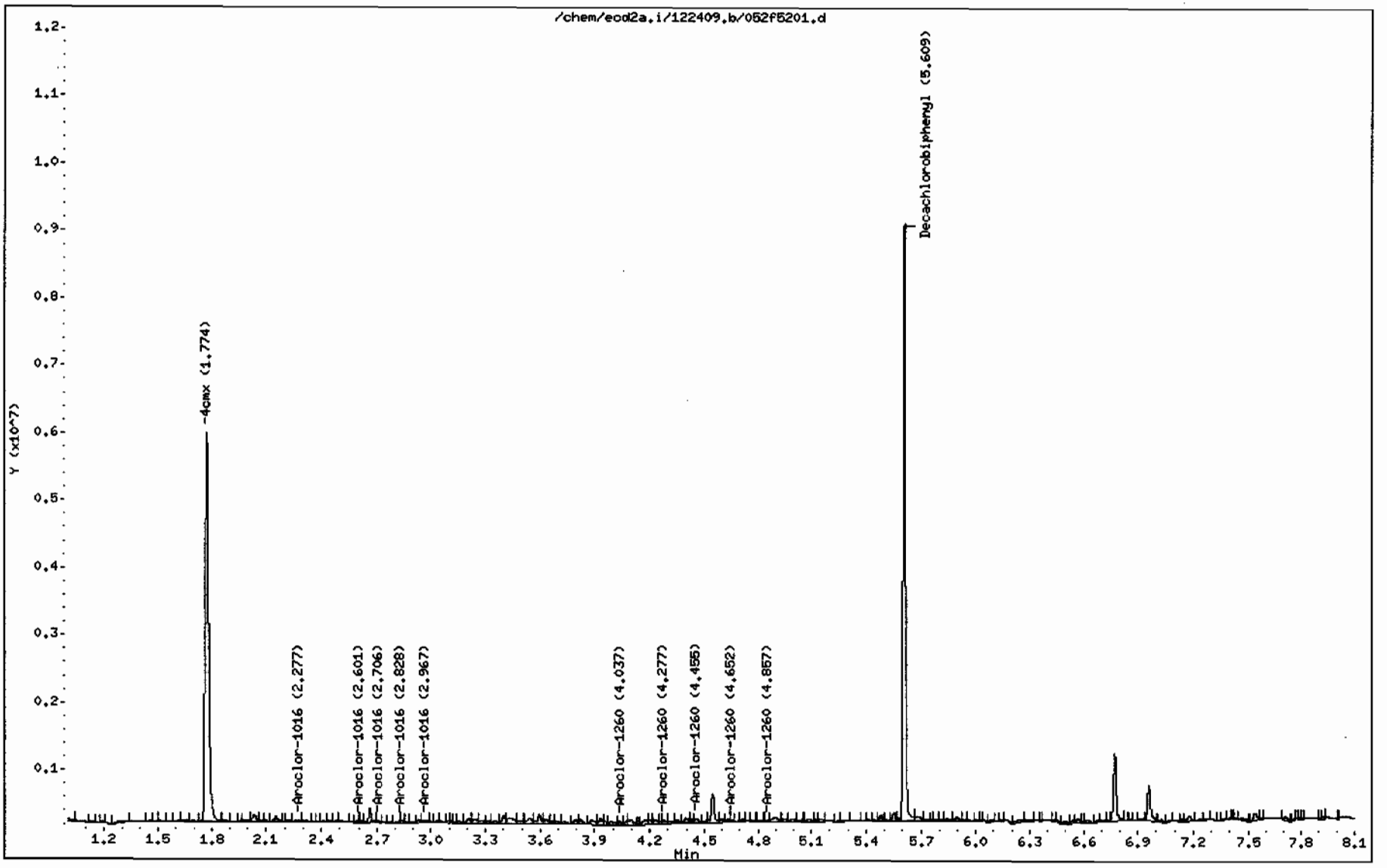
Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.11000	Weight of sample extracted (g)
M	10.84000	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.774	1.773	0.001	7710179	123.775	4.6	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	8041030	148.601	5.5	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/052f5201.d
Date : 24-DEC-2009 17:52
Client ID: RE12-10-7586
Sample Info: |2433850061|1|
Volume Injected (uL): 1.0
Column phase: CLP1

Instrument: ecd2a.i
Operator: JAOC
Column diameter: 0.25



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RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/052b5201.d
Lab Smp Id: 243385006 Client Smp ID: RE12-10-7586
Inj Date : 24-DEC-2009 17:52
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385006|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7586|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 52
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.11000	Weight of sample extracted (g)
M	10.84000	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.070	2.070	0.000	16960985	131.157	4.9	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	16823425	149.166	5.6	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/052b5201.d

Date : 24-DEC-2009 17:52

Client ID: RE12-10-7586

Sample Info: |243385006|1|

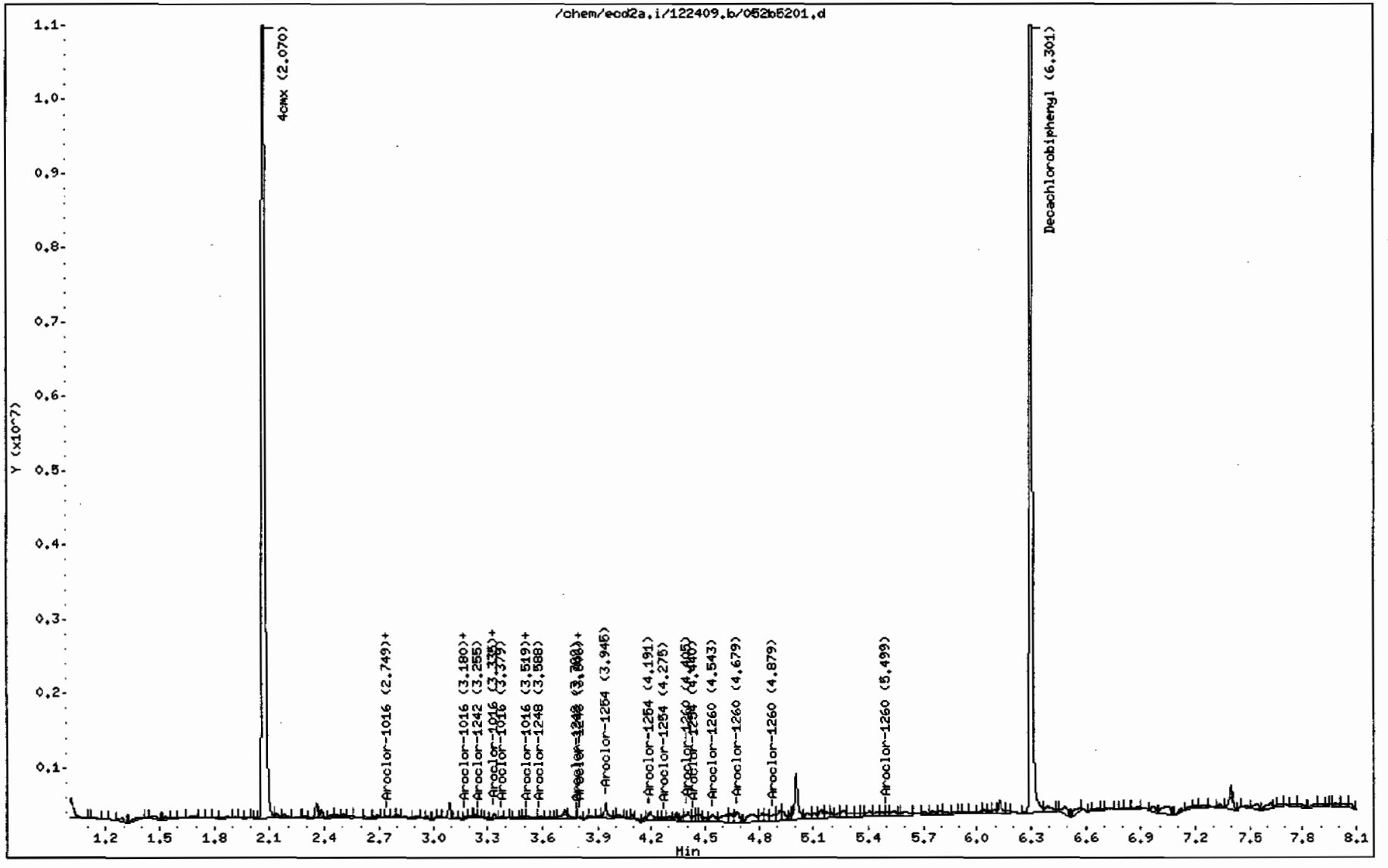
Volume Injected (uL): 1.0

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



PCB
Certificate of Analysis
Sample Summary

SDG Number:	10–1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385007	**Date Received:**	12/22/2009 09:55	**%Moisture:**	9.9
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12–10–7587	**Method:**	SW846 8082	**SOP Ref:**	GL–OA–E–040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 18:25	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.12 g	**Final Volume:**	1 mL
Data File:	055f5501.d	**Column:**	1 CLP1	**Level:**	LOW
	055b5501.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674–11–2	Aroclor–1016	U	3.68	ug/kg	1.23	3.68	1
11104–28–2	Aroclor–1221	U	3.68	ug/kg	1.23	3.68	1
11141–16–5	Aroclor–1232	U	3.68	ug/kg	1.23	3.68	1
53469–21–9	Aroclor–1242	U	3.68	ug/kg	1.23	3.68	1
12672–29–6	Aroclor–1248	U	3.68	ug/kg	1.23	3.68	1
11097–69–1	Aroclor–1254	U	3.68	ug/kg	1.23	3.68	1
11096–82–5	Aroclor–1260	U	3.68	ug/kg	1.23	3.68	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/055f5501.d
Lab Smp Id: 243385007 Client Smp ID: RE12-10-7587
Inj Date : 24-DEC-2009 18:25
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385007|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7587|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 55
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.12000	Weight of sample extracted (g)
M	9.90190	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.775	1.773	0.002	7483146	120.131	4.4	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	7683311	141.990	5.2	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/055f5501.d

Date : 24-DEC-2009 18:25

Client ID: RE12-10-7587

Sample Info: |243385007|1|

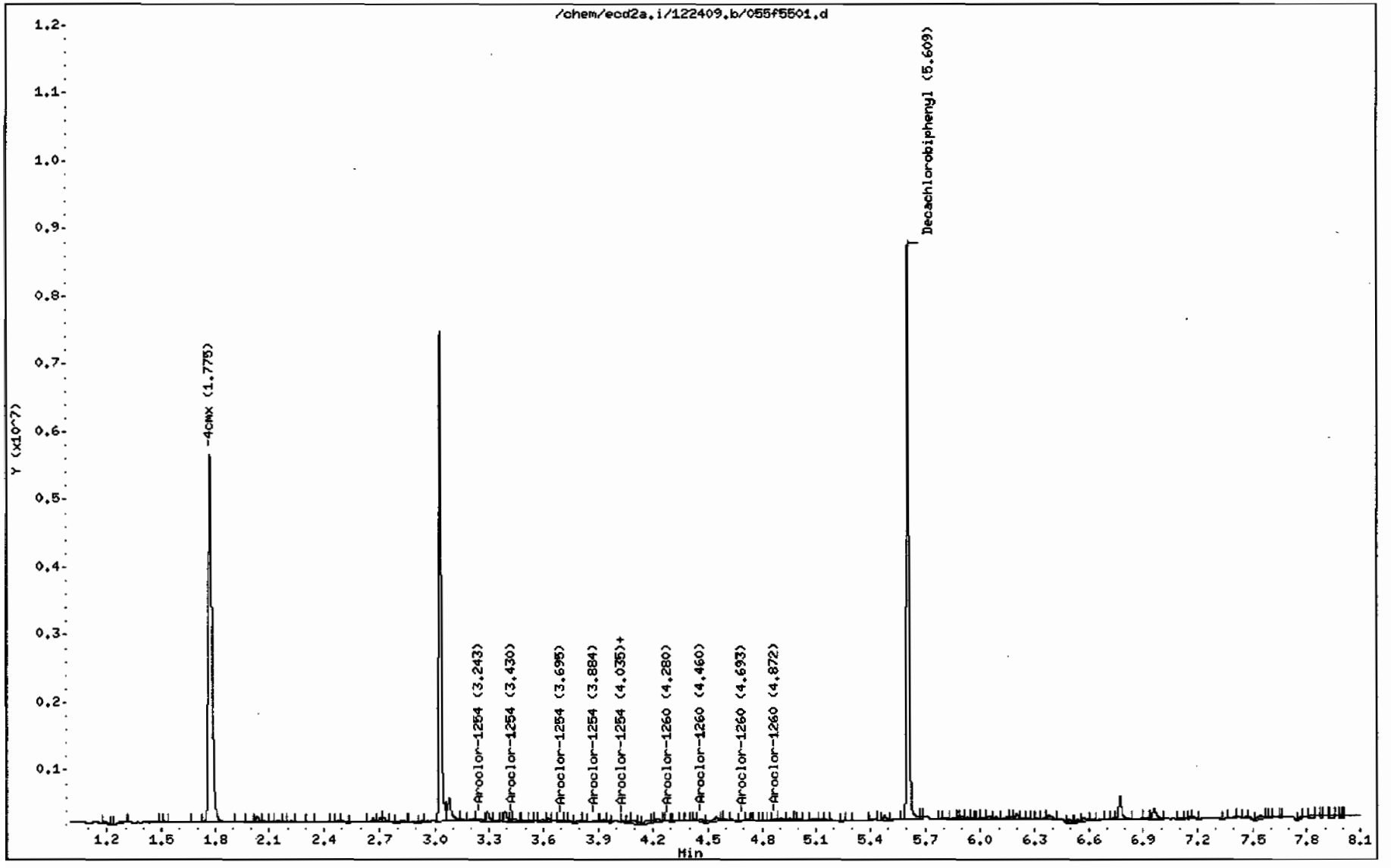
Volume Injected (uL): 1.0

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/055b5501.d
Lab Smp Id: 243385007 Client Smp ID: RE12-10-7587
Inj Date : 24-DEC-2009 18:25
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385007|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7587|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 55
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.12000	Weight of sample extracted (g)
M	9.90190	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.071	2.070	0.001	16298998	126.038	4.6	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	16365788	145.109	5.3	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/055b5501.d

Date : 24-DEC-2009 18:25

Client ID: RE12-10-7587

Sample Info: |243385007|1|

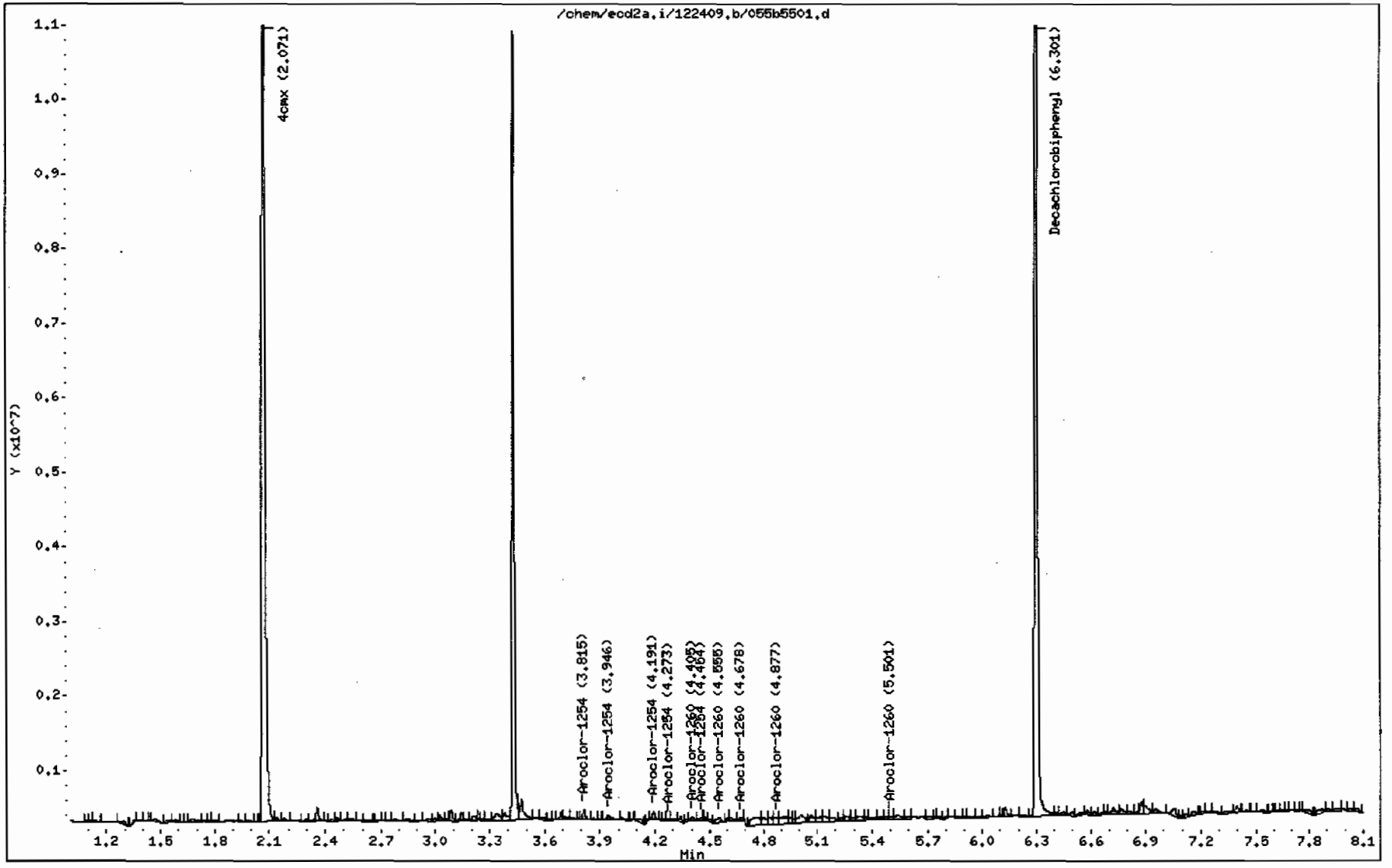
Volume Injected (uL): 1.0

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385002	**Date Received:**	12/22/2009 09:55	**%Moisture:**	9.4
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7590	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 17:07	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.06 g	**Final Volume:**	1 mL
Data File:	048f4801.d	**Column:**	1 CLP1	**Level:**	LOW
	048b4801.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.67	ug/kg	1.22	3.67	1
11104-28-2	Aroclor-1221	U	3.67	ug/kg	1.22	3.67	1
11141-16-5	Aroclor-1232	U	3.67	ug/kg	1.22	3.67	1
53469-21-9	Aroclor-1242	U	3.67	ug/kg	1.22	3.67	1
12672-29-6	Aroclor-1248	U	3.67	ug/kg	1.22	3.67	1
11097-69-1	Aroclor-1254	U	3.67	ug/kg	1.22	3.67	1
11096-82-5	Aroclor-1260	U	3.67	ug/kg	1.22	3.67	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/048f4801.d
Lab Smp Id: 243385002 Client Smp ID: RE12-10-7590
Inj Date : 24-DEC-2009 17:07
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385002|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7590|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 48
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.06000	Weight of sample extracted (g)
M	9.42200	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.774	1.773	0.001	7360803	118.167	4.3	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	7885105	145.719	5.4	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/048f4801.d

Date : 24-DEC-2009 17:07

Client ID: RE12-10-7590

Sample Info: 1243385002|1|

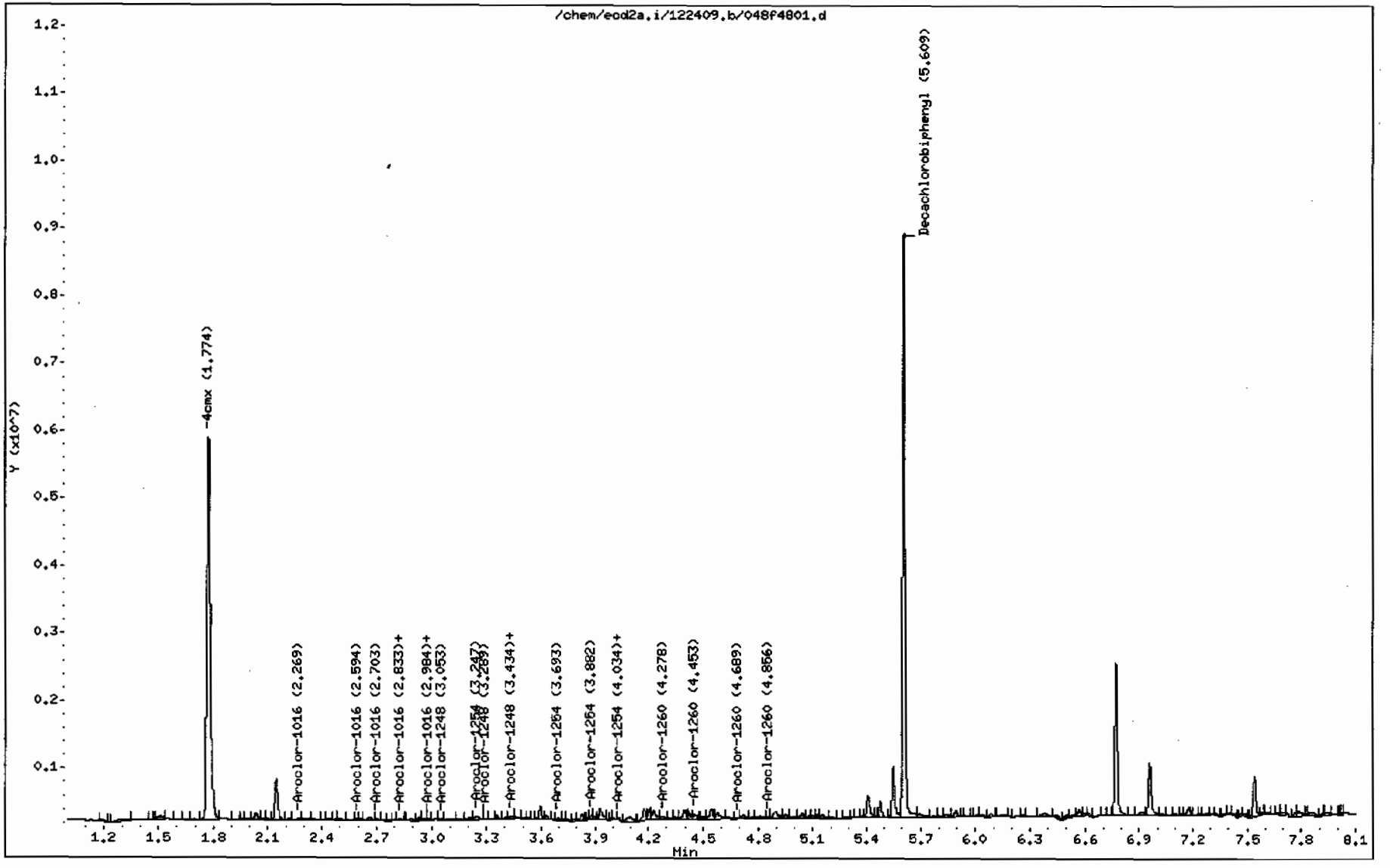
Volume Injected (uL): 1.0

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/048b4801.d
Lab Smp Id: 243385002 Client Smp ID: RE12-10-7590
Inj Date : 24-DEC-2009 17:07
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385002|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7590|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 48
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.06000	Weight of sample extracted (g)
M	9.42200	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.071	2.070	0.001	16306611	126.097	4.6	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	14685122	130.207	4.8	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/048b4801.d

Date : 24-DEC-2009 17:07

Client ID: RE12-10-7590

Sample Info: |243385002|1|

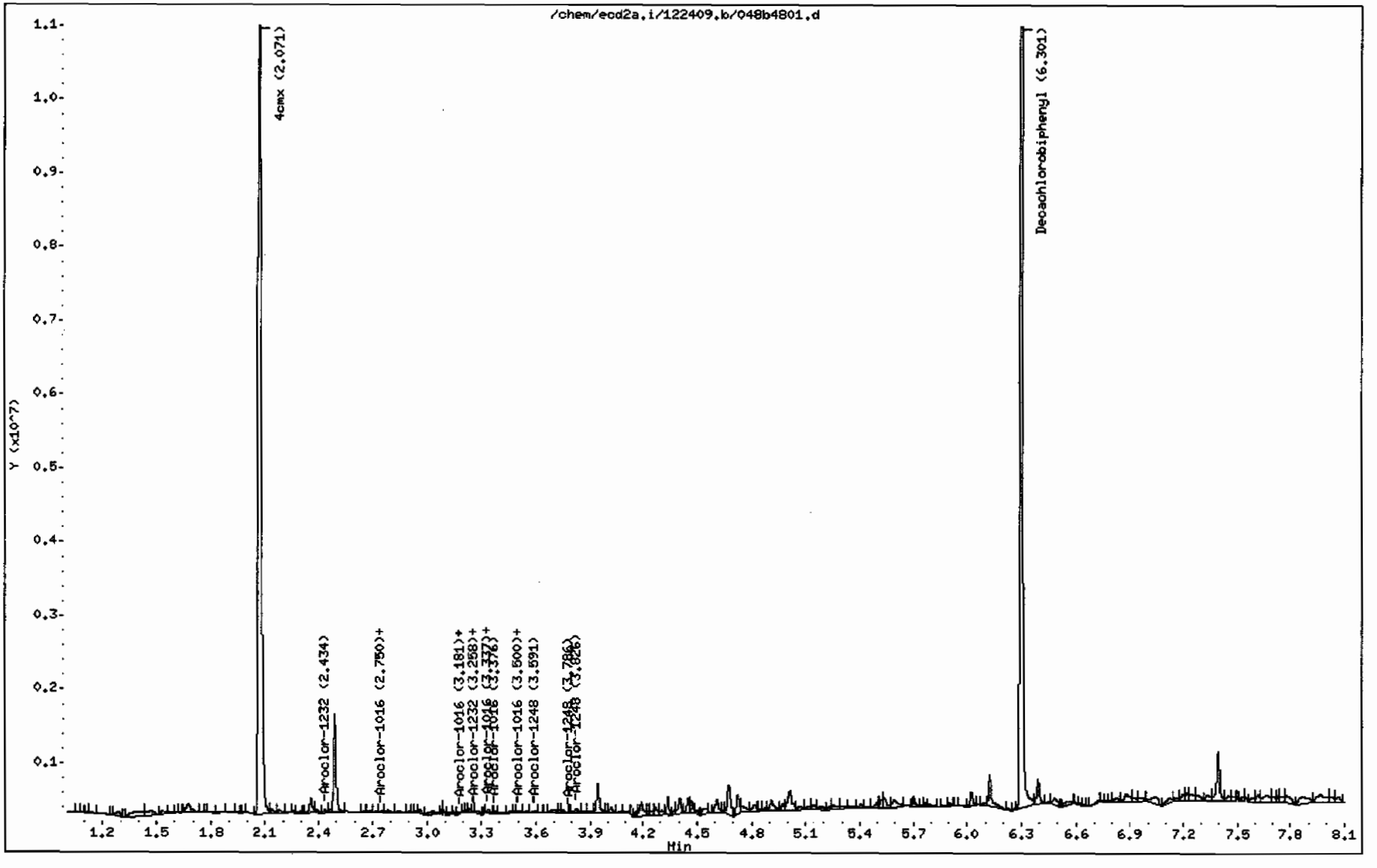
Volume Injected (uL): 1.0

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	243385004	**Date Received:**	12/22/2009 09:55	**%Moisture:**	11.5
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7591	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 17:29	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.14 g	**Final Volume:**	1 mL
Data File:	050f5001.d	**Column:**	1 CLP1	**Level:**	LOW
	050b5001.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.75	ug/kg	1.25	3.75	1
11104-28-2	Aroclor-1221	U	3.75	ug/kg	1.25	3.75	1
11141-16-5	Aroclor-1232	U	3.75	ug/kg	1.25	3.75	1
53469-21-9	Aroclor-1242	U	3.75	ug/kg	1.25	3.75	1
12672-29-6	Aroclor-1248	U	3.75	ug/kg	1.25	3.75	1
11097-69-1	Aroclor-1254	U	3.75	ug/kg	1.25	3.75	1
11096-82-5	Aroclor-1260	U	3.75	ug/kg	1.25	3.75	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/050f5001.d
Lab Smp Id: 243385004 Client Smp ID: RE12-10-7591
Inj Date : 24-DEC-2009 17:29
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385004|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7591|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 50
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.14000	Weight of sample extracted (g)
M	11.48240	% Moisture

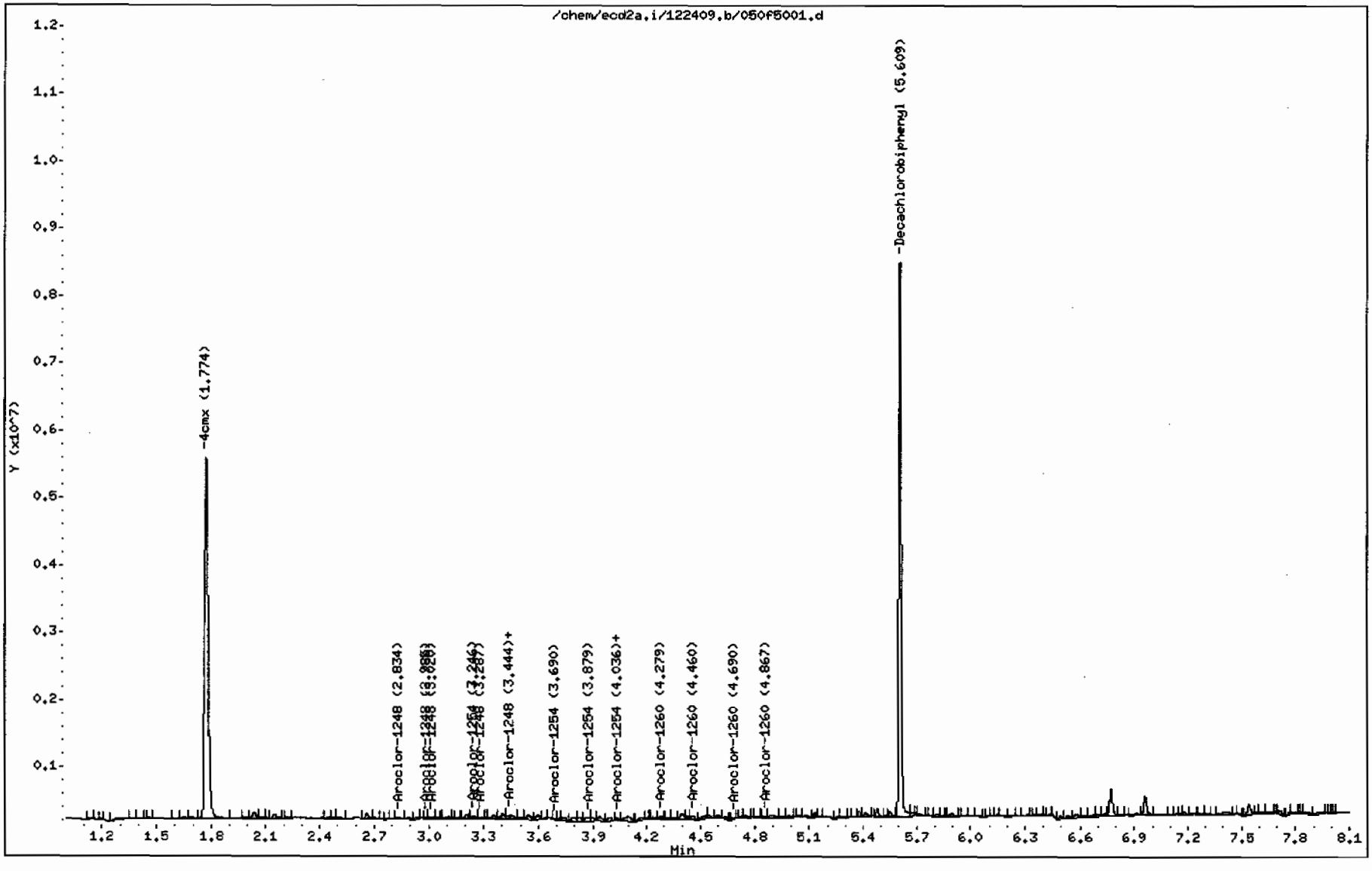
Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.774	1.773	0.001	7355975	118.089	4.4	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	7492606	138.466	5.2	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/050f5001.d
Date : 24-DEC-2009 17:29
Client ID: RE12-10-7591
Sample Info: |2433850041|1|
Volume Injected (uL): 1.0
Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/050b5001.d
Lab Smp Id: 243385004 Client Smp ID: RE12-10-7591
Inj Date : 24-DEC-2009 17:29
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385004|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7591|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 50
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

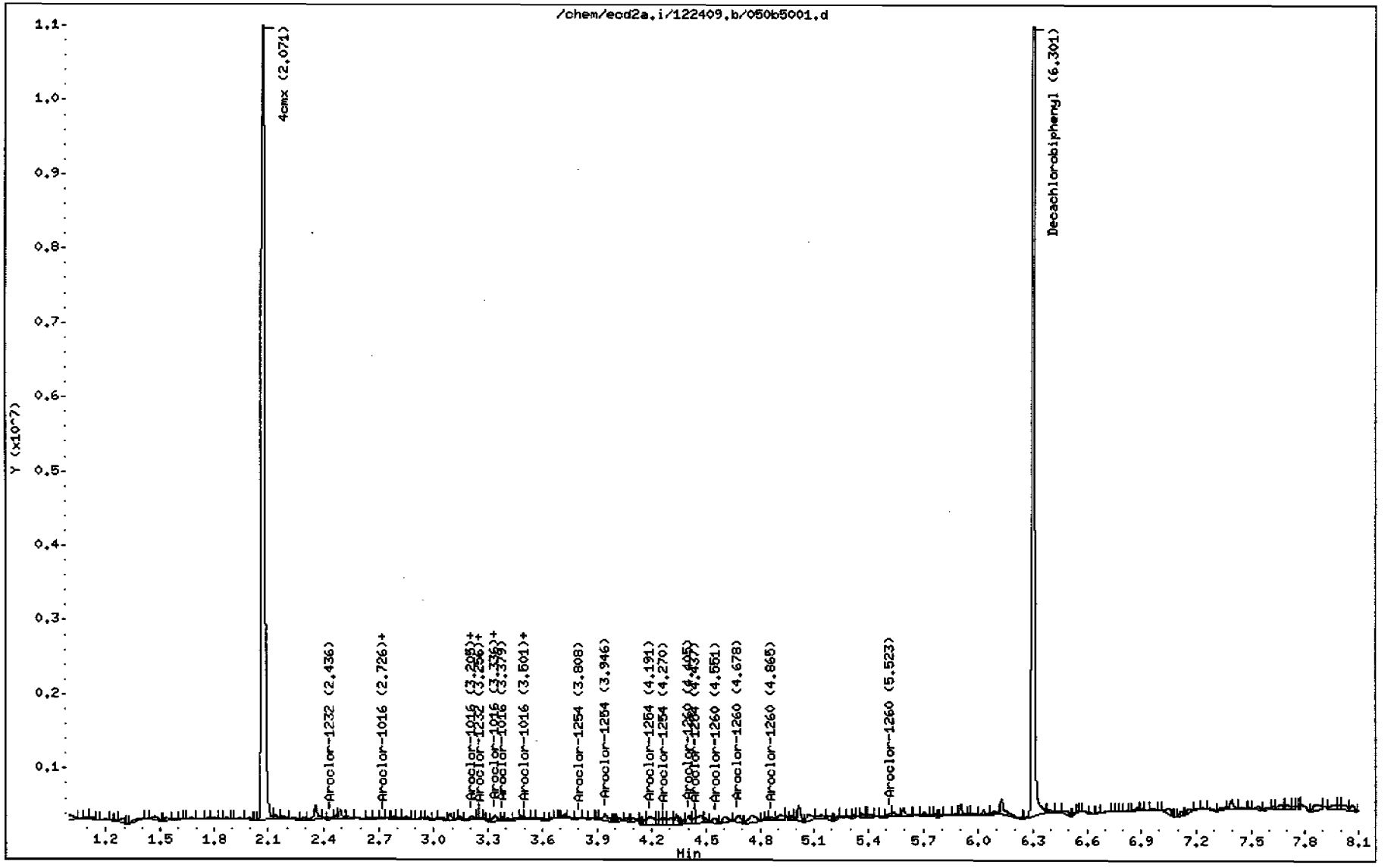
Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.14000	Weight of sample extracted (g)
M	11.48240	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.071	2.070	0.001	16259675	125.734	4.7	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	14976408	132.790	5.0	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/050b5001.d
Date : 24-DEC-2009 17:29
Client ID: RE12-10-7591
Sample Info: |243385004|1|
Volume Injected (uL): 1.0
Column phase: CLP2

Instrument: ecd2a.i
Operator: JAOC
Column diameter: 0.25



PCB
Certificate of Analysis
Sample Summary

SDG Number:	**10–1032**	**Date Collected:**	**12/17/2009 12:00**	**Matrix:**	**S**
Lab Sample ID:	**243385003**	**Date Received:**	**12/22/2009 09:55**	**%Moisture:**	**11.4**
		Client:	**LANL010**	**Project:**	**LANL01004**
Client ID:	**RE12–10–7592**	**Method:**	**SW846 8082**	**SOP Ref:**	**GL–OA–E–040**
Batch ID:	**936264**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**12/24/2009 17:18**	**Analyst:**	**JAOC**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/23/2009 19:38**	**Aliquot:**	**30.01 g**	**Final Volume:**	**1 mL**
Data File:	**049f4901.d**	**Column:**	**1 CLP1**	**Level:**	**LOW**
	049b4901.d		**2 CLP2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674–11–2	Aroclor–1016	U	3.76	ug/kg	1.25	3.76	1
11104–28–2	Aroclor–1221	U	3.76	ug/kg	1.25	3.76	1
11141–16–5	Aroclor–1232	U	3.76	ug/kg	1.25	3.76	1
53469–21–9	Aroclor–1242	U	3.76	ug/kg	1.25	3.76	1
12672–29–6	Aroclor–1248	U	3.76	ug/kg	1.25	3.76	1
11097–69–1	Aroclor–1254	U	3.76	ug/kg	1.25	3.76	1
11096–82–5	Aroclor–1260	U	3.76	ug/kg	1.25	3.76	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/049f4901.d
Lab Smp Id: 243385003 Client Smp ID: RE12-10-7592
Inj Date : 24-DEC-2009 17:18
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385003|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7592|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 49
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.01000	Weight of sample extracted (g)
M	11.36560	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.775	1.773	0.002	7232039	116.100	4.4	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	7155919	132.244	5.0	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/049f4901.d

Date : 24-DEC-2009 17:18

Client ID: RE12-10-7592

Sample Info: |243385003|1|

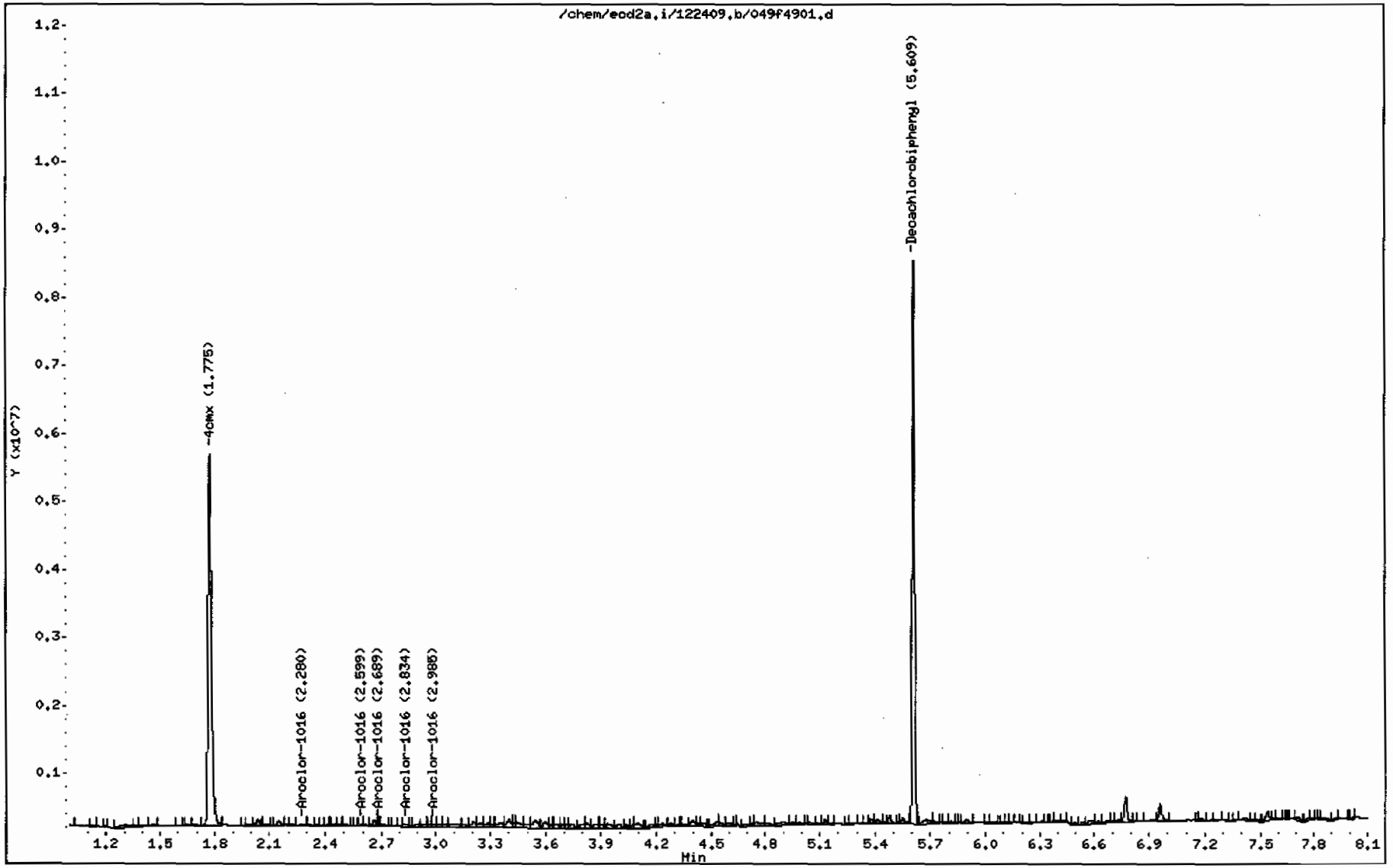
Volume Injected (uL): 1.0

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/049b4901.d
Lab Smp Id: 243385003 Client Smp ID: RE12-10-7592
Inj Date : 24-DEC-2009 17:18
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |243385003|1|
Misc Info : |ECD82P_1S|936264|SVA|LANL|SOIL|RE12-10-7592|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 49
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.01000	Weight of sample extracted (g)
M	11.36560	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.071	2.070	0.001	16021473	123.892	4.6	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	14569934	129.186	4.8	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/049b4901.d

Date : 24-DEC-2009 17:18

Client ID: RE12-10-7592

Sample Info: !243385003!1!

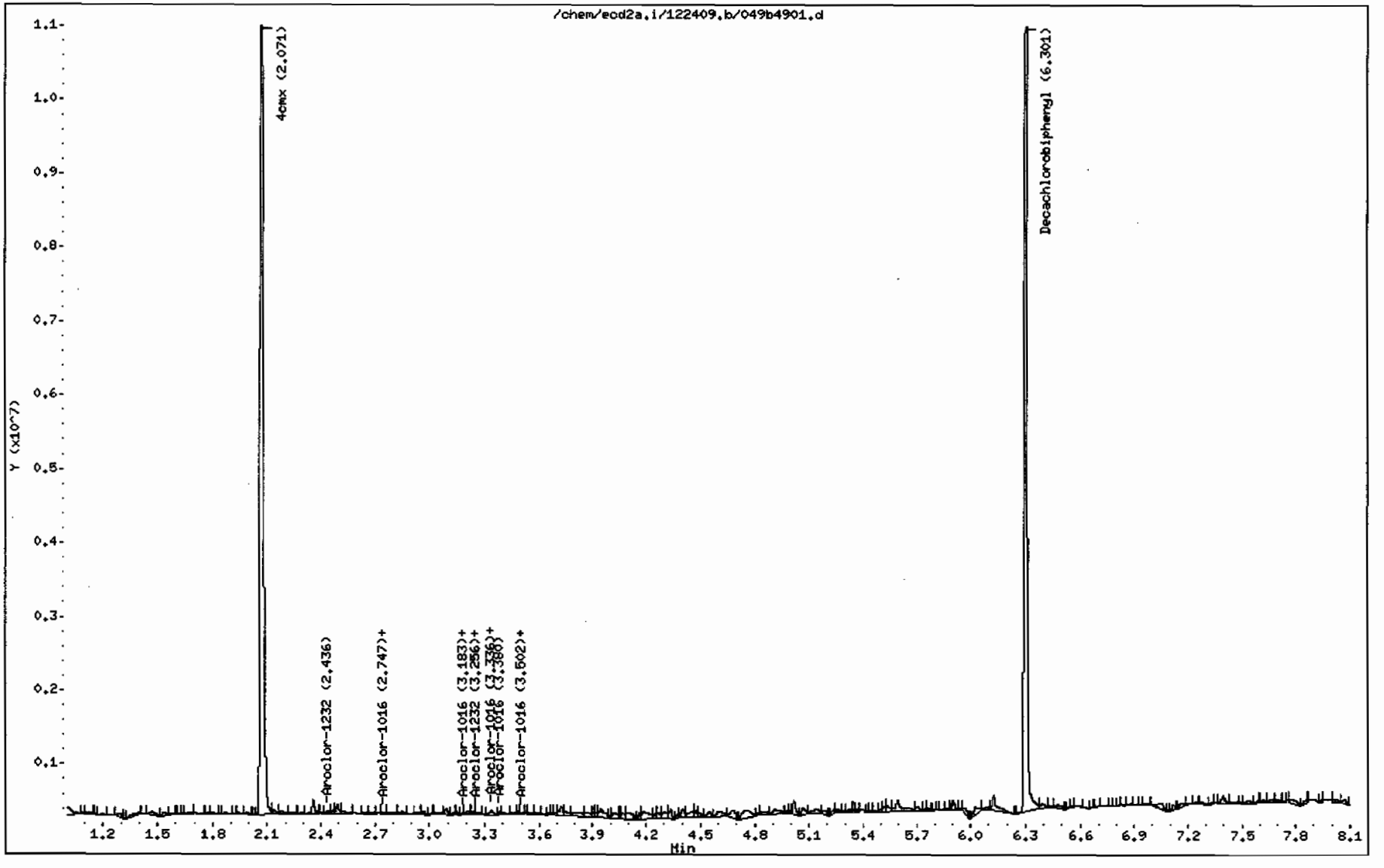
Volume Injected (uL): 1.0

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



STANDARDS DATA

Report Date: 24-Dec-2009 12:44

Calibration History

Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Start Cal Date: 12-NOV-2009 11:00
End Cal Date : 14-DEC-2009 09:35

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 100.00000		
02-DEC-2009 07:05	AR1262	/chem/ecd2a.i/120209.b/008f0801.d
12-NOV-2009 16:22	AR1268	/chem/ecd2a.i/111209a.b/035f3501.d
30-NOV-2009 10:12	AR1248	/chem/ecd2a.i/113009a.b/011f1101.d
12-NOV-2009 14:09	AR1242	/chem/ecd2a.i/111209a.b/023f2301.d
30-NOV-2009 08:43	AR1254	/chem/ecd2a.i/113009a.b/003f0301.d
14-DEC-2009 08:51	AR1660	/chem/ecd2a.i/121409.b/011f1101.d
Cal Level: 2 , Cal Amount: 250.00000		
02-DEC-2009 07:16	AR1262	/chem/ecd2a.i/120209.b/009f0901.d
12-NOV-2009 16:33	AR1268	/chem/ecd2a.i/111209a.b/036f3601.d
30-NOV-2009 10:23	AR1248	/chem/ecd2a.i/113009a.b/012f1201.d
12-NOV-2009 14:20	AR1242	/chem/ecd2a.i/111209a.b/024f2401.d
30-NOV-2009 08:54	AR1254	/chem/ecd2a.i/113009a.b/004f0401.d
14-DEC-2009 09:02	AR1660	/chem/ecd2a.i/121409.b/012f1201.d
Cal Level: 3 , Cal Amount: 500.00000		
02-DEC-2009 07:27	AR1262	/chem/ecd2a.i/120209.b/010f1001.d
12-NOV-2009 16:44	AR1268	/chem/ecd2a.i/111209a.b/037f3701.d
30-NOV-2009 10:34	AR1248	/chem/ecd2a.i/113009a.b/013f1301.d
12-NOV-2009 14:31	AR1242	/chem/ecd2a.i/111209a.b/025f2501.d
30-NOV-2009 09:05	AR1254	/chem/ecd2a.i/113009a.b/005f0501.d
14-DEC-2009 09:13	AR1660	/chem/ecd2a.i/121409.b/013f1301.d
Cal Level: 4 , Cal Amount: 1000.00000		
30-NOV-2009 10:45	AR1248	/chem/ecd2a.i/113009a.b/014f1401.d
12-NOV-2009 14:42	AR1242	/chem/ecd2a.i/111209a.b/026f2601.d
30-NOV-2009 09:16	AR1254	/chem/ecd2a.i/113009a.b/006f0601.d
14-DEC-2009 09:24	AR1660	/chem/ecd2a.i/121409.b/014f1401.d
12-NOV-2009 11:45	DDTANALOGSTD	/chem/ecd2a.i/111209a.b/010f1001.d
12-NOV-2009 16:55	AR1268	/chem/ecd2a.i/111209a.b/038f3801.d
02-DEC-2009 07:38	AR1262	/chem/ecd2a.i/120209.b/011f1101.d
12-NOV-2009 11:11	AR1221	/chem/ecd2a.i/111209a.b/007f0701.d
12-NOV-2009 11:00	AR1232	/chem/ecd2a.i/111209a.b/006f0601.d
Cal Level: 5 , Cal Amount: 4000.00000		
02-DEC-2009 07:50	AR1262	/chem/ecd2a.i/120209.b/012f1201.d
12-NOV-2009 17:07	AR1268	/chem/ecd2a.i/111209a.b/039f3901.d
30-NOV-2009 10:56	AR1248	/chem/ecd2a.i/113009a.b/015f1501.d

12-NOV-2009 14:53	AR1242	/chem/ecd2a.i/111209a.b/027f2701.d
30-NOV-2009 09:27	AR1254	/chem/ecd2a.i/113009a.b/007f0701.d
14-DEC-2009 09:35	AR1660	/chem/ecd2a.i/121409.b/015f1501.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 4

Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 10:52	AR1660	/chem/ecd2a.i/122409.b/025f2501.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 10:09	AR1660	/chem/ecd2a.i/122409.b/022f2201.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 07:33	AR1268	/chem/ecd2a.i/122409.b/009f0901.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 07:22	AR1262	/chem/ecd2a.i/122409.b/008f0801.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 07:11	AR1221	/chem/ecd2a.i/122409.b/007f0701.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 07:00	AR1232	/chem/ecd2a.i/122409.b/006f0601.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 06:49	AR1248	/chem/ecd2a.i/122409.b/005f0501.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 06:38	AR1242	/chem/ecd2a.i/122409.b/004f0401.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 06:26	AR1254	/chem/ecd2a.i/122409.b/003f0301.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 06:15	AR1660	/chem/ecd2a.i/122409.b/002f0201.d

Report Date: 24-Dec-2009 12:44

Calibration History

Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Start Cal Date: 12-NOV-2009 11:00
End Cal Date : 14-DEC-2009 09:35

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 100.00000		
02-DEC-2009 07:05	AR1262	/chem/ecd2a.i/120209.b/008b0801.d
12-NOV-2009 16:22	AR1268	/chem/ecd2a.i/111209a.b/035b3501.d
30-NOV-2009 10:12	AR1248	/chem/ecd2a.i/113009a.b/011b1101.d
12-NOV-2009 14:09	AR1242	/chem/ecd2a.i/111209a.b/023b2301.d
30-NOV-2009 08:43	AR1254	/chem/ecd2a.i/113009a.b/003b0301.d
14-DEC-2009 08:51	AR1660	/chem/ecd2a.i/121409.b/011b1101.d
Cal Level: 2 , Cal Amount: 250.00000		
02-DEC-2009 07:16	AR1262	/chem/ecd2a.i/120209.b/009b0901.d
12-NOV-2009 16:33	AR1268	/chem/ecd2a.i/111209a.b/036b3601.d
30-NOV-2009 10:23	AR1248	/chem/ecd2a.i/113009a.b/012b1201.d
12-NOV-2009 14:20	AR1242	/chem/ecd2a.i/111209a.b/024b2401.d
30-NOV-2009 08:54	AR1254	/chem/ecd2a.i/113009a.b/004b0401.d
14-DEC-2009 09:02	AR1660	/chem/ecd2a.i/121409.b/012b1201.d
Cal Level: 3 , Cal Amount: 500.00000		
02-DEC-2009 07:27	AR1262	/chem/ecd2a.i/120209.b/010b1001.d
12-NOV-2009 16:44	AR1268	/chem/ecd2a.i/111209a.b/037b3701.d
30-NOV-2009 10:34	AR1248	/chem/ecd2a.i/113009a.b/013b1301.d
12-NOV-2009 14:31	AR1242	/chem/ecd2a.i/111209a.b/025b2501.d
30-NOV-2009 09:05	AR1254	/chem/ecd2a.i/113009a.b/005b0501.d
14-DEC-2009 09:13	AR1660	/chem/ecd2a.i/121409.b/013b1301.d
Cal Level: 4 , Cal Amount: 1000.00000		
30-NOV-2009 10:45	AR1248	/chem/ecd2a.i/113009a.b/014b1401.d
12-NOV-2009 14:42	AR1242	/chem/ecd2a.i/111209a.b/026b2601.d
30-NOV-2009 09:16	AR1254	/chem/ecd2a.i/113009a.b/006b0601.d
14-DEC-2009 09:24	AR1660	/chem/ecd2a.i/121409.b/014b1401.d
12-NOV-2009 11:45	DDTANALOGSTD	/chem/ecd2a.i/111209a.b/010b1001.d
12-NOV-2009 16:55	AR1268	/chem/ecd2a.i/111209a.b/038b3801.d
02-DEC-2009 07:38	AR1262	/chem/ecd2a.i/120209.b/011b1101.d
12-NOV-2009 11:11	AR1221	/chem/ecd2a.i/111209a.b/007b0701.d
12-NOV-2009 11:00	AR1232	/chem/ecd2a.i/111209a.b/006b0601.d
Cal Level: 5 , Cal Amount: 4000.00000		
02-DEC-2009 07:50	AR1262	/chem/ecd2a.i/120209.b/012b1201.d
12-NOV-2009 17:07	AR1268	/chem/ecd2a.i/111209a.b/039b3901.d
30-NOV-2009 10:56	AR1248	/chem/ecd2a.i/113009a.b/015b1501.d
12-NOV-2009 14:53	AR1242	/chem/ecd2a.i/111209a.b/027b2701.d
30-NOV-2009 09:27	AR1254	/chem/ecd2a.i/113009a.b/007b0701.d
14-DEC-2009 09:35	AR1660	/chem/ecd2a.i/121409.b/015b1501.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 4

Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 10:09	AR1660	/chem/ecd2a.i/122409.b/022b2201.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 10:52	AR1660	/chem/ecd2a.i/122409.b/025b2501.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 07:33	AR1268	/chem/ecd2a.i/122409.b/009b0901.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 07:22	AR1262	/chem/ecd2a.i/122409.b/008b0801.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 07:11	AR1221	/chem/ecd2a.i/122409.b/007b0701.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 07:00	AR1232	/chem/ecd2a.i/122409.b/006b0601.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 06:49	AR1248	/chem/ecd2a.i/122409.b/005b0501.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 06:38	AR1242	/chem/ecd2a.i/122409.b/004b0401.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 06:26	AR1254	/chem/ecd2a.i/122409.b/003b0301.d
Ccal Level: 4 , Ccal Amount: 1000		
24-DEC-2009 06:15	AR1660	/chem/ecd2a.i/122409.b/002b0201.d

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Quant Method : ESTD Target Version : 3.50
Last Update : 24-Dec-2009 11:14 Number of Cpnds : 15
Data Type : GC MULTI COMP

Global Integrator : Falcon

Chromat Events	Values
Initial:Start Threshold	500.000000
Initial:End Threshold	250.000000
Initial:Area Threshold	10000.000000
Initial:P-P Resolution	1.000000
Initial:Bunch Factor	2.000000
Initial:Negative Peaks	OFF
Initial:Tension	1.100000
8.500:Bunch Factor	2.000000

Compound	RT	RT Window	RF
1 Aroclor-1016	2.275	2.245-2.305	2.238e+03
	2.599	2.569-2.629	4.685e+03
	2.689	2.659-2.719	1.901e+03
	2.824	2.794-2.854	9.760e+02
	2.976	2.946-3.006	1.458e+03
2 Aroclor-1221	1.438	1.408-1.468	4.641e+02
	1.898	1.868-1.928	6.570e+02
	1.998	1.968-2.028	3.467e+02
3 Aroclor-1232	2.028	1.998-2.058	1.165e+03
	2.276	2.246-2.306	9.314e+02
	2.690	2.660-2.720	8.004e+02
	2.733	2.703-2.763	5.102e+02
	2.977	2.947-3.007	5.840e+02
4 Aroclor-1242	2.275	2.245-2.305	1.733e+03
	2.689	2.659-2.719	1.484e+03
	2.732	2.702-2.762	9.058e+02
	2.825	2.795-2.855	7.269e+02
	2.976	2.946-3.006	1.120e+03
5 Aroclor-1248	2.825	2.795-2.855	1.527e+03
	2.976	2.946-3.006	2.027e+03
	3.036	3.006-3.066	1.571e+03
	3.271	3.241-3.301	2.218e+03
	3.424	3.394-3.454	1.913e+03

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m

Compound	RT	RT Window	RF
6 Aroclor-1254	3.243	3.213-3.273	2.080e+03
	3.424	3.394-3.454	2.772e+03
	3.695	3.665-3.725	3.742e+03
	3.887	3.857-3.917	2.783e+03
	4.016	3.986-4.046	2.760e+03
7 Aroclor-1260	4.015	3.985-4.045	4.165e+03
	4.287	4.257-4.317	2.591e+03
	4.453	4.423-4.483	2.631e+03
	4.665	4.635-4.695	6.088e+03
	4.854	4.824-4.884	2.942e+03
8 Aroclor-1262	3.825	3.795-3.855	2.273e+03
	4.016	3.986-4.046	3.072e+03
	4.287	4.257-4.317	4.004e+03
	4.454	4.424-4.484	3.573e+03
	4.855	4.825-4.885	2.501e+03
9 Aroclor-1268	4.885	4.855-4.915	9.392e+03
	4.911	4.881-4.941	9.361e+03
	5.044	5.014-5.074	7.073e+03
	5.283	5.253-5.313	3.056e+03
	5.478	5.448-5.508	2.201e+04
M 10 Aroclor-Total	1.000	0.980-1.020	
$ 11 4cmx	1.773	1.743-1.803	6.229e+04
$ 12 Decachlorobiphenyl	5.609	5.579-5.639	5.411e+04
13 4,4'-DDT	4.229	4.209-4.249	5.006e+04
14 4,4'-DDD	4.036	4.016-4.056	7.298e+04
15 4,4'-DDE	3.632	3.612-3.652	7.426e+04

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Quant Method : ESTD Target Version : 3.50
Last Update : 24-Dec-2009 11:14 Number of Cpnds : 15
Data Type : GC MULTI COMP

Global Integrator : Falcon

Chromat Events	Values
Initial:Start Threshold	1000.000000
Initial:End Threshold	500.000000
Initial:Area Threshold	500.000000
Initial:P-P Resolution	0.000000
Initial:Bunch Factor	3.000000
Initial:Negative Peaks	OFF
Initial:Tension	4.000000
4.200:Tension	1.000000

Compound	RT	RT Window	RF
1 Aroclor-1016	2.746	2.716-2.776	4.538e+03
	3.181	3.151-3.211	3.602e+03
	3.331	3.301-3.361	2.053e+03
	3.360	3.330-3.390	2.137e+03
	3.519	3.489-3.549	2.871e+03
2 Aroclor-1221	2.293	2.263-2.323	1.263e+03
	2.398	2.368-2.428	7.739e+02
	2.442	2.412-2.472	3.051e+03
3 Aroclor-1232	2.444	2.414-2.474	2.061e+03
	2.747	2.717-2.777	1.960e+03
	3.182	3.152-3.212	1.498e+03
	3.254	3.224-3.284	9.309e+02
	3.520	3.490-3.550	1.107e+03
4 Aroclor-1242	2.746	2.716-2.776	3.445e+03
	3.181	3.151-3.211	2.681e+03
	3.253	3.223-3.283	1.637e+03
	3.332	3.302-3.362	1.508e+03
	3.519	3.489-3.549	2.145e+03
5 Aroclor-1248	3.333	3.303-3.363	3.282e+03
	3.520	3.490-3.550	4.187e+03
	3.605	3.575-3.635	4.451e+03
	3.795	3.765-3.825	4.697e+03
	3.825	3.795-3.855	5.389e+03

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m

Compound	RT	RT Window	RF
6 Aroclor-1254	3.819	3.789-3.849	4.985e+03
	3.960	3.930-3.990	5.799e+03
	4.196	4.166-4.226	4.023e+03
	4.277	4.247-4.307	7.731e+03
	4.441	4.411-4.471	5.608e+03
7 Aroclor-1260	4.415	4.385-4.445	5.767e+03
	4.566	4.536-4.596	7.124e+03
	4.678	4.648-4.708	4.819e+03
	4.876	4.846-4.906	5.632e+03
	5.501	5.471-5.531	9.038e+03
8 Aroclor-1262	4.415	4.385-4.445	4.703e+03
	4.567	4.537-4.597	5.853e+03
	4.876	4.846-4.906	8.946e+03
	5.076	5.046-5.106	7.772e+03
	5.254	5.224-5.284	1.672e+04
9 Aroclor-1268	5.500	5.470-5.530	2.032e+04
	5.532	5.502-5.562	2.018e+04
	5.704	5.674-5.734	1.496e+04
	5.904	5.874-5.934	6.438e+03
	6.127	6.097-6.157	4.409e+04
M 10 Aroclor-Total	1.000	0.980-1.020	
$ 11 4cmx	2.070	2.040-2.100	1.293e+05
$ 12 Decachlorobiphenyl	6.301	6.271-6.331	1.128e+05
13 4,4'-DDT	4.814	4.794-4.834	8.705e+04
14 4,4'-DDD	4.600	4.580-4.620	1.499e+05
15 4,4'-DDE	4.195	4.175-4.215	1.504e+05

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00
End Cal Date : 14-DEC-2009 09:35
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : Falcon
Method file : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Cal Date : 24-Dec-2009 11:14 jen01212
Curve Type : Average

Calibration File Names:
Level 1: /chem/ecd2a.i/120209.b/008f0801.d
Level 2: /chem/ecd2a.i/120209.b/009f0901.d
Level 3: /chem/ecd2a.i/120209.b/010f1001.d
Level 4: /chem/ecd2a.i/113009a.b/014f1401.d
Level 5: /chem/ecd2a.i/120209.b/012f1201.d

Compound	100.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
1 Aroclor-1016(1)	2466	2335	2250	2152	1986	2238	8.133
(2)	4869	4683	4664	4616	4594	4685	2.323
(3)	2072	1962	1892	1818	1764	1901	6.365
(4)	1061	990	984	930	915	976	5.885
(5)	1595	1490	1441	1389	1375	1458	6.121
2 Aroclor-1221(1)	+++++	+++++	+++++	464	+++++	464	0.000
(2)	+++++	+++++	+++++	657	+++++	657	0.000
(3)	+++++	+++++	+++++	347	+++++	347	0.000
3 Aroclor-1232(1)	+++++	+++++	+++++	1165	+++++	1165	0.000
(2)	+++++	+++++	+++++	931	+++++	931	0.000
(3)	+++++	+++++	+++++	800	+++++	800	0.000
(4)	+++++	+++++	+++++	510	+++++	510	0.000
(5)	+++++	+++++	+++++	584	+++++	584	0.000
4 Aroclor-1242(1)	1990	1799	1692	1619	1566	1733	9.686
(2)	1678	1536	1439	1387	1381	1484	8.410
(3)	1015	931	874	843	866	906	7.639
(4)	817	761	714	669	673	727	8.615
(5)	1272	1143	1059	1036	1087	1120	8.434
5 Aroclor-1248(1)	1738	1529	1527	1515	1325	1527	9.560
(2)	2238	2070	1990	2006	1832	2027	7.247
(3)	1706	1611	1571	1551	1415	1571	6.718
(4)	2322	2198	2161	2230	2178	2218	2.874
(5)	2083	1922	1902	1885	1770	1913	5.861
6 Aroclor-1254(1)	2304	2118	2048	2007	1924	2080	6.888
(2)	2981	2797	2739	2702	2642	2772	4.677
(3)	3870	3712	3711	3744	3675	3742	2.011
(4)	2886	2776	2725	2760	2767	2783	2.186
(5)	2994	2820	2741	2711	2533	2760	6.080

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00
End Cal Date : 14-DEC-2009 09:35
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : Falcon
Method file : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Cal Date : 24-Dec-2009 11:14 jen01212
Curve Type : Average

Compound	100.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
7 Aroclor-1260(1)	4187	4145	4185	4134	4175	4165	0.584
(2)	2696	2603	2589	2529	2536	2591	2.593
(3)	2699	2626	2625	2591	2614	2631	1.539
(4)	5867	6003	6142	6129	6296	6088	2.650
(5)	2925	2904	2929	2920	3034	2942	1.769
8 Aroclor-1262(1)	2530	2266	2239	2239	2092	2273	6.993
(2)	3295	3066	3031	3051	2917	3072	4.482
(3)	4237	3997	3977	3997	3815	4004	3.763
(4)	3754	3532	3556	3594	3430	3573	3.295
(5)	2578	2453	2481	2538	2454	2501	2.217
9 Aroclor-1268(1)	9077	9136	9272	9373	10103	9392	4.409
(2)	9332	9272	9238	9197	9765	9361	2.470
(3)	6985	6923	6953	6984	7523	7073	3.568
(4)	3112	3015	2984	2964	3207	3056	3.331
(5)	21397	21592	21760	21851	23464	22013	3.767
M 10 Aroclor-Total	+++++	+++++	+++++	+++++	+++++	+++++	+++++
13 4,4'-DDT	+++++	+++++	+++++	50063	+++++	50063	0.000
14 4,4'-DDD	+++++	+++++	+++++	72978	+++++	72978	0.000
15 4,4'-DDE	+++++	+++++	+++++	74262	+++++	74262	0.000
$ 11 4cmx	61300	61246	62868	63075	62969	62292	1.498
$ 12 Decachlorobiphenyl	55102	53352	54400	53360	54345	54112	1.389

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00
End Cal Date : 14-DEC-2009 09:35
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : Falcon
Method file : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Cal Date : 24-Dec-2009 11:14 jen01212
Curve Type : Average

Calibration File Names:
Level 1: /chem/ecd2a.i/120209.b/008b0801.d
Level 2: /chem/ecd2a.i/120209.b/009b0901.d
Level 3: /chem/ecd2a.i/120209.b/010b1001.d
Level 4: /chem/ecd2a.i/113009a.b/014b1401.d
Level 5: /chem/ecd2a.i/120209.b/012b1201.d

Compound	100.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
1 Aroclor-1016(1)	4662	4582	4609	4551	4285	4538	3.244
(2)	3647	3696	3564	3575	3528	3602	1.886
(3)	2078	2044	2044	2059	2041	2053	0.760
(4)	2149	2125	2133	2140	2138	2137	0.428
(5)	2852	2832	2882	2908	2879	2871	1.025
2 Aroclor-1221(1)	+++++	+++++	+++++	1263	+++++	1263	0.000
(2)	+++++	+++++	+++++	774	+++++	774	0.000
(3)	+++++	+++++	+++++	3051	+++++	3051	0.000
3 Aroclor-1232(1)	+++++	+++++	+++++	2061	+++++	2061	0.000
(2)	+++++	+++++	+++++	1960	+++++	1960	0.000
(3)	+++++	+++++	+++++	1498	+++++	1498	0.000
(4)	+++++	+++++	+++++	931	+++++	931	0.000
(5)	+++++	+++++	+++++	1107	+++++	1107	0.000
4 Aroclor-1242(1)	3674	3489	3409	3384	3271	3445	4.346
(2)	2815	2677	2634	2637	2644	2681	2.863
(3)	1696	1624	1594	1606	1663	1637	2.599
(4)	1601	1513	1471	1467	1487	1508	3.655
(5)	2235	2100	2068	2141	2180	2145	3.068
5 Aroclor-1248(1)	3439	3315	3263	3296	3099	3282	3.723
(2)	4291	4205	4192	4250	3996	4187	2.717
(3)	4601	4495	4377	4484	4299	4451	2.609
(4)	4665	4612	4696	4831	4682	4697	1.733
(5)	5471	5399	5390	5477	5208	5389	2.022
6 Aroclor-1254(1)	5121	4955	4998	5025	4828	4985	2.145
(2)	5885	5693	5812	5852	5753	5799	1.330
(3)	4010	3906	3992	4126	4082	4023	2.109
(4)	7559	7611	7766	7925	7797	7731	1.909
(5)	5659	5569	5439	5821	5553	5608	2.538

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 12-NOV-2009 11:00
End Cal Date : 14-DEC-2009 09:35
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : Falcon
Method file : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Cal Date : 24-Dec-2009 11:14 jen01212
Curve Type : Average

Compound	100.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
7 Aroclor-1260(1)	5735	5627	5779	5816	5877	5767	1.626
(2)	6687	7031	7243	7286	7372	7124	3.855
(3)	4572	4701	4890	4942	4988	4819	3.647
(4)	5377	5518	5714	5746	5803	5632	3.163
(5)	8369	8607	9231	9252	9728	9038	6.039
8 Aroclor-1262(1)	4855	4536	4634	4812	4677	4703	2.776
(2)	5760	5648	5834	6083	5942	5853	2.859
(3)	8687	8674	9001	9349	9021	8946	3.121
(4)	7559	7507	7790	8124	7880	7772	3.221
(5)	15890	16154	16824	17584	17141	16719	4.167
9 Aroclor-1268(1)	18829	19584	20101	20533	22559	20321	6.904
(2)	18822	19343	20333	20389	22025	20182	6.077
(3)	13874	14365	14864	15141	16565	14962	6.808
(4)	5734	6115	6404	6840	7097	6438	8.497
(5)	40707	42777	43856	44408	48724	44094	6.689
M 10 Aroclor-Total	+++++	+++++	+++++	+++++	+++++	+++++	+++++
13 4,4'-DDT	+++++	+++++	+++++	87046	+++++	87046	0.000
14 4,4'-DDD	+++++	+++++	+++++	149858	+++++	149858	0.000
15 4,4'-DDE	+++++	+++++	+++++	150414	+++++	150414	0.000
$ 11 4cmx	118604	126358	131414	133891	136323	129318	5.440
$ 12 Decachlorobiphenyl	109662	108705	113295	113170	119083	112783	3.614

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1032

Instrument ID: ECD2A Calibration Date: 12/24/09 Time: 0615

Lab File ID: 002F0201 Init. Calib. Date(s): 12/14/09 12/14/09

Heated Purge: (Y/N) N Init. Calib. Times: 0851 0935

GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	2237.690	2140.904	0.01	-4.3	15.0
(2)	4685.268	4512.000	0.01	-3.7	15.0
(3)	1901.482	1804.910	0.01	-5.1	15.0
(4)	975.978	905.605	0.01	-7.2	15.0
(5)	1457.866	1396.134	0.01	-4.2	15.0
Aroclor-1260	4165.097	4318.487	0.01	3.7	15.0
(2)	2590.571	2715.162	0.01	4.8	15.0
(3)	2631.205	2789.675	0.01	6.0	15.0
(4)	6087.596	6645.164	0.01	9.2	15.0
(5)	2942.150	3182.429	0.01	8.2	15.0
4cmx	62291.660	61934.860	0.01	-0.6	15.0
Decachlorobiphenyl	54111.563	59514.070	0.01	10.0	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1032

Instrument ID: ECD2A Calibration Date: 12/24/09 Time: 0615

Lab File ID: 002B0201 Init. Calib. Date(s): 12/14/09 12/14/09

Heated Purge: (Y/N) N Init. Calib. Times: 0851 0935

GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	4537.819	4492.501	0.01	-1.0	15.0
(2)	3602.166	3514.159	0.01	-2.4	15.0
(3)	2053.230	2044.510	0.01	-0.4	15.0
(4)	2137.091	2127.216	0.01	-0.5	15.0
(5)	2870.516	2880.917	0.01	0.4	15.0
Aroclor-1260	5766.921	6022.457	0.01	4.4	15.0
(2)	7123.891	7598.468	0.01	6.7	15.0
(3)	4818.707	5170.968	0.01	7.3	15.0
(4)	5631.757	6050.138	0.01	7.4	15.0
(5)	9037.511	10024.088	0.01	10.9	15.0
4cmx	129318.03	132745.86	0.01	2.6	15.0
Decachlorobiphenyl	112782.99	125953.53	0.01	11.7	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1032

Instrument ID: ECD2A Calibration Date: 12/24/09 Time: 1550

Lab File ID: 041F4101 Init. Calib. Date(s): 12/14/09 12/14/09

Heated Purge: (Y/N) N Init. Calib. Times: 0851 0935

GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	2237.690	2168.419	0.01	-3.1	15.0
(2)	4685.268	4649.142	0.01	-0.8	15.0
(3)	1901.482	1841.726	0.01	-3.1	15.0
(4)	975.978	938.700	0.01	-3.8	15.0
(5)	1457.866	1406.729	0.01	-3.5	15.0
Aroclor-1260	4165.097	4424.727	0.01	6.2	15.0
(2)	2590.571	2767.691	0.01	6.8	15.0
(3)	2631.205	2831.702	0.01	7.6	15.0
(4)	6087.596	6782.369	0.01	11.4	15.0
(5)	2942.150	3257.532	0.01	10.7	15.0
4cmx	62291.660	63122.910	0.01	1.3	15.0
Decachlorobiphenyl	54111.563	59855.350	0.01	10.6	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1032

Instrument ID: ECD2A Calibration Date: 12/24/09 Time: 1550

Lab File ID: 041B4101 Init. Calib. Date(s): 12/14/09 12/14/09

Heated Purge: (Y/N) N Init. Calib. Times: 0851 0935

GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	4537.819	4643.928	0.01	2.3	15.0
(2)	3602.166	3658.891	0.01	1.6	15.0
(3)	2053.230	2115.447	0.01	3.0	15.0
(4)	2137.091	2202.714	0.01	3.1	15.0
(5)	2870.516	2967.756	0.01	3.4	15.0
Aroclor-1260	5766.921	6139.283	0.01	6.4	15.0
(2)	7123.891	7729.654	0.01	8.5	15.0
(3)	4818.707	5287.529	0.01	9.7	15.0
(4)	5631.757	6111.572	0.01	8.5	15.0
(5)	9037.511	10031.708	0.01	11.0	15.0
4cmx	129318.03	136291.37	0.01	5.4	15.0
Decachlorobiphenyl	112782.99	123089.96	0.01	9.1	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1032

Instrument ID: ECD2A Calibration Date: 12/24/09 Time: 1803

Lab File ID: 053F5301 Init. Calib. Date(s): 12/14/09 12/14/09

Heated Purge: (Y/N) N Init. Calib. Times: 0851 0935

GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	2237.690	2171.507	0.01	-3.0	15.0
(2)	4685.268	4699.155	0.01	0.3	15.0
(3)	1901.482	1849.678	0.01	-2.7	15.0
(4)	975.978	950.208	0.01	-2.6	15.0
(5)	1457.866	1445.682	0.01	-0.8	15.0
Aroclor-1260	4165.097	4448.939	0.01	6.8	15.0
(2)	2590.571	2742.527	0.01	5.9	15.0
(3)	2631.205	2814.990	0.01	7.0	15.0
(4)	6087.596	6797.325	0.01	11.6	15.0
(5)	2942.150	3271.921	0.01	11.2	15.0
4cmx	62291.660	63185.990	0.01	1.4	15.0
Decachlorobiphenyl	54111.563	59588.290	0.01	10.1	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1032

Instrument ID: ECD2A Calibration Date: 12/24/09 Time: 1803

Lab File ID: 053B5301 Init. Calib. Date(s): 12/14/09 12/14/09

Heated Purge: (Y/N) N Init. Calib. Times: 0851 0935

GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	4537.819	4649.330	0.01	2.4	15.0
(2)	3602.166	3663.740	0.01	1.7	15.0
(3)	2053.230	2107.343	0.01	2.6	15.0
(4)	2137.091	2194.194	0.01	2.7	15.0
(5)	2870.516	2977.053	0.01	3.7	15.0
Aroclor-1260	5766.921	6182.432	0.01	7.2	15.0
(2)	7123.891	7894.702	0.01	10.8	15.0
(3)	4818.707	5333.497	0.01	10.7	15.0
(4)	5631.757	6182.646	0.01	9.8	15.0
(5)	9037.511	10246.028	0.01	13.4	15.0
4cmx	129318.03	136891.03	0.01	5.8	15.0
Decachlorobiphenyl	112782.99	119474.63	0.01	5.9	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1032

Instrument ID: ECD2A Calibration Date: 12/24/09 Time: 1932

Lab File ID: 061F6101 Init. Calib. Date(s): 12/14/09 12/14/09

Heated Purge: (Y/N) N Init. Calib. Times: 0851 0935

GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	2237.690	2152.998	0.01	-3.8	15.0
(2)	4685.268	4657.275	0.01	-0.6	15.0
(3)	1901.482	1830.643	0.01	-3.7	15.0
(4)	975.978	938.846	0.01	-3.8	15.0
(5)	1457.866	1430.206	0.01	-1.9	15.0
Aroclor-1260	4165.097	4429.902	0.01	6.4	15.0
(2)	2590.571	2741.664	0.01	5.8	15.0
(3)	2631.205	2819.258	0.01	7.1	15.0
(4)	6087.596	6808.372	0.01	11.8	15.0
(5)	2942.150	3270.126	0.01	11.1	15.0
4cmx	62291.660	62663.040	0.01	0.6	15.0
Decachlorobiphenyl	54111.563	59719.310	0.01	10.4	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1032

Instrument ID: ECD2A Calibration Date: 12/24/09 Time: 1932

Lab File ID: 061B6101 Init. Calib. Date(s): 12/14/09 12/14/09

Heated Purge: (Y/N) N Init. Calib. Times: 0851 0935

GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	4537.819	4614.960	0.01	1.7	15.0
(2)	3602.166	3651.850	0.01	1.4	15.0
(3)	2053.230	2112.554	0.01	2.9	15.0
(4)	2137.091	2190.850	0.01	2.5	15.0
(5)	2870.516	2966.273	0.01	3.3	15.0
Aroclor-1260	5766.921	6144.519	0.01	6.5	15.0
(2)	7123.891	7855.699	0.01	10.3	15.0
(3)	4818.707	5330.316	0.01	10.6	15.0
(4)	5631.757	6134.568	0.01	8.9	15.0
(5)	9037.511	10212.083	0.01	13.0	15.0
4cmx	129318.03	135536.66	0.01	4.8	15.0
Decachlorobiphenyl	112782.99	123003.06	0.01	9.1	15.0

FORM VII PEST

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/002f0201.d
Lab Smp Id: WAR091223-45 01 Client Smp ID: AR166001
Inj Date : 24-DEC-2009 06:15
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091223-45 01
Misc Info : |PCB_CVS|1660||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 24-Dec-2009 11:14 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660.sub
Target Version: 3.50 Sample Matrix: None

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.773	1.773	0.000	6193486	100.000	99.4	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	5951407	100.000	110	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.275	2.275	0.000	2140904	1000.00	957	80.00- 120.00	100.00
2.599	2.599	0.000	4512000	1000.00	963	195.26- 235.26	210.75
2.689	2.689	0.000	1804910	1000.00	949	65.04- 105.04	84.31
2.824	2.824	0.000	905605	1000.00	928	22.31- 62.31	42.30
2.976	2.976	0.000	1396134	1000.00	958	46.17- 86.17	65.21
Average of Peak Amounts =					951		
7 Aroclor-1260					CAS #: 11096-82-5		
4.015	4.015	0.000	4318487	1000.00	1040	80.00- 120.00	100.00
4.287	4.287	0.000	2715162	1000.00	1050	41.58- 81.58	62.87
4.453	4.453	0.000	2789674	1000.00	1060	43.61- 83.61	64.60
4.665	4.665	0.000	6645163	1000.00	1090	134.43- 174.43	153.88
4.854	4.854	0.000	3182428	1000.00	1080	54.75- 94.75	73.69
Average of Peak Amounts =					1.06e+03		

Data File: /chem/ecd2a.i/122409.b/002f0201.d

Date : 24-DEC-2009 06:15

Client ID: AR166001

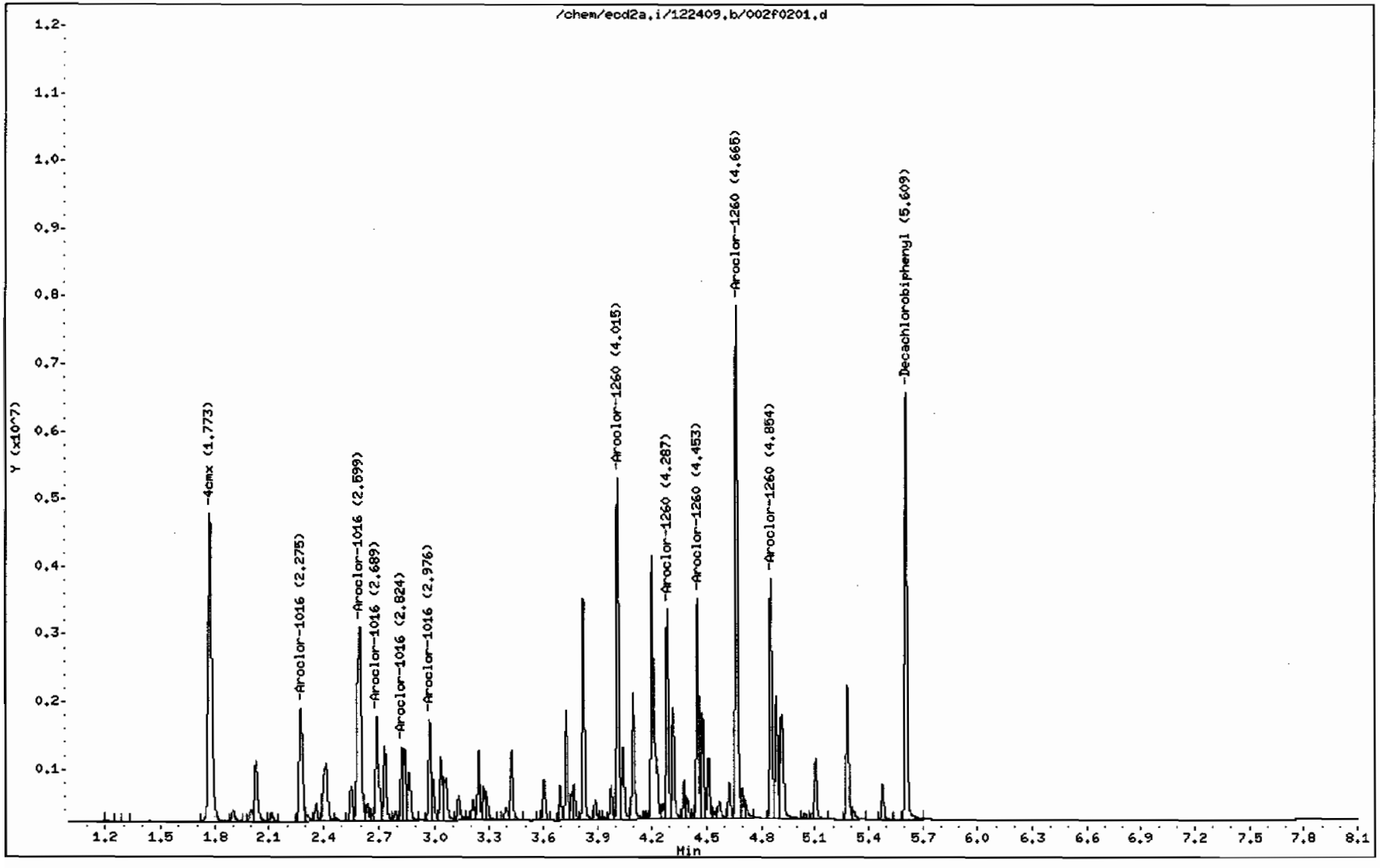
Sample Info: IWAR091223-45 01

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/002b0201.d
Lab Smp Id: WAR091223-45 01 Client Smp ID: AR166001
Inj Date : 24-DEC-2009 06:15
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091223-45 01
Misc Info : |PCB_CVS|1660||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 24-Dec-2009 11:14 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660.sub
Target Version: 3.50 Sample Matrix: None

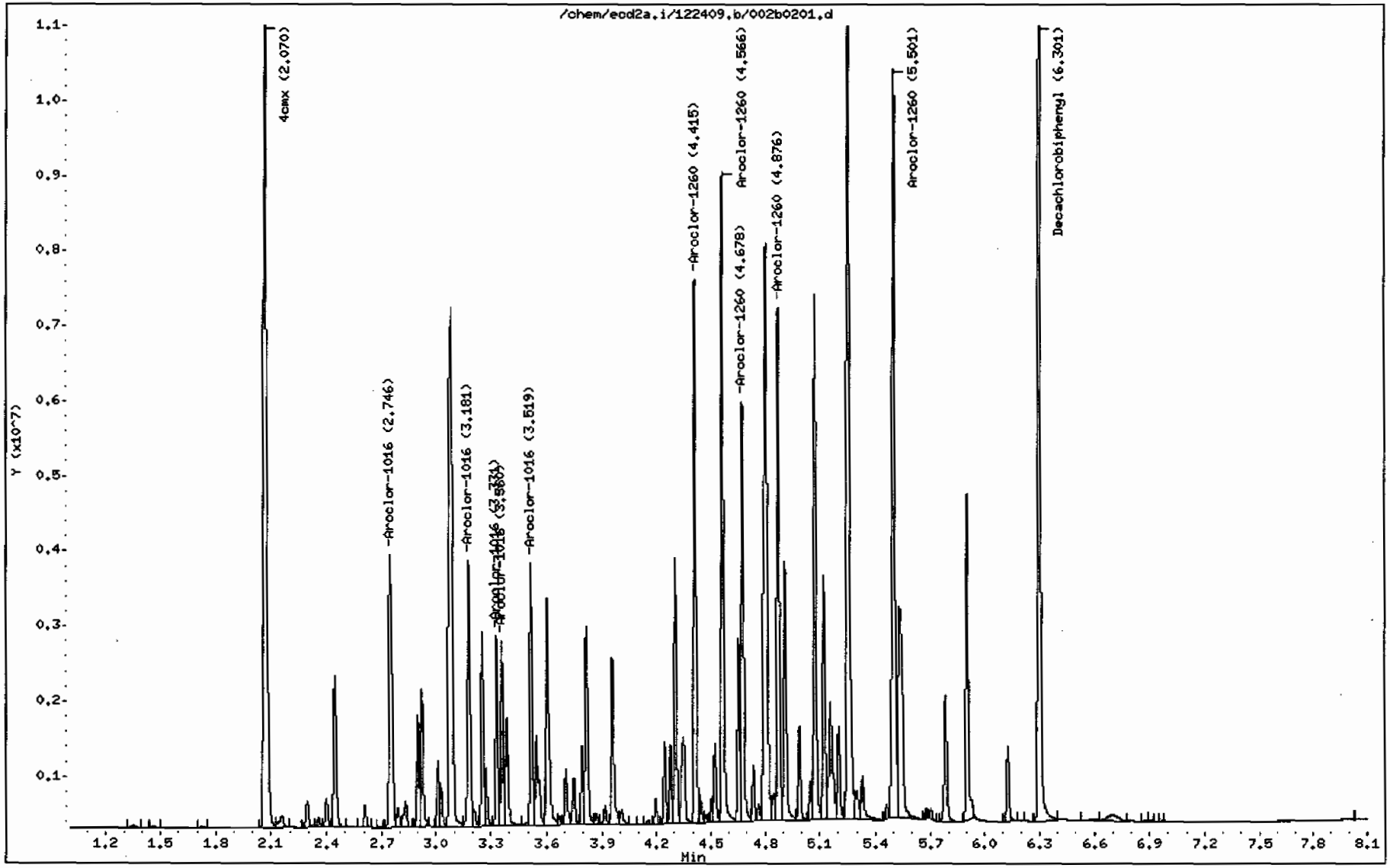
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.070	2.070	0.000	13274586	100.000	103	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	12595353	100.000	112	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.746	2.746	0.000	4492501	1000.00	990	80.00- 120.00	100.00
3.181	3.181	0.000	3514158	1000.00	976	58.58- 98.58	78.22
3.331	3.331	0.000	2044509	1000.00	996	25.41- 65.41	45.51
3.360	3.360	0.000	2127215	1000.00	995	27.29- 67.29	47.35
3.519	3.519	0.000	2880917	1000.00	1000	44.31- 84.31	64.13
Average of Peak Amounts =					992		
7 Aroclor-1260					CAS #: 11096-82-5		
4.415	4.415	0.000	6022457	1000.00	1040	80.00- 120.00	100.00
4.566	4.566	0.000	7598468	1000.00	1070	107.29- 147.29	126.17
4.678	4.678	0.000	5170967	1000.00	1070	66.14- 106.14	85.86
4.876	4.876	0.000	6050137	1000.00	1070	79.68- 119.68	100.46
5.501	5.501	0.000	10024088	1000.00	1110	145.65- 185.65	166.45
Average of Peak Amounts =					1.07e+03		

Data File: /chem/ecd2a.i/122409.b/002b0201.d
Date : 24-DEC-2009 06:15
Client ID: AR166001
Sample Info: IWAR091223-45 01

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/003f0301.d
Lab Smp Id: WAR091216-54 Client Smp ID: AR125401
Inj Date : 24-DEC-2009 06:26
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091216-54
Misc Info : |PCB_CVS|1254||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 24-Dec-2009 11:14 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1254.sub
Target Version: 3.50 Sample Matrix: None

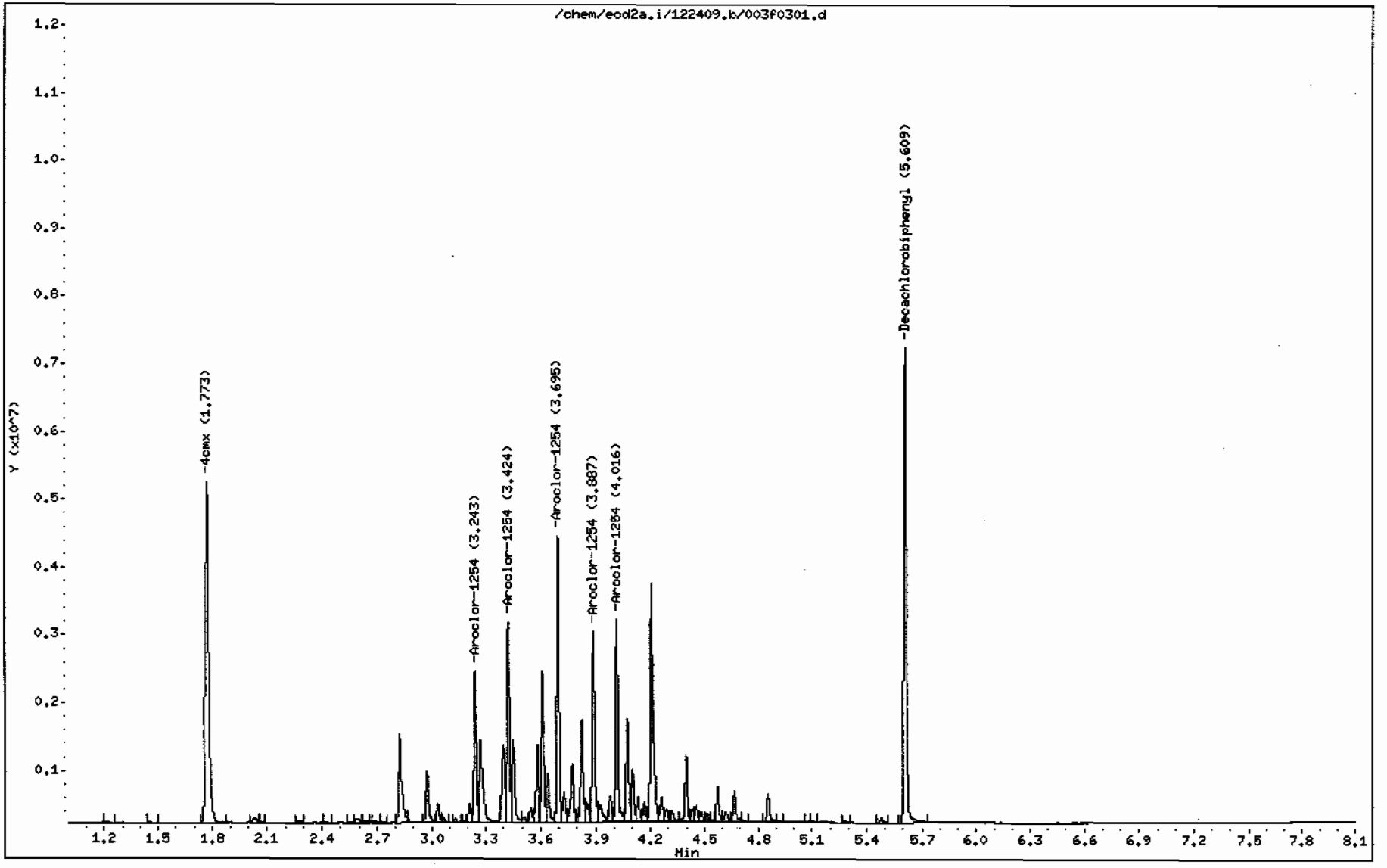
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.773	1.773	0.000	6764891	100.000	109	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	6525001	100.000	120	80.00- 120.00	100.00
6 Aroclor-1254					CAS #: 11097-69-1		
3.243	3.243	0.000	2000280	1000.00	962	80.00- 120.00	100.00
3.424	3.424	0.000	2655382	1000.00	958	112.75- 152.75	132.75
3.695	3.695	0.000	3693121	1000.00	987	164.63- 204.63	184.63
3.887	3.887	0.000	2712326	1000.00	975	115.60- 155.60	135.60
4.016	4.016	0.000	2751770	1000.00	997	117.57- 157.57	137.57
		Average of Peak Amounts =			976		

Data File: /chem/ecd2a.i/122409.b/003f0301.d
Date : 24-DEC-2009 06:26
Client ID: AR125401
Sample Info: IWAR091216-54

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/003b0301.d
Lab Smp Id: WAR091216-54 Client Smp ID: AR125401
Inj Date : 24-DEC-2009 06:26
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091216-54
Misc Info : |PCB_CVS|1254||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 24-Dec-2009 11:14 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1254.sub
Target Version: 3.50 Sample Matrix: None

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.070	2.070	0.000	14656048	100.000	113	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	13842866	100.000	123	80.00- 120.00	100.00
6 Aroclor-1254					CAS #: 11097-69-1		
3.819	3.819	0.000	4979699	1000.00	999	80.00- 120.00	100.00
3.960	3.960	0.000	5759616	1000.00	993	95.66- 135.66	115.66
4.196	4.196	0.000	4104270	1000.00	1020	62.42- 102.42	82.42
4.277	4.277	0.000	7899980	1000.00	1020	138.64- 178.64	158.64
4.441	4.441	0.000	5739463	1000.00	1020	95.26- 135.26	115.26

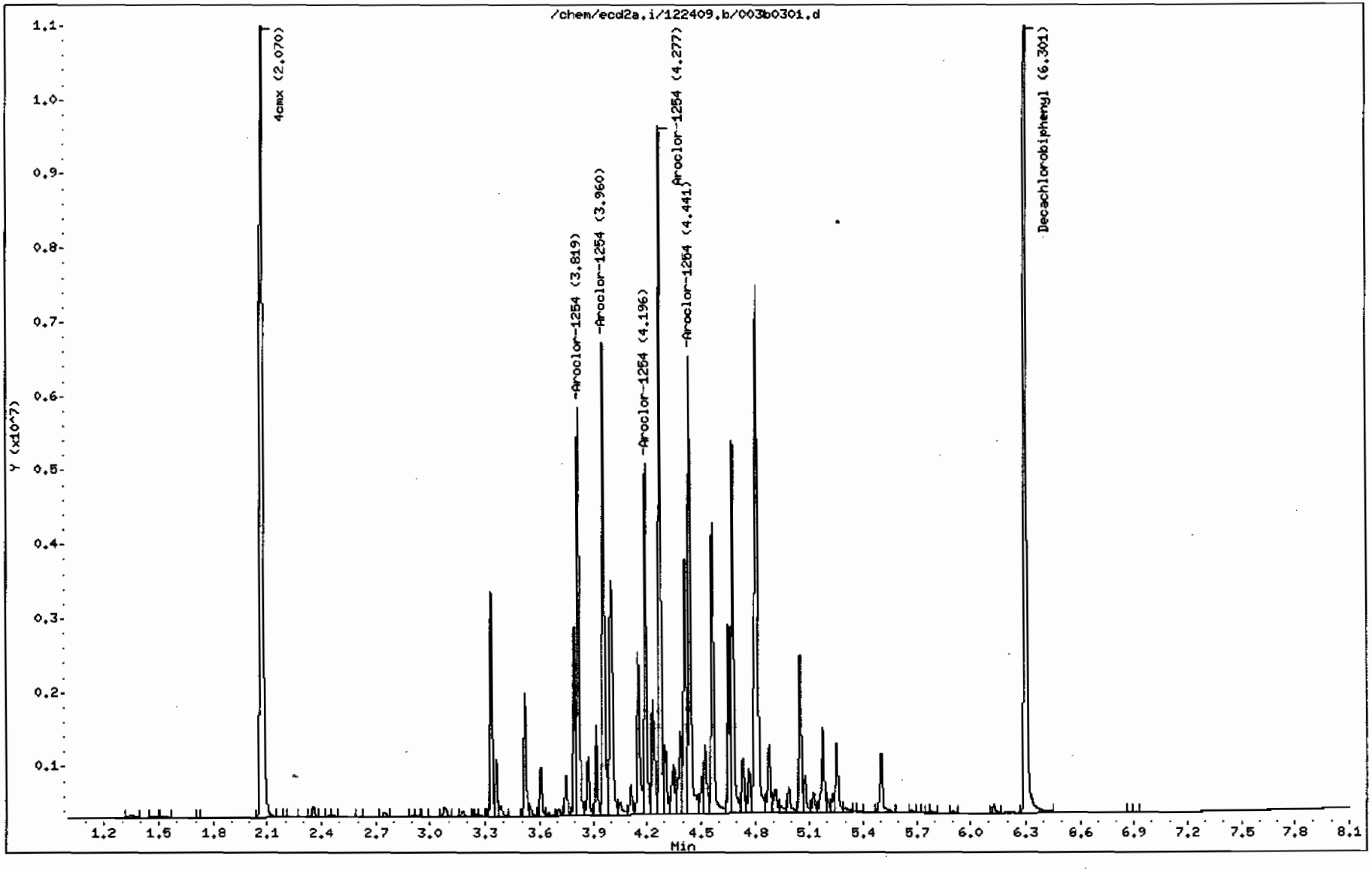
Average of Peak Amounts = 1.01e+03

Data File: /chem/ecd2a.i/122409.b/003b0301.d
Date : 24-DEC-2009 06:26
Client ID: AR125401
Sample Info: IWAR091216-54

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/004f0401.d
Lab Smp Id: WAR091217-42 Client Smp ID: AR124201
Inj Date : 24-DEC-2009 06:38
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091217-42
Misc Info : |PCB_CVS|1242||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 24-Dec-2009 11:14 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 4 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.50 Sample Matrix: None

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.773	1.773	0.000	6782281	100.000	109	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.610	5.609	0.001	6445448	100.000	119	80.00- 120.00	100.00
4 Aroclor-1242					CAS #: 53469-21-9		
2.275	2.275	0.000	1798231	1000.00	1040	80.00- 120.00	100.00
2.689	2.689	0.000	1502314	1000.00	1010	63.54- 103.54	83.54
2.732	2.732	0.000	928744	1000.00	1020	31.65- 71.65	51.65
2.825	2.825	0.000	761985	1000.00	1050	22.37- 62.37	42.37
2.976	2.976	0.000	1174500	1000.00	1050	45.31- 85.31	65.31

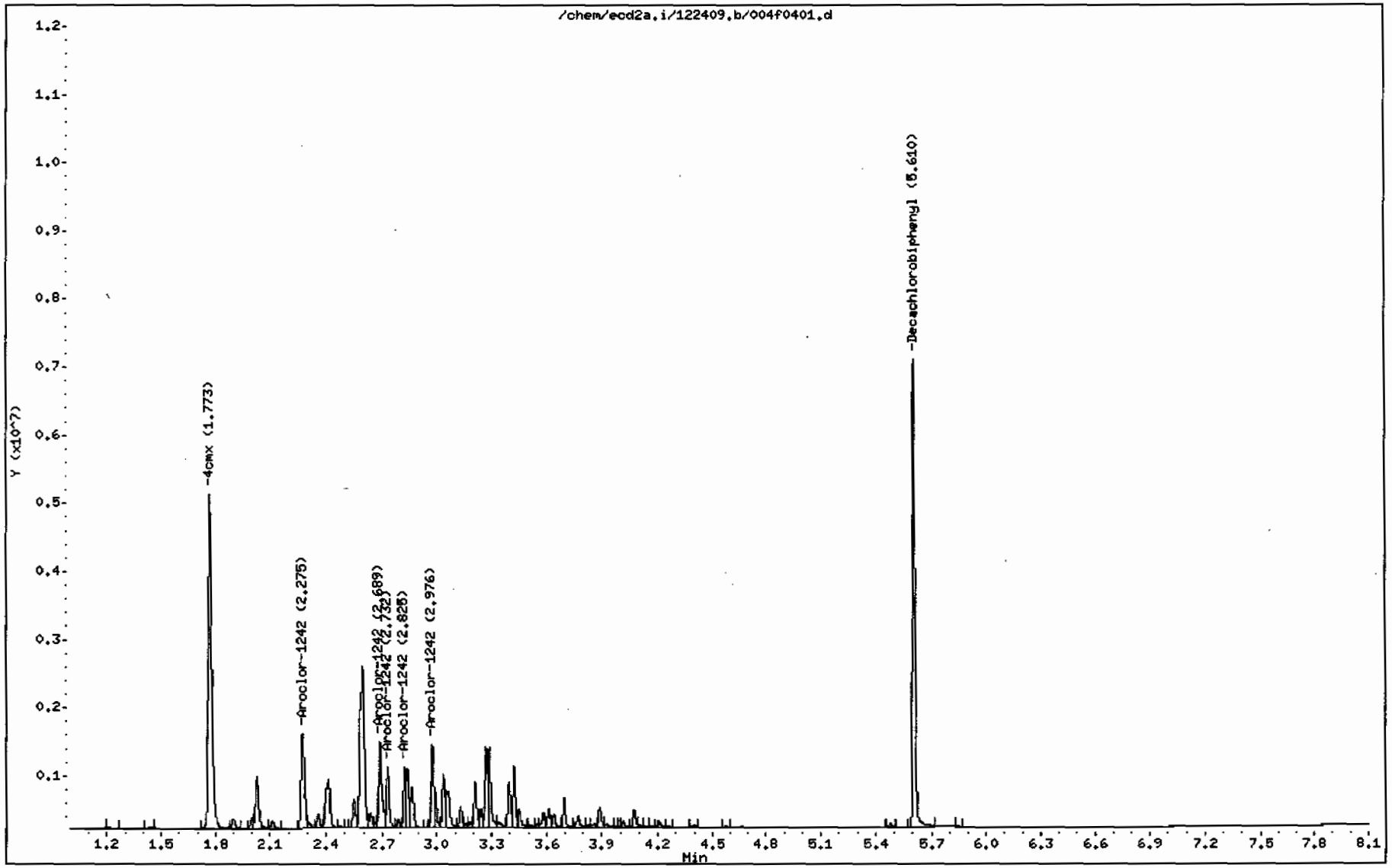
Average of Peak Amounts = 1.03e+03

Data File: /chem/ecd2a.i/122409.b/004f0401.d
Date : 24-DEC-2009 06:38
Client ID: AR124201
Sample Info: IWAR091217-42

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/004b0401.d
Lab Smp Id: WAR091217-42 Client Smp ID: AR124201
Inj Date : 24-DEC-2009 06:38
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091217-42
Misc Info : |PCB_CVS|1242||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 24-Dec-2009 11:14 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 4 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.50 Sample Matrix: None

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.070	2.070	0.000	14556506	100.000	112	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.302	6.301	0.001	13658611	100.000	121	80.00- 120.00	100.00
4 Aroclor-1242					CAS #: 53469-21-9		
2.746	2.746	0.000	3741151	1000.00	1080	80.00- 120.00	100.00
3.181	3.181	0.000	2861450	1000.00	1070	56.49- 96.49	76.49
3.253	3.253	0.000	1717079	1000.00	1050	25.90- 65.90	45.90
3.332	3.332	0.000	1618172	1000.00	1070	23.25- 63.25	43.25
3.519	3.519	0.000	2366663	1000.00	1100	43.26- 83.26	63.26

Average of Peak Amounts = 1.08e+03

Data File: /chem/ecd2a.i/122409.b/004b0401.d

Date : 24-DEC-2009 06:38

Client ID: AR124201

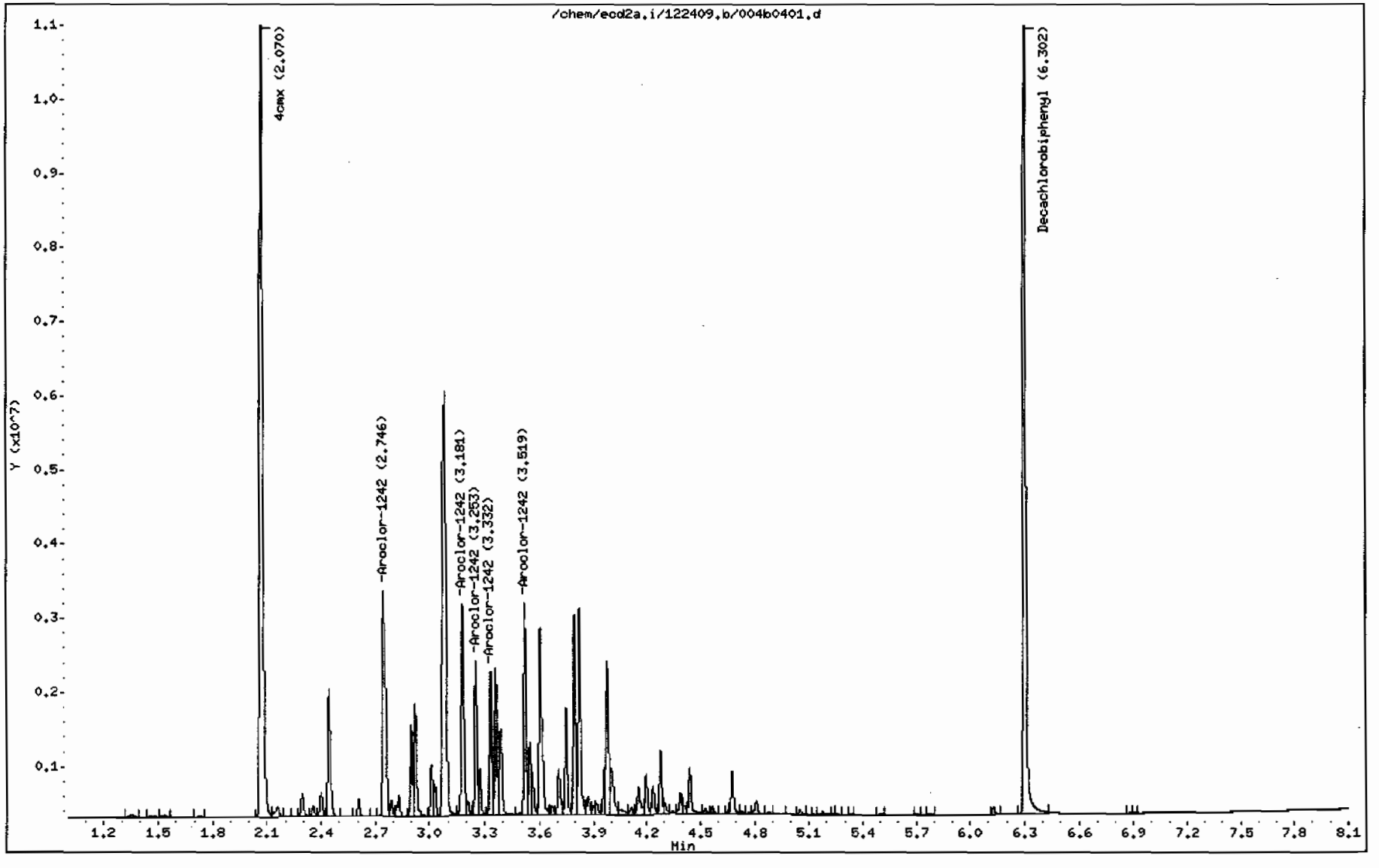
Sample Info: IWAR091217-42

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/005f0501.d
Lab Smp Id: WAR091217-48 Client Smp ID: AR124801
Inj Date : 24-DEC-2009 06:49
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091217-48
Misc Info : |PCB_CVS|1248||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 24-Dec-2009 11:14 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 5 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.50 Sample Matrix: None

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.774	1.773	0.001	7336290	100.000	118	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.610	5.609	0.001	7202297	100.000	133	80.00- 120.00	100.00
5 Aroclor-1248					CAS #: 12672-29-6		
2.825	2.825	0.000	1544480	1000.00	1010	80.00- 120.00	100.00
2.976	2.976	0.000	2065657	1000.00	1020	113.74- 153.74	133.74
3.036	3.036	0.000	1561680	1000.00	994	81.11- 121.11	101.11
3.271	3.271	0.000	2176350	1000.00	981	120.91- 160.91	140.91
3.424	3.424	0.000	1868865	1000.00	977	101.00- 141.00	121.00
Average of Peak Amounts =					997		

Data File: /chem/ecd2a.i/122409.b/005f0501.d

Date : 24-DEC-2009 06:49

Client ID: AR124801

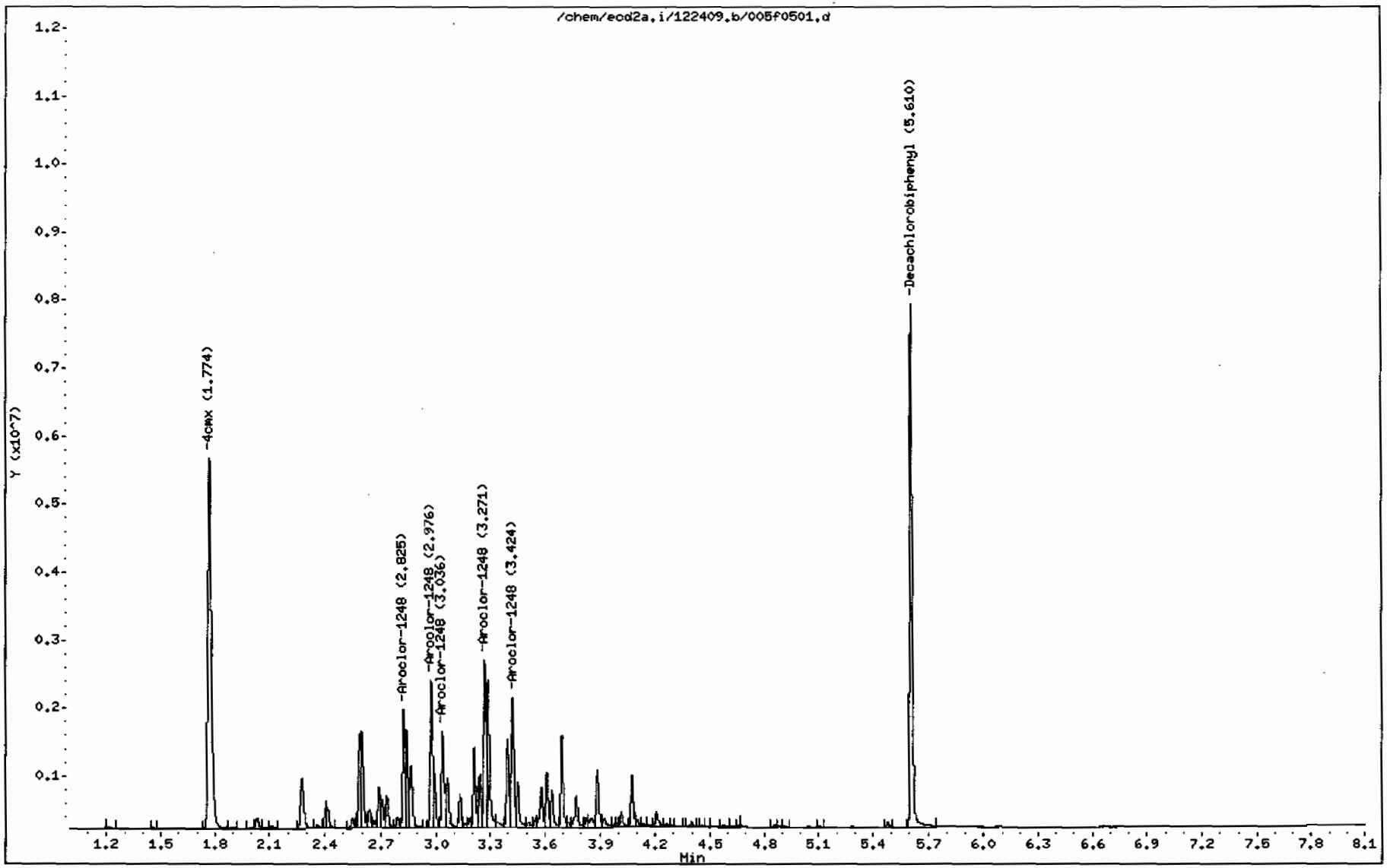
Sample Info: IWAR091217-48

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/005b0501.d
Lab Smp Id: WAR091217-48 Client Smp ID: AR124801
Inj Date : 24-DEC-2009 06:49
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091217-48
Misc Info : |PCB_CVS|1248||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 24-Dec-2009 11:14 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 5 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.50 Sample Matrix: None

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.071	2.070	0.001	15942179	100.000	123	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.302	6.301	0.001	15235783	100.000	135	80.00- 120.00	100.00
5 Aroclor-1248					CAS #: 12672-29-6		
3.333	3.333	0.000	3312266	1000.00	1010	80.00- 120.00	100.00
3.520	3.520	0.000	4247111	1000.00	1010	108.22- 148.22	128.22
3.605	3.605	0.000	4515701	1000.00	1010	116.33- 156.33	136.33
3.795	3.795	0.000	4675414	1000.00	995	121.15- 161.15	141.15
3.825	3.825	0.000	5467416	1000.00	1010	145.07- 185.07	165.07

Average of Peak Amounts = 1.01e+03

Data File: /chem/ecd2a.i/122409.b/005b0501.d

Date : 24-DEC-2009 06:49

Client ID: AR124801

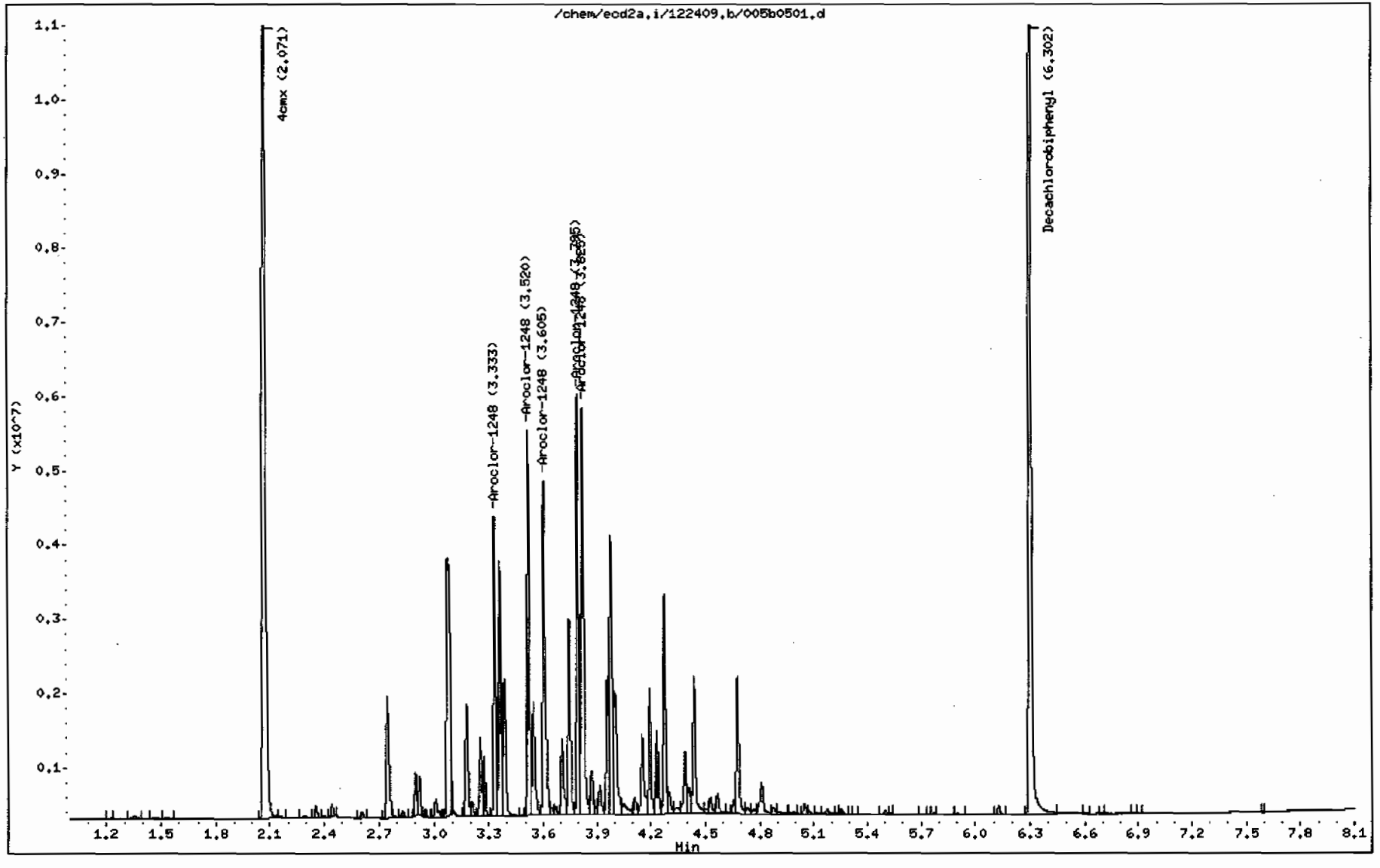
Sample Info: IWAR091217-48

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/006f0601.d
Lab Smp Id: WAR090930-32 Client Smp ID: AR123201
Inj Date : 24-DEC-2009 07:00
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR090930-32
Misc Info : |PCB_CVS|1232||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 24-Dec-2009 11:14 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 6 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.50 Sample Matrix: None

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.774	1.773	0.001	9621875	100.000	154	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	9161334	100.000	169	80.00- 120.00	100.00
3 Aroclor-1232					CAS #: 11141-16-5		
2.028	2.028	0.000	1491341	1000.00	1280	80.00- 120.00	100.00
2.276	2.276	0.000	1185425	1000.00	1270	59.49- 99.49	79.49
2.690	2.690	0.000	1007653	1000.00	1260	47.57- 87.57	67.57
2.733	2.733	0.000	639111	1000.00	1250	22.85- 62.85	42.85
2.977	2.977	0.000	737500	1000.00	1260	29.45- 69.45	49.45

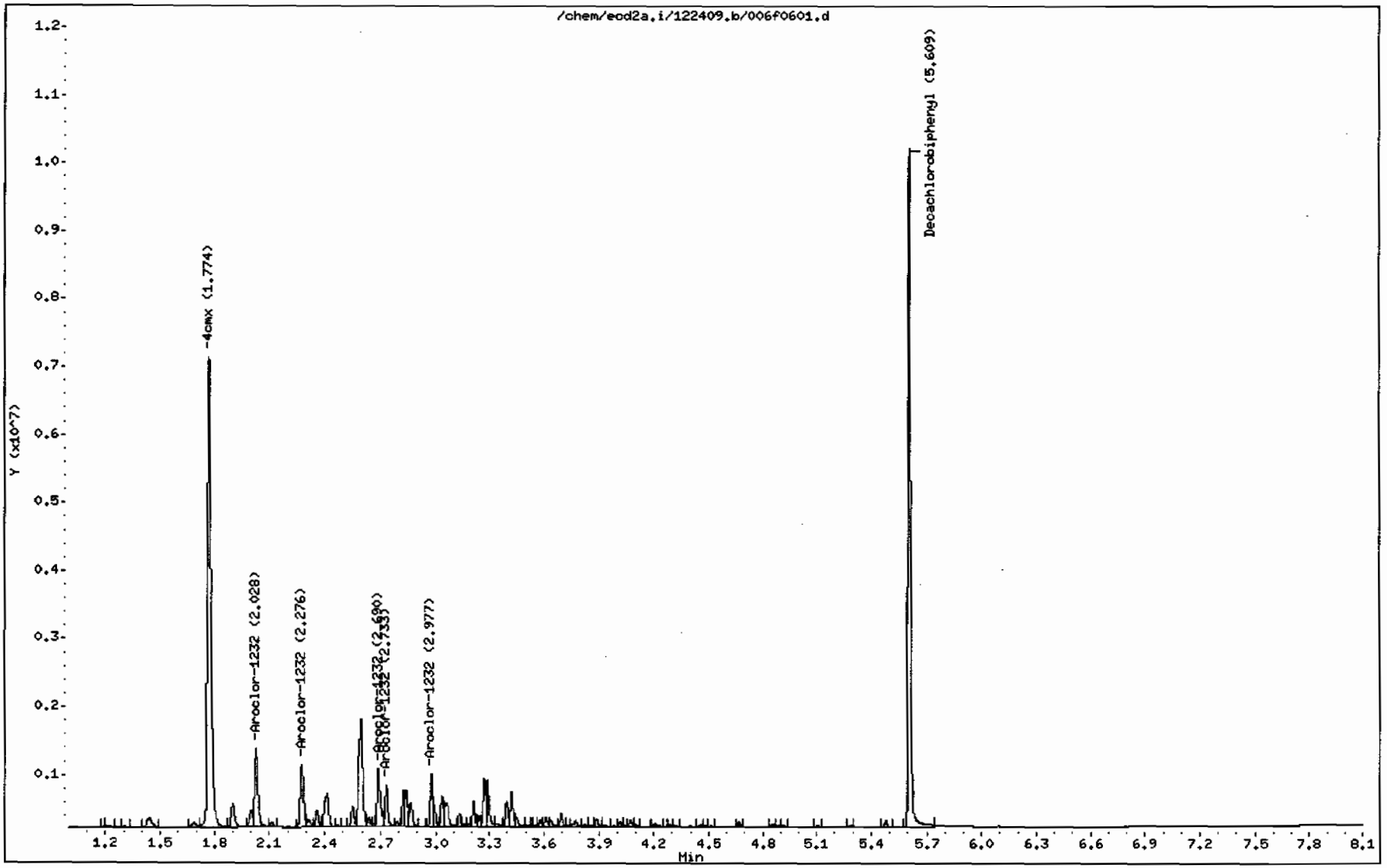
Average of Peak Amounts = 1.27e+03

Data File: /chem/ecd2a.i/122409.b/006f0601.d
Date : 24-DEC-2009 07:00
Client ID: AR123201
Sample Info: IWAR090930-32

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/006b0601.d
Lab Smp Id: WAR090930-32 Client Smp ID: AR123201
Inj Date : 24-DEC-2009 07:00
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR090930-32
Misc Info : |PCB_CVS|1232||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 24-Dec-2009 11:14 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 6 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.50 Sample Matrix: None

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.070	2.070	0.000	20851815	100.000	161	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	19611077	100.000	174	80.00- 120.00	100.00
3 Aroclor-1232					CAS #: 11141-16-5		
2.444	2.444	0.000	2681663	1000.00	1300	80.00- 120.00	100.00
2.747	2.747	0.000	2521806	1000.00	1290	74.04- 114.04	94.04
3.182	3.182	0.000	1815102	1000.00	1210	47.69- 87.69	67.69
3.254	3.254	0.000	1124663	1000.00	1210	21.94- 61.94	41.94
3.520	3.520	0.000	1415899	1000.00	1280	32.80- 72.80	52.80

Average of Peak Amounts = 1.26e+03

Data File: /chem/ecd2a.i/122409.b/006b0601.d

Date : 24-DEC-2009 07:00

Client ID: AR123201

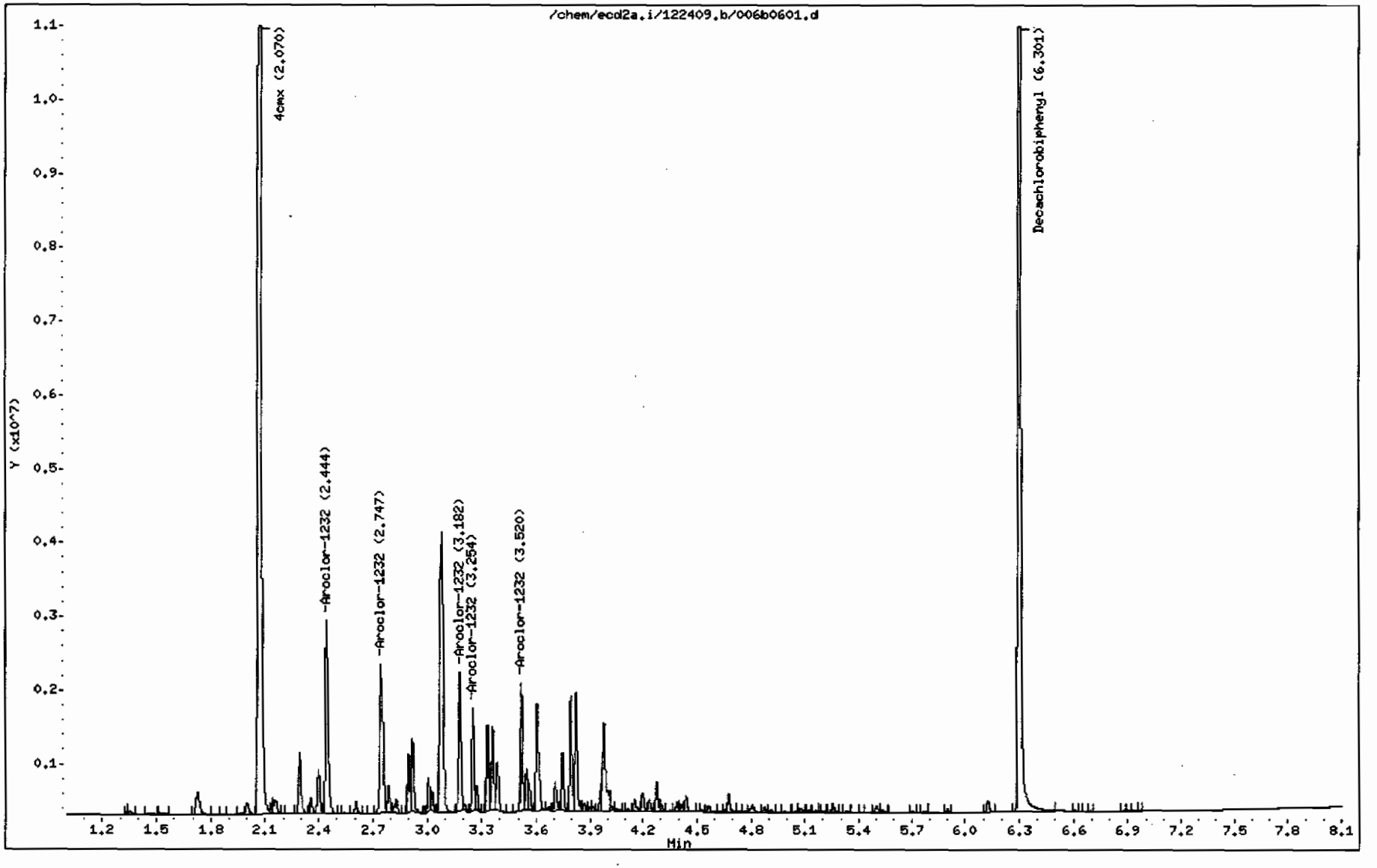
Sample Info: !WAR090930-32

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/007f0701.d
Lab Smp Id: WAR091111-21 Client Smp ID: AR122101
Inj Date : 24-DEC-2009 07:11
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091111-21
Misc Info : |PCB_CVS|1221||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 7 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1221.sub
Target Version: 3.50 Sample Matrix: None

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.772	1.773	-0.001	6925414	100.000	111	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.611	5.609	0.002	6608133	100.000	122	80.00- 120.00	100.00
2 Aroclor-1221					CAS #: 11104-28-2		
1.438	1.438	0.000	552877	1000.00	1190	80.00- 120.00	100.00
1.898	1.898	0.000	785548	1000.00	1200	122.08- 162.08	142.08
1.998	1.998	0.000	414661	1000.00	1200	55.00- 95.00	75.00

Average of Peak Amounts = 1.19e+03

Data File: /chem/ecd2a.i/122409.b/007f0701.d

Date : 24-DEC-2009 07:11

Client ID: AR122101

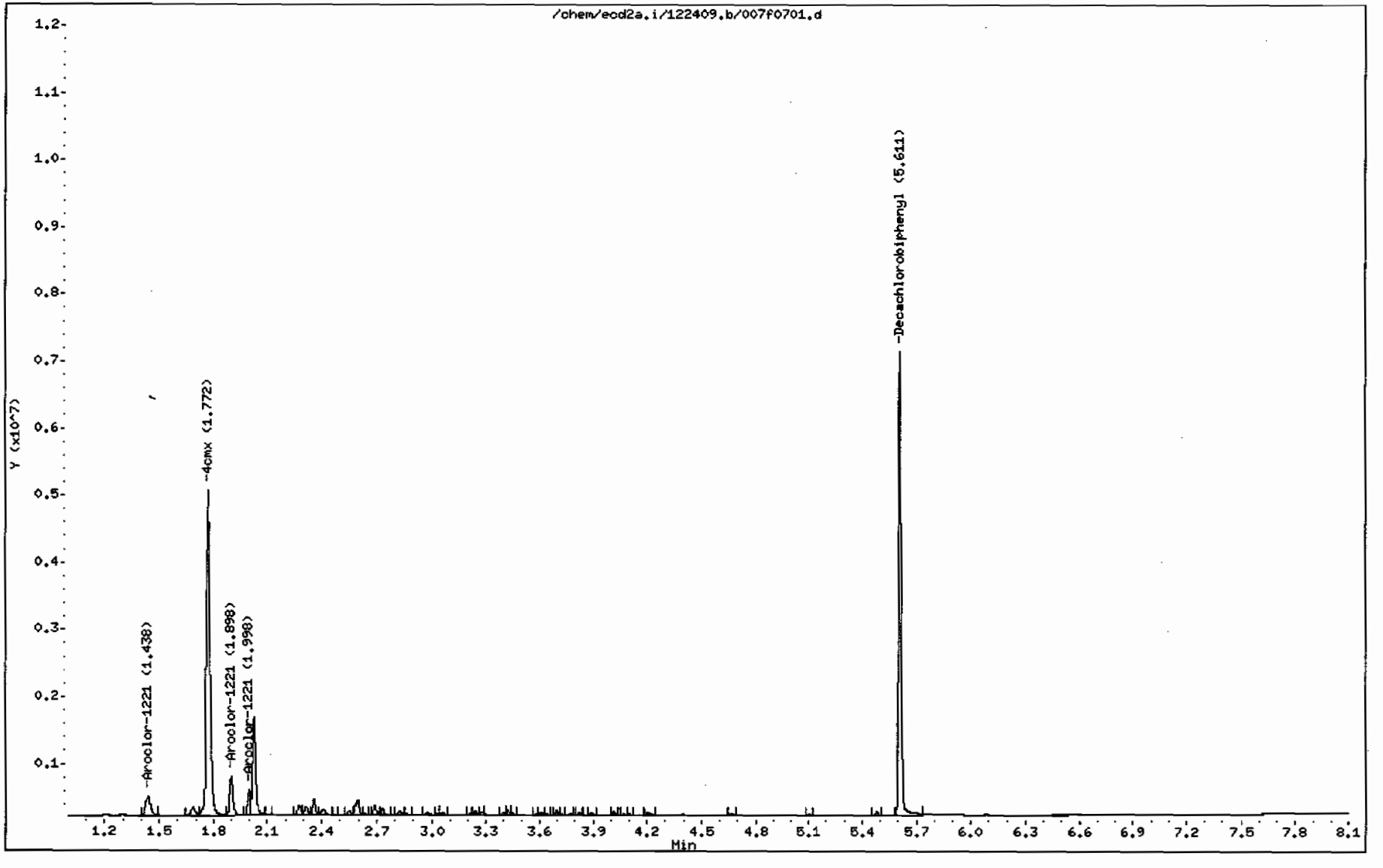
Sample Info: IWAR091111-21

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/007b0701.d
Lab Smp Id: WAR091111-21 Client Smp ID: AR122101
Inj Date : 24-DEC-2009 07:11
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091111-21
Misc Info : |PCB_CVS|1221||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 7 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1221.sub
Target Version: 3.50 Sample Matrix: None

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.069	2.070	-0.001	14673758	100.000	113	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.302	6.301	0.001	13882309	100.000	123	80.00- 120.00	100.00
2 Aroclor-1221					CAS #: 11104-28-2		
2.293	2.293	0.000	1460764	1000.00	1160	80.00- 120.00	100.00
2.398	2.398	0.000	887894	1000.00	1150	40.78- 80.78	60.78
2.442	2.442	0.000	3534434	1000.00	1160	221.96- 261.96	241.96

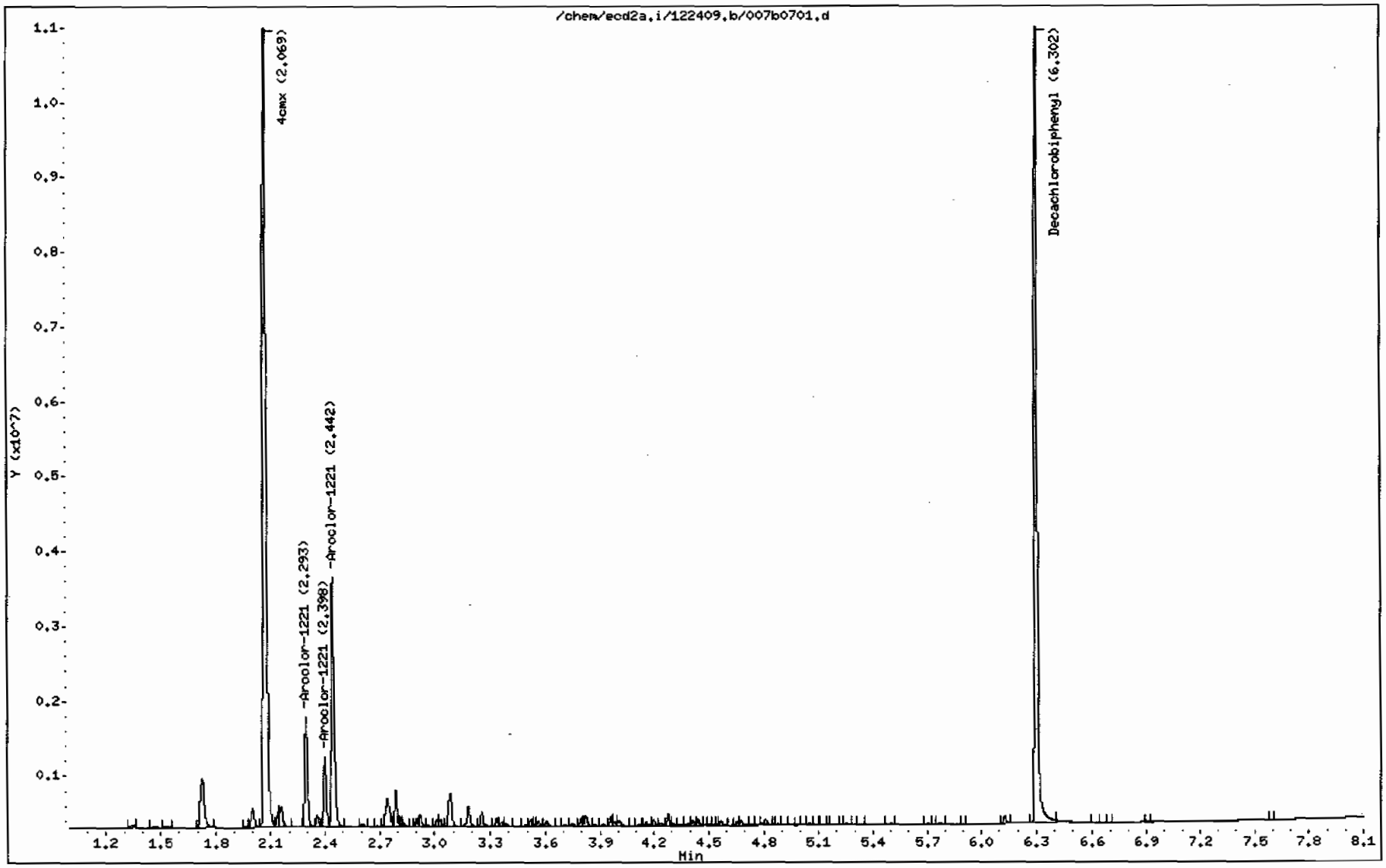
Average of Peak Amounts = 1.15e+03

Data File: /chem/ecd2a.i/122409.b/007b0701.d
Date : 24-DEC-2009 07:11
Client ID: AR122101
Sample Info: IWAR091111-21

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/041f4101.d
Lab Smp Id: WAR091223-45 05 Client Smp ID: AR166005
Inj Date : 24-DEC-2009 15:50
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091223-45 05
Misc Info : |PCB_CVS|1660||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 41 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660.sub
Target Version: 3.50 Sample Matrix: None

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.773	1.773	0.000	6312291	100.000	101	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.605	5.609	-0.004	5985535	100.000	111	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.274	2.275	-0.001	2168418	1000.00	969	80.00- 120.00	100.00
2.597	2.599	-0.002	4649142	1000.00	992	196.32- 236.32	214.40
2.688	2.689	-0.001	1841725	1000.00	968	65.03- 105.03	84.93
2.822	2.824	-0.002	938699	1000.00	962	23.61- 63.61	43.29
2.974	2.976	-0.002	1406728	1000.00	965	46.43- 86.43	64.87
Average of Peak Amounts =					971		
7 Aroclor-1260					CAS #: 11096-82-5		
4.012	4.015	-0.003	4424727	1000.00	1060	80.00- 120.00	100.00
4.284	4.287	-0.003	2767691	1000.00	1070	41.89- 81.89	62.55
4.449	4.453	-0.004	2831702	1000.00	1080	43.64- 83.64	64.00
4.662	4.665	-0.003	6782368	1000.00	1110	133.69- 173.69	153.28
4.851	4.854	-0.003	3257531	1000.00	1110	53.82- 93.82	73.62
Average of Peak Amounts =					1.09e+03		

Data File: /chem/ecd2a.i/122409.b/041f4101.d

Date : 24-DEC-2009 15:50

Client ID: AR166005

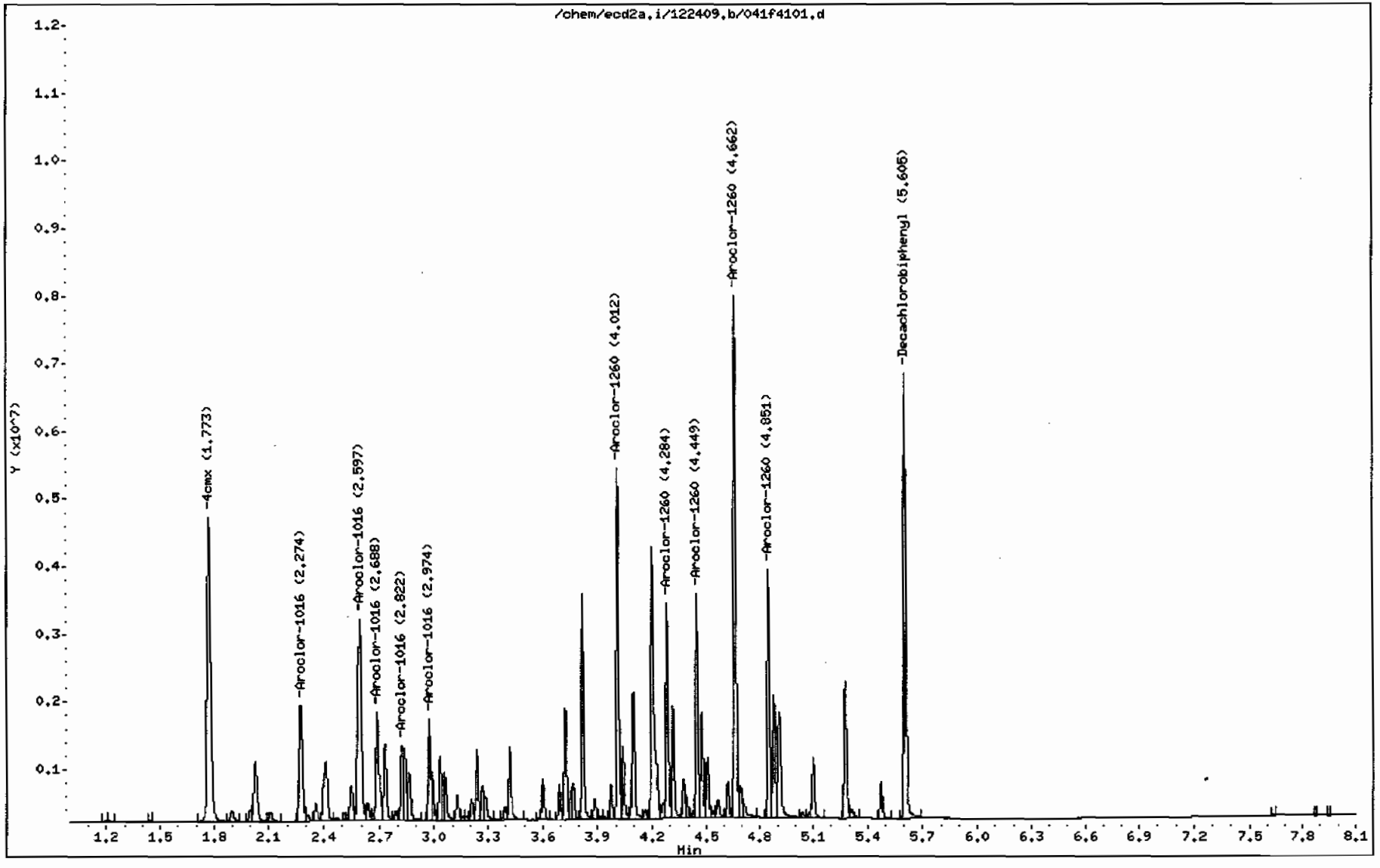
Sample Info: IWAR091223-45 05

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/041b4101.d
Lab Smp Id: WAR091223-45 05 Client Smp ID: AR166005
Inj Date : 24-DEC-2009 15:50
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091223-45 05
Misc Info : |PCB_CVS|1660||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 41 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660.sub
Target Version: 3.50 Sample Matrix: None

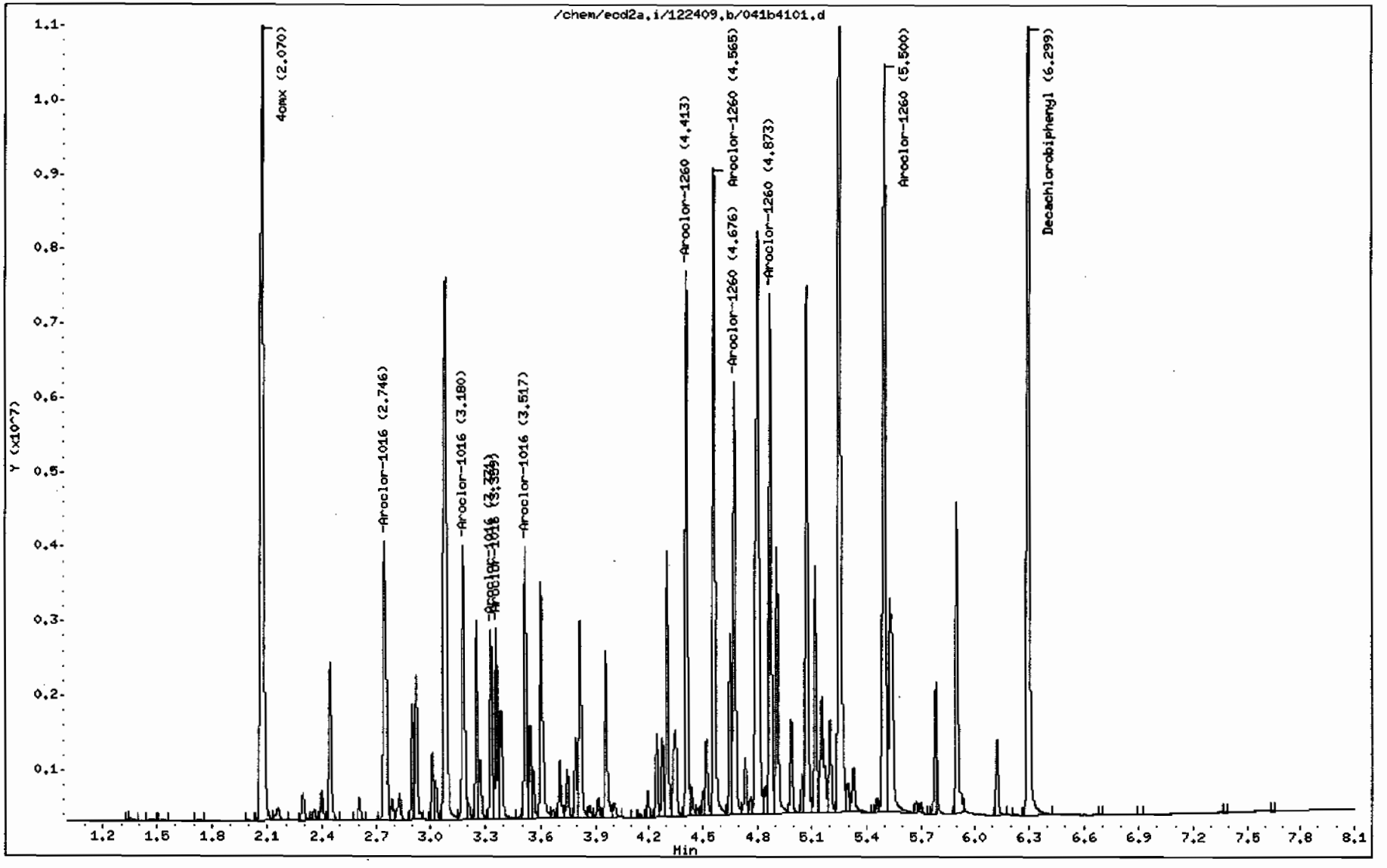
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.070	2.070	0.000	13629137	100.000	105	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.299	6.301	-0.002	12308996	100.000	109	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.746	2.746	0.000	4643928	1000.00	1020	80.00- 120.00	100.00
3.180	3.181	-0.001	3658891	1000.00	1020	59.13- 99.13	78.79
3.331	3.331	0.000	2115447	1000.00	1030	25.78- 65.78	45.55
3.359	3.360	-0.001	2202713	1000.00	1030	27.47- 67.47	47.43
3.517	3.519	-0.002	2967756	1000.00	1030	44.28- 84.28	63.91
Average of Peak Amounts =					1.03e+03		
7 Aroclor-1260					CAS #: 11096-82-5		
4.413	4.415	-0.002	6139283	1000.00	1060	80.00- 120.00	100.00
4.565	4.566	-0.001	7729654	1000.00	1080	107.85- 147.85	125.90
4.676	4.678	-0.002	5287528	1000.00	1100	66.75- 106.75	86.13
4.873	4.876	-0.003	6111571	1000.00	1080	79.84- 119.84	99.55
5.500	5.501	-0.001	10031707	1000.00	1110	146.20- 186.20	163.40
Average of Peak Amounts =					1.09e+03		

Data File: /chem/ecd2a.i/122409.b/041b4101.d
Date : 24-DEC-2009 15:50
Client ID: AR166005
Sample Info: IWAR091223-45 05

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/053f5301.d
Lab Smp Id: WAR091223-45 06 Client Smp ID: AR166006
Inj Date : 24-DEC-2009 18:03
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091223-45 06
Misc Info : |PCB_CVS|1660||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 53 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660.sub
Target Version: 3.50 Sample Matrix: None

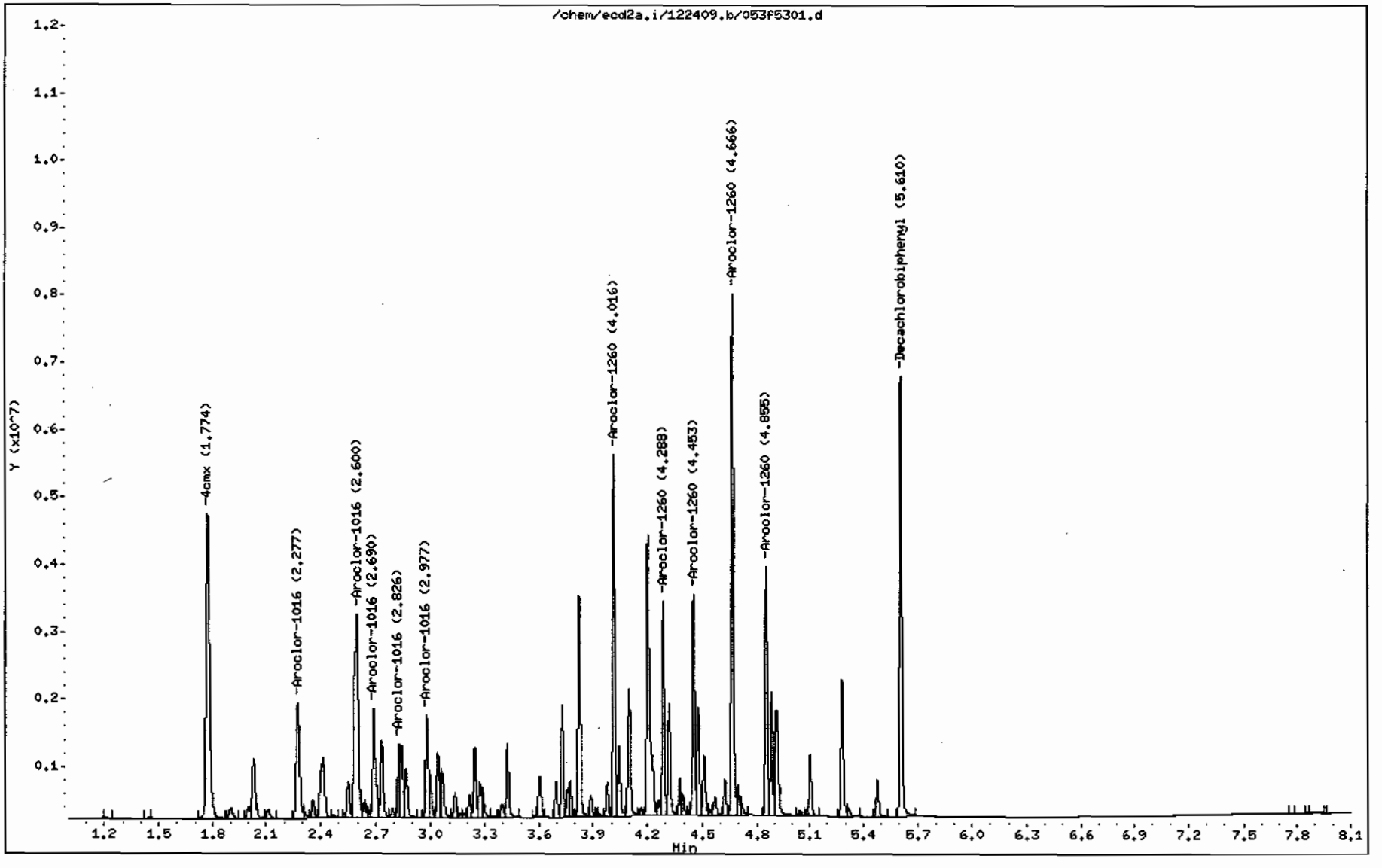
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.774	1.773	0.001	6318599	100.000	101	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.610	5.609	0.001	5958829	100.000	110	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.277	2.275	0.002	2171506	1000.00	970	80.00- 120.00	100.00
2.600	2.599	0.001	4699155	1000.00	1000	196.32- 236.32	216.40
2.690	2.689	0.001	1849678	1000.00	973	65.03- 105.03	85.18
2.826	2.824	0.002	950208	1000.00	974	23.61- 63.61	43.76
2.977	2.976	0.001	1445681	1000.00	992	46.43- 86.43	66.58
Average of Peak Amounts =					982		
7 Aroclor-1260					CAS #: 11096-82-5		
4.016	4.015	0.001	4448939	1000.00	1070	80.00- 120.00	100.00
4.288	4.287	0.001	2742526	1000.00	1060	41.89- 81.89	61.64
4.453	4.453	0.000	2814989	1000.00	1070	43.64- 83.64	63.27
4.666	4.665	0.001	6797325	1000.00	1120	133.69- 173.69	152.79
4.855	4.854	0.001	3271921	1000.00	1110	53.82- 93.82	73.54
Average of Peak Amounts =					1.09e+03		

Data File: /chem/ecd2a.i/122409.b/053f5301.d
Date : 24-DEC-2009 18:03
Client ID: AR166006
Sample Info: IWAR091223-45 06

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/053b5301.d
Lab Smp Id: WAR091223-45 06 Client Smp ID: AR166006
Inj Date : 24-DEC-2009 18:03
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091223-45 06
Misc Info : |PCB_CVS|1660||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 53 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660.sub
Target Version: 3.50 Sample Matrix: None

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.070	2.070	0.000	13689103	100.000	106	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	11947463	100.000	106	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.747	2.746	0.001	4649330	1000.00	1020	80.00- 120.00	100.00
3.181	3.181	0.000	3663740	1000.00	1020	59.13- 99.13	78.80
3.332	3.331	0.001	2107343	1000.00	1030	25.78- 65.78	45.33
3.361	3.360	0.001	2194194	1000.00	1030	27.47- 67.47	47.19
3.519	3.519	0.000	2977053	1000.00	1040	44.28- 84.28	64.03
Average of Peak Amounts =					1.03e+03		
7 Aroclor-1260					CAS #: 11096-82-5		
4.415	4.415	0.000	6182432	1000.00	1070	80.00- 120.00	100.00
4.567	4.566	0.001	7894702	1000.00	1110	107.85- 147.85	127.70
4.679	4.678	0.001	5333497	1000.00	1110	66.75- 106.75	86.27
4.876	4.876	0.000	6182645	1000.00	1100	79.84- 119.84	100.00
5.502	5.501	0.001	10246028	1000.00	1130	146.20- 186.20	165.73
Average of Peak Amounts =					1.1e+03		

Data File: /chem/ecd2a.i/122409.b/053b5301.d

Date : 24-DEC-2009 18:03

Client ID: AR166006

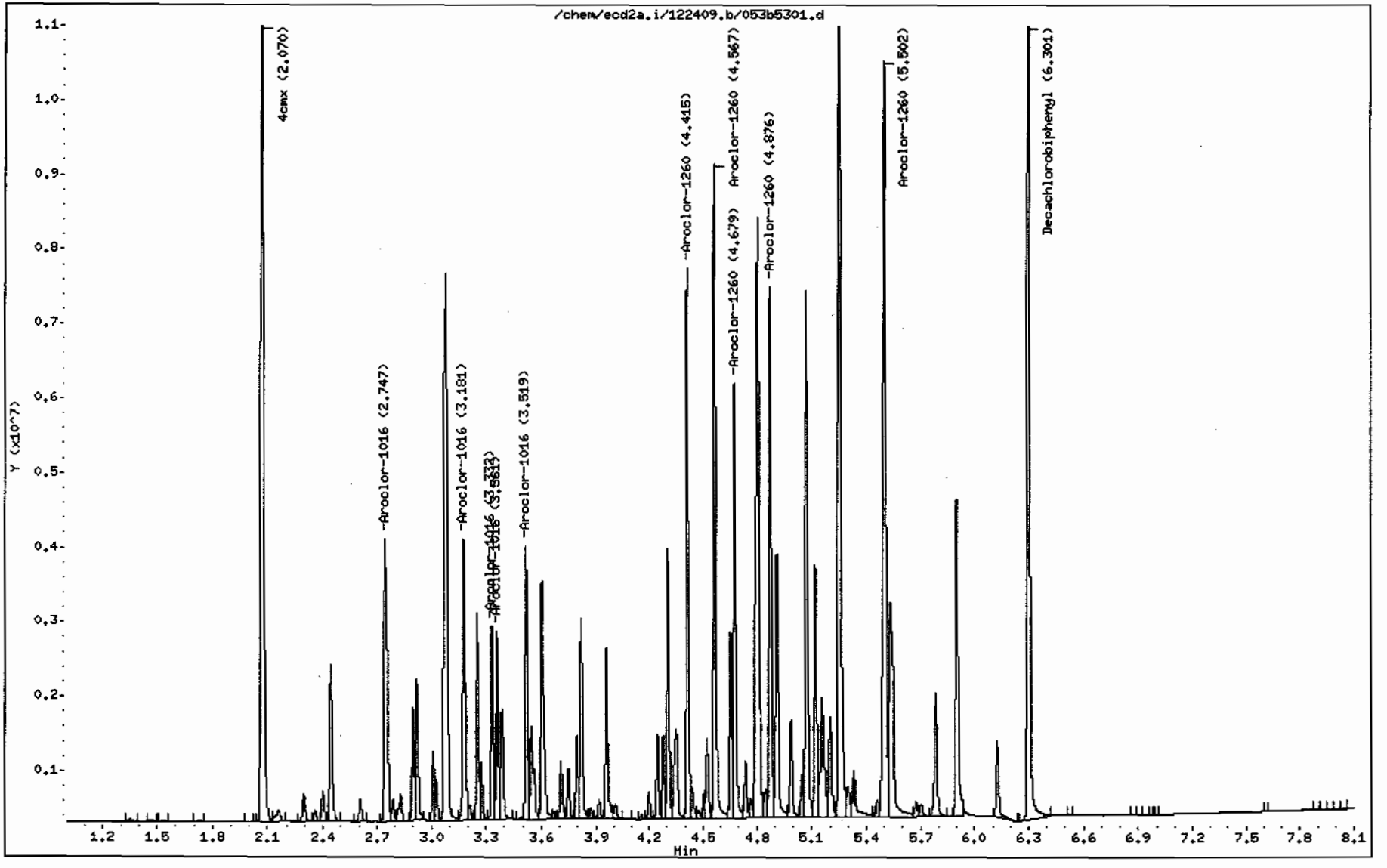
Sample Info: IWAR091223-45 06

Column phase: CLP2

Instrument: ecd2a.i

Operator: JADC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/061f6101.d
Lab Smp Id: WAR091223-45 07 Client Smp ID: AR166007
Inj Date : 24-DEC-2009 19:32
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091223-45 07
Misc Info : |PCB_CVS|1660||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 61 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660.sub
Target Version: 3.50 Sample Matrix: None

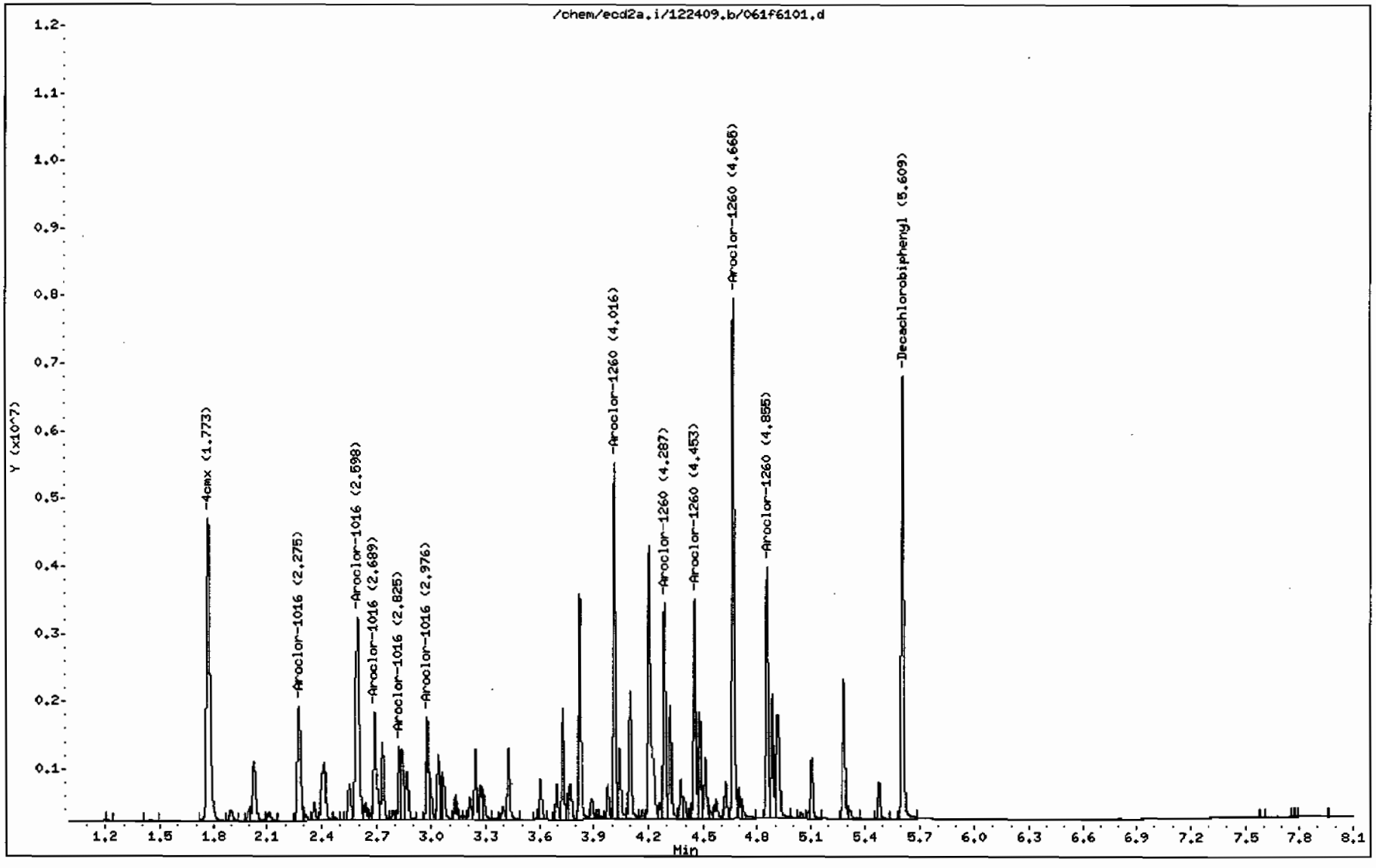
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.773	1.773	0.000	6266304	100.000	100	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	5971931	100.000	110	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.275	2.275	0.000	2152997	1000.00	962	80.00- 120.00	100.00
2.598	2.599	-0.001	4657275	1000.00	994	196.32- 236.32	216.32
2.689	2.689	0.000	1830643	1000.00	963	65.03- 105.03	85.03
2.825	2.824	0.001	938846	1000.00	962	23.61- 63.61	43.61
2.976	2.976	0.000	1430206	1000.00	981	46.43- 86.43	66.43
Average of Peak Amounts =					972		
7 Aroclor-1260					CAS #: 11096-82-5		
4.016	4.015	0.001	4429901	1000.00	1060	80.00- 120.00	100.00
4.287	4.287	0.000	2741664	1000.00	1060	41.89- 81.89	61.89
4.453	4.453	0.000	2819258	1000.00	1070	43.64- 83.64	63.64
4.665	4.665	0.000	6808372	1000.00	1120	133.69- 173.69	153.69
4.855	4.854	0.001	3270125	1000.00	1110	53.82- 93.82	73.82
Average of Peak Amounts =					1.08e+03		

Data File: /chem/ecd2a.i/122409.b/061f6101.d
Date : 24-DEC-2009 19:32
Client ID: AR166007
Sample Info: IWAR091223-45 07

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/061b6101.d
Lab Smp Id: WAR091223-45 07 Client Smp ID: AR166007
Inj Date : 24-DEC-2009 19:32
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |WAR091223-45 07
Misc Info : |PCB_CVS|1660||CVS|
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 61 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660.sub
Target Version: 3.50 Sample Matrix: None

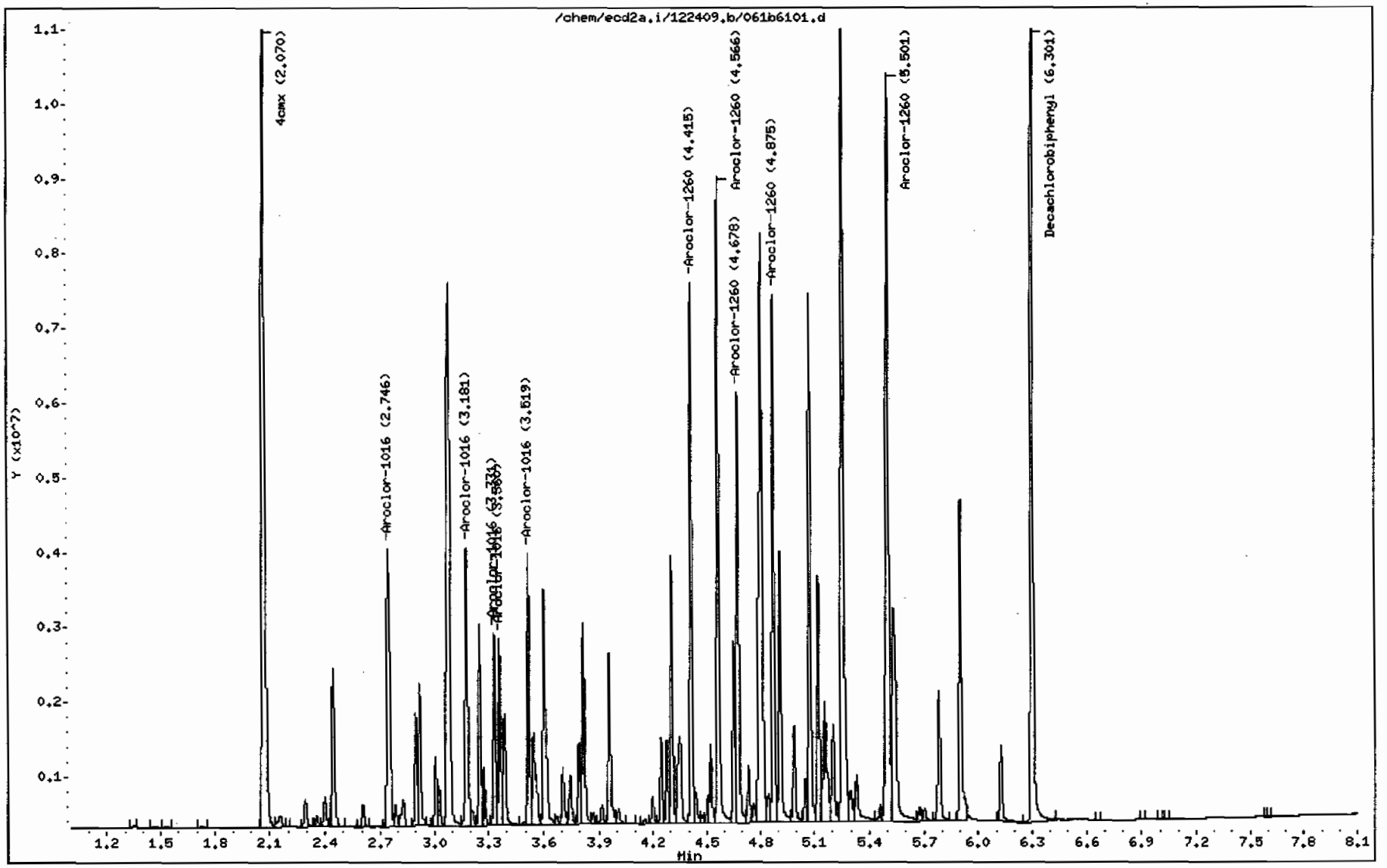
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.070	2.070	0.000	13553666	100.000	105	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	12300306	100.000	109	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.746	2.746	0.000	4614959	1000.00	1020	80.00- 120.00	100.00
3.181	3.181	0.000	3651849	1000.00	1010	59.13- 99.13	79.13
3.331	3.331	0.000	2112554	1000.00	1030	25.78- 65.78	45.78
3.360	3.360	0.000	2190849	1000.00	1020	27.47- 67.47	47.47
3.519	3.519	0.000	2966273	1000.00	1030	44.28- 84.28	64.28
Average of Peak Amounts =					1.02e+03		
7 Aroclor-1260					CAS #: 11096-82-5		
4.415	4.415	0.000	6144518	1000.00	1060	80.00- 120.00	100.00
4.566	4.566	0.000	7855698	1000.00	1100	107.85- 147.85	127.85
4.678	4.678	0.000	5330316	1000.00	1110	66.75- 106.75	86.75
4.875	4.876	-0.001	6134568	1000.00	1090	79.84- 119.84	99.84
5.501	5.501	0.000	10212083	1000.00	1130	146.20- 186.20	166.20
Average of Peak Amounts =					1.1e+03		

Data File: /chem/ecd2a.i/122409.b/061b6101.d
Date : 24-DEC-2009 19:32
Client ID: AR166007
Sample Info: IWAR091223-45 07

Column phase: CLP2

Instrument: ecd2a.i

Operator: JAOC
Column diameter: 0.25



8D
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1032

GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 1.77 DCB: 5.61

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK01	WAR091130-99	12/14/09	0700	1.77	5.61
02	ZZZZZ	ZZZZZ	12/14/09	0711	1.77	5.61
03	AR125401	WAR091102-54	12/14/09	0722	1.77	5.61
04	AR124201	WAR091102-42	12/14/09	0733	1.77	5.61
05	AR124801	WAR091027-48	12/14/09	0744	1.77	5.61
06	AR123201	WAR090930-32	12/14/09	0755	1.77	5.61
07	AR122101	WAR091111-21	12/14/09	0807	1.77	5.61
08	ZZZZZ	ZZZZZ	12/14/09	0818	1.77	5.61
09	AR126201	WAR091111-62	12/14/09	0829	1.77	5.61
10	AR126801	WAR091106-68	12/14/09	0840	1.77	5.61
11	AR166001	WAR091214-01	12/14/09	0851	1.77	5.61
12	AR166002	WAR091214-02	12/14/09	0902	1.77	5.61
13	AR166003	WAR091214-03	12/14/09	0913	1.77	5.61
14	AR166004	WAR091214-04	12/14/09	0924	1.77	5.61
15	AR166005	IAR091102-01	12/14/09	0935	1.77	5.61
16	AR166001	WAR091211-60	12/14/09	0946	1.77	5.61
17	DDTANALOGSTD	WAR091020-DD	12/14/09	0958		
18	PIBLK02	WAR091130-99	12/14/09	1009	1.77	5.61
19	ZZZZZ	ZZZZZ	12/14/09	1020	1.77	5.61
20	ZZZZZ	ZZZZZ	12/14/09	1031	1.77	5.61
21	ZZZZZ	ZZZZZ	12/14/09	1042	1.77	
22	ZZZZZ	ZZZZZ	12/14/09	1053	1.76	
23	ZZZZZ	ZZZZZ	12/14/09	1104	1.76	
24	ZZZZZ	ZZZZZ	12/14/09	1115	1.77	5.61
25	ZZZZZ	ZZZZZ	12/14/09	1126	1.77	5.61
26	ZZZZZ	ZZZZZ	12/14/09	1137	1.76	
27	ZZZZZ	ZZZZZ	12/14/09	1148	1.77	5.61
28	ZZZZZ	ZZZZZ	12/14/09	1159	1.76	5.62
29	AR166002	WAR091211-60	12/14/09	1211	1.77	5.61
30	PIBLK03	WAR091130-99	12/14/09	1222	1.77	5.61
31	ZZZZZ	ZZZZZ	12/14/09	1233	1.77	5.61
32	ZZZZZ	ZZZZZ	12/14/09	1244	1.76	

	QC LIMITS
S1 = 4cmx	(+/- 0.03 MINUTES)
DCB = Decachlorobiphenyl	(+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PEST OLM03.0

8D
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1032

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 2.07 DCB: 6.30

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK01	WAR091130-99	12/14/09	0700	2.07	6.31
02	ZZZZZ	ZZZZZ	12/14/09	0711	2.07	6.30
03	AR125401	WAR091102-54	12/14/09	0722	2.07	6.30
04	AR124201	WAR091102-42	12/14/09	0733	2.07	6.30
05	AR124801	WAR091027-48	12/14/09	0744	2.07	6.30
06	AR123201	WAR090930-32	12/14/09	0755	2.07	6.30
07	AR122101	WAR091111-21	12/14/09	0807	2.07	6.30
08	ZZZZZ	ZZZZZ	12/14/09	0818	2.07	6.30
09	AR166201	WAR091111-62	12/14/09	0829	2.07	6.30
10	AR126801	WAR091106-68	12/14/09	0840	2.07	6.30
11	AR166001	WAR091214-01	12/14/09	0851	2.07	6.30
12	AR166002	WAR091214-02	12/14/09	0902	2.07	6.30
13	AR166003	WAR091214-03	12/14/09	0913	2.07	6.30
14	AR166004	WAR091214-04	12/14/09	0924	2.07	6.30
15	AR166005	IAR091102-01	12/14/09	0935	2.07	6.30
16	AR166001	WAR091211-60	12/14/09	0946	2.07	6.30
17	DDTANALOGSTD	WAR091020-DD	12/14/09	0958		
18	PIBLK02	WAR091130-99	12/14/09	1009	2.07	6.30
19	ZZZZZ	ZZZZZ	12/14/09	1020	2.07	6.30
20	ZZZZZ	ZZZZZ	12/14/09	1031	2.07	6.30
21	ZZZZZ	ZZZZZ	12/14/09	1042	2.07	
22	ZZZZZ	ZZZZZ	12/14/09	1053	2.07	
23	ZZZZZ	ZZZZZ	12/14/09	1104	2.06	
24	ZZZZZ	ZZZZZ	12/14/09	1115	2.07	6.30
25	ZZZZZ	ZZZZZ	12/14/09	1126	2.07	6.31
26	ZZZZZ	ZZZZZ	12/14/09	1137	2.07	
27	ZZZZZ	ZZZZZ	12/14/09	1148	2.07	6.30
28	ZZZZZ	ZZZZZ	12/14/09	1159	2.06	6.30
29	AR166002	WAR091211-60	12/14/09	1211	2.07	6.30
30	PIBLK03	WAR091130-99	12/14/09	1222	2.07	6.30
31	ZZZZZ	ZZZZZ	12/14/09	1233	2.07	6.31
32	ZZZZZ	ZZZZZ	12/14/09	1244	2.07	

	QC LIMITS
S1 = 4cmx	(+/- 0.03 MINUTES)
DCB = Decachlorobiphenyl	(+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

page 1 of 1

FORM VIII PEST OLM03.0

8D
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1032

GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 1.77 DCB: 5.61

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK01	WAR091130-99	12/24/09	0604	1.77	5.61
02	AR166001	WAR091223-45	12/24/09	0615	1.77	5.61
03	AR125401	WAR091216-54	12/24/09	0626	1.77	5.61
04	AR124201	WAR091217-42	12/24/09	0638	1.77	5.61
05	AR124801	WAR091217-48	12/24/09	0649	1.77	5.61
06	AR123201	WAR090930-32	12/24/09	0700	1.77	5.61
07	AR122101	WAR091111-21	12/24/09	0711	1.77	5.61
08	AR126201	WAR091111-62	12/24/09	0722	1.77	5.61
09	AR126801	WAR091106-68	12/24/09	0733	1.77	5.61
10	DDTANALOGSTD	WAR091219-DD	12/24/09	0744		
11	PIBLK02	WAR091130-99	12/24/09	0802	1.77	5.62
12	ZZZZZ	ZZZZZ	12/24/09	0813	1.77	5.61
13	ZZZZZ	ZZZZZ	12/24/09	0825	1.77	5.61
14	ZZZZZ	ZZZZZ	12/24/09	0836	1.77	5.61
15	ZZZZZ	ZZZZZ	12/24/09	0847	1.77	5.61
16	ZZZZZ	ZZZZZ	12/24/09	0858	1.77	5.61
17	ZZZZZ	ZZZZZ	12/24/09	0909	1.77	5.61
18	ZZZZZ	ZZZZZ	12/24/09	0920	1.77	5.61
19	ZZZZZ	ZZZZZ	12/24/09	0931	1.77	5.61
20	ZZZZZ	ZZZZZ	12/24/09	0942	1.77	5.61
21	ZZZZZ	ZZZZZ	12/24/09	0953	1.77	5.61
22	AR166002	WAR091223-45	12/24/09	1009	1.77	5.61
23	PIBLK03	WAR091130-99	12/24/09	1020	1.77	5.61
24	ZZZZZ	ZZZZZ	12/24/09	1031	1.78	5.61
25	AR166003	WAR091223-45	12/24/09	1052	1.77	5.61
26	PIBLK04	WAR091130-99	12/24/09	1211	1.77	5.62
27	ZZZZZ	ZZZZZ	12/24/09	1222	1.77	5.61
28	ZZZZZ	ZZZZZ	12/24/09	1233	1.77	5.61
29	ZZZZZ	ZZZZZ	12/24/09	1244	1.78	5.61
30	ZZZZZ	ZZZZZ	12/24/09	1256	1.77	5.61
31	ZZZZZ	ZZZZZ	12/24/09	1307	1.77	5.61
32	AR166004	WAR091223-45	12/24/09	1318	1.77	5.61

	QC LIMITS
S1 = 4cmx	(+/- 0.03 MINUTES)
DCB = Decachlorobiphenyl	(+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PEST OLM03.0

8D
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1032

GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 1.77 DCB: 5.61

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK05	WAR091130-99	12/24/09	1358	1.77	5.62
02	ZZZZZ	ZZZZZ	12/24/09	1409	1.77	5.61
03	ZZZZZ	ZZZZZ	12/24/09	1420	1.77	5.61
04	ZZZZZ	ZZZZZ	12/24/09	1431	1.77	5.61
05	ZZZZZ	ZZZZZ	12/24/09	1447	1.77	5.61
06	ZZZZZ	ZZZZZ	12/24/09	1502	1.77	5.61
07	ZZZZZ	ZZZZZ	12/24/09	1518	1.77	5.61
08	ZZZZZ	ZZZZZ	12/24/09	1534	1.77	5.61
09	AR166005	WAR091223-45	12/24/09	1550	1.77	5.61
10	PIBLK06	WAR091130-99	12/24/09	1601	1.77	5.61
11	PBLK01	1202003307	12/24/09	1612	1.77	5.61
12	PBLK01LCS	1202003308	12/24/09	1623	1.77	5.61
13	RE12-10-7580	243385001	12/24/09	1634	1.78	5.61
14	RE12-10-7580MS	1202003309	12/24/09	1645	1.77	5.61
15	RE12-10-7580MSD	1202003310	12/24/09	1656	1.77	5.61
16	RE12-10-7590	243385002	12/24/09	1707	1.77	5.61
17	RE12-10-7592	243385003	12/24/09	1718	1.78	5.61
18	RE12-10-7591	243385004	12/24/09	1729	1.77	5.61
19	RE12-10-7581	243385005	12/24/09	1741	1.77	5.61
20	RE12-10-7586	243385006	12/24/09	1752	1.77	5.61
21	AR166006	WAR091223-45	12/24/09	1803	1.77	5.61
22	PIBLK07	WAR091130-99	12/24/09	1814	1.77	5.61
23	RE12-10-7587	243385007	12/24/09	1825	1.77	5.61
24	RE12-10-7585	243385008	12/24/09	1836	1.77	5.61
25	RE12-10-7582	243385009	12/24/09	1847	1.77	5.61
26	RE12-10-7584	243385010	12/24/09	1858	1.78	5.61
27	RE12-10-7583	243385011	12/24/09	1909	1.77	5.61
28	ZZZZZ	ZZZZZ	12/24/09	1920	1.77	5.61
29	AR166007	WAR091223-45	12/24/09	1932	1.77	5.61
30	PIBLK08	WAR091130-99	12/24/09	1943	1.77	5.61
31						
32						

	QC LIMITS
S1 = 4cmx	(+/- 0.03 MINUTES)
DCB = Decachlorobiphenyl	(+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

8D
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1032

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 2.07 DCB: 6.30

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK01	WAR091130-99	12/24/09	0604	2.07	6.30
02	AR166001	WAR091223-45	12/24/09	0615	2.07	6.30
03	AR125401	WAR091216-54	12/24/09	0626	2.07	6.30
04	AR124201	WAR091217-42	12/24/09	0638	2.07	6.30
05	AR124801	WAR091217-48	12/24/09	0649	2.07	6.30
06	AR123201	WAR090930-32	12/24/09	0700	2.07	6.30
07	AR122101	WAR091111-21	12/24/09	0711	2.07	6.30
08	AR126201	WAR091111-62	12/24/09	0722	2.07	6.30
09	AR126801	WAR091106-68	12/24/09	0733	2.07	6.30
10	DDTANALOGSTD	WAR091219-DD	12/24/09	0744		
11	PIBLK02	WAR091130-99	12/24/09	0802	2.07	6.30
12	ZZZZZ	ZZZZZ	12/24/09	0814	2.07	6.30
13	ZZZZZ	ZZZZZ	12/24/09	0825	2.07	6.30
14	ZZZZZ	ZZZZZ	12/24/09	0836	2.07	6.30
15	ZZZZZ	ZZZZZ	12/24/09	0847	2.07	6.30
16	ZZZZZ	ZZZZZ	12/24/09	0858	2.07	6.30
17	ZZZZZ	ZZZZZ	12/24/09	0909	2.07	6.30
18	ZZZZZ	ZZZZZ	12/24/09	0920	2.07	6.30
19	ZZZZZ	ZZZZZ	12/24/09	0931	2.07	6.30
20	ZZZZZ	ZZZZZ	12/24/09	0942	2.07	6.30
21	ZZZZZ	ZZZZZ	12/24/09	0953	2.07	6.30
22	AR166002	WAR091223-45	12/24/09	1009	2.07	6.30
23	PIBLK03	WAR091130-99	12/24/09	1020	2.07	6.30
24	ZZZZZ	ZZZZZ	12/24/09	1031	2.07	6.30
25	AR166003	WAR091223-45	12/24/09	1052	2.07	6.30
26	PIBLK04	WAR091130-99	12/24/09	1211	2.07	6.31
27	ZZZZZ	ZZZZZ	12/24/09	1222	2.07	6.30
28	ZZZZZ	ZZZZZ	12/24/09	1233	2.07	6.30
29	ZZZZZ	ZZZZZ	12/24/09	1244	2.07	6.30
30	ZZZZZ	ZZZZZ	12/24/09	1256	2.07	6.30
31	ZZZZZ	ZZZZZ	12/24/09	1307	2.07	6.30
32	AR166004	WAR091223-45	12/24/09	1318	2.07	6.30

	QC LIMITS
S1 = 4cmx	(+/- 0.03 MINUTES)
DCB = Decachlorobiphenyl	(+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PEST OLM03.0

8D
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1032

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD2A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 2.07 DCB: 6.30

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK05	WAR091130-99	12/24/09	1358	2.07	6.31
02	ZZZZZ	ZZZZZ	12/24/09	1409	2.07	6.30
03	ZZZZZ	ZZZZZ	12/24/09	1420	2.07	6.30
04	ZZZZZ	ZZZZZ	12/24/09	1431	2.07	6.30
05	ZZZZZ	ZZZZZ	12/24/09	1447	2.07	6.30
06	ZZZZZ	ZZZZZ	12/24/09	1502	2.07	6.30
07	ZZZZZ	ZZZZZ	12/24/09	1518	2.07	6.30
08	ZZZZZ	ZZZZZ	12/24/09	1534	2.07	6.30
09	AR166005	WAR091223-45	12/24/09	1550	2.07	6.30
10	PIBLK06	WAR091130-99	12/24/09	1601	2.07	6.30
11	PBLK01	1202003307	12/24/09	1612	2.07	6.30
12	PBLK01LCS	1202003308	12/24/09	1623	2.07	6.30
13	RE12-10-7580	243385001	12/24/09	1634	2.07	6.30
14	RE12-10-7580MS	1202003309	12/24/09	1645	2.07	6.30
15	RE12-10-7580MSD	1202003310	12/24/09	1656	2.07	6.30
16	RE12-10-7590	243385002	12/24/09	1707	2.07	6.30
17	RE12-10-7592	243385003	12/24/09	1718	2.07	6.30
18	RE12-10-7591	243385004	12/24/09	1729	2.07	6.30
19	RE12-10-7581	243385005	12/24/09	1741	2.07	6.30
20	RE12-10-7586	243385006	12/24/09	1752	2.07	6.30
21	AR166006	WAR091223-45	12/24/09	1803	2.07	6.30
22	PIBLK07	WAR091130-99	12/24/09	1814	2.07	6.30
23	RE12-10-7587	243385007	12/24/09	1825	2.07	6.30
24	RE12-10-7585	243385008	12/24/09	1836	2.07	6.30
25	RE12-10-7582	243385009	12/24/09	1847	2.07	6.30
26	RE12-10-7584	243385010	12/24/09	1858	2.07	6.30
27	RE12-10-7583	243385011	12/24/09	1909	2.07	6.30
28	ZZZZZ	ZZZZZ	12/24/09	1920	2.07	6.30
29	AR166007	WAR091223-45	12/24/09	1932	2.07	6.30
30	PIBLK08	WAR091130-99	12/24/09	1943	2.07	6.30
31						
32						

QC LIMITS
S1 = 4cmx (+/- 0.03 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

Identification Summary

SDG Number: 10–1032 **Client ID:** LCS for batch 936263

Lab Sample ID: 1202003308

Data File:	044f4401.d	**Data File:**	044b4401.d
Inst:	ECD2A.I_1	**Inst:**	ECD2A.I_2
Column:	CLP1	**Column:**	CLP2
Analyzed:	24–DEC–09 16:23	**Analyzed:**	24–DEC–09 16:23

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor–1016							3.58
Column 1	1	2.28	2.25 – 2.31	21.5		ug/kg	
	2	2.6	2.57 – 2.63	22		ug/kg	
	3	2.69	2.66 – 2.72	21.8		ug/kg	
	4	2.83	2.79 – 2.85	21.7		ug/kg	
	5	2.98	2.95 – 3.01	22.4		ug/kg	
					21.9		
Column 2	1	2.75	2.72 – 2.78	22.4		ug/kg	
	2	3.18	3.15 – 3.21	22.4		ug/kg	
	3	3.33	3.3 – 3.36	23.1		ug/kg	
	4	3.36	3.33 – 3.39	22.4		ug/kg	
	5	3.52	3.49 – 3.55	23.1		ug/kg	
					22.7		
Aroclor–1260							1.72
Column 1	1	4.02	3.99 – 4.05	27.5		ug/kg	
	2	4.29	4.26 – 4.32	27.5		ug/kg	
	3	4.45	4.42 – 4.48	28.3		ug/kg	
	4	4.67	4.64 – 4.7	29.7		ug/kg	
	5	4.86	4.82 – 4.88	26.5		ug/kg	
					27.9		
Column 2	1	4.42	4.38 – 4.44	27.3		ug/kg	
	2	4.57	4.54 – 4.6	28.2		ug/kg	
	3	4.68	4.65 – 4.71	28.2		ug/kg	
	4	4.88	4.85 – 4.91	28		ug/kg	
	5	5.5	5.47 – 5.53	30.2		ug/kg	
					28.4		

Identification Summary

SDG Number: 10-1032

Client ID: RE12-10-7580MS

Lab Sample ID: 1202003309

Data File:	046f4601.d	Data File:	046b4601.d
Inst:	ECD2A.I_1	Inst:	ECD2A.I_2
Column:	CLP1	Column:	CLP2
Analyzed:	24-DEC-09 16:45	Analyzed:	24-DEC-09 16:45

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor-1016							.527
Column 1	1	2.28	2.25 – 2.31	24.9		ug/kg	
	2	2.6	2.57 – 2.63	24.5		ug/kg	
	3	2.69	2.66 – 2.72	24.2		ug/kg	
	4	2.83	2.79 – 2.85	25.9		ug/kg	
	5	2.98	2.95 – 3.01	24.7		ug/kg	
					24.8		
Column 2	1	2.75	2.72 – 2.78	25.1		ug/kg	
	2	3.18	3.15 – 3.21	24.4		ug/kg	
	3	3.33	3.3 – 3.36	25.7		ug/kg	
	4	3.36	3.33 – 3.39	23.1		ug/kg	
	5	3.52	3.49 – 3.55	26.4		ug/kg	
					24.9		
Aroclor-1260							2.3
Column 1	1	4.01	3.99 – 4.05	25.1		ug/kg	
	2	4.29	4.26 – 4.32	28.5		ug/kg	
	3	4.45	4.42 – 4.48	30.7		ug/kg	
	4	4.66	4.64 – 4.7	27.2		ug/kg	
	5	4.85	4.82 – 4.88	32		ug/kg	
					28.7		
Column 2	1	4.41	4.38 – 4.44	27.4		ug/kg	
	2	4.57	4.54 – 4.6	24.1		ug/kg	
	3	4.68	4.65 – 4.71	29.6		ug/kg	
	4	4.88	4.85 – 4.91	27.9		ug/kg	
	5	5.5	5.47 – 5.53	31.3		ug/kg	
					28		

Identification Summary

SDG Number: 10–1032 **Client ID:** RE12–10–7580MSD

Lab Sample ID: 1202003310

Data File:	047f4701.d	**Data File:**	047b4701.d
Inst:	ECD2A.I_1	**Inst:**	ECD2A.I_2
Column:	CLP1	**Column:**	CLP2
Analyzed:	24–DEC–09 16:56	**Analyzed:**	24–DEC–09 16:56

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor–1016							3.33
Column 1	1	2.28	2.25 – 2.31	23.6		ug/kg	
	2	2.6	2.57 – 2.63	22.8		ug/kg	
	3	2.69	2.66 – 2.72	21.9		ug/kg	
	4	2.83	2.79 – 2.85	22.8		ug/kg	
	5	2.98	2.95 – 3.01	21.5		ug/kg	
					22.5		
Column 2	1	2.75	2.72 – 2.78	24.4		ug/kg	
	2	3.18	3.15 – 3.21	22.9		ug/kg	
	3	3.33	3.3 – 3.36	24.3		ug/kg	
	4	3.36	3.33 – 3.39	20.7		ug/kg	
	5	3.52	3.49 – 3.55	24		ug/kg	
					23.3		
Aroclor–1260							1.28
Column 1	1	4.01	3.99 – 4.05	22.4		ug/kg	
	2	4.29	4.26 – 4.32	25.9		ug/kg	
	3	4.45	4.42 – 4.48	27.8		ug/kg	
	4	4.67	4.64 – 4.7	25.4		ug/kg	
	5	4.85	4.82 – 4.88	29.2		ug/kg	
					26.1		
Column 2	1	4.41	4.38 – 4.44	25.5		ug/kg	
	2	4.57	4.54 – 4.6	22.7		ug/kg	
	3	4.68	4.65 – 4.71	27.3		ug/kg	
	4	4.88	4.85 – 4.91	24.5		ug/kg	
	5	5.5	5.47 – 5.53	29		ug/kg	
					25.8		

QUALITY CONTROL DATA

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**10–1032**			**Matrix:**	**SOIL**
Lab Sample ID:	**1202003307**				
Client Sample:	**QC for batch 936263**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**MB for batch 936263**	**Method:**	**SW846 8082**	**SOP Ref:**	**GL–OA–E–040**
Batch ID:	**936264**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**12/24/2009 16:12**	**Analyst:**	**JAOC**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/23/2009 19:38**	**Aliquot:**	**30 g**	**Final Volume:**	**1 mL**
Data File:	**043f4301–1.d**	**Column:**	**1 CLP1**	**Level:**	**LOW**
	043b4301–1.d		**2 CLP2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674–11–2	Aroclor–1016	U	3.33	ug/kg	1.11	3.33	1
11104–28–2	Aroclor–1221	U	3.33	ug/kg	1.11	3.33	1
11141–16–5	Aroclor–1232	U	3.33	ug/kg	1.11	3.33	1
53469–21–9	Aroclor–1242	U	3.33	ug/kg	1.11	3.33	1
12672–29–6	Aroclor–1248	U	3.33	ug/kg	1.11	3.33	1
11097–69–1	Aroclor–1254	U	3.33	ug/kg	1.11	3.33	1
11096–82–5	Aroclor–1260	U	3.33	ug/kg	1.11	3.33	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/043f4301.d
Lab Smp Id: 1202003307 Client Smp ID: PBLK01
Inj Date : 24-DEC-2009 16:12
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |1202003307|1|
Misc Info : |ECD82P_1S|936264|SVA|QC A|SOIL|MB|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 43 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.774	1.773	0.001	8466506	135.917	4.5	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.608	5.609	-0.001	8707870	160.924	5.4	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/043f4301.d

Date : 24-DEC-2009 16:12

Client ID: PBLK01

Sample Info: |120200330711|

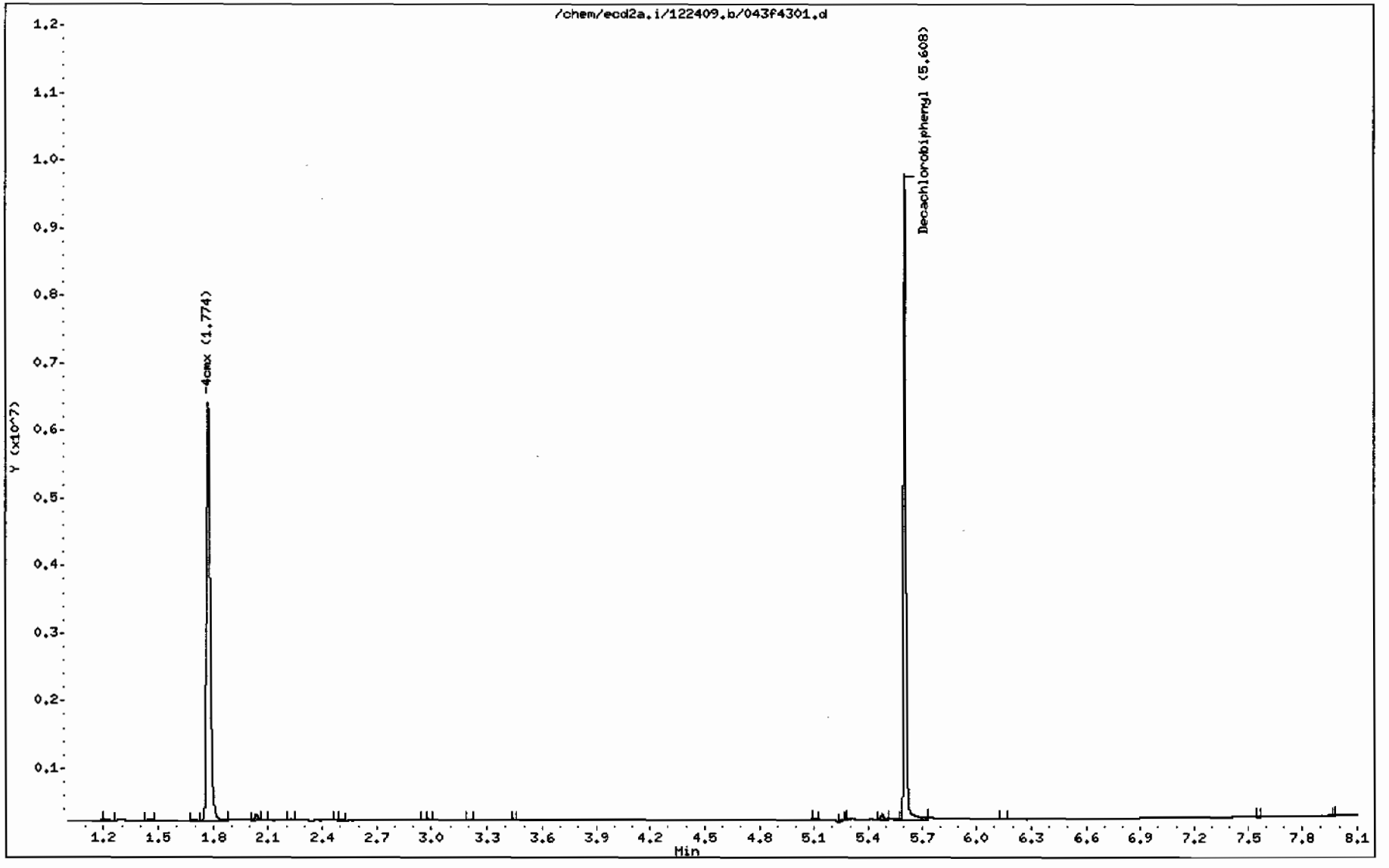
Volume Injected (uL): 1.0

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/043b4301.d
Lab Smp Id: 1202003307 Client Smp ID: PBLK01
Inj Date : 24-DEC-2009 16:12
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |1202003307|1|
Misc Info : |ECD82P_1S|936264|SVA|QC A|SOIL|MB|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 43 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

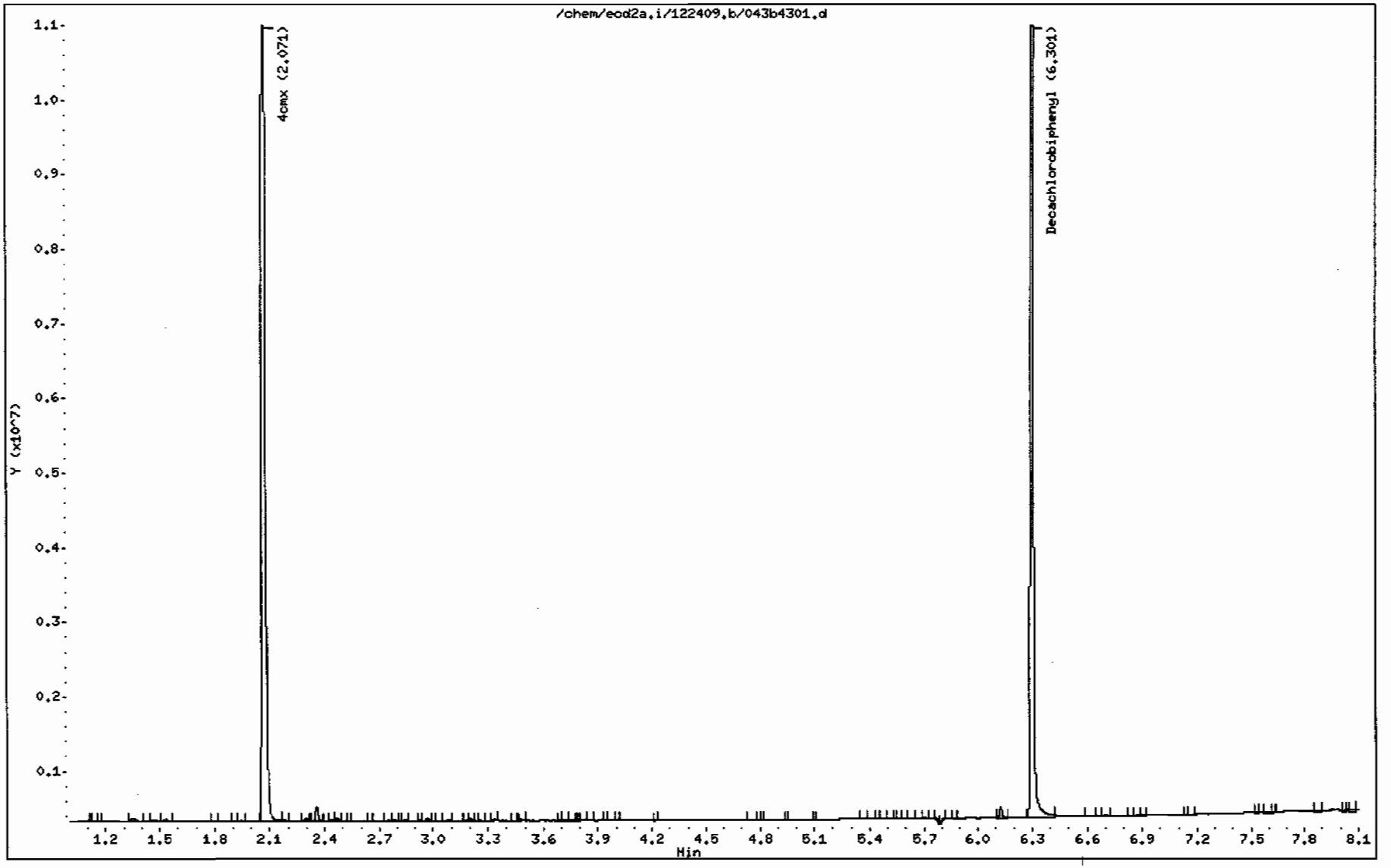
Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.071	2.070	0.001	18582240	143.694	4.8	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	18048646	160.030	5.3	80.00- 120.00	100.00

Data File: /chem/ecd2a.i/122409.b/043b4301.d
Date : 24-DEC-2009 16:12
Client ID: PBLK01
Sample Info: |1202003307|1|
Volume Injected (uL): 1.0
Column phase: CLP2

Instrument: ecd2a.i
Operator: JAOC
Column diameter: 0.25



PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032			**Matrix:**	SOIL
Lab Sample ID:	1202003308				
Client Sample:	QC for batch 936263	**Client:**	LANL010	**Project:**	QC
Client ID:	LCS for batch 936263	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 16:23	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30 g	**Final Volume:**	1 mL
Data File:	044f4401-1.d	**Column:**	1 CLP1	**Level:**	LOW
	044b4401-1.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		22.7	ug/kg	1.11	3.33	2
11104-28-2	Aroclor-1221	U	3.33	ug/kg	1.11	3.33	1
11141-16-5	Aroclor-1232	U	3.33	ug/kg	1.11	3.33	1
53469-21-9	Aroclor-1242	U	3.33	ug/kg	1.11	3.33	1
12672-29-6	Aroclor-1248	U	3.33	ug/kg	1.11	3.33	1
11097-69-1	Aroclor-1254	U	3.33	ug/kg	1.11	3.33	1
11096-82-5	Aroclor-1260		28.4	ug/kg	1.11	3.33	2

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/044f4401.d
Lab Smp Id: 1202003308 Client Smp ID: PBLK01LCS
Inj Date : 24-DEC-2009 16:23
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |1202003308|1|
Misc Info : |ECD82P_1S|936264|SVA|QC A|SOIL|LCS|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 44 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.774	1.773	0.001	8271312	132.784	4.4	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.608	5.609	-0.001	8329810	153.938	5.1	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.276	2.275	0.001	1445006	645.758	21.5	80.00- 120.00	100.00
2.599	2.599	0.000	3094789	660.536	22.0	196.32- 236.32	214.17
2.690	2.689	0.001	1246433	655.506	21.8	65.03- 105.03	86.26
2.825	2.824	0.001	634353	649.967	21.7	23.61- 63.61	43.90
2.977	2.976	0.001	978132	670.934	22.4	46.43- 86.43	67.69

Average of Peak Concentrations = 21.9

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
7 Aroclor-1260					CAS #: 11096-82-5		
4.016	4.015	0.001	3433776	824.417	27.5	80.00- 120.00	100.00
4.288	4.287	0.001	2137964	825.287	27.5	41.89- 81.89	62.26
4.453	4.453	0.000	2234804	849.346	28.3	43.64- 83.64	65.08
4.665	4.665	0.000	5424403	891.058	29.7	133.69- 173.69	157.97
4.856	4.854	0.002	2341201	795.745	26.5	53.82- 93.82	68.18
			Average of Peak Concentrations =		27.9		

Data File: /chem/eod2a.i/122409.b/044f4401.d

Date : 24-DEC-2009 16:23

Client ID: PBLK01LCS

Sample Info: |1202003308|1|

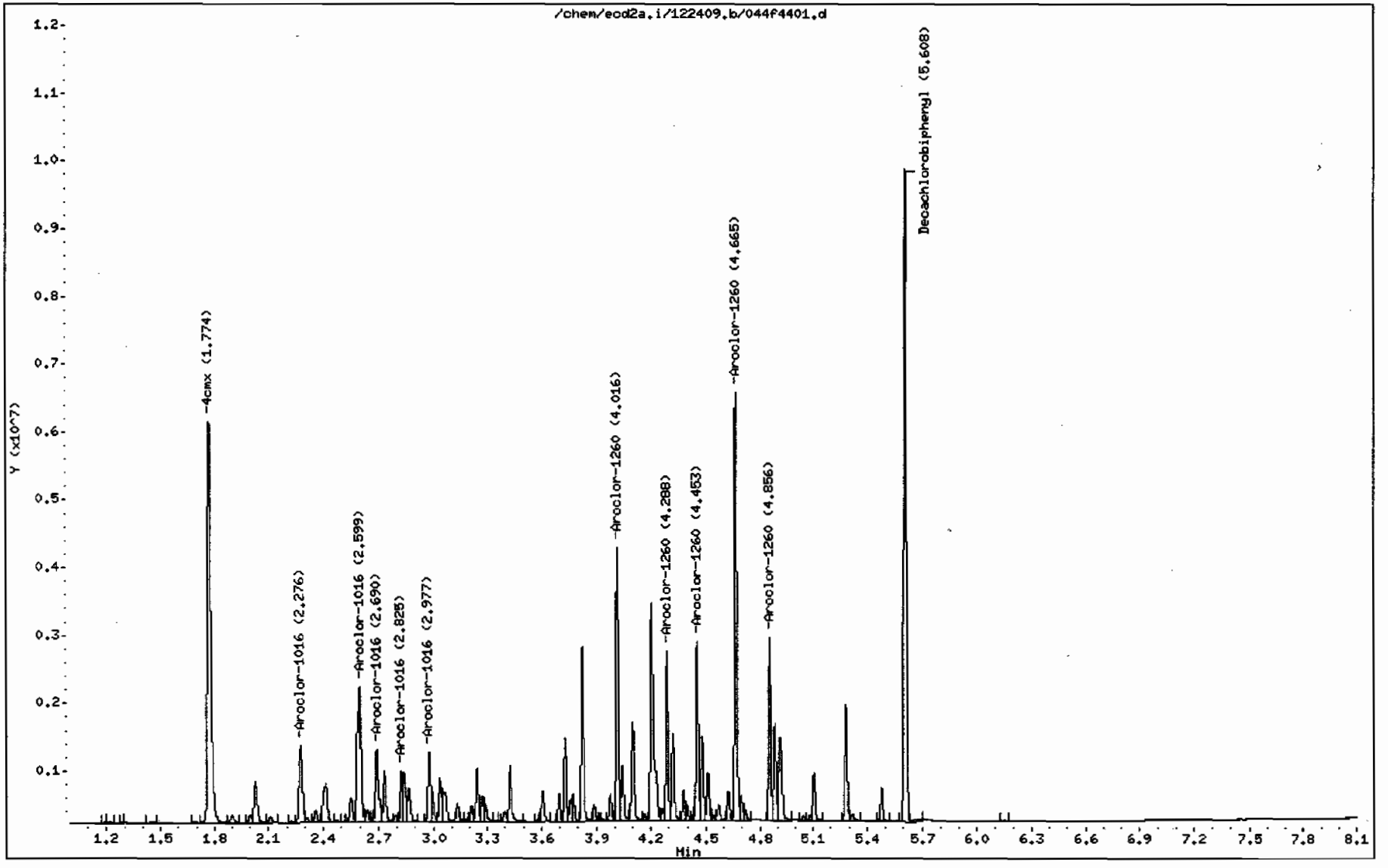
Volume Injected (uL): 1.0

Column phase: CLP1

Instrument: eod2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/044b4401.d
Lab Smp Id: 1202003308 Client Smp ID: PBLK01LCS
Inj Date : 24-DEC-2009 16:23
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |1202003308|1|
Misc Info : |ECD82P_1S|936264|SVA|QC A|SOIL|LCS|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 44 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

Cpnd Variable Local Compound Variable

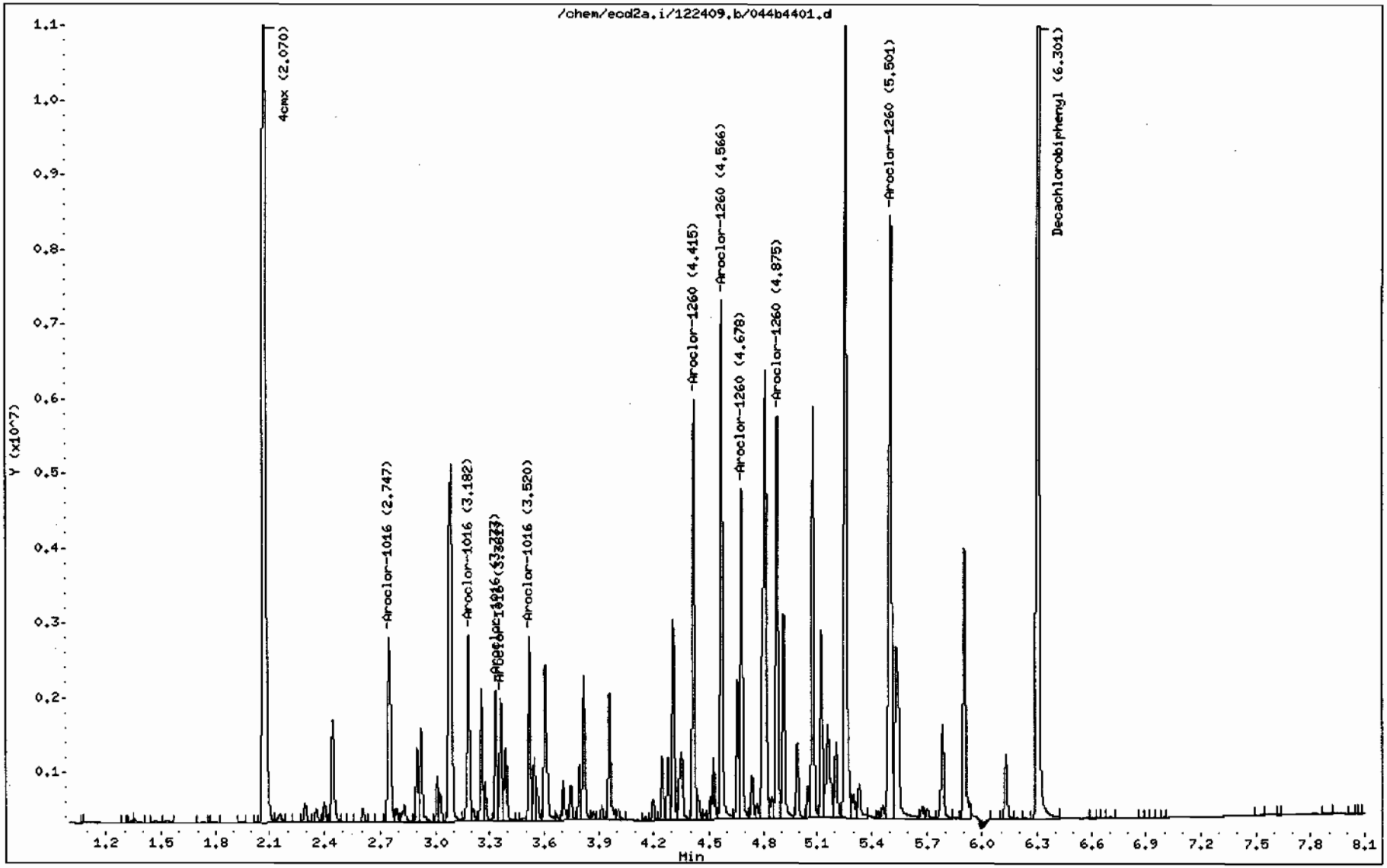
RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.070	2.070	0.000	18032662	139.444	4.6	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	18328215	162.509	5.4	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.747	2.746	0.001	3053082	672.808	22.4	80.00- 120.00	100.00
3.182	3.181	0.001	2415908	670.682	22.4	59.13- 99.13	79.13
3.333	3.331	0.002	1423200	693.152	23.1	25.78- 65.78	46.62
3.361	3.360	0.001	1435054	671.499	22.4	27.47- 67.47	47.00
3.520	3.519	0.001	1993147	694.351	23.1	44.28- 84.28	65.28

Average of Peak Concentrations = 22.7

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
7 Aroclor-1260					CAS #: 11096-82-5		
4.415	4.415	0.000	4724613	819.261	27.3	80.00- 120.00	100.00
4.566	4.566	0.000	6024775	845.714	28.2	107.85- 147.85	127.52
4.678	4.678	0.000	4083517	847.430	28.2	66.75- 106.75	86.43
4.875	4.876	-0.001	4732105	840.254	28.0	79.84- 119.84	100.16
5.501	5.501	0.000	8187273	905.921	30.2	146.20- 186.20	173.29
			Average of Peak Concentrations =		28.4		

Data File: /chem/ecd2a.i/122409.b/044b4401.d
Date : 24-DEC-2009 16:23
Client ID: PBLK01LCS
Sample Info: |120200330811|
Volume Injected (uL): 1.0
Column phase: CLP2

Instrument: ecd2a.i
Operator: JAOC
Column diameter: 0.25



PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1032	**Date Collected:**	12/17/2009 12:00	**Matrix:**	S
Lab Sample ID:	1202003309	**Date Received:**	12/22/2009 09:55	**%Moisture:**	14
Client Sample:	QC for batch 936263	**Client:**	LANL010	**Project:**	QC
Client ID:	RE12-10-7580MS	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	936264	**Inst:**	ECD2A.I	**Dilution:**	1
Run Date:	12/24/2009 16:45	**Analyst:**	JAOC	**Inj. Vol:**	1 uL
Prep Date:	12/23/2009 19:38	**Aliquot:**	30.13 g	**Final Volume:**	1 mL
Data File:	046f4601.d	**Column:**	1 CLP1	**Level:**	LOW
	046b4601.d		2 CLP2		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		24.8	ug/kg	1.29	3.86	1
11104-28-2	Aroclor-1221	U	3.86	ug/kg	1.29	3.86	1
11141-16-5	Aroclor-1232	U	3.86	ug/kg	1.29	3.86	1
53469-21-9	Aroclor-1242	U	3.86	ug/kg	1.29	3.86	1
12672-29-6	Aroclor-1248	U	3.86	ug/kg	1.29	3.86	1
11097-69-1	Aroclor-1254	U	3.86	ug/kg	1.29	3.86	1
11096-82-5	Aroclor-1260		28.7	ug/kg	1.29	3.86	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/046f4601.d
Lab Smp Id: 1202003309 Client Smp ID: RE12-10-7580MS
Inj Date : 24-DEC-2009 16:45
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |1202003309|1|
Misc Info : |ECD82P_1S|936264|SVA|QC A|SOIL|MS|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 46 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.13000	Weight of sample extracted (g)
M	14.04750	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.775	1.773	0.002	7438748	119.418	4.6	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	7428265	137.277	5.3	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.276	2.275	0.001	1440275	643.644	24.8	80.00- 120.00	100.00(M)
2.600	2.599	0.001	2968066	633.489	24.5	196.32- 236.32	206.08
2.691	2.689	0.002	1190385	626.030	24.2	65.03- 105.03	82.65
2.826	2.824	0.002	655184	671.310	25.9	23.61- 63.61	45.49
2.977	2.976	0.001	931742	639.114	24.7	46.43- 86.43	64.69
Average of Peak Concentrations =					24.8		

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
7 Aroclor-1260					CAS #: 11096-82-5		
4.015	4.015	0.000	2705104	649.470	25.1	80.00- 120.00	100.00(M)
4.286	4.287	-0.001	1911529	737.880	28.5	41.89- 81.89	70.66
4.452	4.453	-0.001	2090473	794.493	30.7	43.64- 83.64	77.28
4.665	4.665	0.000	4294233	705.407	27.2	133.69- 173.69	158.75
4.855	4.854	0.001	2436185	828.029	32.0	53.82- 93.82	90.06
			Average of Peak Concentrations =		28.7		

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/ecd2a.i/122409.b/046f4601.d

Date : 24-DEC-2009 16:45

Client ID: RE12-10-7580MS

Sample Info: |1202003309|1|

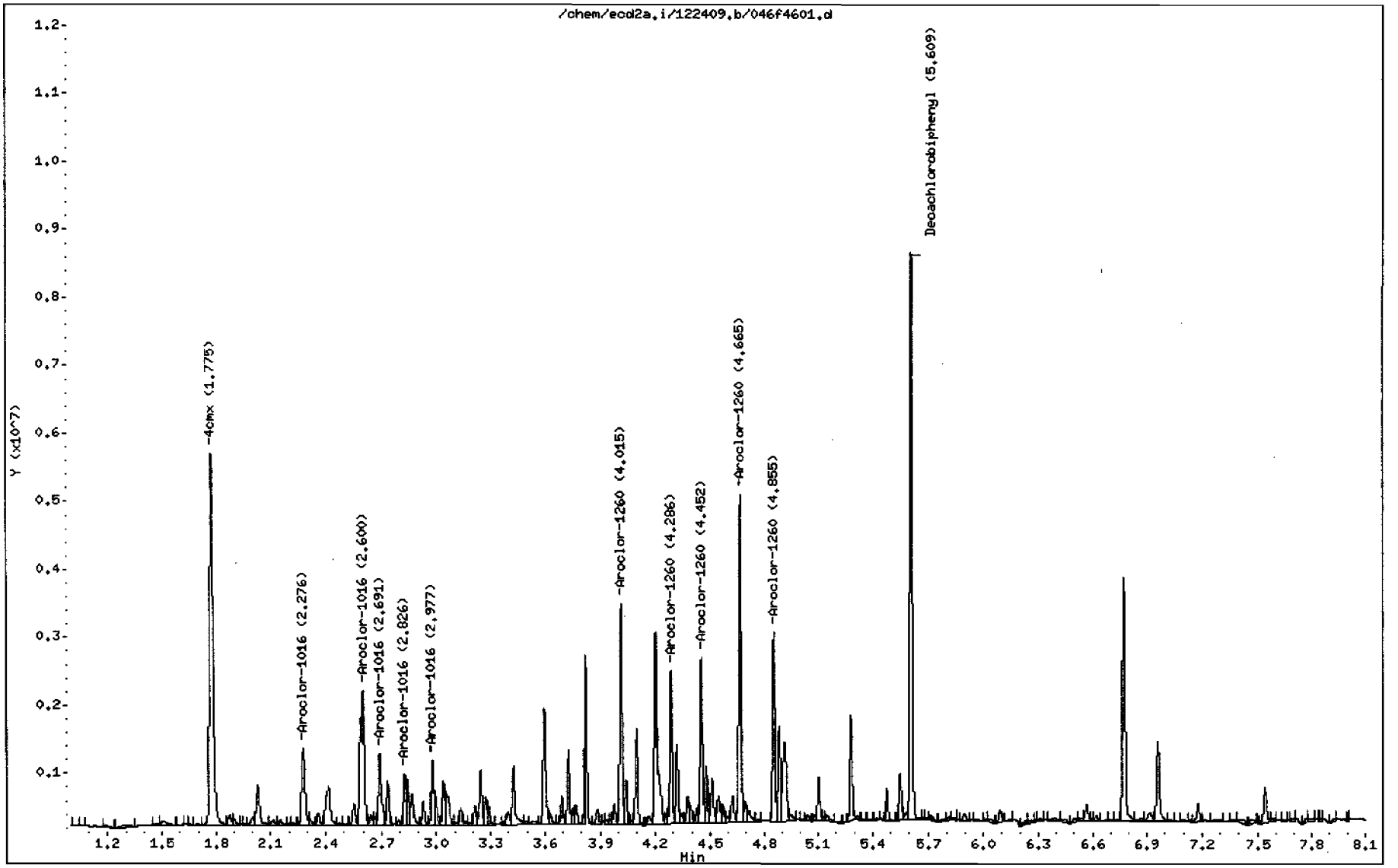
Volume Injected (uL): 1.0

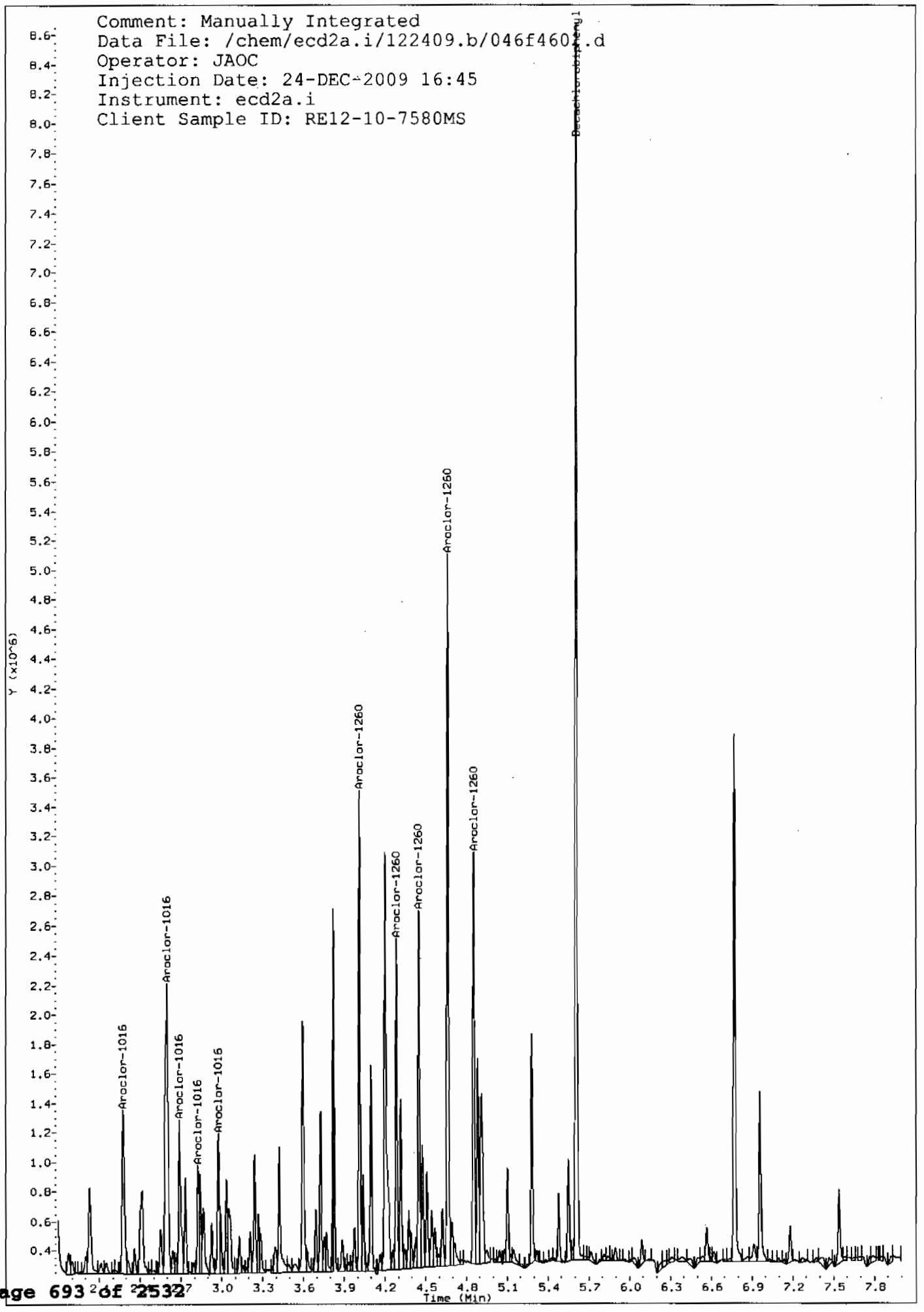
Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25




Comment: Manually Integrated
Data File: /chem/ecd2a.i/122409.b/046f460[illegible].d
Operator: JAOC
Injection Date: 24-DEC-2009 16:45
Instrument: ecd2a.i
Client Sample ID: RE12-10-7580MS
Decachlorodiphenyl
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1016
Aroclor-1016
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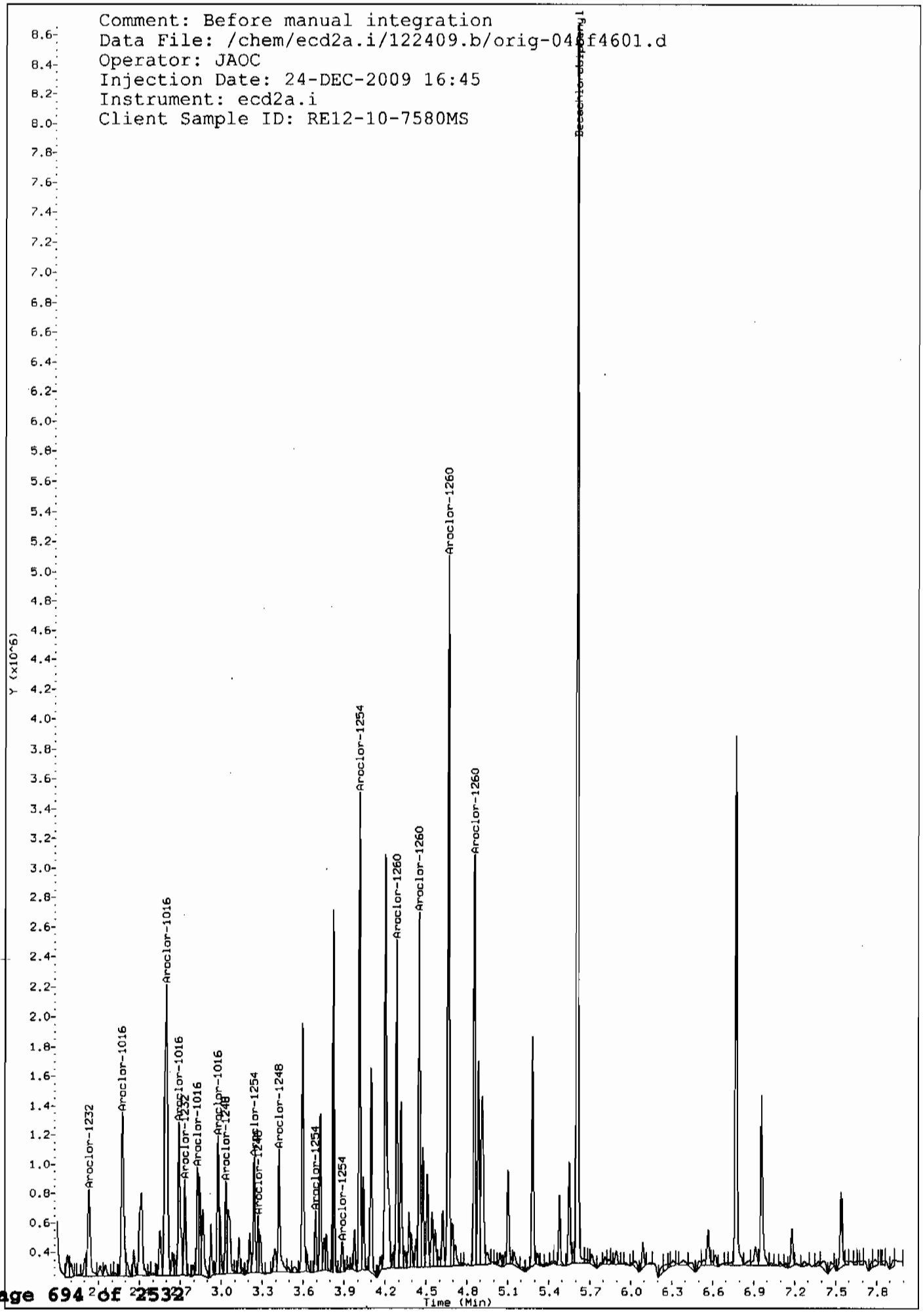
Y (x10^6)
Time (Min)


Comment: Before manual integration
Data File: /chem/ecd2a.i/122409.b/orig-04of4601.d
Operator: JAOC
Injection Date: 24-DEC-2009 16:45
Instrument: ecd2a.i
Client Sample ID: RE12-10-7580MS
Decachlorobiphenyl
Aroclor-1260
Aroclor-1254
Aroclor-1016
Aroclor-1232
Aroclor-1248
Y (x10^6)
Time (Min)

GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/046b4601.d
Lab Smp Id: 1202003309 Client Smp ID: RE12-10-7580MS
Inj Date : 24-DEC-2009 16:45
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |1202003309|1|
Misc Info : |ECD82P_1S|936264|SVA|QC A|SOIL|MS|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 46 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.13000	Weight of sample extracted (g)
M	14.04750	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.071	2.070	0.001	16451425	127.217	4.9	80.00- 120.00	100.00(M)
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	14653399	129.926	5.0	80.00- 120.00	100.00(M)
1 Aroclor-1016					CAS #: 12674-11-2		
2.748	2.746	0.002	2952200	650.577	25.1	80.00- 120.00	100.00(M)
3.182	3.181	0.001	2274971	631.556	24.4	59.13- 99.13	77.06
3.333	3.331	0.002	1366995	665.778	25.7	25.78- 65.78	46.30
3.361	3.360	0.001	1279080	598.515	23.1	27.47- 67.47	43.33
3.519	3.519	0.000	1963877	684.155	26.4	44.28- 84.28	66.52

Average of Peak Concentrations = 24.9

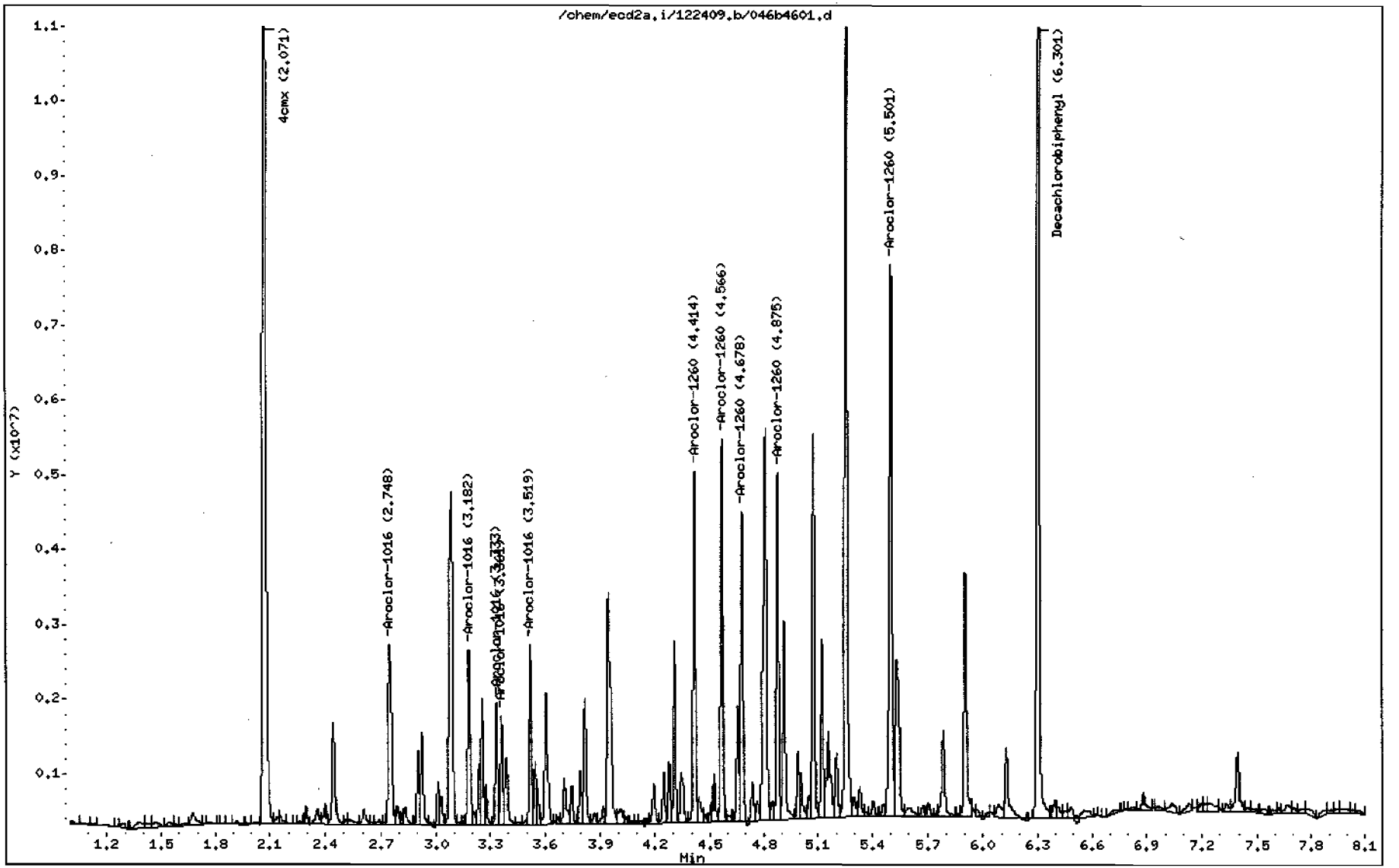
RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
7 Aroclor-1260					CAS #: 11096-82-5		
4.414	4.415	-0.001	4085409	708.421	27.4	80.00- 120.00	100.00(M)
4.566	4.566	0.000	4451150	624.820	24.1	107.85- 147.85	108.95
4.678	4.678	0.000	3693687	766.531	29.6	66.75- 106.75	90.41
4.875	4.876	-0.001	4062520	721.359	27.8	79.84- 119.84	99.44
5.501	5.501	0.000	7316472	809.567	31.3	146.20- 186.20	179.09
Average of Peak Concentrations =					28.0		

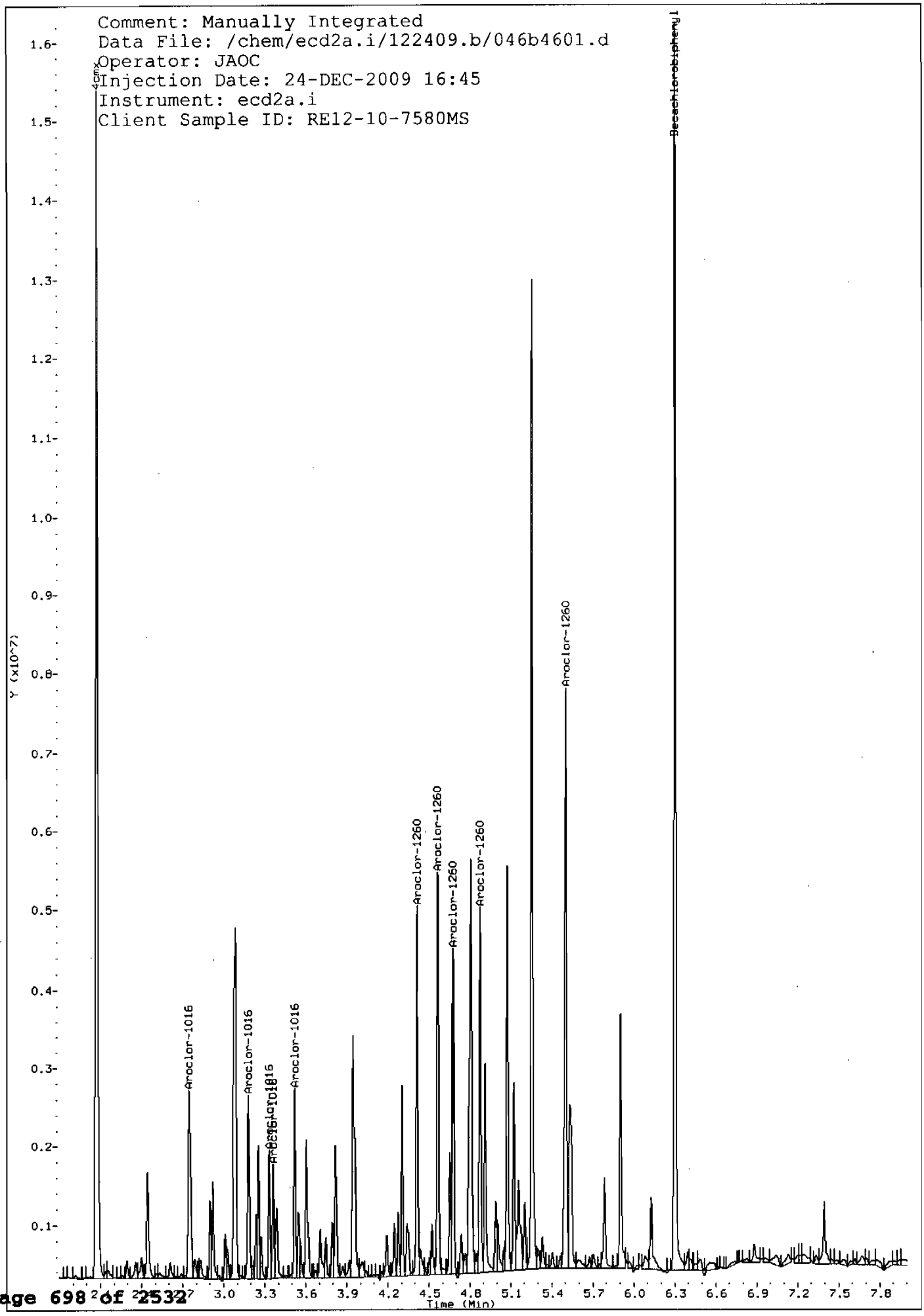
QC Flag Legend

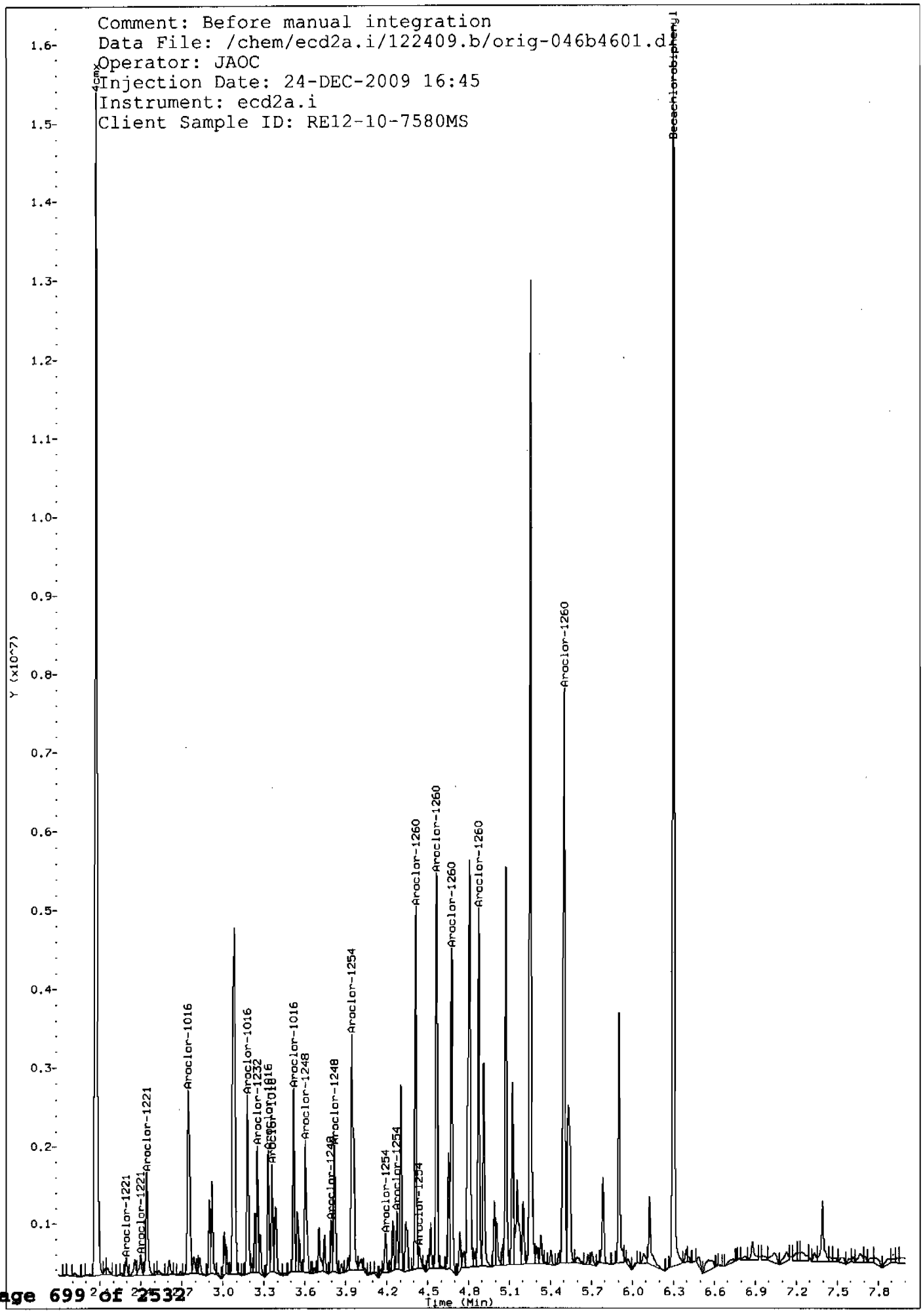
M - Compound response manually integrated.

Data File: /chem/ecd2a.i/122409.b/046b4601.d
Date : 24-DEC-2009 16:45
Client ID: RE12-10-7580MS
Sample Info: |1202003309|1|
Volume Injected (uL): 1.0
Column phase: CLP2

Instrument: ecd2a.i
Operator: JAOC
Column diameter: 0.25




Comment: Manually Integrated
Data File: /chem/ecd2a.i/122409.b/046b4601.d
Operator: JAOC
Injection Date: 24-DEC-2009 16:45
Instrument: ecd2a.i
Client Sample ID: RE12-10-7580MS
Decachlorobiphenyl
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Y (x10^7)
Time (Min)


Comment: Before manual integration
Data File: /chem/ecd2a.i/122409.b/orig-046b4601.d
Operator: JAOC
Injection Date: 24-DEC-2009 16:45
Instrument: ecd2a.i
Client Sample ID: RE12-10-7580MS
Y (x10^7)
Time (Min)
Decachlorobiphenyl
Aroclor-1260
Aroclor-1254
Aroclor-1248
Aroclor-1232
Aroclor-1221
Aroclor-1016

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**10-1032**	**Date Collected:**	**12/17/2009 12:00**	**Matrix:**	**S**
Lab Sample ID:	**1202003310**	**Date Received:**	**12/22/2009 09:55**	**%Moisture:**	**14**
Client Sample:	**QC for batch 936263**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**RE12-10-7580MSD**	**Method:**	**SW846 8082**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**936264**	**Inst:**	**ECD2A.I**	**Dilution:**	**1**
Run Date:	**12/24/2009 16:56**	**Analyst:**	**JAOC**	**Inj. Vol:**	**1 uL**
Prep Date:	**12/23/2009 19:38**	**Aliquot:**	**30.09 g**	**Final Volume:**	**1 mL**
Data File:	**047f4701.d**	**Column:**	**1 CLP1**	**Level:**	**LOW**
	047b4701.d		**2 CLP2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016		22.5	ug/kg	1.29	3.87	1
11104-28-2	Aroclor-1221	U	3.87	ug/kg	1.29	3.87	1
11141-16-5	Aroclor-1232	U	3.87	ug/kg	1.29	3.87	1
53469-21-9	Aroclor-1242	U	3.87	ug/kg	1.29	3.87	1
12672-29-6	Aroclor-1248	U	3.87	ug/kg	1.29	3.87	1
11097-69-1	Aroclor-1254	U	3.87	ug/kg	1.29	3.87	1
11096-82-5	Aroclor-1260		26.1	ug/kg	1.29	3.87	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/047f4701.d
Lab Smp Id: 1202003310 Client Smp ID: RE12-10-7580MSD
Inj Date : 24-DEC-2009 16:56
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |1202003310|1|
Misc Info : |ECD82P_1S|936264|SVA|QC A|SOIL|MSD|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-F-8082-111209A.m
Meth Date : 28-Dec-2009 07:15 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012f1201.d
Als bottle: 47 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.09000	Weight of sample extracted (g)
M	14.04750	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.774	1.773	0.001	7017740	112.659	4.4	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.609	5.609	0.000	6877715	127.103	4.9	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.276	2.275	0.001	1364289	609.686	23.6	80.00- 120.00	100.00
2.599	2.599	0.000	2762228	589.556	22.8	196.32- 236.32	202.47
2.690	2.689	0.001	1076602	566.191	21.9	65.03- 105.03	78.91
2.825	2.824	0.001	575368	589.530	22.8	23.61- 63.61	42.17
2.977	2.976	0.001	809154	555.026	21.5	46.43- 86.43	59.31

Average of Peak Concentrations = 22.5

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
7 Aroclor-1260					CAS #: 11096-82-5		
4.014	4.015	-0.001	2418161	580.577	22.4	80.00- 120.00	100.00
4.287	4.287	0.000	1734692	669.618	25.9	41.89- 81.89	71.74
4.453	4.453	0.000	1891480	718.864	27.8	43.64- 83.64	78.22
4.665	4.665	0.000	3997581	656.676	25.4	133.69- 173.69	165.31
4.854	4.854	0.000	2223578	755.766	29.2	53.82- 93.82	91.95
			Average of Peak Concentrations =		26.1		

Data File: /chem/ecd2a.i/122409.b/047f4701.d

Date : 24-DEC-2009 16:56

Client ID: RE12-10-7580MSD

Sample Info: |1202003310|1|

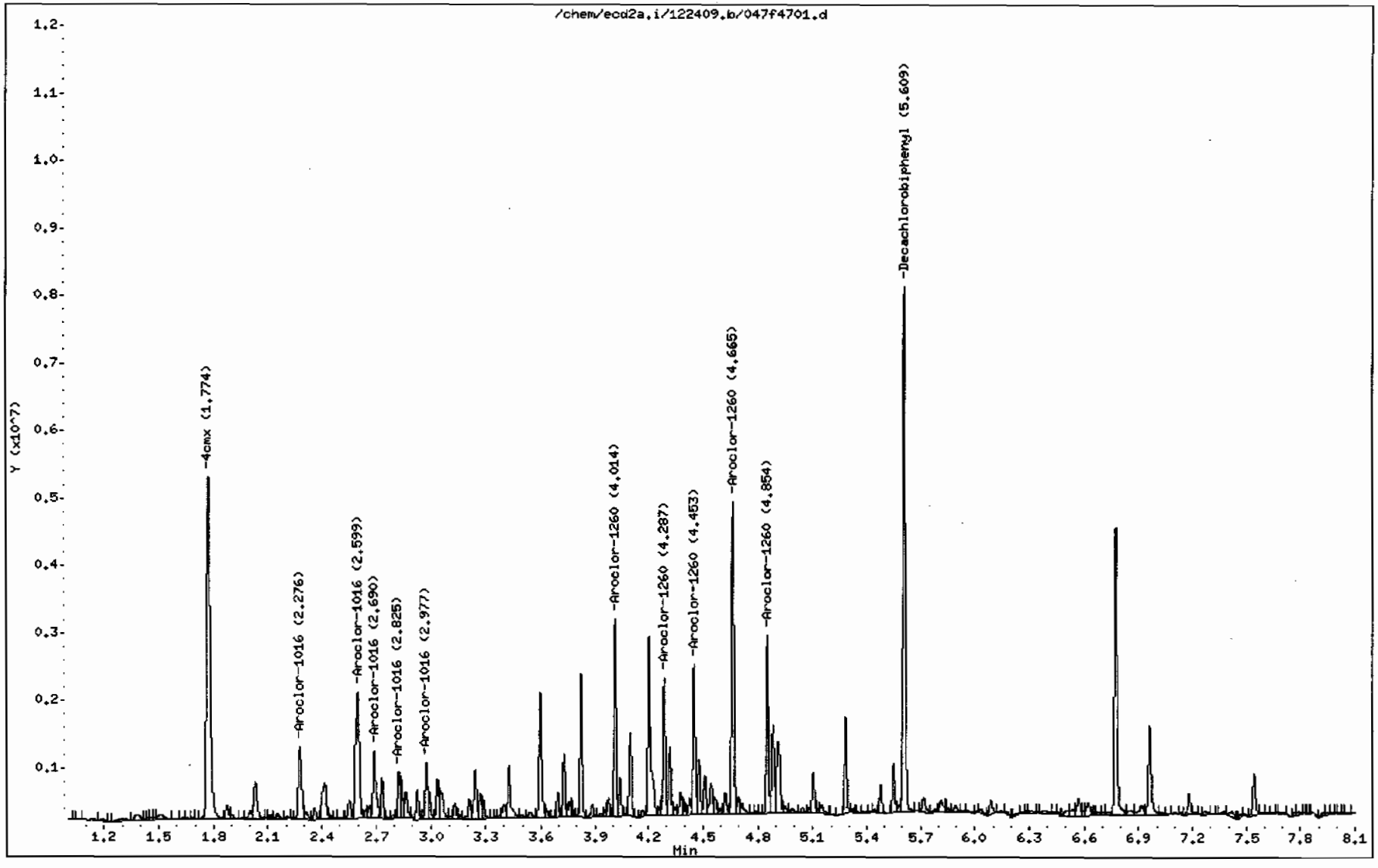
Volume Injected (uL): 1.0

Column phase: CLP1

Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd2a.i/122409.b/047b4701.d
Lab Smp Id: 1202003310 Client Smp ID: RE12-10-7580MSD
Inj Date : 24-DEC-2009 16:56
Operator : JAOC Inst ID: ecd2a.i
Smp Info : |1202003310|1|
Misc Info : |ECD82P_1S|936264|SVA|QC A|SOIL|MSD|||
Comment :
Method : /chem/ecd2a.i/122409.b/ECD2-B-8082-111209A.m
Meth Date : 28-Dec-2009 07:11 jen01212 Quant Type: ESTD
Cal Date : 02-DEC-2009 07:50 Cal File: 012b1201.d
Als bottle: 47 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1032.sub
Target Version: 3.50 Sample Matrix: Soil

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.09000	Weight of sample extracted (g)
M	14.04750	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.070	2.070	0.000	15730684	121.643	4.7	80.00- 120.00	100.00(M)
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
6.301	6.301	0.000	13988680	124.032	4.8	80.00- 120.00	100.00(M)
1 Aroclor-1016					CAS #: 12674-11-2		
2.747	2.746	0.001	2859005	630.039	24.4	80.00- 120.00	100.00(M)
3.181	3.181	0.000	2132205	591.923	22.9	59.13- 99.13	74.58
3.333	3.331	0.002	1293029	629.754	24.3	25.78- 65.78	45.23
3.361	3.360	0.001	1146476	536.466	20.7	27.47- 67.47	40.10
3.519	3.519	0.000	1780579	620.299	24.0	44.28- 84.28	62.28

Average of Peak Concentrations = 23.3

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
7 Aroclor-1260					CAS #: 11096-82-5		
4.414	4.415	-0.001	3803300	659.503	25.5	80.00- 120.00	100.00(M)
4.565	4.566	-0.001	4185474	587.526	22.7	107.85- 147.85	110.05
4.677	4.678	-0.001	3399456	705.471	27.3	66.75- 106.75	89.38
4.875	4.876	-0.001	3575232	634.834	24.5	79.84- 119.84	94.00
5.501	5.501	0.000	6788286	751.123	29.0	146.20- 186.20	178.48
			Average of Peak Concentrations =		25.8		

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/ecd2a.i/122409.b/047b4701.d

Date : 24-DEC-2009 16:56

Client ID: RE12-10-7580MSD

Sample Info: |1202003310|1|

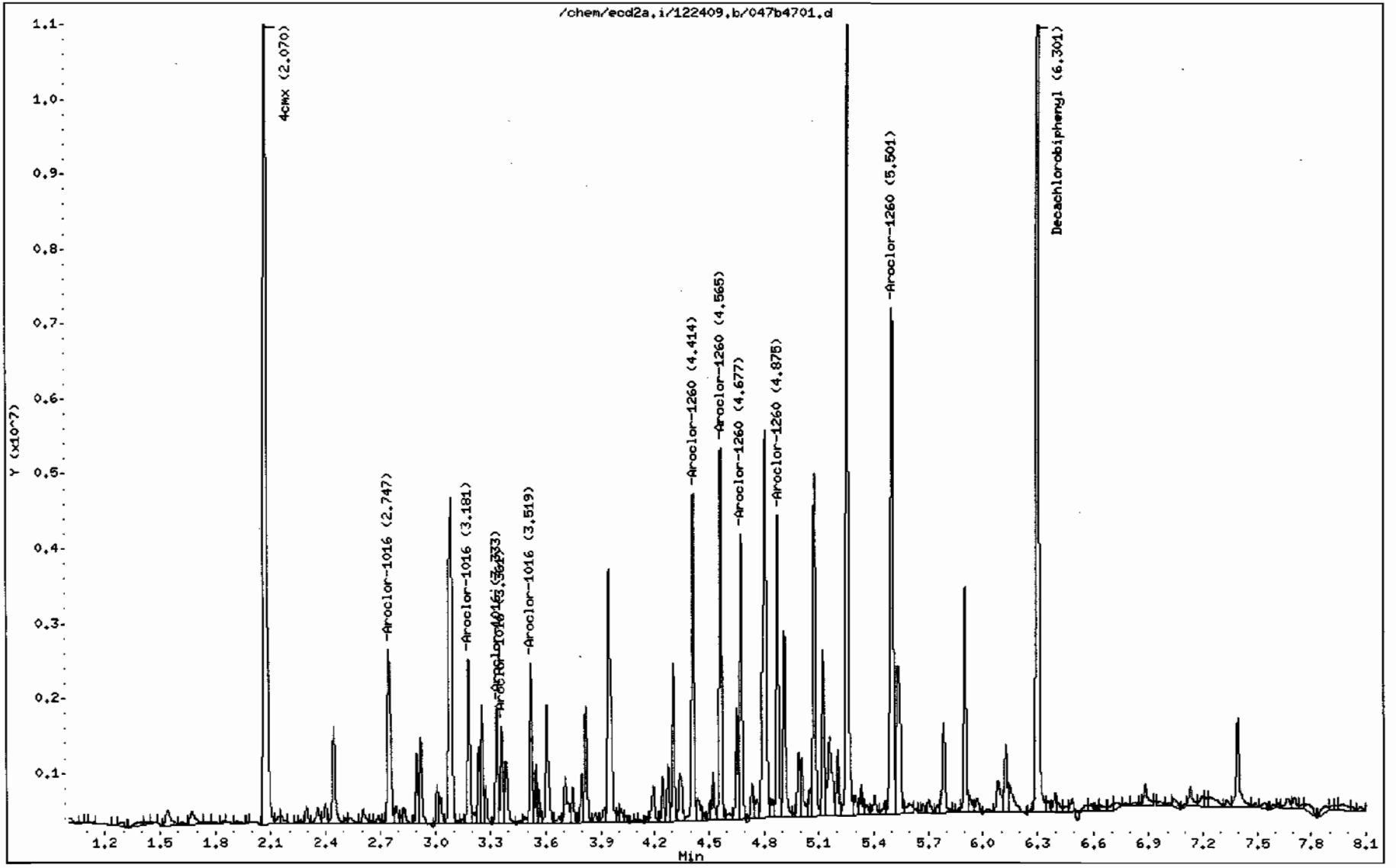
Volume Injected (uL): 1.0

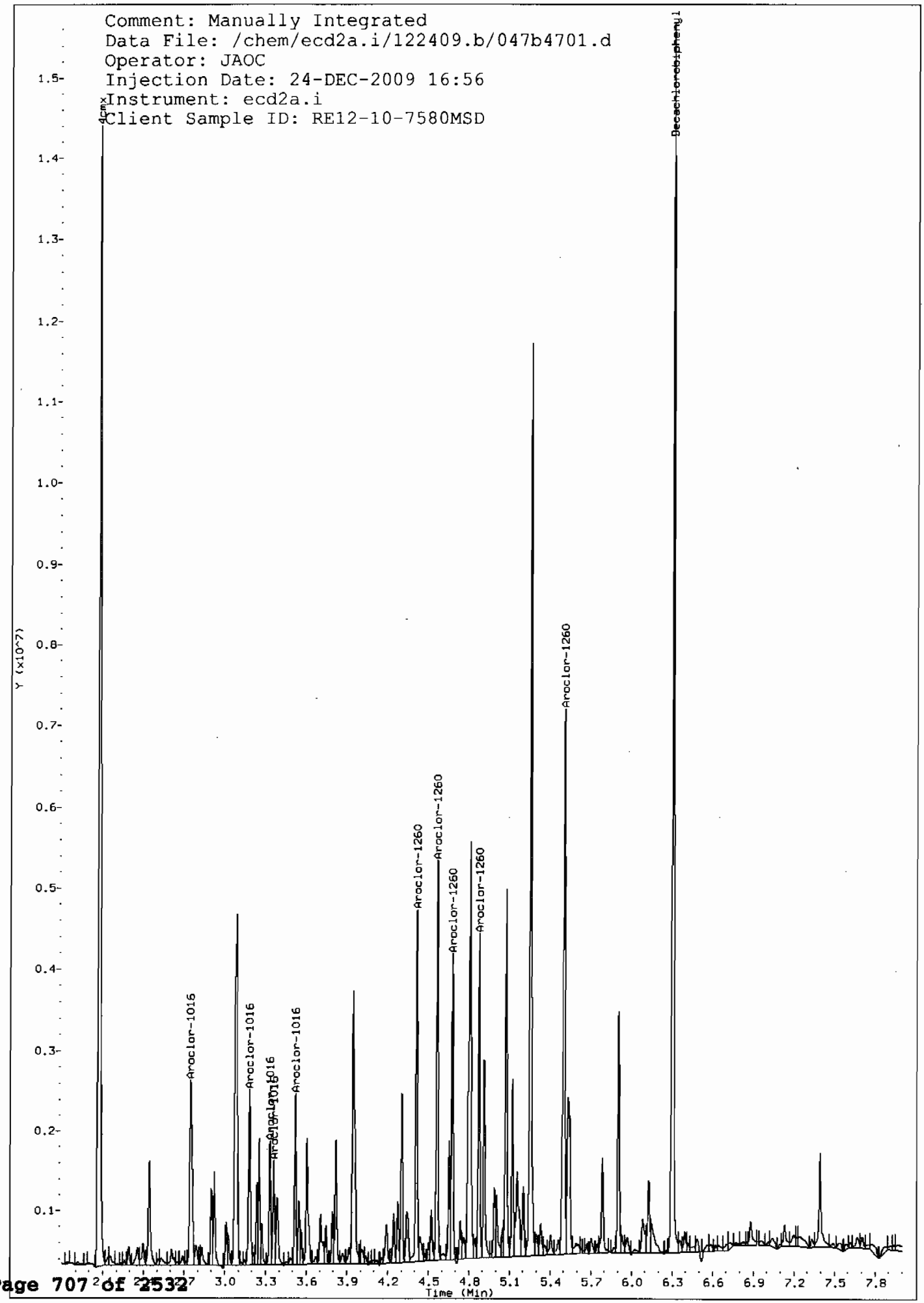
Column phase: CLP2

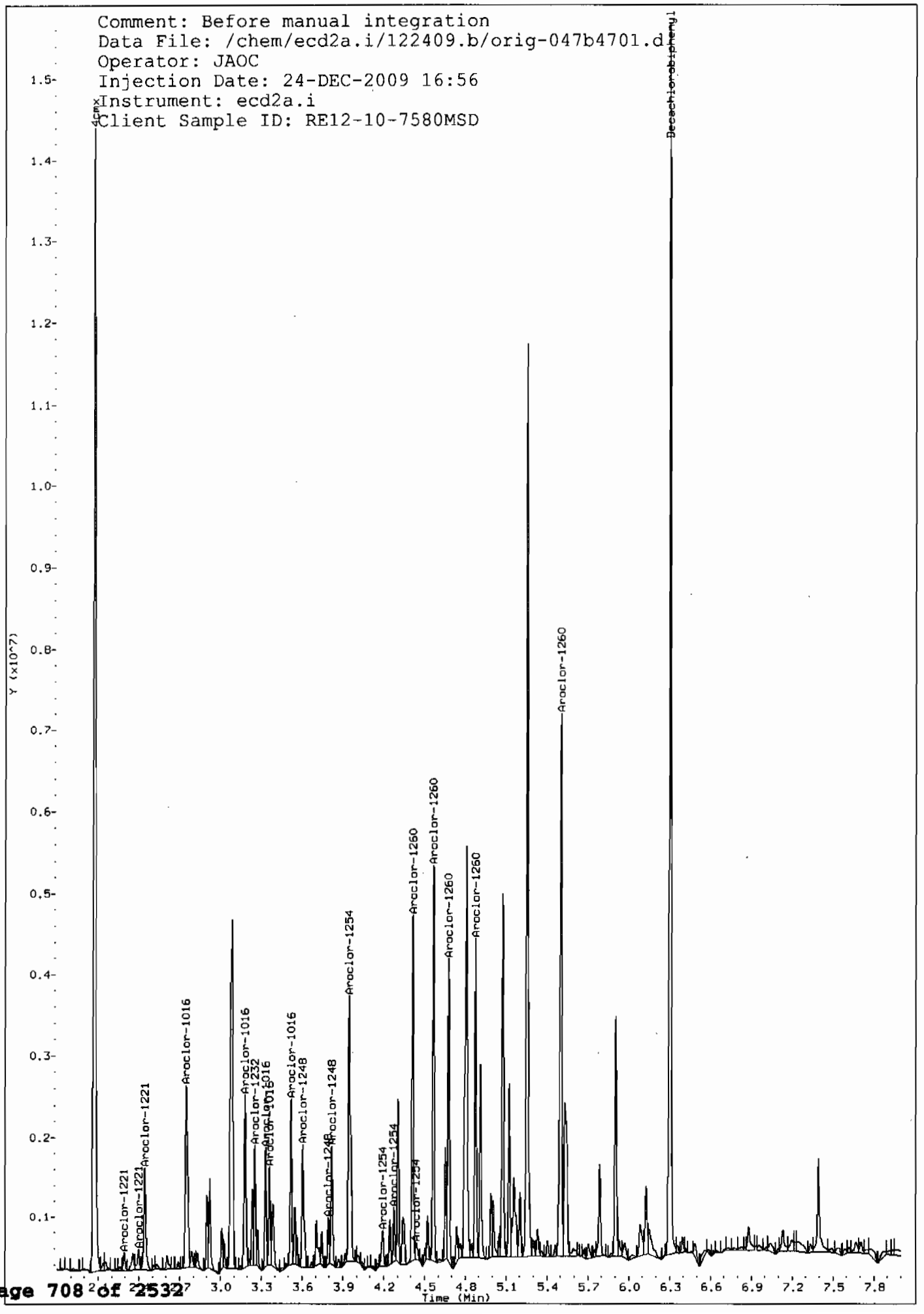
Instrument: ecd2a.i

Operator: JAOC

Column diameter: 0.25




Comment: Manually Integrated
Data File: /chem/ecd2a.i/122409.b/047b4701.d
Operator: JAOC
Injection Date: 24-DEC-2009 16:56
Instrument: ecd2a.i
Client Sample ID: RE12-10-7580MSD
Decachlorobiphenyl
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1016
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Aroclor-1260
Y (x10^7)
Time (Min)


Comment: Before manual integration
Data File: /chem/ecd2a.i/122409.b/orig-047b4701.d
Operator: JAOC
Injection Date: 24-DEC-2009 16:56
Instrument: ecd2a.i
Client Sample ID: RE12-10-7580MSD
Decachlorobiphenyl
Aroclor-1260
Aroclor-1254
Aroclor-1248
Aroclor-1232
Aroclor-1016
Aroclor-1221
Y (x10^7)
Time (Min)

MISCELLANEOUS DATA

GEL ORGANIC RUN LOG INSTRUMENT ID: ECD2

DATE: 12/14/2009 METHOD: ECD2-F-8082-111209A.m OPERATOR:YS1 REVIEWED BY:_____
DATE:_____

HARDWARE CONFIGURATION & METHOD SUMMARY: No. 1 on pg. 1 SOLVENT LOT:DA385
ALUMINA LOT:1230997-A
COPPER LOT:236547-A

Calibration & QC Information
Initial Calibration Dates: See Calibration History and Standards Log
Initial Calibration Std ID's: See Calibration History and Standards Log
GEL SOP GL-OA-E-040
EPA Method: 8082 Polychlorinated Biphenyls PCBs by Gas Chromatography
Sequence Number: Injection Volume: 1.0 uL

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
001f0101.d	WAR091130-99 IB	YS1	14-DEC-2009 07:00		121409	1.0		CLEAN
002f0201.d	WAR091211-60 01	YS1	14-DEC-2009 07:11		121409	1.0		DUSE RE-I-CAL
003f0301.d	WAR091102-54	YS1	14-DEC-2009 07:22		121409	1.0		PASSED ON BOTH COLUMNS
004f0401.d	WAR091102-42	YS1	14-DEC-2009 07:33		121409	1.0		PASSED ON BOTH COLUMNS
005f0501.d	WAR091027-48	YS1	14-DEC-2009 07:44		121409	1.0		PASSED ON BOTH COLUMNS
006f0601.d	WAR090930-32	YS1	14-DEC-2009 07:55		121409	1.0		PATTERN ONLY
007f0701.d	WAR091111-21	YS1	14-DEC-2009 08:07		121409	1.0		PATTERN ONLY
008f0801.d	AR1660-4	YS1	14-DEC-2009 08:18		121409	1.0		DUSE SCREEN
009f0901.d	WAR091111-62	YS1	14-DEC-2009 08:29		121409	1.0		PATTERN ONLY
010f1001.d	WAR091106-68	YS1	14-DEC-2009 08:40		121409	1.0		PATTERN ONLY
011f1101.d	WAR091214-01 60	YS1	14-DEC-2009 08:51		121409	1.0		AR1660 I-CAL LEVEL 1
012f1201.d	WAR091214-02 60	YS1	14-DEC-2009 09:02		121409	1.0		AR1660 I-CAL LEVEL 2
013f1301.d	WAR091214-03 60	YS1	14-DEC-2009 09:13		121409	1.0		AR1660 I-CAL LEVEL 3
014f1401.d	WAR091214-04 60	YS1	14-DEC-2009 09:24		121409	1.0		AR1660 I-CAL LEVEL 4
015f1501.d	IAR091102-01	YS1	14-DEC-2009 09:35		121409	1.0		AR1660 I-CAL LEVEL 5

Instrument Batch: /chem/ecd2a.i/121409.b Page: 1

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
016f1601.d	WAR091211-60 01	YS1	14-DEC-2009 09:46		121409	1.0		PASSED ON BOTH COLUMNS

017f1701.d	WAR091020-DDT	YS1	14-DEC-2009 09:58		121409	1.0		DDT ANALOG STANDARD
018f1801.d	WAR091130-99 02	YS1	14-DEC-2009 10:09	SOLV	121409	1.0	IB	CLEAN
019f1901.d	1201992205	YS1	14-DEC-2009 10:20	931371	241934	1.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
020f2001.d	1201992206	YS1	14-DEC-2009 10:31	931371	241934	1.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
021f2101.d	241934001	YS1	14-DEC-2009 10:42	931371	241934	10.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
022f2201.d	1201992207	YS1	14-DEC-2009 10:53	931371	241934	10.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
023f2301.d	1201992208	YS1	14-DEC-2009 11:04	931371	241934	10.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
024f2401.d	241934002	YS1	14-DEC-2009 11:15	931371	241934	1.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
025f2501.d	241934003	YS1	14-DEC-2009 11:26	931371	241934	1.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
026f2601.d	241934004	YS1	14-DEC-2009 11:37	931371	241934	10.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
027f2701.d	241934005	YS1	14-DEC-2009 11:48	931371	241934	1.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
028f2801.d	241934006	YS1	14-DEC-2009 11:59	931371	241934	20.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
029f2901.d	WAR091211-60 02	YS1	14-DEC-2009 12:11	1660	121409	1.0	CVS	PASSED ON BOTH COLUMNS
030f3001.d	WAR091130-99 03	YS1	14-DEC-2009 12:22	SOLV	121409	1.0	IB	CLEAN
031f3101.d	241934007	YS1	14-DEC-2009 12:33	931371	241934	1.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
032f3201.d	241934008	YS1	14-DEC-2009 12:44	931371	241934	10.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
033f3301.d	241934009	YS1	14-DEC-2009 13:00	931371	241934	1.0	NREA	DUSE RR5X AFTER MORE SULFUR CLEANED
034f3401.d	241934010	YS1	14-DEC-2009 13:11	931371	241934	10.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
035f3501.d	241934011	YS1	14-DEC-2009 13:27	931371	241934	5.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER

Instrument Batch: /chem/ecd2a.i/121409.b Page: 2

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
036f3601.d	241935001	YS1	14-DEC-2009 13:43	931371	241935	1.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
037f3701.d	241935004	YS1	14-DEC-2009 13:54	931371	241935	5.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
038f3801.d	241935005	YS1	14-DEC-2009 14:05	931371	241935	5.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
039f3901.d	241935006	YS1	14-DEC-2009 14:21	931371	241935	50.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
040f4001.d	241935007	YS1	14-DEC-2009 14:36	931371	241935	5.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
041f4101.d	WAR091211-60 03	YS1	14-DEC-2009 14:52		121409	1.0		PASSED ON BOTH COLUMNS

042f4201.d	WAR091130-99 04	YS1	14-DEC-2009 15:03	SOLV	121409	1.0	IB	CLEAN
043f4301.d	241934009	YS1	14-DEC-2009 15:14	931371	241934	5.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
044f4401.d	241935008	YS1	14-DEC-2009 15:30	931371	241935	20000.0	NREA	UPLOAD BOTH COLUMNS, USE HIGHER
045f4501.d	WAR091211-60 04	YS1	14-DEC-2009 15:45		121409	1.0		PASSED ON BOTH COLUMNS

GEL ORGANIC RUN LOG INSTRUMENT ID: ECD2

DATE: 12/28/2009 METHOD: ECD2-F-8082-111209A.m OPERATOR:JAOC REVIEWED BY:_____
DATE:_____

HARDWARE CONFIGURATION & METHOD SUMMARY: No. 1 on pg. 1 SOLVENT LOT:DA385
ALUMINA LOT:1230997-A
COPPER LOT:236547-A

Calibration & QC Information
Initial Calibration Dates: See Calibration History and Standards Log
Initial Calibration Std ID's: See Calibration History and Standards Log
GEL SOP GL-OA-E-040
EPA Method: 8082 Polychlorinated Biphenyls PCBs by Gas Chromatography
Sequence Number:122409 Injection Volume: 1.0 uL

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
001f0101.d	WAR091130-99 IB	JAOC	24-DEC-2009 06:04		122409	1.0		CLEAN
002f0201.d	WAR091223-45 01	JAOC	24-DEC-2009 06:15		122409	1.0		PASSES BOTH COLUMNS
003f0301.d	WAR091216-54	JAOC	24-DEC-2009 06:26		122409	1.0		PASSES BOTH COLUMNS
004f0401.d	WAR091217-42	JAOC	24-DEC-2009 06:38		122409	1.0		PASSES BOTH COLUMNS
005f0501.d	WAR091217-48	JAOC	24-DEC-2009 06:49		122409	1.0		PASSES BOTH COLUMNS
006f0601.d	WAR090930-32	JAOC	24-DEC-2009 07:00		122409	1.0		PATTERN ONLY
007f0701.d	WAR091111-21	JAOC	24-DEC-2009 07:11		122409	1.0		PATTERN ONLY
008f0801.d	WAR091111-62	JAOC	24-DEC-2009 07:22		122409	1.0		PATTERN ONLY
009f0901.d	WAR091106-68	JAOC	24-DEC-2009 07:33		122409	1.0		PATTERN ONLY
010f1001.d	WAR091219-DDT	JAOC	24-DEC-2009 07:44		122409	1.0		DDT
011f1101.d	WAR091130-99 02	JAOC	24-DEC-2009 08:02		122409	1.0		CLEAN
012f1201.d	1202001905	JAOC	24-DEC-2009 08:13	935584	243265	1.0	QC A	UPLOAD BOTH, USE HIGHER
013f1301.d	1202001906	JAOC	24-DEC-2009 08:25	935584	243265	1.0	QC A	UPLOAD BOTH, USE HIGHER
014f1401.d	243265001	JAOC	24-DEC-2009 08:36	935584	243265	1.0	CNUC	UPLOAD BOTH, USE HIGHER
015f1501.d	243265002	JAOC	24-DEC-2009 08:47	935584	243265	1.0	CNUC	UPLOAD BOTH, USE HIGHER

Instrument Batch: /chem/ecd2a.i/122409.b Page: 1

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
016f1601.d	243265003	JAOC	24-DEC-2009 08:58	935584	243265	1.0	CNUC	UPLOAD BOTH, USE HIGHER

017f1701.d	243265004	JAOC	24-DEC-2009 09:09	935584	243265	1.0	CNUC	UPLOAD BOTH, USE HIGHER
018f1801.d	1202001907	JAOC	24-DEC-2009 09:20	935584	243265	1.0	QC A	UPLOAD BOTH, USE HIGHER
019f1901.d	1202001908	JAOC	24-DEC-2009 09:31	935584	243265	1.0	QC A	UPLOAD BOTH, USE HIGHER
020f2001.d	243265005	JAOC	24-DEC-2009 09:42	935584	243265	1.0	CNUC	UPLOAD BOTH, USE HIGHER
021f2101.d	243265006	JAOC	24-DEC-2009 09:53	935584	243265	1.0	CNUC	UPLOAD BOTH, USE HIGHER
022f2201.d	WAR091223-45 02	JAOC	24-DEC-2009 10:09		122409	1.0		PASSES BOTH COLUMNS
023f2301.d	WAR091130-99 03	JAOC	24-DEC-2009 10:20		122409	1.0		CLEAN
024f2401.d	243265007	JAOC	24-DEC-2009 10:31	935584	243265	1.0	CNUC	UPLOAD BOTH, USE HIGHER
025f2501.d	WAR091223-45 03	JAOC	24-DEC-2009 10:52		122409	1.0		PASSES BOTH COLUMNS
026f2601.d	WAR091130-99 04	JAOC	24-DEC-2009 12:11		122409	1.0		CLEAN
027f2701.d	1202002962	JAOC	24-DEC-2009 12:22	936082	242613	1.0	QC A	UPLOAD BOTH, USE HIGHER
028f2801.d	1202002963	JAOC	24-DEC-2009 12:33	936082	242613	1.0	QC A	UPLOAD BOTH, USE HIGHER
029f2901.d	242613003	JAOC	24-DEC-2009 12:44	936082	242613	1.0	ORNL	UPLOAD BOTH, USE HIGHER
030f3001.d	1202002964	JAOC	24-DEC-2009 12:56	936082	242613	1.0	QC A	UPLOAD BOTH, USE HIGHER
031f3101.d	1202002965	JAOC	24-DEC-2009 13:07	936082	242613	1.0	QC A	UPLOAD BOTH, USE HIGHER
032f3201.d	WAR091223-45 04	JAOC	24-DEC-2009 13:18		122409	1.0		PASSES BOTH COLUMNS
033f3301.d	WAR091130-99 05	JAOC	24-DEC-2009 13:58		122409	1.0		CLEAN
034f3401.d	1202002524	JAOC	24-DEC-2009 14:09	935878	243259	1.0	QC A	UPLOAD BOTH, USE HIGHER
035f3501.d	1202002525	JAOC	24-DEC-2009 14:20	935878	243259	1.0	QC A	UPLOAD BOTH, USE HIGHER

Instrument Batch: /chem/ecd2a.i/122409.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
036f3601.d	243259001	JAOC	24-DEC-2009 14:31	935878	243259	5.0	BBES	UPLOAD BOTH, USE HIGHER
037f3701.d	1202002526	JAOC	24-DEC-2009 14:47	935878	243259	5.0	QC A	UPLOAD BOTH, USE HIGHER
038f3801.d	1202002527	JAOC	24-DEC-2009 15:02	935878	243259	5.0	QC A	UPLOAD BOTH, USE HIGHER
039f3901.d	243259002	JAOC	24-DEC-2009 15:18	935878	243259	5.0	BBES	UPLOAD BOTH, USE HIGHER
040f4001.d	243259003	JAOC	24-DEC-2009 15:34	935878	243259	5.0	BBES	UPLOAD BOTH, USE HIGHER
041f4101.d	WAR091223-45 05	JAOC	24-DEC-2009 15:50		122409	1.0		PASSES BOTH COLUMNS

042f4201.d	WAR091130-99 06	JAOC	24-DEC-2009 16:01		122409	1.0		CLEAN
043f4301.d	1202003307	JAOC	24-DEC-2009 16:12	936264	10-1032	1.0	QC A	UPLOAD BOTH, USE HIGHER
044f4401.d	1202003308	JAOC	24-DEC-2009 16:23	936264	10-1032	1.0	QC A	UPLOAD BOTH, USE HIGHER
045f4501.d	243385001	JAOC	24-DEC-2009 16:34	936264	10-1032	1.0	LANL	UPLOAD BOTH, USE HIGHER
046f4601.d	1202003309	JAOC	24-DEC-2009 16:45	936264	10-1032	1.0	QC A	UPLOAD BOTH, USE HIGHER
047f4701.d	1202003310	JAOC	24-DEC-2009 16:56	936264	10-1032	1.0	QC A	UPLOAD BOTH, USE HIGHER
048f4801.d	243385002	JAOC	24-DEC-2009 17:07	936264	10-1032	1.0	LANL	UPLOAD BOTH, USE HIGHER
049f4901.d	243385003	JAOC	24-DEC-2009 17:18	936264	10-1032	1.0	LANL	UPLOAD BOTH, USE HIGHER
050f5001.d	243385004	JAOC	24-DEC-2009 17:29	936264	10-1032	1.0	LANL	UPLOAD BOTH, USE HIGHER
051f5101.d	243385005	JAOC	24-DEC-2009 17:41	936264	10-1032	5.0	LANL	UPLOAD BOTH, USE HIGHER
052f5201.d	243385006	JAOC	24-DEC-2009 17:52	936264	10-1032	1.0	LANL	UPLOAD BOTH, USE HIGHER
053f5301.d	WAR091223-45 06	JAOC	24-DEC-2009 18:03		122409	1.0		PASSES BOTH COLUMNS
054f5401.d	WAR091130-99 07	JAOC	24-DEC-2009 18:14		122409	1.0		CLEAN
055f5501.d	243385007	JAOC	24-DEC-2009 18:25	936264	10-1032	1.0	LANL	UPLOAD BOTH, USE HIGHER

Instrument Batch: /chem/ecd2a.i/122409.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
056f5601.d	243385008	JAOC	24-DEC-2009 18:36	936264	10-1032	1.0	LANL	UPLOAD BOTH, USE HIGHER
057f5701.d	243385009	JAOC	24-DEC-2009 18:47	936264	10-1032	1.0	LANL	UPLOAD BOTH, USE HIGHER
058f5801.d	243385010	JAOC	24-DEC-2009 18:58	936264	10-1032	1.0	LANL	UPLOAD BOTH, USE HIGHER
059f5901.d	243385011	JAOC	24-DEC-2009 19:09	936264	10-1032	1.0	LANL	UPLOAD BOTH, USE HIGHER
060f6001.d	243393002	JAOC	24-DEC-2009 19:20	936264	10-1005	5.0	LANL	UPLOAD BOTH, USE HIGHER
061f6101.d	WAR091223-45 07	JAOC	24-DEC-2009 19:32		122409	1.0		PASSES BOTH COLUMNS
062f6201.d	WAR091130-99 08	JAOC	24-DEC-2009 19:43		122409	1.0		CLEAN

Prep Logbook

Extraction of Semivolatile and Nonvolatile Organic Compounds from Soil, Sludge, and Other Miscellaneous Solid Samples

Batch ID: 936263 **Verified by:** _____

Analyst: Andrew Schwemin

Method: SW846 3550B

Lab SOP: GL-OA-E-010 REV# 18

Instrument: Semi-Volatiles Manual

Sample ID	Run Date	Aliquot (g)	Clean Up	Prior to Clean up (mL)	Amount Cleaned (mL)	After Clean up (mL)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1202003307 MB	23-DEC-2009 19:38:34	30	H2SO4/KMl2		2	9	1	0.03333
1202003308 LCS	23-DEC-2009 19:38:34	30	H2SO4/KMl2		2	9	1	0.03333
243385001	23-DEC-2009 19:38:34	30.11	H2SO4/KMl2		2	9	1	0.03321
1202003309 MS (243385001)	23-DEC-2009 19:38:34	30.13	H2SO4/KMl2		2	9	1	0.03319
1202003310 MSD (243385001)	23-DEC-2009 19:38:34	30.09	H2SO4/KMl2		2	9	1	0.03323
243385002	23-DEC-2009 19:38:34	30.06	H2SO4/KMl2		2	9	1	0.03327
243385003	23-DEC-2009 19:38:34	30.01	H2SO4/KMl2		2	9	1	0.03332
243385004	23-DEC-2009 19:38:34	30.14	H2SO4/KMl2		2	9	1	0.03318
243385005	23-DEC-2009 19:38:34	30.16	H2SO4/KMl2		2	9	1	0.03316
243385006	23-DEC-2009 19:38:34	30.11	H2SO4/KMl2		2	9	1	0.03321
243385007	23-DEC-2009 19:38:34	30.12	H2SO4/KMl2		2	9	1	0.0332
243385008	23-DEC-2009 19:38:34	30.05	H2SO4/KMl2		2	9	1	0.03328
243385009	23-DEC-2009 19:38:34	30.09	H2SO4/KMl2		2	9	1	0.03323
243385010	23-DEC-2009 19:38:34	30.15	H2SO4/KMl2		2	9	1	0.03317
243385011	23-DEC-2009 19:38:34	30.04	H2SO4/KMl2		2	9	1	0.03329
243393002	23-DEC-2009 19:38:34	30.15	H2SO4/KMl2		2	9	1	0.03317

Type	Sample Id	Description	Serial Number	Spike Amt	Units
LCS	1202003308	PCB Laboratory Control	WE091210-07	1	mL
MS	1202003309	PCB Laboratory Control	WE091210-07	1	mL
MSD	1202003310	PCB Laboratory Control	WE091210-07	1	mL
SURR	All	PEST LOW LEVEL SURROGATE 200 UG/L	UE091215-15	1	mL
REGNT	All	1:1 sulfuric acid	1133264a	5	mL
REGNT	All	Acetone	1233927	150	mL
REGNT	All	Hexane	1241300-B2	150	mL
REGNT	All	5% Potassium Permanganate	B1202457-F	5	mL
SOURC	All	SODIUM SULFATE	1242582	30	g

Comments:

Clean up Date: 12/23/09

Clean up Initials: AJS

Verified By: AV

Final Solvent: Hexane

Clean Up SOP: GL-OA-E-037

Metals Analysis

Case Narrative

Metals Fractional Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1032

Sample Analysis

Sample ID	Client ID
243385001	RE12-10-7580
243385002	RE12-10-7590
243385003	RE12-10-7592
243385004	RE12-10-7591
243385005	RE12-10-7581
243385006	RE12-10-7586
243385007	RE12-10-7587
243385008	RE12-10-7585
243385009	RE12-10-7582
243385010	RE12-10-7584
243385011	RE12-10-7583
1202003764	Method Blank (MB) **ICP**
1202003765	Laboratory Control Sample (LCS)
1202003768	243385001(RE12-10-7580L) Serial Dilution (SD)
1202003766	243385001(RE12-10-7580D) Sample Duplicate (DUP)
1202003767	243385001(RE12-10-7580S) Matrix Spike (MS)
1202003769	243385001(RE12-10-7580SD) Matrix Spike Duplicate (MSD)
1202003841	Method Blank (MB) **ICP-MS**
1202003842	Laboratory Control Sample (LCS)
1202003845	243385001(RE12-10-7580L) Serial Dilution (SD)

1202003843	243385001(RE12-10-7580D) Sample Duplicate (DUP)
1202003844	243385001(RE12-10-7580S) Matrix Spike (MS)
1202003846	243385001(RE12-10-7580SD) Matrix Spike Duplicate (MSD)
1202006434	Method Blank (MB) **CVAA**
1202006439	Laboratory Control Sample (LCS)
1202006436	243385001(RE12-10-7580L) Serial Dilution (SD)
1202006435	243385001(RE12-10-7580D) Sample Duplicate (DUP)
1202006437	243385001(RE12-10-7580S) Matrix Spike (MS)
1202006438	243385001(RE12-10-7580SD) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

Method/Analysis Information

Analytical Batch:	936480, 936515 and 937632
Prep Batch :	936479, 936514 and 937631
Standard Operating Procedures:	GL-MA-E-013 REV# 20, GL-MA-E-009 REV# 19, GL-MA-E-014 REV# 21 and GL-MA-E-010 REV# 23
Analytical Method:	SW846 3050B/6010B, SW846 3050B/6020 and SW846 7471A
Prep Method :	SW846 3050B and SW846 7471A Prep

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

System Configuration

The Metals analysis-ICP was performed on a P E 5300 Optima radial/axial-viewing inductively coupled plasma atomic emission spectrometer. The instrument is equipped with a Burgener nebulizer, cyclonic spray chamber, and yttrium or scandium internal standard. Operating conditions for the ICP are set at a power level of 1500 watts. The instrument has a peristaltic pump flow rate of 1.4L/min, argon gas flows of 15 L/min and 0.2 L/min for the torch and auxiliary gases, and a flow setting of 0.65L/min for the nebulizer.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 6100E inductively

coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 360+/-7 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 9000 inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 360+/-7 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

The Metals analysis-Mercury was performed on a Perkin-Elmer Flow Injection Mercury System (FIMS-100) automated mercury analyzer. The instrument consists of a cold vapor atomic absorption spectrometer set to detect mercury at a wavelength of 253.7 nm. Sample introduction through the flow injection system is performed via a peristaltic pump at 9 mL/min and nitrogen carrier gas rate of 80 mL/min.

Calibration Information

Instrument Calibration
All initial calibration requirements have been met for this sample delivery group (SDG).

CRDL Requirements
All CRDL standard(s) met the referenced advisory control limits with the exception of antimony, which recovered outside of the advisory limits of 70-130%.

ICSA/ICSAB Statement
All interference check samples (ICSA and ICSAB) associated with this SDG met the established acceptance criteria.

Continuing Calibration Blank (CCB) Requirements
All continuing calibration blanks (CCB) bracketing this batch met the acceptance criteria.

Continuing Calibration Verification (CCV) Requirements
All continuing calibration verifications (CCV) bracketing this SDG met the acceptance criteria.

Quality Control (QC) Information

Method Blank (MB) Statement
The MBs analyzed with this SDG met the acceptance criteria.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Quality Control (QC) Sample Statement
The following sample was selected as the quality control (QC) sample for this SDG: 243385001.

Matrix Spike (MS) Recovery Statement
The percent recoveries (%R) obtained from the MS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes with the exception of magnesium and potassium, as indicated by the "N" qualifiers.

Matrix Spike Duplicate (MSD) Recovery Statement
The percent recovery (%R) obtained from the MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MSD met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes with the exception of magnesium and potassium, as indicated by the "N" qualifiers.

MS/MSD Relative Percent Difference (RPD) Statement
The RPD(s) between the MS and MSD met the acceptance limits.

Duplicate Relative Percent Difference (RPD) Statement
The RPD obtained from the designated sample duplicate (DUP) is evaluated based on acceptance criteria of 20% when the sample is 5X the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control of +/-RL is used to evaluate the DUP results. All applicable analytes met these requirements.

Serial Dilution % Difference Statement
The serial dilution is used to assess matrix suppression or enhancement. Raw element concentrations that are 25X the IDL/MDL for CVAA, 50X the IDL/MDL for ICP, and 100X the IDL/MDL for ICP-MS analyses are applicable for serial dilution assessment. All applicable analytes met the acceptance criteria of less than 10% difference (%D).

Technical Information

Holding Time Specifications
GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Sample Dilutions
Dilutions are performed to minimize matrix interferences resulting from elevated mineral element concentrations present in solid samples and/or to bring over range target analyte concentrations into the linear calibration range of the instrument. The samples 243385003, 243385004 and 243385007 required dilutions for beryllium in order to bring over range concentrations within the linear calibration range of the instrument. The samples in this SDG were diluted the standard 2x for solids on the ICPMS.

Preparation Information
The samples in this SDG were prepared exactly according to the cited SOP.

Miscellaneous Information

Electronic Packaging Comment
This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Data Exception (DER) Documentation
Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following DER was generated for this SDG: 779254. A copy is included in the Miscellaneous Data section of this package.

Additional Comments
Additional comments were not required for this SDG.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Kristen Parson **Date:** 1/18/10

Sample Data Summary

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385001 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7580 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 86

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	9060000	ug/Kg		7580	22300	22300	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-36-0	Antimony	1110	ug/Kg	U	368	1110	1110	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-38-2	Arsenic	2.75	mg/kg		0.229	1.15	1.15	2	MS	SKJ	01/13/10 15:41	100113-5	936515
7440-39-3	Barium	127000	ug/Kg		111	557	557	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-41-7	Beryllium	0.857	mg/kg		0.0229	0.115	0.115	2	MS	SKJ	01/07/10 19:30	100107-2	936515
7440-43-9	Cadmium	158	ug/Kg	J	111	557	557	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-70-2	Calcium	2310000	ug/Kg		8920	27900	27900	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-47-3	Chromium	11800	ug/Kg		167	557	557	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-48-4	Cobalt	5740	ug/Kg		167	557	557	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-50-8	Copper	7220	ug/Kg		334	1110	1110	1	P	HSC	01/11/10 21:58	011110A-1	936480
7439-89-6	Iron	13300000	ug/Kg		8920	27900	27900	1	P	HSC	01/11/10 21:58	011110A-1	936480
7439-92-1	Lead	18100	ug/Kg		279	1110	1110	1	P	HSC	01/11/10 21:58	011110A-1	936480
7439-95-4	Magnesium	1710000	ug/Kg	N	9470	33400	33400	1	P	HSC	01/11/10 21:58	011110A-1	936480
7439-96-5	Manganese	303000	ug/Kg		223	1110	1110	1	P	HSC	01/11/10 21:58	011110A-1	936480
7439-97-6	Mercury	18.2	ug/kg		4.5	13.2	13.2	1	AV	JXL1	01/07/10 10:41	010710S2-6	937632
7440-02-0	Nickel	6.47	mg/kg		0.115	0.458	0.458	2	MS	SKJ	01/07/10 19:30	100107-2	936515
7440-09-7	Potassium	1680000	ug/Kg	N	7130	27900	27900	1	P	HSC	01/11/10 21:58	011110A-1	936480
7782-49-2	Selenium	1.15	mg/kg	U	0.573	1.15	1.15	2	MS	SKJ	01/07/10 19:30	100107-2	936515
7440-22-4	Silver	269	ug/Kg	J	111	557	557	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-23-5	Sodium	79900	ug/Kg		7800	27900	27900	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-28-0	Thallium	0.208	mg/kg	J	0.0687	0.229	0.229	2	MS	SKJ	01/07/10 19:30	100107-2	936515
7440-61-1	Uranium	3.13	mg/kg		0.0151	0.0458	0.0458	2	MS	SKJ	01/07/10 19:30	100107-2	936515
7440-62-2	Vanadium	30000	ug/Kg		111	557	557	1	P	HSC	01/11/10 21:58	011110A-1	936480
7440-66-6	Zinc	28300	ug/Kg		368	1110	1110	1	P	HSC	01/11/10 21:58	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.522	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.508	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.527	g	30	mL	01/06/10	TXB3

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385002 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7590 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 90.6

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	9450000	ug/Kg		7300	21500	21500	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-36-0	Antimony	1070	ug/Kg	U	354	1070	1070	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-38-2	Arsenic	2.31	mg/kg		0.219	1.09	1.09	2	MS	SKJ	01/13/10 15:51	100113-5	936515
7440-39-3	Barium	214000	ug/Kg		107	537	537	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-41-7	Beryllium	0.844	mg/kg		0.0219	0.109	0.109	2	MS	SKJ	01/07/10 20:13	100107-2	936515
7440-43-9	Cadmium	130	ug/Kg	J	107	537	537	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-70-2	Calcium	2380000	ug/Kg		8590	26800	26800	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-47-3	Chromium	12200	ug/Kg		161	537	537	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-48-4	Cobalt	12100	ug/Kg		161	537	537	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-50-8	Copper	7260	ug/Kg		322	1070	1070	1	P	HSC	01/11/10 22:34	011110A-1	936480
7439-89-6	Iron	13300000	ug/Kg		8590	26800	26800	1	P	HSC	01/11/10 22:34	011110A-1	936480
7439-92-1	Lead	21100	ug/Kg		268	1070	1070	1	P	HSC	01/11/10 22:34	011110A-1	936480
7439-95-4	Magnesium	1620000	ug/Kg	N	9130	32200	32200	1	P	HSC	01/11/10 22:34	011110A-1	936480
7439-96-5	Manganese	1070000	ug/Kg		215	1070	1070	1	P	HSC	01/11/10 22:34	011110A-1	936480
7439-97-6	Mercury	15.9	ug/kg		4.42	13	13	1	AV	JXL1	01/07/10 10:51	010710S2-6	937632
7440-02-0	Nickel	6.28	mg/kg		0.109	0.437	0.437	2	MS	SKJ	01/07/10 20:13	100107-2	936515
7440-09-7	Potassium	1740000	ug/Kg	N	6870	26800	26800	1	P	HSC	01/11/10 22:34	011110A-1	936480
7782-49-2	Selenium	1.09	mg/kg	U	0.547	1.09	1.09	2	MS	SKJ	01/07/10 20:13	100107-2	936515
7440-22-4	Silver	431	ug/Kg	J	107	537	537	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-23-5	Sodium	81300	ug/Kg		7520	26800	26800	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-28-0	Thallium	0.181	mg/kg	J	0.0656	0.219	0.219	2	MS	SKJ	01/07/10 20:13	100107-2	936515
7440-61-1	Uranium	1.15	mg/kg		0.0144	0.0437	0.0437	2	MS	SKJ	01/07/10 20:13	100107-2	936515
7440-62-2	Vanadium	30800	ug/Kg		107	537	537	1	P	HSC	01/11/10 22:34	011110A-1	936480
7440-66-6	Zinc	26400	ug/Kg		354	1070	1070	1	P	HSC	01/11/10 22:34	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.514	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.505	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.509	g	30	mL	01/06/10	TXB3

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385003 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7592 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 89

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	13000000	ug/Kg		7540	22200	22200	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-36-0	Antimony	1110	ug/Kg	U	366	1110	1110	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-38-2	Arsenic	2.63	mg/kg		0.221	1.1	1.1	2	MS	SKJ	01/13/10 15:52	100113-5	936515
7440-39-3	Barium	248000	ug/Kg		111	554	554	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-41-7	Beryllium	1.6	mg/kg		0.11	0.552	0.552	10	MS	SKJ	01/11/10 16:42	100111-3	936515
7440-43-9	Cadmium	554	ug/Kg	U	111	554	554	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-70-2	Calcium	3350000	ug/Kg		8870	27700	27700	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-47-3	Chromium	18600	ug/Kg		166	554	554	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-48-4	Cobalt	6030	ug/Kg		166	554	554	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-50-8	Copper	8100	ug/Kg		332	1110	1110	1	P	HSC	01/11/10 22:41	011110A-1	936480
7439-89-6	Iron	15200000	ug/Kg		8870	27700	27700	1	P	HSC	01/11/10 22:41	011110A-1	936480
7439-92-1	Lead	11300	ug/Kg		277	1110	1110	1	P	HSC	01/11/10 22:41	011110A-1	936480
7439-95-4	Magnesium	2730000	ug/Kg	N	9420	33200	33200	1	P	HSC	01/11/10 22:41	011110A-1	936480
7439-96-5	Manganese	288000	ug/Kg		222	1110	1110	1	P	HSC	01/11/10 22:41	011110A-1	936480
7439-97-6	Mercury	25.6	ug/kg		3.89	11.5	11.5	1	AV	JXL1	01/07/10 10:53	010710S2-6	937632
7440-02-0	Nickel	9.76	mg/kg		0.11	0.442	0.442	2	MS	SKJ	01/15/10 13:29	100115-4	936515
7440-09-7	Potassium	2490000	ug/Kg	N	7090	27700	27700	1	P	HSC	01/11/10 22:41	011110A-1	936480
7782-49-2	Selenium	1.1	mg/kg	U	0.552	1.1	1.1	2	MS	SKJ	01/07/10 20:19	100107-2	936515
7440-22-4	Silver	372	ug/Kg	J	111	554	554	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-23-5	Sodium	246000	ug/Kg		7760	27700	27700	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-28-0	Thallium	0.255	mg/kg		0.0662	0.221	0.221	2	MS	SKJ	01/07/10 20:19	100107-2	936515
7440-61-1	Uranium	0.848	mg/kg		0.0146	0.0442	0.0442	2	MS	SKJ	01/07/10 20:19	100107-2	936515
7440-62-2	Vanadium	24400	ug/Kg		111	554	554	1	P	HSC	01/11/10 22:41	011110A-1	936480
7440-66-6	Zinc	31300	ug/Kg		366	1110	1110	1	P	HSC	01/11/10 22:41	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.509	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.511	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.591	g	30	mL	01/06/10	TXB3

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385004 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7591 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 89

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	12300000	ug/Kg		7530	22200	22200	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-36-0	Antimony	1110	ug/Kg	U	365	1110	1110	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-38-2	Arsenic	2.71	mg/kg		0.218	1.09	1.09	2	MS	SKJ	01/13/10 15:58	100113-5	936515
7440-39-3	Barium	223000	ug/Kg		111	554	554	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-41-7	Beryllium	1.48	mg/kg		0.109	0.544	0.544	10	MS	SKJ	01/11/10 16:44	100111-3	936515
7440-43-9	Cadmium	554	ug/Kg	U	111	554	554	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-70-2	Calcium	3360000	ug/Kg		8860	27700	27700	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-47-3	Chromium	23000	ug/Kg		166	554	554	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-48-4	Cobalt	5950	ug/Kg		166	554	554	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-50-8	Copper	7900	ug/Kg		332	1110	1110	1	P	HSC	01/11/10 23:02	011110A-1	936480
7439-89-6	Iron	15400000	ug/Kg		8860	27700	27700	1	P	HSC	01/11/10 23:02	011110A-1	936480
7439-92-1	Lead	11700	ug/Kg		277	1110	1110	1	P	HSC	01/11/10 23:02	011110A-1	936480
7439-95-4	Magnesium	2660000	ug/Kg	N	9410	33200	33200	1	P	HSC	01/11/10 23:02	011110A-1	936480
7439-96-5	Manganese	288000	ug/Kg		222	1110	1110	1	P	HSC	01/11/10 23:02	011110A-1	936480
7439-97-6	Mercury	26.6	ug/kg		4.19	12.3	12.3	1	AV	JXL1	01/07/10 10:55	010710S2-6	937632
7440-02-0	Nickel	10.2	mg/kg		0.109	0.435	0.435	2	MS	SKJ	01/15/10 13:40	100115-4	936515
7440-09-7	Potassium	2410000	ug/Kg	N	7090	27700	27700	1	P	HSC	01/11/10 23:02	011110A-1	936480
7782-49-2	Selenium	1.09	mg/kg	U	0.544	1.09	1.09	2	MS	SKJ	01/07/10 20:26	100107-2	936515
7440-22-4	Silver	543	ug/Kg	J	111	554	554	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-23-5	Sodium	252000	ug/Kg		7750	27700	27700	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-28-0	Thallium	0.268	mg/kg		0.0653	0.218	0.218	2	MS	SKJ	01/07/10 20:26	100107-2	936515
7440-61-1	Uranium	0.795	mg/kg		0.0144	0.0435	0.0435	2	MS	SKJ	01/07/10 20:26	100107-2	936515
7440-62-2	Vanadium	25500	ug/Kg		111	554	554	1	P	HSC	01/11/10 23:02	011110A-1	936480
7440-66-6	Zinc	31400	ug/Kg		365	1110	1110	1	P	HSC	01/11/10 23:02	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.51	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.519	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.55	g	30	mL	01/06/10	TXB3

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385005 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7581 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 88

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	12800000	ug/Kg		7480	22000	22000	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-36-0	Antimony	1100	ug/Kg	U	363	1100	1100	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-38-2	Arsenic	2.79	mg/kg		0.221	1.11	1.11	2	MS	SKJ	01/13/10 16:00	100113-5	936515
7440-39-3	Barium	150000	ug/Kg		110	550	550	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-41-7	Beryllium	1.05	mg/kg		0.0221	0.111	0.111	2	MS	SKJ	01/07/10 20:32	100107-2	936515
7440-43-9	Cadmium	550	ug/Kg	U	110	550	550	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-70-2	Calcium	2380000	ug/Kg		8810	27500	27500	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-47-3	Chromium	16000	ug/Kg		165	550	550	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-48-4	Cobalt	5560	ug/Kg		165	550	550	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-50-8	Copper	7750	ug/Kg		330	1100	1100	1	P	HSC	01/11/10 23:09	011110A-1	936480
7439-89-6	Iron	15500000	ug/Kg		8810	27500	27500	1	P	HSC	01/11/10 23:09	011110A-1	936480
7439-92-1	Lead	11400	ug/Kg		275	1100	1100	1	P	HSC	01/11/10 23:09	011110A-1	936480
7439-95-4	Magnesium	2450000	ug/Kg	N	9360	33000	33000	1	P	HSC	01/11/10 23:09	011110A-1	936480
7439-96-5	Manganese	256000	ug/Kg		220	1100	1100	1	P	HSC	01/11/10 23:09	011110A-1	936480
7439-97-6	Mercury	28.1	ug/kg		4.49	13.2	13.2	1	AV	JXL1	01/07/10 11:01	010710S2-6	937632
7440-02-0	Nickel	7.47	mg/kg		0.111	0.443	0.443	2	MS	SKJ	01/07/10 20:32	100107-2	936515
7440-09-7	Potassium	2200000	ug/Kg	N	7040	27500	27500	1	P	HSC	01/11/10 23:09	011110A-1	936480
7782-49-2	Selenium	1.11	mg/kg	U	0.554	1.11	1.11	2	MS	SKJ	01/07/10 20:32	100107-2	936515
7440-22-4	Silver	555	ug/Kg		110	550	550	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-23-5	Sodium	234000	ug/Kg		7700	27500	27500	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-28-0	Thallium	0.195	mg/kg	J	0.0664	0.221	0.221	2	MS	SKJ	01/07/10 20:32	100107-2	936515
7440-61-1	Uranium	0.702	mg/kg		0.0146	0.0443	0.0443	2	MS	SKJ	01/07/10 20:32	100107-2	936515
7440-62-2	Vanadium	25500	ug/Kg		110	550	550	1	P	HSC	01/11/10 23:09	011110A-1	936480
7440-66-6	Zinc	32900	ug/Kg		363	1100	1100	1	P	HSC	01/11/10 23:09	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.514	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.511	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.514	g	30	mL	01/06/10	TXB3

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385006 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7586 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 89

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	7410000	ug/Kg		7090	20800	20800	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-36-0	Antimony	1040	ug/Kg	U	344	1040	1040	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-38-2	Arsenic	1.6	mg/kg		0.211	1.05	1.05	2	MS	SKJ	01/13/10 16:02	100113-5	936515
7440-39-3	Barium	255000	ug/Kg		104	521	521	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-41-7	Beryllium	0.591	mg/kg		0.0211	0.105	0.105	2	MS	SKJ	01/07/10 20:38	100107-2	936515
7440-43-9	Cadmium	521	ug/Kg	U	104	521	521	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-70-2	Calcium	2560000	ug/Kg		8340	26100	26100	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-47-3	Chromium	9800	ug/Kg		156	521	521	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-48-4	Cobalt	5060	ug/Kg		156	521	521	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-50-8	Copper	7110	ug/Kg		313	1040	1040	1	P	HSC	01/11/10 23:16	011110A-1	936480
7439-89-6	Iron	12600000	ug/Kg		8340	26100	26100	1	P	HSC	01/11/10 23:16	011110A-1	936480
7439-92-1	Lead	8810	ug/Kg		261	1040	1040	1	P	HSC	01/11/10 23:16	011110A-1	936480
7439-95-4	Magnesium	1810000	ug/Kg	N	8860	31300	31300	1	P	HSC	01/11/10 23:16	011110A-1	936480
7439-96-5	Manganese	317000	ug/Kg		208	1040	1040	1	P	HSC	01/11/10 23:16	011110A-1	936480
7439-97-6	Mercury	15.8	ug/kg		4.01	11.8	11.8	1	AV	JXL1	01/07/10 11:03	010710S2-6	937632
7440-02-0	Nickel	6.61	mg/kg		0.105	0.422	0.422	2	MS	SKJ	01/07/10 20:38	100107-2	936515
7440-09-7	Potassium	1240000	ug/Kg	N	6670	26100	26100	1	P	HSC	01/11/10 23:16	011110A-1	936480
7782-49-2	Selenium	1.05	mg/kg	U	0.527	1.05	1.05	2	MS	SKJ	01/07/10 20:38	100107-2	936515
7440-22-4	Silver	445	ug/Kg	J	104	521	521	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-23-5	Sodium	120000	ug/Kg		7300	26100	26100	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-28-0	Thallium	0.162	mg/kg	J	0.0632	0.211	0.211	2	MS	SKJ	01/07/10 20:38	100107-2	936515
7440-61-1	Uranium	1.36	mg/kg		0.0139	0.0422	0.0422	2	MS	SKJ	01/07/10 20:38	100107-2	936515
7440-62-2	Vanadium	27800	ug/Kg		104	521	521	1	P	HSC	01/11/10 23:16	011110A-1	936480
7440-66-6	Zinc	24300	ug/Kg		344	1040	1040	1	P	HSC	01/11/10 23:16	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.538	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.532	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.571	g	30	mL	01/06/10	TXB3

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385007 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7587 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 90.1

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	10300000	ug/Kg		7260	21300	21300	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-36-0	Antimony	1070	ug/Kg	U	352	1070	1070	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-38-2	Arsenic	2.55	mg/kg		0.219	1.09	1.09	2	MS	SKJ	01/13/10 16:04	100113-5	936515
7440-39-3	Barium	275000	ug/Kg		107	534	534	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-41-7	Beryllium	1.08	mg/kg		0.109	0.547	0.547	10	MS	SKJ	01/11/10 16:46	100111-3	936515
7440-43-9	Cadmium	534	ug/Kg	U	107	534	534	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-70-2	Calcium	2710000	ug/Kg		8540	26700	26700	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-47-3	Chromium	8790	ug/Kg		160	534	534	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-48-4	Cobalt	6640	ug/Kg		160	534	534	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-50-8	Copper	7210	ug/Kg		320	1070	1070	1	P	HSC	01/11/10 23:23	011110A-1	936480
7439-89-6	Iron	13700000	ug/Kg		8540	26700	26700	1	P	HSC	01/11/10 23:23	011110A-1	936480
7439-92-1	Lead	8870	ug/Kg		267	1070	1070	1	P	HSC	01/11/10 23:23	011110A-1	936480
7439-95-4	Magnesium	2310000	ug/Kg	N	9070	32000	32000	1	P	HSC	01/11/10 23:23	011110A-1	936480
7439-96-5	Manganese	246000	ug/Kg		213	1070	1070	1	P	HSC	01/11/10 23:23	011110A-1	936480
7439-97-6	Mercury	26.1	ug/kg		3.79	11.1	11.1	1	AV	JXL1	01/07/10 11:05	010710S2-6	937632
7440-02-0	Nickel	7.88	mg/kg		0.109	0.438	0.438	2	MS	SKJ	01/15/10 13:43	100115-4	936515
7440-09-7	Potassium	1960000	ug/Kg	N	6830	26700	26700	1	P	HSC	01/11/10 23:23	011110A-1	936480
7782-49-2	Selenium	1.09	mg/kg	U	0.547	1.09	1.09	2	MS	SKJ	01/07/10 20:57	100107-2	936515
7440-22-4	Silver	387	ug/Kg	J	107	534	534	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-23-5	Sodium	265000	ug/Kg		7470	26700	26700	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-28-0	Thallium	0.189	mg/kg	J	0.0657	0.219	0.219	2	MS	SKJ	01/07/10 20:57	100107-2	936515
7440-61-1	Uranium	0.720	mg/kg		0.0144	0.0438	0.0438	2	MS	SKJ	01/07/10 20:57	100107-2	936515
7440-62-2	Vanadium	21500	ug/Kg		107	534	534	1	P	HSC	01/11/10 23:23	011110A-1	936480
7440-66-6	Zinc	28500	ug/Kg		352	1070	1070	1	P	HSC	01/11/10 23:23	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.52	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.507	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.598	g	30	mL	01/06/10	TXB3

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385008 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7585 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 91.6

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	11300000	ug/Kg		7370	21700	21700	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-36-0	Antimony	1080	ug/Kg	U	357	1080	1080	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-38-2	Arsenic	2.13	mg/kg		0.216	1.08	1.08	2	MS	SKJ	01/13/10 16:06	100113-5	936515
7440-39-3	Barium	125000	ug/Kg		108	542	542	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-41-7	Beryllium	0.804	mg/kg		0.0216	0.108	0.108	2	MS	SKJ	01/07/10 21:03	100107-2	936515
7440-43-9	Cadmium	542	ug/Kg	U	108	542	542	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-70-2	Calcium	1830000	ug/Kg		8660	27100	27100	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-47-3	Chromium	11600	ug/Kg		162	542	542	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-48-4	Cobalt	5280	ug/Kg		162	542	542	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-50-8	Copper	5970	ug/Kg		325	1080	1080	1	P	HSC	01/11/10 23:30	011110A-1	936480
7439-89-6	Iron	13700000	ug/Kg		8660	27100	27100	1	P	HSC	01/11/10 23:30	011110A-1	936480
7439-92-1	Lead	7660	ug/Kg		271	1080	1080	1	P	HSC	01/11/10 23:30	011110A-1	936480
7439-95-4	Magnesium	1710000	ug/Kg	N	9210	32500	32500	1	P	HSC	01/11/10 23:30	011110A-1	936480
7439-96-5	Manganese	197000	ug/Kg		217	1080	1080	1	P	HSC	01/11/10 23:30	011110A-1	936480
7439-97-6	Mercury	16.7	ug/kg		4.45	13.1	13.1	1	AV	JXL1	01/07/10 11:07	010710S2-6	937632
7440-02-0	Nickel	6.02	mg/kg		0.108	0.432	0.432	2	MS	SKJ	01/07/10 21:03	100107-2	936515
7440-09-7	Potassium	1560000	ug/Kg	N	6930	27100	27100	1	P	HSC	01/11/10 23:30	011110A-1	936480
7782-49-2	Selenium	1.08	mg/kg	U	0.54	1.08	1.08	2	MS	SKJ	01/07/10 21:03	100107-2	936515
7440-22-4	Silver	362	ug/Kg	J	108	542	542	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-23-5	Sodium	179000	ug/Kg		7580	27100	27100	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-28-0	Thallium	0.120	mg/kg	J	0.0649	0.216	0.216	2	MS	SKJ	01/07/10 21:03	100107-2	936515
7440-61-1	Uranium	0.823	mg/kg		0.0143	0.0432	0.0432	2	MS	SKJ	01/07/10 21:03	100107-2	936515
7440-62-2	Vanadium	18800	ug/Kg		108	542	542	1	P	HSC	01/11/10 23:30	011110A-1	936480
7440-66-6	Zinc	31100	ug/Kg		357	1080	1080	1	P	HSC	01/11/10 23:30	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.504	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.505	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.5	g	30	mL	01/06/10	TXB3

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385009 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7582 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 92.8

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	6790000	ug/Kg		6990	20600	20600	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-36-0	Antimony	1030	ug/Kg	U	339	1030	1030	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-38-2	Arsenic	2.24	mg/kg		0.208	1.04	1.04	2	MS	SKJ	01/13/10 16:08	100113-5	936515
7440-39-3	Barium	95500	ug/Kg		103	514	514	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-41-7	Beryllium	0.766	mg/kg		0.0208	0.104	0.104	2	MS	SKJ	01/07/10 21:09	100107-2	936515
7440-43-9	Cadmium	514	ug/Kg	U	103	514	514	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-70-2	Calcium	1530000	ug/Kg		8220	25700	25700	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-47-3	Chromium	9350	ug/Kg		154	514	514	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-48-4	Cobalt	5200	ug/Kg		154	514	514	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-50-8	Copper	5040	ug/Kg		308	1030	1030	1	P	HSC	01/11/10 23:37	011110A-1	936480
7439-89-6	Iron	11400000	ug/Kg		8220	25700	25700	1	P	HSC	01/11/10 23:37	011110A-1	936480
7439-92-1	Lead	11000	ug/Kg		257	1030	1030	1	P	HSC	01/11/10 23:37	011110A-1	936480
7439-95-4	Magnesium	1380000	ug/Kg	N	8740	30800	30800	1	P	HSC	01/11/10 23:37	011110A-1	936480
7439-96-5	Manganese	286000	ug/Kg		206	1030	1030	1	P	HSC	01/11/10 23:37	011110A-1	936480
7439-97-6	Mercury	10.1	ug/kg	J	3.87	11.4	11.4	1	AV	JXL1	01/07/10 11:09	010710S2-6	937632
7440-02-0	Nickel	5.73	mg/kg		0.104	0.415	0.415	2	MS	SKJ	01/07/10 21:09	100107-2	936515
7440-09-7	Potassium	1110000	ug/Kg	N	6580	25700	25700	1	P	HSC	01/11/10 23:37	011110A-1	936480
7782-49-2	Selenium	1.04	mg/kg	U	0.519	1.04	1.04	2	MS	SKJ	01/07/10 21:09	100107-2	936515
7440-22-4	Silver	299	ug/Kg	J	103	514	514	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-23-5	Sodium	84700	ug/Kg		7190	25700	25700	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-28-0	Thallium	0.170	mg/kg	J	0.0623	0.208	0.208	2	MS	SKJ	01/07/10 21:09	100107-2	936515
7440-61-1	Uranium	0.799	mg/kg		0.0137	0.0415	0.0415	2	MS	SKJ	01/07/10 21:09	100107-2	936515
7440-62-2	Vanadium	23800	ug/Kg		103	514	514	1	P	HSC	01/11/10 23:37	011110A-1	936480
7440-66-6	Zinc	22500	ug/Kg		339	1030	1030	1	P	HSC	01/11/10 23:37	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.524	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.519	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.568	g	30	mL	01/06/10	TXB3

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385010 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7584 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 92.7

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	7400000	ug/Kg		7270	21400	21400	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-36-0	Antimony	1070	ug/Kg	U	353	1070	1070	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-38-2	Arsenic	1.77	mg/kg		0.215	1.08	1.08	2	MS	SKJ	01/13/10 16:09	100113-5	936515
7440-39-3	Barium	236000	ug/Kg		107	535	535	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-41-7	Beryllium	0.681	mg/kg		0.0215	0.108	0.108	2	MS	SKJ	01/07/10 21:15	100107-2	936515
7440-43-9	Cadmium	535	ug/Kg	U	107	535	535	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-70-2	Calcium	2240000	ug/Kg		8560	26700	26700	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-47-3	Chromium	10100	ug/Kg		160	535	535	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-48-4	Cobalt	4660	ug/Kg		160	535	535	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-50-8	Copper	8700	ug/Kg		321	1070	1070	1	P	HSC	01/11/10 23:44	011110A-1	936480
7439-89-6	Iron	12100000	ug/Kg		8560	26700	26700	1	P	HSC	01/11/10 23:44	011110A-1	936480
7439-92-1	Lead	10600	ug/Kg		267	1070	1070	1	P	HSC	01/11/10 23:44	011110A-1	936480
7439-95-4	Magnesium	1770000	ug/Kg	N	9090	32100	32100	1	P	HSC	01/11/10 23:44	011110A-1	936480
7439-96-5	Manganese	352000	ug/Kg		214	1070	1070	1	P	HSC	01/11/10 23:44	011110A-1	936480
7439-97-6	Mercury	9.24	ug/kg	J	3.67	10.8	10.8	1	AV	JXL1	01/07/10 11:11	010710S2-6	937632
7440-02-0	Nickel	6.15	mg/kg		0.108	0.43	0.43	2	MS	SKJ	01/07/10 21:15	100107-2	936515
7440-09-7	Potassium	1180000	ug/Kg	N	6850	26700	26700	1	P	HSC	01/11/10 23:44	011110A-1	936480
7782-49-2	Selenium	1.08	mg/kg	U	0.538	1.08	1.08	2	MS	SKJ	01/07/10 21:15	100107-2	936515
7440-22-4	Silver	488	ug/Kg	J	107	535	535	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-23-5	Sodium	111000	ug/Kg		7490	26700	26700	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-28-0	Thallium	0.156	mg/kg	J	0.0646	0.215	0.215	2	MS	SKJ	01/07/10 21:15	100107-2	936515
7440-61-1	Uranium	2.55	mg/kg		0.0142	0.043	0.043	2	MS	SKJ	01/07/10 21:15	100107-2	936515
7440-62-2	Vanadium	26900	ug/Kg		107	535	535	1	P	HSC	01/11/10 23:44	011110A-1	936480
7440-66-6	Zinc	24000	ug/Kg		353	1070	1070	1	P	HSC	01/11/10 23:44	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.504	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.501	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.599	g	30	mL	01/06/10	TXB3

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243385011 **BASIS:** Dry Weight **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7583 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: SOIL **%SOLIDS:** 93.3

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	11400000	ug/Kg		7110	20900	20900	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-36-0	Antimony	1040	ug/Kg	U	345	1040	1040	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-38-2	Arsenic	2.61	mg/kg		0.211	1.06	1.06	2	MS	SKJ	01/13/10 16:11	100113-5	936515
7440-39-3	Barium	177000	ug/Kg		104	522	522	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-41-7	Beryllium	0.987	mg/kg		0.0211	0.106	0.106	2	MS	SKJ	01/07/10 21:22	100107-2	936515
7440-43-9	Cadmium	522	ug/Kg	U	104	522	522	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-70-2	Calcium	2150000	ug/Kg		8360	26100	26100	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-47-3	Chromium	13100	ug/Kg		157	522	522	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-48-4	Cobalt	6290	ug/Kg		157	522	522	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-50-8	Copper	6330	ug/Kg		313	1040	1040	1	P	HSC	01/11/10 23:51	011110A-1	936480
7439-89-6	Iron	13600000	ug/Kg		8360	26100	26100	1	P	HSC	01/11/10 23:51	011110A-1	936480
7439-92-1	Lead	14500	ug/Kg		261	1040	1040	1	P	HSC	01/11/10 23:51	011110A-1	936480
7439-95-4	Magnesium	2010000	ug/Kg	N	8880	31300	31300	1	P	HSC	01/11/10 23:51	011110A-1	936480
7439-96-5	Manganese	305000	ug/Kg		209	1040	1040	1	P	HSC	01/11/10 23:51	011110A-1	936480
7439-97-6	Mercury	19.6	ug/kg		4.37	12.8	12.8	1	AV	JXL1	01/07/10 11:13	010710S2-6	937632
7440-02-0	Nickel	7.55	mg/kg		0.106	0.422	0.422	2	MS	SKJ	01/07/10 21:22	100107-2	936515
7440-09-7	Potassium	1760000	ug/Kg	N	6690	26100	26100	1	P	HSC	01/11/10 23:51	011110A-1	936480
7782-49-2	Selenium	1.06	mg/kg	U	0.528	1.06	1.06	2	MS	SKJ	01/07/10 21:22	100107-2	936515
7440-22-4	Silver	305	ug/Kg	J	104	522	522	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-23-5	Sodium	94000	ug/Kg		7310	26100	26100	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-28-0	Thallium	0.198	mg/kg	J	0.0633	0.211	0.211	2	MS	SKJ	01/07/10 21:22	100107-2	936515
7440-61-1	Uranium	1.13	mg/kg		0.0139	0.0422	0.0422	2	MS	SKJ	01/07/10 21:22	100107-2	936515
7440-62-2	Vanadium	29300	ug/Kg		104	522	522	1	P	HSC	01/11/10 23:51	011110A-1	936480
7440-66-6	Zinc	22900	ug/Kg		345	1040	1040	1	P	HSC	01/11/10 23:51	011110A-1	936480

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936480	936479	SW846 3050B	0.513	g	50	mL	12/29/09	AXG2
936515	936514	SW846 3050B	0.508	g	50	mL	12/29/09	AXG2
937632	937631	SW846 7471A Prep	0.501	g	30	mL	01/06/10	TXB3

Quality Control Summary

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1032

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
ICV01										
	Mercury	5.05	ug/L	5	ug/L	101	90.0 – 110.0	AV	07–JAN–10 10:28	010710S2–6
	Beryllium	52.4	ug/L	50	ug/L	104.8	90.0 – 110.0	MS	07–JAN–10 18:15	100107–2
	Nickel	51.8	ug/L	50	ug/L	103.7	90.0 – 110.0	MS	07–JAN–10 18:15	100107–2
	Selenium	49.9	ug/L	50	ug/L	99.8	90.0 – 110.0	MS	07–JAN–10 18:15	100107–2
	Thallium	49	ug/L	50	ug/L	97.9	90.0 – 110.0	MS	07–JAN–10 18:15	100107–2
	Uranium	54.1	ug/L	50	ug/L	108.1	90.0 – 110.0	MS	07–JAN–10 18:15	100107–2
	Aluminum	4810	ug/L	5000	ug/L	96.2	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Antimony	513	ug/L	500	ug/L	102.6	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Barium	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Cadmium	487	ug/L	500	ug/L	97.4	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Calcium	4790	ug/L	5000	ug/L	95.8	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Chromium	478	ug/L	500	ug/L	95.6	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Cobalt	494	ug/L	500	ug/L	98.8	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Copper	494	ug/L	500	ug/L	98.8	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Iron	4860	ug/L	5000	ug/L	97.2	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Lead	495	ug/L	500	ug/L	99	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Magnesium	5100	ug/L	5000	ug/L	102	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Manganese	503	ug/L	500	ug/L	100.7	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Potassium	2380	ug/L	2500	ug/L	95	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Silver	257	ug/L	250	ug/L	102.7	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Sodium	2290	ug/L	2500	ug/L	91.6	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Vanadium	503	ug/L	500	ug/L	100.7	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Zinc	494	ug/L	500	ug/L	98.9	90.0 – 110.0	P	11–JAN–10 15:38	011110A–1
	Beryllium	51.7	ug/L	50	ug/L	103.5	90.0 – 110.0	MS	11–JAN–10 16:22	100111–3
	Arsenic	50.1	ug/L	50	ug/L	100.2	90.0 – 110.0	MS	13–JAN–10 15:08	100113–5
	Nickel	52	ug/L	50	ug/L	104.1	90.0 – 110.0	MS	15–JAN–10 12:42	100115–4
CCV01										
	Mercury	5.01	ug/L	5	ug/L	100.3	80.0 – 120.0	AV	07–JAN–10 10:33	010710S2–6
	Beryllium	50.9	ug/L	50	ug/L	101.8	90.0 – 110.0	MS	07–JAN–10 18:46	100107–2
	Nickel	52.1	ug/L	50	ug/L	104.2	90.0 – 110.0	MS	07–JAN–10 18:46	100107–2

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 10-1032

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Selenium	50.6	ug/L	50	ug/L	101.3	90.0 - 110.0	MS	07-JAN-10 18:46	100107-2
	Thallium	49.5	ug/L	50	ug/L	98.9	90.0 - 110.0	MS	07-JAN-10 18:46	100107-2
	Uranium	53.7	ug/L	50	ug/L	107.4	90.0 - 110.0	MS	07-JAN-10 18:46	100107-2
	Aluminum	4920	ug/L	5000	ug/L	98.4	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Antimony	544	ug/L	500	ug/L	108.7	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Barium	510	ug/L	500	ug/L	102	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Cadmium	511	ug/L	500	ug/L	102.1	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Calcium	5060	ug/L	5000	ug/L	101.3	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Chromium	512	ug/L	500	ug/L	102.3	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Cobalt	512	ug/L	500	ug/L	102.3	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Copper	504	ug/L	500	ug/L	100.9	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Iron	5200	ug/L	5000	ug/L	104.1	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Lead	512	ug/L	500	ug/L	102.5	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Magnesium	5250	ug/L	5000	ug/L	105	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Manganese	507	ug/L	500	ug/L	101.5	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Potassium	5250	ug/L	5000	ug/L	104.9	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Silver	517	ug/L	500	ug/L	103.5	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Sodium	10400	ug/L	10000	ug/L	104	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Vanadium	515	ug/L	500	ug/L	103	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Zinc	507	ug/L	500	ug/L	101.4	90.0 - 110.0	P	11-JAN-10 16:24	011110A-1
	Beryllium	50.6	ug/L	50	ug/L	101.3	90.0 - 110.0	MS	11-JAN-10 16:33	100111-3
	Arsenic	49.7	ug/L	50	ug/L	99.3	90.0 - 110.0	MS	13-JAN-10 15:17	100113-5
	Nickel	51.7	ug/L	50	ug/L	103.3	90.0 - 110.0	MS	15-JAN-10 13:00	100115-4
CCV02										
	Mercury	5.28	ug/L	5	ug/L	105.7	80.0 - 120.0	AV	07-JAN-10 10:57	010710S2-6
	Beryllium	50.8	ug/L	50	ug/L	101.6	90.0 - 110.0	MS	07-JAN-10 19:05	100107-2
	Nickel	52.3	ug/L	50	ug/L	104.5	90.0 - 110.0	MS	07-JAN-10 19:05	100107-2
	Selenium	48.9	ug/L	50	ug/L	97.8	90.0 - 110.0	MS	07-JAN-10 19:05	100107-2
	Thallium	50.3	ug/L	50	ug/L	100.5	90.0 - 110.0	MS	07-JAN-10 19:05	100107-2
	Uranium	55	ug/L	50	ug/L	110	90.0 - 110.0	MS	07-JAN-10 19:05	100107-2

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1032

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Aluminum	4990	ug/L	5000	ug/L	99.7	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Antimony	525	ug/L	500	ug/L	105	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Barium	503	ug/L	500	ug/L	100.5	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Cadmium	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Calcium	5080	ug/L	5000	ug/L	101.6	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Chromium	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Cobalt	505	ug/L	500	ug/L	100.9	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Copper	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Iron	5170	ug/L	5000	ug/L	103.5	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Lead	505	ug/L	500	ug/L	101	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Magnesium	5260	ug/L	5000	ug/L	105.1	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Manganese	506	ug/L	500	ug/L	101.1	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Potassium	5120	ug/L	5000	ug/L	102.4	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Silver	509	ug/L	500	ug/L	101.9	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Sodium	10100	ug/L	10000	ug/L	101	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Vanadium	508	ug/L	500	ug/L	101.5	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Zinc	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	11–JAN–10 16:38	011110A–1
	Beryllium	51.8	ug/L	50	ug/L	103.6	90.0 – 110.0	MS	11–JAN–10 16:49	100111–3
	Arsenic	48.1	ug/L	50	ug/L	96.2	90.0 – 110.0	MS	13–JAN–10 15:34	100113–5
	Nickel	51.7	ug/L	50	ug/L	103.5	90.0 – 110.0	MS	15–JAN–10 13:14	100115–4
CCV03										
	Mercury	5.47	ug/L	5	ug/L	109.4	80.0 – 120.0	AV	07–JAN–10 11:21	010710S2–6
	Beryllium	51.4	ug/L	50	ug/L	102.8	90.0 – 110.0	MS	07–JAN–10 19:55	100107–2
	Nickel	51.8	ug/L	50	ug/L	103.6	90.0 – 110.0	MS	07–JAN–10 19:55	100107–2
	Selenium	51	ug/L	50	ug/L	102	90.0 – 110.0	MS	07–JAN–10 19:55	100107–2
	Thallium	50	ug/L	50	ug/L	99.9	90.0 – 110.0	MS	07–JAN–10 19:55	100107–2
	Uranium	54.4	ug/L	50	ug/L	108.7	90.0 – 110.0	MS	07–JAN–10 19:55	100107–2
	Aluminum	4830	ug/L	5000	ug/L	96.7	90.0 – 110.0	P	11–JAN–10 16:59	011110A–1
	Antimony	511	ug/L	500	ug/L	102.1	90.0 – 110.0	P	11–JAN–10 16:59	011110A–1
	Barium	493	ug/L	500	ug/L	98.5	90.0 – 110.0	P	11–JAN–10 16:59	011110A–1

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 10-1032

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Cadmium	493	ug/L	500	ug/L	98.6	90.0 - 110.0	P	11-JAN-10 16:59	011110A-1
	Calcium	4860	ug/L	5000	ug/L	97.3	90.0 - 110.0	P	11-JAN-10 16:59	011110A-1
	Chromium	494	ug/L	500	ug/L	98.8	90.0 - 110.0	P	11-JAN-10 16:59	011110A-1
	Cobalt	494	ug/L	500	ug/L	98.8	90.0 - 110.0	P	11-JAN-10 16:59	011110A-1
	Copper	486	ug/L	500	ug/L	97.2	90.0 - 110.0	P	11-JAN-10 16:59	011110A-1
	Iron	4900	ug/L	5000	ug/L	98	90.0 - 110.0	P	11-JAN-10 16:59	011110A-1
	Lead	497	ug/L	500	ug/L	99.5	90.0 - 110.0	P	11-JAN-10 16:59	011110A-1
	Magnesium	5000	ug/L	5000	ug/L	100.1	90.0 - 110.0	P	11-JAN-10 16:59	011110A-1
	Manganese	494	ug/L	500	ug/L	98.8	90.0 - 110.0	P	11-JAN-10 16:59	011110A-1
	Potassium	4910	ug/L	5000	ug/L	98.3	90.0 - 110.0	P	11-JAN-10 16:59	011110A-1
	Silver	501	ug/L	500	ug/L	100.2	90.0 - 110.0	P	11-JAN-10 16:59	011110A-1
	Sodium	9470	ug/L	10000	ug/L	94.7	90.0 - 110.0	P	11-JAN-10 16:59	011110A-1
	Vanadium	498	ug/L	500	ug/L	99.6	90.0 - 110.0	P	11-JAN-10 16:59	011110A-1
	Zinc	489	ug/L	500	ug/L	97.8	90.0 - 110.0	P	11-JAN-10 16:59	011110A-1
	Arsenic	49.9	ug/L	50	ug/L	99.7	90.0 - 110.0	MS	13-JAN-10 15:54	100113-5
	Nickel	51.7	ug/L	50	ug/L	103.4	90.0 - 110.0	MS	15-JAN-10 13:32	100115-4
CCV04										
	Beryllium	50.6	ug/L	50	ug/L	101.2	90.0 - 110.0	MS	07-JAN-10 20:44	100107-2
	Nickel	51.1	ug/L	50	ug/L	102.1	90.0 - 110.0	MS	07-JAN-10 20:44	100107-2
	Selenium	49.8	ug/L	50	ug/L	99.6	90.0 - 110.0	MS	07-JAN-10 20:44	100107-2
	Thallium	49.3	ug/L	50	ug/L	98.6	90.0 - 110.0	MS	07-JAN-10 20:44	100107-2
	Uranium	53.1	ug/L	50	ug/L	106.2	90.0 - 110.0	MS	07-JAN-10 20:44	100107-2
	Aluminum	4830	ug/L	5000	ug/L	96.6	90.0 - 110.0	P	11-JAN-10 17:54	011110A-1
	Antimony	517	ug/L	500	ug/L	103.5	90.0 - 110.0	P	11-JAN-10 17:54	011110A-1
	Barium	500	ug/L	500	ug/L	99.9	90.0 - 110.0	P	11-JAN-10 17:54	011110A-1
	Cadmium	500	ug/L	500	ug/L	100	90.0 - 110.0	P	11-JAN-10 17:54	011110A-1
	Calcium	4940	ug/L	5000	ug/L	98.9	90.0 - 110.0	P	11-JAN-10 17:54	011110A-1
	Chromium	500	ug/L	500	ug/L	100.1	90.0 - 110.0	P	11-JAN-10 17:54	011110A-1
	Cobalt	502	ug/L	500	ug/L	100.4	90.0 - 110.0	P	11-JAN-10 17:54	011110A-1
	Copper	494	ug/L	500	ug/L	98.7	90.0 - 110.0	P	11-JAN-10 17:54	011110A-1

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1032

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Iron	5050	ug/L	5000	ug/L	101.1	90.0 – 110.0	P	11–JAN–10 17:54	011110A–1
	Lead	501	ug/L	500	ug/L	100.2	90.0 – 110.0	P	11–JAN–10 17:54	011110A–1
	Magnesium	5200	ug/L	5000	ug/L	104	90.0 – 110.0	P	11–JAN–10 17:54	011110A–1
	Manganese	498	ug/L	500	ug/L	99.7	90.0 – 110.0	P	11–JAN–10 17:54	011110A–1
	Potassium	4920	ug/L	5000	ug/L	98.4	90.0 – 110.0	P	11–JAN–10 17:54	011110A–1
	Silver	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	11–JAN–10 17:54	011110A–1
	Sodium	10100	ug/L	10000	ug/L	100.8	90.0 – 110.0	P	11–JAN–10 17:54	011110A–1
	Vanadium	505	ug/L	500	ug/L	100.9	90.0 – 110.0	P	11–JAN–10 17:54	011110A–1
	Zinc	496	ug/L	500	ug/L	99.3	90.0 – 110.0	P	11–JAN–10 17:54	011110A–1
	Arsenic	48.6	ug/L	50	ug/L	97.2	90.0 – 110.0	MS	13–JAN–10 16:13	100113–5
	Nickel	52.2	ug/L	50	ug/L	104.5	90.0 – 110.0	MS	15–JAN–10 13:47	100115–4
CCV05										
	Beryllium	51.5	ug/L	50	ug/L	102.9	90.0 – 110.0	MS	07–JAN–10 21:28	100107–2
	Nickel	50.9	ug/L	50	ug/L	101.8	90.0 – 110.0	MS	07–JAN–10 21:28	100107–2
	Selenium	47.4	ug/L	50	ug/L	94.9	90.0 – 110.0	MS	07–JAN–10 21:28	100107–2
	Thallium	50.6	ug/L	50	ug/L	101.1	90.0 – 110.0	MS	07–JAN–10 21:28	100107–2
	Uranium	53.7	ug/L	50	ug/L	107.4	90.0 – 110.0	MS	07–JAN–10 21:28	100107–2
	Aluminum	4850	ug/L	5000	ug/L	97.1	90.0 – 110.0	P	11–JAN–10 18:58	011110A–1
	Antimony	527	ug/L	500	ug/L	105.3	90.0 – 110.0	P	11–JAN–10 18:58	011110A–1
	Barium	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	11–JAN–10 18:58	011110A–1
	Cadmium	504	ug/L	500	ug/L	100.9	90.0 – 110.0	P	11–JAN–10 18:58	011110A–1
	Calcium	4910	ug/L	5000	ug/L	98.2	90.0 – 110.0	P	11–JAN–10 18:58	011110A–1
	Chromium	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	11–JAN–10 18:58	011110A–1
	Cobalt	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	11–JAN–10 18:58	011110A–1
	Copper	500	ug/L	500	ug/L	99.9	90.0 – 110.0	P	11–JAN–10 18:58	011110A–1
	Iron	5030	ug/L	5000	ug/L	100.6	90.0 – 110.0	P	11–JAN–10 18:58	011110A–1
	Lead	505	ug/L	500	ug/L	100.9	90.0 – 110.0	P	11–JAN–10 18:58	011110A–1
	Magnesium	5110	ug/L	5000	ug/L	102.2	90.0 – 110.0	P	11–JAN–10 18:58	011110A–1
	Manganese	501	ug/L	500	ug/L	100.2	90.0 – 110.0	P	11–JAN–10 18:58	011110A–1
	Potassium	4900	ug/L	5000	ug/L	97.9	90.0 – 110.0	P	11–JAN–10 18:58	011110A–1

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 10-1032

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Silver	511	ug/L	500	ug/L	102.2	90.0 – 110.0	P	11-JAN-10 18:58	011110A-1
	Sodium	10100	ug/L	10000	ug/L	100.7	90.0 – 110.0	P	11-JAN-10 18:58	011110A-1
	Vanadium	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	11-JAN-10 18:58	011110A-1
	Zinc	501	ug/L	500	ug/L	100.1	90.0 – 110.0	P	11-JAN-10 18:58	011110A-1
CCV06										
	Aluminum	4820	ug/L	5000	ug/L	96.4	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Antimony	516	ug/L	500	ug/L	103.2	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Barium	500	ug/L	500	ug/L	100	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Cadmium	499	ug/L	500	ug/L	99.7	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Calcium	4930	ug/L	5000	ug/L	98.6	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Chromium	501	ug/L	500	ug/L	100.1	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Cobalt	501	ug/L	500	ug/L	100.2	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Copper	496	ug/L	500	ug/L	99.1	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Iron	5010	ug/L	5000	ug/L	100.2	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Lead	498	ug/L	500	ug/L	99.5	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Magnesium	5170	ug/L	5000	ug/L	103.5	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Manganese	500	ug/L	500	ug/L	100	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Potassium	4830	ug/L	5000	ug/L	96.6	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Silver	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Sodium	9780	ug/L	10000	ug/L	97.8	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Vanadium	506	ug/L	500	ug/L	101.3	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
	Zinc	497	ug/L	500	ug/L	99.3	90.0 – 110.0	P	11-JAN-10 20:14	011110A-1
CCV07										
	Aluminum	4850	ug/L	5000	ug/L	96.9	90.0 – 110.0	P	11-JAN-10 21:31	011110A-1
	Antimony	518	ug/L	500	ug/L	103.7	90.0 – 110.0	P	11-JAN-10 21:31	011110A-1
	Barium	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	11-JAN-10 21:31	011110A-1
	Cadmium	501	ug/L	500	ug/L	100.1	90.0 – 110.0	P	11-JAN-10 21:31	011110A-1
	Calcium	4980	ug/L	5000	ug/L	99.7	90.0 – 110.0	P	11-JAN-10 21:31	011110A-1
	Chromium	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	11-JAN-10 21:31	011110A-1
	Cobalt	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	11-JAN-10 21:31	011110A-1

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1032

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Copper	497	ug/L	500	ug/L	99.5	90.0 – 110.0	P	11–JAN–10 21:31	011110A–1
	Iron	5100	ug/L	5000	ug/L	102	90.0 – 110.0	P	11–JAN–10 21:31	011110A–1
	Lead	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	11–JAN–10 21:31	011110A–1
	Magnesium	5180	ug/L	5000	ug/L	103.7	90.0 – 110.0	P	11–JAN–10 21:31	011110A–1
	Manganese	502	ug/L	500	ug/L	100.3	90.0 – 110.0	P	11–JAN–10 21:31	011110A–1
	Potassium	4860	ug/L	5000	ug/L	97.3	90.0 – 110.0	P	11–JAN–10 21:31	011110A–1
	Silver	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	11–JAN–10 21:31	011110A–1
	Sodium	9950	ug/L	10000	ug/L	99.5	90.0 – 110.0	P	11–JAN–10 21:31	011110A–1
	Vanadium	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	11–JAN–10 21:31	011110A–1
	Zinc	498	ug/L	500	ug/L	99.6	90.0 – 110.0	P	11–JAN–10 21:31	011110A–1
CCV08										
	Aluminum	4890	ug/L	5000	ug/L	97.8	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Antimony	520	ug/L	500	ug/L	104	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Barium	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Cadmium	506	ug/L	500	ug/L	101.1	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Calcium	5070	ug/L	5000	ug/L	101.4	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Chromium	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Cobalt	508	ug/L	500	ug/L	101.5	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Copper	499	ug/L	500	ug/L	99.9	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Iron	5230	ug/L	5000	ug/L	104.6	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Lead	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Magnesium	5250	ug/L	5000	ug/L	105	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Manganese	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Potassium	4950	ug/L	5000	ug/L	99	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Silver	512	ug/L	500	ug/L	102.3	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Sodium	10200	ug/L	10000	ug/L	101.5	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Vanadium	512	ug/L	500	ug/L	102.4	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
	Zinc	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	11–JAN–10 22:48	011110A–1
CCV09										
	Aluminum	4860	ug/L	5000	ug/L	97.3	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1032

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Antimony	524	ug/L	500	ug/L	104.9	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Barium	505	ug/L	500	ug/L	100.9	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Cadmium	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Calcium	5020	ug/L	5000	ug/L	100.4	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Chromium	506	ug/L	500	ug/L	101.1	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Cobalt	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Copper	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Iron	5200	ug/L	5000	ug/L	104.1	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Lead	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Magnesium	5290	ug/L	5000	ug/L	105.7	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Manganese	506	ug/L	500	ug/L	101.3	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Potassium	4920	ug/L	5000	ug/L	98.3	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Silver	510	ug/L	500	ug/L	101.9	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Sodium	10300	ug/L	10000	ug/L	103.1	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Vanadium	510	ug/L	500	ug/L	102.1	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1
	Zinc	501	ug/L	500	ug/L	100.2	90.0 – 110.0	P	11–JAN–10 23:59	011110A–1

METALS
-2b-
CRDL Standard for AA & ICP

SDG No: 10-1032

Contract: LANL01004 **Lab Code:** GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: ICPMS4,ICPMS5,MER536,OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Advisory Limits (%R)	M	Analysis Date/Time	Run Number
CRDL01										
	Mercury	.201	ug/L	.2	ug/L	100.5	70.0 - 130.0	AV	07-JAN-10 10:31	010710S2-6
	Nickel	2.23	ug/L	2	ug/L	111.3	70.0 - 130.0	MS	07-JAN-10 18:28	100107-2
	Beryllium	.476	ug/L	.5	ug/L	95.2	70.0 - 130.0	MS	07-JAN-10 18:28	100107-2
	Thallium	1.05	ug/L	1	ug/L	105.4	70.0 - 130.0	MS	07-JAN-10 18:28	100107-2
	Selenium	5.12	ug/L	5	ug/L	102.5	70.0 - 130.0	MS	07-JAN-10 18:28	100107-2
	Uranium	.205	ug/L	.2	ug/L	102.5	70.0 - 130.0	MS	07-JAN-10 18:28	100107-2
	Beryllium	.54	ug/L	.5	ug/L	108	70.0 - 130.0	MS	11-JAN-10 16:26	100111-3
	Arsenic	5.26	ug/L	5	ug/L	105.1	70.0 - 130.0	MS	13-JAN-10 15:12	100113-5
	Nickel	2.25	ug/L	2	ug/L	112.7	70.0 - 130.0	MS	15-JAN-10 12:49	100115-4
PQL01										
	Zinc	10.5	ug/L	10	ug/L	104.8	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Calcium	209	ug/L	200	ug/L	104.7	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Aluminum	202	ug/L	200	ug/L	101	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Iron	116	ug/L	100	ug/L	116.4	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Lead	10.6	ug/L	10	ug/L	106.1	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Magnesium	343	ug/L	300	ug/L	114.4	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Manganese	10.5	ug/L	10	ug/L	104.9	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Potassium	159	ug/L	150	ug/L	106.1	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Silver	4.78	ug/L	5	ug/L	95.5	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Sodium	291	ug/L	300	ug/L	97	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Antimony	13.6	ug/L	10	ug/L	136	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Barium	5.02	ug/L	5	ug/L	100.4	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Cadmium	5.07	ug/L	5	ug/L	101.5	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Chromium	4.72	ug/L	5	ug/L	94.4	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Cobalt	4.96	ug/L	5	ug/L	99.2	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Copper	9.9	ug/L	10	ug/L	99	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1
	Vanadium	4.95	ug/L	5	ug/L	99	70.0 - 130.0	P	11-JAN-10 15:52	011110A-1

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 10–1032

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
ICB01										
	Mercury	–0.073	+/–.2	J	0.068	0.2	SOL	AV	07–JAN–10 10:29	010710S2–6
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	07–JAN–10 18:22	100107–2
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	07–JAN–10 18:22	100107–2
	Selenium	2.5	+/–5	U	2.5	5.0	SOL	MS	07–JAN–10 18:22	100107–2
	Thallium	0.3	+/–1	U	0.3	1.0	SOL	MS	07–JAN–10 18:22	100107–2
	Uranium	0.066	+/–.2	U	0.066	0.2	SOL	MS	07–JAN–10 18:22	100107–2
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	11–JAN–10 15:45	011110A–1
	Antimony	3.68	+/–10	J	3.3	10.0	SOL	P	11–JAN–10 15:45	011110A–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 15:45	011110A–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 15:45	011110A–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 15:45	011110A–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 15:45	011110A–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 15:45	011110A–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	11–JAN–10 15:45	011110A–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 15:45	011110A–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	11–JAN–10 15:45	011110A–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	11–JAN–10 15:45	011110A–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	11–JAN–10 15:45	011110A–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	11–JAN–10 15:45	011110A–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 15:45	011110A–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	11–JAN–10 15:45	011110A–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 15:45	011110A–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	11–JAN–10 15:45	011110A–1
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	11–JAN–10 16:24	100111–3
	Arsenic	1.0	+/–5	U	1.0	5.0	SOL	MS	13–JAN–10 15:10	100113–5
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	15–JAN–10 12:46	100115–4
CCB01										
	Mercury	–0.077	+/–.2	J	0.068	0.2	SOL	AV	07–JAN–10 10:35	010710S2–6
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	07–JAN–10 18:53	100107–2
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	07–JAN–10 18:53	100107–2
	Selenium	2.5	+/–5	U	2.5	5.0	SOL	MS	07–JAN–10 18:53	100107–2

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 10–1032

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Thallium	0.3	+/–1	U	0.3	1.0	SOL	MS	07–JAN–10 18:53	100107–2
	Uranium	0.066	+/–.2	U	0.066	0.2	SOL	MS	07–JAN–10 18:53	100107–2
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	11–JAN–10 16:31	011110A–1
	Antimony	11.01	+/–10		3.3	10.0	SOL	P	11–JAN–10 16:31	011110A–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 16:31	011110A–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 16:31	011110A–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 16:31	011110A–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 16:31	011110A–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 16:31	011110A–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	11–JAN–10 16:31	011110A–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 16:31	011110A–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	11–JAN–10 16:31	011110A–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	11–JAN–10 16:31	011110A–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	11–JAN–10 16:31	011110A–1
	Potassium	128.97	+/–250	J	64.0	250	SOL	P	11–JAN–10 16:31	011110A–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 16:31	011110A–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	11–JAN–10 16:31	011110A–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 16:31	011110A–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	11–JAN–10 16:31	011110A–1
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	11–JAN–10 16:35	100111–3
	Arsenic	1.0	+/–5	U	1.0	5.0	SOL	MS	13–JAN–10 15:19	100113–5
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	15–JAN–10 13:04	100115–4
CCB02										
	Mercury	–0.119	+/–.2	J	0.068	0.2	SOL	AV	07–JAN–10 10:59	010710S2–6
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	07–JAN–10 19:11	100107–2
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	07–JAN–10 19:11	100107–2
	Selenium	2.5	+/–5	U	2.5	5.0	SOL	MS	07–JAN–10 19:11	100107–2
	Thallium	0.3	+/–1	U	0.3	1.0	SOL	MS	07–JAN–10 19:11	100107–2
	Uranium	0.124	+/–.2	J	0.066	0.2	SOL	MS	07–JAN–10 19:11	100107–2
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	11–JAN–10 16:45	011110A–1
	Antimony	3.89	+/–10	J	3.3	10.0	SOL	P	11–JAN–10 16:45	011110A–1

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 10–1032

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 16:45	011110A–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 16:45	011110A–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 16:45	011110A–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 16:45	011110A–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 16:45	011110A–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	11–JAN–10 16:45	011110A–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 16:45	011110A–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	11–JAN–10 16:45	011110A–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	11–JAN–10 16:45	011110A–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	11–JAN–10 16:45	011110A–1
	Potassium	84.9	+/–250	J	64.0	250	SOL	P	11–JAN–10 16:45	011110A–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 16:45	011110A–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	11–JAN–10 16:45	011110A–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 16:45	011110A–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	11–JAN–10 16:45	011110A–1
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	11–JAN–10 16:51	100111–3
	Arsenic	1.0	+/–5	U	1.0	5.0	SOL	MS	13–JAN–10 15:36	100113–5
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	15–JAN–10 13:18	100115–4
CCB03										
	Mercury	–0.148	+/–.2	J	0.068	0.2	SOL	AV	07–JAN–10 11:23	010710S2–6
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	07–JAN–10 20:01	100107–2
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	07–JAN–10 20:01	100107–2
	Selenium	2.5	+/–5	U	2.5	5.0	SOL	MS	07–JAN–10 20:01	100107–2
	Thallium	0.3	+/–1	U	0.3	1.0	SOL	MS	07–JAN–10 20:01	100107–2
	Uranium	0.066	+/–.2	U	0.066	0.2	SOL	MS	07–JAN–10 20:01	100107–2
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	11–JAN–10 17:06	011110A–1
	Antimony	3.3	+/–10	U	3.3	10.0	SOL	P	11–JAN–10 17:06	011110A–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 17:06	011110A–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 17:06	011110A–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 17:06	011110A–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 17:06	011110A–1

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 10–1032

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 17:06	011110A–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	11–JAN–10 17:06	011110A–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 17:06	011110A–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	11–JAN–10 17:06	011110A–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	11–JAN–10 17:06	011110A–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	11–JAN–10 17:06	011110A–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	11–JAN–10 17:06	011110A–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 17:06	011110A–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	11–JAN–10 17:06	011110A–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 17:06	011110A–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	11–JAN–10 17:06	011110A–1
	Arsenic	1.0	+/–5	U	1.0	5.0	SOL	MS	13–JAN–10 15:56	100113–5
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	15–JAN–10 13:36	100115–4
CCB04										
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	07–JAN–10 20:50	100107–2
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	07–JAN–10 20:50	100107–2
	Selenium	2.5	+/–5	U	2.5	5.0	SOL	MS	07–JAN–10 20:50	100107–2
	Thallium	0.3	+/–1	U	0.3	1.0	SOL	MS	07–JAN–10 20:50	100107–2
	Uranium	0.066	+/–.2	U	0.066	0.2	SOL	MS	07–JAN–10 20:50	100107–2
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	11–JAN–10 18:01	011110A–1
	Antimony	4.81	+/–10	J	3.3	10.0	SOL	P	11–JAN–10 18:01	011110A–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 18:01	011110A–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 18:01	011110A–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 18:01	011110A–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 18:01	011110A–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 18:01	011110A–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	11–JAN–10 18:01	011110A–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 18:01	011110A–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	11–JAN–10 18:01	011110A–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	11–JAN–10 18:01	011110A–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	11–JAN–10 18:01	011110A–1

Metals
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Initial and Continuing Calibration Blank Summary

SDG No.: 10-1032

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	11-JAN-10 18:01	011110A-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	11-JAN-10 18:01	011110A-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	11-JAN-10 18:01	011110A-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	11-JAN-10 18:01	011110A-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	11-JAN-10 18:01	011110A-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	13-JAN-10 16:15	100113-5
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	15-JAN-10 13:50	100115-4
CCB05										
	Beryllium	0.1	+/-.5	U	0.1	0.5	SOL	MS	07-JAN-10 21:34	100107-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	07-JAN-10 21:34	100107-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	07-JAN-10 21:34	100107-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	07-JAN-10 21:34	100107-2
	Uranium	0.066	+/-.2	U	0.066	0.2	SOL	MS	07-JAN-10 21:34	100107-2
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	11-JAN-10 19:05	011110A-1
	Antimony	4.58	+/-10	J	3.3	10.0	SOL	P	11-JAN-10 19:05	011110A-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	11-JAN-10 19:05	011110A-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	11-JAN-10 19:05	011110A-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	11-JAN-10 19:05	011110A-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	11-JAN-10 19:05	011110A-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	11-JAN-10 19:05	011110A-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	11-JAN-10 19:05	011110A-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	11-JAN-10 19:05	011110A-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	11-JAN-10 19:05	011110A-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	11-JAN-10 19:05	011110A-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	11-JAN-10 19:05	011110A-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	11-JAN-10 19:05	011110A-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	11-JAN-10 19:05	011110A-1
	Sodium	88.32	+/-250	J	70.0	250	SOL	P	11-JAN-10 19:05	011110A-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	11-JAN-10 19:05	011110A-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	11-JAN-10 19:05	011110A-1

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 10–1032

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
CCB06										
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	11–JAN–10 20:21	011110A–1
	Antimony	3.3	+/–10	U	3.3	10.0	SOL	P	11–JAN–10 20:21	011110A–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 20:21	011110A–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 20:21	011110A–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 20:21	011110A–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 20:21	011110A–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 20:21	011110A–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	11–JAN–10 20:21	011110A–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 20:21	011110A–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	11–JAN–10 20:21	011110A–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	11–JAN–10 20:21	011110A–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	11–JAN–10 20:21	011110A–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	11–JAN–10 20:21	011110A–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 20:21	011110A–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	11–JAN–10 20:21	011110A–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 20:21	011110A–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	11–JAN–10 20:21	011110A–1
CCB07										
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	11–JAN–10 21:38	011110A–1
	Antimony	3.66	+/–10	J	3.3	10.0	SOL	P	11–JAN–10 21:38	011110A–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 21:38	011110A–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 21:38	011110A–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 21:38	011110A–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 21:38	011110A–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 21:38	011110A–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	11–JAN–10 21:38	011110A–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 21:38	011110A–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	11–JAN–10 21:38	011110A–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	11–JAN–10 21:38	011110A–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	11–JAN–10 21:38	011110A–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	11–JAN–10 21:38	011110A–1

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 10–1032

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 21:38	011110A–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	11–JAN–10 21:38	011110A–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 21:38	011110A–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	11–JAN–10 21:38	011110A–1
CCB08										
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	11–JAN–10 22:55	011110A–1
	Antimony	3.3	+/–10	U	3.3	10.0	SOL	P	11–JAN–10 22:55	011110A–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 22:55	011110A–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 22:55	011110A–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 22:55	011110A–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 22:55	011110A–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	11–JAN–10 22:55	011110A–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	11–JAN–10 22:55	011110A–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	11–JAN–10 22:55	011110A–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	11–JAN–10 22:55	011110A–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	11–JAN–10 22:55	011110A–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	11–JAN–10 22:55	011110A–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	11–JAN–10 22:55	011110A–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 22:55	011110A–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	11–JAN–10 22:55	011110A–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	11–JAN–10 22:55	011110A–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	11–JAN–10 22:55	011110A–1
CCB09										
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	12–JAN–10 00:06	011110A–1
	Antimony	3.3	+/–10	U	3.3	10.0	SOL	P	12–JAN–10 00:06	011110A–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	12–JAN–10 00:06	011110A–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	12–JAN–10 00:06	011110A–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	12–JAN–10 00:06	011110A–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	12–JAN–10 00:06	011110A–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	12–JAN–10 00:06	011110A–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	12–JAN–10 00:06	011110A–1

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 10–1032

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Iron	80.0	+/–250	U	80.0	250	SOL	P	12–JAN–10 00:06	011110A–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	12–JAN–10 00:06	011110A–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	12–JAN–10 00:06	011110A–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	12–JAN–10 00:06	011110A–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	12–JAN–10 00:06	011110A–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	12–JAN–10 00:06	011110A–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	12–JAN–10 00:06	011110A–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	12–JAN–10 00:06	011110A–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	12–JAN–10 00:06	011110A–1

METALS
–3b–
PREPARATION BLANK SUMMARY

SDG NO. 10–1032

Contract: LANL01004

Matrix: SOIL

Sample ID	Analyte	Result	Units	Acceptance Window	Conc Qual	M	MDL	RDL
1202003764								
	Chromium	146	ug/Kg	+/–487	U	P	146	487
	Cobalt	146	ug/Kg	+/–487	U	P	146	487
	Iron	7800	ug/Kg	+/–24400	U	P	7800	24400
	Copper	292	ug/Kg	+/–975	U	P	292	975
	Lead	244	ug/Kg	+/–975	U	P	244	975
	Manganese	195	ug/Kg	+/–975	U	P	195	975
	Silver	97.5	ug/Kg	+/–487	U	P	97.5	487
	Vanadium	97.5	ug/Kg	+/–487	U	P	97.5	487
	Zinc	563	ug/Kg	+/–975	J	P	322	975
	Calcium	7800	ug/Kg	+/–24400	U	P	7800	24400
	Cadmium	97.5	ug/Kg	+/–487	U	P	97.5	487
	Barium	97.5	ug/Kg	+/–487	U	P	97.5	487
	Antimony	322	ug/Kg	+/–975	U	P	322	975
	Aluminum	6630	ug/Kg	+/–19500	U	P	6630	19500
	Sodium	6820	ug/Kg	+/–24400	U	P	6820	24400
	Potassium	6240	ug/Kg	+/–24400	U	P	6240	24400
	Magnesium	8280	ug/Kg	+/–29200	U	P	8280	29200
1202003841								
	Thallium	0.0592	mg/kg	+/–0.197	U	MS	0.0592	0.197
	Nickel	0.0986	mg/kg	+/–0.394	U	MS	0.0986	0.394
	Selenium	0.493	mg/kg	+/–0.986	U	MS	0.493	0.986
	Beryllium	0.0197	mg/kg	+/–0.0986	U	MS	0.0197	0.0986
	Uranium	0.013	mg/kg	+/–0.0395	U	MS	0.013	0.0395
	Arsenic	0.197	mg/kg	+/–0.986	U	MS	0.197	0.986
1202006434								
	Mercury	3.78	ug/kg	+/–11.1	U	AV	3.78	11.1

METALS
-4-
Interference Check Sample

SDG No: 10-1032

Contract: LANL01004 **Lab Code:** GEL

ICS: O2Si

Instrument: OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Aluminum	514000	ug/L	500000	ug/L	103	80.0 – 120.0	11-JAN-10 15:59	011110A-1
	Antimony	3.41	ug/L					11-JAN-10 15:59	011110A-1
	Barium	3.06	ug/L					11-JAN-10 15:59	011110A-1
	Cadmium	-0.409	ug/L					11-JAN-10 15:59	011110A-1
	Calcium	482000	ug/L	500000	ug/L	96.5	80.0 – 120.0	11-JAN-10 15:59	011110A-1
	Chromium	1.65	ug/L					11-JAN-10 15:59	011110A-1
	Cobalt	-1.58	ug/L					11-JAN-10 15:59	011110A-1
	Copper	4.62	ug/L					11-JAN-10 15:59	011110A-1
	Iron	189000	ug/L	200000	ug/L	94.5	80.0 – 120.0	11-JAN-10 15:59	011110A-1
	Lead	-0.0021	ug/L					11-JAN-10 15:59	011110A-1
	Magnesium	492000	ug/L	500000	ug/L	98.3	80.0 – 120.0	11-JAN-10 15:59	011110A-1
	Manganese	2.73	ug/L					11-JAN-10 15:59	011110A-1
	Potassium	-217.0	ug/L					11-JAN-10 15:59	011110A-1
	Silver	0.174	ug/L					11-JAN-10 15:59	011110A-1
	Sodium	8.11	ug/L					11-JAN-10 15:59	011110A-1
	Vanadium	-1.0	ug/L					11-JAN-10 15:59	011110A-1
	Zinc	7.89	ug/L					11-JAN-10 15:59	011110A-1
ICSAB01									
	Aluminum	509000	ug/L	500000	ug/L	102	80.0 – 120.0	11-JAN-10 16:05	011110A-1
	Antimony	539	ug/L	500	ug/L	108	80.0 – 120.0	11-JAN-10 16:05	011110A-1
	Barium	499	ug/L	500	ug/L	99.9	80.0 – 120.0	11-JAN-10 16:05	011110A-1
	Cadmium	470	ug/L	500	ug/L	94	80.0 – 120.0	11-JAN-10 16:05	011110A-1
	Calcium	476000	ug/L	500000	ug/L	95.1	80.0 – 120.0	11-JAN-10 16:05	011110A-1
	Chromium	485	ug/L	500	ug/L	97	80.0 – 120.0	11-JAN-10 16:05	011110A-1
	Cobalt	448	ug/L	500	ug/L	89.7	80.0 – 120.0	11-JAN-10 16:05	011110A-1
	Copper	558	ug/L	500	ug/L	112	80.0 – 120.0	11-JAN-10 16:05	011110A-1
	Iron	187000	ug/L	200000	ug/L	93.3	80.0 – 120.0	11-JAN-10 16:05	011110A-1
	Lead	466	ug/L	500	ug/L	93.2	80.0 – 120.0	11-JAN-10 16:05	011110A-1
	Magnesium	487000	ug/L	500000	ug/L	97.4	80.0 – 120.0	11-JAN-10 16:05	011110A-1

METALS
-4-
Interference Check Sample

SDG No: 10-1032

Contract: LANL01004 **Lab Code:** GEL

ICS:

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
	Manganese	485	ug/L	500	ug/L	97.1	80.0 - 120.0	11-JAN-10 16:05	011110A-1
	Potassium	5310	ug/L	5000	ug/L	106	80.0 - 120.0	11-JAN-10 16:05	011110A-1
	Silver	275	ug/L	250	ug/L	110	80.0 - 120.0	11-JAN-10 16:05	011110A-1
	Sodium	5540	ug/L	5000	ug/L	111	80.0 - 120.0	11-JAN-10 16:05	011110A-1
	Vanadium	512	ug/L	500	ug/L	102	80.0 - 120.0	11-JAN-10 16:05	011110A-1
	Zinc	504	ug/L	500	ug/L	101	80.0 - 120.0	11-JAN-10 16:05	011110A-1

METALS
-4-
Interference Check Sample

SDG No: 10-1032

Contract: LANL01004 **Lab Code:** GEL

ICS: O2Si

Instrument: ICPMS4

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Beryllium	0.043	ug/L					07-JAN-10 18:34	100107-2
	Nickel	3.26	ug/L					07-JAN-10 18:34	100107-2
	Selenium	-0.559	ug/L					07-JAN-10 18:34	100107-2
	Thallium	-0.007	ug/L					07-JAN-10 18:34	100107-2
	Uranium	-0.034	ug/L					07-JAN-10 18:34	100107-2
ICSAB01									
	Beryllium	19.5	ug/L	20	ug/L	97.3	80.0 - 120.0	07-JAN-10 18:40	100107-2
	Nickel	22.0	ug/L	22.7	ug/L	96.8	80.0 - 120.0	07-JAN-10 18:40	100107-2
	Selenium	21.5	ug/L	20	ug/L	108	80.0 - 120.0	07-JAN-10 18:40	100107-2
	Thallium	18.0	ug/L	20	ug/L	89.7	80.0 - 120.0	07-JAN-10 18:40	100107-2
	Uranium	20.4	ug/L	20	ug/L	102	80.0 - 120.0	07-JAN-10 18:40	100107-2

METALS
–4–
Interference Check Sample

SDG No: 10–1032

Contract: LANL01004 **Lab Code:** GEL

ICS: O2Si

Instrument: ICPMS4

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Beryllium	0.049	ug/L					11–JAN–10 16:28	100111–3
ICSAB01									
	Beryllium	19.6	ug/L	20	ug/L	97.9	80.0 – 120.0	11–JAN–10 16:31	100111–3

METALS
–4–
Interference Check Sample

SDG No: 10–1032

Contract: LANL01004 **Lab Code:** GEL

ICS: O2Si

Instrument: ICPMS4

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Nickel	3.53	ug/L					15–JAN–10 12:53	100115–4
ICSAB01									
	Nickel	22.0	ug/L	22.7	ug/L	97	80.0 – 120.0	15–JAN–10 12:56	100115–4

METALS
–4–
Interference Check Sample

SDG No: 10–1032

Contract: LANL01004 **Lab Code:** GEL

ICS: O2Si

Instrument: ICPMS5

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Arsenic	0.041	ug/L					13–JAN–10 15:13	100113–5
ICSAB01									
	Arsenic	21.3	ug/L	20	ug/L	107	80.0 – 120.0	13–JAN–10 15:15	100113–5

METALS
–5a–

Matrix Spike Summary

SDG NO. 10–1032 **Client ID** RE12–10–7580S

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 86

Sample ID: 243385001 **Spike ID:** 1202003767

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Silver	ug/Kg	75–125	62100		269	J	57700	107		P
Sodium	ug/Kg	75–125	712000		79900		577000	109		P
Vanadium	ug/Kg	75–125	92200		30000		57700	108		P
Zinc	ug/Kg	75–125	91100		28300		57700	109		P
Aluminum	ug/Kg		17700000		9060000		577000	1490	N/A	P
Antimony	ug/Kg	75–125	45300		368	U	57700	78.5		P
Barium	ug/Kg	75–125	198000		127000		57700	123		P
Cadmium	ug/Kg	75–125	58800		158	J	57700	102		P
Calcium	ug/Kg		2820000		2310000		577000	88.8	N/A	P
Chromium	ug/Kg	75–125	73100		11800		57700	106		P
Cobalt	ug/Kg	75–125	62700		5740		57700	98.7		P
Copper	ug/Kg	75–125	72000		7220		57700	112		P
Iron	ug/Kg		15400000		13300000		577000	367	N/A	P
Lead	ug/Kg	75–125	76100		18100		57700	100		P
Magnesium	ug/Kg	75–125	2700000		1710000		577000	172	N	P
Manganese	ug/Kg		348000		303000		57700	77.9	N/A	P
Potassium	ug/Kg	75–125	2660000		1680000		577000	169	N	P

METALS
-5a-

Matrix Spike Duplicate Summary

SDG NO. 10-1032 **Client ID** RE12-10-7580SD

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 86

Sample ID: 243385001 **Spike ID:** 1202003769

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/Kg		15300000		9060000		578000	1080	N/A	P
Antimony	ug/Kg	75-125	46600		368	U	57800	80.6		P
Barium	ug/Kg	75-125	189000		127000		57800	107		P
Cadmium	ug/Kg	75-125	57200		158	J	57800	98.7		P
Calcium	ug/Kg	75-125	2810000		2310000		578000	86.8		P
Chromium	ug/Kg	75-125	70000		11800		57800	101		P
Cobalt	ug/Kg	75-125	61000		5740		57800	95.6		P
Copper	ug/Kg	75-125	69900		7220		57800	108		P
Iron	ug/Kg		13900000		13300000		578000	111	N/A	P
Lead	ug/Kg	75-125	73500		18100		57800	95.7		P
Magnesium	ug/Kg	75-125	2460000		1710000		578000	131	N	P
Manganese	ug/Kg		328000		303000		57800	42.6	N/A	P
Potassium	ug/Kg	75-125	2420000		1680000		578000	127	N	P
Silver	ug/Kg	75-125	60100		269	J	57800	104		P
Sodium	ug/Kg	75-125	699000		79900		578000	107		P
Vanadium	ug/Kg	75-125	87100		30000		57800	98.8		P
Zinc	ug/Kg	75-125	86400		28300		57800	100		P

METALS
-5a-
Matrix Spike Summary

SDG NO. 10-1032 **Client ID** RE12-10-7580S

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 86

Sample ID: 243385001 **Spike ID:** 1202003844

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	mg/kg	75-125	13		2.75		9.07	114		MS
Beryllium	mg/kg	75-125	6.14		0.857		5.67	93.2		MS
Nickel	mg/kg	75-125	11.8		6.47		5.67	94.1		MS
Selenium	mg/kg	75-125	1.98		0.573	U	2.27	81.2		MS
Thallium	mg/kg	75-125	10.3		0.208	J	11.3	89.3		MS
Uranium	mg/kg	75-125	8.22		3.13		5.67	89.8		MS

METALS
–5a–

Matrix Spike Duplicate Summary

SDG NO.	10–1032	**Client ID**	RE12–10–7580SD
Contract:	LANL01004	**Level:**	Low
Matrix:	SOIL	**% Solids:**	86
Sample ID:	243385001	**Spike ID:**	1202003846

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Beryllium	mg/kg	75–125	6.03		0.857		5.73	90.3		MS
Nickel	mg/kg	75–125	11.3		6.47		5.73	83.9		MS
Selenium	mg/kg	75–125	1.94		0.573	U	2.29	78.5		MS
Thallium	mg/kg	75–125	10.3		0.208	J	11.5	88.1		MS
Uranium	mg/kg	75–125	9.43		3.13		5.73	110		MS
Arsenic	mg/kg	75–125	12.3		2.75		9.16	105		MS

METALS
–5a–
Matrix Spike Summary

SDG NO. 10–1032 **Client ID** RE12–10–7580S

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 86

Sample ID: 243385001 **Spike ID:** 1202006437

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/kg	75–125	149		18.2		124	105		AV

METALS
–5a–
Matrix Spike Duplicate Summary

SDG NO. 10–1032 **Client ID** RE12–10–7580SD

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 86

Sample ID: 243385001 **Spike ID:** 1202006438

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/kg	75–125	144		18.2		117	107		AV

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1032

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE12–10–7580D

Sample ID: 243385001 **Duplicate ID:** 1202003766 **Percent Solids for Dup:** 86

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/–20%	9060000		7690000		16.3		P
Antimony	ug/Kg		368	U	376	U			P
Barium	ug/Kg	+/–20%	127000		132000		3.66		P
Cadmium	ug/Kg	+/–569	158	J	151	J	4.23		P
Calcium	ug/Kg	+/–20%	2310000		2260000		1.86		P
Chromium	ug/Kg	+/–20%	11800		11200		5.18		P
Cobalt	ug/Kg	+/–20%	5740		6450		11.5		P
Copper	ug/Kg	+/–20%	7220		7180		.473		P
Iron	ug/Kg	+/–20%	13300000		12600000		4.94		P
Lead	ug/Kg	+/–20%	18100		20400		11.6		P
Magnesium	ug/Kg	+/–20%	1710000		1560000		8.93		P
Manganese	ug/Kg	+/–20%	303000		364000		18.3		P
Potassium	ug/Kg	+/–20%	1680000		1540000		8.8		P
Silver	ug/Kg	+/–569	269	J	192	J	33.3		P
Sodium	ug/Kg	+/–28500	79900		81200		1.64		P
Vanadium	ug/Kg	+/–20%	30000		30000		.194		P
Zinc	ug/Kg	+/–20%	28300		29300		3.3		P

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1032

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE12–10–7580SD

Sample ID: 1202003767 **Duplicate ID:** 1202003769 **Percent Solids for Dup:** 86

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/–20	17700000		15300000		14.5		P
Antimony	ug/Kg	+/–20	45300		46600		2.81		P
Barium	ug/Kg	+/–20	198000		189000		4.76		P
Cadmium	ug/Kg	+/–20	58800		57200		2.8		P
Calcium	ug/Kg	+/–20	2820000		2810000		.385		P
Chromium	ug/Kg	+/–20	73100		70000		4.4		P
Cobalt	ug/Kg	+/–20	62700		61000		2.64		P
Copper	ug/Kg	+/–20	72000		69900		2.89		P
Iron	ug/Kg	+/–20	15400000		13900000		10.1		P
Lead	ug/Kg	+/–20	76100		73500		3.49		P
Magnesium	ug/Kg	+/–20	2700000		2460000		9.06		P
Manganese	ug/Kg	+/–20	348000		328000		6.02		P
Potassium	ug/Kg	+/–20	2660000		2420000		9.52		P
Silver	ug/Kg	+/–20	62100		60100		3.16		P
Sodium	ug/Kg	+/–20	712000		699000		1.8		P
Vanadium	ug/Kg	+/–20	92200		87100		5.74		P
Zinc	ug/Kg	+/–20	91100		86400		5.31		P

Metals
-6-
Duplicate Sample Summary

SDG No.: 10-1032

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE12-10-7580D

Sample ID: 243385001 **Duplicate ID:** 1202003843 **Percent Solids for Dup:** 86

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/-1.14	2.75		2.43		12.3		MS
Beryllium	mg/kg	+/-20%	0.857		0.859		.183		MS
Nickel	mg/kg	+/-20%	6.47		5.96		8.26		MS
Selenium	mg/kg		0.573	U	0.569	U			MS
Thallium	mg/kg	+/-.228	0.208	J	0.167	J	21.8		MS
Uranium	mg/kg	+/-20%	3.13		2.76		12.7		MS

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1032

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE12–10–7580SD

Sample ID: 1202003844 **Duplicate ID:** 1202003846 **Percent Solids for Dup:** 86

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/–20	13		12.3		5.49		MS
Beryllium	mg/kg	+/–20	6.14		6.03		1.81		MS
Nickel	mg/kg	+/–20	11.8		11.3		4.59		MS
Selenium	mg/kg	+/–20	1.98		1.94		2.26		MS
Thallium	mg/kg	+/–20	10.3		10.3		.368		MS
Uranium	mg/kg	+/–20	8.22		9.43		13.7		MS

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1032

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE12–10–7580D

Sample ID: 243385001 **Duplicate ID:** 1202006435 **Percent Solids for Dup:** 86

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg	+/–13.9	18.2		15		19.2		AV

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1032

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE12–10–7580SD

Sample ID: 1202006437 **Duplicate ID:** 1202006438 **Percent Solids for Dup:** 86

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg	+/–20	149		144		3.14		AV

METALS
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Laboratory Control Sample Summary

SDG NO. 10-1032

Contract: LANL01004

Aqueous LCS Source: **Solid LCS Source:** ERA

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1202003765								
	Aluminum	ug/Kg	10500000	8320000		79.2	56-144	P
	Antimony	ug/Kg	173000	127000		73.3	71-130	P
	Barium	ug/Kg	198000	193000		97.6	80-120	P
	Cadmium	ug/Kg	60700	56200		92.5	81-120	P
	Calcium	ug/Kg	9870000	9260000		93.8	83-117	P
	Chromium	ug/Kg	236000	227000		96.4	80-120	P
	Cobalt	ug/Kg	91200	87400		95.8	81-120	P
	Copper	ug/Kg	174000	181000		104	81-118	P
	Iron	ug/Kg	18000000	17600000		98	51-149	P
	Lead	ug/Kg	86000	82100		95.5	79-121	P
	Magnesium	ug/Kg	4000000	3670000		91.8	79-122	P
	Manganese	ug/Kg	558000	511000		91.6	81-119	P
	Potassium	ug/Kg	4300000	3950000		92	74-127	P
	Silver	ug/Kg	30100	31300		104	66-134	P
	Sodium	ug/Kg	1020000	980000		96.1	74-127	P
	Vanadium	ug/Kg	115000	120000		105	79-121	P
	Zinc	ug/Kg	594000	606000		102	80-121	P

METALS
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Laboratory Control Sample Summary

SDG NO. 10–1032

Contract: LANL01004

Aqueous LCS Source: **Solid LCS Source:** ERA

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1202003842								
	Beryllium	mg/kg	77.6	80.7		104	81.2–126.8	MS
	Nickel	mg/kg	134	145		108	83.3–121.4	MS
	Selenium	mg/kg	286	307		107	80.2–125.9	MS
	Thallium	mg/kg	121	127		105	78–123.2	MS
	Uranium	mg/kg	2.13	1.79		84	61.9–130.7	MS
	Arsenic	mg/kg	104	104		100	83–120	MS

METALS
-7-
Laboratory Control Sample Summary

SDG NO. 10-1032

Contract: LANL01004

Aqueous LCS Source: **Solid LCS Source:** ERA

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1202006439								
	Mercury	ug/kg	5150	4470		86.9	71.6-128.3	AV

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 10-1032 **Client ID** RE12-10-7580L

Contract: LANL01004

Matrix: SOLID **Level:** Low

Sample ID: 243385001 **Serial Dilution ID:** 1202003768

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Aluminum	81300		79500		2.21		10	P
Antimony	3.3	U	16.5	U				P
Barium	1140		1120		1.75		10	P
Cadmium	1.41	J	5	U	100			P
Calcium	20700		20400		1.69		10	P
Chromium	106		108		1.89		10	P
Cobalt	51.5		50		2.91			P
Copper	64.8		57		12			P
Iron	119000		122000		2.52		10	P
Lead	163		163		.307		10	P
Magnesium	15300		15600		1.63		10	P
Manganese	2720		2740		.735		10	P
Potassium	15100		14700		2.65		10	P
Silver	2.42	J	5	U	100			P
Sodium	717		735	J	2.51			P
Vanadium	269		263		2.23		10	P
Zinc	254		254		.197		10	P

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 10-1032 **Client ID** RE12-10-7580L

Contract: LANL01004

Matrix: SOLID **Level:** Low

Sample ID: 243385001 **Serial Dilution ID:** 1202003845

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Arsenic	12		11.9	J	.833			MS
Beryllium	3.74		4.33		15.8			MS
Nickel	28.3		31.3		10.4			MS
Selenium	2.5	U	12.5	U				MS
Thallium	.908	J	1.5	U	100			MS
Uranium	13.7		14.1		2.55		10	MS

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 10-1032 **Client ID** RE12-10-7580L

Contract: LANL01004

Matrix: SOLID **Level:** Low

Sample ID: 243385001 **Serial Dilution ID:** 1202006436

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Mercury	.274		.34	U	100			AV

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 10-1032 **Method Type:** P

Contract: LANL01004 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number 936479							
1202003764	MB for batch 936479	MB	S	29-DEC-09	.513g	50mL	
1202003765	LCS for batch 936479	LCS	S	29-DEC-09	.518g	50mL	
1202003767	RE12-10-7580S	MS	S	29-DEC-09	.504g	50mL	
1202003769	RE12-10-7580SD	MSD	S	29-DEC-09	.503g	50mL	
1202003766	RE12-10-7580D	DUP	S	29-DEC-09	.511g	50mL	
243385001	RE12-10-7580	SAMPLE	S	29-DEC-09	.522g	50mL	
243385002	RE12-10-7590	SAMPLE	S	29-DEC-09	.514g	50mL	
243385003	RE12-10-7592	SAMPLE	S	29-DEC-09	.509g	50mL	
243385004	RE12-10-7591	SAMPLE	S	29-DEC-09	.51g	50mL	
243385005	RE12-10-7581	SAMPLE	S	29-DEC-09	.514g	50mL	
243385006	RE12-10-7586	SAMPLE	S	29-DEC-09	.538g	50mL	
243385007	RE12-10-7587	SAMPLE	S	29-DEC-09	.52g	50mL	
243385008	RE12-10-7585	SAMPLE	S	29-DEC-09	.504g	50mL	
243385009	RE12-10-7582	SAMPLE	S	29-DEC-09	.524g	50mL	
243385010	RE12-10-7584	SAMPLE	S	29-DEC-09	.504g	50mL	
243385011	RE12-10-7583	SAMPLE	S	29-DEC-09	.513g	50mL	

METALS
–13–
SAMPLE PREPARATION SUMMARY

SDG No: 10–1032 **Method Type:** MS

Contract: LANL01004 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number 936514							
1202003841	MB for batch 936514	MB	S	29–DEC–09	.507g	50mL	
1202003842	LCS for batch 936514	LCS	S	29–DEC–09	.511g	50mL	
1202003844	RE12–10–7580S	MS	S	29–DEC–09	.513g	50mL	
1202003846	RE12–10–7580SD	MSD	S	29–DEC–09	.508g	50mL	
1202003843	RE12–10–7580D	DUP	S	29–DEC–09	.511g	50mL	
243385001	RE12–10–7580	SAMPLE	S	29–DEC–09	.508g	50mL	
243385002	RE12–10–7590	SAMPLE	S	29–DEC–09	.505g	50mL	
243385003	RE12–10–7592	SAMPLE	S	29–DEC–09	.511g	50mL	
243385004	RE12–10–7591	SAMPLE	S	29–DEC–09	.519g	50mL	
243385005	RE12–10–7581	SAMPLE	S	29–DEC–09	.511g	50mL	
243385006	RE12–10–7586	SAMPLE	S	29–DEC–09	.532g	50mL	
243385007	RE12–10–7587	SAMPLE	S	29–DEC–09	.507g	50mL	
243385008	RE12–10–7585	SAMPLE	S	29–DEC–09	.505g	50mL	
243385009	RE12–10–7582	SAMPLE	S	29–DEC–09	.519g	50mL	
243385010	RE12–10–7584	SAMPLE	S	29–DEC–09	.501g	50mL	
243385011	RE12–10–7583	SAMPLE	S	29–DEC–09	.508g	50mL	

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 10-1032 **Method Type:** AV

Contract: LANL01004 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number 937631							
1202006434	MB for batch 937631	MB	S	06-JAN-10	.54g	30mL	
1202006439	LCS for batch 937631	LCS	S	06-JAN-10	.202g	30mL	
1202006437	RE12-10-7580S	MS	S	06-JAN-10	.563g	30mL	
1202006438	RE12-10-7580SD	MSD	S	06-JAN-10	.595g	30mL	
1202006435	RE12-10-7580D	DUP	S	06-JAN-10	.501g	30mL	
243385001	RE12-10-7580	SAMPLE	S	06-JAN-10	.527g	30mL	
243385002	RE12-10-7590	SAMPLE	S	06-JAN-10	.509g	30mL	
243385003	RE12-10-7592	SAMPLE	S	06-JAN-10	.591g	30mL	
243385004	RE12-10-7591	SAMPLE	S	06-JAN-10	.55g	30mL	
243385005	RE12-10-7581	SAMPLE	S	06-JAN-10	.514g	30mL	
243385006	RE12-10-7586	SAMPLE	S	06-JAN-10	.571g	30mL	
243385007	RE12-10-7587	SAMPLE	S	06-JAN-10	.598g	30mL	
243385008	RE12-10-7585	SAMPLE	S	06-JAN-10	.5g	30mL	
243385009	RE12-10-7582	SAMPLE	S	06-JAN-10	.568g	30mL	
243385010	RE12-10-7584	SAMPLE	S	06-JAN-10	.599g	30mL	
243385011	RE12-10-7583	SAMPLE	S	06-JAN-10	.501g	30mL	

Metals
-14-
Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: ICPMS5
Start Date: 13-JAN-10 **End Date:** 13-JAN-10

Client Sdg: 10-1032
Method MS
Data File: 100113-5

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	15:02			X																					
S10	1	15:04			X																					
S100	1	15:06			X																					
ICV01	1	15:08			X																					
ICB01	1	15:10			X																					
CRDL01	1	15:12			X																					
ICSA01	1	15:13			X																					
ICSAB01	1	15:15			X																					
CCV01	1	15:17			X																					
CCB01	1	15:19			X																					
ZZZZZZ	2	15:21																								
ZZZZZZ	40	15:23																								
ZZZZZZ	40	15:25																								
ZZZZZZ	2	15:32																								
CCV02	1	15:34			X																					
CCB02	1	15:36			X																					
1202003841	2	15:37			X																					
1202003842	40	15:39			X																					
243385001	2	15:41			X																					
1202003843	2	15:43			X																					
1202003844	2	15:45			X																					
1202003846	2	15:47			X																					
1202003845	10	15:49			X																					
243385002	2	15:51			X																					
243385003	2	15:52			X																					
CCV03	1	15:54			X																					
CCB03	1	15:56			X																					
243385004	2	15:58			X																					
243385005	2	16:00			X																					
243385006	2	16:02			X																					
243385007	2	16:04			X																					
243385008	2	16:06			X																					
243385009	2	16:08			X																					
243385010	2	16:09			X																					
243385011	2	16:11			X																					
CCV04	1	16:13			X																					
CCB04	1	16:15			X																					

Metals
-14-
Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: OPTIMA3
Start Date: 11-JAN-10 **End Date:** 12-JAN-10

Client Sdg: 10-1032
Method P
Data File: 011110A-1

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	15:06	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
S0.1	1	15:13		X		X		X		X	X	X		X		X			X		X				X	X
S0.5	1	15:19	X	X		X		X	X	X	X	X		X	X	X			X		X				X	X
SCAL	1	15:26	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
S10	1	15:33	X						X				X		X							X				
ICV01	1	15:38	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICB01	1	15:45	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
PQL01	1	15:52	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICSA01	1	15:59	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICSAB01	1	16:05	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR01	1	16:11	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR02	1	16:17	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV01	1	16:24	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB01	1	16:31	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV02	1	16:38	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB02	1	16:45	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR03	1	16:52	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV03	1	16:59	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB03	1	17:06	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	17:13																								
ZZZZZZ	1	17:19																								
ZZZZZZ	1	17:26																								
ZZZZZZ	1	17:33																								
ZZZZZZ	1	17:40																								
ZZZZZZ	5	17:48																								
CCV04	1	17:54	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB04	1	18:01	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	18:08																								
ZZZZZZ	1	18:15																								
ZZZZZZ	1	18:22																								
ZZZZZZ	1	18:29																								
ZZZZZZ	1	18:36																								
ZZZZZZ	1	18:43																								
ZZZZZZ	1	18:51																								
CCV05	1	18:58	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB05	1	19:05	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	19:11																								
ZZZZZZ	1	19:18																								
ZZZZZZ	1	19:25																								
ZZZZZZ	1	19:32																								

Metals
–14–
Analysis Run Log

Samp No.	D/F	Run Time																								
ZZZZZZ	1	19:39																								
ZZZZZZ	1	19:46																								
ZZZZZZ	1	19:53																								
ZZZZZZ	1	20:00																								
ZZZZZZ	1	20:07																								
CCV06	1	20:14	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB06	1	20:21	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	5	20:28																								
ZZZZZZ	1	20:35																								
ZZZZZZ	1	20:42																								
ZZZZZZ	1	20:49																								
ZZZZZZ	1	20:56																								
ZZZZZZ	1	21:03																								
ZZZZZZ	1	21:10																								
ZZZZZZ	1	21:17																								
ZZZZZZ	1	21:24																								
CCV07	1	21:31	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB07	1	21:38	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202003764	1	21:45	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202003765	1	21:52	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
243385001	1	21:58	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202003766	1	22:05	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202003767	1	22:12	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202003769	1	22:20	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202003768	5	22:27	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
243385002	1	22:34	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
243385003	1	22:41	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV08	1	22:48	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB08	1	22:55	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
243385004	1	23:02	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
243385005	1	23:09	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
243385006	1	23:16	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
243385007	1	23:23	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
243385008	1	23:30	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
243385009	1	23:37	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
243385010	1	23:44	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
243385011	1	23:51	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV09	1	23:59	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB09	1	00:06	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X

Metals
–14–
Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: MER536
Start Date: 07–JAN–10 **End Date:** 07–JAN–10

Client Sdg: 10–1032
Method AV
Data File: 010710S2–6

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	10:16															X									
S0.2	1	10:17															X									
S0.5	1	10:19															X									
S2.0	1	10:21															X									
S5.0	1	10:23															X									
S10	1	10:25															X									
ICV01	1	10:28															X									
ICB01	1	10:29															X									
CRDL01	1	10:31															X									
CCV01	1	10:33															X									
CCB01	1	10:35															X									
1202006434	1	10:37															X									
1202006439	10	10:39															X									
243385001	1	10:41															X									
1202006435	1	10:44															X									
1202006437	1	10:46															X									
1202006438	1	10:48															X									
1202006436	5	10:49															X									
243385002	1	10:51															X									
243385003	1	10:53															X									
243385004	1	10:55															X									
CCV02	1	10:57															X									
CCB02	1	10:59															X									
243385005	1	11:01															X									
243385006	1	11:03															X									
243385007	1	11:05															X									
243385008	1	11:07															X									
243385009	1	11:09															X									
243385010	1	11:11															X									
243385011	1	11:13															X									
ZZZZZZ	1	11:15																								
ZZZZZZ	10	11:17																								
ZZZZZZ	1	11:19																								
CCV03	1	11:21															X									
CCB03	1	11:23															X									

Metals
–14–
Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: ICPMS4
Start Date: 07–JAN–10 **End Date:** 07–JAN–10

Client Sdg: 10–1032
Method MS
Data File: 100107–2

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	17:57					X											X		X			X	X		
S10	1	18:03					X											X		X			X	X		
S100	1	18:09					X											X		X			X	X		
ICV01	1	18:15					X											X		X			X	X		
ICB01	1	18:22					X											X		X			X	X		
CRDL01	1	18:28					X											X		X			X	X		
ICSA01	1	18:34					X											X		X			X	X		
ICSAB01	1	18:40					X											X		X			X	X		
CCV01	1	18:46					X											X		X			X	X		
CCB01	1	18:53					X											X		X			X	X		
LR01	1	18:59					X											X		X			X	X		
CCV02	1	19:05					X											X		X			X	X		
CCB02	1	19:11					X											X		X			X	X		
1202003841	2	19:17					X											X		X			X	X		
1202003842	40	19:23					X											X		X			X	X		
243385001	2	19:30					X											X		X			X	X		
1202003843	2	19:36					X											X		X			X	X		
1202003844	2	19:42					X											X		X			X	X		
1202003846	2	19:48					X											X		X			X	X		
CCV03	1	19:55					X											X		X			X	X		
CCB03	1	20:01					X											X		X			X	X		
1202003845	10	20:07					X											X		X			X	X		
243385002	2	20:13					X											X		X			X	X		
243385003	2	20:19																		X			X	X		
243385004	2	20:26																		X			X	X		
243385005	2	20:32					X											X		X			X	X		
243385006	2	20:38					X											X		X			X	X		
CCV04	1	20:44					X											X		X			X	X		
CCB04	1	20:50					X											X		X			X	X		
243385007	2	20:57																		X			X	X		
243385008	2	21:03					X											X		X			X	X		
243385009	2	21:09					X											X		X			X	X		
243385010	2	21:15					X											X		X			X	X		
243385011	2	21:22					X											X		X			X	X		
CCV05	1	21:28					X											X		X			X	X		
CCB05	1	21:34					X											X		X			X	X		

Metals
–14–
Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: ICPMS4
Start Date: 11–JAN–10 **End Date:** 11–JAN–10

Client Sdg: 10–1032
Method MS
Data File: 100111–3

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	16:15					X																			
S10	1	16:17					X																			
S100	1	16:20					X																			
ICV01	1	16:22					X																			
ICB01	1	16:24					X																			
CRDL01	1	16:26					X																			
ICSA01	1	16:28					X																			
ICSAB01	1	16:31					X																			
CCV01	1	16:33					X																			
CCB01	1	16:35					X																			
ZZZZZZ	2	16:38																								
ZZZZZZ	40	16:40																								
243385003	10	16:42					X																			
243385004	10	16:44					X																			
243385007	10	16:46					X																			
CCV02	1	16:49					X																			
CCB02	1	16:51					X																			

Metals
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Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: ICPMS4
Start Date: 15–JAN–10 **End Date:** 15–JAN–10

Client Sdg: 10–1032
Method MS
Data File: 100115–4

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	12:31																X								
S10	1	12:35																X								
S100	1	12:38																X								
ICV01	1	12:42																X								
ICB01	1	12:46																X								
CRDL01	1	12:49																X								
ICSA01	1	12:53																X								
ICSAB01	1	12:56																X								
CCV01	1	13:00																X								
CCB01	1	13:04																X								
ZZZZZZ	2	13:07																								
ZZZZZZ	40	13:11																								
CCV02	1	13:14																X								
CCB02	1	13:18																X								
ZZZZZZ	2	13:22																								
ZZZZZZ	40	13:25																								
243385003	2	13:29																X								
CCV03	1	13:32																X								
CCB03	1	13:36																X								
243385004	2	13:40																X								
243385007	2	13:43																X								
CCV04	1	13:47																X								
CCB04	1	13:50																X								

Standards

METALS
-10-
Instrument Detection Limits

SDG NO. 10-1032

Contract: LANL01004 **Lab Code: GEL** **MDL Effective Date:** 01-JUL-09

ICP/MS	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
SOLID	Aluminum		15.0	50
	Antimony		0.5	3
	Arsenic		1.0	5
	Barium		0.5	2
	Beryllium		0.1	.5
	Cadmium		0.1	1
	Calcium		33.0	100
	Chromium		1.0	3
	Cobalt		0.3	1
	Copper		0.33	1
	Iron		25.0	100
	Lead		0.5	2
	Magnesium		7.5	25
	Manganese		1.0	5
	Nickel		0.5	2
	Potassium		80.0	300
	Selenium		2.5	5
	Silver		0.2	1
	Sodium		80.0	250
	Thallium		0.3	1
	Uranium		0.066	.2
	Vanadium		2.0	10
	Zinc		2.0	10

METALS
-10-
Instrument Detection Limits

SDG NO. 10-1032

Contract: LANL01004 **Lab Code: GEL** **MDL Effective Date:** 15-JUN-09

MERCURY	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
SOLID	Mercury		0.068	.2

METALS
-10-
Instrument Detection Limits

SDG NO. 10-1032

Contract: LANL01004 **Lab Code: GEL** **MDL Effective Date:** 01-JUL-09

ICP	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
SOLID	Aluminum	396.153	68.0	200
	Antimony	206.836	3.3	10
	Arsenic	188.979	5.0	30
	Barium	233.527	1.0	5
	Beryllium	313.107	1.0	5
	Cadmium	226.502	1.0	5
	Calcium	317.933	80.0	250
	Chromium	267.716	1.5	5
	Cobalt	228.616	1.5	5
	Copper	324.752	3.0	10
	Iron	238.204	80.0	250
	Lead	220.353	2.5	10
	Magnesium	279.077	85.0	300
	Manganese	257.61	2.0	10
	Nickel	231.604	1.5	5
	Potassium	766.49	64.0	250
	Selenium	196.026	5.0	30
	Silver	328.068	1.0	5
	Sodium	589.592	70.0	250
	Thallium	190.801	5.0	20
	Uranium	409.014	10.0	50
	Vanadium	292.402	1.0	5
	Zinc	213.857	3.3	10

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA3
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1032
Effective Dates: 01-NOV-09

Parmname	Wavelength	Aluminum	Antimony	Arsenic	Barium	Beryllium
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.02738	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	-0.44940	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	-0.22121	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	-0.33886	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	-0.13648	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	-0.05571	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.19671	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	-0.02739	0.00000	0.00000	0.00000	0.00000
Tin	189.927	-0.00058	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA3
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1032
Effective Dates: 01-NOV-09

Parmname	Wavelength	Boron	Cadmium	Chromium	Cobalt	Copper
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	24.5549	0.00000	0.00000
Arsenic	188.979	0.52529	0.00000	-0.67113	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	2.54031	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.38952	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	-31.5465	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.78023
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.63859	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	160.41
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	5.22870	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.35099	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	1.93161	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.39273	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	1.19810

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA3
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1032
Effective Dates: 01-NOV-09

Parmname	Wavelength	Iron	Lead	Magnesium	Manganese	Molybdenum
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	42.8126
Antimony	206.836	-0.01635	0.00000	0.00000	0.00000	-22.2146
Arsenic	188.979	-0.21271	0.00000	0.00000	0.00000	1.34645
Barium	233.527	-0.03709	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.13266	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.09998	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	-0.01788	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.01425	0.00000	0.00000	0.00000	-2.64232
Copper	324.752	-0.05101	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.09069	0.00000	0.00000	0.00000	-2.44485
Magnesium	279.077	0.85543	0.00000	0.00000	0.00000	-20.2401
Manganese	257.61	-0.09972	0.00000	0.01862	0.00000	0.00000
Molybdenum	202.031	-0.07094	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.80633	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	-0.03176	0.00000	0.01823	12.4291	-3.60863
Selenium	196.026	-3.00009	0.00000	0.00000	0.00000	-3.17982
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	17.4444
Silver	328.068	-0.31825	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	-5.85948	0.00000
Tin	189.927	-0.01337	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.12581	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.15211	0.00000	-0.02256	0.00000	-14.2921
Zinc	213.857	0.09548	0.00000	0.03423	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA3
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1032
Effective Dates: 01-NOV-09

Parmname	Wavelength	Nickel	Phosphorous	Potassium	Selenium	Silicon
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	-0.64279	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.44040	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.33191	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	6.38465	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA3
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1032
Effective Dates: 01-NOV-09

Parmname	Wavelength	Silver	Strontium	Sulfur	Thallium	Tin
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	-17.4077
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	-13.8713
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	3.10491
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA3
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1032
Effective Dates: 01-NOV-09

Parmname	Wavelength	Titanium	Uranium	Vanadium	Zinc
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	2.73145	0.00000	-2.31857	0.00000
Arsenic	188.979	-8.38419	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	-2.24883	0.00000
Beryllium	313.107	-1.96555	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.32181	-1.76281	0.00000
Cobalt	228.616	2.12623	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.85359	-3.92851	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	-7.67419	0.00000	2.18873	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.44145	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	1.10141	-1.94183	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000

METALS
–12–
Linear Ranges

SDG NO. 10–1032

Contract: LANL01004 **Lab Code: GEL**

Instrument ID ICPMS5

Analyte	Integration Time (msec)	LDR	Units	Effective Date
Aluminum	1	50000	ug/L	01–NOV–09
Antimony	1000	250	ug/L	01–NOV–09
Arsenic	1000	1000	ug/L	01–NOV–09
Barium	1000	1000	ug/L	01–NOV–09
Beryllium	1000	1000	ug/L	01–NOV–09
Cadmium	1000	1000	ug/L	01–NOV–09
Calcium	500	50000	ug/L	01–NOV–09
Chromium	1000	1000	ug/L	01–NOV–09
Cobalt	1000	1000	ug/L	01–NOV–09
Copper	1000	1000	ug/L	01–NOV–09
Iron	500	50000	ug/L	01–NOV–09
Lead	1000	5000	ug/L	01–NOV–09
Magnesium	1	50000	ug/L	01–NOV–09
Manganese	1000	1000	ug/L	01–NOV–09
Nickel	1000	1000	ug/L	01–NOV–09
Potassium	1	50000	ug/L	01–NOV–09
Selenium	1000	500	ug/L	01–NOV–09
Silver	1000	250	ug/L	01–NOV–09
Sodium	1	50000	ug/L	01–NOV–09
Thallium	1000	500	ug/L	01–NOV–09
Uranium	1000	5000	ug/L	01–NOV–09
Vanadium	1000	100	ug/L	01–NOV–09
Zinc	1000	2500	ug/L	01–NOV–09

METALS
–12–
Linear Ranges

SDG NO. 10–1032

Contract: LANL01004 **Lab Code: GEL**

Instrument ID OPTIMA3

Analyte	Integration Time (sec)	LDR	Units	Effective Date
Antimony	20	10000	ug/L	01–NOV–09
Arsenic	20	10000	ug/L	01–NOV–09
Barium	20	15000	ug/L	01–NOV–09
Beryllium	20	3000	ug/L	01–NOV–09
Cadmium	20	10000	ug/L	01–NOV–09
Calcium	20	500000	ug/L	01–NOV–09
Chromium	20	25000	ug/L	01–NOV–09
Cobalt	20	10000	ug/L	01–NOV–09
Copper	20	20000	ug/L	01–NOV–09
Iron	20	500000	ug/L	01–NOV–09
Lead	20	25000	ug/L	01–NOV–09
Magnesium	20	500000	ug/L	01–NOV–09
Manganese	20	10000	ug/L	01–NOV–09
Nickel	20	10000	ug/L	01–NOV–09
Potassium	20	300000	ug/L	01–NOV–09
Selenium	20	10000	ug/L	01–NOV–09
Silver	20	1000	ug/L	01–NOV–09
Sodium	20	500000	ug/L	01–NOV–09
Thallium	20	10000	ug/L	01–NOV–09
Uranium	20	15000	ug/L	01–NOV–09
Vanadium	20	10000	ug/L	01–NOV–09
Zinc	20	15000	ug/L	01–NOV–09
Aluminum	20	500000	ug/L	01–NOV–09

METALS
-12-
Linear Ranges

SDG NO. 10-1032

Contract: LANL01004 **Lab Code: GEL**

Instrument ID ICPMS4

Analyte	Integration Time (msec)	LDR	Units	Effective Date
Aluminum	1	50000	ug/L	01-NOV-09
Antimony	1000	250	ug/L	01-NOV-09
Arsenic	1000	1000	ug/L	01-NOV-09
Barium	1000	1000	ug/L	01-NOV-09
Beryllium	1000	1000	ug/L	01-NOV-09
Cadmium	1000	1000	ug/L	01-NOV-09
Calcium	500	50000	ug/L	01-NOV-09
Chromium	1000	1000	ug/L	01-NOV-09
Cobalt	1000	1000	ug/L	01-NOV-09
Copper	1000	1000	ug/L	01-NOV-09
Iron	500	50000	ug/L	01-NOV-09
Lead	1000	5000	ug/L	01-NOV-09
Magnesium	1	50000	ug/L	01-NOV-09
Manganese	1000	1000	ug/L	01-NOV-09
Nickel	1000	1000	ug/L	01-NOV-09
Potassium	1	50000	ug/L	01-NOV-09
Selenium	1000	500	ug/L	01-NOV-09
Silver	1000	250	ug/L	01-NOV-09
Sodium	1	50000	ug/L	01-NOV-09
Thallium	1000	500	ug/L	01-NOV-09
Uranium	1000	5000	ug/L	01-NOV-09
Vanadium	1000	100	ug/L	01-NOV-09
Zinc	1000	2500	ug/L	01-NOV-09

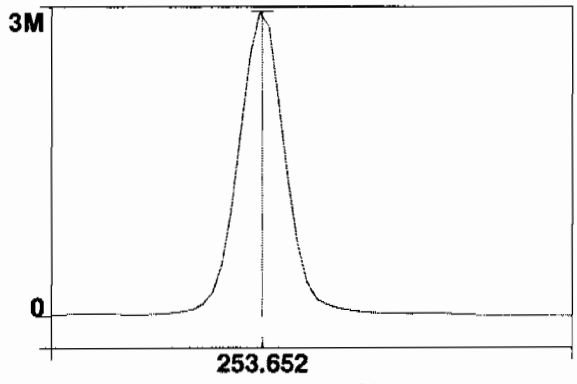
Raw Data

Method: Hg_ReAlign
Result: 011810

Sample ID: Hg_ReAlign

Hg 253.652

Rep: 1



Intensity: 3346872.8 cps
Conc:

1

==========

Analysis Begun

Start Time: 1/11/2010 15:06:14 **Plasma On Time: 1/11/2010 06:15:31**
Logged In Analyst: Optima3 **Technique: ICP Continuous**
Spectrometer Model: Optima 5300 DV, S/N 077C7090601Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\011110.sif
Batch ID:
Results Data Set: 011110A
Results Library: C:\pe\Optima3\Results\Results.mdb

==========

Method Loaded
Method Name: General Eng.2AX **Method Last Saved: 1/11/2010 14:49:13**
IEC File: 011110.iec **MSF File:**
Method Description:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc Radial	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

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Sequence No.: 1 **Autosampler Location: 8**
Sample ID: S0 **Date Collected: 1/11/2010 15:06:16**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Replicate Data: S0

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc Radial	5078.5	5078.5	101	%	15:08:08
1	Y RADIAL	5435.8	5435.8	100.1	%	15:08:08
1	Al 396.153Radial†	-7.1	-7.0	[0.00]	ug/L	15:08:08

1	Ca 317.933Radial†	21.6	21.4	[0.00]	ug/L	15:08:28
1	Fe 238.204 Radial†	8.3	8.2	[0.00]	ug/L	15:08:28
1	K 766.490 Radial†	2604.4	2582.2	[0.00]	ug/L	15:08:08
1	Mg 279.077 IEC†	-1.2	-1.2	[0.00]	ug/L	15:08:28
1	Na 589.592 Radial†	-1261.5	-1250.7	[0.00]	ug/L	15:08:08
1	Sr 421.552†	-42.5	-42.2	[0.00]	ug/L	15:08:08
1	Sc 361.383	853575.6	853575.6	100.14	%	15:09:25
1	Y 371.029	723166.7	723166.7	100.07	%	15:09:25
1	Ag 328.068†	394.2	393.7	[0.00]	ug/L	15:09:25
1	As 188.979†	-21.8	-21.8	[0.00]	ug/L	15:09:45
1	B 249.677†	-619.1	-618.3	[0.00]	ug/L	15:09:45
1	Ba 233.527†	-8.3	-8.3	[0.00]	ug/L	15:09:45
1	Be 313.107†	-4622.0	-4615.7	[0.00]	ug/L	15:09:25
1	Cd 226.502†	-216.8	-216.5	[0.00]	ug/L	15:09:45
1	Co 228.616†	-73.5	-73.4	[0.00]	ug/L	15:09:45
1	Cr 267.716†	79.7	79.6	[0.00]	ug/L	15:09:45
1	Cu 324.752†	6433.7	6424.8	[0.00]	ug/L	15:09:25
1	Mn 257.610†	428.4	427.8	[0.00]	ug/L	15:09:45
1	Mo 202.031†	21.2	21.1	[0.00]	ug/L	15:09:45
1	Ni 231.604†	67.3	67.2	[0.00]	ug/L	15:09:45
1	P 214.914†	236.7	236.4	[0.00]	ug/L	15:09:45
1	Pb 220.353†	-70.4	-70.3	[0.00]	ug/L	15:09:45
1	S 181.975 Axial†	43.2	43.1	[0.00]	ug/L	15:09:45
1	Sb 206.836†	24.2	24.2	[0.00]	ug/L	15:09:45
1	Se 196.026†	-31.0	-31.0	[0.00]	ug/L	15:09:45
1	Si 251.611†	564.6	563.8	[0.00]	ug/L	15:09:45
1	Sn 189.927†	12.1	12.0	[0.00]	ug/L	15:09:45
1	Ti 334.940†	-1400.5	-1398.6	[0.00]	ug/L	15:09:25
1	Tl 190.801†	-32.9	-32.8	[0.00]	ug/L	15:09:45
1	U 409.014†	-2104.8	-2101.9	[0.00]	ug/L	15:09:25
1	V 292.402†	-1333.9	-1332.0	[0.00]	ug/L	15:09:25
1	Zn 213.857†	621.9	621.0	[0.00]	ug/L	15:09:45
1	SiO2†	583.8	583.0	[0.00]	ug/L	15:10:41
2	Sc Radial	4968.4	4968.4	98.7	%	15:08:33
2	Y RADIAL	5382.3	5382.3	99.13	%	15:08:33
2	Al 396.153Radial†	-8.9	-9.0	[0.00]	ug/L	15:08:33
2	Ca 317.933Radial†	20.3	20.5	[0.00]	ug/L	15:08:53
2	Fe 238.204 Radial†	8.7	8.8	[0.00]	ug/L	15:08:53
2	K 766.490 Radial†	2613.0	2648.2	[0.00]	ug/L	15:08:33
2	Mg 279.077 IEC†	5.2	5.2	[0.00]	ug/L	15:08:53
2	Na 589.592 Radial†	-1304.4	-1322.0	[0.00]	ug/L	15:08:33
2	Sr 421.552†	-17.3	-17.5	[0.00]	ug/L	15:08:33
2	Sc 361.383	852244.3	852244.3	99.982	%	15:09:50
2	Y 371.029	722709.0	722709.0	100.01	%	15:09:50
2	Ag 328.068†	314.2	314.3	[0.00]	ug/L	15:09:50
2	As 188.979†	-24.8	-24.8	[0.00]	ug/L	15:10:10
2	B 249.677†	-645.8	-645.9	[0.00]	ug/L	15:10:10
2	Ba 233.527†	-16.3	-16.3	[0.00]	ug/L	15:10:10
2	Be 313.107†	-4532.1	-4532.9	[0.00]	ug/L	15:09:50
2	Cd 226.502†	-209.4	-209.5	[0.00]	ug/L	15:10:10
2	Co 228.616†	-74.6	-74.6	[0.00]	ug/L	15:10:10
2	Cr 267.716†	98.0	98.0	[0.00]	ug/L	15:10:10
2	Cu 324.752†	6405.3	6406.5	[0.00]	ug/L	15:09:50
2	Mn 257.610†	452.6	452.6	[0.00]	ug/L	15:10:10
2	Mo 202.031†	28.6	28.6	[0.00]	ug/L	15:10:10
2	Ni 231.604†	70.7	70.7	[0.00]	ug/L	15:10:10
2	P 214.914†	232.8	232.8	[0.00]	ug/L	15:10:10
2	Pb 220.353†	-68.5	-68.5	[0.00]	ug/L	15:10:10
2	S 181.975 Axial†	38.4	38.4	[0.00]	ug/L	15:10:10
2	Sb 206.836†	31.7	31.7	[0.00]	ug/L	15:10:10
2	Se 196.026†	-33.9	-33.9	[0.00]	ug/L	15:10:10
2	Si 251.611†	536.5	536.6	[0.00]	ug/L	15:10:10
2	Sn 189.927†	9.3	9.3	[0.00]	ug/L	15:10:10
2	Ti 334.940†	-1340.5	-1340.7	[0.00]	ug/L	15:09:50
2	Tl 190.801†	-38.1	-38.1	[0.00]	ug/L	15:10:10
2	U 409.014†	-2081.0	-2081.4	[0.00]	ug/L	15:09:50
2	V 292.402†	-1291.8	-1292.0	[0.00]	ug/L	15:09:50
2	Zn 213.857†	614.2	614.3	[0.00]	ug/L	15:10:10
2	SiO2†	567.0	567.1	[0.00]	ug/L	15:10:46
3	Sc Radial	5058.9	5058.9	100	%	15:08:58
3	Y RADIAL	5470.3	5470.3	100.8	%	15:08:58

3	Al 396.153Radial†	14.1	14.1	[0.00] ug/L	15:08:58
3	Ca 317.933Radial†	17.5	17.4	[0.00] ug/L	15:09:18
3	Fe 238.204 Radial†	9.7	9.6	[0.00] ug/L	15:09:18
3	K 766.490 Radial†	2552.0	2540.1	[0.00] ug/L	15:08:58
3	Mg 279.077 IEC†	1.7	1.7	[0.00] ug/L	15:09:18
3	Na 589.592 Radial†	-1274.6	-1268.7	[0.00] ug/L	15:08:58
3	Sr 421.552†	1.2	1.2	[0.00] ug/L	15:08:58
3	Sc 361.383	851374.2	851374.2	99.880 %	15:10:15
3	Y 371.029	722128.0	722128.0	99.925 %	15:10:15
3	Ag 328.068†	365.6	366.0	[0.00] ug/L	15:10:15
3	As 188.979†	-24.2	-24.3	[0.00] ug/L	15:10:35
3	B 249.677†	-630.6	-631.3	[0.00] ug/L	15:10:35
3	Ba 233.527†	-9.6	-9.6	[0.00] ug/L	15:10:35
3	Be 313.107†	-4602.0	-4607.5	[0.00] ug/L	15:10:15
3	Cd 226.502†	-186.1	-186.3	[0.00] ug/L	15:10:35
3	Co 228.616†	-75.9	-76.0	[0.00] ug/L	15:10:35
3	Cr 267.716†	72.0	72.1	[0.00] ug/L	15:10:35
3	Cu 324.752†	6397.6	6405.3	[0.00] ug/L	15:10:15
3	Mn 257.610†	453.6	454.2	[0.00] ug/L	15:10:35
3	Mo 202.031†	21.4	21.4	[0.00] ug/L	15:10:35
3	Ni 231.604†	65.9	66.0	[0.00] ug/L	15:10:35
3	P 214.914†	220.2	220.4	[0.00] ug/L	15:10:35
3	Pb 220.353†	-51.3	-51.3	[0.00] ug/L	15:10:35
3	S 181.975 Axial†	47.5	47.5	[0.00] ug/L	15:10:35
3	Sb 206.836†	27.8	27.9	[0.00] ug/L	15:10:35
3	Se 196.026†	-31.1	-31.1	[0.00] ug/L	15:10:35
3	Si 251.611†	550.3	551.0	[0.00] ug/L	15:10:35
3	Sn 189.927†	1.6	1.6	[0.00] ug/L	15:10:35
3	Ti 334.940†	-1382.6	-1384.2	[0.00] ug/L	15:10:15
3	Tl 190.801†	-27.6	-27.7	[0.00] ug/L	15:10:35
3	U 409.014†	-1849.4	-1851.6	[0.00] ug/L	15:10:15
3	V 292.402†	-1303.5	-1305.1	[0.00] ug/L	15:10:15
3	Zn 213.857†	624.7	625.4	[0.00] ug/L	15:10:35
3	SiO2†	564.2	564.9	[0.00] ug/L	15:10:51

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	852398.0	1108.71	0.13%	100.00	%
Sc Radial	5035.3	58.75	1.17%	100	%
Y 371.029	722667.9	520.58	0.07%	100.00	%
Y RADIAL	5429.4	44.32	0.82%	100.0	%
Ag 328.068†	358.0	40.31	11.26%	[0.00]	ug/L
Al 396.153Radial†	-0.7	12.78	>999.9%	[0.00]	ug/L
As 188.979†	-23.6	1.58	6.71%	[0.00]	ug/L
B 249.677†	-631.8	13.81	2.19%	[0.00]	ug/L
Ba 233.527†	-11.4	4.27	37.44%	[0.00]	ug/L
Be 313.107†	-4585.4	45.60	0.99%	[0.00]	ug/L
Ca 317.933Radial†	19.8	2.07	10.48%	[0.00]	ug/L
Cd 226.502†	-204.1	15.84	7.76%	[0.00]	ug/L
Co 228.616†	-74.7	1.33	1.79%	[0.00]	ug/L
Cr 267.716†	83.3	13.36	16.05%	[0.00]	ug/L
Cu 324.752†	6412.2	10.95	0.17%	[0.00]	ug/L
Fe 238.204 Radial†	8.9	0.72	8.07%	[0.00]	ug/L
K 766.490 Radial†	2590.2	54.49	2.10%	[0.00]	ug/L
Mg 279.077 IEC†	1.9	3.20	167.84%	[0.00]	ug/L
Mn 257.610†	444.9	14.79	3.32%	[0.00]	ug/L
Mo 202.031†	23.7	4.26	17.95%	[0.00]	ug/L
Na 589.592 Radial†	-1280.5	37.06	2.89%	[0.00]	ug/L
Ni 231.604†	68.0	2.43	3.58%	[0.00]	ug/L
P 214.914†	229.9	8.38	3.65%	[0.00]	ug/L
Pb 220.353†	-63.4	10.47	16.52%	[0.00]	ug/L
S 181.975 Axial†	43.0	4.57	10.63%	[0.00]	ug/L
Sb 206.836†	27.9	3.75	13.44%	[0.00]	ug/L
Se 196.026†	-32.0	1.65	5.16%	[0.00]	ug/L
Si 251.611†	550.5	13.62	2.47%	[0.00]	ug/L
Sn 189.927†	7.7	5.41	70.56%	[0.00]	ug/L
Sr 421.552†	-19.5	21.77	111.63%	[0.00]	ug/L
Ti 334.940†	-1374.5	30.15	2.19%	[0.00]	ug/L
Tl 190.801†	-32.9	5.22	15.89%	[0.00]	ug/L

U 409.014†	-2011.6	138.95	6.91%	[0.00] ug/L
V 292.402†	-1309.7	20.42	1.56%	[0.00] ug/L
Zn 213.857†	620.2	5.60	0.90%	[0.00] ug/L
SiO2†	571.7	9.89	1.73%	[0.00] ug/L

Sequence No.: 2
Sample ID: S0.1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 1/11/2010 15:13:01
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: S0.1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc Radial	5243.2	5243.2	104	%	15:14:59
1	Y RADIAL	5645.1	5645.1	104.0	%	15:14:59
1	K 766.490 Radial†	7958.3	5052.6	[1000]	ug/L	15:14:54
1	Sr 421.552†	15487.3	14892.7	[100]	ug/L	15:14:59
1	Sc 361.383	845537.2	845537.2	99.195	%	15:15:26
1	Y 371.029	712913.9	712913.9	98.650	%	15:15:26
1	Ag 328.068†	22404.9	22228.7	[100]	ug/L	15:15:26
1	As 188.979†	211.9	237.2	[100]	ug/L	15:15:46
1	B 249.677†	3739.8	4402.0	[100]	ug/L	15:15:26
1	Ba 233.527†	13104.0	13221.7	[100]	ug/L	15:15:26
1	Be 313.107†	263804.1	270530.0	[100]	ug/L	15:15:26
1	Cd 226.502†	9050.9	9328.5	[100]	ug/L	15:15:26
1	Co 228.616†	4811.3	4925.0	[100]	ug/L	15:15:46
1	Cr 267.716†	9220.9	9212.4	[100]	ug/L	15:15:26
1	Cu 324.752†	40147.8	34061.4	[100]	ug/L	15:15:26
1	Mn 257.610†	94290.9	94611.1	[100]	ug/L	15:15:26
1	Mo 202.031†	1452.1	1440.2	[100]	ug/L	15:15:46
1	Ni 231.604†	4065.7	4030.8	[100]	ug/L	15:15:46
1	P 214.914†	1044.2	822.9	[500]	ug/L	15:15:46
1	Pb 220.353†	767.6	837.2	[100]	ug/L	15:15:46
1	S 181.975 Axial†	184.4	142.9	[200]	ug/L	15:15:46
1	Sb 206.836†	314.8	289.4	[100]	ug/L	15:15:46
1	Se 196.026†	126.2	159.2	[100]	ug/L	15:15:46
1	Si 251.611†	16243.9	15825.3	[500]	ug/L	15:15:26
1	Sn 189.927†	570.7	567.7	[100]	ug/L	15:15:46
1	Ti 334.940†	61446.1	63319.2	[100]	ug/L	15:15:26
1	Tl 190.801†	296.9	332.2	[100]	ug/L	15:15:46
1	U 409.014†	1614.3	3639.0	[100]	ug/L	15:15:26
1	V 292.402†	13401.7	14820.2	[100]	ug/L	15:15:26
1	Zn 213.857†	11462.0	10934.7	[100]	ug/L	15:15:26
1	SiO2†	16191.9	15751.6	[1069.5]	ug/L	15:16:42
2	Sc Radial	5112.2	5112.2	102	%	15:15:09
2	Y RADIAL	5479.8	5479.8	100.9	%	15:15:09
2	K 766.490 Radial†	8010.3	5299.7	[1000]	ug/L	15:15:04
2	Sr 421.552†	15649.1	15433.2	[100]	ug/L	15:15:09
2	Sc 361.383	847214.4	847214.4	99.392	%	15:15:51
2	Y 371.029	714501.8	714501.8	98.870	%	15:15:51
2	Ag 328.068†	22517.5	22297.3	[100]	ug/L	15:15:51
2	As 188.979†	209.8	234.7	[100]	ug/L	15:16:11
2	B 249.677†	3743.0	4397.7	[100]	ug/L	15:15:51
2	Ba 233.527†	13157.6	13249.5	[100]	ug/L	15:15:51
2	Be 313.107†	264189.7	270391.5	[100]	ug/L	15:15:51
2	Cd 226.502†	9051.7	9311.2	[100]	ug/L	15:15:51
2	Co 228.616†	4816.9	4921.0	[100]	ug/L	15:16:11
2	Cr 267.716†	9245.5	9218.8	[100]	ug/L	15:15:51
2	Cu 324.752†	40344.7	34179.3	[100]	ug/L	15:15:51
2	Mn 257.610†	94292.9	94425.0	[100]	ug/L	15:15:51
2	Mo 202.031†	1447.2	1432.4	[100]	ug/L	15:16:11
2	Ni 231.604†	4054.5	4011.3	[100]	ug/L	15:16:11
2	P 214.914†	1042.0	818.5	[500]	ug/L	15:16:11
2	Pb 220.353†	764.4	832.4	[100]	ug/L	15:16:11
2	S 181.975 Axial†	186.1	144.2	[200]	ug/L	15:16:11
2	Sb 206.836†	311.6	285.5	[100]	ug/L	15:16:11
2	Se 196.026†	132.2	165.0	[100]	ug/L	15:16:11
2	Si 251.611†	16303.3	15852.6	[500]	ug/L	15:15:51
2	Sn 189.927†	570.5	566.4	[100]	ug/L	15:16:11
2	Ti 334.940†	61535.5	63286.5	[100]	ug/L	15:15:51
2	Tl 190.801†	298.8	333.5	[100]	ug/L	15:16:11
2	U 409.014†	1553.2	3574.4	[100]	ug/L	15:15:51

2	V 292.402†	13469.4	14861.5	[100]	ug/L	15:15:51
2	Zn 213.857†	11447.6	10897.4	[100]	ug/L	15:15:51
2	SiO2†	16377.9	15906.4	[1069.5]	ug/L	15:16:47
3	Sc Radial	5061.1	5061.1	101	%	15:15:19
3	Y RADIAL	5441.4	5441.4	100.2	%	15:15:19
3	K 766.490 Radial†	8046.2	5415.0	[1000]	ug/L	15:15:14
3	Sr 421.552†	15488.2	15428.7	[100]	ug/L	15:15:19
3	Sc 361.383	845493.3	845493.3	99.190	%	15:16:17
3	Y 371.029	714409.7	714409.7	98.857	%	15:16:17
3	Ag 328.068†	22151.1	21974.0	[100]	ug/L	15:16:17
3	As 188.979†	209.1	234.4	[100]	ug/L	15:16:37
3	B 249.677†	3689.4	4351.4	[100]	ug/L	15:16:17
3	Ba 233.527†	13021.0	13138.8	[100]	ug/L	15:16:17
3	Be 313.107†	260785.0	267500.1	[100]	ug/L	15:16:17
3	Cd 226.502†	8950.7	9227.9	[100]	ug/L	15:16:17
3	Co 228.616†	4819.9	4934.0	[100]	ug/L	15:16:37
3	Cr 267.716†	9117.0	9108.2	[100]	ug/L	15:16:17
3	Cu 324.752†	39795.5	33708.3	[100]	ug/L	15:16:17
3	Mn 257.610†	93083.9	93399.2	[100]	ug/L	15:16:17
3	Mo 202.031†	1447.2	1435.3	[100]	ug/L	15:16:37
3	Ni 231.604†	4084.9	4050.3	[100]	ug/L	15:16:37
3	P 214.914†	1047.1	825.8	[500]	ug/L	15:16:37
3	Pb 220.353†	794.2	864.0	[100]	ug/L	15:16:37
3	S 181.975 Axial†	187.0	145.5	[200]	ug/L	15:16:37
3	Sb 206.836†	308.9	283.5	[100]	ug/L	15:16:37
3	Se 196.026†	124.3	157.3	[100]	ug/L	15:16:37
3	Si 251.611†	16035.6	15616.1	[500]	ug/L	15:16:17
3	Sn 189.927†	570.5	567.5	[100]	ug/L	15:16:37
3	Ti 334.940†	60707.1	62577.4	[100]	ug/L	15:16:17
3	Tl 190.801†	301.9	337.2	[100]	ug/L	15:16:37
3	U 409.014†	1766.5	3792.6	[100]	ug/L	15:16:17
3	V 292.402†	13290.2	14708.4	[100]	ug/L	15:16:17
3	Zn 213.857†	11272.7	10744.5	[100]	ug/L	15:16:17
3	SiO2†	16213.8	15774.5	[1069.5]	ug/L	15:16:52

Mean Data: S0.1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	846081.6	981.27	0.12%	99.259	%
Sc Radial	5138.8	93.93	1.83%	102	%
Y 371.029	713941.8	891.40	0.12%	98.793	%
Y RADIAL	5522.1	108.23	1.96%	101.7	%
Ag 328.068†	22166.7	170.33	0.77%	[100]	ug/L
As 188.979†	235.5	1.53	0.65%	[100]	ug/L
B 249.677†	4383.7	28.07	0.64%	[100]	ug/L
Ba 233.527†	13203.3	57.62	0.44%	[100]	ug/L
Be 313.107†	269473.9	1710.73	0.63%	[100]	ug/L
Cd 226.502†	9289.2	53.79	0.58%	[100]	ug/L
Co 228.616†	4926.7	6.64	0.13%	[100]	ug/L
Cr 267.716†	9179.8	62.12	0.68%	[100]	ug/L
Cu 324.752†	33983.0	245.13	0.72%	[100]	ug/L
K 766.490 Radial†	5255.8	185.15	3.52%	[1000]	ug/L
Mn 257.610†	94145.1	652.63	0.69%	[100]	ug/L
Mo 202.031†	1435.9	3.97	0.28%	[100]	ug/L
Ni 231.604†	4030.8	19.51	0.48%	[100]	ug/L
P 214.914†	822.4	3.69	0.45%	[500]	ug/L
Pb 220.353†	844.6	17.03	2.02%	[100]	ug/L
S 181.975 Axial†	144.2	1.30	0.90%	[200]	ug/L
Sb 206.836†	286.1	3.00	1.05%	[100]	ug/L
Se 196.026†	160.5	4.03	2.51%	[100]	ug/L
Si 251.611†	15764.7	129.35	0.82%	[500]	ug/L
Sn 189.927†	567.2	0.71	0.12%	[100]	ug/L
Sr 421.552†	15251.5	310.76	2.04%	[100]	ug/L
Ti 334.940†	63061.0	419.17	0.66%	[100]	ug/L
Tl 190.801†	334.3	2.60	0.78%	[100]	ug/L
U 409.014†	3668.6	112.08	3.05%	[100]	ug/L
V 292.402†	14796.7	79.21	0.54%	[100]	ug/L
Zn 213.857†	10858.9	100.82	0.93%	[100]	ug/L
SiO2†	15810.8	83.57	0.53%	[1069.5]	ug/L

Sequence No.: 3
Sample ID: S0.5
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 1/11/2010 15:19:03
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: S0.5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc Radial	4947.4	4947.4	98.3	%	15:20:56
1	Y RADIAL	5332.9	5332.9	98.22	%	15:20:56
1	Al 396.153Radial†	6169.6	6279.9	[5000]	ug/L	15:20:56
1	Ca 317.933Radial†	3073.1	3107.9	[5000]	ug/L	15:21:16
1	K 766.490 Radial†	28495.3	26411.6	[5000]	ug/L	15:20:56
1	Mg 279.077 IEC†	153.2	154.0	[5000]	ug/L	15:21:16
1	Sr 421.552†	72590.6	73900.2	[500]	ug/L	15:20:56
1	Sc 361.383	845959.4	845959.4	99.245	%	15:22:13
1	Y 371.029	704574.1	704574.1	97.496	%	15:22:13
1	Ag 328.068†	109304.6	109778.5	[500]	ug/L	15:22:18
1	As 188.979†	1133.6	1165.9	[500]	ug/L	15:22:38
1	B 249.677†	21532.1	22327.8	[500]	ug/L	15:22:18
1	Ba 233.527†	63524.4	64019.3	[500]	ug/L	15:22:18
1	Be 313.107†	1282691.0	1297038.9	[500]	ug/L	15:22:13
1	Cd 226.502†	44542.3	45085.4	[500]	ug/L	15:22:18
1	Co 228.616†	24275.9	24535.4	[500]	ug/L	15:22:18
1	Cr 267.716†	44493.6	44749.0	[500]	ug/L	15:22:18
1	Cu 324.752†	171233.9	166125.0	[500]	ug/L	15:22:18
1	Mn 257.610†	441107.2	444019.6	[500]	ug/L	15:22:13
1	Mo 202.031†	7141.6	7172.2	[500]	ug/L	15:22:38
1	Ni 231.604†	20051.1	20135.7	[500]	ug/L	15:22:18
1	P 214.914†	4289.0	4091.7	[2500]	ug/L	15:22:38
1	Pb 220.353†	4017.0	4110.9	[500]	ug/L	15:22:38
1	S 181.975 Axial†	756.8	719.6	[1000]	ug/L	15:22:38
1	Sb 206.836†	1495.2	1478.6	[500]	ug/L	15:22:38
1	Se 196.026†	743.5	781.2	[500]	ug/L	15:22:38
1	Si 251.611†	79663.0	79718.8	[2500]	ug/L	15:22:18
1	Sn 189.927†	2851.9	2865.9	[500]	ug/L	15:22:38
1	Ti 334.940†	303997.7	307685.9	[500]	ug/L	15:22:18
1	Tl 190.801†	1584.4	1629.3	[500]	ug/L	15:22:38
1	U 409.014†	15168.3	17295.4	[500]	ug/L	15:22:18
1	V 292.402†	71188.8	73040.4	[500]	ug/L	15:22:18
1	Zn 213.857†	53175.8	52960.3	[500]	ug/L	15:22:18
1	SiO2†	78555.7	78581.9	[5347.5]	ug/L	15:23:46
2	Sc Radial	4915.6	4915.6	97.6	%	15:21:21
2	Y RADIAL	5252.9	5252.9	96.75	%	15:21:21
2	Al 396.153Radial†	6150.5	6300.9	[5000]	ug/L	15:21:21
2	Ca 317.933Radial†	3080.9	3136.1	[5000]	ug/L	15:21:41
2	K 766.490 Radial†	28478.4	26581.6	[5000]	ug/L	15:21:21
2	Mg 279.077 IEC†	155.6	157.5	[5000]	ug/L	15:21:41
2	Sr 421.552†	72234.7	74012.7	[500]	ug/L	15:21:21
2	Sc 361.383	844486.1	844486.1	99.072	%	15:22:44
2	Y 371.029	704049.9	704049.9	97.424	%	15:22:44
2	Ag 328.068†	109991.6	110664.1	[500]	ug/L	15:22:49
2	As 188.979†	1109.8	1143.8	[500]	ug/L	15:23:09
2	B 249.677†	21612.8	22447.2	[500]	ug/L	15:22:49
2	Ba 233.527†	63964.4	64575.0	[500]	ug/L	15:22:49
2	Be 313.107†	1307265.4	1324098.4	[500]	ug/L	15:22:44
2	Cd 226.502†	44958.3	45583.6	[500]	ug/L	15:22:49
2	Co 228.616†	24453.8	24757.6	[500]	ug/L	15:22:49
2	Cr 267.716†	44830.8	45167.6	[500]	ug/L	15:22:49
2	Cu 324.752†	172172.7	167373.5	[500]	ug/L	15:22:49
2	Mn 257.610†	449086.2	452848.8	[500]	ug/L	15:22:44
2	Mo 202.031†	7069.3	7111.8	[500]	ug/L	15:23:09
2	Ni 231.604†	20231.9	20353.5	[500]	ug/L	15:22:49
2	P 214.914†	4232.0	4041.7	[2500]	ug/L	15:23:09
2	Pb 220.353†	3962.1	4062.6	[500]	ug/L	15:23:09
2	S 181.975 Axial†	747.6	711.6	[1000]	ug/L	15:23:09
2	Sb 206.836†	1483.9	1469.9	[500]	ug/L	15:23:09

2	Se 196.026†	737.9	776.8	[500]	ug/L	15:23:09
2	Si 251.611†	80223.3	80424.5	[2500]	ug/L	15:22:49
2	Sn 189.927†	2827.8	2846.6	[500]	ug/L	15:23:09
2	Ti 334.940†	305730.8	309969.7	[500]	ug/L	15:22:49
2	Tl 190.801†	1570.4	1618.0	[500]	ug/L	15:23:09
2	U 409.014†	15243.5	17398.0	[500]	ug/L	15:22:49
2	V 292.402†	71765.1	73747.1	[500]	ug/L	15:22:49
2	Zn 213.857†	53614.1	53496.1	[500]	ug/L	15:22:49
2	SiO2†	78964.2	79132.3	[5347.5]	ug/L	15:23:51
3	Sc Radial	4989.2	4989.2	99.1	%	15:21:46
3	Y RADIAL	5321.5	5321.5	98.01	%	15:21:46
3	Al 396.153Radial†	6212.5	6270.6	[5000]	ug/L	15:21:46
3	Ca 317.933Radial†	3013.5	3021.6	[5000]	ug/L	15:22:06
3	K 766.490 Radial†	28728.7	26404.2	[5000]	ug/L	15:21:46
3	Mg 279.077 IEC†	154.9	154.5	[5000]	ug/L	15:22:06
3	Sr 421.552†	72818.3	73511.1	[500]	ug/L	15:21:46
3	Sc 361.383	851201.0	851201.0	99.860	%	15:23:15
3	Y 371.029	708627.2	708627.2	98.057	%	15:23:15
3	Ag 328.068†	109131.6	108927.1	[500]	ug/L	15:23:20
3	As 188.979†	1112.6	1137.8	[500]	ug/L	15:23:40
3	B 249.677†	21585.1	22247.3	[500]	ug/L	15:23:20
3	Ba 233.527†	63372.4	63472.9	[500]	ug/L	15:23:20
3	Be 313.107†	1297867.8	1304278.4	[500]	ug/L	15:23:15
3	Cd 226.502†	44539.8	44806.5	[500]	ug/L	15:23:20
3	Co 228.616†	24287.3	24396.1	[500]	ug/L	15:23:20
3	Cr 267.716†	44423.6	44402.8	[500]	ug/L	15:23:20
3	Cu 324.752†	170756.3	164584.3	[500]	ug/L	15:23:20
3	Mn 257.610†	446804.6	446988.0	[500]	ug/L	15:23:15
3	Mo 202.031†	7101.1	7087.4	[500]	ug/L	15:23:40
3	Ni 231.604†	20021.1	19981.2	[500]	ug/L	15:23:20
3	P 214.914†	4263.6	4039.7	[2500]	ug/L	15:23:40
3	Pb 220.353†	3986.8	4055.8	[500]	ug/L	15:23:40
3	S 181.975 Axial†	742.0	700.0	[1000]	ug/L	15:23:40
3	Sb 206.836†	1490.0	1464.2	[500]	ug/L	15:23:40
3	Se 196.026†	727.7	760.7	[500]	ug/L	15:23:40
3	Si 251.611†	79709.5	79271.1	[2500]	ug/L	15:23:20
3	Sn 189.927†	2843.9	2840.2	[500]	ug/L	15:23:40
3	Ti 334.940†	303580.5	305381.9	[500]	ug/L	15:23:20
3	Tl 190.801†	1582.4	1617.5	[500]	ug/L	15:23:40
3	U 409.014†	14959.5	16992.1	[500]	ug/L	15:23:20
3	V 292.402†	71100.6	72510.3	[500]	ug/L	15:23:20
3	Zn 213.857†	53189.5	52644.1	[500]	ug/L	15:23:20
3	SiO2†	80285.2	79826.4	[5347.5]	ug/L	15:23:56

Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	847215.5	3529.26	0.42%	99.392	%
Sc Radial	4950.7	36.89	0.75%	98.3	%
Y 371.029	705750.4	2505.10	0.35%	97.659	%
Y RADIAL	5302.5	43.29	0.82%	97.66	%
Ag 328.068†	109789.9	868.57	0.79%	[500]	ug/L
Al 396.153Radial†	6283.8	15.52	0.25%	[5000]	ug/L
As 188.979†	1149.1	14.79	1.29%	[500]	ug/L
B 249.677†	22340.8	100.54	0.45%	[500]	ug/L
Ba 233.527†	64022.4	551.06	0.86%	[500]	ug/L
Be 313.107†	1308471.9	14008.70	1.07%	[500]	ug/L
Ca 317.933Radial†	3088.5	59.66	1.93%	[5000]	ug/L
Cd 226.502†	45158.5	393.66	0.87%	[500]	ug/L
Co 228.616†	24563.0	182.33	0.74%	[500]	ug/L
Cr 267.716†	44773.1	382.95	0.86%	[500]	ug/L
Cu 324.752†	166027.6	1397.18	0.84%	[500]	ug/L
K 766.490 Radial†	26465.8	100.35	0.38%	[5000]	ug/L
Mg 279.077 IEC†	155.3	1.89	1.22%	[5000]	ug/L
Mn 257.610†	447952.2	4492.87	1.00%	[500]	ug/L
Mo 202.031†	7123.8	43.67	0.61%	[500]	ug/L
Ni 231.604†	20156.8	187.02	0.93%	[500]	ug/L
P 214.914†	4057.7	29.48	0.73%	[2500]	ug/L
Pb 220.353†	4076.4	30.05	0.74%	[500]	ug/L
S 181.975 Axial†	710.4	9.83	1.38%	[1000]	ug/L

Sb 206.836†	1470.9	7.27	0.49%	[500]	ug/L
Se 196.026†	772.9	10.74	1.39%	[500]	ug/L
Si 251.611†	79804.8	581.46	0.73%	[2500]	ug/L
Sn 189.927†	2850.9	13.39	0.47%	[500]	ug/L
Sr 421.552†	73808.0	263.22	0.36%	[500]	ug/L
Ti 334.940†	307679.2	2293.91	0.75%	[500]	ug/L
Tl 190.801†	1621.6	6.70	0.41%	[500]	ug/L
U 409.014†	17228.5	211.03	1.22%	[500]	ug/L
V 292.402†	73099.3	620.51	0.85%	[500]	ug/L
Zn 213.857†	53033.5	430.73	0.81%	[500]	ug/L
SiO2†	79180.2	623.61	0.79%	[5347.5]	ug/L

Sequence No.: 4
Sample ID: SCAL
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 1/11/2010 15:26:06
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: SCAL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc Radial	4991.6	4991.6	99.1	%	15:27:59
1	Y RADIAL	5328.6	5328.6	98.14	%	15:27:59
1	Al 396.153Radial†	12660.1	12771.6	[10000]	ug/L	15:27:59
1	Ca 317.933Radial†	6320.0	6355.6	[10000]	ug/L	15:27:59
1	Fe 238.204 Radial†	1191.2	1192.7	[10000]	ug/L	15:28:19
1	K 766.490 Radial†	56635.2	54541.3	[10000]	ug/L	15:27:59
1	Mg 279.077 IEC†	311.3	312.1	[10000]	ug/L	15:28:19
1	Na 589.592 Radial†	32605.3	34171.4	[10000]	ug/L	15:27:59
1	Sr 421.552†	153973.9	155342.4	[1000]	ug/L	15:27:59
1	Sc 361.383	853558.2	853558.2	100.14	%	15:29:18
1	Y 371.029	708914.2	708914.2	98.097	%	15:29:18
1	Ag 328.068†	216775.3	216122.6	[1000]	ug/L	15:29:18
1	As 188.979†	2299.9	2320.4	[1000]	ug/L	15:29:38
1	B 249.677†	44323.4	44895.0	[1000]	ug/L	15:29:18
1	Ba 233.527†	128248.6	128085.7	[1000]	ug/L	15:29:18
1	Be 313.107†	2619791.8	2620816.1	[1000]	ug/L	15:29:18
1	Cd 226.502†	89888.6	89970.5	[1000]	ug/L	15:29:18
1	Co 228.616†	48773.3	48781.7	[1000]	ug/L	15:29:18
1	Cr 267.716†	89442.2	89237.4	[1000]	ug/L	15:29:18
1	Cu 324.752†	341095.7	334219.8	[1000]	ug/L	15:29:18
1	Mn 257.610†	904877.2	903202.3	[1000]	ug/L	15:29:18
1	Mo 202.031†	14130.5	14087.5	[1000]	ug/L	15:29:38
1	Ni 231.604†	40183.6	40061.1	[1000]	ug/L	15:29:18
1	P 214.914†	8404.6	8163.3	[5000]	ug/L	15:29:38
1	Pb 220.353†	8100.8	8153.2	[1000]	ug/L	15:29:38
1	S 181.975 Axial†	1452.9	1407.9	[2000]	ug/L	15:29:38
1	Sb 206.836†	2946.6	2914.7	[1000]	ug/L	15:29:38
1	Se 196.026†	1515.4	1545.4	[1000]	ug/L	15:29:38
1	Si 251.611†	157018.3	156254.4	[5000]	ug/L	15:29:18
1	Sn 189.927†	5642.6	5627.3	[1000]	ug/L	15:29:38
1	Ti 334.940†	620768.4	621299.2	[1000]	ug/L	15:29:18
1	Tl 190.801†	3227.0	3255.4	[1000]	ug/L	15:29:38
1	U 409.014†	31729.0	33697.5	[1000]	ug/L	15:29:18
1	V 292.402†	145175.5	146287.8	[1000]	ug/L	15:29:18
1	Zn 213.857†	106205.1	105440.5	[1000]	ug/L	15:29:18
1	SiO2†	157949.1	157162.7	[10695]	ug/L	15:30:39
2	Sc Radial	4736.3	4736.3	94.1	%	15:28:24
2	Y RADIAL	5085.9	5085.9	93.67	%	15:28:24
2	Al 396.153Radial†	12468.6	13256.4	[10000]	ug/L	15:28:24
2	Ca 317.933Radial†	6199.0	6570.6	[10000]	ug/L	15:28:24
2	Fe 238.204 Radial†	1184.0	1249.9	[10000]	ug/L	15:28:44
2	K 766.490 Radial†	55376.3	56282.3	[10000]	ug/L	15:28:24
2	Mg 279.077 IEC†	313.7	331.6	[10000]	ug/L	15:28:44
2	Na 589.592 Radial†	31980.7	35280.2	[10000]	ug/L	15:28:24
2	Sr 421.552†	150876.6	160421.5	[1000]	ug/L	15:28:24
2	Sc 361.383	856770.6	856770.6	100.51	%	15:29:46
2	Y 371.029	713390.2	713390.2	98.716	%	15:29:46
2	Ag 328.068†	217597.7	216129.2	[1000]	ug/L	15:29:46
2	As 188.979†	2277.6	2289.6	[1000]	ug/L	15:30:06
2	B 249.677†	44372.2	44777.6	[1000]	ug/L	15:29:46
2	Ba 233.527†	128252.4	127609.2	[1000]	ug/L	15:29:46
2	Be 313.107†	2630936.8	2622095.0	[1000]	ug/L	15:29:46
2	Cd 226.502†	90039.5	89784.1	[1000]	ug/L	15:29:46
2	Co 228.616†	48826.6	48652.1	[1000]	ug/L	15:29:46
2	Cr 267.716†	89756.8	89215.5	[1000]	ug/L	15:29:46
2	Cu 324.752†	342472.0	334312.0	[1000]	ug/L	15:29:46
2	Mn 257.610†	905292.8	900227.7	[1000]	ug/L	15:29:46
2	Mo 202.031†	14136.2	14040.3	[1000]	ug/L	15:30:06
2	Ni 231.604†	40315.0	40041.3	[1000]	ug/L	15:29:46

2	P 214.914†	8424.5	8151.6	[5000]	ug/L	15:30:06
2	Pb 220.353†	8088.8	8110.8	[1000]	ug/L	15:30:06
2	S 181.975 Axial†	1450.9	1400.5	[2000]	ug/L	15:30:06
2	Sb 206.836†	2931.6	2888.7	[1000]	ug/L	15:30:06
2	Se 196.026†	1521.6	1545.8	[1000]	ug/L	15:30:06
2	Si 251.611†	157269.3	155916.2	[5000]	ug/L	15:29:46
2	Sn 189.927†	5628.2	5591.8	[1000]	ug/L	15:30:06
2	Ti 334.940†	622229.7	620428.6	[1000]	ug/L	15:29:46
2	Tl 190.801†	3223.5	3239.9	[1000]	ug/L	15:30:06
2	U 409.014†	31853.1	33702.1	[1000]	ug/L	15:29:46
2	V 292.402†	145673.8	146240.0	[1000]	ug/L	15:29:46
2	Zn 213.857†	106459.8	105296.2	[1000]	ug/L	15:29:46
2	SiO2†	157350.0	155975.2	[10695]	ug/L	15:30:44
3	Sc Radial	5063.8	5063.8	101	%	15:28:49
3	Y RADIAL	5371.0	5371.0	98.92	%	15:28:49
3	Al 396.153Radial†	12735.9	12664.9	[10000]	ug/L	15:28:49
3	Ca 317.933Radial†	6335.3	6279.9	[10000]	ug/L	15:28:49
3	Fe 238.204 Radial†	1169.2	1153.7	[10000]	ug/L	15:29:09
3	K 766.490 Radial†	56959.1	54048.2	[10000]	ug/L	15:28:49
3	Mg 279.077 IEC†	305.4	301.7	[10000]	ug/L	15:29:09
3	Na 589.592 Radial†	32787.3	33883.0	[10000]	ug/L	15:28:49
3	Sr 421.552†	155040.2	154186.5	[1000]	ug/L	15:28:49
3	Sc 361.383	848587.0	848587.0	99.553	%	15:30:14
3	Y 371.029	705534.4	705534.4	97.629	%	15:30:14
3	Ag 328.068†	216529.3	217143.7	[1000]	ug/L	15:30:14
3	As 188.979†	2285.4	2319.2	[1000]	ug/L	15:30:34
3	B 249.677†	44227.4	45057.9	[1000]	ug/L	15:30:14
3	Ba 233.527†	127929.5	128515.5	[1000]	ug/L	15:30:14
3	Be 313.107†	2617713.7	2634055.2	[1000]	ug/L	15:30:14
3	Cd 226.502†	89763.7	90371.0	[1000]	ug/L	15:30:14
3	Co 228.616†	48665.0	48958.3	[1000]	ug/L	15:30:14
3	Cr 267.716†	89514.0	89832.7	[1000]	ug/L	15:30:14
3	Cu 324.752†	341213.1	336333.3	[1000]	ug/L	15:30:14
3	Mn 257.610†	902472.6	906080.8	[1000]	ug/L	15:30:14
3	Mo 202.031†	14199.9	14240.0	[1000]	ug/L	15:30:34
3	Ni 231.604†	40146.9	40259.3	[1000]	ug/L	15:30:14
3	P 214.914†	8453.8	8261.9	[5000]	ug/L	15:30:34
3	Pb 220.353†	8136.4	8236.3	[1000]	ug/L	15:30:34
3	S 181.975 Axial†	1461.3	1424.9	[2000]	ug/L	15:30:34
3	Sb 206.836†	2945.8	2931.1	[1000]	ug/L	15:30:34
3	Se 196.026†	1527.9	1566.8	[1000]	ug/L	15:30:34
3	Si 251.611†	156676.0	156829.2	[5000]	ug/L	15:30:14
3	Sn 189.927†	5652.9	5670.7	[1000]	ug/L	15:30:34
3	Ti 334.940†	619875.3	624033.7	[1000]	ug/L	15:30:14
3	Tl 190.801†	3235.2	3282.6	[1000]	ug/L	15:30:34
3	U 409.014†	31640.7	33794.4	[1000]	ug/L	15:30:14
3	V 292.402†	145180.3	147142.0	[1000]	ug/L	15:30:14
3	Zn 213.857†	106254.1	106111.0	[1000]	ug/L	15:30:14
3	SiO2†	155719.3	155847.0	[10695]	ug/L	15:30:50

Mean Data: SCAL

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	852972.0	4123.17	0.48%	100.07	%
Sc Radial	4930.6	172.08	3.49%	97.9	%
Y 371.029	709279.6	3940.67	0.56%	98.147	%
Y RADIAL	5261.9	153.82	2.92%	96.91	%
Ag 328.068†	216465.2	587.67	0.27%	[1000]	ug/L
Al 396.153Radial†	12897.6	315.27	2.44%	[10000]	ug/L
As 188.979†	2309.7	17.47	0.76%	[1000]	ug/L
B 249.677†	44910.1	140.76	0.31%	[1000]	ug/L
Ba 233.527†	128070.1	453.32	0.35%	[1000]	ug/L
Be 313.107†	2625655.5	7302.44	0.28%	[1000]	ug/L
Ca 317.933Radial†	6402.0	150.81	2.36%	[10000]	ug/L
Cd 226.502†	90041.9	299.87	0.33%	[1000]	ug/L
Co 228.616†	48797.3	153.69	0.31%	[1000]	ug/L
Cr 267.716†	89428.5	350.22	0.39%	[1000]	ug/L
Cu 324.752†	334955.0	1194.48	0.36%	[1000]	ug/L
Fe 238.204 Radial†	1198.8	48.37	4.04%	[10000]	ug/L
K 766.490 Radial†	54957.3	1173.72	2.14%	[10000]	ug/L

Mg 279.077 IEC†	315.2	15.17	4.81%	[10000]	ug/L
Mn 257.610†	903170.3	2926.65	0.32%	[1000]	ug/L
Mo 202.031†	14122.6	104.35	0.74%	[1000]	ug/L
Na 589.592 Radial†	34444.9	737.64	2.14%	[10000]	ug/L
Ni 231.604†	40120.5	120.56	0.30%	[1000]	ug/L
P 214.914†	8192.3	60.61	0.74%	[5000]	ug/L
Pb 220.353†	8166.8	63.83	0.78%	[1000]	ug/L
S 181.975 Axial†	1411.1	12.50	0.89%	[2000]	ug/L
Sb 206.836†	2911.5	21.35	0.73%	[1000]	ug/L
Se 196.026†	1552.7	12.21	0.79%	[1000]	ug/L
Si 251.611†	156333.3	461.59	0.30%	[5000]	ug/L
Sn 189.927†	5629.9	39.50	0.70%	[1000]	ug/L
Sr 421.552†	156650.1	3316.87	2.12%	[1000]	ug/L
Ti 334.940†	621920.5	1881.15	0.30%	[1000]	ug/L
Tl 190.801†	3259.3	21.61	0.66%	[1000]	ug/L
U 409.014†	33731.3	54.70	0.16%	[1000]	ug/L
V 292.402†	146556.6	507.53	0.35%	[1000]	ug/L
Zn 213.857†	105615.9	434.83	0.41%	[1000]	ug/L
SiO2†	156328.3	725.47	0.46%	[10695]	ug/L

Sequence No.: 5
Sample ID: S10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 1/11/2010 15:33:00
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: S10

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc Radial	4878.1	4878.1	96.9	%	15:35:14
1	Y RADIAL	5191.4	5191.4	95.62	%	15:35:14
1	Al 396.153Radial†	63564.9	65614.4	[50000]	ug/L	15:34:54
1	Ca 317.933Radial†	30640.8	31608.6	[50000]	ug/L	15:34:54
1	Fe 238.204 Radial†	2222.4	2285.2	[20000]	ug/L	15:35:14
1	Mg 279.077 IEC†	1446.9	1491.6	[50000]	ug/L	15:35:14
1	Na 589.592 Radial†	63708.9	67042.8	[20000]	ug/L	15:34:54
1	Sc 361.383	828781.4	828781.4	97.229	%	15:36:11
1	Y 371.029	685978.7	685978.7	94.923	%	15:36:11
2	Sc Radial	4868.6	4868.6	96.7	%	15:35:39
2	Y RADIAL	5182.0	5182.0	95.44	%	15:35:39
2	Al 396.153Radial†	62506.8	64647.7	[50000]	ug/L	15:35:19
2	Ca 317.933Radial†	30109.2	31120.4	[50000]	ug/L	15:35:19
2	Fe 238.204 Radial†	2222.3	2289.5	[20000]	ug/L	15:35:39
2	Mg 279.077 IEC†	1450.4	1498.2	[50000]	ug/L	15:35:39
2	Na 589.592 Radial†	62672.0	66098.4	[20000]	ug/L	15:35:19
2	Sc 361.383	832642.6	832642.6	97.682	%	15:36:16
2	Y 371.029	689630.1	689630.1	95.428	%	15:36:16
3	Sc Radial	4821.9	4821.9	95.8	%	15:36:04
3	Y RADIAL	5146.9	5146.9	94.80	%	15:36:04
3	Al 396.153Radial†	61540.7	64265.6	[50000]	ug/L	15:35:44
3	Ca 317.933Radial†	29642.4	30934.8	[50000]	ug/L	15:35:44
3	Fe 238.204 Radial†	2204.8	2293.6	[20000]	ug/L	15:36:04
3	Mg 279.077 IEC†	1427.2	1488.4	[50000]	ug/L	15:36:04
3	Na 589.592 Radial†	61672.1	65682.5	[20000]	ug/L	15:35:44
3	Sc 361.383	833640.6	833640.6	97.799	%	15:36:22
3	Y 371.029	690643.4	690643.4	95.569	%	15:36:22

Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	831688.2	2566.33	0.31%	97.570	%
Sc Radial	4856.2	30.10	0.62%	96.4	%
Y 371.029	688750.7	2453.51	0.36%	95.307	%
Y RADIAL	5173.5	23.45	0.45%	95.29	%
Al 396.153Radial†	64842.6	695.21	1.07%	[50000]	ug/L
Ca 317.933Radial†	31221.3	348.06	1.11%	[50000]	ug/L
Fe 238.204 Radial†	2289.4	4.19	0.18%	[20000]	ug/L
Mg 279.077 IEC†	1492.7	4.98	0.33%	[50000]	ug/L
Na 589.592 Radial†	66274.6	697.04	1.05%	[20000]	ug/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	217.1	0.00000	0.999982	
Al 396.153Radial	3	Lin Thru 0	0.0	1.296	0.00000	0.999995	
As 188.979	3	Lin Thru 0	0.0	2.308	0.00000	0.999996	
B 249.677	3	Lin Thru 0	0.0	44.86	0.00000	0.999996	
Ba 233.527	3	Lin Thru 0	0.0	128.1	0.00000	0.999996	
Be 313.107	3	Lin Thru 0	0.0	2624	0.00000	0.999996	
Ca 317.933Radial	3	Lin Thru 0	0.0	0.6250	0.00000	0.999988	
Cd 226.502	3	Lin Thru 0	0.0	90.12	0.00000	0.999995	
Co 228.616	3	Lin Thru 0	0.0	48.87	0.00000	0.999996	
Cr 267.716	3	Lin Thru 0	0.0	89.47	0.00000	0.999997	
Cu 324.752	3	Lin Thru 0	0.0	334.4	0.00000	0.999993	
Fe 238.204 Radia	2	Lin Thru 0	0.0	0.1156	0.00000	0.999825	
K 766.490 Radial	3	Lin Thru 0	0.0	5.454	0.00000	0.999885	

Mg 279.077 IEC	3	Lin Thru 0	0.0	0.0299	0.00000	0.999937
Mn 257.610	3	Lin Thru 0	0.0	902.0	0.00000	0.999987
Mo 202.031	3	Lin Thru 0	0.0	14.15	0.00000	0.999993
Na 589.592 Radia	2	Lin Thru 0	0.0	3.340	0.00000	0.999877
Ni 231.604	3	Lin Thru 0	0.0	40.16	0.00000	0.999998
P 214.914	3	Lin Thru 0	0.0	1.635	0.00000	0.999993
Pb 220.353	3	Lin Thru 0	0.0	8.166	0.00000	0.999995
S 181.975 Axial	3	Lin Thru 0	0.0	0.7066	0.00000	0.999995
Sb 206.836	3	Lin Thru 0	0.0	2.917	0.00000	0.999990
Se 196.026	3	Lin Thru 0	0.0	1.552	0.00000	0.999994
Si 251.611	3	Lin Thru 0	0.0	31.40	0.00000	0.999965
Sn 189.927	3	Lin Thru 0	0.0	5.645	0.00000	0.999987
Sr 421.552	3	Lin Thru 0	0.0	154.8	0.00000	0.999729
Ti 334.940	3	Lin Thru 0	0.0	620.7	0.00000	0.999990
Tl 190.801	3	Lin Thru 0	0.0	3.257	0.00000	0.999995
U 409.014	3	Lin Thru 0	0.0	33.90	0.00000	0.999937
V 292.402	3	Lin Thru 0	0.0	146.5	0.00000	0.999999
Zn 213.857	3	Lin Thru 0	0.0	105.7	0.00000	0.999996
SiO2	3	Lin Thru 0	0.0	14.66	0.00000	0.999986

Sequence No.: 6
Sample ID: ICV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 1/11/2010 15:38:33
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5131.5	5131.5	102	%			15:40:26
1	Y RADIAL	5471.6	5471.6	100.8	%			15:40:26
1	Al 396.153Radial†	6248.8	6132.3	4705.2	ug/L	4705.2	ppb	15:40:26
1	Ca 317.933Radial†	2971.0	2895.6	4633.2	ug/L	4633.2	ppb	15:40:46
1	Fe 238.204 Radial†	561.3	541.9	4703.9	ug/L	4703.9	ppb	15:40:46
1	K 766.490 Radial†	15549.6	12668.0	2309.3	ug/L	2309.3	ppb	15:40:26
1	Mg 279.077 IEC†	151.4	146.6	4900.0	ug/L	4900.0	ppb	15:40:46
1	Na 589.592 Radial†	6369.4	7530.5	2254.7	ug/L	2254.7	ppb	15:40:26
1	Sr 421.552†	75677.1	74278.0	479.72	ug/L	479.72	ppb	15:40:26
1	Sc 361.383	854284.7	854284.7	100.22	%			15:41:43
1	Y 371.029	716450.9	716450.9	99.140	%			15:41:43
1	Ag 328.068†	55272.7	54792.6	255.27	ug/L	255.27	ppb	15:41:43
1	As 188.979†	1051.6	1072.9	466.86	ug/L	466.86	ppb	15:42:03
1	B 249.677†	21779.4	22363.2	496.68	ug/L	496.68	ppb	15:41:43
1	Ba 233.527†	63648.1	63519.0	497.13	ug/L	497.13	ppb	15:41:43
1	Be 313.107†	668692.5	671801.0	257.08	ug/L	257.08	ppb	15:41:43
1	Cd 226.502†	43550.6	43658.5	484.37	ug/L	484.37	ppb	15:41:43
1	Co 228.616†	23970.1	23991.9	491.30	ug/L	491.30	ppb	15:42:03
1	Cr 267.716†	42651.6	42474.1	475.47	ug/L	475.47	ppb	15:41:43
1	Cu 324.752†	171273.9	164483.5	491.83	ug/L	491.83	ppb	15:41:43
1	Mn 257.610†	453042.6	451597.2	500.97	ug/L	500.97	ppb	15:41:43
1	Mo 202.031†	7574.9	7534.4	532.87	ug/L	532.87	ppb	15:42:03
1	Ni 231.604†	19737.9	19626.4	488.40	ug/L	488.40	ppb	15:42:03
1	P 214.914†	4248.6	4009.3	2346.6	ug/L	2346.6	ppb	15:42:03
1	Pb 220.353†	3961.8	4016.4	493.52	ug/L	493.52	ppb	15:42:03
1	S 181.975 Axial†	1763.5	1716.6	2428.5	ug/L	2428.5	ppb	15:42:03
1	Sb 206.836†	1468.6	1437.4	511.46	ug/L	511.46	ppb	15:42:03
1	Se 196.026†	3858.8	3882.2	2518.7	ug/L	2518.7	ppb	15:42:03
1	Si 251.611†	147035.3	146160.2	4648.4	ug/L	4648.4	ppb	15:41:43
1	Sn 189.927†	3018.0	3003.7	532.88	ug/L	532.88	ppb	15:42:03
1	Ti 334.940†	301910.2	302618.0	487.29	ug/L	487.29	ppb	15:41:43
1	Tl 190.801†	1659.9	1689.1	521.27	ug/L	521.27	ppb	15:42:03
1	U 409.014†	14510.6	16490.2	484.86	ug/L	484.86	ppb	15:41:43
1	V 292.402†	71245.3	72397.7	501.73	ug/L	501.73	ppb	15:41:43
1	Zn 213.857†	53239.2	52501.4	492.33	ug/L	492.33	ppb	15:41:43
1	SiO2†	146051.2	145157.0	9889.8	ug/L	9889.8	ppb	15:43:01
2	Sc Radial	4910.6	4910.6	97.5	%			15:40:51
2	Y RADIAL	5267.0	5267.0	97.01	%			15:40:51
2	Al 396.153Radial†	6145.3	6302.1	4835.9	ug/L	4835.9	ppb	15:40:51
2	Ca 317.933Radial†	2989.4	3045.6	4873.2	ug/L	4873.2	ppb	15:41:11
2	Fe 238.204 Radial†	563.2	568.7	4936.2	ug/L	4936.2	ppb	15:41:11
2	K 766.490 Radial†	15451.2	13253.5	2416.5	ug/L	2416.5	ppb	15:40:51
2	Mg 279.077 IEC†	155.9	157.9	5277.3	ug/L	5277.3	ppb	15:41:11
2	Na 589.592 Radial†	6286.5	7726.6	2313.4	ug/L	2313.4	ppb	15:40:51
2	Sr 421.552†	75331.0	77263.9	499.00	ug/L	499.00	ppb	15:40:51
2	Sc 361.383	845183.0	845183.0	99.154	%			15:42:09
2	Y 371.029	707487.5	707487.5	97.899	%			15:42:09
2	Ag 328.068†	55142.7	55255.5	257.48	ug/L	257.48	ppb	15:42:09
2	As 188.979†	1047.5	1080.0	469.98	ug/L	469.98	ppb	15:42:29
2	B 249.677†	21710.0	22527.2	500.29	ug/L	500.29	ppb	15:42:09
2	Ba 233.527†	63434.9	63987.8	500.80	ug/L	500.80	ppb	15:42:09
2	Be 313.107†	664512.9	674771.0	258.22	ug/L	258.22	ppb	15:42:09
2	Cd 226.502†	43551.7	44127.6	489.56	ug/L	489.56	ppb	15:42:09
2	Co 228.616†	23990.6	24270.1	496.99	ug/L	496.99	ppb	15:42:29
2	Cr 267.716†	42601.0	42881.4	480.03	ug/L	480.03	ppb	15:42:09
2	Cu 324.752†	170507.0	165550.4	495.03	ug/L	495.03	ppb	15:42:09
2	Mn 257.610†	451993.5	455407.1	505.20	ug/L	505.20	ppb	15:42:09
2	Mo 202.031†	7556.1	7596.9	537.30	ug/L	537.30	ppb	15:42:29
2	Ni 231.604†	19743.9	19844.5	493.83	ug/L	493.83	ppb	15:42:29

2	P 214.914†	4250.6	4057.0	2375.0 ug/L	2375.0 ppb	15:42:29
2	Pb 220.353†	3961.9	4059.1	498.76 ug/L	498.76 ppb	15:42:29
2	S 181.975 Axial†	1772.3	1744.5	2467.8 ug/L	2467.8 ppb	15:42:29
2	Sb 206.836†	1463.0	1447.6	515.12 ug/L	515.12 ppb	15:42:29
2	Se 196.026†	3853.6	3918.5	2542.9 ug/L	2542.9 ppb	15:42:29
2	Si 251.611†	146609.1	147310.2	4685.0 ug/L	4685.0 ppb	15:42:09
2	Sn 189.927†	3020.8	3039.0	539.17 ug/L	539.17 ppb	15:42:29
2	Ti 334.940†	300787.7	304729.9	490.69 ug/L	490.69 ppb	15:42:09
2	Tl 190.801†	1666.8	1713.9	528.90 ug/L	528.90 ppb	15:42:29
2	U 409.014†	14533.5	16669.2	490.10 ug/L	490.10 ppb	15:42:09
2	V 292.402†	70947.9	72863.2	504.95 ug/L	504.95 ppb	15:42:09
2	Zn 213.857†	53089.4	52922.4	496.25 ug/L	496.25 ppb	15:42:09
2	SiO2†	148214.6	148908.2	10146 ug/L	10146 ppb	15:43:06
3	Sc Radial	4926.9	4926.9	97.8 %		15:41:16
3	Y RADIAL	5294.5	5294.5	97.51 %		15:41:16
3	Al 396.153Radial†	6239.9	6377.8	4894.5 ug/L	4894.5 ppb	15:41:16
3	Ca 317.933Radial†	2993.0	3039.1	4862.8 ug/L	4862.8 ppb	15:41:36
3	Fe 238.204 Radial†	565.3	568.9	4938.0 ug/L	4938.0 ppb	15:41:36
3	K 766.490 Radial†	15428.2	13177.5	2402.6 ug/L	2402.6 ppb	15:41:16
3	Mg 279.077 IEC†	151.7	153.1	5116.5 ug/L	5116.5 ppb	15:41:36
3	Na 589.592 Radial†	6269.0	7687.4	2301.7 ug/L	2301.7 ppb	15:41:16
3	Sr 421.552†	75643.4	77327.0	499.41 ug/L	499.41 ppb	15:41:16
3	Sc 361.383	847906.9	847906.9	99.473 %		15:42:35
3	Y 371.029	709674.4	709674.4	98.202 %		15:42:35
3	Ag 328.068†	55242.3	55176.9	257.11 ug/L	257.11 ppb	15:42:35
3	As 188.979†	1055.7	1085.0	472.12 ug/L	472.12 ppb	15:42:55
3	B 249.677†	21722.1	22469.0	499.00 ug/L	499.00 ppb	15:42:35
3	Ba 233.527†	63420.9	63768.2	499.09 ug/L	499.09 ppb	15:42:35
3	Be 313.107†	664984.9	673092.5	257.58 ug/L	257.58 ppb	15:42:35
3	Cd 226.502†	43466.3	43900.6	487.04 ug/L	487.04 ppb	15:42:35
3	Co 228.616†	23912.7	24114.1	493.79 ug/L	493.79 ppb	15:42:55
3	Cr 267.716†	42637.0	42779.6	478.90 ug/L	478.90 ppb	15:42:35
3	Cu 324.752†	170928.9	165422.1	494.64 ug/L	494.64 ppb	15:42:35
3	Mn 257.610†	452358.0	454309.2	503.99 ug/L	503.99 ppb	15:42:35
3	Mo 202.031†	7539.0	7555.2	534.36 ug/L	534.36 ppb	15:42:55
3	Ni 231.604†	19632.7	19668.7	489.46 ug/L	489.46 ppb	15:42:55
3	P 214.914†	4233.5	4026.0	2356.0 ug/L	2356.0 ppb	15:42:55
3	Pb 220.353†	3930.9	4015.1	493.38 ug/L	493.38 ppb	15:42:55
3	S 181.975 Axial†	1780.9	1747.4	2471.9 ug/L	2471.9 ppb	15:42:55
3	Sb 206.836†	1458.8	1438.6	511.86 ug/L	511.86 ppb	15:42:55
3	Se 196.026†	3836.9	3889.2	2524.0 ug/L	2524.0 ppb	15:42:55
3	Si 251.611†	146961.9	147189.8	4681.2 ug/L	4681.2 ppb	15:42:35
3	Sn 189.927†	2986.9	2995.0	531.38 ug/L	531.38 ppb	15:42:55
3	Ti 334.940†	301442.1	304413.3	490.19 ug/L	490.19 ppb	15:42:35
3	Tl 190.801†	1662.1	1703.7	525.78 ug/L	525.78 ppb	15:42:55
3	U 409.014†	14584.1	16673.0	490.22 ug/L	490.22 ppb	15:42:35
3	V 292.402†	70996.2	72682.0	503.67 ug/L	503.67 ppb	15:42:35
3	Zn 213.857†	53081.7	52742.6	494.58 ug/L	494.58 ppb	15:42:35
3	SiO2†	146987.9	147194.8	10029 ug/L	10029 ppb	15:43:11

Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	849124.9	99.616	%	0.5480				0.55%
Sc Radial	4989.7	99.1	%	2.44				2.47%
Y 371.029	711204.2	98.414	%	0.6467				0.66%
Y RADIAL	5344.4	98.43	%	2.046				2.08%
Ag 328.068†	55075.0	256.62	ug/L	1.185	256.62	ppb	1.185	0.46%
QC value within limits for Ag 328.068 Recovery = 102.65%								
Al 396.153Radial†	6270.7	4811.9	ug/L	96.94	4811.9	ppb	96.94	2.01%
QC value within limits for Al 396.153Radial Recovery = 96.24%								
As 188.979†	1079.3	469.65	ug/L	2.649	469.65	ppb	2.649	0.56%
QC value within limits for As 188.979 Recovery = 93.93%								
B 249.677†	22453.1	498.66	ug/L	1.833	498.66	ppb	1.833	0.37%
QC value within limits for B 249.677 Recovery = 99.73%								
Ba 233.527†	63758.3	499.01	ug/L	1.839	499.01	ppb	1.839	0.37%
QC value within limits for Ba 233.527 Recovery = 99.80%								
Be 313.107†	673221.5	257.63	ug/L	0.571	257.63	ppb	0.571	0.22%
QC value within limits for Be 313.107 Recovery = 103.05%								
Ca 317.933Radial†	2993.4	4789.7	ug/L	135.68	4789.7	ppb	135.68	2.83%

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   QC value within limits for Ca 317.933Radial  Recovery = 95.79%
Cd 226.502†            43895.6      486.99 ug/L        2.593      486.99 ppb         2.593   0.53%
   QC value within limits for Cd 226.502  Recovery = 97.40%
Co 228.616†            24125.3      494.03 ug/L        2.855      494.03 ppb         2.855   0.58%
   QC value within limits for Co 228.616  Recovery = 98.81%
Cr 267.716†            42711.7      478.13 ug/L        2.373      478.13 ppb         2.373   0.50%
   QC value within limits for Cr 267.716  Recovery = 95.63%
Cu 324.752†           165152.0      493.83 ug/L        1.747      493.83 ppb         1.747   0.35%
   QC value within limits for Cu 324.752  Recovery = 98.77%
Fe 238.204 Radial†       559.8      4859.4 ug/L       134.62      4859.4 ppb        134.62   2.77%
   QC value within limits for Fe 238.204 Radial  Recovery = 97.19%
K 766.490 Radial†      13033.0      2376.1 ug/L        58.28      2376.1 ppb         58.28   2.45%
   QC value within limits for K 766.490 Radial  Recovery = 95.04%
Mg 279.077 IEC†          152.6      5098.0 ug/L       189.35      5098.0 ppb        189.35   3.71%
   QC value within limits for Mg 279.077 IEC  Recovery = 101.96%
Mn 257.610†           453771.2      503.39 ug/L        2.181      503.39 ppb         2.181   0.43%
   QC value within limits for Mn 257.610  Recovery = 100.68%
Mo 202.031†             7562.2      534.84 ug/L        2.257      534.84 ppb         2.257   0.42%
   QC value within limits for Mo 202.031  Recovery = 106.97%
Na 589.592 Radial†      7648.2      2289.9 ug/L       31.07      2289.9 ppb         31.07   1.36%
   QC value within limits for Na 589.592 Radial  Recovery = 91.60%
Ni 231.604†            19713.2      490.56 ug/L        2.879      490.56 ppb         2.879   0.59%
   QC value within limits for Ni 231.604  Recovery = 98.11%
P 214.914†              4030.8      2359.2 ug/L       14.46      2359.2 ppb         14.46   0.61%
   QC value within limits for P 214.914  Recovery = 94.37%
Pb 220.353†             4030.2      495.22 ug/L        3.068      495.22 ppb         3.068   0.62%
   QC value within limits for Pb 220.353  Recovery = 99.04%
S 181.975 Axial†        1736.2      2456.1 ug/L       23.98      2456.1 ppb         23.98   0.98%
   QC value within limits for S 181.975 Axial  Recovery = 98.24%
Sb 206.836†             1441.2      512.81 ug/L        2.011      512.81 ppb         2.011   0.39%
   QC value within limits for Sb 206.836  Recovery = 102.56%
Se 196.026†             3896.7      2528.5 ug/L       12.70      2528.5 ppb         12.70   0.50%
   QC value within limits for Se 196.026  Recovery = 101.14%
Si 251.611†           146886.7      4671.5 ug/L       20.11      4671.5 ppb         20.11   0.43%
   QC value within limits for Si 251.611  Recovery = 93.43%
Sn 189.927†             3012.6      534.48 ug/L        4.133      534.48 ppb         4.133   0.77%
   QC value within limits for Sn 189.927  Recovery = 106.90%
Sr 421.552†            76289.6      492.71 ug/L       11.253      492.71 ppb        11.253   2.28%
   QC value within limits for Sr 421.552  Recovery = 98.54%
Ti 334.940†           303920.4      489.39 ug/L        1.833      489.39 ppb         1.833   0.37%
   QC value within limits for Ti 334.940  Recovery = 97.88%
Tl 190.801†             1702.2      525.32 ug/L        3.836      525.32 ppb         3.836   0.73%
   QC value within limits for Tl 190.801  Recovery = 105.06%
U 409.014†             16610.8      488.39 ug/L        3.060      488.39 ppb         3.060   0.63%
   QC value within limits for U 409.014  Recovery = 97.68%
V 292.402†             72647.6      503.45 ug/L        1.621      503.45 ppb         1.621   0.32%
   QC value within limits for V 292.402  Recovery = 100.69%
Zn 213.857†            52722.1      494.39 ug/L        1.967      494.39 ppb         1.967   0.40%
   QC value within limits for Zn 213.857  Recovery = 98.88%
SiO2†                 147086.7       10021 ug/L        128.1       10021 ppb         128.1   1.28%
   QC value within limits for SiO2  Recovery = 93.70%
All analyte(s) passed QC.
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Sequence No.: 7
Sample ID: ICB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 10
Date Collected: 1/11/2010 15:45:22
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5012.3	5012.3	99.5	%			15:47:15
1	Y RADIAL	5401.5	5401.5	99.49	%			15:47:15
1	Al 396.153Radial†	-18.5	-17.9	-13.801	ug/L	-13.801	ppb	15:47:15
1	Ca 317.933Radial†	14.3	-5.4	-8.6742	ug/L	-8.6742	ppb	15:47:35
1	Fe 238.204 Radial†	8.8	-0.0	-0.3309	ug/L	-0.3309	ppb	15:47:35
1	K 766.490 Radial†	2514.4	-64.3	-11.763	ug/L	-11.763	ppb	15:47:15
1	Mg 279.077 IEC†	0.7	-1.2	-41.240	ug/L	-41.240	ppb	15:47:35
1	Na 589.592 Radial†	-1330.5	-56.2	-16.826	ug/L	-16.826	ppb	15:47:15
1	Sr 421.552†	7.3	26.8	0.1731	ug/L	0.1731	ppb	15:47:15
1	Sc 361.383	860881.3	860881.3	101.00	%			15:48:32
1	Y 371.029	730069.0	730069.0	101.02	%			15:48:32
1	Ag 328.068†	307.3	-53.7	-0.2488	ug/L	-0.2488	ppb	15:48:37
1	As 188.979†	-15.0	8.7	3.7893	ug/L	3.7893	ppb	15:48:57
1	B 249.677†	-477.6	159.0	3.5441	ug/L	3.5441	ppb	15:48:57
1	Ba 233.527†	-5.4	6.0	0.0472	ug/L	0.0472	ppb	15:48:57
1	Be 313.107†	-4520.9	109.1	0.0415	ug/L	0.0415	ppb	15:48:37
1	Cd 226.502†	-216.3	-10.0	-0.1106	ug/L	-0.1106	ppb	15:48:57
1	Co 228.616†	-68.2	7.2	0.1444	ug/L	0.1444	ppb	15:48:57
1	Cr 267.716†	76.2	-7.8	-0.0883	ug/L	-0.0883	ppb	15:48:57
1	Cu 324.752†	6381.6	-93.5	-0.2806	ug/L	-0.2806	ppb	15:48:37
1	Mn 257.610†	420.3	-28.7	-0.0302	ug/L	-0.0302	ppb	15:48:57
1	Mo 202.031†	12.2	-11.6	-0.8207	ug/L	-0.8207	ppb	15:48:57
1	Ni 231.604†	89.2	20.3	0.5064	ug/L	0.5064	ppb	15:48:57
1	P 214.914†	220.2	-11.8	-7.1766	ug/L	-7.1766	ppb	15:48:57
1	Pb 220.353†	-66.2	-2.1	-0.2669	ug/L	-0.2669	ppb	15:48:57
1	S 181.975 Axial†	48.4	4.9	6.9158	ug/L	6.9158	ppb	15:48:57
1	Sb 206.836†	40.3	11.9	4.0820	ug/L	4.0820	ppb	15:48:57
1	Se 196.026†	-23.8	8.5	5.4449	ug/L	5.4449	ppb	15:48:57
1	Si 251.611†	525.5	-30.2	-0.9507	ug/L	-0.9507	ppb	15:48:57
1	Sn 189.927†	9.1	1.4	0.2404	ug/L	0.2404	ppb	15:48:57
1	Ti 334.940†	-1410.9	-22.5	-0.0347	ug/L	-0.0347	ppb	15:48:37
1	Tl 190.801†	-34.8	-1.6	-0.4960	ug/L	-0.4960	ppb	15:48:57
1	U 409.014†	-1963.9	67.1	1.9784	ug/L	1.9784	ppb	15:48:32
1	V 292.402†	-1313.5	9.2	0.0535	ug/L	0.0535	ppb	15:48:37
1	Zn 213.857†	612.4	-13.9	-0.1345	ug/L	-0.1345	ppb	15:48:57
1	SiO2†	539.9	-37.1	-2.5110	ug/L	-2.5110	ppb	15:50:03
2	Sc Radial	5026.4	5026.4	99.8	%			15:47:40
2	Y RADIAL	5421.1	5421.1	99.85	%			15:47:40
2	Al 396.153Radial†	-32.0	-31.4	-24.228	ug/L	-24.228	ppb	15:47:40
2	Ca 317.933Radial†	24.0	4.2	6.7766	ug/L	6.7766	ppb	15:48:00
2	Fe 238.204 Radial†	8.8	-0.1	-0.9622	ug/L	-0.9622	ppb	15:48:00
2	K 766.490 Radial†	2560.4	-25.2	-4.6285	ug/L	-4.6285	ppb	15:47:40
2	Mg 279.077 IEC†	0.9	-1.0	-32.020	ug/L	-32.020	ppb	15:48:00
2	Na 589.592 Radial†	-1298.3	-20.1	-6.0150	ug/L	-6.0150	ppb	15:47:40
2	Sr 421.552†	6.9	26.5	0.1709	ug/L	0.1709	ppb	15:47:40
2	Sc 361.383	871702.6	871702.6	102.26	%			15:49:02
2	Y 371.029	737843.8	737843.8	102.10	%			15:49:02
2	Ag 328.068†	330.1	-35.2	-0.1664	ug/L	-0.1664	ppb	15:49:07
2	As 188.979†	-20.9	3.2	1.3860	ug/L	1.3860	ppb	15:49:28
2	B 249.677†	-477.7	164.7	3.6709	ug/L	3.6709	ppb	15:49:28
2	Ba 233.527†	-14.1	-2.4	-0.0187	ug/L	-0.0187	ppb	15:49:28
2	Be 313.107†	-4633.4	54.6	0.0211	ug/L	0.0211	ppb	15:49:07
2	Cd 226.502†	-213.1	-4.3	-0.0464	ug/L	-0.0464	ppb	15:49:28
2	Co 228.616†	-66.1	10.0	0.2050	ug/L	0.2050	ppb	15:49:28
2	Cr 267.716†	89.3	4.0	0.0433	ug/L	0.0433	ppb	15:49:28
2	Cu 324.752†	6462.1	-93.2	-0.2819	ug/L	-0.2819	ppb	15:49:07
2	Mn 257.610†	452.5	-2.4	-0.0014	ug/L	-0.0014	ppb	15:49:28
2	Mo 202.031†	24.8	0.5	0.0384	ug/L	0.0384	ppb	15:49:28
2	Ni 231.604†	51.6	-17.5	-0.4349	ug/L	-0.4349	ppb	15:49:28

2	P 214.914†	209.8	-24.7	-15.078 ug/L	-15.078 ppb	15:49:28
2	Pb 220.353†	-63.2	1.5	0.1811 ug/L	0.1811 ppb	15:49:28
2	S 181.975 Axial†	43.8	-0.2	-0.2084 ug/L	-0.2084 ppb	15:49:28
2	Sb 206.836†	49.6	20.5	7.0387 ug/L	7.0387 ppb	15:49:28
2	Se 196.026†	-31.7	1.0	0.6611 ug/L	0.6611 ppb	15:49:28
2	Si 251.611†	538.3	-24.1	-0.7684 ug/L	-0.7684 ppb	15:49:28
2	Sn 189.927†	6.1	-1.7	-0.2989 ug/L	-0.2989 ppb	15:49:28
2	Ti 334.940†	-1328.7	75.3	0.1222 ug/L	0.1222 ppb	15:49:07
2	Tl 190.801†	-39.1	-5.4	-1.6562 ug/L	-1.6562 ppb	15:49:28
2	U 409.014†	-1867.4	185.6	5.4738 ug/L	5.4738 ppb	15:49:02
2	V 292.402†	-1321.6	17.4	0.1290 ug/L	0.1290 ppb	15:49:07
2	Zn 213.857†	629.1	-5.1	-0.0446 ug/L	-0.0446 ppb	15:49:28
2	SiO2†	557.1	-26.9	-1.8357 ug/L	-1.8357 ppb	15:50:08
3	Sc Radial	5086.8	5086.8	101 %		15:48:06
3	Y RADIAL	5459.8	5459.8	100.6 %		15:48:06
3	Al 396.153Radial†	5.7	6.3	4.8594 ug/L	4.8594 ppb	15:48:06
3	Ca 317.933Radial†	16.8	-3.2	-5.0566 ug/L	-5.0566 ppb	15:48:26
3	Fe 238.204 Radial†	9.5	0.5	4.4449 ug/L	4.4449 ppb	15:48:26
3	K 766.490 Radial†	2570.3	-45.9	-8.4024 ug/L	-8.4024 ppb	15:48:06
3	Mg 279.077 IEC†	0.6	-1.3	-44.641 ug/L	-44.641 ppb	15:48:26
3	Na 589.592 Radial†	-1346.6	-52.5	-15.723 ug/L	-15.723 ppb	15:48:06
3	Sr 421.552†	-5.4	14.1	0.0913 ug/L	0.0913 ppb	15:48:06
3	Sc 361.383	858140.5	858140.5	100.67 %		15:49:33
3	Y 371.029	727477.4	727477.4	100.67 %		15:49:33
3	Ag 328.068†	415.2	54.5	0.2481 ug/L	0.2481 ppb	15:49:38
3	As 188.979†	-20.0	3.7	1.6152 ug/L	1.6152 ppb	15:49:58
3	B 249.677†	-492.4	142.8	3.1820 ug/L	3.1820 ppb	15:49:58
3	Ba 233.527†	0.4	11.8	0.0911 ug/L	0.0911 ppb	15:49:58
3	Be 313.107†	-4611.3	4.9	0.0018 ug/L	0.0018 ppb	15:49:38
3	Cd 226.502†	-202.6	2.8	0.0316 ug/L	0.0316 ppb	15:49:58
3	Co 228.616†	-73.5	1.6	0.0332 ug/L	0.0332 ppb	15:49:58
3	Cr 267.716†	83.5	-0.3	-0.0056 ug/L	-0.0056 ppb	15:49:58
3	Cu 324.752†	6483.5	27.9	0.0823 ug/L	0.0823 ppb	15:49:38
3	Mn 257.610†	433.0	-14.7	-0.0140 ug/L	-0.0140 ppb	15:49:58
3	Mo 202.031†	21.3	-2.6	-0.1819 ug/L	-0.1819 ppb	15:49:58
3	Ni 231.604†	69.9	1.5	0.0363 ug/L	0.0363 ppb	15:49:58
3	P 214.914†	233.2	1.8	1.0622 ug/L	1.0622 ppb	15:49:58
3	Pb 220.353†	-57.3	6.4	0.7884 ug/L	0.7884 ppb	15:49:58
3	S 181.975 Axial†	43.6	0.3	0.4175 ug/L	0.4175 ppb	15:49:58
3	Sb 206.836†	27.8	-0.3	-0.0892 ug/L	-0.0892 ppb	15:49:58
3	Se 196.026†	-29.2	3.0	1.9237 ug/L	1.9237 ppb	15:49:58
3	Si 251.611†	553.1	-1.0	-0.0305 ug/L	-0.0305 ppb	15:49:58
3	Sn 189.927†	11.3	3.6	0.6343 ug/L	0.6343 ppb	15:49:58
3	Ti 334.940†	-1395.2	-11.4	-0.0163 ug/L	-0.0163 ppb	15:49:38
3	Tl 190.801†	-27.8	5.2	1.5966 ug/L	1.5966 ppb	15:49:58
3	U 409.014†	-1948.4	76.2	2.2480 ug/L	2.2480 ppb	15:49:33
3	V 292.402†	-1418.3	-99.1	-0.6765 ug/L	-0.6765 ppb	15:49:38
3	Zn 213.857†	610.9	-13.4	-0.1277 ug/L	-0.1277 ppb	15:49:58
3	SiO2†	517.4	-57.7	-3.9333 ug/L	-3.9333 ppb	15:50:13

Mean Data: ICB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	863574.8	101.31	%	0.841				0.83%
Sc Radial	5041.9	100	%	0.8				0.78%
Y 371.029	731796.7	101.26	%	0.747				0.74%
Y RADIAL	5427.5	99.96	%	0.546				0.55%
Ag 328.068†	-11.5	-0.0557	ug/L	0.26628	-0.0557	ppb	0.26628	477.91%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-14.4	-11.057	ug/L	14.7368	-11.057	ppb	14.7368	133.29%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	5.2	2.2635	ug/L	1.32637	2.2635	ppb	1.32637	58.60%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	155.5	3.4657	ug/L	0.25373	3.4657	ppb	0.25373	7.32%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	5.1	0.0399	ug/L	0.05524	0.0399	ppb	0.05524	138.56%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	56.2	0.0215	ug/L	0.01982	0.0215	ppb	0.01982	92.33%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-1.4	-2.3180	ug/L	8.08125	-2.3180	ppb	8.08125	348.63%

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   QC value within limits for Ca 317.933Radial  Recovery = Not calculated
Cd 226.502†                -3.8     -0.0418 ug/L       0.07123     -0.0418 ppb        0.07123 170.43%
   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†                 6.3      0.1275 ug/L       0.08713      0.1275 ppb        0.08713  68.33%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                -1.4     -0.0169 ug/L       0.06653     -0.0169 ppb        0.06653 393.98%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†               -52.9     -0.1600 ug/L       0.20991     -0.1600 ppb        0.20991 131.16%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          0.1      1.0506 ug/L       2.95646      1.0506 ppb        2.95646 281.40%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†         -45.1     -8.2647 ug/L       3.56936     -8.2647 ppb        3.56936  43.19%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†            -1.2     -39.301 ug/L        6.5303     -39.301 ppb         6.5303  16.62%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               -15.3     -0.0152 ug/L       0.01441     -0.0152 ppb        0.01441  94.82%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                -4.5     -0.3214 ug/L       0.44625     -0.3214 ppb        0.44625 138.84%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        -42.9     -12.854 ug/L        5.9488     -12.854 ppb         5.9488  46.28%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                 1.4      0.0360 ug/L       0.47065      0.0360 ppb        0.47065 >999.9%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                -11.6     -7.0640 ug/L       8.07047     -7.0640 ppb        8.07047 114.25%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 1.9      0.2342 ug/L       0.52966      0.2342 ppb        0.52966 226.16%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†            1.7      2.3750 ug/L       3.94493      2.3750 ppb        3.94493 166.10%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                10.7      3.6772 ug/L       3.58112      3.6772 ppb        3.58112  97.39%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 4.2      2.6766 ug/L       2.47915      2.6766 ppb        2.47915  92.62%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               -18.4     -0.5832 ug/L       0.48727     -0.5832 ppb        0.48727  83.55%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 1.1      0.1919 ug/L       0.46846      0.1919 ppb        0.46846 244.09%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                22.5      0.1451 ug/L       0.04658      0.1451 ppb        0.04658  32.10%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†                13.8      0.0237 ug/L       0.08580      0.0237 ppb        0.08580 361.38%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -0.6     -0.1852 ug/L       1.64853     -0.1852 ppb        1.64853 890.01%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                109.6      3.2334 ug/L       1.94496      3.2334 ppb        1.94496  60.15%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                -24.2     -0.1647 ug/L       0.44484     -0.1647 ppb        0.44484 270.15%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†               -10.8     -0.1022 ug/L       0.05003     -0.1022 ppb        0.05003  48.93%
   QC value within limits for Zn 213.857  Recovery = Not calculated
SiO2†                     -40.6     -2.7600 ug/L       1.07077     -2.7600 ppb        1.07077  38.80%
   QC value within limits for SiO2  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 8
Sample ID: PQL
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 11
Date Collected: 1/11/2010 15:52:25
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5037.9	5037.9	100	%			15:54:18
1	Y RADIAL	5420.4	5420.4	99.83	%			15:54:18
1	Al 396.153Radial†	270.6	271.2	208.73	ug/L	208.73	ppb	15:54:18
1	Ca 317.933Radial†	149.7	129.9	207.82	ug/L	207.82	ppb	15:54:38
1	Fe 238.204 Radial†	23.6	14.7	127.71	ug/L	127.71	ppb	15:54:38
1	K 766.490 Radial†	3467.8	875.9	160.16	ug/L	160.16	ppb	15:54:18
1	Mg 279.077 IEC†	10.3	8.4	280.15	ug/L	280.15	ppb	15:54:38
1	Na 589.592 Radial†	-294.0	986.6	295.40	ug/L	295.40	ppb	15:54:18
1	Sr 421.552†	762.3	781.4	5.0453	ug/L	5.0453	ppb	15:54:18
1	Sc 361.383	860505.2	860505.2	100.95	%			15:55:34
1	Y 371.029	727613.9	727613.9	100.68	%			15:55:34
1	Ag 328.068†	1346.5	975.9	4.5059	ug/L	4.5059	ppb	15:55:39
1	As 188.979†	46.2	69.4	30.083	ug/L	30.083	ppb	15:55:59
1	B 249.677†	1593.6	2210.4	49.251	ug/L	49.251	ppb	15:55:39
1	Ba 233.527†	649.9	655.2	5.1295	ug/L	5.1295	ppb	15:55:59
1	Be 313.107†	8502.7	13007.9	4.9679	ug/L	4.9679	ppb	15:55:39
1	Cd 226.502†	243.6	445.4	4.9433	ug/L	4.9433	ppb	15:55:59
1	Co 228.616†	169.2	242.3	4.9701	ug/L	4.9701	ppb	15:55:59
1	Cr 267.716†	508.0	419.9	4.6825	ug/L	4.6825	ppb	15:55:59
1	Cu 324.752†	9837.7	3332.8	9.9426	ug/L	9.9426	ppb	15:55:39
1	Mn 257.610†	10001.8	9462.7	10.493	ug/L	10.493	ppb	15:55:39
1	Mo 202.031†	158.5	133.3	9.4306	ug/L	9.4306	ppb	15:55:59
1	Ni 231.604†	273.7	203.2	5.0568	ug/L	5.0568	ppb	15:55:59
1	P 214.914†	464.8	230.6	138.85	ug/L	138.85	ppb	15:55:59
1	Pb 220.353†	35.5	98.5	12.116	ug/L	12.116	ppb	15:55:59
1	S 181.975 Axial†	113.5	69.4	98.233	ug/L	98.233	ppb	15:55:59
1	Sb 206.836†	69.7	41.2	14.430	ug/L	14.430	ppb	15:55:59
1	Se 196.026†	13.1	45.0	29.445	ug/L	29.445	ppb	15:55:59
1	Si 251.611†	3647.5	3062.7	97.427	ug/L	97.427	ppb	15:55:39
1	Sn 189.927†	59.5	51.3	9.1131	ug/L	9.1131	ppb	15:55:59
1	Ti 334.940†	1779.2	3137.0	5.0291	ug/L	5.0291	ppb	15:55:39
1	Tl 190.801†	41.1	73.6	22.656	ug/L	22.656	ppb	15:55:59
1	U 409.014†	-169.6	1843.6	54.360	ug/L	54.360	ppb	15:55:34
1	V 292.402†	-641.0	674.8	4.8289	ug/L	4.8289	ppb	15:55:39
1	Zn 213.857†	1770.6	1133.7	10.665	ug/L	10.665	ppb	15:55:59
1	SiO2†	3695.3	3088.8	210.50	ug/L	210.50	ppb	15:57:05
2	Sc Radial	5010.4	5010.4	99.5	%			15:54:43
2	Y RADIAL	5391.1	5391.1	99.29	%			15:54:43
2	Al 396.153Radial†	259.0	261.0	200.90	ug/L	200.90	ppb	15:54:43
2	Ca 317.933Radial†	150.5	131.4	210.28	ug/L	210.28	ppb	15:55:03
2	Fe 238.204 Radial†	21.3	12.5	108.37	ug/L	108.37	ppb	15:55:03
2	K 766.490 Radial†	3431.6	858.5	156.97	ug/L	156.97	ppb	15:54:43
2	Mg 279.077 IEC†	12.2	10.3	344.37	ug/L	344.37	ppb	15:55:03
2	Na 589.592 Radial†	-298.5	980.4	293.56	ug/L	293.56	ppb	15:54:43
2	Sr 421.552†	763.2	786.5	5.0782	ug/L	5.0782	ppb	15:54:43
2	Sc 361.383	863273.7	863273.7	101.28	%			15:56:05
2	Y 371.029	729826.7	729826.7	100.99	%			15:56:05
2	Ag 328.068†	1491.5	1114.7	5.1419	ug/L	5.1419	ppb	15:56:10
2	As 188.979†	56.4	79.3	34.378	ug/L	34.378	ppb	15:56:30
2	B 249.677†	1532.7	2145.2	47.799	ug/L	47.799	ppb	15:56:10
2	Ba 233.527†	620.8	624.4	4.8885	ug/L	4.8885	ppb	15:56:30
2	Be 313.107†	8381.0	12860.8	4.9117	ug/L	4.9117	ppb	15:56:10
2	Cd 226.502†	267.7	468.4	5.1999	ug/L	5.1999	ppb	15:56:30
2	Co 228.616†	163.5	236.1	4.8445	ug/L	4.8445	ppb	15:56:30
2	Cr 267.716†	516.7	426.9	4.7615	ug/L	4.7615	ppb	15:56:30
2	Cu 324.752†	9777.8	3242.4	9.6727	ug/L	9.6727	ppb	15:56:10
2	Mn 257.610†	9961.1	9390.7	10.409	ug/L	10.409	ppb	15:56:10
2	Mo 202.031†	156.4	130.7	9.2479	ug/L	9.2479	ppb	15:56:30
2	Ni 231.604†	271.2	199.9	4.9735	ug/L	4.9735	ppb	15:56:30

2	P 214.914†	468.9	233.1	140.45 ug/L	140.45 ppb	15:56:30
2	Pb 220.353†	16.5	79.6	9.8040 ug/L	9.8040 ppb	15:56:30
2	S 181.975 Axial†	119.7	75.2	106.39 ug/L	106.39 ppb	15:56:30
2	Sb 206.836†	60.1	31.4	11.079 ug/L	11.079 ppb	15:56:30
2	Se 196.026†	16.9	48.7	31.777 ug/L	31.777 ppb	15:56:30
2	Si 251.611†	3636.4	3040.2	96.710 ug/L	96.710 ppb	15:56:10
2	Sn 189.927†	61.3	52.9	9.4050 ug/L	9.4050 ppb	15:56:30
2	Ti 334.940†	1760.6	3113.0	4.9865 ug/L	4.9865 ppb	15:56:10
2	Tl 190.801†	30.4	62.9	19.373 ug/L	19.373 ppb	15:56:30
2	U 409.014†	-258.3	1756.6	51.795 ug/L	51.795 ppb	15:56:05
2	V 292.402†	-620.8	696.8	4.9757 ug/L	4.9757 ppb	15:56:10
2	Zn 213.857†	1739.9	1097.8	10.327 ug/L	10.327 ppb	15:56:30
2	SiO2†	3663.0	3045.2	207.53 ug/L	207.53 ppb	15:57:11
3	Sc Radial	5096.0	5096.0	101 %		15:55:08
3	Y RADIAL	5494.9	5494.9	101.2 %		15:55:08
3	Al 396.153Radial†	257.4	255.0	196.26 ug/L	196.26 ppb	15:55:08
3	Ca 317.933Radial†	152.7	131.1	209.81 ug/L	209.81 ppb	15:55:28
3	Fe 238.204 Radial†	22.2	13.0	113.08 ug/L	113.08 ppb	15:55:28
3	K 766.490 Radial†	3509.4	877.4	160.45 ug/L	160.45 ppb	15:55:08
3	Mg 279.077 IEC†	14.2	12.1	405.35 ug/L	405.35 ppb	15:55:28
3	Na 589.592 Radial†	-336.1	948.3	283.95 ug/L	283.95 ppb	15:55:08
3	Sr 421.552†	768.2	778.5	5.0269 ug/L	5.0269 ppb	15:55:08
3	Sc 361.383	861164.6	861164.6	101.03 %		15:56:35
3	Y 371.029	729112.0	729112.0	100.89 %		15:56:35
3	Ag 328.068†	1387.3	1015.2	4.6835 ug/L	4.6835 ppb	15:56:40
3	As 188.979†	55.4	78.5	34.035 ug/L	34.035 ppb	15:57:00
3	B 249.677†	1643.5	2258.6	50.326 ug/L	50.326 ppb	15:56:40
3	Ba 233.527†	638.2	643.1	5.0353 ug/L	5.0353 ppb	15:57:00
3	Be 313.107†	8712.2	13208.9	5.0449 ug/L	5.0449 ppb	15:56:40
3	Cd 226.502†	255.5	457.0	5.0738 ug/L	5.0738 ppb	15:57:00
3	Co 228.616†	173.7	246.6	5.0596 ug/L	5.0596 ppb	15:57:00
3	Cr 267.716†	511.3	422.8	4.7150 ug/L	4.7150 ppb	15:57:00
3	Cu 324.752†	9895.0	3382.0	10.089 ug/L	10.089 ppb	15:56:40
3	Mn 257.610†	10072.8	9525.3	10.556 ug/L	10.556 ppb	15:56:40
3	Mo 202.031†	159.5	134.1	9.4889 ug/L	9.4889 ppb	15:57:00
3	Ni 231.604†	292.7	221.7	5.5183 ug/L	5.5183 ppb	15:57:00
3	P 214.914†	450.5	216.0	129.93 ug/L	129.93 ppb	15:57:00
3	Pb 220.353†	17.4	80.6	9.9220 ug/L	9.9220 ppb	15:57:00
3	S 181.975 Axial†	118.2	74.0	104.74 ug/L	104.74 ppb	15:57:00
3	Sb 206.836†	72.2	43.5	15.276 ug/L	15.276 ppb	15:57:00
3	Se 196.026†	25.2	56.9	37.088 ug/L	37.088 ppb	15:57:00
3	Si 251.611†	3690.4	3102.4	98.690 ug/L	98.690 ppb	15:56:40
3	Sn 189.927†	68.4	60.0	10.666 ug/L	10.666 ppb	15:57:00
3	Ti 334.940†	1925.1	3280.0	5.2497 ug/L	5.2497 ppb	15:56:40
3	Tl 190.801†	34.6	67.1	20.660 ug/L	20.660 ppb	15:57:00
3	U 409.014†	-183.2	1830.3	53.970 ug/L	53.970 ppb	15:56:35
3	V 292.402†	-609.9	706.0	5.0467 ug/L	5.0467 ppb	15:56:40
3	Zn 213.857†	1748.9	1110.8	10.447 ug/L	10.447 ppb	15:57:00
3	SiO2†	3709.4	3099.9	211.25 ug/L	211.25 ppb	15:57:16

Mean Data: PQL

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	861647.8	101.09	%	0.170				0.17%
Sc Radial	5048.1	100	%	0.9				0.87%
Y 371.029	728850.9	100.86	%	0.156				0.15%
Y RADIAL	5435.5	100.1	%	0.99				0.98%
Ag 328.068†	1035.3	4.7771	ug/L	0.32813	4.7771	ppb	0.32813	6.87%
QC value within limits for Ag 328.068 Recovery = 95.54%								
Al 396.153Radial†	262.4	201.97	ug/L	6.304	201.97	ppb	6.304	3.12%
QC value within limits for Al 396.153Radial Recovery = 100.98%								
As 188.979†	75.7	32.832	ug/L	2.3868	32.832	ppb	2.3868	7.27%
QC value within limits for As 188.979 Recovery = 109.44%								
B 249.677†	2204.7	49.125	ug/L	1.2678	49.125	ppb	1.2678	2.58%
QC value within limits for B 249.677 Recovery = 98.25%								
Ba 233.527†	640.9	5.0178	ug/L	0.12144	5.0178	ppb	0.12144	2.42%
QC value within limits for Ba 233.527 Recovery = 100.36%								
Be 313.107†	13025.9	4.9748	ug/L	0.06689	4.9748	ppb	0.06689	1.34%
QC value within limits for Be 313.107 Recovery = 99.50%								
Ca 317.933Radial†	130.8	209.31	ug/L	1.306	209.31	ppb	1.306	0.62%

```
   QC value within limits for Ca 317.933Radial  Recovery = 104.65%
Cd 226.502†              457.0      5.0723 ug/L       0.12828      5.0723 ppb        0.12828   2.53%
   QC value within limits for Cd 226.502  Recovery = 101.45%
Co 228.616†              241.7      4.9581 ug/L       0.10803      4.9581 ppb        0.10803   2.18%
   QC value within limits for Co 228.616  Recovery = 99.16%
Cr 267.716†              423.2      4.7197 ug/L       0.03971      4.7197 ppb        0.03971   0.84%
   QC value within limits for Cr 267.716  Recovery = 94.39%
Cu 324.752†             3319.1      9.9015 ug/L       0.21130      9.9015 ppb        0.21130   2.13%
   QC value within limits for Cu 324.752  Recovery = 99.02%
Fe 238.204 Radial†        13.4      116.39 ug/L        10.087      116.39 ppb         10.087   8.67%
   QC value within limits for Fe 238.204 Radial  Recovery = 116.39%
K 766.490 Radial†        870.6      159.20 ug/L         1.930      159.20 ppb          1.930   1.21%
   QC value within limits for K 766.490 Radial  Recovery = 106.13%
Mg 279.077 IEC†           10.3      343.29 ug/L        62.606      343.29 ppb         62.606  18.24%
   QC value within limits for Mg 279.077 IEC  Recovery = 114.43%
Mn 257.610†             9459.6      10.486 ug/L        0.0739      10.486 ppb         0.0739   0.70%
   QC value within limits for Mn 257.610  Recovery = 104.86%
Mo 202.031†              132.7      9.3891 ug/L       0.12572      9.3891 ppb        0.12572   1.34%
   QC value within limits for Mo 202.031  Recovery = 93.89%
Na 589.592 Radial†       971.8      290.97 ug/L         6.150      290.97 ppb          6.150   2.11%
   QC value within limits for Na 589.592 Radial  Recovery = 96.99%
Ni 231.604†              208.3      5.1829 ug/L       0.29347      5.1829 ppb        0.29347   5.66%
   QC value within limits for Ni 231.604  Recovery = 103.66%
P 214.914†               226.6      136.41 ug/L         5.672      136.41 ppb          5.672   4.16%
   QC value within limits for P 214.914  Recovery = 90.94%
Pb 220.353†               86.2      10.614 ug/L        1.3021      10.614 ppb         1.3021  12.27%
   QC value within limits for Pb 220.353  Recovery = 106.14%
S 181.975 Axial†          72.9      103.12 ug/L         4.313      103.12 ppb          4.313   4.18%
   QC value within limits for S 181.975 Axial  Recovery = 103.12%
Sb 206.836†               38.7      13.595 ug/L        2.2199      13.595 ppb         2.2199  16.33%
   QC value greater than the upper limit for Sb 206.836  Recovery = 135.95%
Se 196.026†               50.2      32.770 ug/L        3.9170      32.770 ppb         3.9170  11.95%
   QC value within limits for Se 196.026  Recovery = 109.23%
Si 251.611†             3068.4      97.609 ug/L        1.0021      97.609 ppb         1.0021   1.03%
   QC value within limits for Si 251.611  Recovery = 97.61%
Sn 189.927†               54.7      9.7281 ug/L       0.82548      9.7281 ppb        0.82548   8.49%
   QC value within limits for Sn 189.927  Recovery = 97.28%
Sr 421.552†              782.1      5.0501 ug/L       0.02599      5.0501 ppb        0.02599   0.51%
   QC value within limits for Sr 421.552  Recovery = 101.00%
Ti 334.940†             3176.7      5.0884 ug/L       0.14130      5.0884 ppb        0.14130   2.78%
   QC value within limits for Ti 334.940  Recovery = 101.77%
Tl 190.801†               67.9      20.896 ug/L        1.6541      20.896 ppb         1.6541   7.92%
   QC value within limits for Tl 190.801  Recovery = 104.48%
U 409.014†              1810.1      53.375 ug/L        1.3821      53.375 ppb         1.3821   2.59%
   QC value within limits for U 409.014  Recovery = 106.75%
V 292.402†               692.5      4.9505 ug/L       0.11108      4.9505 ppb        0.11108   2.24%
   QC value within limits for V 292.402  Recovery = 99.01%
Zn 213.857†             1114.1      10.480 ug/L        0.1711      10.480 ppb         0.1711   1.63%
   QC value within limits for Zn 213.857  Recovery = 104.80%
SiO2†                   3078.0      209.76 ug/L         1.971      209.76 ppb          1.971   0.94%
   QC value within limits for SiO2  Recovery = 98.48%
QC Failed.  Continue with analysis.
```

Sequence No.: 9
Sample ID: ICSA
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 13
Date Collected: 1/11/2010 15:59:26
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICSA

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	4554.2	4554.2	90.4	%			16:01:25
1	Y RADIAL	4880.1	4880.1	89.88	%			16:01:25
1	Al 396.153Radial†	588273.1	650416.6	501790	ug/L	501790	ppb	16:01:20
1	Ca 317.933Radial†	266503.8	294636.4	471450	ug/L	471450	ppb	16:01:20
1	Fe 238.204 Radial†	19366.6	21403.5	185230	ug/L	185230	ppb	16:01:25
1	K 766.490 Radial†	1955.5	-428.1	-236.05	ug/L	-236.05	ppb	16:01:20
1	Mg 279.077 IEC†	13060.3	14438.0	482210	ug/L	482210	ppb	16:01:25
1	Na 589.592 Radial†	-1089.1	76.3	22.843	ug/L	22.843	ppb	16:01:25
1	Sr 421.552†	532.5	608.3	0.4087	ug/L	0.4087	ppb	16:01:25
1	Sc 361.383	713940.1	713940.1	83.757	%			16:01:52
1	Y 371.029	590028.4	590028.4	81.646	%			16:01:52
1	Ag 328.068†	-9732.7	-11978.2	-1.5459	ug/L	-1.5459	ppb	16:01:52
1	As 188.979†	-99.1	-94.7	-4.6533	ug/L	-4.6533	ppb	16:02:12
1	B 249.677†	290.9	979.1	3.0617	ug/L	3.0617	ppb	16:01:52
1	Ba 233.527†	-441.1	-515.2	2.7787	ug/L	2.7787	ppb	16:02:12
1	Be 313.107†	-4427.5	-700.8	-0.3201	ug/L	-0.3201	ppb	16:01:52
1	Cd 226.502†	1281.6	1734.3	0.1201	ug/L	0.1201	ppb	16:02:12
1	Co 228.616†	-24.7	45.2	-1.7518	ug/L	-1.7518	ppb	16:02:12
1	Cr 267.716†	-113.7	-219.0	1.1722	ug/L	1.1722	ppb	16:02:12
1	Cu 324.752†	3876.8	-1783.6	4.4537	ug/L	4.4537	ppb	16:01:52
1	Mn 257.610†	1798.9	1702.9	2.8489	ug/L	2.8489	ppb	16:01:52
1	Mo 202.031†	-203.7	-266.9	-0.5853	ug/L	-0.5853	ppb	16:02:12
1	Ni 231.604†	186.0	154.1	3.8375	ug/L	3.8375	ppb	16:02:12
1	P 214.914†	194.2	2.0	-22.430	ug/L	-22.430	ppb	16:02:12
1	Pb 220.353†	-739.6	-819.7	-2.6514	ug/L	-2.6514	ppb	16:02:12
1	S 181.975 Axial†	83.2	56.3	-14.356	ug/L	-14.356	ppb	16:02:12
1	Sb 206.836†	78.9	66.3	7.7109	ug/L	7.7109	ppb	16:02:12
1	Se 196.026†	-829.4	-958.3	-0.6276	ug/L	-0.6276	ppb	16:02:12
1	Si 251.611†	584.3	147.1	4.9185	ug/L	4.9185	ppb	16:02:12
1	Sn 189.927†	-363.0	-441.0	-7.6066	ug/L	-7.6066	ppb	16:02:12
1	Ti 334.940†	-13311.2	-14518.2	-9.4664	ug/L	-9.4664	ppb	16:01:52
1	Tl 190.801†	-92.5	-77.6	-24.029	ug/L	-24.029	ppb	16:02:12
1	U 409.014†	-806.7	1048.4	9.8177	ug/L	9.8177	ppb	16:01:52
1	V 292.402†	1193.8	2735.1	-0.5070	ug/L	-0.5070	ppb	16:02:12
1	Zn 213.857†	2889.7	2829.8	8.7795	ug/L	8.7795	ppb	16:02:12
1	SiO2†	582.1	123.3	8.9247	ug/L	8.9247	ppb	16:03:09
2	Sc Radial	4313.1	4313.1	85.7	%			16:01:35
2	Y RADIAL	4611.6	4611.6	84.94	%			16:01:35
2	Al 396.153Radial†	593425.0	692788.0	534480	ug/L	534480	ppb	16:01:30
2	Ca 317.933Radial†	268523.4	313464.8	501570	ug/L	501570	ppb	16:01:30
2	Fe 238.204 Radial†	19406.2	22646.7	195990	ug/L	195990	ppb	16:01:35
2	K 766.490 Radial†	1950.8	-312.8	-224.98	ug/L	-224.98	ppb	16:01:30
2	Mg 279.077 IEC†	13084.6	15273.5	510110	ug/L	510110	ppb	16:01:35
2	Na 589.592 Radial†	-1067.0	34.7	10.403	ug/L	10.403	ppb	16:01:35
2	Sr 421.552†	533.6	642.4	0.4040	ug/L	0.4040	ppb	16:01:35
2	Sc 361.383	737937.7	737937.7	86.572	%			16:02:18
2	Y 371.029	608079.9	608079.9	84.144	%			16:02:18
2	Ag 328.068†	-9892.3	-11784.6	2.4125	ug/L	2.4125	ppb	16:02:18
2	As 188.979†	-78.0	-66.5	9.6873	ug/L	9.6873	ppb	16:02:38
2	B 249.677†	338.9	1023.3	2.9566	ug/L	2.9566	ppb	16:02:18
2	Ba 233.527†	-429.0	-484.2	3.4139	ug/L	3.4139	ppb	16:02:38
2	Be 313.107†	-4496.9	-609.1	-0.2857	ug/L	-0.2857	ppb	16:02:18
2	Cd 226.502†	1277.3	1679.5	-1.5978	ug/L	-1.5978	ppb	16:02:38
2	Co 228.616†	-4.6	69.3	-1.4096	ug/L	-1.4096	ppb	16:02:38
2	Cr 267.716†	-75.1	-170.0	1.9249	ug/L	1.9249	ppb	16:02:38
2	Cu 324.752†	3960.7	-1837.1	4.8577	ug/L	4.8577	ppb	16:02:18
2	Mn 257.610†	1638.0	1447.2	2.6255	ug/L	2.6255	ppb	16:02:18
2	Mo 202.031†	-196.8	-251.0	1.6332	ug/L	1.6332	ppb	16:02:38
2	Ni 231.604†	182.7	143.0	3.5611	ug/L	3.5611	ppb	16:02:38

2	P 214.914†	149.2	-57.6	-59.270 ug/L	-59.270 ppb	16:02:38
2	Pb 220.353†	-766.6	-822.2	3.5310 ug/L	3.5310 ppb	16:02:38
2	S 181.975 Axial†	77.6	46.6	-34.230 ug/L	-34.230 ppb	16:02:38
2	Sb 206.836†	81.2	65.8	6.7812 ug/L	6.7812 ppb	16:02:38
2	Se 196.026†	-833.9	-931.2	52.847 ug/L	52.847 ppb	16:02:38
2	Si 251.611†	566.0	103.3	3.5085 ug/L	3.5085 ppb	16:02:38
2	Sn 189.927†	-349.6	-411.4	2.1266 ug/L	2.1266 ppb	16:02:38
2	Ti 334.940†	-13871.4	-14648.4	-8.5522 ug/L	-8.5522 ppb	16:02:18
2	Tl 190.801†	-88.7	-69.6	-21.566 ug/L	-21.566 ppb	16:02:38
2	U 409.014†	-550.7	1375.6	18.240 ug/L	18.240 ppb	16:02:18
2	V 292.402†	1235.3	2736.6	-1.5657 ug/L	-1.5657 ppb	16:02:38
2	Zn 213.857†	2899.2	2728.7	6.7812 ug/L	6.7812 ppb	16:02:38
2	SiO2†	581.9	100.4	7.3361 ug/L	7.3361 ppb	16:03:14
3	Sc Radial	4458.8	4458.8	88.6 %		16:01:46
3	Y RADIAL	4803.8	4803.8	88.48 %		16:01:46
3	Al 396.153Radial†	578946.6	653797.4	504400 ug/L	504400 ppb	16:01:41
3	Ca 317.933Radial†	262181.2	296058.0	473720 ug/L	473720 ppb	16:01:41
3	Fe 238.204 Radial†	19015.6	21465.1	185760 ug/L	185760 ppb	16:01:46
3	K 766.490 Radial†	2134.1	-180.1	-191.31 ug/L	-191.31 ppb	16:01:41
3	Mg 279.077 IEC†	12793.9	14446.1	482470 ug/L	482470 ppb	16:01:46
3	Na 589.592 Radial†	-1160.2	-29.7	-8.9041 ug/L	-8.9041 ppb	16:01:46
3	Sr 421.552†	507.6	592.7	0.2912 ug/L	0.2912 ppb	16:01:46
3	Sc 361.383	734225.6	734225.6	86.136 %		16:02:43
3	Y 371.029	605159.6	605159.6	83.740 %		16:02:43
3	Ag 328.068†	-9811.2	-11748.3	-0.3445 ug/L	-0.3445 ppb	16:02:43
3	As 188.979†	-59.0	-44.9	17.049 ug/L	17.049 ppb	16:03:03
3	B 249.677†	274.8	950.8	2.3769 ug/L	2.3769 ppb	16:02:43
3	Ba 233.527†	-432.5	-490.7	2.9891 ug/L	2.9891 ppb	16:03:03
3	Be 313.107†	-4458.8	-591.0	-0.2778 ug/L	-0.2778 ppb	16:02:43
3	Cd 226.502†	1332.5	1751.1	0.2507 ug/L	0.2507 ppb	16:03:03
3	Co 228.616†	-17.0	54.9	-1.5635 ug/L	-1.5635 ppb	16:03:03
3	Cr 267.716†	-65.1	-158.8	1.8559 ug/L	1.8559 ppb	16:03:03
3	Cu 324.752†	4004.3	-1763.4	4.5436 ug/L	4.5436 ppb	16:02:43
3	Mn 257.610†	1713.0	1543.9	2.7211 ug/L	2.7211 ppb	16:02:43
3	Mo 202.031†	-224.2	-284.0	-1.7335 ug/L	-1.7335 ppb	16:03:03
3	Ni 231.604†	181.0	142.1	3.5382 ug/L	3.5382 ppb	16:03:03
3	P 214.914†	146.4	-59.9	-60.032 ug/L	-60.032 ppb	16:03:03
3	Pb 220.353†	-752.0	-809.7	-0.8858 ug/L	-0.8858 ppb	16:03:03
3	S 181.975 Axial†	75.4	44.5	-31.507 ug/L	-31.507 ppb	16:03:03
3	Sb 206.836†	51.1	31.4	-4.2766 ug/L	-4.2766 ppb	16:03:03
3	Se 196.026†	-823.4	-923.9	23.370 ug/L	23.370 ppb	16:03:03
3	Si 251.611†	591.3	136.0	4.5784 ug/L	4.5784 ppb	16:03:03
3	Sn 189.927†	-357.4	-422.6	-4.0082 ug/L	-4.0082 ppb	16:03:03
3	Ti 334.940†	-13567.2	-14376.3	-9.0016 ug/L	-9.0016 ppb	16:02:43
3	Tl 190.801†	-92.5	-74.5	-23.072 ug/L	-23.072 ppb	16:03:03
3	U 409.014†	-897.2	970.0	7.4415 ug/L	7.4415 ppb	16:02:43
3	V 292.402†	1185.5	2686.0	-0.9411 ug/L	-0.9411 ppb	16:03:03
3	Zn 213.857†	2915.0	2763.9	8.1058 ug/L	8.1058 ppb	16:03:03
3	SiO2†	561.2	79.9	5.9978 ug/L	5.9978 ppb	16:03:19

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	728701.1	85.488	%	1.5154				1.77%
Sc Radial	4442.1	88.2	%	2.41				2.73%
Y 371.029	601089.3	83.176	%	1.3408				1.61%
Y RADIAL	4765.2	87.77	%	2.548				2.90%
Ag 328.068†	-11837.0	0.1741	ug/L	2.02949	0.1741	ppb	2.02949	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	665667.3	513550	ug/L	18166.9	513550	ppb	18166.9	3.54%
QC value within limits for Al 396.153Radial Recovery = 102.71%								
As 188.979†	-68.7	7.3611	ug/L	11.03681	7.3611	ppb	11.03681	149.93%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	984.4	2.7984	ug/L	0.36879	2.7984	ppb	0.36879	13.18%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-496.7	3.0606	ug/L	0.32361	3.0606	ppb	0.32361	10.57%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-633.6	-0.2945	ug/L	0.02251	-0.2945	ppb	0.02251	7.64%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	301386.4	482250	ug/L	16776.0	482250	ppb	16776.0	3.48%

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   QC value within limits for Ca 317.933Radial  Recovery = 96.45%
Cd 226.502†            1721.6     -0.4090 ug/L       1.03158     -0.4090 ppb        1.03158 252.21%
   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              56.5     -1.5750 ug/L       0.17142     -1.5750 ppb        0.17142  10.88%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†            -182.6      1.6510 ug/L       0.41608      1.6510 ppb        0.41608  25.20%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†           -1794.7      4.6183 ug/L       0.21212      4.6183 ppb        0.21212   4.59%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†    21838.5    188990 ug/L        6063.4     188990 ppb         6063.4   3.21%
   QC value within limits for Fe 238.204 Radial  Recovery = 94.50%
K 766.490 Radial†      -307.0     -217.45 ug/L       23.302     -217.45 ppb         23.302  10.72%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†       14719.2    491600 ug/L       16033.9     491600 ppb        16033.9   3.26%
   QC value within limits for Mg 279.077 IEC  Recovery = 98.32%
Mn 257.610†            1564.6      2.7318 ug/L       0.11211      2.7318 ppb        0.11211   4.10%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†            -267.3     -0.2285 ug/L       1.71148     -0.2285 ppb        1.71148 748.88%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†       27.1      8.1139 ug/L      15.99672      8.1139 ppb       15.99672 197.15%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†             146.4      3.6456 ug/L       0.16660      3.6456 ppb        0.16660   4.57%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†              -38.5     -47.244 ug/L       21.4927     -47.244 ppb        21.4927  45.49%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†            -817.2     -0.0021 ug/L       3.18456     -0.0021 ppb        3.18456 >999.9%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         49.1     -26.698 ug/L       10.7748     -26.698 ppb        10.7748  40.36%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†              54.5      3.4051 ug/L       6.66881      3.4051 ppb        6.66881 195.85%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†            -937.8      25.196 ug/L       26.7838      25.196 ppb        26.7838 106.30%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†             128.8      4.3352 ug/L       0.73581      4.3352 ppb        0.73581  16.97%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†            -425.0     -3.1627 ug/L       4.92134     -3.1627 ppb        4.92134 155.60%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†             614.5      0.3680 ug/L       0.06654      0.3680 ppb        0.06654  18.08%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†          -14514.3     -9.0067 ug/L       0.45711     -9.0067 ppb        0.45711   5.08%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†             -73.9     -22.889 ug/L        1.2413     -22.889 ppb         1.2413   5.42%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†             1131.3      11.833 ug/L        5.6743      11.833 ppb         5.6743  47.95%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†             2719.2     -1.0046 ug/L       0.53220     -1.0046 ppb        0.53220  52.98%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†            2774.1      7.8888 ug/L       1.01667      7.8888 ppb        1.01667  12.89%
   QC value within limits for Zn 213.857  Recovery = Not calculated
SiO2†                   101.2      7.4195 ug/L       1.46525      7.4195 ppb        1.46525  19.75%
   QC value within limits for SiO2  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 10
Sample ID: ICSAB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 14
Date Collected: 1/11/2010 16:05:30
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICSAB

Rep1#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	4469.6	4469.6	88.8	%			16:07:27
1	Y RADIAL	4809.0	4809.0	88.57	%			16:07:27
1	Al 396.153Radial†	589484.3	664101.1	512320	ug/L	512320	ppb	16:07:22
1	Ca 317.933Radial†	265752.0	299370.7	479020	ug/L	479020	ppb	16:07:22
1	Fe 238.204 Radial†	19164.5	21581.4	186780	ug/L	186780	ppb	16:07:27
1	K 766.490 Radial†	29032.3	30117.0	5349.0	ug/L	5349.0	ppb	16:07:22
1	Mg 279.077 IEC†	12958.7	14597.1	487520	ug/L	487520	ppb	16:07:27
1	Na 589.592 Radial†	15352.0	18575.7	5561.8	ug/L	5561.8	ppb	16:07:27
1	Sr 421.552†	69848.9	78709.8	504.80	ug/L	504.80	ppb	16:07:22
1	Sc 361.383	733242.9	733242.9	86.021	%			16:07:55
1	Y 371.029	603990.2	603990.2	83.578	%			16:07:55
1	Ag 328.068†	41150.7	47479.9	274.18	ug/L	274.18	ppb	16:07:55
1	As 188.979†	942.0	1118.8	522.69	ug/L	522.69	ppb	16:08:15
1	B 249.677†	20042.0	23930.7	513.29	ug/L	513.29	ppb	16:07:55
1	Ba 233.527†	54223.8	63046.9	500.15	ug/L	500.15	ppb	16:07:55
1	Be 313.107†	552945.6	647387.0	247.79	ug/L	247.79	ppb	16:07:55
1	Cd 226.502†	37791.5	44136.9	470.86	ug/L	470.86	ppb	16:07:55
1	Co 228.616†	18898.2	22043.9	448.66	ug/L	448.66	ppb	16:08:15
1	Cr 267.716†	37112.9	43060.7	485.60	ug/L	485.60	ppb	16:07:55
1	Cu 324.752†	163461.5	183612.5	558.64	ug/L	558.64	ppb	16:07:55
1	Mn 257.610†	377253.8	438114.2	486.61	ug/L	486.61	ppb	16:07:55
1	Mo 202.031†	5893.7	6827.7	501.02	ug/L	501.02	ppb	16:08:15
1	Ni 231.604†	15601.4	18068.8	449.64	ug/L	449.64	ppb	16:08:15
1	P 214.914†	3772.2	4155.3	2402.3	ug/L	2402.3	ppb	16:08:15
1	Pb 220.353†	2538.3	3014.1	469.98	ug/L	469.98	ppb	16:08:15
1	S 181.975 Axial†	1708.1	1942.6	2653.1	ug/L	2653.1	ppb	16:08:15
1	Sb 206.836†	1381.1	1577.6	543.20	ug/L	543.20	ppb	16:08:15
1	Se 196.026†	2597.7	3051.8	2590.6	ug/L	2590.6	ppb	16:08:15
1	Si 251.611†	143466.2	166229.6	5288.2	ug/L	5288.2	ppb	16:07:55
1	Sn 189.927†	2072.9	2402.1	497.21	ug/L	497.21	ppb	16:08:15
1	Ti 334.940†	261822.7	305744.6	506.54	ug/L	506.54	ppb	16:07:55
1	Tl 190.801†	1235.3	1469.0	453.76	ug/L	453.76	ppb	16:08:15
1	U 409.014†	13895.2	18164.8	513.49	ug/L	513.49	ppb	16:07:55
1	V 292.402†	64913.2	76771.6	512.44	ug/L	512.44	ppb	16:07:55
1	Zn 213.857†	48411.3	55658.1	504.70	ug/L	504.70	ppb	16:07:55
1	SiO2†	146220.1	169409.8	11546	ug/L	11546	ppb	16:09:13
2	Sc Radial	4482.5	4482.5	89.0	%			16:07:37
2	Y RADIAL	4833.9	4833.9	89.03	%			16:07:37
2	Al 396.153Radial†	596758.8	670353.8	517150	ug/L	517150	ppb	16:07:32
2	Ca 317.933Radial†	268788.3	301916.4	483100	ug/L	483100	ppb	16:07:32
2	Fe 238.204 Radial†	19305.8	21677.7	187620	ug/L	187620	ppb	16:07:37
2	K 766.490 Radial†	29387.3	30421.3	5403.4	ug/L	5403.4	ppb	16:07:32
2	Mg 279.077 IEC†	13078.8	14689.8	490620	ug/L	490620	ppb	16:07:37
2	Na 589.592 Radial†	15393.1	18571.9	5560.7	ug/L	5560.7	ppb	16:07:37
2	Sr 421.552†	70603.2	79329.8	508.78	ug/L	508.78	ppb	16:07:32
2	Sc 361.383	737995.2	737995.2	86.579	%			16:08:21
2	Y 371.029	608619.5	608619.5	84.218	%			16:08:21
2	Ag 328.068†	41527.3	47606.8	274.98	ug/L	274.98	ppb	16:08:21
2	As 188.979†	945.9	1116.1	521.71	ug/L	521.71	ppb	16:08:41
2	B 249.677†	20299.3	24077.9	516.49	ug/L	516.49	ppb	16:08:21
2	Ba 233.527†	54397.7	62841.8	498.58	ug/L	498.58	ppb	16:08:21
2	Be 313.107†	555552.7	646258.9	247.36	ug/L	247.36	ppb	16:08:21
2	Cd 226.502†	37861.3	43934.5	468.53	ug/L	468.53	ppb	16:08:21
2	Co 228.616†	18993.1	22012.0	447.99	ug/L	447.99	ppb	16:08:41
2	Cr 267.716†	37212.9	42898.3	483.80	ug/L	483.80	ppb	16:08:21
2	Cu 324.752†	164184.5	183223.9	557.53	ug/L	557.53	ppb	16:08:21
2	Mn 257.610†	377987.3	436137.4	484.39	ug/L	484.39	ppb	16:08:21
2	Mo 202.031†	5898.1	6788.7	498.37	ug/L	498.37	ppb	16:08:41
2	Ni 231.604†	15639.9	17996.4	447.84	ug/L	447.84	ppb	16:08:41

2	P 214.914†	3764.0	4117.6	2380.0	ug/L	2380.0 ppb	16:08:41
2	Pb 220.353†	2527.3	2982.4	467.12	ug/L	467.12 ppb	16:08:41
2	S 181.975 Axial†	1734.4	1960.2	2677.1	ug/L	2677.1 ppb	16:08:41
2	Sb 206.836†	1373.1	1558.1	536.24	ug/L	536.24 ppb	16:08:41
2	Se 196.026†	2597.7	3032.4	2581.0	ug/L	2581.0 ppb	16:08:41
2	Si 251.611†	144086.2	165871.8	5276.8	ug/L	5276.8 ppb	16:08:21
2	Sn 189.927†	2066.7	2379.4	493.77	ug/L	493.77 ppb	16:08:41
2	Ti 334.940†	262922.7	305055.0	505.64	ug/L	505.64 ppb	16:08:21
2	Tl 190.801†	1230.9	1454.6	449.33	ug/L	449.33 ppb	16:08:41
2	U 409.014†	13731.9	17872.2	504.76	ug/L	504.76 ppb	16:08:21
2	V 292.402†	65177.6	76591.0	511.08	ug/L	511.08 ppb	16:08:21
2	Zn 213.857†	48545.6	55450.8	502.67	ug/L	502.67 ppb	16:08:21
2	SiO2†	145974.6	168031.6	11452	ug/L	11452 ppb	16:09:18
3	Sc Radial	4634.8	4634.8	92.0	%		16:07:48
3	Y RADIAL	4938.0	4938.0	90.95	%		16:07:48
3	Al 396.153Radial†	592956.6	644189.1	496960	ug/L	496960 ppb	16:07:43
3	Ca 317.933Radial†	267381.8	290463.9	464770	ug/L	464770 ppb	16:07:43
3	Fe 238.204 Radial†	19723.7	21419.0	185380	ug/L	185380 ppb	16:07:48
3	K 766.490 Radial†	29237.8	29173.8	5180.8	ug/L	5180.8 ppb	16:07:43
3	Mg 279.077 IEC†	13294.3	14441.1	482310	ug/L	482310 ppb	16:07:48
3	Na 589.592 Radial†	15764.7	18407.2	5511.3	ug/L	5511.3 ppb	16:07:48
3	Sr 421.552†	70214.2	76300.3	489.35	ug/L	489.35 ppb	16:07:43
3	Sc 361.383	739056.4	739056.4	86.703	%		16:08:47
3	Y 371.029	609358.3	609358.3	84.321	%		16:08:47
3	Ag 328.068†	41608.9	47632.1	274.62	ug/L	274.62 ppb	16:08:47
3	As 188.979†	929.1	1095.3	512.22	ug/L	512.22 ppb	16:09:07
3	B 249.677†	20332.9	24083.0	516.83	ug/L	516.83 ppb	16:08:47
3	Ba 233.527†	54550.3	62927.6	499.17	ug/L	499.17 ppb	16:08:47
3	Be 313.107†	558331.1	648542.1	248.23	ug/L	248.23 ppb	16:08:47
3	Cd 226.502†	38038.4	44076.1	470.33	ug/L	470.33 ppb	16:08:47
3	Co 228.616†	19038.4	22032.7	448.46	ug/L	448.46 ppb	16:09:07
3	Cr 267.716†	37415.7	43070.5	485.69	ug/L	485.69 ppb	16:08:47
3	Cu 324.752†	164933.9	183816.0	559.18	ug/L	559.18 ppb	16:08:47
3	Mn 257.610†	379307.2	437032.8	485.47	ug/L	485.47 ppb	16:08:47
3	Mo 202.031†	5959.2	6849.4	502.29	ug/L	502.29 ppb	16:09:07
3	Ni 231.604†	15702.5	18042.6	448.99	ug/L	448.99 ppb	16:09:07
3	P 214.914†	3787.4	4138.4	2389.1	ug/L	2389.1 ppb	16:09:07
3	Pb 220.353†	2520.7	2970.7	461.27	ug/L	461.27 ppb	16:09:07
3	S 181.975 Axial†	1738.7	1962.3	2683.9	ug/L	2683.9 ppb	16:09:07
3	Sb 206.836†	1379.5	1563.1	538.63	ug/L	538.63 ppb	16:09:07
3	Se 196.026†	2613.4	3046.2	2581.7	ug/L	2581.7 ppb	16:09:07
3	Si 251.611†	144664.3	166299.5	5290.4	ug/L	5290.4 ppb	16:08:47
3	Sn 189.927†	2078.2	2389.2	492.86	ug/L	492.86 ppb	16:09:07
3	Ti 334.940†	263667.7	305478.3	504.93	ug/L	504.93 ppb	16:08:47
3	Tl 190.801†	1247.7	1471.8	454.64	ug/L	454.64 ppb	16:09:07
3	U 409.014†	13855.3	17991.8	508.54	ug/L	508.54 ppb	16:08:47
3	V 292.402†	65506.8	76862.6	513.19	ug/L	513.19 ppb	16:08:47
3	Zn 213.857†	48718.7	55569.9	504.00	ug/L	504.00 ppb	16:08:47
3	SiO2†	143683.8	165147.4	11255	ug/L	11255 ppb	16:09:23

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	736764.8	86.434	%	0.3632				0.42%
Sc Radial	4529.0	89.9	%	1.83				2.03%
Y 371.029	607322.6	84.039	%	0.4026				0.48%
Y RADIAL	4860.3	89.52	%	1.261				1.41%
Ag 328.068†	47572.9	274.59	ug/L	0.401	274.59	ppb	0.401	0.15%
QC value within limits for Ag 328.068 Recovery = 109.84%								
Al 396.153Radial†	659548.0	508810	ug/L	10541.4	508810	ppb	10541.4	2.07%
QC value within limits for Al 396.153Radial Recovery = 101.76%								
As 188.979†	1110.0	518.87	ug/L	5.780	518.87	ppb	5.780	1.11%
QC value within limits for As 188.979 Recovery = 103.77%								
B 249.677†	24030.5	515.54	ug/L	1.951	515.54	ppb	1.951	0.38%
QC value within limits for B 249.677 Recovery = 103.11%								
Ba 233.527†	62938.7	499.30	ug/L	0.795	499.30	ppb	0.795	0.16%
QC value within limits for Ba 233.527 Recovery = 99.86%								
Be 313.107†	647396.0	247.79	ug/L	0.436	247.79	ppb	0.436	0.18%
QC value within limits for Be 313.107 Recovery = 99.12%								
Ca 317.933Radial†	297250.3	475630	ug/L	9622.1	475630	ppb	9622.1	2.02%

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   QC value within limits for Ca 317.933Radial  Recovery = 95.13%
Cd 226.502†            44049.2      469.91 ug/L         1.224      469.91 ppb          1.224   0.26%
   QC value within limits for Cd 226.502  Recovery = 93.98%
Co 228.616†            22029.6      448.37 ug/L         0.343      448.37 ppb          0.343   0.08%
   QC value within limits for Co 228.616  Recovery = 89.67%
Cr 267.716†            43009.8      485.03 ug/L         1.063      485.03 ppb          1.063   0.22%
   QC value within limits for Cr 267.716  Recovery = 97.01%
Cu 324.752†           183550.8      558.45 ug/L         0.842      558.45 ppb          0.842   0.15%
   QC value within limits for Cu 324.752  Recovery = 111.69%
Fe 238.204 Radial†     21559.4      186590 ug/L        1131.9      186590 ppb         1131.9   0.61%
   QC value within limits for Fe 238.204 Radial  Recovery = 93.30%
K 766.490 Radial†      29904.0      5311.1 ug/L        116.05      5311.1 ppb         116.05   2.19%
   QC value within limits for K 766.490 Radial  Recovery = 106.22%
Mg 279.077 IEC†        14576.0      486820 ug/L        4198.7      486820 ppb         4198.7   0.86%
   QC value within limits for Mg 279.077 IEC  Recovery = 97.36%
Mn 257.610†           437094.8      485.49 ug/L         1.113      485.49 ppb          1.113   0.23%
   QC value within limits for Mn 257.610  Recovery = 97.10%
Mo 202.031†             6821.9      500.56 ug/L         2.000      500.56 ppb          2.000   0.40%
   QC value within limits for Mo 202.031  Recovery = 100.11%
Na 589.592 Radial†     18518.3      5544.6 ug/L         28.80      5544.6 ppb          28.80   0.52%
   QC value within limits for Na 589.592 Radial  Recovery = 110.89%
Ni 231.604†            18035.9      448.83 ug/L         0.913      448.83 ppb          0.913   0.20%
   QC value within limits for Ni 231.604  Recovery = 89.77%
P 214.914†              4137.1      2390.4 ug/L         11.21      2390.4 ppb          11.21   0.47%
   QC value within limits for P 214.914  Recovery = 95.62%
Pb 220.353†             2989.1      466.12 ug/L         4.440      466.12 ppb          4.440   0.95%
   QC value within limits for Pb 220.353  Recovery = 93.22%
S 181.975 Axial†        1955.1      2671.4 ug/L         16.16      2671.4 ppb          16.16   0.61%
   QC value within limits for S 181.975 Axial  Recovery = 106.86%
Sb 206.836†             1566.3      539.36 ug/L         3.534      539.36 ppb          3.534   0.66%
   QC value within limits for Sb 206.836  Recovery = 107.87%
Se 196.026†             3043.4      2584.5 ug/L          5.36      2584.5 ppb           5.36   0.21%
   QC value within limits for Se 196.026  Recovery = 103.38%
Si 251.611†           166133.6      5285.2 ug/L          7.28      5285.2 ppb           7.28   0.14%
   QC value within limits for Si 251.611  Recovery = 105.70%
Sn 189.927†             2390.2      494.61 ug/L         2.289      494.61 ppb          2.289   0.46%
   QC value within limits for Sn 189.927  Recovery = 98.92%
Sr 421.552†            78113.3      500.98 ug/L        10.265      500.98 ppb         10.265   2.05%
   QC value within limits for Sr 421.552  Recovery = 100.20%
Ti 334.940†           305426.0      505.70 ug/L         0.808      505.70 ppb          0.808   0.16%
   QC value within limits for Ti 334.940  Recovery = 101.14%
Tl 190.801†             1465.1      452.58 ug/L         2.842      452.58 ppb          2.842   0.63%
   QC value within limits for Tl 190.801  Recovery = 90.52%
U 409.014†             18009.6      508.93 ug/L         4.374      508.93 ppb          4.374   0.86%
   QC value within limits for U 409.014  Recovery = 101.79%
V 292.402†             76741.8      512.24 ug/L         1.067      512.24 ppb          1.067   0.21%
   QC value within limits for V 292.402  Recovery = 102.45%
Zn 213.857†            55559.6      503.79 ug/L         1.031      503.79 ppb          1.031   0.20%
   QC value within limits for Zn 213.857  Recovery = 100.76%
SiO2†                 167529.6       11418 ug/L         148.4       11418 ppb          148.4   1.30%
   QC value within limits for SiO2  Recovery = 106.76%
All analyte(s) passed QC.
```

Sequence No.: 11
Sample ID: LR1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 15
Date Collected: 1/11/2010 16:11:34
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	4437.1	4437.1	88.1	%			16:13:31
1	Y RADIAL	4779.6	4779.6	88.03	%			16:13:31
1	Al 396.153Radial†	570573.2	647502.8	499540	ug/L	499540	ppb	16:13:26
1	Ca 317.933Radial†	256964.9	291591.1	466570	ug/L	466570	ppb	16:13:26
1	Fe 238.204 Radial†	43538.9	49400.2	427520	ug/L	427520	ppb	16:13:31
1	K 766.490 Radial†	3585.3	1478.6	-161.78	ug/L	-161.78	ppb	16:13:26
1	Mg 279.077 IEC†	12496.5	14179.5	473320	ug/L	473320	ppb	16:13:31
1	Na 589.592 Radial†	1462340.2	1660784.5	497260	ug/L	497260	ppb	16:13:26
1	Sr 421.552†	705.4	820.0	1.8125	ug/L	1.8125	ppb	16:13:31
1	Sc 361.383	717381.5	717381.5	84.160	%			16:13:59
1	Y 371.029	593191.9	593191.9	82.084	%			16:13:59
1	Ag 328.068†	-22544.0	-27144.9	-4.8683	ug/L	-4.8683	ppb	16:13:59
1	As 188.979†	-182.6	-193.3	0.3508	ug/L	0.3508	ppb	16:14:19
1	B 249.677†	1714.1	2668.6	16.167	ug/L	16.167	ppb	16:13:59
1	Ba 233.527†	-1281.5	-1511.3	3.8804	ug/L	3.8804	ppb	16:14:19
1	Be 313.107†	-11195.4	-8717.1	-3.3744	ug/L	-3.3744	ppb	16:13:59
1	Cd 226.502†	3286.5	4109.1	4.3236	ug/L	4.3236	ppb	16:14:19
1	Co 228.616†	204.3	317.5	0.2605	ug/L	0.2605	ppb	16:14:19
1	Cr 267.716†	-58.9	-153.2	0.7866	ug/L	0.7866	ppb	16:14:19
1	Cu 324.752†	1322.8	-4840.4	-0.0414	ug/L	-0.0414	ppb	16:13:59
1	Mn 257.610†	-18590.9	-22534.8	3.3888	ug/L	3.3888	ppb	16:13:59
1	Mo 202.031†	-460.9	-571.3	-5.5879	ug/L	-5.5879	ppb	16:14:19
1	Ni 231.604†	239.7	216.9	5.3963	ug/L	5.3963	ppb	16:14:19
1	P 214.914†	545.7	418.6	38.508	ug/L	38.508	ppb	16:14:19
1	Pb 220.353†	-536.8	-574.5	3.6095	ug/L	3.6095	ppb	16:14:19
1	S 181.975 Axial†	110.4	88.2	31.183	ug/L	31.183	ppb	16:14:19
1	Sb 206.836†	59.5	42.8	-0.8075	ug/L	-0.8075	ppb	16:14:19
1	Se 196.026†	-1922.8	-2252.6	-61.956	ug/L	-61.956	ppb	16:14:19
1	Si 251.611†	-256.1	-854.8	-26.726	ug/L	-26.726	ppb	16:14:19
1	Sn 189.927†	-404.2	-488.0	-12.538	ug/L	-12.538	ppb	16:14:19
1	Ti 334.940†	-13335.9	-14471.3	-15.725	ug/L	-15.725	ppb	16:13:59
1	Tl 190.801†	-102.1	-88.5	-27.535	ug/L	-27.535	ppb	16:14:19
1	U 409.014†	420670.5	501855.4	14756	ug/L	14756	ppb	16:13:59
1	V 292.402†	3161.2	5065.9	6.1761	ug/L	6.1761	ppb	16:14:19
1	Zn 213.857†	5617.3	6054.3	15.776	ug/L	15.776	ppb	16:14:19
1	SiO2†	-255.6	-875.3	-58.627	ug/L	-58.627	ppb	16:15:16
2	Sc Radial	4444.7	4444.7	88.3	%			16:13:42
2	Y RADIAL	4767.1	4767.1	87.80	%			16:13:42
2	Al 396.153Radial†	570446.8	646252.1	498580	ug/L	498580	ppb	16:13:37
2	Ca 317.933Radial†	257026.3	291161.8	465890	ug/L	465890	ppb	16:13:37
2	Fe 238.204 Radial†	43407.6	49166.9	425500	ug/L	425500	ppb	16:13:42
2	K 766.490 Radial†	3497.9	1372.5	-179.48	ug/L	-179.48	ppb	16:13:37
2	Mg 279.077 IEC†	12459.3	14113.1	471100	ug/L	471100	ppb	16:13:42
2	Na 589.592 Radial†	1456824.9	1651697.6	494540	ug/L	494540	ppb	16:13:37
2	Sr 421.552†	676.9	786.3	1.6000	ug/L	1.6000	ppb	16:13:42
2	Sc 361.383	714481.0	714481.0	83.820	%			16:14:25
2	Y 371.029	589648.5	589648.5	81.593	%			16:14:25
2	Ag 328.068†	-22728.5	-27473.7	-7.0546	ug/L	-7.0546	ppb	16:14:25
2	As 188.979†	-198.6	-213.3	-8.7227	ug/L	-8.7227	ppb	16:14:45
2	B 249.677†	1700.9	2661.1	16.205	ug/L	16.205	ppb	16:14:25
2	Ba 233.527†	-1334.4	-1580.5	3.2659	ug/L	3.2659	ppb	16:14:45
2	Be 313.107†	-11238.0	-8821.9	-3.4141	ug/L	-3.4141	ppb	16:14:25
2	Cd 226.502†	3283.9	4121.8	4.6798	ug/L	4.6798	ppb	16:14:45
2	Co 228.616†	210.5	325.8	0.4624	ug/L	0.4624	ppb	16:14:45
2	Cr 267.716†	13.0	-67.7	1.6900	ug/L	1.6900	ppb	16:14:45
2	Cu 324.752†	1337.1	-4817.0	-0.0968	ug/L	-0.0968	ppb	16:14:25
2	Mn 257.610†	-18508.4	-22525.9	3.2638	ug/L	3.2638	ppb	16:14:25
2	Mo 202.031†	-444.3	-553.8	-4.4944	ug/L	-4.4944	ppb	16:14:45
2	Ni 231.604†	242.8	221.7	5.5161	ug/L	5.5161	ppb	16:14:45

2	P 214.914†	534.8	408.1	33.511	ug/L	33.511 ppb	16:14:45
2	Pb 220.353†	-534.5	-574.3	3.6051	ug/L	3.6051 ppb	16:14:45
2	S 181.975 Axial†	118.3	98.1	45.374	ug/L	45.374 ppb	16:14:45
2	Sb 206.836†	36.9	16.1	-9.8346	ug/L	-9.8346 ppb	16:14:45
2	Se 196.026†	-1916.7	-2254.7	-69.767	ug/L	-69.767 ppb	16:14:45
2	Si 251.611†	-296.1	-903.7	-28.300	ug/L	-28.300 ppb	16:14:45
2	Sn 189.927†	-389.6	-472.5	-9.9307	ug/L	-9.9307 ppb	16:14:45
2	Ti 334.940†	-13239.2	-14420.3	-15.554	ug/L	-15.554 ppb	16:14:25
2	Tl 190.801†	-90.9	-75.6	-23.594	ug/L	-23.594 ppb	16:14:45
2	U 409.014†	419923.4	502993.3	14790	ug/L	14790 ppb	16:14:25
2	V 292.402†	3152.1	5070.3	6.5539	ug/L	6.5539 ppb	16:14:45
2	Zn 213.857†	5598.1	6058.5	16.011	ug/L	16.011 ppb	16:14:45
2	SiO2†	-335.2	-971.6	-65.230	ug/L	-65.230 ppb	16:15:21
3	Sc Radial	4407.6	4407.6	87.5	%		16:13:52
3	Y RADIAL	4705.1	4705.1	86.66	%		16:13:52
3	Al 396.153Radial†	570884.8	652181.5	503150	ug/L	503150 ppb	16:13:47
3	Ca 317.933Radial†	256834.6	293388.9	469450	ug/L	469450 ppb	16:13:47
3	Fe 238.204 Radial†	43209.0	49353.2	427110	ug/L	427110 ppb	16:13:52
3	K 766.490 Radial†	3501.2	1409.6	-176.86	ug/L	-176.86 ppb	16:13:47
3	Mg 279.077 IEC†	12409.5	14174.7	473160	ug/L	473160 ppb	16:13:52
3	Na 589.592 Radial†	1460322.3	1669557.9	499890	ug/L	499890 ppb	16:13:47
3	Sr 421.552†	734.4	858.5	2.0393	ug/L	2.0393 ppb	16:13:52
3	Sc 361.383	723948.7	723948.7	84.931	%		16:14:51
3	Y 371.029	598389.1	598389.1	82.803	%		16:14:51
3	Ag 328.068†	-22796.8	-27199.6	-5.3293	ug/L	-5.3293 ppb	16:14:51
3	As 188.979†	-194.3	-205.2	-4.8896	ug/L	-4.8896 ppb	16:15:11
3	B 249.677†	1601.8	2517.9	12.848	ug/L	12.848 ppb	16:14:51
3	Ba 233.527†	-1246.6	-1456.4	4.2918	ug/L	4.2918 ppb	16:15:11
3	Be 313.107†	-11266.6	-8680.3	-3.3605	ug/L	-3.3605 ppb	16:14:51
3	Cd 226.502†	3248.9	4029.4	3.4892	ug/L	3.4892 ppb	16:15:11
3	Co 228.616†	215.4	328.3	0.4945	ug/L	0.4945 ppb	16:15:11
3	Cr 267.716†	-24.2	-111.8	1.2233	ug/L	1.2233 ppb	16:15:11
3	Cu 324.752†	1265.0	-4922.7	-0.3325	ug/L	-0.3325 ppb	16:14:51
3	Mn 257.610†	-19046.2	-22870.4	2.9777	ug/L	2.9777 ppb	16:14:51
3	Mo 202.031†	-438.9	-540.5	-3.3985	ug/L	-3.3985 ppb	16:15:11
3	Ni 231.604†	244.9	220.4	5.4827	ug/L	5.4827 ppb	16:15:11
3	P 214.914†	544.0	410.7	35.003	ug/L	35.003 ppb	16:15:11
3	Pb 220.353†	-504.4	-530.5	9.8610	ug/L	9.8610 ppb	16:15:11
3	S 181.975 Axial†	96.5	70.6	5.6681	ug/L	5.6681 ppb	16:15:11
3	Sb 206.836†	56.2	38.2	-2.3405	ug/L	-2.3405 ppb	16:15:11
3	Se 196.026†	-1905.6	-2211.7	-36.677	ug/L	-36.677 ppb	16:15:11
3	Si 251.611†	-249.7	-844.5	-26.425	ug/L	-26.425 ppb	16:15:11
3	Sn 189.927†	-384.9	-460.9	-7.3345	ug/L	-7.3345 ppb	16:15:11
3	Ti 334.940†	-13496.1	-14516.1	-15.477	ug/L	-15.477 ppb	16:14:51
3	Tl 190.801†	-114.1	-101.5	-31.527	ug/L	-31.527 ppb	16:15:11
3	U 409.014†	425739.2	503289.2	14798	ug/L	14798 ppb	16:14:51
3	V 292.402†	3062.1	4915.1	5.3194	ug/L	5.3194 ppb	16:15:11
3	Zn 213.857†	5542.5	5905.6	14.409	ug/L	14.409 ppb	16:15:11
3	SiO2†	-361.9	-997.7	-67.037	ug/L	-67.037 ppb	16:15:26

Mean Data: LR1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	718603.7	84.304	%	0.5691				0.68%
Sc Radial	4429.8	88.0	%	0.39				0.44%
Y 371.029	593743.2	82.160	%	0.6083				0.74%
Y RADIAL	4750.6	87.50	%	0.735				0.84%
Ag 328.068†	-27272.7	-5.7507	ug/L	1.15246	-5.7507	ppb	1.15246	20.04%
Al 396.153Radial†	648645.5	500420	ug/L	2411.2	500420	ppb	2411.2	0.48%
QC value within limits for Al 396.153Radial Recovery = 100.08%								
As 188.979†	-203.9	-4.4205	ug/L	4.55488	-4.4205	ppb	4.55488	103.04%
B 249.677†	2615.9	15.073	ug/L	1.9270	15.073	ppb	1.9270	12.78%
Ba 233.527†	-1516.1	3.8127	ug/L	0.51630	3.8127	ppb	0.51630	13.54%
Be 313.107†	-8739.8	-3.3830	ug/L	0.02783	-3.3830	ppb	0.02783	0.82%
Ca 317.933Radial†	292047.3	467300	ug/L	1890.6	467300	ppb	1890.6	0.40%
QC value within limits for Ca 317.933Radial Recovery = 93.46%								
Cd 226.502†	4086.8	4.1642	ug/L	0.61107	4.1642	ppb	0.61107	14.67%
Co 228.616†	323.9	0.4058	ug/L	0.12683	0.4058	ppb	0.12683	31.26%
Cr 267.716†	-110.9	1.2333	ug/L	0.45181	1.2333	ppb	0.45181	36.63%
Cu 324.752†	-4860.0	-0.1569	ug/L	0.15457	-0.1569	ppb	0.15457	98.52%

Fe 238.204 Radial†	49306.8	426710	ug/L	1067.6	426710	ppb	1067.6	0.25%
QC value less than the lower limit for Fe 238.204 Radial Recovery = 85.34%								
K 766.490 Radial†	1420.2	-172.71	ug/L	9.554	-172.71	ppb	9.554	5.53%
Mg 279.077 IEC†	14155.8	472520	ug/L	1236.3	472520	ppb	1236.3	0.26%
QC value within limits for Mg 279.077 IEC Recovery = 94.50%								
Mn 257.610†	-22643.7	3.2101	ug/L	0.21071	3.2101	ppb	0.21071	6.56%
Mo 202.031†	-555.2	-4.4936	ug/L	1.09466	-4.4936	ppb	1.09466	24.36%
Na 589.592 Radial†	1660680.0	497230	ug/L	2673.9	497230	ppb	2673.9	0.54%
QC value within limits for Na 589.592 Radial Recovery = 99.45%								
Ni 231.604†	219.6	5.4650	ug/L	0.06185	5.4650	ppb	0.06185	1.13%
P 214.914†	412.5	35.674	ug/L	2.5652	35.674	ppb	2.5652	7.19%
Pb 220.353†	-559.8	5.6918	ug/L	3.61057	5.6918	ppb	3.61057	63.43%
S 181.975 Axial†	85.6	27.408	ug/L	20.1201	27.408	ppb	20.1201	73.41%
Sb 206.836†	32.4	-4.3275	ug/L	4.83044	-4.3275	ppb	4.83044	111.62%
Se 196.026†	-2239.7	-56.133	ug/L	17.2963	-56.133	ppb	17.2963	30.81%
Si 251.611†	-867.7	-27.150	ug/L	1.0073	-27.150	ppb	1.0073	3.71%
Sn 189.927†	-473.8	-9.9342	ug/L	2.60154	-9.9342	ppb	2.60154	26.19%
Sr 421.552†	821.6	1.8172	ug/L	0.21969	1.8172	ppb	0.21969	12.09%
Ti 334.940†	-14469.2	-15.585	ug/L	0.1267	-15.585	ppb	0.1267	0.81%
Tl 190.801†	-88.5	-27.552	ug/L	3.9664	-27.552	ppb	3.9664	14.40%
U 409.014†	502712.6	14781	ug/L	22.4	14781	ppb	22.4	0.15%
QC value within limits for U 409.014 Recovery = 98.54%								
V 292.402†	5017.1	6.0165	ug/L	0.63254	6.0165	ppb	0.63254	10.51%
Zn 213.857†	6006.1	15.399	ug/L	0.8650	15.399	ppb	0.8650	5.62%
SiO2†	-948.2	-63.631	ug/L	4.4273	-63.631	ppb	4.4273	6.96%

QC Failed. Continue with analysis.

Sequence No.: 12
Sample ID: LR2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 16
Date Collected: 1/11/2010 16:17:37
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	4991.9	4991.9	99.1	%			16:19:35
1	Y RADIAL	5291.5	5291.5	97.46	%			16:19:35
1	Al 396.153Radial†	559.9	565.4	-47.303	ug/L	-47.303	ppb	16:19:35
1	Ca 317.933Radial†	23.2	3.6	5.7610	ug/L	5.7610	ppb	16:19:55
1	Fe 238.204 Radial†	-23.5	-32.6	2.9771	ug/L	2.9771	ppb	16:19:55
1	K 766.490 Radial†	1585008.6	1596183.6	292480	ug/L	292480	ppb	16:19:30
1	Mg 279.077 IEC†	-3.6	-5.5	-79.004	ug/L	-79.004	ppb	16:19:55
1	Na 589.592 Radial†	-332.2	945.4	283.07	ug/L	283.07	ppb	16:19:35
1	Sr 421.552†	1498984.9	1512022.4	9766.0	ug/L	9766.0	ppb	16:19:30
1	Sc 361.383	804787.1	804787.1	94.414	%			16:21:12
1	Y 371.029	663375.9	663375.9	91.795	%			16:21:12
1	Ag 328.068†	-8134.3	-8973.6	-3.5960	ug/L	-3.5960	ppb	16:21:17
1	As 188.979†	22123.2	23455.6	10186	ug/L	10186	ppb	16:21:17
1	B 249.677†	211371.7	224508.2	4977.9	ug/L	4977.9	ppb	16:21:12
1	Ba 233.527†	1722642.5	1824564.7	14266	ug/L	14266	ppb	16:21:12
1	Be 313.107†	7247660.3	7681014.3	2949.2	ug/L	2949.2	ppb	16:21:06
1	Cd 226.502†	828330.1	877537.9	9743.8	ug/L	9743.8	ppb	16:21:12
1	Co 228.616†	438981.9	465026.6	9517.6	ug/L	9517.6	ppb	16:21:17
1	Cr 267.716†	2044395.3	2165257.6	24218	ug/L	24218	ppb	16:21:12
1	Cu 324.752†	6362228.7	6732203.4	20131	ug/L	20131	ppb	16:21:06
1	Mn 257.610†	8086158.8	8564087.8	9494.2	ug/L	9494.2	ppb	16:21:06
1	Mo 202.031†	133209.9	141066.8	9969.9	ug/L	9969.9	ppb	16:21:17
1	Ni 231.604†	368642.8	390383.6	9714.9	ug/L	9714.9	ppb	16:21:17
1	P 214.914†	30105.1	31656.2	15065	ug/L	15065	ppb	16:21:17
1	Pb 220.353†	189546.2	200823.0	24605	ug/L	24605	ppb	16:21:17
1	S 181.975 Axial†	35159.1	37196.1	52639	ug/L	52639	ppb	16:21:17
1	Sb 206.836†	29097.2	30790.6	10918	ug/L	10918	ppb	16:21:17
1	Se 196.026†	15056.3	15979.1	10327	ug/L	10327	ppb	16:21:17
1	Si 251.611†	1437742.2	1522247.9	48358	ug/L	48358	ppb	16:21:12
1	Sn 189.927†	56894.3	60252.5	10675	ug/L	10675	ppb	16:21:17
1	Ti 334.940†	5821832.8	6167624.7	9928.0	ug/L	9928.0	ppb	16:21:06
1	Tl 190.801†	30033.0	31842.5	9829.6	ug/L	9829.6	ppb	16:21:17
1	U 409.014†	-809.1	1154.7	-20.062	ug/L	-20.062	ppb	16:21:17
1	V 292.402†	1394534.0	1478343.7	10220	ug/L	10220	ppb	16:21:12
1	Zn 213.857†	1422944.5	1506505.1	14160	ug/L	14160	ppb	16:21:12
1	SiO2†	1433580.2	1517818.5	103290	ug/L	103290	ppb	16:22:03
2	Sc Radial	4952.1	4952.1	98.3	%			16:20:06
2	Y RADIAL	5240.7	5240.7	96.52	%			16:20:06
2	Al 396.153Radial†	559.5	569.6	-39.470	ug/L	-39.470	ppb	16:20:06
2	Ca 317.933Radial†	29.7	10.4	16.707	ug/L	16.707	ppb	16:20:26
2	Fe 238.204 Radial†	-20.8	-30.1	22.078	ug/L	22.078	ppb	16:20:26
2	K 766.490 Radial†	1571896.7	1595728.8	292400	ug/L	292400	ppb	16:20:01
2	Mg 279.077 IEC†	-5.7	-7.7	-154.53	ug/L	-154.53	ppb	16:20:26
2	Na 589.592 Radial†	-419.6	853.8	255.63	ug/L	255.63	ppb	16:20:06
2	Sr 421.552†	1477909.3	1502771.2	9706.3	ug/L	9706.3	ppb	16:20:01
2	Sc 361.383	809144.9	809144.9	94.926	%			16:21:32
2	Y 371.029	667135.6	667135.6	92.316	%			16:21:32
2	Ag 328.068†	-8079.8	-8869.7	-3.1377	ug/L	-3.1377	ppb	16:21:37
2	As 188.979†	22074.5	23278.1	10109	ug/L	10109	ppb	16:21:37
2	B 249.677†	212628.4	224626.4	4980.8	ug/L	4980.8	ppb	16:21:32
2	Ba 233.527†	1730278.2	1822782.3	14252	ug/L	14252	ppb	16:21:32
2	Be 313.107†	7131078.4	7516858.6	2886.2	ug/L	2886.2	ppb	16:21:26
2	Cd 226.502†	830186.7	874768.8	9713.0	ug/L	9713.0	ppb	16:21:32
2	Co 228.616†	437441.8	460900.1	9433.4	ug/L	9433.4	ppb	16:21:37
2	Cr 267.716†	2051622.2	2161209.3	24173	ug/L	24173	ppb	16:21:32
2	Cu 324.752†	6253182.6	6581036.8	19679	ug/L	19679	ppb	16:21:26
2	Mn 257.610†	7968353.2	8393859.9	9305.5	ug/L	9305.5	ppb	16:21:26
2	Mo 202.031†	132663.8	139731.7	9875.5	ug/L	9875.5	ppb	16:21:37
2	Ni 231.604†	366974.4	386523.2	9618.8	ug/L	9618.8	ppb	16:21:37

2	P 214.914†	29796.6	31159.5	14858	ug/L	14858	ppb	16:21:37
2	Pb 220.353†	188596.1	198740.9	24350	ug/L	24350	ppb	16:21:37
2	S 181.975 Axial†	34924.4	36748.3	52005	ug/L	52005	ppb	16:21:37
2	Sb 206.836†	28910.9	30428.4	10791	ug/L	10791	ppb	16:21:37
2	Se 196.026†	14969.6	15801.8	10213	ug/L	10213	ppb	16:21:37
2	Si 251.611†	1445521.3	1522241.7	48359	ug/L	48359	ppb	16:21:32
2	Sn 189.927†	56563.6	59579.6	10555	ug/L	10555	ppb	16:21:37
2	Ti 334.940†	5736371.6	6044386.2	9729.5	ug/L	9729.5	ppb	16:21:26
2	Tl 190.801†	29934.8	31567.9	9743.4	ug/L	9743.4	ppb	16:21:37
2	U 409.014†	-856.1	1109.8	-21.289	ug/L	-21.289	ppb	16:21:37
2	V 292.402†	1401052.3	1477255.8	10212	ug/L	10212	ppb	16:21:32
2	Zn 213.857†	1427087.7	1502753.0	14125	ug/L	14125	ppb	16:21:32
2	SiO2†	1423108.9	1498610.0	101980	ug/L	101980	ppb	16:22:09
3	Sc Radial	5028.1	5028.1	99.9	%			16:20:36
3	Y RADIAL	5309.4	5309.4	97.79	%			16:20:36
3	Al 396.153Radial†	563.8	565.3	-41.381	ug/L	-41.381	ppb	16:20:36
3	Ca 317.933Radial†	25.5	5.8	9.2464	ug/L	9.2464	ppb	16:20:56
3	Fe 238.204 Radial†	-19.9	-28.8	32.277	ug/L	32.277	ppb	16:20:56
3	K 766.490 Radial†	1561237.2	1560882.2	286010	ug/L	286010	ppb	16:20:31
3	Mg 279.077 IEC†	-6.7	-8.7	-186.07	ug/L	-186.07	ppb	16:20:56
3	Na 589.592 Radial†	-439.1	840.7	251.71	ug/L	251.71	ppb	16:20:36
3	Sr 421.552†	1470891.5	1473016.8	9514.1	ug/L	9514.1	ppb	16:20:31
3	Sc 361.383	806505.5	806505.5	94.616	%			16:21:52
3	Y 371.029	665096.9	665096.9	92.034	%			16:21:52
3	Ag 328.068†	-8025.0	-8839.6	-2.9981	ug/L	-2.9981	ppb	16:21:57
3	As 188.979†	21983.3	23257.8	10101	ug/L	10101	ppb	16:21:57
3	B 249.677†	211338.3	223995.9	4966.8	ug/L	4966.8	ppb	16:21:52
3	Ba 233.527†	1725269.5	1823453.8	14257	ug/L	14257	ppb	16:21:52
3	Be 313.107†	7253487.4	7670817.6	2945.4	ug/L	2945.4	ppb	16:21:45
3	Cd 226.502†	827943.0	875259.5	9718.4	ug/L	9718.4	ppb	16:21:52
3	Co 228.616†	435486.3	460341.5	9421.4	ug/L	9421.4	ppb	16:21:57
3	Cr 267.716†	2045813.6	2162143.1	24183	ug/L	24183	ppb	16:21:52
3	Cu 324.752†	6387520.1	6744576.6	20168	ug/L	20168	ppb	16:21:45
3	Mn 257.610†	8097220.6	8557531.4	9486.9	ug/L	9486.9	ppb	16:21:45
3	Mo 202.031†	131837.6	139315.9	9846.1	ug/L	9846.1	ppb	16:21:57
3	Ni 231.604†	364839.7	385532.2	9594.1	ug/L	9594.1	ppb	16:21:57
3	P 214.914†	29558.0	31010.1	14660	ug/L	14660	ppb	16:21:57
3	Pb 220.353†	187687.5	198430.8	24312	ug/L	24312	ppb	16:21:57
3	S 181.975 Axial†	34653.1	36582.0	51770	ug/L	51770	ppb	16:21:57
3	Sb 206.836†	28792.3	30402.7	10781	ug/L	10781	ppb	16:21:57
3	Se 196.026†	14875.5	15754.0	10182	ug/L	10182	ppb	16:21:57
3	Si 251.611†	1439625.9	1520994.4	48320	ug/L	48320	ppb	16:21:52
3	Sn 189.927†	56292.5	59488.0	10539	ug/L	10539	ppb	16:21:57
3	Ti 334.940†	5842211.5	6176025.1	9941.6	ug/L	9941.6	ppb	16:21:45
3	Tl 190.801†	29753.9	31479.9	9718.8	ug/L	9718.8	ppb	16:21:57
3	U 409.014†	-809.0	1156.5	-19.934	ug/L	-19.934	ppb	16:21:57
3	V 292.402†	1396430.5	1477201.2	10211	ug/L	10211	ppb	16:21:52
3	Zn 213.857†	1423384.7	1503759.2	14134	ug/L	14134	ppb	16:21:52
3	SiO2†	1392777.2	1471458.7	100130	ug/L	100130	ppb	16:22:15

Mean Data: LR2

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	806812.5	94.652	%	0.2575				0.27%
Sc Radial	4990.7	99.1	%	0.76				0.76%
Y 371.029	665202.8	92.048	%	0.2604				0.28%
Y RADIAL	5280.5	97.26	%	0.656				0.67%
Ag 328.068†	-8894.3	-3.2439	ug/L	0.31278	-3.2439	ppb	0.31278	9.64%
Al 396.153Radial†	566.8	-42.718	ug/L	4.0836	-42.718	ppb	4.0836	9.56%
As 188.979†	23330.5	10132	ug/L	47.2	10132	ppb	47.2	0.47%
QC value within limits for As 188.979 Recovery = 101.32%								
B 249.677†	224376.8	4975.2	ug/L	7.41	4975.2	ppb	7.41	0.15%
QC value within limits for B 249.677 Recovery = 99.50%								
Ba 233.527†	1823600.3	14258	ug/L	7.0	14258	ppb	7.0	0.05%
QC value within limits for Ba 233.527 Recovery = 95.06%								
Be 313.107†	7622896.8	2927.0	ug/L	35.31	2927.0	ppb	35.31	1.21%
QC value within limits for Be 313.107 Recovery = 97.57%								
Ca 317.933Radial†	6.6	10.572	ug/L	5.5922	10.572	ppb	5.5922	52.90%
Cd 226.502†	875855.4	9725.0	ug/L	16.44	9725.0	ppb	16.44	0.17%
QC value within limits for Cd 226.502 Recovery = 97.25%								

Co 228.616†	462089.4	9457.5 ug/L	52.44	9457.5 ppb	52.44	0.55%
QC value within limits for Co 228.616 Recovery = 94.57%						
Cr 267.716†	2162870.0	24191 ug/L	23.7	24191 ppb	23.7	0.10%
QC value within limits for Cr 267.716 Recovery = 96.77%						
Cu 324.752†	6685938.9	19993 ug/L	272.3	19993 ppb	272.3	1.36%
QC value within limits for Cu 324.752 Recovery = 99.96%						
Fe 238.204 Radial†	-30.5	19.111 ug/L	14.8738	19.111 ppb	14.8738	77.83%
K 766.490 Radial†	1584264.9	290300 ug/L	3713.4	290300 ppb	3713.4	1.28%
QC value within limits for K 766.490 Radial Recovery = 96.77%						
Mg 279.077 IEC†	-7.3	-139.87 ug/L	55.018	-139.87 ppb	55.018	39.34%
Mn 257.610†	8505159.7	9428.9 ug/L	106.92	9428.9 ppb	106.92	1.13%
QC value within limits for Mn 257.610 Recovery = 94.29%						
Mo 202.031†	140038.1	9897.2 ug/L	64.65	9897.2 ppb	64.65	0.65%
QC value within limits for Mo 202.031 Recovery = 98.97%						
Na 589.592 Radial†	880.0	263.47 ug/L	17.085	263.47 ppb	17.085	6.48%
Ni 231.604†	387479.7	9642.6 ug/L	63.79	9642.6 ppb	63.79	0.66%
QC value within limits for Ni 231.604 Recovery = 96.43%						
P 214.914†	31275.3	14861 ug/L	202.2	14861 ppb	202.2	1.36%
QC value within limits for P 214.914 Recovery = 99.07%						
Pb 220.353†	199331.6	24422 ug/L	159.4	24422 ppb	159.4	0.65%
QC value within limits for Pb 220.353 Recovery = 97.69%						
S 181.975 Axial†	36842.1	52138 ug/L	449.5	52138 ppb	449.5	0.86%
QC value within limits for S 181.975 Axial Recovery = 104.28%						
Sb 206.836†	30540.6	10830 ug/L	76.7	10830 ppb	76.7	0.71%
QC value within limits for Sb 206.836 Recovery = 108.30%						
Se 196.026†	15844.9	10241 ug/L	76.6	10241 ppb	76.6	0.75%
QC value within limits for Se 196.026 Recovery = 102.41%						
Si 251.611†	1521828.0	48346 ug/L	22.5	48346 ppb	22.5	0.05%
QC value within limits for Si 251.611 Recovery = 96.69%						
Sn 189.927†	59773.4	10590 ug/L	74.0	10590 ppb	74.0	0.70%
QC value within limits for Sn 189.927 Recovery = 105.90%						
Sr 421.552†	1495936.8	9662.1 ug/L	131.64	9662.1 ppb	131.64	1.36%
QC value within limits for Sr 421.552 Recovery = 96.62%						
Ti 334.940†	6129345.3	9866.4 ug/L	118.73	9866.4 ppb	118.73	1.20%
QC value within limits for Ti 334.940 Recovery = 98.66%						
Tl 190.801†	31630.1	9764.0 ug/L	58.21	9764.0 ppb	58.21	0.60%
QC value within limits for Tl 190.801 Recovery = 97.64%						
U 409.014†	1140.3	-20.429 ug/L	0.7484	-20.429 ppb	0.7484	3.66%
V 292.402†	1477600.2	10214 ug/L	5.3	10214 ppb	5.3	0.05%
QC value within limits for V 292.402 Recovery = 102.14%						
Zn 213.857†	1504339.1	14140 ug/L	17.8	14140 ppb	17.8	0.13%
QC value within limits for Zn 213.857 Recovery = 94.27%						
SiO2†	1495962.4	101800 ug/L	1587.7	101800 ppb	1587.7	1.56%
QC value within limits for SiO2 Recovery = 95.14%						

All analyte(s) passed QC.

Sequence No.: 13
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 1/11/2010 16:24:25
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	4845.6	4845.6	96.2	%			16:26:17
1	Y RADIAL	5193.6	5193.6	95.66	%			16:26:17
1	Al 396.153Radial†	6165.4	6407.5	4918.6	ug/L	4918.6	ppb	16:26:17
1	Ca 317.933Radial†	3100.6	3202.2	5123.9	ug/L	5123.9	ppb	16:26:37
1	Fe 238.204 Radial†	590.6	604.9	5249.7	ug/L	5249.7	ppb	16:26:37
1	K 766.490 Radial†	30409.6	29010.2	5301.3	ug/L	5301.3	ppb	16:26:17
1	Mg 279.077 IEC†	154.9	159.1	5315.7	ug/L	5315.7	ppb	16:26:37
1	Na 589.592 Radial†	32452.7	35003.8	10481	ug/L	10481	ppb	16:26:17
1	Sr 421.552†	74696.1	77640.3	501.43	ug/L	501.43	ppb	16:26:17
1	Sc 361.383	847993.6	847993.6	99.483	%			16:27:34
1	Y 371.029	707266.0	707266.0	97.869	%			16:27:34
1	Ag 328.068†	110454.8	110670.5	512.81	ug/L	512.81	ppb	16:27:39
1	As 188.979†	1203.5	1233.4	536.61	ug/L	536.61	ppb	16:27:59
1	B 249.677†	22887.1	23637.9	524.99	ug/L	524.99	ppb	16:27:39
1	Ba 233.527†	64157.9	64502.5	504.85	ug/L	504.85	ppb	16:27:39
1	Be 313.107†	1328475.5	1339960.8	511.70	ug/L	511.70	ppb	16:27:34
1	Cd 226.502†	45264.0	45703.2	507.02	ug/L	507.02	ppb	16:27:39
1	Co 228.616†	24528.7	24730.8	506.32	ug/L	506.32	ppb	16:27:39
1	Cr 267.716†	45211.9	45363.5	507.79	ug/L	507.79	ppb	16:27:39
1	Cu 324.752†	172347.3	166830.3	498.86	ug/L	498.86	ppb	16:27:39
1	Mn 257.610†	456024.6	457948.2	508.05	ug/L	508.05	ppb	16:27:34
1	Mo 202.031†	7195.0	7208.7	509.89	ug/L	509.89	ppb	16:27:59
1	Ni 231.604†	20385.6	20423.5	508.24	ug/L	508.24	ppb	16:27:39
1	P 214.914†	4304.6	4097.1	2398.2	ug/L	2398.2	ppb	16:27:59
1	Pb 220.353†	4045.2	4129.6	507.32	ug/L	507.32	ppb	16:27:59
1	S 181.975 Axial†	762.6	723.6	1023.1	ug/L	1023.1	ppb	16:27:59
1	Sb 206.836†	1541.9	1521.9	539.64	ug/L	539.64	ppb	16:27:59
1	Se 196.026†	743.6	779.5	520.86	ug/L	520.86	ppb	16:27:59
1	Si 251.611†	80888.8	80758.5	2565.8	ug/L	2565.8	ppb	16:27:39
1	Sn 189.927†	2878.7	2886.0	512.12	ug/L	512.12	ppb	16:27:59
1	Ti 334.940†	306785.6	309753.5	498.79	ug/L	498.79	ppb	16:27:39
1	Tl 190.801†	1616.3	1657.5	511.60	ug/L	511.60	ppb	16:27:59
1	U 409.014†	15342.7	17434.0	512.57	ug/L	512.57	ppb	16:27:39
1	V 292.402†	72166.7	73851.2	511.26	ug/L	511.26	ppb	16:27:39
1	Zn 213.857†	54020.2	53680.6	503.30	ug/L	503.30	ppb	16:27:39
1	SiO2†	80682.3	80529.6	5480.8	ug/L	5480.8	ppb	16:29:07
2	Sc Radial	4995.5	4995.5	99.2	%			16:26:42
2	Y RADIAL	5295.4	5295.4	97.53	%			16:26:42
2	Al 396.153Radial†	6349.7	6400.9	4913.2	ug/L	4913.2	ppb	16:26:42
2	Ca 317.933Radial†	3100.9	3105.8	4969.5	ug/L	4969.5	ppb	16:27:02
2	Fe 238.204 Radial†	587.8	583.6	5066.1	ug/L	5066.1	ppb	16:27:02
2	K 766.490 Radial†	30840.1	28495.6	5207.0	ug/L	5207.0	ppb	16:26:42
2	Mg 279.077 IEC†	155.1	154.5	5161.0	ug/L	5161.0	ppb	16:27:02
2	Na 589.592 Radial†	33113.8	34658.0	10377	ug/L	10377	ppb	16:26:42
2	Sr 421.552†	76746.9	77377.8	499.74	ug/L	499.74	ppb	16:26:42
2	Sc 361.383	840766.4	840766.4	98.635	%			16:28:05
2	Y 371.029	701355.4	701355.4	97.051	%			16:28:05
2	Ag 328.068†	111103.1	112282.2	520.19	ug/L	520.19	ppb	16:28:10
2	As 188.979†	1187.9	1227.9	534.21	ug/L	534.21	ppb	16:28:30
2	B 249.677†	23113.9	24065.6	534.52	ug/L	534.52	ppb	16:28:10
2	Ba 233.527†	64650.7	65556.6	513.08	ug/L	513.08	ppb	16:28:10
2	Be 313.107†	1314415.4	1337185.2	510.66	ug/L	510.66	ppb	16:28:05
2	Cd 226.502†	45475.1	46308.4	513.77	ug/L	513.77	ppb	16:28:10
2	Co 228.616†	24763.0	25180.3	515.52	ug/L	515.52	ppb	16:28:10
2	Cr 267.716†	45371.7	45916.1	513.96	ug/L	513.96	ppb	16:28:10
2	Cu 324.752†	173614.1	169603.8	507.14	ug/L	507.14	ppb	16:28:10
2	Mn 257.610†	451698.8	457503.0	507.54	ug/L	507.54	ppb	16:28:05
2	Mo 202.031†	7217.1	7293.2	515.85	ug/L	515.85	ppb	16:28:30
2	Ni 231.604†	20534.4	20750.6	516.38	ug/L	516.38	ppb	16:28:10

2	P 214.914†	4326.1	4156.0	2432.6 ug/L	2432.6 ppb	16:28:30
2	Pb 220.353†	4093.9	4213.9	517.67 ug/L	517.67 ppb	16:28:30
2	S 181.975 Axial†	770.8	738.5	1044.2 ug/L	1044.2 ppb	16:28:30
2	Sb 206.836†	1548.8	1542.3	546.88 ug/L	546.88 ppb	16:28:30
2	Se 196.026†	752.4	794.8	530.15 ug/L	530.15 ppb	16:28:30
2	Si 251.611†	81405.9	81981.6	2604.6 ug/L	2604.6 ppb	16:28:10
2	Sn 189.927†	2906.1	2938.6	521.41 ug/L	521.41 ppb	16:28:30
2	Ti 334.940†	309064.2	314714.5	506.77 ug/L	506.77 ppb	16:28:10
2	Tl 190.801†	1613.7	1668.9	515.09 ug/L	515.09 ppb	16:28:30
2	U 409.014†	15570.1	17797.1	523.28 ug/L	523.28 ppb	16:28:10
2	V 292.402†	72422.8	74734.4	517.41 ug/L	517.41 ppb	16:28:10
2	Zn 213.857†	54316.6	54447.8	510.51 ug/L	510.51 ppb	16:28:10
2	SiO2†	80842.8	81389.6	5539.3 ug/L	5539.3 ppb	16:29:12
3	Sc Radial	4867.2	4867.2	96.7 %		16:27:07
3	Y RADIAL	5186.1	5186.1	95.52 %		16:27:07
3	Al 396.153Radial†	6211.2	6426.4	4932.9 ug/L	4932.9 ppb	16:27:07
3	Ca 317.933Radial†	3097.6	3184.8	5096.0 ug/L	5096.0 ppb	16:27:27
3	Fe 238.204 Radial†	598.7	610.5	5298.4 ug/L	5298.4 ppb	16:27:27
3	K 766.490 Radial†	30160.6	28611.9	5228.3 ug/L	5228.3 ppb	16:27:07
3	Mg 279.077 IEC†	154.4	157.9	5274.8 ug/L	5274.8 ppb	16:27:27
3	Na 589.592 Radial†	32127.1	34516.9	10335 ug/L	10335 ppb	16:27:07
3	Sr 421.552†	74900.1	77506.1	500.57 ug/L	500.57 ppb	16:27:07
3	Sc 361.383	837940.2	837940.2	98.304 %		16:28:36
3	Y 371.029	699451.1	699451.1	96.787 %		16:28:36
3	Ag 328.068†	110448.3	111996.0	518.94 ug/L	518.94 ppb	16:28:41
3	As 188.979†	1184.4	1228.4	534.49 ug/L	534.49 ppb	16:29:01
3	B 249.677†	22973.9	24002.1	533.09 ug/L	533.09 ppb	16:28:41
3	Ba 233.527†	64324.5	65445.8	512.22 ug/L	512.22 ppb	16:28:41
3	Be 313.107†	1306491.0	1333618.5	509.30 ug/L	509.30 ppb	16:28:36
3	Cd 226.502†	45097.9	46080.1	511.21 ug/L	511.21 ppb	16:28:41
3	Co 228.616†	24563.8	25062.3	513.10 ug/L	513.10 ppb	16:28:41
3	Cr 267.716†	45147.3	45843.0	513.15 ug/L	513.15 ppb	16:28:41
3	Cu 324.752†	172911.7	169482.9	506.79 ug/L	506.79 ppb	16:28:41
3	Mn 257.610†	449517.1	456828.2	506.82 ug/L	506.82 ppb	16:28:36
3	Mo 202.031†	7164.5	7264.4	513.83 ug/L	513.83 ppb	16:29:01
3	Ni 231.604†	20294.3	20576.4	512.05 ug/L	512.05 ppb	16:28:41
3	P 214.914†	4263.9	4107.6	2402.8 ug/L	2402.8 ppb	16:29:01
3	Pb 220.353†	4036.0	4169.0	512.15 ug/L	512.15 ppb	16:29:01
3	S 181.975 Axial†	751.6	721.5	1020.2 ug/L	1020.2 ppb	16:29:01
3	Sb 206.836†	1536.8	1535.4	544.40 ug/L	544.40 ppb	16:29:01
3	Se 196.026†	749.9	794.8	530.91 ug/L	530.91 ppb	16:29:01
3	Si 251.611†	80849.5	81694.0	2595.5 ug/L	2595.5 ppb	16:28:41
3	Sn 189.927†	2867.3	2909.1	516.20 ug/L	516.20 ppb	16:29:01
3	Ti 334.940†	307295.1	313971.7	505.58 ug/L	505.58 ppb	16:28:41
3	Tl 190.801†	1599.9	1660.3	512.46 ug/L	512.46 ppb	16:29:01
3	U 409.014†	15506.0	17785.2	522.91 ug/L	522.91 ppb	16:28:41
3	V 292.402†	72025.9	74578.3	516.29 ug/L	516.29 ppb	16:28:41
3	Zn 213.857†	53817.0	54125.4	507.46 ug/L	507.46 ppb	16:28:41
3	SiO2†	81333.2	82164.9	5592.3 ug/L	5592.3 ppb	16:29:17

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	842233.4	98.808	%	0.6083				0.62%
Sc Radial	4902.8	97.4	%	1.61				1.65%
Y 371.029	702690.8	97.236	%	0.5639				0.58%
Y RADIAL	5225.0	96.24	%	1.125				1.17%
Ag 328.068†	111649.6	517.31	ug/L	3.950	517.31	ppb	3.950	0.76%
QC value within limits for Ag 328.068 Recovery = 103.46%								
Al 396.153Radial†	6411.6	4921.6	ug/L	10.20	4921.6	ppb	10.20	0.21%
QC value within limits for Al 396.153Radial Recovery = 98.43%								
As 188.979†	1229.9	535.11	ug/L	1.313	535.11	ppb	1.313	0.25%
QC value within limits for As 188.979 Recovery = 107.02%								
B 249.677†	23901.8	530.87	ug/L	5.138	530.87	ppb	5.138	0.97%
QC value within limits for B 249.677 Recovery = 106.17%								
Ba 233.527†	65168.3	510.05	ug/L	4.527	510.05	ppb	4.527	0.89%
QC value within limits for Ba 233.527 Recovery = 102.01%								
Be 313.107†	1336921.5	510.55	ug/L	1.204	510.55	ppb	1.204	0.24%
QC value within limits for Be 313.107 Recovery = 102.11%								
Ca 317.933Radial†	3164.3	5063.1	ug/L	82.24	5063.1	ppb	82.24	1.62%

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   QC value within limits for Ca 317.933Radial  Recovery = 101.26%
Cd 226.502†            46030.6      510.67 ug/L         3.403      510.67 ppb          3.403   0.67%
   QC value within limits for Cd 226.502  Recovery = 102.13%
Co 228.616†            24991.1      511.64 ug/L         4.770      511.64 ppb          4.770   0.93%
   QC value within limits for Co 228.616  Recovery = 102.33%
Cr 267.716†            45707.5      511.63 ug/L         3.357      511.63 ppb          3.357   0.66%
   QC value within limits for Cr 267.716  Recovery = 102.33%
Cu 324.752†           168639.0      504.26 ug/L         4.682      504.26 ppb          4.682   0.93%
   QC value within limits for Cu 324.752  Recovery = 100.85%
Fe 238.204 Radial†       599.6      5204.7 ug/L        122.48      5204.7 ppb        122.48   2.35%
   QC value within limits for Fe 238.204 Radial  Recovery = 104.09%
K 766.490 Radial†      28705.9      5245.5 ug/L         49.45      5245.5 ppb         49.45   0.94%
   QC value within limits for K 766.490 Radial  Recovery = 104.91%
Mg 279.077 IEC†          157.1      5250.5 ug/L         80.16      5250.5 ppb         80.16   1.53%
   QC value within limits for Mg 279.077 IEC  Recovery = 105.01%
Mn 257.610†           457426.5      507.47 ug/L         0.621      507.47 ppb         0.621   0.12%
   QC value within limits for Mn 257.610  Recovery = 101.49%
Mo 202.031†             7255.4      513.19 ug/L         3.030      513.19 ppb         3.030   0.59%
   QC value within limits for Mo 202.031  Recovery = 102.64%
Na 589.592 Radial†     34726.2       10397 ug/L          75.0       10397 ppb          75.0   0.72%
   QC value within limits for Na 589.592 Radial  Recovery = 103.97%
Ni 231.604†            20583.5      512.22 ug/L         4.072      512.22 ppb         4.072   0.79%
   QC value within limits for Ni 231.604  Recovery = 102.44%
P 214.914†              4120.3      2411.2 ug/L         18.68      2411.2 ppb         18.68   0.77%
   QC value within limits for P 214.914  Recovery = 96.45%
Pb 220.353†             4170.8      512.38 ug/L         5.177      512.38 ppb         5.177   1.01%
   QC value within limits for Pb 220.353  Recovery = 102.48%
S 181.975 Axial†         727.9      1029.1 ug/L         13.10      1029.1 ppb         13.10   1.27%
   QC value within limits for S 181.975 Axial  Recovery = 102.91%
Sb 206.836†             1533.2      543.64 ug/L         3.678      543.64 ppb         3.678   0.68%
   QC value within limits for Sb 206.836  Recovery = 108.73%
Se 196.026†              789.7      527.31 ug/L         5.594      527.31 ppb         5.594   1.06%
   QC value within limits for Se 196.026  Recovery = 105.46%
Si 251.611†            81478.0      2588.6 ug/L         20.33      2588.6 ppb         20.33   0.79%
   QC value within limits for Si 251.611  Recovery = 103.55%
Sn 189.927†             2911.2      516.58 ug/L         4.655      516.58 ppb         4.655   0.90%
   QC value within limits for Sn 189.927  Recovery = 103.32%
Sr 421.552†            77508.0      500.58 ug/L         0.847      500.58 ppb         0.847   0.17%
   QC value within limits for Sr 421.552  Recovery = 100.12%
Ti 334.940†           312813.2      503.71 ug/L         4.305      503.71 ppb         4.305   0.85%
   QC value within limits for Ti 334.940  Recovery = 100.74%
Tl 190.801†             1662.2      513.05 ug/L         1.814      513.05 ppb         1.814   0.35%
   QC value within limits for Tl 190.801  Recovery = 102.61%
U 409.014†             17672.1      519.59 ug/L         6.082      519.59 ppb         6.082   1.17%
   QC value within limits for U 409.014  Recovery = 103.92%
V 292.402†             74388.0      514.99 ug/L         3.275      514.99 ppb         3.275   0.64%
   QC value within limits for V 292.402  Recovery = 103.00%
Zn 213.857†            54084.6      507.09 ug/L         3.620      507.09 ppb         3.620   0.71%
   QC value within limits for Zn 213.857  Recovery = 101.42%
SiO2†                  81361.4      5537.4 ug/L         55.76      5537.4 ppb         55.76   1.01%
   QC value within limits for SiO2  Recovery = 103.55%
All analyte(s) passed QC.
```

Sequence No.: 14
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 1/11/2010 16:31:27
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	4938.2	4938.2	98.1	%			16:33:19
1	Y RADIAL	5358.4	5358.4	98.69	%			16:33:19
1	Al 396.153Radial†	-7.9	-7.4	-5.7335	ug/L	-5.7335	ppb	16:33:19
1	Ca 317.933Radial†	10.0	-9.6	-15.283	ug/L	-15.283	ppb	16:33:39
1	Fe 238.204 Radial†	9.0	0.3	2.1671	ug/L	2.1671	ppb	16:33:39
1	K 766.490 Radial†	3304.7	779.5	142.91	ug/L	142.91	ppb	16:33:19
1	Mg 279.077 IEC†	1.5	-0.4	-13.724	ug/L	-13.724	ppb	16:33:39
1	Na 589.592 Radial†	-1067.3	192.1	57.530	ug/L	57.530	ppb	16:33:19
1	Sr 421.552†	12.7	32.4	0.2097	ug/L	0.2097	ppb	16:33:19
1	Sc 361.383	830550.2	830550.2	97.437	%			16:34:36
1	Y 371.029	705478.2	705478.2	97.621	%			16:34:36
1	Ag 328.068†	391.2	43.5	0.2013	ug/L	0.2013	ppb	16:34:36
1	As 188.979†	3.6	27.3	11.834	ug/L	11.834	ppb	16:34:56
1	B 249.677†	142.2	777.8	17.341	ug/L	17.341	ppb	16:34:56
1	Ba 233.527†	-10.2	0.9	0.0055	ug/L	0.0055	ppb	16:34:56
1	Be 313.107†	-4533.5	-67.4	-0.0260	ug/L	-0.0260	ppb	16:34:36
1	Cd 226.502†	-171.4	28.2	0.3122	ug/L	0.3122	ppb	16:34:56
1	Co 228.616†	-91.6	-19.3	-0.3939	ug/L	-0.3939	ppb	16:34:56
1	Cr 267.716†	79.4	-1.8	-0.0200	ug/L	-0.0200	ppb	16:34:56
1	Cu 324.752†	6362.6	117.8	0.3542	ug/L	0.3542	ppb	16:34:36
1	Mn 257.610†	432.1	-1.4	-0.0007	ug/L	-0.0007	ppb	16:34:56
1	Mo 202.031†	28.8	5.8	0.4111	ug/L	0.4111	ppb	16:34:56
1	Ni 231.604†	68.4	2.3	0.0570	ug/L	0.0570	ppb	16:34:56
1	P 214.914†	221.9	-2.1	-1.3602	ug/L	-1.3602	ppb	16:34:56
1	Pb 220.353†	-25.0	37.7	4.6186	ug/L	4.6186	ppb	16:34:56
1	S 181.975 Axial†	43.3	1.4	1.9669	ug/L	1.9669	ppb	16:34:56
1	Sb 206.836†	63.9	37.6	12.917	ug/L	12.917	ppb	16:34:56
1	Se 196.026†	-34.5	-3.4	-2.2073	ug/L	-2.2073	ppb	16:34:56
1	Si 251.611†	585.6	50.5	1.6034	ug/L	1.6034	ppb	16:34:56
1	Sn 189.927†	8.8	1.3	0.2337	ug/L	0.2337	ppb	16:34:56
1	Ti 334.940†	-1415.5	-78.3	-0.1252	ug/L	-0.1252	ppb	16:34:36
1	Tl 190.801†	-35.1	-3.1	-0.9555	ug/L	-0.9555	ppb	16:34:56
1	U 409.014†	-2070.6	-113.5	-3.3477	ug/L	-3.3477	ppb	16:34:36
1	V 292.402†	-1380.6	-107.2	-0.7326	ug/L	-0.7326	ppb	16:34:36
1	Zn 213.857†	695.8	93.8	0.8864	ug/L	0.8864	ppb	16:34:56
1	SiO2†	660.4	106.1	7.2291	ug/L	7.2291	ppb	16:35:52
2	Sc Radial	4977.1	4977.1	98.8	%			16:33:44
2	Y RADIAL	5379.5	5379.5	99.08	%			16:33:44
2	Al 396.153Radial†	16.4	17.3	13.346	ug/L	13.346	ppb	16:33:44
2	Ca 317.933Radial†	13.4	-6.2	-9.9695	ug/L	-9.9695	ppb	16:34:05
2	Fe 238.204 Radial†	9.2	0.4	3.5666	ug/L	3.5666	ppb	16:34:05
2	K 766.490 Radial†	3248.7	696.5	127.69	ug/L	127.69	ppb	16:33:44
2	Mg 279.077 IEC†	1.8	-0.1	-2.8814	ug/L	-2.8814	ppb	16:34:05
2	Na 589.592 Radial†	-1037.9	230.4	68.993	ug/L	68.993	ppb	16:33:44
2	Sr 421.552†	29.1	49.0	0.3163	ug/L	0.3163	ppb	16:33:44
2	Sc 361.383	846971.0	846971.0	99.363	%			16:35:02
2	Y 371.029	719409.4	719409.4	99.549	%			16:35:02
2	Ag 328.068†	221.3	-135.3	-0.6237	ug/L	-0.6237	ppb	16:35:02
2	As 188.979†	-11.7	11.8	5.1352	ug/L	5.1352	ppb	16:35:22
2	B 249.677†	108.6	741.1	16.522	ug/L	16.522	ppb	16:35:22
2	Ba 233.527†	-17.9	-6.6	-0.0524	ug/L	-0.0524	ppb	16:35:22
2	Be 313.107†	-4604.5	-48.6	-0.0186	ug/L	-0.0186	ppb	16:35:02
2	Cd 226.502†	-183.7	19.2	0.2130	ug/L	0.2130	ppb	16:35:22
2	Co 228.616†	-83.3	-9.2	-0.1902	ug/L	-0.1902	ppb	16:35:22
2	Cr 267.716†	104.3	21.7	0.2422	ug/L	0.2422	ppb	16:35:22
2	Cu 324.752†	6577.4	207.3	0.6197	ug/L	0.6197	ppb	16:35:02
2	Mn 257.610†	434.9	-7.1	-0.0074	ug/L	-0.0074	ppb	16:35:22
2	Mo 202.031†	13.5	-10.2	-0.7188	ug/L	-0.7188	ppb	16:35:22
2	Ni 231.604†	74.8	7.3	0.1816	ug/L	0.1816	ppb	16:35:22

2	P 214.914†	222.0	-6.4	-4.0468	ug/L	-4.0468	ppb	16:35:22
2	Pb 220.353†	-52.1	10.9	1.3325	ug/L	1.3325	ppb	16:35:22
2	S 181.975 Axial†	46.0	3.3	4.6311	ug/L	4.6311	ppb	16:35:22
2	Sb 206.836†	60.8	33.2	11.395	ug/L	11.395	ppb	16:35:22
2	Se 196.026†	-27.3	4.5	2.9119	ug/L	2.9119	ppb	16:35:22
2	Si 251.611†	593.5	46.8	1.5009	ug/L	1.5009	ppb	16:35:22
2	Sn 189.927†	12.7	5.1	0.9018	ug/L	0.9018	ppb	16:35:22
2	Ti 334.940†	-1383.5	-17.9	-0.0302	ug/L	-0.0302	ppb	16:35:02
2	Tl 190.801†	-42.6	-10.0	-3.0756	ug/L	-3.0756	ppb	16:35:22
2	U 409.014†	-1968.8	30.2	0.8911	ug/L	0.8911	ppb	16:35:02
2	V 292.402†	-1349.2	-48.1	-0.3383	ug/L	-0.3383	ppb	16:35:02
2	Zn 213.857†	694.8	79.0	0.7452	ug/L	0.7452	ppb	16:35:22
2	SiO2†	603.2	35.4	2.4352	ug/L	2.4352	ppb	16:35:57
3	Sc Radial	4936.5	4936.5	98.0	%			16:34:10
3	Y RADIAL	5325.3	5325.3	98.08	%			16:34:10
3	Al 396.153Radial†	2.6	3.3	2.5634	ug/L	2.5634	ppb	16:34:10
3	Ca 317.933Radial†	13.6	-5.9	-9.3960	ug/L	-9.3960	ppb	16:34:30
3	Fe 238.204 Radial†	8.6	-0.1	-1.1579	ug/L	-1.1579	ppb	16:34:30
3	K 766.490 Radial†	3161.3	634.5	116.32	ug/L	116.32	ppb	16:34:10
3	Mg 279.077 IEC†	-1.9	-3.9	-129.81	ug/L	-129.81	ppb	16:34:30
3	Na 589.592 Radial†	-1104.9	153.5	45.952	ug/L	45.952	ppb	16:34:10
3	Sr 421.552†	-31.9	-13.0	-0.0842	ug/L	-0.0842	ppb	16:34:10
3	Sc 361.383	840442.8	840442.8	98.597	%			16:35:27
3	Y 371.029	714287.5	714287.5	98.840	%			16:35:27
3	Ag 328.068†	305.1	-48.6	-0.2213	ug/L	-0.2213	ppb	16:35:27
3	As 188.979†	-10.0	13.5	5.8431	ug/L	5.8431	ppb	16:35:47
3	B 249.677†	74.6	707.5	15.773	ug/L	15.773	ppb	16:35:47
3	Ba 233.527†	-12.8	-1.6	-0.0126	ug/L	-0.0126	ppb	16:35:47
3	Be 313.107†	-4499.3	22.0	0.0083	ug/L	0.0083	ppb	16:35:27
3	Cd 226.502†	-176.2	25.4	0.2813	ug/L	0.2813	ppb	16:35:47
3	Co 228.616†	-88.4	-15.0	-0.3063	ug/L	-0.3063	ppb	16:35:47
3	Cr 267.716†	95.4	13.5	0.1525	ug/L	0.1525	ppb	16:35:47
3	Cu 324.752†	6418.3	97.4	0.2934	ug/L	0.2934	ppb	16:35:27
3	Mn 257.610†	440.8	2.2	0.0076	ug/L	0.0076	ppb	16:35:47
3	Mo 202.031†	23.3	-0.1	-0.0083	ug/L	-0.0083	ppb	16:35:47
3	Ni 231.604†	78.6	11.8	0.2929	ug/L	0.2929	ppb	16:35:47
3	P 214.914†	214.4	-12.4	-7.6292	ug/L	-7.6292	ppb	16:35:47
3	Pb 220.353†	-53.3	9.3	1.1359	ug/L	1.1359	ppb	16:35:47
3	S 181.975 Axial†	47.1	4.7	6.6920	ug/L	6.6920	ppb	16:35:47
3	Sb 206.836†	52.6	25.4	8.7048	ug/L	8.7048	ppb	16:35:47
3	Se 196.026†	-39.6	-8.2	-5.2896	ug/L	-5.2896	ppb	16:35:47
3	Si 251.611†	561.4	19.0	0.6040	ug/L	0.6040	ppb	16:35:47
3	Sn 189.927†	10.8	3.3	0.5891	ug/L	0.5891	ppb	16:35:47
3	Ti 334.940†	-1374.1	-19.1	-0.0195	ug/L	-0.0195	ppb	16:35:27
3	Tl 190.801†	-30.3	2.1	0.6498	ug/L	0.6498	ppb	16:35:47
3	U 409.014†	-2124.1	-142.7	-4.2104	ug/L	-4.2104	ppb	16:35:27
3	V 292.402†	-1316.1	-25.1	-0.1819	ug/L	-0.1819	ppb	16:35:27
3	Zn 213.857†	697.1	86.8	0.8190	ug/L	0.8190	ppb	16:35:47
3	SiO2†	583.7	20.4	1.3897	ug/L	1.3897	ppb	16:36:02

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	839321.3	98.466	%	0.9699				0.99%
Sc Radial	4950.6	98.3	%	0.46				0.46%
Y 371.029	713058.4	98.670	%	0.9751				0.99%
Y RADIAL	5354.4	98.62	%	0.504				0.51%
Ag 328.068†	-46.8	-0.2146	ug/L	0.41254	-0.2146	ppb	0.41254	192.26%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	4.4	3.3920	ug/L	9.56669	3.3920	ppb	9.56669	282.04%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	17.5	7.6040	ug/L	3.68017	7.6040	ppb	3.68017	48.40%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	742.1	16.545	ug/L	0.7845	16.545	ppb	0.7845	4.74%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-2.4	-0.0198	ug/L	0.02961	-0.0198	ppb	0.02961	149.50%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-31.3	-0.0121	ug/L	0.01804	-0.0121	ppb	0.01804	149.45%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-7.2	-11.549	ug/L	3.2460	-11.549	ppb	3.2460	28.10%

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   QC value within limits for Ca 317.933Radial  Recovery = Not calculated
Cd 226.502†                24.3      0.2688 ug/L       0.05076      0.2688 ppb        0.05076  18.88%
   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†               -14.5     -0.2968 ug/L       0.10215     -0.2968 ppb        0.10215  34.42%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                11.2      0.1249 ug/L       0.13322      0.1249 ppb        0.13322 106.68%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†               140.8      0.4225 ug/L       0.17351      0.4225 ppb        0.17351  41.07%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          0.2      1.5253 ug/L       2.42676      1.5253 ppb        2.42676 159.11%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†         703.5      128.97 ug/L        13.341      128.97 ppb         13.341  10.34%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†            -1.5     -48.807 ug/L       70.3643     -48.807 ppb        70.3643 144.17%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†                -2.1     -0.0002 ug/L       0.00752     -0.0002 ppb        0.00752 >999.9%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                -1.5     -0.1053 ug/L       0.57117     -0.1053 ppb        0.57117 542.32%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        192.0      57.491 ug/L       11.5206      57.491 ppb        11.5206  20.04%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                 7.1      0.1771 ug/L       0.11803      0.1771 ppb        0.11803  66.63%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                 -7.0     -4.3454 ug/L       3.14512     -4.3454 ppb        3.14512  72.38%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                19.3      2.3624 ug/L       1.95644      2.3624 ppb        1.95644  82.82%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†            3.1      4.4300 ug/L       2.36900      4.4300 ppb        2.36900  53.48%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                32.1      11.006 ug/L        2.1330      11.006 ppb         2.1330  19.38%
   QC value greater than the upper limit for Sb 206.836  Recovery = Not calculated
Se 196.026†                -2.4     -1.5283 ug/L       4.14268     -1.5283 ppb        4.14268 271.06%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†                38.8      1.2361 ug/L       0.54983      1.2361 ppb        0.54983  44.48%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 3.3      0.5749 ug/L       0.33426      0.5749 ppb        0.33426  58.15%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                22.8      0.1473 ug/L       0.20740      0.1473 ppb        0.20740 140.84%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†               -38.4     -0.0583 ug/L       0.05820     -0.0583 ppb        0.05820  99.84%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -3.7     -1.1271 ug/L       1.86864     -1.1271 ppb        1.86864 165.79%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                -75.3     -2.2223 ug/L       2.73056     -2.2223 ppb        2.73056 122.87%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                -60.2     -0.4176 ug/L       0.28376     -0.4176 ppb        0.28376  67.95%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†                86.6      0.8169 ug/L       0.07064      0.8169 ppb        0.07064   8.65%
   QC value within limits for Zn 213.857  Recovery = Not calculated
SiO2†                      54.0      3.6847 ug/L       3.11377      3.6847 ppb        3.11377  84.51%
   QC value within limits for SiO2  Recovery = Not calculated
QC Failed.  Continue with analysis.
```

User canceled analysis.

==========

Analysis Begun

Start Time: 1/11/2010 16:38:46 **Plasma On Time: 1/11/2010 06:15:31**
Logged In Analyst: Optima3 **Technique: ICP Continuous**
Spectrometer Model: Optima 5300 DV, S/N 077C7090601Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\011110.sif
Batch ID:
Results Data Set: 011110A
Results Library: C:\pe\Optima3\Results\Results.mdb

==========

Sequence No.: 13 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 1/11/2010 16:38:48**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	4882.6	4882.6	97.0	%			16:40:39
1	Y RADIAL	5223.2	5223.2	96.20	%			16:40:39
1	Al 396.153Radial†	6253.5	6449.7	4951.3	ug/L	4951.3	ppb	16:40:39
1	Ca 317.933Radial†	3059.0	3134.9	5016.2	ug/L	5016.2	ppb	16:40:59
1	Fe 238.204 Radial†	576.8	585.9	5085.4	ug/L	5085.4	ppb	16:40:59
1	K 766.490 Radial†	29412.0	27741.6	5069.0	ug/L	5069.0	ppb	16:40:39
1	Mg 279.077 IEC†	152.5	155.3	5189.7	ug/L	5189.7	ppb	16:40:59
1	Na 589.592 Radial†	31106.7	33359.8	9988.3	ug/L	9988.3	ppb	16:40:39
1	Sr 421.552†	73905.9	76236.5	492.37	ug/L	492.37	ppb	16:40:39
1	Sc 361.383	845780.1	845780.1	99.224	%			16:41:57
1	Y 371.029	705843.2	705843.2	97.672	%			16:41:57
1	Ag 328.068†	108502.2	108993.2	505.01	ug/L	505.01	ppb	16:42:02
1	As 188.979†	1129.0	1161.4	505.37	ug/L	505.37	ppb	16:42:22
1	B 249.677†	21566.4	22367.0	496.70	ug/L	496.70	ppb	16:42:02
1	Ba 233.527†	63263.6	63770.0	499.11	ug/L	499.11	ppb	16:42:02
1	Be 313.107†	1321061.2	1335983.3	510.17	ug/L	510.17	ppb	16:41:57
1	Cd 226.502†	44316.2	44867.1	497.76	ug/L	497.76	ppb	16:42:02
1	Co 228.616†	24190.7	24454.7	500.68	ug/L	500.68	ppb	16:42:02
1	Cr 267.716†	44404.7	44668.9	500.01	ug/L	500.01	ppb	16:42:02
1	Cu 324.752†	169480.5	164394.5	491.57	ug/L	491.57	ppb	16:42:02
1	Mn 257.610†	453830.1	456936.2	506.92	ug/L	506.92	ppb	16:41:57
1	Mo 202.031†	7137.7	7169.9	507.13	ug/L	507.13	ppb	16:42:22
1	Ni 231.604†	20031.9	20120.7	500.71	ug/L	500.71	ppb	16:42:02
1	P 214.914†	4274.5	4078.1	2388.2	ug/L	2388.2	ppb	16:42:22
1	Pb 220.353†	4005.5	4100.2	503.74	ug/L	503.74	ppb	16:42:22
1	S 181.975 Axial†	759.0	721.9	1020.7	ug/L	1020.7	ppb	16:42:22
1	Sb 206.836†	1494.6	1478.4	524.59	ug/L	524.59	ppb	16:42:22
1	Se 196.026†	743.3	781.1	521.36	ug/L	521.36	ppb	16:42:22
1	Si 251.611†	79232.2	79301.7	2519.4	ug/L	2519.4	ppb	16:42:02
1	Sn 189.927†	2850.0	2864.7	508.32	ug/L	508.32	ppb	16:42:22
1	Ti 334.940†	301952.2	305689.3	492.24	ug/L	492.24	ppb	16:42:02
1	Tl 190.801†	1587.5	1632.8	503.99	ug/L	503.99	ppb	16:42:22
1	U 409.014†	14919.9	17048.3	501.22	ug/L	501.22	ppb	16:42:02
1	V 292.402†	70898.2	72762.7	503.80	ug/L	503.80	ppb	16:42:02
1	Zn 213.857†	52974.0	52768.2	494.74	ug/L	494.74	ppb	16:42:02
1	SiO2†	80240.9	80297.0	5465.0	ug/L	5465.0	ppb	16:43:29
2	Sc Radial	4869.0	4869.0	96.7	%			16:41:04
2	Y RADIAL	5223.7	5223.7	96.21	%			16:41:04
2	Al 396.153Radial†	6219.1	6432.2	4937.9	ug/L	4937.9	ppb	16:41:04
2	Ca 317.933Radial†	3097.5	3183.6	5094.0	ug/L	5094.0	ppb	16:41:24
2	Fe 238.204 Radial†	583.9	595.0	5164.1	ug/L	5164.1	ppb	16:41:24
2	K 766.490 Radial†	29527.0	27945.4	5106.4	ug/L	5106.4	ppb	16:41:04
2	Mg 279.077 IEC†	150.3	153.5	5129.5	ug/L	5129.5	ppb	16:41:24
2	Na 589.592 Radial†	31283.3	33632.3	10070	ug/L	10070	ppb	16:41:04
2	Sr 421.552†	74177.7	76730.8	495.56	ug/L	495.56	ppb	16:41:04
2	Sc 361.383	857147.9	857147.9	100.56	%			16:42:28

2	Y 371.029	715084.0	715084.0	98.951 %		16:42:28
2	Ag 328.068†	110354.2	109384.7	506.84 ug/L	506.84 ppb	16:42:33
2	As 188.979†	1145.2	1162.5	505.84 ug/L	505.84 ppb	16:42:53
2	B 249.677†	21931.9	22442.2	498.36 ug/L	498.36 ppb	16:42:33
2	Ba 233.527†	64151.9	63807.8	499.41 ug/L	499.41 ppb	16:42:33
2	Be 313.107†	1333477.0	1330672.9	508.14 ug/L	508.14 ppb	16:42:28
2	Cd 226.502†	45190.4	45144.1	500.82 ug/L	500.82 ppb	16:42:33
2	Co 228.616†	24545.1	24483.7	501.26 ug/L	501.26 ppb	16:42:33
2	Cr 267.716†	45142.8	44809.4	501.58 ug/L	501.58 ppb	16:42:33
2	Cu 324.752†	172257.5	164890.7	493.06 ug/L	493.06 ppb	16:42:33
2	Mn 257.610†	457824.2	454842.3	504.61 ug/L	504.61 ppb	16:42:28
2	Mo 202.031†	7181.0	7117.5	503.44 ug/L	503.44 ppb	16:42:53
2	Ni 231.604†	20361.3	20180.5	502.20 ug/L	502.20 ppb	16:42:33
2	P 214.914†	4307.4	4053.6	2372.8 ug/L	2372.8 ppb	16:42:53
2	Pb 220.353†	4036.2	4077.2	500.90 ug/L	500.90 ppb	16:42:53
2	S 181.975 Axial†	759.0	711.8	1006.4 ug/L	1006.4 ppb	16:42:53
2	Sb 206.836†	1502.1	1465.8	520.15 ug/L	520.15 ppb	16:42:53
2	Se 196.026†	747.7	775.6	518.03 ug/L	518.03 ppb	16:42:53
2	Si 251.611†	80567.2	79570.2	2528.0 ug/L	2528.0 ppb	16:42:33
2	Sn 189.927†	2863.5	2839.9	503.95 ug/L	503.95 ppb	16:42:53
2	Ti 334.940†	306689.7	306364.7	493.34 ug/L	493.34 ppb	16:42:33
2	Tl 190.801†	1602.6	1626.5	502.07 ug/L	502.07 ppb	16:42:53
2	U 409.014†	15377.6	17304.0	508.75 ug/L	508.75 ppb	16:42:33
2	V 292.402†	71992.3	72903.1	504.70 ug/L	504.70 ppb	16:42:33
2	Zn 213.857†	53815.4	52897.0	495.94 ug/L	495.94 ppb	16:42:33
2	SiO2†	79728.2	78714.7	5357.1 ug/L	5357.1 ppb	16:43:34
3	Sc Radial	4810.3	4810.3	95.5 %		16:41:30
3	Y RADIAL	5124.6	5124.6	94.38 %		16:41:30
3	Al 396.153Radial†	6306.8	6602.6	5068.9 ug/L	5068.9 ppb	16:41:30
3	Ca 317.933Radial†	3080.5	3204.9	5128.1 ug/L	5128.1 ppb	16:41:50
3	Fe 238.204 Radial†	588.4	607.0	5268.5 ug/L	5268.5 ppb	16:41:50
3	K 766.490 Radial†	29544.2	28336.3	5177.8 ug/L	5177.8 ppb	16:41:30
3	Mg 279.077 IEC†	157.6	163.1	5449.4 ug/L	5449.4 ppb	16:41:50
3	Na 589.592 Radial†	31435.3	34186.5	10236 ug/L	10236 ppb	16:41:30
3	Sr 421.552†	74786.5	78305.0	505.73 ug/L	505.73 ppb	16:41:30
3	Sc 361.383	839569.1	839569.1	98.495 %		16:42:59
3	Y 371.029	700329.4	700329.4	96.909 %		16:42:59
3	Ag 328.068†	110088.2	111412.4	516.24 ug/L	516.24 ppb	16:43:04
3	As 188.979†	1138.0	1179.0	513.05 ug/L	513.05 ppb	16:43:24
3	B 249.677†	22005.5	22973.6	510.17 ug/L	510.17 ppb	16:43:04
3	Ba 233.527†	64098.3	65089.1	509.43 ug/L	509.43 ppb	16:43:04
3	Be 313.107†	1304992.4	1329518.6	507.73 ug/L	507.73 ppb	16:42:59
3	Cd 226.502†	45083.5	45976.5	510.06 ug/L	510.06 ppb	16:43:04
3	Co 228.616†	24559.1	25009.1	512.01 ug/L	512.01 ppb	16:43:04
3	Cr 267.716†	44972.2	45576.1	510.17 ug/L	510.17 ppb	16:43:04
3	Cu 324.752†	172089.4	168306.7	503.27 ug/L	503.27 ppb	16:43:04
3	Mn 257.610†	449125.2	455543.1	505.38 ug/L	505.38 ppb	16:42:59
3	Mo 202.031†	7174.4	7260.3	513.54 ug/L	513.54 ppb	16:43:24
3	Ni 231.604†	20313.7	20556.1	511.54 ug/L	511.54 ppb	16:43:04
3	P 214.914†	4293.6	4129.3	2416.9 ug/L	2416.9 ppb	16:43:24
3	Pb 220.353†	4030.2	4155.2	510.49 ug/L	510.49 ppb	16:43:24
3	S 181.975 Axial†	757.6	726.1	1026.6 ug/L	1026.6 ppb	16:43:24
3	Sb 206.836†	1500.4	1495.4	530.64 ug/L	530.64 ppb	16:43:24
3	Se 196.026†	746.7	790.1	527.77 ug/L	527.77 ppb	16:43:24
3	Si 251.611†	80487.4	81166.8	2578.7 ug/L	2578.7 ppb	16:43:04
3	Sn 189.927†	2857.0	2893.0	513.35 ug/L	513.35 ppb	16:43:24
3	Ti 334.940†	306093.6	312145.3	502.63 ug/L	502.63 ppb	16:43:04
3	Tl 190.801†	1601.4	1658.8	511.96 ug/L	511.96 ppb	16:43:24
3	U 409.014†	15311.6	17557.2	516.19 ug/L	516.19 ppb	16:43:04
3	V 292.402†	71844.9	74252.4	514.06 ug/L	514.06 ppb	16:43:04
3	Zn 213.857†	53742.9	53943.9	505.76 ug/L	505.76 ppb	16:43:04
3	SiO2†	80273.2	80928.1	5507.9 ug/L	5507.9 ppb	16:43:40

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	847499.0	99.425	%	1.0458				1.05%
Sc Radial	4854.0	96.4	%	0.76				0.79%
Y 371.029	707085.5	97.844	%	1.0316				1.05%
Y RADIAL	5190.5	95.60	%	1.052				1.10%

```
Ag 328.068†          109930.1      509.36 ug/L        6.024      509.36 ppb        6.024   1.18%
   QC value within limits for Ag 328.068  Recovery = 101.87%
Al 396.153Radial†      6494.8      4986.0 ug/L       72.07      4986.0 ppb       72.07   1.45%
   QC value within limits for Al 396.153Radial  Recovery = 99.72%
As 188.979†            1167.6      508.09 ug/L        4.305      508.09 ppb        4.305   0.85%
   QC value within limits for As 188.979  Recovery = 101.62%
B 249.677†            22594.3      501.74 ug/L        7.344      501.74 ppb        7.344   1.46%
   QC value within limits for B 249.677  Recovery = 100.35%
Ba 233.527†           64222.3      502.65 ug/L        5.877      502.65 ppb        5.877   1.17%
   QC value within limits for Ba 233.527  Recovery = 100.53%
Be 313.107†         1332058.3      508.68 ug/L        1.305      508.68 ppb        1.305   0.26%
   QC value within limits for Be 313.107  Recovery = 101.74%
Ca 317.933Radial†      3174.4      5079.4 ug/L       57.37      5079.4 ppb       57.37   1.13%
   QC value within limits for Ca 317.933Radial  Recovery = 101.59%
Cd 226.502†           45329.2      502.88 ug/L        6.403      502.88 ppb        6.403   1.27%
   QC value within limits for Cd 226.502  Recovery = 100.58%
Co 228.616†           24649.2      504.65 ug/L        6.385      504.65 ppb        6.385   1.27%
   QC value within limits for Co 228.616  Recovery = 100.93%
Cr 267.716†           45018.2      503.92 ug/L        5.466      503.92 ppb        5.466   1.08%
   QC value within limits for Cr 267.716  Recovery = 100.78%
Cu 324.752†          165864.0      495.97 ug/L        6.370      495.97 ppb        6.370   1.28%
   QC value within limits for Cu 324.752  Recovery = 99.19%
Fe 238.204 Radial†       596.0      5172.7 ug/L       91.84      5172.7 ppb       91.84   1.78%
   QC value within limits for Fe 238.204 Radial  Recovery = 103.45%
K 766.490 Radial†      28007.7      5117.7 ug/L       55.30      5117.7 ppb       55.30   1.08%
   QC value within limits for K 766.490 Radial  Recovery = 102.35%
Mg 279.077 IEC†          157.3      5256.2 ug/L      170.00      5256.2 ppb      170.00   3.23%
   QC value within limits for Mg 279.077 IEC  Recovery = 105.12%
Mn 257.610†          455773.9      505.64 ug/L        1.176      505.64 ppb        1.176   0.23%
   QC value within limits for Mn 257.610  Recovery = 101.13%
Mo 202.031†            7182.5      508.04 ug/L        5.112      508.04 ppb        5.112   1.01%
   QC value within limits for Mo 202.031  Recovery = 101.61%
Na 589.592 Radial†     33726.2       10098 ug/L      126.1       10098 ppb       126.1   1.25%
   QC value within limits for Na 589.592 Radial  Recovery = 100.98%
Ni 231.604†           20285.8      504.82 ug/L        5.873      504.82 ppb        5.873   1.16%
   QC value within limits for Ni 231.604  Recovery = 100.96%
P 214.914†             4087.0      2392.6 ug/L       22.36      2392.6 ppb       22.36   0.93%
   QC value within limits for P 214.914  Recovery = 95.71%
Pb 220.353†            4110.9      505.04 ug/L        4.924      505.04 ppb        4.924   0.98%
   QC value within limits for Pb 220.353  Recovery = 101.01%
S 181.975 Axial†        719.9      1017.9 ug/L       10.40      1017.9 ppb       10.40   1.02%
   QC value within limits for S 181.975 Axial  Recovery = 101.79%
Sb 206.836†            1479.9      525.12 ug/L        5.267      525.12 ppb        5.267   1.00%
   QC value within limits for Sb 206.836  Recovery = 105.02%
Se 196.026†             782.2      522.39 ug/L        4.947      522.39 ppb        4.947   0.95%
   QC value within limits for Se 196.026  Recovery = 104.48%
Si 251.611†           80012.9      2542.0 ug/L       32.06      2542.0 ppb       32.06   1.26%
   QC value within limits for Si 251.611  Recovery = 101.68%
Sn 189.927†            2865.9      508.54 ug/L        4.707      508.54 ppb        4.707   0.93%
   QC value within limits for Sn 189.927  Recovery = 101.71%
Sr 421.552†           77090.8      497.88 ug/L        6.976      497.88 ppb        6.976   1.40%
   QC value within limits for Sr 421.552  Recovery = 99.58%
Ti 334.940†          308066.5      496.07 ug/L        5.704      496.07 ppb        5.704   1.15%
   QC value within limits for Ti 334.940  Recovery = 99.21%
Tl 190.801†            1639.4      506.01 ug/L        5.246      506.01 ppb        5.246   1.04%
   QC value within limits for Tl 190.801  Recovery = 101.20%
U 409.014†            17303.2      508.72 ug/L        7.484      508.72 ppb        7.484   1.47%
   QC value within limits for U 409.014  Recovery = 101.74%
V 292.402†            73306.1      507.52 ug/L        5.678      507.52 ppb        5.678   1.12%
   QC value within limits for V 292.402  Recovery = 101.50%
Zn 213.857†           53203.0      498.81 ug/L        6.044      498.81 ppb        6.044   1.21%
   QC value within limits for Zn 213.857  Recovery = 99.76%
SiO2†                 79979.9      5443.3 ug/L       77.67      5443.3 ppb       77.67   1.43%
   QC value within limits for SiO2  Recovery = 101.79%
All analyte(s) passed QC.
```

Sequence No.: 14
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 1/11/2010 16:45:50
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	4821.6	4821.6	95.8	%			16:47:42
1	Y RADIAL	5232.3	5232.3	96.37	%			16:47:42
1	Al 396.153Radial†	-11.8	-11.7	-8.9640	ug/L	-8.9640	ppb	16:47:42
1	Ca 317.933Radial†	17.7	-1.3	-2.0768	ug/L	-2.0768	ppb	16:48:02
1	Fe 238.204 Radial†	10.2	1.7	14.859	ug/L	14.859	ppb	16:48:02
1	K 766.490 Radial†	3051.9	597.0	109.49	ug/L	109.49	ppb	16:47:42
1	Mg 279.077 IEC†	1.3	-0.5	-18.276	ug/L	-18.276	ppb	16:48:02
1	Na 589.592 Radial†	-1271.9	-47.8	-14.311	ug/L	-14.311	ppb	16:47:42
1	Sr 421.552†	5.9	25.6	0.1655	ug/L	0.1655	ppb	16:47:42
1	Sc 361.383	841525.7	841525.7	98.724	%			16:48:59
1	Y 371.029	715554.7	715554.7	99.016	%			16:48:59
1	Ag 328.068†	323.2	-30.6	-0.1346	ug/L	-0.1346	ppb	16:48:59
1	As 188.979†	-18.8	4.6	2.0049	ug/L	2.0049	ppb	16:49:19
1	B 249.677†	-282.3	345.9	7.7098	ug/L	7.7098	ppb	16:49:19
1	Ba 233.527†	-12.7	-1.5	-0.0116	ug/L	-0.0116	ppb	16:49:19
1	Be 313.107†	-4552.1	-25.5	-0.0096	ug/L	-0.0096	ppb	16:48:59
1	Cd 226.502†	-186.4	15.3	0.1676	ug/L	0.1676	ppb	16:49:19
1	Co 228.616†	-84.8	-11.2	-0.2326	ug/L	-0.2326	ppb	16:49:19
1	Cr 267.716†	86.2	4.1	0.0467	ug/L	0.0467	ppb	16:49:19
1	Cu 324.752†	6436.7	107.6	0.3241	ug/L	0.3241	ppb	16:48:59
1	Mn 257.610†	416.7	-22.8	-0.0228	ug/L	-0.0228	ppb	16:49:19
1	Mo 202.031†	9.1	-14.5	-1.0240	ug/L	-1.0240	ppb	16:49:19
1	Ni 231.604†	63.7	-3.4	-0.0843	ug/L	-0.0843	ppb	16:49:19
1	P 214.914†	214.3	-12.8	-7.8928	ug/L	-7.8928	ppb	16:49:19
1	Pb 220.353†	-53.2	9.4	1.1493	ug/L	1.1493	ppb	16:49:19
1	S 181.975 Axial†	43.0	0.5	0.7238	ug/L	0.7238	ppb	16:49:19
1	Sb 206.836†	37.3	9.9	3.3534	ug/L	3.3534	ppb	16:49:19
1	Se 196.026†	-29.4	2.2	1.4795	ug/L	1.4795	ppb	16:49:19
1	Si 251.611†	537.7	-5.8	-0.1729	ug/L	-0.1729	ppb	16:49:19
1	Sn 189.927†	5.7	-1.9	-0.3300	ug/L	-0.3300	ppb	16:49:19
1	Ti 334.940†	-1328.3	29.0	0.0492	ug/L	0.0492	ppb	16:48:59
1	Tl 190.801†	-20.5	12.1	3.7103	ug/L	3.7103	ppb	16:49:19
1	U 409.014†	-2076.7	-91.9	-2.7131	ug/L	-2.7131	ppb	16:48:59
1	V 292.402†	-1322.2	-29.6	-0.2251	ug/L	-0.2251	ppb	16:48:59
1	Zn 213.857†	640.3	28.4	0.2671	ug/L	0.2671	ppb	16:49:19
1	SiO2†	524.6	-40.3	-2.7219	ug/L	-2.7219	ppb	16:50:15
2	Sc Radial	4944.4	4944.4	98.2	%			16:48:07
2	Y RADIAL	5363.5	5363.5	98.79	%			16:48:07
2	Al 396.153Radial†	-2.7	-2.1	-1.6010	ug/L	-1.6010	ppb	16:48:07
2	Ca 317.933Radial†	14.2	-5.3	-8.4304	ug/L	-8.4304	ppb	16:48:27
2	Fe 238.204 Radial†	9.3	0.6	4.8751	ug/L	4.8751	ppb	16:48:27
2	K 766.490 Radial†	2945.0	409.0	74.983	ug/L	74.983	ppb	16:48:07
2	Mg 279.077 IEC†	3.9	2.0	67.948	ug/L	67.948	ppb	16:48:27
2	Na 589.592 Radial†	-1212.0	46.2	13.819	ug/L	13.819	ppb	16:48:07
2	Sr 421.552†	0.7	20.2	0.1309	ug/L	0.1309	ppb	16:48:07
2	Sc 361.383	833346.4	833346.4	97.765	%			16:49:24
2	Y 371.029	708291.2	708291.2	98.011	%			16:49:24
2	Ag 328.068†	309.5	-41.5	-0.1903	ug/L	-0.1903	ppb	16:49:24
2	As 188.979†	-5.5	18.0	7.7871	ug/L	7.7871	ppb	16:49:44
2	B 249.677†	-299.8	325.2	7.2486	ug/L	7.2486	ppb	16:49:44
2	Ba 233.527†	-19.0	-8.0	-0.0637	ug/L	-0.0637	ppb	16:49:44
2	Be 313.107†	-4542.3	-60.8	-0.0233	ug/L	-0.0233	ppb	16:49:24
2	Cd 226.502†	-200.4	-0.9	-0.0103	ug/L	-0.0103	ppb	16:49:44
2	Co 228.616†	-78.0	-5.1	-0.1048	ug/L	-0.1048	ppb	16:49:44
2	Cr 267.716†	85.0	3.6	0.0404	ug/L	0.0404	ppb	16:49:44
2	Cu 324.752†	6402.2	136.4	0.4086	ug/L	0.4086	ppb	16:49:24
2	Mn 257.610†	421.6	-13.7	-0.0174	ug/L	-0.0174	ppb	16:49:44
2	Mo 202.031†	24.8	1.6	0.1158	ug/L	0.1158	ppb	16:49:44
2	Ni 231.604†	64.4	-2.1	-0.0527	ug/L	-0.0527	ppb	16:49:44

2	P 214.914†	234.2	9.7	5.8359 ug/L	5.8359 ppb	16:49:44
2	Pb 220.353†	-63.6	-1.7	-0.2065 ug/L	-0.2065 ppb	16:49:44
2	S 181.975 Axial†	53.0	11.2	15.884 ug/L	15.884 ppb	16:49:44
2	Sb 206.836†	37.6	10.5	3.6095 ug/L	3.6095 ppb	16:49:44
2	Se 196.026†	-27.3	4.1	2.6695 ug/L	2.6695 ppb	16:49:44
2	Si 251.611†	533.3	-4.9	-0.1584 ug/L	-0.1584 ppb	16:49:44
2	Sn 189.927†	9.7	2.2	0.3903 ug/L	0.3903 ppb	16:49:44
2	Ti 334.940†	-1379.2	-36.2	-0.0643 ug/L	-0.0643 ppb	16:49:24
2	Tl 190.801†	-43.6	-11.8	-3.6161 ug/L	-3.6161 ppb	16:49:44
2	U 409.014†	-2001.5	-35.7	-1.0528 ug/L	-1.0528 ppb	16:49:24
2	V 292.402†	-1354.0	-75.3	-0.5137 ug/L	-0.5137 ppb	16:49:24
2	Zn 213.857†	649.3	43.9	0.4145 ug/L	0.4145 ppb	16:49:44
2	SiO2†	532.3	-27.2	-1.8597 ug/L	-1.8597 ppb	16:50:20
3	Sc Radial	4889.1	4889.1	97.1 %		16:48:32
3	Y RADIAL	5263.1	5263.1	96.94 %		16:48:32
3	Al 396.153Radial†	2.7	3.5	2.6530 ug/L	2.6530 ppb	16:48:32
3	Ca 317.933Radial†	13.3	-6.1	-9.6929 ug/L	-9.6929 ppb	16:48:52
3	Fe 238.204 Radial†	10.5	1.9	16.443 ug/L	16.443 ppb	16:48:52
3	K 766.490 Radial†	2886.8	383.0	70.229 ug/L	70.229 ppb	16:48:32
3	Mg 279.077 IEC†	3.9	2.1	68.851 ug/L	68.851 ppb	16:48:52
3	Na 589.592 Radial†	-1260.2	-17.4	-5.2205 ug/L	-5.2205 ppb	16:48:32
3	Sr 421.552†	27.4	47.7	0.3082 ug/L	0.3082 ppb	16:48:32
3	Sc 361.383	840103.4	840103.4	98.558 %		16:49:50
3	Y 371.029	713031.9	713031.9	98.667 %		16:49:50
3	Ag 328.068†	251.5	-102.8	-0.4704 ug/L	-0.4704 ppb	16:49:50
3	As 188.979†	-20.0	3.4	1.4597 ug/L	1.4597 ppb	16:50:10
3	B 249.677†	-305.6	321.8	7.1715 ug/L	7.1715 ppb	16:50:10
3	Ba 233.527†	-15.5	-4.3	-0.0339 ug/L	-0.0339 ppb	16:50:10
3	Be 313.107†	-4547.9	-29.1	-0.0110 ug/L	-0.0110 ppb	16:49:50
3	Cd 226.502†	-184.4	17.0	0.1873 ug/L	0.1873 ppb	16:50:10
3	Co 228.616†	-66.0	7.7	0.1585 ug/L	0.1585 ppb	16:50:10
3	Cr 267.716†	75.0	-7.2	-0.0807 ug/L	-0.0807 ppb	16:50:10
3	Cu 324.752†	6412.0	93.7	0.2803 ug/L	0.2803 ppb	16:49:50
3	Mn 257.610†	417.7	-21.1	-0.0244 ug/L	-0.0244 ppb	16:50:10
3	Mo 202.031†	28.5	5.2	0.3676 ug/L	0.3676 ppb	16:50:10
3	Ni 231.604†	70.8	3.9	0.0977 ug/L	0.0977 ppb	16:50:10
3	P 214.914†	211.6	-15.2	-9.3652 ug/L	-9.3652 ppb	16:50:10
3	Pb 220.353†	-52.6	10.0	1.2274 ug/L	1.2274 ppb	16:50:10
3	S 181.975 Axial†	47.5	5.2	7.4133 ug/L	7.4133 ppb	16:50:10
3	Sb 206.836†	41.1	13.7	4.7078 ug/L	4.7078 ppb	16:50:10
3	Se 196.026†	-22.7	9.0	5.8487 ug/L	5.8487 ppb	16:50:10
3	Si 251.611†	539.2	-3.4	-0.1131 ug/L	-0.1131 ppb	16:50:10
3	Sn 189.927†	5.5	-2.1	-0.3663 ug/L	-0.3663 ppb	16:50:10
3	Ti 334.940†	-1325.3	29.8	0.0408 ug/L	0.0408 ppb	16:49:50
3	Tl 190.801†	-39.2	-6.9	-2.1238 ug/L	-2.1238 ppb	16:50:10
3	U 409.014†	-1943.8	39.4	1.1607 ug/L	1.1607 ppb	16:49:50
3	V 292.402†	-1337.5	-47.4	-0.3169 ug/L	-0.3169 ppb	16:49:50
3	Zn 213.857†	648.7	37.9	0.3562 ug/L	0.3562 ppb	16:50:10
3	SiO2†	528.8	-35.2	-2.4107 ug/L	-2.4107 ppb	16:50:25

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	838325.1	98.349	%	0.5127				0.52%
Sc Radial	4885.1	97.0	%	1.22				1.26%
Y 371.029	712292.6	98.564	%	0.5103				0.52%
Y RADIAL	5286.3	97.36	%	1.264				1.30%
Ag 328.068†	-58.3	-0.2651	ug/L	0.17994	-0.2651	ppb	0.17994	67.88%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-3.4	-2.6374	ug/L	5.87742	-2.6374	ppb	5.87742	222.85%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	8.6	3.7505	ug/L	3.50634	3.7505	ppb	3.50634	93.49%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	330.9	7.3766	ug/L	0.29109	7.3766	ppb	0.29109	3.95%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-4.6	-0.0364	ug/L	0.02618	-0.0364	ppb	0.02618	71.94%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-38.5	-0.0146	ug/L	0.00753	-0.0146	ppb	0.00753	51.48%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-4.2	-6.7334	ug/L	4.08178	-6.7334	ppb	4.08178	60.62%

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   QC value within limits for Ca 317.933Radial  Recovery = Not calculated
Cd 226.502†                10.5      0.1149 ug/L       0.10883      0.1149 ppb        0.10883  94.73%
   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†                -2.9     -0.0596 ug/L       0.19944     -0.0596 ppb        0.19944 334.48%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                 0.2      0.0021 ug/L       0.07181      0.0021 ppb        0.07181 >999.9%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†               112.5      0.3376 ug/L       0.06521      0.3376 ppb        0.06521  19.31%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          1.4      12.059 ug/L        6.2716      12.059 ppb         6.2716  52.01%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†         463.0      84.900 ug/L       21.4263      84.900 ppb        21.4263  25.24%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†             1.2      39.507 ug/L       50.0440      39.507 ppb        50.0440 126.67%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               -19.2     -0.0215 ug/L       0.00367     -0.0215 ppb        0.00367  17.03%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                -2.6     -0.1802 ug/L       0.74151     -0.1802 ppb        0.74151 411.52%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†         -6.4     -1.9044 ug/L      14.35517     -1.9044 ppb       14.35517 753.79%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                -0.5     -0.0131 ug/L       0.09724     -0.0131 ppb        0.09724 742.61%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                 -6.1     -3.8073 ug/L       8.38371     -3.8073 ppb        8.38371 220.20%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 5.9      0.7234 ug/L       0.80625      0.7234 ppb        0.80625 111.45%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†            5.7      8.0070 ug/L       7.59738      8.0070 ppb        7.59738  94.88%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                11.4      3.8903 ug/L       0.71952      3.8903 ppb        0.71952  18.50%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 5.1      3.3326 ug/L       2.25879      3.3326 ppb        2.25879  67.78%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†                -4.7     -0.1481 ug/L       0.03119     -0.1481 ppb        0.03119  21.05%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                -0.6     -0.1020 ug/L       0.42669     -0.1020 ppb        0.42669 418.38%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                31.2      0.2015 ug/L       0.09402      0.2015 ppb        0.09402  46.65%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†                 7.6      0.0086 ug/L       0.06327      0.0086 ppb        0.06327 738.97%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -2.2     -0.6765 ug/L       3.87170     -0.6765 ppb        3.87170 572.28%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                -29.4     -0.8684 ug/L       1.94345     -0.8684 ppb        1.94345 223.79%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                -50.8     -0.3519 ug/L       0.14743     -0.3519 ppb        0.14743  41.89%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†                36.7      0.3459 ug/L       0.07426      0.3459 ppb        0.07426  21.47%
   QC value within limits for Zn 213.857  Recovery = Not calculated
SiO2†                     -34.2     -2.3307 ug/L       0.43664     -2.3307 ppb        0.43664  18.73%
   QC value within limits for SiO2  Recovery = Not calculated
All analyte(s) passed QC.
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Sequence No.: 15
Sample ID: LR1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 37
Date Collected: 1/11/2010 16:52:35
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	4777.8	4777.8	94.9	%			16:54:28
1	Y RADIAL	5095.9	5095.9	93.86	%			16:54:28
1	Al 396.153Radial†	-50.3	-52.3	-39.092	ug/L	-39.092	ppb	16:54:28
1	Ca 317.933Radial†	4.9	-14.7	-23.455	ug/L	-23.455	ppb	16:54:48
1	Fe 238.204 Radial†	40364.7	42530.9	368070	ug/L	368070	ppb	16:54:28
1	K 766.490 Radial†	2544.8	91.8	17.484	ug/L	17.484	ppb	16:54:28
1	Mg 279.077 IEC†	12.9	11.7	6.7228	ug/L	6.7228	ppb	16:54:48
1	Na 589.592 Radial†	-1204.3	11.3	3.3701	ug/L	3.3701	ppb	16:54:28
1	Sr 421.552†	54.9	77.3	0.4997	ug/L	0.4997	ppb	16:54:28
1	Sc 361.383	818966.7	818966.7	96.078	%			16:55:46
1	Y 371.029	688939.7	688939.7	95.333	%			16:55:46
1	Ag 328.068†	-24130.4	-25473.5	2.0432	ug/L	2.0432	ppb	16:55:46
1	As 188.979†	-200.7	-185.3	-7.8085	ug/L	-7.8085	ppb	16:56:06
1	B 249.677†	2067.2	2783.4	24.753	ug/L	24.753	ppb	16:55:46
1	Ba 233.527†	-1499.2	-1549.0	1.4702	ug/L	1.4702	ppb	16:55:46
1	Be 313.107†	-4472.3	-69.5	-0.0263	ug/L	-0.0263	ppb	16:55:46
1	Cd 226.502†	3072.4	3402.0	-0.2547	ug/L	-0.2547	ppb	16:55:46
1	Co 228.616†	165.2	246.6	-0.3410	ug/L	-0.3410	ppb	16:56:06
1	Cr 267.716†	-480.4	-583.2	0.7094	ug/L	0.7094	ppb	16:55:46
1	Cu 324.752†	1109.3	-5257.7	3.7230	ug/L	3.7230	ppb	16:55:46
1	Mn 257.610†	-30280.6	-31961.6	5.6541	ug/L	5.6541	ppb	16:55:46
1	Mo 202.031†	-335.3	-372.7	-1.1646	ug/L	-1.1646	ppb	16:55:46
1	Ni 231.604†	153.8	92.2	2.2920	ug/L	2.2920	ppb	16:56:06
1	P 214.914†	659.6	456.6	-13.871	ug/L	-13.871	ppb	16:56:06
1	Pb 220.353†	194.2	265.5	-2.7177	ug/L	-2.7177	ppb	16:56:06
1	S 181.975 Axial†	61.1	20.6	29.174	ug/L	29.174	ppb	16:56:06
1	Sb 206.836†	16.3	-10.9	-4.2280	ug/L	-4.2280	ppb	16:56:06
1	Se 196.026†	-1598.4	-1631.7	122.69	ug/L	122.69	ppb	16:56:06
1	Si 251.611†	-541.9	-1114.4	-35.169	ug/L	-35.169	ppb	16:55:46
1	Sn 189.927†	-22.0	-30.5	0.7785	ug/L	0.7785	ppb	16:56:06
1	Ti 334.940†	-1274.2	48.3	0.0161	ug/L	0.0161	ppb	16:55:46
1	Tl 190.801†	-46.2	-15.3	-4.9887	ug/L	-4.9887	ppb	16:56:06
1	U 409.014†	253.7	2275.6	25.185	ug/L	25.185	ppb	16:55:46
1	V 292.402†	7032.4	8629.2	2.4205	ug/L	2.4205	ppb	16:55:46
1	Zn 213.857†	4281.9	3836.4	0.5878	ug/L	0.5878	ppb	16:56:06
1	SiO2†	-450.1	-1040.2	-70.254	ug/L	-70.254	ppb	16:57:03
2	Sc Radial	4866.8	4866.8	96.7	%			16:54:53
2	Y RADIAL	5221.8	5221.8	96.18	%			16:54:53
2	Al 396.153Radial†	-37.8	-38.4	-28.382	ug/L	-28.382	ppb	16:54:53
2	Ca 317.933Radial†	0.8	-18.9	-30.269	ug/L	-30.269	ppb	16:55:13
2	Fe 238.204 Radial†	40766.9	42169.0	364940	ug/L	364940	ppb	16:54:53
2	K 766.490 Radial†	2544.0	41.9	8.3168	ug/L	8.3168	ppb	16:54:53
2	Mg 279.077 IEC†	10.6	9.1	-78.311	ug/L	-78.311	ppb	16:55:13
2	Na 589.592 Radial†	-1155.7	84.8	25.380	ug/L	25.380	ppb	16:54:53
2	Sr 421.552†	68.4	90.3	0.5833	ug/L	0.5833	ppb	16:54:53
2	Sc 361.383	829182.3	829182.3	97.276	%			16:56:12
2	Y 371.029	697004.5	697004.5	96.449	%			16:56:12
2	Ag 328.068†	-24523.8	-25568.4	0.5944	ug/L	0.5944	ppb	16:56:12
2	As 188.979†	-195.6	-177.5	-5.0286	ug/L	-5.0286	ppb	16:56:32
2	B 249.677†	2120.2	2811.4	25.694	ug/L	25.694	ppb	16:56:12
2	Ba 233.527†	-1466.1	-1495.7	1.7714	ug/L	1.7714	ppb	16:56:12
2	Be 313.107†	-4499.1	-39.7	-0.0153	ug/L	-0.0153	ppb	16:56:12
2	Cd 226.502†	3152.6	3445.0	0.5456	ug/L	0.5456	ppb	16:56:12
2	Co 228.616†	175.5	255.1	-0.1209	ug/L	-0.1209	ppb	16:56:32
2	Cr 267.716†	-487.2	-584.1	0.6397	ug/L	0.6397	ppb	16:56:12
2	Cu 324.752†	1142.3	-5237.9	3.6181	ug/L	3.6181	ppb	16:56:12
2	Mn 257.610†	-30582.1	-31883.2	5.3949	ug/L	5.3949	ppb	16:56:12
2	Mo 202.031†	-336.1	-369.3	-1.1378	ug/L	-1.1378	ppb	16:56:12
2	Ni 231.604†	131.9	67.6	1.6811	ug/L	1.6811	ppb	16:56:32

2	P 214.914†	676.9	465.9	-5.6765	ug/L	-5.6765 ppb	16:56:32
2	Pb 220.353†	220.9	290.4	0.6332	ug/L	0.6332 ppb	16:56:32
2	S 181.975 Axial†	62.0	20.8	29.382	ug/L	29.382 ppb	16:56:32
2	Sb 206.836†	15.4	-12.1	-4.6329	ug/L	-4.6329 ppb	16:56:32
2	Se 196.026†	-1598.1	-1610.8	126.14	ug/L	126.14 ppb	16:56:32
2	Si 251.611†	-519.6	-1084.6	-34.221	ug/L	-34.221 ppb	16:56:12
2	Sn 189.927†	-26.0	-34.3	0.0507	ug/L	0.0507 ppb	16:56:32
2	Ti 334.940†	-1370.9	-34.7	-0.1098	ug/L	-0.1098 ppb	16:56:12
2	Tl 190.801†	-59.8	-28.6	-9.0942	ug/L	-9.0942 ppb	16:56:32
2	U 409.014†	145.7	2161.4	22.173	ug/L	22.173 ppb	16:56:12
2	V 292.402†	7100.9	8609.4	2.7594	ug/L	2.7594 ppb	16:56:12
2	Zn 213.857†	4292.4	3792.4	0.4787	ug/L	0.4787 ppb	16:56:32
2	SiO2†	-566.8	-1154.3	-78.052	ug/L	-78.052 ppb	16:57:08
3	Sc Radial	4800.8	4800.8	95.3	%		16:55:18
3	Y RADIAL	5158.3	5158.3	95.01	%		16:55:18
3	Al 396.153Radial†	-18.9	-19.1	-13.529	ug/L	-13.529 ppb	16:55:18
3	Ca 317.933Radial†	1.3	-18.5	-29.528	ug/L	-29.528 ppb	16:55:38
3	Fe 238.204 Radial†	40311.5	42271.3	365820	ug/L	365820 ppb	16:55:18
3	K 766.490 Radial†	2604.4	141.5	26.583	ug/L	26.583 ppb	16:55:18
3	Mg 279.077 IEC†	12.7	11.4	-3.2079	ug/L	-3.2079 ppb	16:55:38
3	Na 589.592 Radial†	-1206.3	15.3	4.5686	ug/L	4.5686 ppb	16:55:18
3	Sr 421.552†	41.7	63.2	0.4085	ug/L	0.4085 ppb	16:55:18
3	Sc 361.383	829219.1	829219.1	97.281	%		16:56:38
3	Y 371.029	697536.2	697536.2	96.522	%		16:56:38
3	Ag 328.068†	-24469.1	-25511.1	1.1485	ug/L	1.1485 ppb	16:56:38
3	As 188.979†	-203.4	-185.4	-8.2984	ug/L	-8.2984 ppb	16:56:58
3	B 249.677†	2104.4	2795.1	25.241	ug/L	25.241 ppb	16:56:38
3	Ba 233.527†	-1455.6	-1484.9	1.8902	ug/L	1.8902 ppb	16:56:38
3	Be 313.107†	-4451.5	9.5	0.0035	ug/L	0.0035 ppb	16:56:38
3	Cd 226.502†	3124.6	3416.1	0.1330	ug/L	0.1330 ppb	16:56:38
3	Co 228.616†	169.2	248.6	-0.2640	ug/L	-0.2640 ppb	16:56:58
3	Cr 267.716†	-505.9	-603.2	0.4449	ug/L	0.4449 ppb	16:56:38
3	Cu 324.752†	1105.3	-5276.0	3.5514	ug/L	3.5514 ppb	16:56:38
3	Mn 257.610†	-30493.2	-31790.4	5.5936	ug/L	5.5936 ppb	16:56:38
3	Mo 202.031†	-326.2	-359.0	-0.3506	ug/L	-0.3506 ppb	16:56:38
3	Ni 231.604†	150.8	87.0	2.1641	ug/L	2.1641 ppb	16:56:58
3	P 214.914†	651.3	439.6	-22.474	ug/L	-22.474 ppb	16:56:58
3	Pb 220.353†	225.1	294.8	1.0868	ug/L	1.0868 ppb	16:56:58
3	S 181.975 Axial†	67.3	26.1	36.983	ug/L	36.983 ppb	16:56:58
3	Sb 206.836†	27.2	-0.0	-0.4637	ug/L	-0.4637 ppb	16:56:58
3	Se 196.026†	-1612.5	-1625.5	119.47	ug/L	119.47 ppb	16:56:58
3	Si 251.611†	-573.4	-1139.9	-35.992	ug/L	-35.992 ppb	16:56:38
3	Sn 189.927†	-23.8	-32.1	0.4652	ug/L	0.4652 ppb	16:56:58
3	Ti 334.940†	-1374.2	-38.1	-0.1212	ug/L	-0.1212 ppb	16:56:38
3	Tl 190.801†	-52.5	-21.1	-6.7740	ug/L	-6.7740 ppb	16:56:58
3	U 409.014†	135.7	2151.1	21.769	ug/L	21.769 ppb	16:56:38
3	V 292.402†	7232.4	8744.3	3.5566	ug/L	3.5566 ppb	16:56:38
3	Zn 213.857†	4297.9	3797.8	0.4413	ug/L	0.4413 ppb	16:56:58
3	SiO2†	-544.4	-1131.3	-76.497	ug/L	-76.497 ppb	16:57:13

Mean Data: LR1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	825789.4	96.878	%	0.6932				0.72%
Sc Radial	4815.2	95.6	%	0.92				0.96%
Y 371.029	694493.5	96.101	%	0.6666				0.69%
Y RADIAL	5158.7	95.01	%	1.160				1.22%
Ag 328.068†	-25517.6	1.2620	ug/L	0.73104	1.2620	ppb	0.73104	57.93%
Al 396.153Radial†	-36.6	-27.001	ug/L	12.8374	-27.001	ppb	12.8374	47.54%
As 188.979†	-182.7	-7.0452	ug/L	1.76352	-7.0452	ppb	1.76352	25.03%
B 249.677†	2796.6	25.229	ug/L	0.4711	25.229	ppb	0.4711	1.87%
Ba 233.527†	-1509.8	1.7106	ug/L	0.21652	1.7106	ppb	0.21652	12.66%
Be 313.107†	-33.2	-0.0127	ug/L	0.01504	-0.0127	ppb	0.01504	118.51%
Ca 317.933Radial†	-17.3	-27.751	ug/L	3.7384	-27.751	ppb	3.7384	13.47%
Cd 226.502†	3421.0	0.1413	ug/L	0.40020	0.1413	ppb	0.40020	283.23%
Co 228.616†	250.1	-0.2420	ug/L	0.11167	-0.2420	ppb	0.11167	46.15%
Cr 267.716†	-590.2	0.5980	ug/L	0.13708	0.5980	ppb	0.13708	22.92%
Cu 324.752†	-5257.2	3.6308	ug/L	0.08649	3.6308	ppb	0.08649	2.38%
Fe 238.204 Radial†	42323.7	366280	ug/L	1614.1	366280	ppb	1614.1	0.44%
K 766.490 Radial†	91.7	17.461	ug/L	9.1333	17.461	ppb	9.1333	52.31%

Mg 279.077 IEC†	10.7	-24.932	ug/L	46.4932	-24.932	ppb	46.4932	186.48%
Mn 257.610†	-31878.4	5.5475	ug/L	0.13558	5.5475	ppb	0.13558	2.44%
Mo 202.031†	-367.0	-0.8843	ug/L	0.46241	-0.8843	ppb	0.46241	52.29%
Na 589.592 Radial†	37.1	11.106	ug/L	12.3761	11.106	ppb	12.3761	111.43%
Ni 231.604†	82.3	2.0457	ug/L	0.32221	2.0457	ppb	0.32221	15.75%
P 214.914†	454.1	-14.007	ug/L	8.3993	-14.007	ppb	8.3993	59.97%
Pb 220.353†	283.6	-0.3325	ug/L	2.07800	-0.3325	ppb	2.07800	624.92%
S 181.975 Axial†	22.5	31.847	ug/L	4.4497	31.847	ppb	4.4497	13.97%
Sb 206.836†	-7.7	-3.1082	ug/L	2.29916	-3.1082	ppb	2.29916	73.97%
Se 196.026†	-1622.7	122.77	ug/L	3.335	122.77	ppb	3.335	2.72%
Si 251.611†	-1113.0	-35.127	ug/L	0.8860	-35.127	ppb	0.8860	2.52%
Sn 189.927†	-32.3	0.4315	ug/L	0.36508	0.4315	ppb	0.36508	84.61%
Sr 421.552†	76.9	0.4972	ug/L	0.08744	0.4972	ppb	0.08744	17.59%
Ti 334.940†	-8.2	-0.0717	ug/L	0.07619	-0.0717	ppb	0.07619	106.30%
Tl 190.801†	-21.7	-6.9523	ug/L	2.05856	-6.9523	ppb	2.05856	29.61%
U 409.014†	2196.1	23.042	ug/L	1.8667	23.042	ppb	1.8667	8.10%
V 292.402†	8661.0	2.9122	ug/L	0.58327	2.9122	ppb	0.58327	20.03%
Zn 213.857†	3808.9	0.5026	ug/L	0.07610	0.5026	ppb	0.07610	15.14%
SiO2†	-1108.6	-74.934	ug/L	4.1270	-74.934	ppb	4.1270	5.51%

Sequence No.: 16
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 1/11/2010 16:59:25
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc Radial	4917.0	4917.0	97.7	%			17:01:17
1	Y RADIAL	5235.9	5235.9	96.43	%			17:01:17
1	Al 396.153Radial†	6169.6	6318.6	4850.2	ug/L	4850.2	ppb	17:01:17
1	Ca 317.933Radial†	3017.0	3069.8	4911.9	ug/L	4911.9	ppb	17:01:37
1	Fe 238.204 Radial†	566.0	570.7	4954.4	ug/L	4954.4	ppb	17:01:37
1	K 766.490 Radial†	28759.1	26860.8	4908.0	ug/L	4908.0	ppb	17:01:17
1	Mg 279.077 IEC†	147.7	149.3	4989.0	ug/L	4989.0	ppb	17:01:37
1	Na 589.592 Radial†	29743.6	31739.6	9503.2	ug/L	9503.2	ppb	17:01:17
1	Sr 421.552†	71970.1	73720.9	476.12	ug/L	476.12	ppb	17:01:17
1	Sc 361.383	838361.1	838361.1	98.353	%			17:02:34
1	Y 371.029	700105.7	700105.7	96.878	%			17:02:34
1	Ag 328.068†	108759.4	110222.4	510.64	ug/L	510.64	ppb	17:02:39
1	As 188.979†	1120.4	1162.8	505.94	ug/L	505.94	ppb	17:02:59
1	B 249.677†	21434.1	22424.8	497.99	ug/L	497.99	ppb	17:02:39
1	Ba 233.527†	63114.9	64183.1	502.33	ug/L	502.33	ppb	17:02:39
1	Be 313.107†	1277275.1	1303246.3	497.70	ug/L	497.70	ppb	17:02:34
1	Cd 226.502†	44324.9	45271.2	502.26	ug/L	502.26	ppb	17:02:39
1	Co 228.616†	24105.9	24584.2	503.32	ug/L	503.32	ppb	17:02:39
1	Cr 267.716†	44273.4	44931.5	502.95	ug/L	502.95	ppb	17:02:39
1	Cu 324.752†	169720.3	166149.8	496.81	ug/L	496.81	ppb	17:02:39
1	Mn 257.610†	438566.0	445464.1	494.19	ug/L	494.19	ppb	17:02:34
1	Mo 202.031†	7074.4	7169.1	507.07	ug/L	507.07	ppb	17:02:59
1	Ni 231.604†	20045.4	20313.1	505.50	ug/L	505.50	ppb	17:02:39
1	P 214.914†	4239.4	4080.5	2388.6	ug/L	2388.6	ppb	17:02:59
1	Pb 220.353†	3987.5	4117.6	505.85	ug/L	505.85	ppb	17:02:59
1	S 181.975 Axial†	751.3	720.9	1019.3	ug/L	1019.3	ppb	17:02:59
1	Sb 206.836†	1455.6	1452.0	515.57	ug/L	515.57	ppb	17:02:59
1	Se 196.026†	738.2	782.6	521.90	ug/L	521.90	ppb	17:02:59
1	Si 251.611†	79252.1	80028.6	2542.5	ug/L	2542.5	ppb	17:02:39
1	Sn 189.927†	2830.9	2870.6	509.35	ug/L	509.35	ppb	17:02:59
1	Ti 334.940†	301641.2	308066.2	496.07	ug/L	496.07	ppb	17:02:39
1	Tl 190.801†	1572.2	1631.4	503.52	ug/L	503.52	ppb	17:02:59
1	U 409.014†	15002.9	17265.8	507.65	ug/L	507.65	ppb	17:02:39
1	V 292.402†	70723.5	73217.4	506.93	ug/L	506.93	ppb	17:02:39
1	Zn 213.857†	52923.1	53189.0	498.70	ug/L	498.70	ppb	17:02:39
1	SiO2†	78526.7	79269.8	5394.9	ug/L	5394.9	ppb	17:04:07
2	Sc Radial	4995.4	4995.4	99.2	%			17:01:42
2	Y RADIAL	5325.1	5325.1	98.08	%			17:01:42
2	Al 396.153Radial†	6217.2	6267.6	4811.3	ug/L	4811.3	ppb	17:01:42
2	Ca 317.933Radial†	2980.8	2984.8	4776.0	ug/L	4776.0	ppb	17:02:02
2	Fe 238.204 Radial†	559.0	554.6	4814.1	ug/L	4814.1	ppb	17:02:02
2	K 766.490 Radial†	29154.8	26797.8	4896.6	ug/L	4896.6	ppb	17:01:42
2	Mg 279.077 IEC†	149.7	149.0	4977.5	ug/L	4977.5	ppb	17:02:02
2	Na 589.592 Radial†	30095.6	31616.7	9466.4	ug/L	9466.4	ppb	17:01:42
2	Sr 421.552†	73036.4	73639.8	475.60	ug/L	475.60	ppb	17:01:42
2	Sc 361.383	849459.0	849459.0	99.655	%			17:03:05
2	Y 371.029	708280.0	708280.0	98.009	%			17:03:05
2	Ag 328.068†	106948.3	106960.3	495.53	ug/L	495.53	ppb	17:03:10
2	As 188.979†	1106.1	1133.5	493.19	ug/L	493.19	ppb	17:03:30
2	B 249.677†	20943.1	21647.4	480.71	ug/L	480.71	ppb	17:03:10
2	Ba 233.527†	62014.2	62240.2	487.13	ug/L	487.13	ppb	17:03:10
2	Be 313.107†	1291972.2	1301027.6	496.82	ug/L	496.82	ppb	17:03:05
2	Cd 226.502†	43636.6	43991.7	488.06	ug/L	488.06	ppb	17:03:10
2	Co 228.616†	23754.8	23911.6	489.56	ug/L	489.56	ppb	17:03:10
2	Cr 267.716†	43616.9	43684.5	488.99	ug/L	488.99	ppb	17:03:10
2	Cu 324.752†	166097.1	160259.5	479.20	ug/L	479.20	ppb	17:03:10
2	Mn 257.610†	444472.6	445565.5	494.29	ug/L	494.29	ppb	17:03:05
2	Mo 202.031†	7023.4	7024.0	496.80	ug/L	496.80	ppb	17:03:30
2	Ni 231.604†	19633.6	19633.6	488.58	ug/L	488.58	ppb	17:03:10

2	P 214.914†	4212.9	3997.6	2341.7 ug/L	2341.7 ppb	17:03:30
2	Pb 220.353†	3957.3	4034.3	495.64 ug/L	495.64 ppb	17:03:30
2	S 181.975 Axial†	739.1	698.7	987.85 ug/L	987.85 ppb	17:03:30
2	Sb 206.836†	1462.2	1439.4	510.86 ug/L	510.86 ppb	17:03:30
2	Se 196.026†	727.7	762.2	508.29 ug/L	508.29 ppb	17:03:30
2	Si 251.611†	77732.2	77450.7	2460.6 ug/L	2460.6 ppb	17:03:10
2	Sn 189.927†	2800.8	2802.8	497.31 ug/L	497.31 ppb	17:03:30
2	Ti 334.940†	296140.6	298539.7	480.72 ug/L	480.72 ppb	17:03:10
2	Tl 190.801†	1564.5	1602.8	494.71 ug/L	494.71 ppb	17:03:30
2	U 409.014†	14725.2	16787.8	493.59 ug/L	493.59 ppb	17:03:10
2	V 292.402†	69532.2	71082.5	492.22 ug/L	492.22 ppb	17:03:10
2	Zn 213.857†	52101.8	51661.8	484.40 ug/L	484.40 ppb	17:03:10
2	SiO2†	78941.9	78643.3	5352.4 ug/L	5352.4 ppb	17:04:12
3	Sc Radial	4857.7	4857.7	96.5 %		17:02:07
3	Y RADIAL	5177.7	5177.7	95.36 %		17:02:07
3	Al 396.153Radial†	6085.9	6309.0	4843.4 ug/L	4843.4 ppb	17:02:07
3	Ca 317.933Radial†	2976.8	3065.8	4905.5 ug/L	4905.5 ppb	17:02:27
3	Fe 238.204 Radial†	556.5	567.9	4929.7 ug/L	4929.7 ppb	17:02:27
3	K 766.490 Radial†	28539.9	26992.9	4932.4 ug/L	4932.4 ppb	17:02:07
3	Mg 279.077 IEC†	147.6	151.1	5047.1 ug/L	5047.1 ppb	17:02:27
3	Na 589.592 Radial†	29197.5	31545.2	9445.0 ug/L	9445.0 ppb	17:02:07
3	Sr 421.552†	71175.3	73796.3	476.61 ug/L	476.61 ppb	17:02:07
3	Sc 361.383	847741.7	847741.7	99.454 %		17:03:36
3	Y 371.029	706758.6	706758.6	97.799 %		17:03:36
3	Ag 328.068†	106910.9	107140.2	496.40 ug/L	496.40 ppb	17:03:41
3	As 188.979†	1100.5	1130.1	491.76 ug/L	491.76 ppb	17:04:01
3	B 249.677†	21005.1	21752.3	483.04 ug/L	483.04 ppb	17:03:41
3	Ba 233.527†	62001.9	62353.8	488.02 ug/L	488.02 ppb	17:03:41
3	Be 313.107†	1288634.6	1300297.9	496.55 ug/L	496.55 ppb	17:03:36
3	Cd 226.502†	43589.9	44033.5	488.51 ug/L	488.51 ppb	17:03:41
3	Co 228.616†	23702.8	23907.7	489.47 ug/L	489.47 ppb	17:03:41
3	Cr 267.716†	43578.7	43734.8	489.55 ug/L	489.55 ppb	17:03:41
3	Cu 324.752†	166861.5	161365.8	482.51 ug/L	482.51 ppb	17:03:41
3	Mn 257.610†	443145.9	445135.1	493.82 ug/L	493.82 ppb	17:03:36
3	Mo 202.031†	6957.0	6971.5	493.10 ug/L	493.10 ppb	17:04:01
3	Ni 231.604†	19601.1	19640.8	488.76 ug/L	488.76 ppb	17:03:41
3	P 214.914†	4162.6	3955.6	2315.2 ug/L	2315.2 ppb	17:04:01
3	Pb 220.353†	3910.9	3995.8	490.91 ug/L	490.91 ppb	17:04:01
3	S 181.975 Axial†	717.5	678.4	959.20 ug/L	959.20 ppb	17:04:01
3	Sb 206.836†	1444.3	1424.3	505.54 ug/L	505.54 ppb	17:04:01
3	Se 196.026†	720.1	756.1	504.72 ug/L	504.72 ppb	17:04:01
3	Si 251.611†	77743.9	77620.5	2466.0 ug/L	2466.0 ppb	17:03:41
3	Sn 189.927†	2768.1	2775.6	492.52 ug/L	492.52 ppb	17:04:01
3	Ti 334.940†	296778.4	299783.0	482.73 ug/L	482.73 ppb	17:03:41
3	Tl 190.801†	1557.1	1598.5	493.41 ug/L	493.41 ppb	17:04:01
3	U 409.014†	14832.8	16925.9	497.65 ug/L	497.65 ppb	17:03:41
3	V 292.402†	69675.9	71368.3	494.10 ug/L	494.10 ppb	17:03:41
3	Zn 213.857†	51990.8	51656.1	484.33 ug/L	484.33 ppb	17:03:41
3	SiO2†	78042.5	77899.5	5301.8 ug/L	5301.8 ppb	17:04:17

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	845187.3	99.154	%	0.7008				0.71%
Sc Radial	4923.4	97.8	%	1.37				1.40%
Y 371.029	705048.1	97.562	%	0.6016				0.62%
Y RADIAL	5246.2	96.63	%	1.367				1.42%
Ag 328.068†	108107.6	500.85	ug/L	8.485	500.85	ppb	8.485	1.69%
QC value within limits for Ag 328.068 Recovery = 100.17%								
Al 396.153Radial†	6298.4	4834.9	ug/L	20.78	4834.9	ppb	20.78	0.43%
QC value within limits for Al 396.153Radial Recovery = 96.70%								
As 188.979†	1142.1	496.96	ug/L	7.805	496.96	ppb	7.805	1.57%
QC value within limits for As 188.979 Recovery = 99.39%								
B 249.677†	21941.5	487.25	ug/L	9.376	487.25	ppb	9.376	1.92%
QC value within limits for B 249.677 Recovery = 97.45%								
Ba 233.527†	62925.7	492.50	ug/L	8.532	492.50	ppb	8.532	1.73%
QC value within limits for Ba 233.527 Recovery = 98.50%								
Be 313.107†	1301524.0	497.02	ug/L	0.603	497.02	ppb	0.603	0.12%
QC value within limits for Be 313.107 Recovery = 99.40%								
Ca 317.933Radial†	3040.1	4864.5	ug/L	76.69	4864.5	ppb	76.69	1.58%

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   QC value within limits for Ca 317.933Radial  Recovery = 97.29%
Cd 226.502†            44432.1      492.95 ug/L         8.069      492.95 ppb          8.069   1.64%
   QC value within limits for Cd 226.502  Recovery = 98.59%
Co 228.616†            24134.5      494.12 ug/L         7.970      494.12 ppb          7.970   1.61%
   QC value within limits for Co 228.616  Recovery = 98.82%
Cr 267.716†            44116.9      493.83 ug/L         7.901      493.83 ppb          7.901   1.60%
   QC value within limits for Cr 267.716  Recovery = 98.77%
Cu 324.752†           162591.7      486.17 ug/L         9.360      486.17 ppb          9.360   1.93%
   QC value within limits for Cu 324.752  Recovery = 97.23%
Fe 238.204 Radial†       564.4      4899.4 ug/L         74.92      4899.4 ppb          74.92   1.53%
   QC value within limits for Fe 238.204 Radial  Recovery = 97.99%
K 766.490 Radial†      26883.8      4912.3 ug/L         18.28      4912.3 ppb          18.28   0.37%
   QC value within limits for K 766.490 Radial  Recovery = 98.25%
Mg 279.077 IEC†          149.8      5004.5 ug/L         37.33      5004.5 ppb          37.33   0.75%
   QC value within limits for Mg 279.077 IEC  Recovery = 100.09%
Mn 257.610†           445388.2      494.10 ug/L         0.246      494.10 ppb          0.246   0.05%
   QC value within limits for Mn 257.610  Recovery = 98.82%
Mo 202.031†             7054.9      498.99 ug/L         7.237      498.99 ppb          7.237   1.45%
   QC value within limits for Mo 202.031  Recovery = 99.80%
Na 589.592 Radial†     31633.8      9471.5 ug/L         29.45      9471.5 ppb          29.45   0.31%
   QC value within limits for Na 589.592 Radial  Recovery = 94.72%
Ni 231.604†            19862.5      494.28 ug/L         9.712      494.28 ppb          9.712   1.96%
   QC value within limits for Ni 231.604  Recovery = 98.86%
P 214.914†              4011.2      2348.5 ug/L         37.17      2348.5 ppb          37.17   1.58%
   QC value within limits for P 214.914  Recovery = 93.94%
Pb 220.353†             4049.2      497.47 ug/L         7.639      497.47 ppb          7.639   1.54%
   QC value within limits for Pb 220.353  Recovery = 99.49%
S 181.975 Axial†         699.3      988.77 ug/L        30.042      988.77 ppb         30.042   3.04%
   QC value within limits for S 181.975 Axial  Recovery = 98.88%
Sb 206.836†             1438.6      510.66 ug/L         5.019      510.66 ppb          5.019   0.98%
   QC value within limits for Sb 206.836  Recovery = 102.13%
Se 196.026†              767.0      511.63 ug/L         9.063      511.63 ppb          9.063   1.77%
   QC value within limits for Se 196.026  Recovery = 102.33%
Si 251.611†            78366.6      2489.7 ug/L         45.84      2489.7 ppb          45.84   1.84%
   QC value within limits for Si 251.611  Recovery = 99.59%
Sn 189.927†             2816.3      499.73 ug/L         8.672      499.73 ppb          8.672   1.74%
   QC value within limits for Sn 189.927  Recovery = 99.95%
Sr 421.552†            73719.0      476.11 ug/L         0.505      476.11 ppb          0.505   0.11%
   QC value within limits for Sr 421.552  Recovery = 95.22%
Ti 334.940†           302129.6      486.51 ug/L         8.344      486.51 ppb          8.344   1.72%
   QC value within limits for Ti 334.940  Recovery = 97.30%
Tl 190.801†             1610.9      497.21 ug/L         5.504      497.21 ppb          5.504   1.11%
   QC value within limits for Tl 190.801  Recovery = 99.44%
U 409.014†             16993.1      499.63 ug/L         7.233      499.63 ppb          7.233   1.45%
   QC value within limits for U 409.014  Recovery = 99.93%
V 292.402†             71889.4      497.75 ug/L         8.004      497.75 ppb          8.004   1.61%
   QC value within limits for V 292.402  Recovery = 99.55%
Zn 213.857†            52169.0      489.14 ug/L         8.276      489.14 ppb          8.276   1.69%
   QC value within limits for Zn 213.857  Recovery = 97.83%
SiO2†                  78604.2      5349.7 ug/L         46.62      5349.7 ppb          46.62   0.87%
   QC value within limits for SiO2  Recovery = 100.04%
All analyte(s) passed QC.
```

Sequence No.: 17
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 1/11/2010 17:06:27
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	4959.7	4959.7	98.5	%			17:08:18
1	Y RADIAL	5307.7	5307.7	97.76	%			17:08:18
1	Al 396.153Radial†	-4.9	-4.3	-3.3458	ug/L	-3.3458	ppb	17:08:18
1	Ca 317.933Radial†	19.8	0.3	0.4603	ug/L	0.4603	ppb	17:08:38
1	Fe 238.204 Radial†	9.5	0.7	6.1769	ug/L	6.1769	ppb	17:08:38
1	K 766.490 Radial†	2810.4	263.1	48.253	ug/L	48.253	ppb	17:08:18
1	Mg 279.077 IEC†	2.1	0.2	6.2400	ug/L	6.2400	ppb	17:08:38
1	Na 589.592 Radial†	-1295.3	-34.6	-10.370	ug/L	-10.370	ppb	17:08:18
1	Sr 421.552†	17.7	37.5	0.2423	ug/L	0.2423	ppb	17:08:18
1	Sc 361.383	837653.4	837653.4	98.270	%			17:09:35
1	Y 371.029	711362.6	711362.6	98.436	%			17:09:35
1	Ag 328.068†	346.0	-5.9	-0.0314	ug/L	-0.0314	ppb	17:09:35
1	As 188.979†	-19.8	3.5	1.5161	ug/L	1.5161	ppb	17:09:55
1	B 249.677†	-408.4	216.2	4.8206	ug/L	4.8206	ppb	17:09:55
1	Ba 233.527†	-26.8	-15.8	-0.1246	ug/L	-0.1246	ppb	17:09:55
1	Be 313.107†	-4542.8	-37.4	-0.0145	ug/L	-0.0145	ppb	17:09:35
1	Cd 226.502†	-183.5	17.4	0.1936	ug/L	0.1936	ppb	17:09:55
1	Co 228.616†	-86.9	-13.8	-0.2826	ug/L	-0.2826	ppb	17:09:55
1	Cr 267.716†	73.6	-8.4	-0.0963	ug/L	-0.0963	ppb	17:09:55
1	Cu 324.752†	6361.6	61.3	0.1808	ug/L	0.1808	ppb	17:09:35
1	Mn 257.610†	389.6	-48.4	-0.0533	ug/L	-0.0533	ppb	17:09:55
1	Mo 202.031†	22.1	-1.2	-0.0850	ug/L	-0.0850	ppb	17:09:55
1	Ni 231.604†	73.5	6.8	0.1706	ug/L	0.1706	ppb	17:09:55
1	P 214.914†	221.3	-4.7	-2.9009	ug/L	-2.9009	ppb	17:09:55
1	Pb 220.353†	-52.7	9.8	1.1934	ug/L	1.1934	ppb	17:09:55
1	S 181.975 Axial†	41.9	-0.4	-0.5198	ug/L	-0.5198	ppb	17:09:55
1	Sb 206.836†	32.4	5.1	1.7413	ug/L	1.7413	ppb	17:09:55
1	Se 196.026†	-31.4	0.0	0.0460	ug/L	0.0460	ppb	17:09:55
1	Si 251.611†	518.3	-23.0	-0.7330	ug/L	-0.7330	ppb	17:09:55
1	Sn 189.927†	11.8	4.4	0.7768	ug/L	0.7768	ppb	17:09:55
1	Ti 334.940†	-1421.1	-71.6	-0.1181	ug/L	-0.1181	ppb	17:09:35
1	Tl 190.801†	-34.6	-2.3	-0.7178	ug/L	-0.7178	ppb	17:09:55
1	U 409.014†	-1795.9	184.1	5.4311	ug/L	5.4311	ppb	17:09:35
1	V 292.402†	-1357.4	-71.5	-0.4799	ug/L	-0.4799	ppb	17:09:35
1	Zn 213.857†	621.8	12.5	0.1168	ug/L	0.1168	ppb	17:09:55
1	SiO2†	560.0	-1.9	-0.1242	ug/L	-0.1242	ppb	17:10:51
2	Sc Radial	4896.6	4896.6	97.2	%			17:08:43
2	Y RADIAL	5271.4	5271.4	97.09	%			17:08:43
2	Al 396.153Radial†	-10.4	-10.1	-7.7640	ug/L	-7.7640	ppb	17:08:43
2	Ca 317.933Radial†	15.3	-4.1	-6.5489	ug/L	-6.5489	ppb	17:09:03
2	Fe 238.204 Radial†	9.7	1.1	9.5272	ug/L	9.5272	ppb	17:09:03
2	K 766.490 Radial†	2927.0	419.8	76.971	ug/L	76.971	ppb	17:08:43
2	Mg 279.077 IEC†	2.3	0.5	16.572	ug/L	16.572	ppb	17:09:03
2	Na 589.592 Radial†	-1238.7	6.7	1.9955	ug/L	1.9955	ppb	17:08:43
2	Sr 421.552†	10.5	30.3	0.1958	ug/L	0.1958	ppb	17:08:43
2	Sc 361.383	843411.1	843411.1	98.946	%			17:10:00
2	Y 371.029	714722.4	714722.4	98.901	%			17:10:00
2	Ag 328.068†	311.8	-42.8	-0.1993	ug/L	-0.1993	ppb	17:10:00
2	As 188.979†	-15.2	8.2	3.5609	ug/L	3.5609	ppb	17:10:21
2	B 249.677†	-412.7	214.8	4.7872	ug/L	4.7872	ppb	17:10:21
2	Ba 233.527†	-17.4	-6.1	-0.0496	ug/L	-0.0496	ppb	17:10:21
2	Be 313.107†	-4553.8	-17.0	-0.0067	ug/L	-0.0067	ppb	17:10:00
2	Cd 226.502†	-193.1	8.9	0.0988	ug/L	0.0988	ppb	17:10:21
2	Co 228.616†	-73.3	0.6	0.0129	ug/L	0.0129	ppb	17:10:21
2	Cr 267.716†	74.6	-7.9	-0.0906	ug/L	-0.0906	ppb	17:10:21
2	Cu 324.752†	6431.1	87.4	0.2607	ug/L	0.2607	ppb	17:10:00
2	Mn 257.610†	398.2	-42.5	-0.0467	ug/L	-0.0467	ppb	17:10:21
2	Mo 202.031†	22.5	-1.0	-0.0689	ug/L	-0.0689	ppb	17:10:21
2	Ni 231.604†	83.4	16.4	0.4073	ug/L	0.4073	ppb	17:10:21

2	P 214.914†	224.9	-2.5	-1.6212 ug/L	-1.6212 ppb	17:10:21
2	Pb 220.353†	-60.9	1.8	0.2229 ug/L	0.2229 ppb	17:10:21
2	S 181.975 Axial†	44.0	1.5	2.0848 ug/L	2.0848 ppb	17:10:21
2	Sb 206.836†	38.1	10.6	3.6132 ug/L	3.6132 ppb	17:10:21
2	Se 196.026†	-33.3	-1.6	-1.0076 ug/L	-1.0076 ppb	17:10:21
2	Si 251.611†	524.7	-20.2	-0.6422 ug/L	-0.6422 ppb	17:10:21
2	Sn 189.927†	6.9	-0.7	-0.1207 ug/L	-0.1207 ppb	17:10:21
2	Ti 334.940†	-1414.5	-55.1	-0.0917 ug/L	-0.0917 ppb	17:10:00
2	Tl 190.801†	-31.9	0.6	0.1901 ug/L	0.1901 ppb	17:10:21
2	U 409.014†	-1916.5	74.7	2.2040 ug/L	2.2040 ppb	17:10:00
2	V 292.402†	-1430.0	-135.5	-0.9229 ug/L	-0.9229 ppb	17:10:00
2	Zn 213.857†	625.3	11.7	0.1068 ug/L	0.1068 ppb	17:10:21
2	SiO2†	536.0	-30.0	-2.0444 ug/L	-2.0444 ppb	17:10:56
3	Sc Radial	4974.8	4974.8	98.8 %		17:09:09
3	Y RADIAL	5378.8	5378.8	99.07 %		17:09:09
3	Al 396.153Radial†	-18.8	-18.4	-14.146 ug/L	-14.146 ppb	17:09:09
3	Ca 317.933Radial†	15.1	-4.5	-7.1798 ug/L	-7.1798 ppb	17:09:29
3	Fe 238.204 Radial†	9.7	1.0	8.2705 ug/L	8.2705 ppb	17:09:29
3	K 766.490 Radial†	2774.3	217.9	39.967 ug/L	39.967 ppb	17:09:09
3	Mg 279.077 IEC†	3.7	1.9	62.848 ug/L	62.848 ppb	17:09:29
3	Na 589.592 Radial†	-1258.0	7.2	2.1488 ug/L	2.1488 ppb	17:09:09
3	Sr 421.552†	-11.3	8.1	0.0522 ug/L	0.0522 ppb	17:09:09
3	Sc 361.383	844303.5	844303.5	99.050 %		17:10:26
3	Y 371.029	716237.9	716237.9	99.110 %		17:10:26
3	Ag 328.068†	314.4	-40.6	-0.1886 ug/L	-0.1886 ppb	17:10:26
3	As 188.979†	-17.9	5.5	2.3949 ug/L	2.3949 ppb	17:10:46
3	B 249.677†	-440.3	187.3	4.1753 ug/L	4.1753 ppb	17:10:46
3	Ba 233.527†	-21.7	-10.4	-0.0822 ug/L	-0.0822 ppb	17:10:46
3	Be 313.107†	-4533.0	8.9	0.0035 ug/L	0.0035 ppb	17:10:26
3	Cd 226.502†	-173.4	29.1	0.3224 ug/L	0.3224 ppb	17:10:46
3	Co 228.616†	-78.4	-4.4	-0.0930 ug/L	-0.0930 ppb	17:10:46
3	Cr 267.716†	76.4	-6.1	-0.0702 ug/L	-0.0702 ppb	17:10:46
3	Cu 324.752†	6457.0	106.7	0.3176 ug/L	0.3176 ppb	17:10:26
3	Mn 257.610†	394.1	-47.0	-0.0538 ug/L	-0.0538 ppb	17:10:46
3	Mo 202.031†	13.4	-10.1	-0.7159 ug/L	-0.7159 ppb	17:10:46
3	Ni 231.604†	73.8	6.5	0.1624 ug/L	0.1624 ppb	17:10:46
3	P 214.914†	212.3	-15.5	-9.5711 ug/L	-9.5711 ppb	17:10:46
3	Pb 220.353†	-51.4	11.5	1.3962 ug/L	1.3962 ppb	17:10:46
3	S 181.975 Axial†	45.6	3.0	4.3163 ug/L	4.3163 ppb	17:10:46
3	Sb 206.836†	32.2	4.6	1.5872 ug/L	1.5872 ppb	17:10:46
3	Se 196.026†	-37.1	-5.4	-3.4812 ug/L	-3.4812 ppb	17:10:46
3	Si 251.611†	531.5	-13.8	-0.4313 ug/L	-0.4313 ppb	17:10:46
3	Sn 189.927†	14.4	6.8	1.2111 ug/L	1.2111 ppb	17:10:46
3	Ti 334.940†	-1332.2	29.5	0.0401 ug/L	0.0401 ppb	17:10:26
3	Tl 190.801†	-43.1	-10.7	-3.2853 ug/L	-3.2853 ppb	17:10:46
3	U 409.014†	-1872.5	121.2	3.5749 ug/L	3.5749 ppb	17:10:26
3	V 292.402†	-1358.4	-61.7	-0.4250 ug/L	-0.4250 ppb	17:10:26
3	Zn 213.857†	635.8	21.7	0.2027 ug/L	0.2027 ppb	17:10:46
3	SiO2†	525.2	-41.4	-2.8052 ug/L	-2.8052 ppb	17:11:01

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	841789.4	98.755	%	0.4235				0.43%
Sc Radial	4943.7	98.2	%	0.82				0.84%
Y 371.029	714107.6	98.815	%	0.3453				0.35%
Y RADIAL	5319.3	97.97	%	1.006				1.03%
Ag 328.068†	-29.8	-0.1398	ug/L	0.09402	-0.1398	ppb	0.09402	67.27%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-10.9	-8.4184	ug/L	5.42955	-8.4184	ppb	5.42955	64.50%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	5.7	2.4906	ug/L	1.02573	2.4906	ppb	1.02573	41.18%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	206.1	4.5944	ug/L	0.36331	4.5944	ppb	0.36331	7.91%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-10.8	-0.0855	ug/L	0.03759	-0.0855	ppb	0.03759	43.98%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-15.2	-0.0059	ug/L	0.00903	-0.0059	ppb	0.00903	153.14%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-2.8	-4.4228	ug/L	4.24064	-4.4228	ppb	4.24064	95.88%

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   QC value within limits for Ca 317.933Radial  Recovery = Not calculated
Cd 226.502†                18.5      0.2049 ug/L       0.11223      0.2049 ppb        0.11223  54.76%
   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†                -5.9     -0.1209 ug/L       0.14974     -0.1209 ppb        0.14974 123.85%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                -7.5     -0.0857 ug/L       0.01374     -0.0857 ppb        0.01374  16.03%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†                85.2      0.2530 ug/L       0.06875      0.2530 ppb        0.06875  27.17%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          0.9      7.9915 ug/L       1.69250      7.9915 ppb        1.69250  21.18%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†         300.3      55.064 ug/L       19.4196      55.064 ppb        19.4196  35.27%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†             0.9      28.553 ug/L       30.1458      28.553 ppb        30.1458 105.58%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               -46.0     -0.0512 ug/L       0.00395     -0.0512 ppb        0.00395   7.72%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                -4.1     -0.2900 ug/L       0.36898     -0.2900 ppb        0.36898 127.25%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†         -6.9     -2.0753 ug/L       7.18399     -2.0753 ppb        7.18399 346.16%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                 9.9      0.2467 ug/L       0.13908      0.2467 ppb        0.13908  56.37%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                 -7.6     -4.6977 ug/L       4.26868     -4.6977 ppb        4.26868  90.87%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 7.7      0.9375 ug/L       0.62714      0.9375 ppb        0.62714  66.90%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†            1.4      1.9604 ug/L       2.42045      1.9604 ppb        2.42045 123.46%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                 6.7      2.3139 ug/L       1.12789      2.3139 ppb        1.12789  48.74%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                -2.3     -1.4809 ug/L       1.81058     -1.4809 ppb        1.81058 122.26%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               -19.0     -0.6022 ug/L       0.15479     -0.6022 ppb        0.15479  25.71%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 3.5      0.6224 ug/L       0.67922      0.6224 ppb        0.67922 109.13%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                25.3      0.1634 ug/L       0.09908      0.1634 ppb        0.09908  60.62%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†               -32.4     -0.0566 ug/L       0.08476     -0.0566 ppb        0.08476 149.73%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -4.1     -1.2710 ug/L       1.80250     -1.2710 ppb        1.80250 141.82%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                126.7      3.7367 ug/L       1.61963      3.7367 ppb        1.61963  43.34%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                -89.6     -0.6093 ug/L       0.27299     -0.6093 ppb        0.27299  44.81%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†                15.3      0.1421 ug/L       0.05274      0.1421 ppb        0.05274  37.12%
   QC value within limits for Zn 213.857  Recovery = Not calculated
SiO2†                     -24.4     -1.6579 ug/L       1.38166     -1.6579 ppb        1.38166  83.34%
   QC value within limits for SiO2  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 24
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 1/11/2010 17:54:51
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	4943.4	4943.4	98.2	%			17:56:43
1	Y RADIAL	5326.3	5326.3	98.10	%			17:56:43
1	Al 396.153Radial†	6221.6	6337.9	4865.1	ug/L	4865.1	ppb	17:56:43
1	Ca 317.933Radial†	3084.4	3121.9	4995.4	ug/L	4995.4	ppb	17:57:03
1	Fe 238.204 Radial†	585.8	587.8	5102.0	ug/L	5102.0	ppb	17:57:03
1	K 766.490 Radial†	29082.8	27033.0	4939.2	ug/L	4939.2	ppb	17:56:43
1	Mg 279.077 IEC†	154.5	155.5	5194.4	ug/L	5194.4	ppb	17:57:03
1	Na 589.592 Radial†	31924.6	33798.2	10120	ug/L	10120	ppb	17:56:43
1	Sr 421.552†	74675.0	76082.0	491.37	ug/L	491.37	ppb	17:56:43
1	Sc 361.383	845530.9	845530.9	99.194	%			17:58:00
1	Y 371.029	705679.4	705679.4	97.649	%			17:58:00
1	Ag 328.068†	110106.0	110642.2	512.63	ug/L	512.63	ppb	17:58:05
1	As 188.979†	1110.7	1143.3	497.56	ug/L	497.56	ppb	17:58:25
1	B 249.677†	21674.1	22482.0	499.24	ug/L	499.24	ppb	17:58:05
1	Ba 233.527†	63973.4	64504.3	504.85	ug/L	504.85	ppb	17:58:05
1	Be 313.107†	1297233.9	1312354.9	501.18	ug/L	501.18	ppb	17:58:00
1	Cd 226.502†	45043.4	45613.3	506.04	ug/L	506.04	ppb	17:58:05
1	Co 228.616†	24493.4	24767.0	507.05	ug/L	507.05	ppb	17:58:05
1	Cr 267.716†	44813.9	45094.7	504.78	ug/L	504.78	ppb	17:58:05
1	Cu 324.752†	172335.0	167322.5	500.32	ug/L	500.32	ppb	17:58:05
1	Mn 257.610†	444721.0	447888.0	496.89	ug/L	496.89	ppb	17:58:00
1	Mo 202.031†	7106.9	7141.0	505.09	ug/L	505.09	ppb	17:58:25
1	Ni 231.604†	20226.5	20322.8	505.74	ug/L	505.74	ppb	17:58:05
1	P 214.914†	4247.0	4051.7	2370.1	ug/L	2370.1	ppb	17:58:25
1	Pb 220.353†	3993.6	4089.4	502.39	ug/L	502.39	ppb	17:58:25
1	S 181.975 Axial†	773.7	736.9	1042.0	ug/L	1042.0	ppb	17:58:25
1	Sb 206.836†	1472.3	1456.4	516.97	ug/L	516.97	ppb	17:58:25
1	Se 196.026†	733.8	771.8	515.41	ug/L	515.41	ppb	17:58:25
1	Si 251.611†	80324.8	80426.7	2555.2	ug/L	2555.2	ppb	17:58:05
1	Sn 189.927†	2834.6	2849.9	505.70	ug/L	505.70	ppb	17:58:25
1	Ti 334.940†	305739.2	309596.8	498.53	ug/L	498.53	ppb	17:58:05
1	Tl 190.801†	1589.9	1635.7	504.84	ug/L	504.84	ppb	17:58:25
1	U 409.014†	15255.7	17391.2	511.33	ug/L	511.33	ppb	17:58:05
1	V 292.402†	71801.3	73694.1	510.14	ug/L	510.14	ppb	17:58:05
1	Zn 213.857†	53681.6	53497.4	501.59	ug/L	501.59	ppb	17:58:05
1	SiO2†	79690.8	79766.3	5428.8	ug/L	5428.8	ppb	17:59:33
2	Sc Radial	4980.6	4980.6	98.9	%			17:57:08
2	Y RADIAL	5296.3	5296.3	97.55	%			17:57:08
2	Al 396.153Radial†	6157.6	6225.8	4778.7	ug/L	4778.7	ppb	17:57:08
2	Ca 317.933Radial†	3058.1	3071.9	4915.3	ug/L	4915.3	ppb	17:57:28
2	Fe 238.204 Radial†	585.6	583.2	5061.8	ug/L	5061.8	ppb	17:57:28
2	K 766.490 Radial†	28944.9	26672.5	4873.1	ug/L	4873.1	ppb	17:57:08
2	Mg 279.077 IEC†	156.7	156.5	5228.2	ug/L	5228.2	ppb	17:57:28
2	Na 589.592 Radial†	31804.4	33434.0	10011	ug/L	10011	ppb	17:57:08
2	Sr 421.552†	74078.2	74911.0	483.81	ug/L	483.81	ppb	17:57:08
2	Sc 361.383	846831.5	846831.5	99.347	%			17:58:31
2	Y 371.029	705456.9	705456.9	97.618	%			17:58:31
2	Ag 328.068†	108118.4	108471.1	502.59	ug/L	502.59	ppb	17:58:36
2	As 188.979†	1117.1	1148.0	499.55	ug/L	499.55	ppb	17:58:56
2	B 249.677†	21349.6	22121.8	491.23	ug/L	491.23	ppb	17:58:36
2	Ba 233.527†	62954.3	63379.5	496.05	ug/L	496.05	ppb	17:58:36
2	Be 313.107†	1301692.7	1314834.6	502.10	ug/L	502.10	ppb	17:58:31
2	Cd 226.502†	44261.0	44756.0	496.52	ug/L	496.52	ppb	17:58:36
2	Co 228.616†	24150.7	24384.1	499.23	ug/L	499.23	ppb	17:58:36
2	Cr 267.716†	44168.1	44375.1	496.72	ug/L	496.72	ppb	17:58:36
2	Cu 324.752†	168771.4	163468.6	488.81	ug/L	488.81	ppb	17:58:36
2	Mn 257.610†	447518.7	450015.5	499.24	ug/L	499.24	ppb	17:58:31
2	Mo 202.031†	7101.8	7124.8	503.95	ug/L	503.95	ppb	17:58:56
2	Ni 231.604†	19954.2	20017.4	498.14	ug/L	498.14	ppb	17:58:36

2	P 214.914†	4241.2	4039.2	2365.0 ug/L	2365.0 ppb	17:58:56
2	Pb 220.353†	3977.7	4067.2	499.66 ug/L	499.66 ppb	17:58:56
2	S 181.975 Axial†	769.5	731.6	1034.4 ug/L	1034.4 ppb	17:58:56
2	Sb 206.836†	1481.5	1463.3	519.36 ug/L	519.36 ppb	17:58:56
2	Se 196.026†	733.7	770.5	514.46 ug/L	514.46 ppb	17:58:56
2	Si 251.611†	79005.7	78974.6	2509.0 ug/L	2509.0 ppb	17:58:36
2	Sn 189.927†	2847.3	2858.3	507.18 ug/L	507.18 ppb	17:58:56
2	Ti 334.940†	300290.7	303639.2	488.93 ug/L	488.93 ppb	17:58:36
2	Tl 190.801†	1587.8	1631.1	503.44 ug/L	503.44 ppb	17:58:56
2	U 409.014†	14775.6	16884.3	496.40 ug/L	496.40 ppb	17:58:36
2	V 292.402†	70573.4	72347.0	500.92 ug/L	500.92 ppb	17:58:36
2	Zn 213.857†	52831.6	52558.6	492.78 ug/L	492.78 ppb	17:58:36
2	SiO2†	79443.8	79394.3	5403.5 ug/L	5403.5 ppb	17:59:38
3	Sc Radial	4940.6	4940.6	98.1 %		17:57:33
3	Y RADIAL	5244.0	5244.0	96.59 %		17:57:33
3	Al 396.153Radial†	6201.9	6321.4	4852.6 ug/L	4852.6 ppb	17:57:33
3	Ca 317.933Radial†	3035.5	3074.0	4918.6 ug/L	4918.6 ppb	17:57:53
3	Fe 238.204 Radial†	573.3	575.4	4994.1 ug/L	4994.1 ppb	17:57:53
3	K 766.490 Radial†	29108.4	27076.3	4947.1 ug/L	4947.1 ppb	17:57:33
3	Mg 279.077 IEC†	153.8	154.8	5173.0 ug/L	5173.0 ppb	17:57:53
3	Na 589.592 Radial†	31837.3	33728.2	10099 ug/L	10099 ppb	17:57:33
3	Sr 421.552†	74383.3	75828.9	489.74 ug/L	489.74 ppb	17:57:33
3	Sc 361.383	845532.3	845532.3	99.195 %		17:59:02
3	Y 371.029	703814.3	703814.3	97.391 %		17:59:02
3	Ag 328.068†	108607.2	109131.1	505.61 ug/L	505.61 ppb	17:59:07
3	As 188.979†	1114.9	1147.6	499.35 ug/L	499.35 ppb	17:59:27
3	B 249.677†	21384.0	22189.5	492.75 ug/L	492.75 ppb	17:59:07
3	Ba 233.527†	63066.7	63590.2	497.70 ug/L	497.70 ppb	17:59:07
3	Be 313.107†	1297232.3	1312351.2	501.16 ug/L	501.16 ppb	17:59:02
3	Cd 226.502†	44292.5	44856.3	497.65 ug/L	497.65 ppb	17:59:07
3	Co 228.616†	24132.8	24403.4	499.62 ug/L	499.62 ppb	17:59:07
3	Cr 267.716†	44341.5	44618.3	499.44 ug/L	499.44 ppb	17:59:07
3	Cu 324.752†	169422.0	164385.5	491.54 ug/L	491.54 ppb	17:59:07
3	Mn 257.610†	446325.3	449504.7	498.67 ug/L	498.67 ppb	17:59:02
3	Mo 202.031†	7055.8	7089.4	501.44 ug/L	501.44 ppb	17:59:27
3	Ni 231.604†	19961.1	20055.2	499.08 ug/L	499.08 ppb	17:59:07
3	P 214.914†	4227.3	4031.7	2359.9 ug/L	2359.9 ppb	17:59:27
3	Pb 220.353†	3982.2	4077.9	500.98 ug/L	500.98 ppb	17:59:27
3	S 181.975 Axial†	762.9	726.1	1026.7 ug/L	1026.7 ppb	17:59:27
3	Sb 206.836†	1468.4	1452.4	515.48 ug/L	515.48 ppb	17:59:27
3	Se 196.026†	733.4	771.3	514.75 ug/L	514.75 ppb	17:59:27
3	Si 251.611†	79182.1	79274.6	2518.6 ug/L	2518.6 ppb	17:59:07
3	Sn 189.927†	2818.8	2834.0	502.87 ug/L	502.87 ppb	17:59:27
3	Ti 334.940†	301118.4	304938.0	491.02 ug/L	491.02 ppb	17:59:07
3	Tl 190.801†	1587.9	1633.6	504.21 ug/L	504.21 ppb	17:59:27
3	U 409.014†	15084.2	17218.3	506.25 ug/L	506.25 ppb	17:59:07
3	V 292.402†	70750.3	72634.5	502.87 ug/L	502.87 ppb	17:59:07
3	Zn 213.857†	52945.3	52755.0	494.64 ug/L	494.64 ppb	17:59:07
3	SiO2†	79380.6	79453.5	5407.6 ug/L	5407.6 ppb	17:59:43

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	845964.9	99.245	%	0.0880				0.09%
Sc Radial	4954.9	98.4	%	0.44				0.45%
Y 371.029	704983.6	97.553	%	0.1410				0.14%
Y RADIAL	5288.9	97.41	%	0.767				0.79%
Ag 328.068†	109414.8	506.94	ug/L	5.148	506.94	ppb	5.148	1.02%
QC value within limits for Ag 328.068 Recovery = 101.39%								
Al 396.153Radial†	6295.0	4832.1	ug/L	46.69	4832.1	ppb	46.69	0.97%
QC value within limits for Al 396.153Radial Recovery = 96.64%								
As 188.979†	1146.3	498.82	ug/L	1.096	498.82	ppb	1.096	0.22%
QC value within limits for As 188.979 Recovery = 99.76%								
B 249.677†	22264.4	494.41	ug/L	4.252	494.41	ppb	4.252	0.86%
QC value within limits for B 249.677 Recovery = 98.88%								
Ba 233.527†	63824.7	499.53	ug/L	4.680	499.53	ppb	4.680	0.94%
QC value within limits for Ba 233.527 Recovery = 99.91%								
Be 313.107†	1313180.3	501.48	ug/L	0.538	501.48	ppb	0.538	0.11%
QC value within limits for Be 313.107 Recovery = 100.30%								
Ca 317.933Radial†	3089.3	4943.1	ug/L	45.31	4943.1	ppb	45.31	0.92%

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   QC value within limits for Ca 317.933Radial  Recovery = 98.86%
Cd 226.502†            45075.2      500.07 ug/L         5.201      500.07 ppb          5.201   1.04%
   QC value within limits for Cd 226.502  Recovery = 100.01%
Co 228.616†            24518.2      501.97 ug/L         4.407      501.97 ppb          4.407   0.88%
   QC value within limits for Co 228.616  Recovery = 100.39%
Cr 267.716†            44696.0      500.31 ug/L         4.097      500.31 ppb          4.097   0.82%
   QC value within limits for Cr 267.716  Recovery = 100.06%
Cu 324.752†           165058.9      493.56 ug/L         6.018      493.56 ppb          6.018   1.22%
   QC value within limits for Cu 324.752  Recovery = 98.71%
Fe 238.204 Radial†       582.1      5052.6 ug/L        54.49      5052.6 ppb         54.49   1.08%
   QC value within limits for Fe 238.204 Radial  Recovery = 101.05%
K 766.490 Radial†      26927.3      4919.8 ug/L        40.63      4919.8 ppb         40.63   0.83%
   QC value within limits for K 766.490 Radial  Recovery = 98.40%
Mg 279.077 IEC†          155.6      5198.5 ug/L        27.82      5198.5 ppb         27.82   0.54%
   QC value within limits for Mg 279.077 IEC  Recovery = 103.97%
Mn 257.610†           449136.1      498.27 ug/L        1.227      498.27 ppb         1.227   0.25%
   QC value within limits for Mn 257.610  Recovery = 99.65%
Mo 202.031†             7118.4      503.49 ug/L        1.868      503.49 ppb         1.868   0.37%
   QC value within limits for Mo 202.031  Recovery = 100.70%
Na 589.592 Radial†     33653.5       10076 ug/L         57.9       10076 ppb          57.9   0.57%
   QC value within limits for Na 589.592 Radial  Recovery = 100.76%
Ni 231.604†            20131.8      500.98 ug/L        4.143      500.98 ppb         4.143   0.83%
   QC value within limits for Ni 231.604  Recovery = 100.20%
P 214.914†              4040.9      2365.0 ug/L         5.11      2365.0 ppb          5.11   0.22%
   QC value within limits for P 214.914  Recovery = 94.60%
Pb 220.353†             4078.2      501.01 ug/L        1.365      501.01 ppb         1.365   0.27%
   QC value within limits for Pb 220.353  Recovery = 100.20%
S 181.975 Axial†         731.5      1034.4 ug/L         7.66      1034.4 ppb          7.66   0.74%
   QC value within limits for S 181.975 Axial  Recovery = 103.44%
Sb 206.836†             1457.3      517.27 ug/L        1.954      517.27 ppb         1.954   0.38%
   QC value within limits for Sb 206.836  Recovery = 103.45%
Se 196.026†              771.2      514.87 ug/L        0.489      514.87 ppb         0.489   0.09%
   QC value within limits for Se 196.026  Recovery = 102.97%
Si 251.611†            79558.6      2527.6 ug/L        24.40      2527.6 ppb         24.40   0.97%
   QC value within limits for Si 251.611  Recovery = 101.10%
Sn 189.927†             2847.4      505.25 ug/L        2.188      505.25 ppb         2.188   0.43%
   QC value within limits for Sn 189.927  Recovery = 101.05%
Sr 421.552†            75607.3      488.30 ug/L        3.980      488.30 ppb         3.980   0.81%
   QC value within limits for Sr 421.552  Recovery = 97.66%
Ti 334.940†           306058.0      492.83 ug/L        5.049      492.83 ppb         5.049   1.02%
   QC value within limits for Ti 334.940  Recovery = 98.57%
Tl 190.801†             1633.5      504.16 ug/L        0.698      504.16 ppb         0.698   0.14%
   QC value within limits for Tl 190.801  Recovery = 100.83%
U 409.014†             17164.6      504.66 ug/L        7.591      504.66 ppb         7.591   1.50%
   QC value within limits for U 409.014  Recovery = 100.93%
V 292.402†             72891.9      504.64 ug/L        4.860      504.64 ppb         4.860   0.96%
   QC value within limits for V 292.402  Recovery = 100.93%
Zn 213.857†            52937.0      496.34 ug/L        4.645      496.34 ppb         4.645   0.94%
   QC value within limits for Zn 213.857  Recovery = 99.27%
SiO2†                  79538.0      5413.3 ug/L        13.61      5413.3 ppb         13.61   0.25%
   QC value within limits for SiO2  Recovery = 101.23%
All analyte(s) passed QC.
```

Sequence No.: 25
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 1/11/2010 18:01:52
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5032.1	5032.1	99.9	%			18:03:44
1	Y RADIAL	5414.0	5414.0	99.72	%			18:03:44
1	Al 396.153Radial†	-15.3	-14.6	-11.291	ug/L	-11.291	ppb	18:03:44
1	Ca 317.933Radial†	17.7	-2.0	-3.2800	ug/L	-3.2800	ppb	18:04:04
1	Fe 238.204 Radial†	13.6	4.7	40.999	ug/L	40.999	ppb	18:04:04
1	K 766.490 Radial†	2764.5	176.1	32.254	ug/L	32.254	ppb	18:03:44
1	Mg 279.077 IEC†	0.7	-1.2	-39.898	ug/L	-39.898	ppb	18:04:04
1	Na 589.592 Radial†	-1075.7	204.0	61.089	ug/L	61.089	ppb	18:03:44
1	Sr 421.552†	41.1	60.7	0.3919	ug/L	0.3919	ppb	18:03:44
1	Sc 361.383	841942.6	841942.6	98.773	%			18:05:01
1	Y 371.029	716299.6	716299.6	99.119	%			18:05:01
1	Ag 328.068†	292.4	-62.0	-0.2711	ug/L	-0.2711	ppb	18:05:01
1	As 188.979†	-20.6	2.8	1.2194	ug/L	1.2194	ppb	18:05:21
1	B 249.677†	-432.2	194.3	4.3267	ug/L	4.3267	ppb	18:05:21
1	Ba 233.527†	-14.5	-3.3	-0.0244	ug/L	-0.0244	ppb	18:05:21
1	Be 313.107†	-4496.2	33.3	0.0129	ug/L	0.0129	ppb	18:05:01
1	Cd 226.502†	-196.1	5.5	0.0567	ug/L	0.0567	ppb	18:05:21
1	Co 228.616†	-79.0	-5.3	-0.1085	ug/L	-0.1085	ppb	18:05:21
1	Cr 267.716†	100.0	18.0	0.2021	ug/L	0.2021	ppb	18:05:21
1	Cu 324.752†	6346.0	12.6	0.0408	ug/L	0.0408	ppb	18:05:01
1	Mn 257.610†	417.3	-22.4	-0.0186	ug/L	-0.0186	ppb	18:05:21
1	Mo 202.031†	29.3	6.0	0.4237	ug/L	0.4237	ppb	18:05:21
1	Ni 231.604†	62.8	-4.4	-0.1101	ug/L	-0.1101	ppb	18:05:21
1	P 214.914†	215.4	-11.8	-7.2505	ug/L	-7.2505	ppb	18:05:21
1	Pb 220.353†	-64.2	-1.7	-0.2107	ug/L	-0.2107	ppb	18:05:21
1	S 181.975 Axial†	67.7	25.5	36.124	ug/L	36.124	ppb	18:05:21
1	Sb 206.836†	39.0	11.6	3.9684	ug/L	3.9684	ppb	18:05:21
1	Se 196.026†	-29.3	2.3	1.6428	ug/L	1.6428	ppb	18:05:21
1	Si 251.611†	551.3	7.7	0.2410	ug/L	0.2410	ppb	18:05:21
1	Sn 189.927†	5.1	-2.5	-0.4355	ug/L	-0.4355	ppb	18:05:21
1	Ti 334.940†	-1301.9	56.5	0.0945	ug/L	0.0945	ppb	18:05:01
1	Tl 190.801†	-29.2	3.3	1.0204	ug/L	1.0204	ppb	18:05:21
1	U 409.014†	-2040.2	-54.0	-1.5967	ug/L	-1.5967	ppb	18:05:01
1	V 292.402†	-1301.0	-7.4	-0.0547	ug/L	-0.0547	ppb	18:05:01
1	Zn 213.857†	634.9	22.6	0.2102	ug/L	0.2102	ppb	18:05:21
1	SiO2†	552.6	-12.2	-0.8472	ug/L	-0.8472	ppb	18:06:17
2	Sc Radial	5088.6	5088.6	101	%			18:04:09
2	Y RADIAL	5460.6	5460.6	100.6	%			18:04:09
2	Al 396.153Radial†	16.4	16.9	13.046	ug/L	13.046	ppb	18:04:09
2	Ca 317.933Radial†	18.1	-1.9	-3.0157	ug/L	-3.0157	ppb	18:04:30
2	Fe 238.204 Radial†	7.1	-1.9	-16.122	ug/L	-16.122	ppb	18:04:30
2	K 766.490 Radial†	2599.4	-18.0	-3.3445	ug/L	-3.3445	ppb	18:04:09
2	Mg 279.077 IEC†	5.9	3.9	131.67	ug/L	131.67	ppb	18:04:30
2	Na 589.592 Radial†	-1059.8	231.8	69.392	ug/L	69.392	ppb	18:04:09
2	Sr 421.552†	36.0	55.1	0.3561	ug/L	0.3561	ppb	18:04:09
2	Sc 361.383	827958.1	827958.1	97.133	%			18:05:27
2	Y 371.029	703295.6	703295.6	97.319	%			18:05:27
2	Ag 328.068†	285.1	-64.4	-0.3026	ug/L	-0.3026	ppb	18:05:27
2	As 188.979†	-19.3	3.8	1.6437	ug/L	1.6437	ppb	18:05:47
2	B 249.677†	-436.4	182.6	4.0715	ug/L	4.0715	ppb	18:05:47
2	Ba 233.527†	-12.6	-1.6	-0.0145	ug/L	-0.0145	ppb	18:05:47
2	Be 313.107†	-4441.1	13.2	0.0053	ug/L	0.0053	ppb	18:05:27
2	Cd 226.502†	-197.9	0.4	0.0053	ug/L	0.0053	ppb	18:05:47
2	Co 228.616†	-69.3	3.3	0.0670	ug/L	0.0670	ppb	18:05:47
2	Cr 267.716†	93.6	13.2	0.1465	ug/L	0.1465	ppb	18:05:47
2	Cu 324.752†	6334.7	109.4	0.3276	ug/L	0.3276	ppb	18:05:27
2	Mn 257.610†	419.5	-13.0	-0.0216	ug/L	-0.0216	ppb	18:05:47
2	Mo 202.031†	20.6	-2.5	-0.1779	ug/L	-0.1779	ppb	18:05:47
2	Ni 231.604†	67.7	1.7	0.0432	ug/L	0.0432	ppb	18:05:47

2	P 214.914†	220.5	-2.9	-1.8284 ug/L	-1.8284 ppb	18:05:47
2	Pb 220.353†	-48.4	13.5	1.6580 ug/L	1.6580 ppb	18:05:47
2	S 181.975 Axial†	55.3	13.9	19.705 ug/L	19.705 ppb	18:05:47
2	Sb 206.836†	41.8	15.1	5.1298 ug/L	5.1298 ppb	18:05:47
2	Se 196.026†	-37.8	-6.9	-4.4783 ug/L	-4.4783 ppb	18:05:47
2	Si 251.611†	528.5	-6.3	-0.1991 ug/L	-0.1991 ppb	18:05:47
2	Sn 189.927†	-2.9	-10.7	-1.8935 ug/L	-1.8935 ppb	18:05:47
2	Ti 334.940†	-1255.1	82.4	0.1225 ug/L	0.1225 ppb	18:05:27
2	Tl 190.801†	-31.5	0.4	0.1292 ug/L	0.1292 ppb	18:05:47
2	U 409.014†	-2026.4	-74.6	-2.2002 ug/L	-2.2002 ppb	18:05:27
2	V 292.402†	-1364.1	-94.7	-0.6482 ug/L	-0.6482 ppb	18:05:27
2	Zn 213.857†	617.7	15.7	0.1494 ug/L	0.1494 ppb	18:05:47
2	SiO2†	544.4	-11.2	-0.7600 ug/L	-0.7600 ppb	18:06:22
3	Sc Radial	4992.2	4992.2	99.1 %		18:04:35
3	Y RADIAL	5397.0	5397.0	99.40 %		18:04:35
3	Al 396.153Radial†	-1.3	-0.6	-0.4769 ug/L	-0.4769 ppb	18:04:35
3	Ca 317.933Radial†	15.3	-4.3	-6.9230 ug/L	-6.9230 ppb	18:04:55
3	Fe 238.204 Radial†	10.3	1.5	12.892 ug/L	12.892 ppb	18:04:55
3	K 766.490 Radial†	2660.8	93.6	17.140 ug/L	17.140 ppb	18:04:35
3	Mg 279.077 IEC†	-0.4	-2.4	-78.673 ug/L	-78.673 ppb	18:04:55
3	Na 589.592 Radial†	-1117.2	153.6	45.990 ug/L	45.990 ppb	18:04:35
3	Sr 421.552†	19.3	39.0	0.2517 ug/L	0.2517 ppb	18:04:35
3	Sc 361.383	835723.6	835723.6	98.044 %		18:05:52
3	Y 371.029	710110.9	710110.9	98.262 %		18:05:52
3	Ag 328.068†	317.7	-33.9	-0.1524 ug/L	-0.1524 ppb	18:05:52
3	As 188.979†	-23.8	-0.7	-0.2952 ug/L	-0.2952 ppb	18:06:12
3	B 249.677†	-447.7	175.3	3.9063 ug/L	3.9063 ppb	18:06:12
3	Ba 233.527†	-20.4	-9.4	-0.0743 ug/L	-0.0743 ppb	18:06:12
3	Be 313.107†	-4511.7	-16.3	-0.0064 ug/L	-0.0064 ppb	18:05:52
3	Cd 226.502†	-186.3	14.1	0.1550 ug/L	0.1550 ppb	18:06:12
3	Co 228.616†	-80.5	-7.4	-0.1528 ug/L	-0.1528 ppb	18:06:12
3	Cr 267.716†	99.4	18.1	0.2029 ug/L	0.2029 ppb	18:06:12
3	Cu 324.752†	6417.0	132.8	0.3989 ug/L	0.3989 ppb	18:05:52
3	Mn 257.610†	430.8	-5.4	-0.0014 ug/L	-0.0014 ppb	18:06:12
3	Mo 202.031†	17.9	-5.4	-0.3814 ug/L	-0.3814 ppb	18:06:12
3	Ni 231.604†	70.0	3.4	0.0845 ug/L	0.0845 ppb	18:06:12
3	P 214.914†	221.2	-4.3	-2.7203 ug/L	-2.7203 ppb	18:06:12
3	Pb 220.353†	-45.2	17.3	2.1165 ug/L	2.1165 ppb	18:06:12
3	S 181.975 Axial†	58.7	16.9	23.929 ug/L	23.929 ppb	18:06:12
3	Sb 206.836†	42.6	15.6	5.3268 ug/L	5.3268 ppb	18:06:12
3	Se 196.026†	-27.5	4.0	2.6010 ug/L	2.6010 ppb	18:06:12
3	Si 251.611†	541.0	1.3	0.0463 ug/L	0.0463 ppb	18:06:12
3	Sn 189.927†	7.3	-0.2	-0.0419 ug/L	-0.0419 ppb	18:06:12
3	Ti 334.940†	-1399.4	-52.8	-0.0785 ug/L	-0.0785 ppb	18:05:52
3	Tl 190.801†	-37.9	-5.8	-1.7945 ug/L	-1.7945 ppb	18:06:12
3	U 409.014†	-2040.8	-69.9	-2.0643 ug/L	-2.0643 ppb	18:05:52
3	V 292.402†	-1360.6	-78.1	-0.5460 ug/L	-0.5460 ppb	18:05:52
3	Zn 213.857†	617.9	10.0	0.0924 ug/L	0.0924 ppb	18:06:12
3	SiO2†	570.9	10.6	0.7314 ug/L	0.7314 ppb	18:06:27

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	835208.1	97.983	%	0.8220				0.84%
Sc Radial	5037.7	100	%	1.0				0.96%
Y 371.029	709902.0	98.234	%	0.9001				0.92%
Y RADIAL	5423.9	99.90	%	0.606				0.61%
Ag 328.068†	-53.5	-0.2420	ug/L	0.07922	-0.2420	ppb	0.07922	32.73%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	0.5	0.4259	ug/L	12.19337	0.4259	ppb	12.19337	>999.9%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	2.0	0.8560	ug/L	1.01923	0.8560	ppb	1.01923	119.07%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	184.0	4.1015	ug/L	0.21183	4.1015	ppb	0.21183	5.16%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-4.8	-0.0377	ug/L	0.03202	-0.0377	ppb	0.03202	84.87%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	10.0	0.0039	ug/L	0.00973	0.0039	ppb	0.00973	247.36%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-2.8	-4.4062	ug/L	2.18357	-4.4062	ppb	2.18357	49.56%

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   QC value within limits for Ca 317.933Radial  Recovery = Not calculated
Cd 226.502†                 6.7      0.0723 ug/L       0.07602      0.0723 ppb        0.07602 105.10%
   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†                -3.1     -0.0648 ug/L       0.11624     -0.0648 ppb        0.11624 179.45%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                16.4      0.1838 ug/L       0.03237      0.1838 ppb        0.03237  17.61%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†                84.9      0.2558 ug/L       0.18958      0.2558 ppb        0.18958  74.12%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          1.5     12.590 ug/L       28.5613     12.590 ppb        28.5613 226.86%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†          83.9     15.350 ug/L       17.8665     15.350 ppb        17.8665 116.40%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†             0.1      4.3650 ug/L     111.93789      4.3650 ppb       111.93789 >999.9%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               -13.6     -0.0139 ug/L       0.01092     -0.0139 ppb        0.01092  78.75%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                -0.7     -0.0452 ug/L       0.41864     -0.0452 ppb        0.41864 927.03%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        196.5     58.823 ug/L       11.8639     58.823 ppb        11.8639  20.17%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                 0.2      0.0059 ug/L       0.10255      0.0059 ppb        0.10255 >999.9%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                 -6.3     -3.9331 ug/L       2.90736     -3.9331 ppb        2.90736  73.92%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 9.7      1.1879 ug/L       1.23277      1.1879 ppb        1.23277 103.77%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†           18.8     26.586 ug/L        8.5259     26.586 ppb         8.5259  32.07%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                14.1      4.8083 ug/L       0.73402      4.8083 ppb        0.73402  15.27%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                -0.2     -0.0782 ug/L       3.84063     -0.0782 ppb        3.84063 >999.9%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†                 0.9      0.0294 ug/L       0.22052      0.0294 ppb        0.22052 750.90%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                -4.5     -0.7903 ug/L       0.97541     -0.7903 ppb        0.97541 123.42%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                51.6      0.3332 ug/L       0.07283      0.3332 ppb        0.07283  21.85%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†                28.7      0.0462 ug/L       0.10890      0.0462 ppb        0.10890 235.88%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -0.7     -0.2150 ug/L       1.43867     -0.2150 ppb        1.43867 669.30%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                -66.2     -1.9537 ug/L       0.31659     -1.9537 ppb        0.31659  16.20%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                -60.1     -0.4163 ug/L       0.31725     -0.4163 ppb        0.31725  76.21%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†                16.1      0.1507 ug/L       0.05891      0.1507 ppb        0.05891  39.10%
   QC value within limits for Zn 213.857  Recovery = Not calculated
SiO2†                      -4.3     -0.2919 ug/L       0.88728     -0.2919 ppb        0.88728 303.95%
   QC value within limits for SiO2  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 33
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 1/11/2010 18:58:03
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5144.6	5144.6	102	%			18:59:55
1	Y RADIAL	5507.0	5507.0	101.4	%			18:59:55
1	Al 396.153Radial†	6406.2	6270.7	4813.1	ug/L	4813.1	ppb	18:59:55
1	Ca 317.933Radial†	3114.2	3028.3	4845.5	ug/L	4845.5	ppb	19:00:15
1	Fe 238.204 Radial†	592.9	571.4	4960.0	ug/L	4960.0	ppb	19:00:15
1	K 766.490 Radial†	29692.5	26471.4	4836.2	ug/L	4836.2	ppb	18:59:55
1	Mg 279.077 IEC†	157.5	152.2	5085.6	ug/L	5085.6	ppb	19:00:15
1	Na 589.592 Radial†	32930.9	33511.6	10034	ug/L	10034	ppb	18:59:55
1	Sr 421.552†	76540.8	74933.9	483.95	ug/L	483.95	ppb	18:59:55
1	Sc 361.383	849883.4	849883.4	99.705	%			19:01:12
1	Y 371.029	708700.0	708700.0	98.067	%			19:01:12
1	Ag 328.068†	109742.0	109708.7	508.27	ug/L	508.27	ppb	19:01:17
1	As 188.979†	1136.7	1163.7	506.32	ug/L	506.32	ppb	19:01:38
1	B 249.677†	21497.9	22193.3	492.83	ug/L	492.83	ppb	19:01:17
1	Ba 233.527†	63727.5	63927.5	500.34	ug/L	500.34	ppb	19:01:17
1	Be 313.107†	1322793.7	1331292.9	508.38	ug/L	508.38	ppb	19:01:12
1	Cd 226.502†	44865.2	45202.1	501.49	ug/L	501.49	ppb	19:01:17
1	Co 228.616†	24369.9	24516.6	501.95	ug/L	501.95	ppb	19:01:17
1	Cr 267.716†	44675.4	44724.3	500.63	ug/L	500.63	ppb	19:01:17
1	Cu 324.752†	171998.3	166095.0	496.65	ug/L	496.65	ppb	19:01:17
1	Mn 257.610†	451883.5	452775.7	502.29	ug/L	502.29	ppb	19:01:12
1	Mo 202.031†	7199.3	7196.9	509.04	ug/L	509.04	ppb	19:01:38
1	Ni 231.604†	20128.7	20120.3	500.70	ug/L	500.70	ppb	19:01:17
1	P 214.914†	4345.1	4128.1	2417.8	ug/L	2417.8	ppb	19:01:38
1	Pb 220.353†	4038.4	4113.7	505.38	ug/L	505.38	ppb	19:01:38
1	S 181.975 Axial†	822.5	781.9	1105.7	ug/L	1105.7	ppb	19:01:38
1	Sb 206.836†	1510.2	1486.8	527.58	ug/L	527.58	ppb	19:01:38
1	Se 196.026†	758.2	792.4	528.28	ug/L	528.28	ppb	19:01:38
1	Si 251.611†	80267.6	79954.6	2540.2	ug/L	2540.2	ppb	19:01:17
1	Sn 189.927†	2889.1	2890.0	512.77	ug/L	512.77	ppb	19:01:38
1	Ti 334.940†	304788.1	307064.4	494.45	ug/L	494.45	ppb	19:01:17
1	Tl 190.801†	1606.7	1644.3	507.52	ug/L	507.52	ppb	19:01:38
1	U 409.014†	15207.6	17264.2	507.60	ug/L	507.60	ppb	19:01:17
1	V 292.402†	71520.5	73041.8	505.76	ug/L	505.76	ppb	19:01:17
1	Zn 213.857†	53506.3	53044.3	497.36	ug/L	497.36	ppb	19:01:17
1	SiO2†	81243.4	80912.1	5506.9	ug/L	5506.9	ppb	19:02:45
2	Sc Radial	5054.1	5054.1	100	%			19:00:20
2	Y RADIAL	5400.1	5400.1	99.46	%			19:00:20
2	Al 396.153Radial†	6372.3	6349.2	4873.4	ug/L	4873.4	ppb	19:00:20
2	Ca 317.933Radial†	3116.2	3084.9	4936.1	ug/L	4936.1	ppb	19:00:40
2	Fe 238.204 Radial†	597.5	586.4	5090.1	ug/L	5090.1	ppb	19:00:40
2	K 766.490 Radial†	29643.8	26943.4	4922.6	ug/L	4922.6	ppb	19:00:20
2	Mg 279.077 IEC†	155.6	153.1	5115.5	ug/L	5115.5	ppb	19:00:40
2	Na 589.592 Radial†	32617.7	33776.9	10113	ug/L	10113	ppb	19:00:20
2	Sr 421.552†	76232.5	75968.6	490.64	ug/L	490.64	ppb	19:00:20
2	Sc 361.383	841500.4	841500.4	98.722	%			19:01:43
2	Y 371.029	701064.2	701064.2	97.011	%			19:01:43
2	Ag 328.068†	111194.9	112276.9	520.18	ug/L	520.18	ppb	19:01:48
2	As 188.979†	1140.0	1178.3	512.74	ug/L	512.74	ppb	19:02:08
2	B 249.677†	22053.5	22971.0	510.12	ug/L	510.12	ppb	19:01:48
2	Ba 233.527†	64584.2	65432.0	512.11	ug/L	512.11	ppb	19:01:48
2	Be 313.107†	1302730.2	1324186.3	505.70	ug/L	505.70	ppb	19:01:43
2	Cd 226.502†	45568.8	46363.0	514.37	ug/L	514.37	ppb	19:01:48
2	Co 228.616†	24775.4	25170.9	515.32	ug/L	515.32	ppb	19:01:48
2	Cr 267.716†	45418.1	45923.0	514.05	ug/L	514.05	ppb	19:01:48
2	Cu 324.752†	174409.6	170256.0	509.09	ug/L	509.09	ppb	19:01:48
2	Mn 257.610†	446399.5	451735.6	501.16	ug/L	501.16	ppb	19:01:43
2	Mo 202.031†	7199.9	7269.4	514.17	ug/L	514.17	ppb	19:02:08
2	Ni 231.604†	20501.0	20698.6	515.09	ug/L	515.09	ppb	19:01:48

2	P 214.914†	4332.4	4158.7	2433.7 ug/L	2433.7 ppb	19:02:08
2	Pb 220.353†	4018.7	4134.1	507.87 ug/L	507.87 ppb	19:02:08
2	S 181.975 Axial†	824.6	792.3	1120.3 ug/L	1120.3 ppb	19:02:08
2	Sb 206.836†	1507.9	1499.5	532.04 ug/L	532.04 ppb	19:02:08
2	Se 196.026†	748.5	790.2	527.29 ug/L	527.29 ppb	19:02:08
2	Si 251.611†	81375.3	81878.6	2601.4 ug/L	2601.4 ppb	19:01:48
2	Sn 189.927†	2860.0	2889.4	512.69 ug/L	512.69 ppb	19:02:08
2	Ti 334.940†	308906.0	314280.9	506.07 ug/L	506.07 ppb	19:01:48
2	Tl 190.801†	1603.9	1657.5	511.56 ug/L	511.56 ppb	19:02:08
2	U 409.014†	15380.3	17591.1	517.20 ug/L	517.20 ppb	19:01:48
2	V 292.402†	72630.9	74881.2	518.38 ug/L	518.38 ppb	19:01:48
2	Zn 213.857†	54302.8	54385.8	509.92 ug/L	509.92 ppb	19:01:48
2	SiO2†	81061.5	81539.5	5549.6 ug/L	5549.6 ppb	19:02:50
3	Sc Radial	5031.9	5031.9	99.9 %		19:00:45
3	Y RADIAL	5396.5	5396.5	99.39 %		19:00:45
3	Al 396.153Radial†	6345.2	6350.2	4874.7 ug/L	4874.7 ppb	19:00:45
3	Ca 317.933Radial†	3113.6	3095.9	4953.8 ug/L	4953.8 ppb	19:01:05
3	Fe 238.204 Radial†	589.4	580.9	5041.8 ug/L	5041.8 ppb	19:01:05
3	K 766.490 Radial†	29541.1	26971.1	4927.8 ug/L	4927.8 ppb	19:00:45
3	Mg 279.077 IEC†	155.5	153.7	5135.4 ug/L	5135.4 ppb	19:01:05
3	Na 589.592 Radial†	32332.6	33635.2	10071 ug/L	10071 ppb	19:00:45
3	Sr 421.552†	75829.5	75900.8	490.20 ug/L	490.20 ppb	19:00:45
3	Sc 361.383	857935.6	857935.6	100.65 %		19:02:14
3	Y 371.029	715236.9	715236.9	98.972 %		19:02:14
3	Ag 328.068†	110051.9	108983.5	504.95 ug/L	504.95 ppb	19:02:19
3	As 188.979†	1139.0	1155.2	502.68 ug/L	502.68 ppb	19:02:39
3	B 249.677†	21674.8	22166.7	492.24 ug/L	492.24 ppb	19:02:19
3	Ba 233.527†	63825.4	63424.9	496.41 ug/L	496.41 ppb	19:02:19
3	Be 313.107†	1327030.1	1323050.1	505.23 ug/L	505.23 ppb	19:02:14
3	Cd 226.502†	44870.2	44784.7	496.85 ug/L	496.85 ppb	19:02:19
3	Co 228.616†	24430.9	24347.8	498.48 ug/L	498.48 ppb	19:02:19
3	Cr 267.716†	44855.9	44483.1	497.93 ug/L	497.93 ppb	19:02:19
3	Cu 324.752†	172448.3	164923.0	493.15 ug/L	493.15 ppb	19:02:19
3	Mn 257.610†	453941.4	450566.5	499.85 ug/L	499.85 ppb	19:02:14
3	Mo 202.031†	7182.9	7112.8	503.10 ug/L	503.10 ppb	19:02:39
3	Ni 231.604†	20189.2	19991.0	497.48 ug/L	497.48 ppb	19:02:19
3	P 214.914†	4314.1	4056.4	2374.6 ug/L	2374.6 ppb	19:02:39
3	Pb 220.353†	4039.8	4077.1	500.88 ug/L	500.88 ppb	19:02:39
3	S 181.975 Axial†	823.9	775.6	1096.7 ug/L	1096.7 ppb	19:02:39
3	Sb 206.836†	1502.9	1465.3	519.99 ug/L	519.99 ppb	19:02:39
3	Se 196.026†	739.8	767.0	512.15 ug/L	512.15 ppb	19:02:39
3	Si 251.611†	80305.3	79236.5	2517.4 ug/L	2517.4 ppb	19:02:19
3	Sn 189.927†	2871.7	2845.5	504.91 ug/L	504.91 ppb	19:02:39
3	Ti 334.940†	305241.9	304646.2	490.56 ug/L	490.56 ppb	19:02:19
3	Tl 190.801†	1617.4	1639.8	506.11 ug/L	506.11 ppb	19:02:39
3	U 409.014†	15197.1	17110.6	503.07 ug/L	503.07 ppb	19:02:19
3	V 292.402†	71738.1	72584.8	502.54 ug/L	502.54 ppb	19:02:19
3	Zn 213.857†	53694.1	52727.3	494.38 ug/L	494.38 ppb	19:02:19
3	SiO2†	80175.4	79086.2	5382.5 ug/L	5382.5 ppb	19:02:55

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	849773.1	99.692	%	0.9641				0.97%
Sc Radial	5076.9	101	%	1.2				1.18%
Y 371.029	708333.7	98.016	%	0.9816				1.00%
Y RADIAL	5434.5	100.1	%	1.16				1.16%
Ag 328.068†	110323.1	511.13	ug/L	8.009	511.13	ppb	8.009	1.57%
QC value within limits for Ag 328.068 Recovery = 102.23%								
Al 396.153Radial†	6323.4	4853.7	ug/L	35.21	4853.7	ppb	35.21	0.73%
QC value within limits for Al 396.153Radial Recovery = 97.07%								
As 188.979†	1165.8	507.25	ug/L	5.095	507.25	ppb	5.095	1.00%
QC value within limits for As 188.979 Recovery = 101.45%								
B 249.677†	22443.7	498.40	ug/L	10.155	498.40	ppb	10.155	2.04%
QC value within limits for B 249.677 Recovery = 99.68%								
Ba 233.527†	64261.5	502.95	ug/L	8.173	502.95	ppb	8.173	1.63%
QC value within limits for Ba 233.527 Recovery = 100.59%								
Be 313.107†	1326176.4	506.44	ug/L	1.699	506.44	ppb	1.699	0.34%
QC value within limits for Be 313.107 Recovery = 101.29%								
Ca 317.933Radial†	3069.7	4911.8	ug/L	58.07	4911.8	ppb	58.07	1.18%

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   QC value within limits for Ca 317.933Radial  Recovery = 98.24%
Cd 226.502†            45449.9      504.23 ug/L         9.079      504.23 ppb          9.079   1.80%
   QC value within limits for Cd 226.502  Recovery = 100.85%
Co 228.616†            24678.5      505.25 ug/L         8.893      505.25 ppb          8.893   1.76%
   QC value within limits for Co 228.616  Recovery = 101.05%
Cr 267.716†            45043.5      504.20 ug/L         8.631      504.20 ppb          8.631   1.71%
   QC value within limits for Cr 267.716  Recovery = 100.84%
Cu 324.752†           167091.3      499.63 ug/L         8.379      499.63 ppb          8.379   1.68%
   QC value within limits for Cu 324.752  Recovery = 99.93%
Fe 238.204 Radial†       579.6      5030.6 ug/L        65.79      5030.6 ppb          65.79   1.31%
   QC value within limits for Fe 238.204 Radial  Recovery = 100.61%
K 766.490 Radial†      26795.3      4895.5 ug/L        51.48      4895.5 ppb          51.48   1.05%
   QC value within limits for K 766.490 Radial  Recovery = 97.91%
Mg 279.077 IEC†          153.0      5112.2 ug/L        25.03      5112.2 ppb          25.03   0.49%
   QC value within limits for Mg 279.077 IEC  Recovery = 102.24%
Mn 257.610†           451692.6      501.10 ug/L         1.222      501.10 ppb          1.222   0.24%
   QC value within limits for Mn 257.610  Recovery = 100.22%
Mo 202.031†             7193.0      508.77 ug/L         5.539      508.77 ppb          5.539   1.09%
   QC value within limits for Mo 202.031  Recovery = 101.75%
Na 589.592 Radial†     33641.2       10073 ug/L          39.7       10073 ppb           39.7   0.39%
   QC value within limits for Na 589.592 Radial  Recovery = 100.73%
Ni 231.604†            20269.9      504.42 ug/L         9.377      504.42 ppb          9.377   1.86%
   QC value within limits for Ni 231.604  Recovery = 100.88%
P 214.914†              4114.4      2408.7 ug/L        30.57      2408.7 ppb          30.57   1.27%
   QC value within limits for P 214.914  Recovery = 96.35%
Pb 220.353†             4108.3      504.71 ug/L         3.545      504.71 ppb          3.545   0.70%
   QC value within limits for Pb 220.353  Recovery = 100.94%
S 181.975 Axial†         783.3      1107.6 ug/L        11.91      1107.6 ppb          11.91   1.08%
   QC value greater than the upper limit for S 181.975 Axial  Recovery = 110.76%
Sb 206.836†             1483.9      526.54 ug/L         6.094      526.54 ppb          6.094   1.16%
   QC value within limits for Sb 206.836  Recovery = 105.31%
Se 196.026†              783.2      522.57 ug/L         9.039      522.57 ppb          9.039   1.73%
   QC value within limits for Se 196.026  Recovery = 104.51%
Si 251.611†            80356.6      2553.0 ug/L        43.45      2553.0 ppb          43.45   1.70%
   QC value within limits for Si 251.611  Recovery = 102.12%
Sn 189.927†             2875.0      510.13 ug/L         4.515      510.13 ppb          4.515   0.89%
   QC value within limits for Sn 189.927  Recovery = 102.03%
Sr 421.552†            75601.1      488.26 ug/L         3.738      488.26 ppb          3.738   0.77%
   QC value within limits for Sr 421.552  Recovery = 97.65%
Ti 334.940†           308663.8      497.03 ug/L         8.071      497.03 ppb          8.071   1.62%
   QC value within limits for Ti 334.940  Recovery = 99.41%
Tl 190.801†             1647.2      508.40 ug/L         2.826      508.40 ppb          2.826   0.56%
   QC value within limits for Tl 190.801  Recovery = 101.68%
U 409.014†             17322.0      509.29 ug/L         7.216      509.29 ppb          7.216   1.42%
   QC value within limits for U 409.014  Recovery = 101.86%
V 292.402†             73502.6      508.89 ug/L         8.370      508.89 ppb          8.370   1.64%
   QC value within limits for V 292.402  Recovery = 101.78%
Zn 213.857†            53385.8      500.55 ug/L         8.252      500.55 ppb          8.252   1.65%
   QC value within limits for Zn 213.857  Recovery = 100.11%
SiO2†                  80512.6      5479.7 ug/L        86.82      5479.7 ppb          86.82   1.58%
   QC value within limits for SiO2  Recovery = 102.47%
QC Failed.  Continue with analysis.
```

Sequence No.: 34
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 1/11/2010 19:05:04
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5140.9	5140.9	102	%			19:06:56
1	Y RADIAL	5525.1	5525.1	101.8	%			19:06:56
1	Al 396.153Radial†	-14.0	-13.1	-10.088	ug/L	-10.088	ppb	19:06:56
1	Ca 317.933Radial†	20.2	-0.0	-0.0067	ug/L	-0.0067	ppb	19:07:16
1	Fe 238.204 Radial†	8.6	-0.5	-4.3200	ug/L	-4.3200	ppb	19:07:16
1	K 766.490 Radial†	2641.6	-2.8	-0.5760	ug/L	-0.5760	ppb	19:06:56
1	Mg 279.077 IEC†	1.4	-0.6	-19.419	ug/L	-19.419	ppb	19:07:16
1	Na 589.592 Radial†	-966.2	334.1	100.04	ug/L	100.04	ppb	19:06:56
1	Sr 421.552†	9.0	28.3	0.1828	ug/L	0.1828	ppb	19:06:56
1	Sc 361.383	860728.5	860728.5	100.98	%			19:08:13
1	Y 371.029	729476.3	729476.3	100.94	%			19:08:13
1	Ag 328.068†	308.9	-52.1	-0.2434	ug/L	-0.2434	ppb	19:08:13
1	As 188.979†	-36.8	-12.9	-5.5758	ug/L	-5.5758	ppb	19:08:33
1	B 249.677†	-450.6	185.6	4.1364	ug/L	4.1364	ppb	19:08:33
1	Ba 233.527†	-23.0	-11.4	-0.0898	ug/L	-0.0898	ppb	19:08:33
1	Be 313.107†	-4540.4	88.9	0.0342	ug/L	0.0342	ppb	19:08:13
1	Cd 226.502†	-191.0	14.9	0.1665	ug/L	0.1665	ppb	19:08:33
1	Co 228.616†	-62.5	12.8	0.2617	ug/L	0.2617	ppb	19:08:33
1	Cr 267.716†	64.2	-19.7	-0.2208	ug/L	-0.2208	ppb	19:08:33
1	Cu 324.752†	6528.5	53.1	0.1579	ug/L	0.1579	ppb	19:08:13
1	Mn 257.610†	420.9	-28.0	-0.0308	ug/L	-0.0308	ppb	19:08:33
1	Mo 202.031†	24.0	0.1	0.0071	ug/L	0.0071	ppb	19:08:33
1	Ni 231.604†	72.4	3.7	0.0919	ug/L	0.0919	ppb	19:08:33
1	P 214.914†	227.2	-4.8	-2.9794	ug/L	-2.9794	ppb	19:08:33
1	Pb 220.353†	-63.9	0.1	0.0136	ug/L	0.0136	ppb	19:08:33
1	S 181.975 Axial†	93.5	49.6	70.188	ug/L	70.188	ppb	19:08:33
1	Sb 206.836†	42.4	14.1	4.8329	ug/L	4.8329	ppb	19:08:33
1	Se 196.026†	-31.3	1.0	0.6403	ug/L	0.6403	ppb	19:08:33
1	Si 251.611†	536.6	-19.1	-0.6071	ug/L	-0.6071	ppb	19:08:33
1	Sn 189.927†	10.7	2.9	0.5179	ug/L	0.5179	ppb	19:08:33
1	Ti 334.940†	-1306.8	80.4	0.1306	ug/L	0.1306	ppb	19:08:13
1	Tl 190.801†	-33.6	-0.4	-0.1358	ug/L	-0.1358	ppb	19:08:33
1	U 409.014†	-1988.7	42.1	1.2440	ug/L	1.2440	ppb	19:08:13
1	V 292.402†	-1366.9	-44.0	-0.2974	ug/L	-0.2974	ppb	19:08:13
1	Zn 213.857†	610.2	-15.9	-0.1509	ug/L	-0.1509	ppb	19:08:33
1	SiO2†	573.4	-3.8	-0.2598	ug/L	-0.2598	ppb	19:09:29
2	Sc Radial	5104.9	5104.9	101	%			19:07:21
2	Y RADIAL	5499.2	5499.2	101.3	%			19:07:21
2	Al 396.153Radial†	-21.9	-20.9	-16.126	ug/L	-16.126	ppb	19:07:21
2	Ca 317.933Radial†	18.2	-1.8	-2.9041	ug/L	-2.9041	ppb	19:07:41
2	Fe 238.204 Radial†	11.7	2.6	22.690	ug/L	22.690	ppb	19:07:41
2	K 766.490 Radial†	2658.0	31.6	5.7561	ug/L	5.7561	ppb	19:07:21
2	Mg 279.077 IEC†	5.0	3.0	100.96	ug/L	100.96	ppb	19:07:41
2	Na 589.592 Radial†	-1056.1	238.8	71.492	ug/L	71.492	ppb	19:07:21
2	Sr 421.552†	-9.0	10.6	0.0684	ug/L	0.0684	ppb	19:07:21
2	Sc 361.383	855326.4	855326.4	100.34	%			19:08:38
2	Y 371.029	724039.3	724039.3	100.19	%			19:08:38
2	Ag 328.068†	243.8	-115.0	-0.5270	ug/L	-0.5270	ppb	19:08:38
2	As 188.979†	-20.9	2.8	1.2258	ug/L	1.2258	ppb	19:08:58
2	B 249.677†	-448.2	185.2	4.1253	ug/L	4.1253	ppb	19:08:58
2	Ba 233.527†	-23.1	-11.6	-0.0913	ug/L	-0.0913	ppb	19:08:58
2	Be 313.107†	-4542.2	58.7	0.0224	ug/L	0.0224	ppb	19:08:38
2	Cd 226.502†	-202.2	2.6	0.0269	ug/L	0.0269	ppb	19:08:58
2	Co 228.616†	-64.2	10.7	0.2186	ug/L	0.2186	ppb	19:08:58
2	Cr 267.716†	72.9	-10.6	-0.1206	ug/L	-0.1206	ppb	19:08:58
2	Cu 324.752†	6447.0	12.7	0.0375	ug/L	0.0375	ppb	19:08:38
2	Mn 257.610†	408.7	-37.5	-0.0432	ug/L	-0.0432	ppb	19:08:58
2	Mo 202.031†	19.6	-4.2	-0.2942	ug/L	-0.2942	ppb	19:08:58
2	Ni 231.604†	84.0	15.8	0.3931	ug/L	0.3931	ppb	19:08:58

2	P 214.914†	225.8	-4.9	-3.0264 ug/L	-3.0264 ppb	19:08:58
2	Pb 220.353†	-77.8	-14.2	-1.7419 ug/L	-1.7419 ppb	19:08:58
2	S 181.975 Axial†	91.8	48.5	68.627 ug/L	68.627 ppb	19:08:58
2	Sb 206.836†	40.3	12.3	4.1838 ug/L	4.1838 ppb	19:08:58
2	Se 196.026†	-27.7	4.4	2.8931 ug/L	2.8931 ppb	19:08:58
2	Si 251.611†	508.7	-43.5	-1.3814 ug/L	-1.3814 ppb	19:08:58
2	Sn 189.927†	3.2	-4.5	-0.7906 ug/L	-0.7906 ppb	19:08:58
2	Ti 334.940†	-1386.3	-7.0	-0.0213 ug/L	-0.0213 ppb	19:08:38
2	Tl 190.801†	-34.3	-1.3	-0.4094 ug/L	-0.4094 ppb	19:08:58
2	U 409.014†	-1909.2	109.0	3.2133 ug/L	3.2133 ppb	19:08:38
2	V 292.402†	-1402.5	-88.0	-0.6001 ug/L	-0.6001 ppb	19:08:38
2	Zn 213.857†	610.6	-11.7	-0.1157 ug/L	-0.1157 ppb	19:08:58
2	SiO2†	574.0	0.3	0.0304 ug/L	0.0304 ppb	19:09:34
3	Sc Radial	5111.0	5111.0	102 %		19:07:46
3	Y RADIAL	5546.4	5546.4	102.2 %		19:07:46
3	Al 396.153Radial†	-15.3	-14.5	-11.128 ug/L	-11.128 ppb	19:07:46
3	Ca 317.933Radial†	14.0	-6.0	-9.6274 ug/L	-9.6274 ppb	19:08:06
3	Fe 238.204 Radial†	8.1	-1.0	-8.2299 ug/L	-8.2299 ppb	19:08:06
3	K 766.490 Radial†	2696.4	66.3	12.117 ug/L	12.117 ppb	19:07:46
3	Mg 279.077 IEC†	3.9	1.9	64.399 ug/L	64.399 ppb	19:08:06
3	Na 589.592 Radial†	-983.0	312.0	93.413 ug/L	93.413 ppb	19:07:46
3	Sr 421.552†	31.8	50.9	0.3287 ug/L	0.3287 ppb	19:07:46
3	Sc 361.383	844303.3	844303.3	99.050 %		19:09:03
3	Y 371.029	716469.9	716469.9	99.142 %		19:09:03
3	Ag 328.068†	416.8	62.8	0.2860 ug/L	0.2860 ppb	19:09:03
3	As 188.979†	-20.6	2.9	1.2376 ug/L	1.2376 ppb	19:09:23
3	B 249.677†	-487.9	139.3	3.1061 ug/L	3.1061 ppb	19:09:23
3	Ba 233.527†	-11.6	-0.3	-0.0033 ug/L	-0.0033 ppb	19:09:23
3	Be 313.107†	-4518.4	23.6	0.0094 ug/L	0.0094 ppb	19:09:03
3	Cd 226.502†	-187.4	14.9	0.1663 ug/L	0.1663 ppb	19:09:23
3	Co 228.616†	-74.8	-0.8	-0.0182 ug/L	-0.0182 ppb	19:09:23
3	Cr 267.716†	50.2	-32.6	-0.3646 ug/L	-0.3646 ppb	19:09:23
3	Cu 324.752†	6342.6	-8.8	-0.0264 ug/L	-0.0264 ppb	19:09:03
3	Mn 257.610†	421.8	-19.0	-0.0246 ug/L	-0.0246 ppb	19:09:23
3	Mo 202.031†	17.2	-6.3	-0.4465 ug/L	-0.4465 ppb	19:09:23
3	Ni 231.604†	78.5	11.3	0.2817 ug/L	0.2817 ppb	19:09:23
3	P 214.914†	201.2	-26.7	-16.326 ug/L	-16.326 ppb	19:09:23
3	Pb 220.353†	-43.1	19.8	2.4268 ug/L	2.4268 ppb	19:09:23
3	S 181.975 Axial†	86.7	44.6	63.063 ug/L	63.063 ppb	19:09:23
3	Sb 206.836†	41.3	13.8	4.7140 ug/L	4.7140 ppb	19:09:23
3	Se 196.026†	-35.7	-4.0	-2.6278 ug/L	-2.6278 ppb	19:09:23
3	Si 251.611†	527.6	-17.8	-0.5611 ug/L	-0.5611 ppb	19:09:23
3	Sn 189.927†	6.7	-0.9	-0.1535 ug/L	-0.1535 ppb	19:09:23
3	Ti 334.940†	-1253.1	109.4	0.1703 ug/L	0.1703 ppb	19:09:03
3	Tl 190.801†	-35.7	-3.2	-0.9833 ug/L	-0.9833 ppb	19:09:23
3	U 409.014†	-2013.6	-21.3	-0.6257 ug/L	-0.6257 ppb	19:09:03
3	V 292.402†	-1352.1	-55.3	-0.3831 ug/L	-0.3831 ppb	19:09:03
3	Zn 213.857†	607.1	-7.3	-0.0701 ug/L	-0.0701 ppb	19:09:23
3	SiO2†	563.6	-2.6	-0.1675 ug/L	-0.1675 ppb	19:09:39

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	853452.7	100.12	%	0.982				0.98%
Sc Radial	5118.9	102	%	0.4				0.38%
Y 371.029	723328.5	100.09	%	0.904				0.90%
Y RADIAL	5523.6	101.7	%	0.44				0.43%
Ag 328.068†	-34.7	-0.1615	ug/L	0.41266	-0.1615	ppb	0.41266	255.58%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-16.1	-12.447	ug/L	3.2278	-12.447	ppb	3.2278	25.93%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-2.4	-1.0375	ug/L	3.93034	-1.0375	ppb	3.93034	378.84%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	170.0	3.7893	ug/L	0.59168	3.7893	ppb	0.59168	15.61%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-7.8	-0.0615	ug/L	0.05038	-0.0615	ppb	0.05038	81.95%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	57.1	0.0220	ug/L	0.01238	0.0220	ppb	0.01238	56.33%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-2.6	-4.1794	ug/L	4.93552	-4.1794	ppb	4.93552	118.09%

```
   QC value within limits for Ca 317.933Radial  Recovery = Not calculated
Cd 226.502†                10.8      0.1199 ug/L       0.08057      0.1199 ppb        0.08057  67.20%
   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†                 7.6      0.1540 ug/L       0.15071      0.1540 ppb        0.15071  97.85%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               -20.9     -0.2353 ug/L       0.12266     -0.2353 ppb        0.12266  52.13%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†                19.0      0.0563 ug/L       0.09362      0.0563 ppb        0.09362 166.19%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          0.4      3.3800 ug/L      16.83669      3.3800 ppb       16.83669 498.13%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†          31.7      5.7658 ug/L       6.34665      5.7658 ppb        6.34665 110.07%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†             1.5     48.647 ug/L       61.7173     48.647 ppb        61.7173 126.87%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               -28.2     -0.0329 ug/L       0.00948     -0.0329 ppb        0.00948  28.85%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                -3.5     -0.2445 ug/L       0.23086     -0.2445 ppb        0.23086  94.41%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        295.0     88.317 ug/L       14.9431     88.317 ppb        14.9431  16.92%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                10.3      0.2556 ug/L       0.15228      0.2556 ppb        0.15228  59.59%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                -12.1     -7.4439 ug/L       7.69203     -7.4439 ppb        7.69203 103.33%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 1.9      0.2329 ug/L       2.09299      0.2329 ppb        2.09299 898.85%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†           47.5     67.293 ug/L        3.7453     67.293 ppb         3.7453   5.57%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                13.4      4.5769 ug/L       0.34560      4.5769 ppb        0.34560   7.55%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 0.5      0.3019 ug/L       2.77596      0.3019 ppb        2.77596 919.57%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               -26.8     -0.8499 ug/L       0.46092     -0.8499 ppb        0.46092  54.23%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                -0.8     -0.1421 ug/L       0.65432     -0.1421 ppb        0.65432 460.51%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                29.9      0.1933 ug/L       0.13045      0.1933 ppb        0.13045  67.49%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†                60.9      0.0932 ug/L       0.10112      0.0932 ppb        0.10112 108.48%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -1.7     -0.5095 ug/L       0.43252     -0.5095 ppb        0.43252  84.89%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                 43.3      1.2772 ug/L       1.91972      1.2772 ppb        1.91972 150.31%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                -62.4     -0.4269 ug/L       0.15602     -0.4269 ppb        0.15602  36.55%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†               -11.7     -0.1123 ug/L       0.04052     -0.1123 ppb        0.04052  36.09%
   QC value within limits for Zn 213.857  Recovery = Not calculated
SiO2†                      -2.0     -0.1323 ug/L       0.14825     -0.1323 ppb        0.14825 112.04%
   QC value within limits for SiO2  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 44
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 1/11/2010 20:14:46
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5237.6	5237.6	104	%			20:16:38
1	Y RADIAL	5568.0	5568.0	102.6	%			20:16:38
1	Al 396.153Radial†	6326.0	6082.2	4668.0	ug/L	4668.0	ppb	20:16:38
1	Ca 317.933Radial†	3176.9	3034.4	4855.3	ug/L	4855.3	ppb	20:16:58
1	Fe 238.204 Radial†	596.5	564.6	4901.0	ug/L	4901.0	ppb	20:16:58
1	K 766.490 Radial†	29542.8	25811.4	4715.5	ug/L	4715.5	ppb	20:16:38
1	Mg 279.077 IEC†	163.7	155.4	5193.6	ug/L	5193.6	ppb	20:16:58
1	Na 589.592 Radial†	32100.0	32140.5	9623.2	ug/L	9623.2	ppb	20:16:38
1	Sr 421.552†	76092.0	73172.2	472.58	ug/L	472.58	ppb	20:16:38
1	Sc 361.383	867661.4	867661.4	101.79	%			20:17:55
1	Y 371.029	722396.9	722396.9	99.963	%			20:17:55
1	Ag 328.068†	112559.6	110221.6	510.63	ug/L	510.63	ppb	20:18:01
1	As 188.979†	1153.6	1157.0	503.46	ug/L	503.46	ppb	20:18:21
1	B 249.677†	22332.3	22571.3	501.25	ug/L	501.25	ppb	20:18:01
1	Ba 233.527†	65622.0	64479.0	504.65	ug/L	504.65	ppb	20:18:01
1	Be 313.107†	1343717.7	1324665.2	505.88	ug/L	505.88	ppb	20:17:55
1	Cd 226.502†	46013.6	45408.3	503.79	ug/L	503.79	ppb	20:18:01
1	Co 228.616†	25080.3	24713.8	505.95	ug/L	505.95	ppb	20:18:01
1	Cr 267.716†	45949.9	45058.4	504.37	ug/L	504.37	ppb	20:18:01
1	Cu 324.752†	176616.6	167097.5	499.64	ug/L	499.64	ppb	20:18:01
1	Mn 257.610†	460294.6	451752.5	501.15	ug/L	501.15	ppb	20:17:55
1	Mo 202.031†	7267.3	7115.7	503.29	ug/L	503.29	ppb	20:18:21
1	Ni 231.604†	20697.9	20265.8	504.32	ug/L	504.32	ppb	20:18:01
1	P 214.914†	4345.6	4039.3	2362.8	ug/L	2362.8	ppb	20:18:21
1	Pb 220.353†	4069.5	4061.2	498.90	ug/L	498.90	ppb	20:18:21
1	S 181.975 Axial†	768.1	711.6	1006.2	ug/L	1006.2	ppb	20:18:21
1	Sb 206.836†	1505.7	1451.3	515.15	ug/L	515.15	ppb	20:18:21
1	Se 196.026†	758.4	777.1	518.17	ug/L	518.17	ppb	20:18:21
1	Si 251.611†	83045.4	81034.0	2574.6	ug/L	2574.6	ppb	20:18:01
1	Sn 189.927†	2903.5	2844.8	504.77	ug/L	504.77	ppb	20:18:21
1	Ti 334.940†	318042.2	313821.9	505.32	ug/L	505.32	ppb	20:17:55
1	Tl 190.801†	1622.6	1626.9	502.20	ug/L	502.20	ppb	20:18:21
1	U 409.014†	15598.2	17335.5	509.71	ug/L	509.71	ppb	20:18:01
1	V 292.402†	73736.4	73749.0	510.51	ug/L	510.51	ppb	20:18:01
1	Zn 213.857†	55050.9	53462.2	501.29	ug/L	501.29	ppb	20:18:01
1	SiO2†	80857.2	78863.2	5367.3	ug/L	5367.3	ppb	20:19:28
2	Sc Radial	5100.6	5100.6	101	%			20:17:03
2	Y RADIAL	5471.6	5471.6	100.8	%			20:17:03
2	Al 396.153Radial†	6444.4	6362.6	4884.3	ug/L	4884.3	ppb	20:17:03
2	Ca 317.933Radial†	3213.8	3152.9	5045.0	ug/L	5045.0	ppb	20:17:23
2	Fe 238.204 Radial†	607.2	590.6	5125.7	ug/L	5125.7	ppb	20:17:23
2	K 766.490 Radial†	29669.9	26700.1	4878.2	ug/L	4878.2	ppb	20:17:03
2	Mg 279.077 IEC†	159.9	156.0	5210.7	ug/L	5210.7	ppb	20:17:23
2	Na 589.592 Radial†	32097.4	32967.2	9870.8	ug/L	9870.8	ppb	20:17:03
2	Sr 421.552†	76711.0	75748.9	489.22	ug/L	489.22	ppb	20:17:03
2	Sc 361.383	870941.8	870941.8	102.18	%			20:18:27
2	Y 371.029	726536.0	726536.0	100.54	%			20:18:27
2	Ag 328.068†	112058.8	109314.9	506.51	ug/L	506.51	ppb	20:18:32
2	As 188.979†	1154.9	1153.9	502.18	ug/L	502.18	ppb	20:18:52
2	B 249.677†	22133.4	22294.0	495.07	ug/L	495.07	ppb	20:18:32
2	Ba 233.527†	65126.9	63751.7	498.97	ug/L	498.97	ppb	20:18:32
2	Be 313.107†	1343579.8	1319558.2	503.93	ug/L	503.93	ppb	20:18:27
2	Cd 226.502†	45566.2	44800.1	497.01	ug/L	497.01	ppb	20:18:32
2	Co 228.616†	24857.4	24402.8	499.58	ug/L	499.58	ppb	20:18:32
2	Cr 267.716†	45745.5	44688.2	500.23	ug/L	500.23	ppb	20:18:32
2	Cu 324.752†	175848.4	165692.1	495.45	ug/L	495.45	ppb	20:18:32
2	Mn 257.610†	459636.9	449405.7	498.57	ug/L	498.57	ppb	20:18:27
2	Mo 202.031†	7284.2	7105.4	502.58	ug/L	502.58	ppb	20:18:52
2	Ni 231.604†	20535.3	20030.1	498.45	ug/L	498.45	ppb	20:18:32

2	P 214.914†	4369.0	4046.1	2367.7 ug/L	2367.7 ppb	20:18:52
2	Pb 220.353†	4094.4	4070.6	500.08 ug/L	500.08 ppb	20:18:52
2	S 181.975 Axial†	764.3	705.0	996.83 ug/L	996.83 ppb	20:18:52
2	Sb 206.836†	1517.5	1457.2	517.15 ug/L	517.15 ppb	20:18:52
2	Se 196.026†	746.7	762.8	509.69 ug/L	509.69 ppb	20:18:52
2	Si 251.611†	82414.0	80108.8	2545.2 ug/L	2545.2 ppb	20:18:32
2	Sn 189.927†	2910.4	2840.8	504.09 ug/L	504.09 ppb	20:18:52
2	Ti 334.940†	318495.5	313088.7	504.17 ug/L	504.17 ppb	20:18:27
2	Tl 190.801†	1612.4	1610.9	497.33 ug/L	497.33 ppb	20:18:52
2	U 409.014†	15408.1	17091.7	502.50 ug/L	502.50 ppb	20:18:32
2	V 292.402†	73264.0	73013.8	505.43 ug/L	505.43 ppb	20:18:32
2	Zn 213.857†	54613.2	52830.2	495.33 ug/L	495.33 ppb	20:18:32
2	SiO2†	81830.8	79516.8	5411.9 ug/L	5411.9 ppb	20:19:34
3	Sc Radial	5163.6	5163.6	103 %		20:17:28
3	Y RADIAL	5511.9	5511.9	101.5 %		20:17:28
3	Al 396.153Radial†	6562.2	6399.8	4913.2 ug/L	4913.2 ppb	20:17:28
3	Ca 317.933Radial†	3156.0	3057.8	4892.7 ug/L	4892.7 ppb	20:17:48
3	Fe 238.204 Radial†	599.8	576.0	5000.0 ug/L	5000.0 ppb	20:17:48
3	K 766.490 Radial†	30113.7	26775.4	4892.1 ug/L	4892.1 ppb	20:17:28
3	Mg 279.077 IEC†	159.1	153.2	5119.7 ug/L	5119.7 ppb	20:17:48
3	Na 589.592 Radial†	32409.5	32884.7	9846.1 ug/L	9846.1 ppb	20:17:28
3	Sr 421.552†	77800.5	75887.1	490.11 ug/L	490.11 ppb	20:17:28
3	Sc 361.383	876143.8	876143.8	102.79 %		20:18:58
3	Y 371.029	730772.1	730772.1	101.12 %		20:18:58
3	Ag 328.068†	112227.5	108827.8	504.22 ug/L	504.22 ppb	20:19:03
3	As 188.979†	1153.1	1145.5	498.52 ug/L	498.52 ppb	20:19:23
3	B 249.677†	22316.8	22343.8	496.20 ug/L	496.20 ppb	20:19:03
3	Ba 233.527†	65218.5	63462.3	496.70 ug/L	496.70 ppb	20:19:03
3	Be 313.107†	1358883.1	1326639.2	506.64 ug/L	506.64 ppb	20:18:58
3	Cd 226.502†	45661.0	44627.5	495.11 ug/L	495.11 ppb	20:19:03
3	Co 228.616†	24868.4	24269.1	496.83 ug/L	496.83 ppb	20:19:03
3	Cr 267.716†	45734.4	44411.6	497.13 ug/L	497.13 ppb	20:19:03
3	Cu 324.752†	175653.1	164480.3	491.82 ug/L	491.82 ppb	20:19:03
3	Mn 257.610†	463730.4	450717.2	500.02 ug/L	500.02 ppb	20:18:58
3	Mo 202.031†	7277.1	7056.2	499.10 ug/L	499.10 ppb	20:19:23
3	Ni 231.604†	20556.1	19931.0	495.99 ug/L	495.99 ppb	20:19:03
3	P 214.914†	4334.9	3987.6	2332.8 ug/L	2332.8 ppb	20:19:23
3	Pb 220.353†	4067.2	4020.4	493.94 ug/L	493.94 ppb	20:19:23
3	S 181.975 Axial†	769.1	705.3	997.17 ug/L	997.17 ppb	20:19:23
3	Sb 206.836†	1520.9	1451.8	515.11 ug/L	515.11 ppb	20:19:23
3	Se 196.026†	758.7	770.1	513.99 ug/L	513.99 ppb	20:19:23
3	Si 251.611†	82320.0	79538.4	2527.0 ug/L	2527.0 ppb	20:19:03
3	Sn 189.927†	2894.4	2808.3	498.31 ug/L	498.31 ppb	20:19:23
3	Ti 334.940†	321187.4	313856.9	505.39 ug/L	505.39 ppb	20:18:58
3	Tl 190.801†	1626.9	1615.7	498.82 ug/L	498.82 ppb	20:19:23
3	U 409.014†	15782.8	17366.6	510.63 ug/L	510.63 ppb	20:19:03
3	V 292.402†	73404.6	72724.8	503.44 ug/L	503.44 ppb	20:19:03
3	Zn 213.857†	54674.9	52572.9	492.93 ug/L	492.93 ppb	20:19:03
3	SiO2†	81900.4	79109.0	5384.1 ug/L	5384.1 ppb	20:19:39

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	871582.3	102.25	%	0.502				0.49%
Sc Radial	5167.3	103	%	1.4				1.33%
Y 371.029	726568.3	100.54	%	0.579				0.58%
Y RADIAL	5517.2	101.6	%	0.89				0.88%
Ag 328.068†	109454.8	507.12	ug/L	3.250	507.12	ppb	3.250	0.64%
QC value within limits for Ag 328.068 Recovery = 101.42%								
Al 396.153Radial†	6281.5	4821.8	ug/L	134.00	4821.8	ppb	134.00	2.78%
QC value within limits for Al 396.153Radial Recovery = 96.44%								
As 188.979†	1152.1	501.39	ug/L	2.564	501.39	ppb	2.564	0.51%
QC value within limits for As 188.979 Recovery = 100.28%								
B 249.677†	22403.0	497.51	ug/L	3.295	497.51	ppb	3.295	0.66%
QC value within limits for B 249.677 Recovery = 99.50%								
Ba 233.527†	63897.7	500.11	ug/L	4.095	500.11	ppb	4.095	0.82%
QC value within limits for Ba 233.527 Recovery = 100.02%								
Be 313.107†	1323620.8	505.48	ug/L	1.394	505.48	ppb	1.394	0.28%
QC value within limits for Be 313.107 Recovery = 101.10%								
Ca 317.933Radial†	3081.7	4931.0	ug/L	100.47	4931.0	ppb	100.47	2.04%

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   QC value within limits for Ca 317.933Radial  Recovery = 98.62%
Cd 226.502†            44945.3      498.63 ug/L         4.562      498.63 ppb          4.562   0.91%
   QC value within limits for Cd 226.502  Recovery = 99.73%
Co 228.616†            24461.9      500.79 ug/L         4.675      500.79 ppb          4.675   0.93%
   QC value within limits for Co 228.616  Recovery = 100.16%
Cr 267.716†            44719.4      500.58 ug/L         3.632      500.58 ppb          3.632   0.73%
   QC value within limits for Cr 267.716  Recovery = 100.12%
Cu 324.752†           165756.6      495.64 ug/L         3.914      495.64 ppb          3.914   0.79%
   QC value within limits for Cu 324.752  Recovery = 99.13%
Fe 238.204 Radial†       577.1      5008.9 ug/L        112.62      5008.9 ppb        112.62   2.25%
   QC value within limits for Fe 238.204 Radial  Recovery = 100.18%
K 766.490 Radial†      26429.0      4828.6 ug/L         98.24      4828.6 ppb          98.24   2.03%
   QC value within limits for K 766.490 Radial  Recovery = 96.57%
Mg 279.077 IEC†          154.9      5174.6 ug/L         48.39      5174.6 ppb          48.39   0.94%
   QC value within limits for Mg 279.077 IEC  Recovery = 103.49%
Mn 257.610†           450625.1      499.91 ug/L         1.292      499.91 ppb          1.292   0.26%
   QC value within limits for Mn 257.610  Recovery = 99.98%
Mo 202.031†             7092.4      501.66 ug/L         2.247      501.66 ppb          2.247   0.45%
   QC value within limits for Mo 202.031  Recovery = 100.33%
Na 589.592 Radial†     32664.1      9780.0 ug/L        136.34      9780.0 ppb         136.34   1.39%
   QC value within limits for Na 589.592 Radial  Recovery = 97.80%
Ni 231.604†            20075.6      499.58 ug/L         4.280      499.58 ppb          4.280   0.86%
   QC value within limits for Ni 231.604  Recovery = 99.92%
P 214.914†              4024.3      2354.4 ug/L         18.92      2354.4 ppb          18.92   0.80%
   QC value within limits for P 214.914  Recovery = 94.18%
Pb 220.353†             4050.7      497.64 ug/L         3.260      497.64 ppb          3.260   0.66%
   QC value within limits for Pb 220.353  Recovery = 99.53%
S 181.975 Axial†         707.3      1000.1 ug/L          5.29      1000.1 ppb           5.29   0.53%
   QC value within limits for S 181.975 Axial  Recovery = 100.01%
Sb 206.836†             1453.4      515.81 ug/L         1.168      515.81 ppb          1.168   0.23%
   QC value within limits for Sb 206.836  Recovery = 103.16%
Se 196.026†              770.0      513.95 ug/L         4.241      513.95 ppb          4.241   0.83%
   QC value within limits for Se 196.026  Recovery = 102.79%
Si 251.611†            80227.1      2548.9 ug/L         24.01      2548.9 ppb          24.01   0.94%
   QC value within limits for Si 251.611  Recovery = 101.96%
Sn 189.927†             2831.3      502.39 ug/L         3.552      502.39 ppb          3.552   0.71%
   QC value within limits for Sn 189.927  Recovery = 100.48%
Sr 421.552†            74936.1      483.97 ug/L         9.876      483.97 ppb          9.876   2.04%
   QC value within limits for Sr 421.552  Recovery = 96.79%
Ti 334.940†           313589.2      504.96 ug/L         0.688      504.96 ppb          0.688   0.14%
   QC value within limits for Ti 334.940  Recovery = 100.99%
Tl 190.801†             1617.8      499.45 ug/L         2.496      499.45 ppb          2.496   0.50%
   QC value within limits for Tl 190.801  Recovery = 99.89%
U 409.014†             17264.6      507.61 ug/L         4.452      507.61 ppb          4.452   0.88%
   QC value within limits for U 409.014  Recovery = 101.52%
V 292.402†             73162.5      506.46 ug/L         3.643      506.46 ppb          3.643   0.72%
   QC value within limits for V 292.402  Recovery = 101.29%
Zn 213.857†            52955.1      496.52 ug/L         4.303      496.52 ppb          4.303   0.87%
   QC value within limits for Zn 213.857  Recovery = 99.30%
SiO2†                  79163.0      5387.8 ug/L         22.53      5387.8 ppb          22.53   0.42%
   QC value within limits for SiO2  Recovery = 100.75%
All analyte(s) passed QC.
```

Sequence No.: 45
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 1/11/2010 20:21:48
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	4981.7	4981.7	98.9	%			20:23:40
1	Y RADIAL	5295.3	5295.3	97.53	%			20:23:40
1	Al 396.153Radial†	-4.9	-4.3	-3.2854	ug/L	-3.2854	ppb	20:23:40
1	Ca 317.933Radial†	19.6	0.1	0.0805	ug/L	0.0805	ppb	20:24:00
1	Fe 238.204 Radial†	13.4	4.7	40.430	ug/L	40.430	ppb	20:24:00
1	K 766.490 Radial†	2785.7	225.5	41.360	ug/L	41.360	ppb	20:23:40
1	Mg 279.077 IEC†	2.1	0.2	7.2814	ug/L	7.2814	ppb	20:24:00
1	Na 589.592 Radial†	-1289.9	-23.4	-6.9958	ug/L	-6.9958	ppb	20:23:40
1	Sr 421.552†	10.0	29.6	0.1915	ug/L	0.1915	ppb	20:23:40
1	Sc 361.383	853011.8	853011.8	100.07	%			20:24:57
1	Y 371.029	723886.8	723886.8	100.17	%			20:24:57
1	Ag 328.068†	282.6	-75.6	-0.3395	ug/L	-0.3395	ppb	20:24:57
1	As 188.979†	-21.7	1.9	0.8546	ug/L	0.8546	ppb	20:25:17
1	B 249.677†	-380.9	251.2	5.5967	ug/L	5.5967	ppb	20:25:17
1	Ba 233.527†	-25.7	-14.2	-0.1109	ug/L	-0.1109	ppb	20:25:17
1	Be 313.107†	-4509.8	78.8	0.0307	ug/L	0.0307	ppb	20:24:57
1	Cd 226.502†	-186.6	17.6	0.1918	ug/L	0.1918	ppb	20:25:17
1	Co 228.616†	-80.1	-5.3	-0.1117	ug/L	-0.1117	ppb	20:25:17
1	Cr 267.716†	87.4	4.1	0.0446	ug/L	0.0446	ppb	20:25:17
1	Cu 324.752†	6367.1	-49.7	-0.1478	ug/L	-0.1478	ppb	20:24:57
1	Mn 257.610†	476.5	31.3	0.0389	ug/L	0.0389	ppb	20:25:17
1	Mo 202.031†	16.0	-7.7	-0.5414	ug/L	-0.5414	ppb	20:25:17
1	Ni 231.604†	80.1	12.1	0.3006	ug/L	0.3006	ppb	20:25:17
1	P 214.914†	214.8	-15.2	-9.3120	ug/L	-9.3120	ppb	20:25:17
1	Pb 220.353†	-51.2	12.2	1.4860	ug/L	1.4860	ppb	20:25:17
1	S 181.975 Axial†	52.8	9.7	13.798	ug/L	13.798	ppb	20:25:17
1	Sb 206.836†	34.7	6.7	2.2837	ug/L	2.2837	ppb	20:25:17
1	Se 196.026†	-34.8	-2.8	-1.6559	ug/L	-1.6559	ppb	20:25:17
1	Si 251.611†	727.1	176.1	5.6142	ug/L	5.6142	ppb	20:25:17
1	Sn 189.927†	2.6	-5.1	-0.9025	ug/L	-0.9025	ppb	20:25:17
1	Ti 334.940†	-1201.4	174.0	0.2786	ug/L	0.2786	ppb	20:24:57
1	Tl 190.801†	-34.5	-1.6	-0.4844	ug/L	-0.4844	ppb	20:25:17
1	U 409.014†	-1933.6	79.4	2.3382	ug/L	2.3382	ppb	20:24:57
1	V 292.402†	-1403.3	-92.6	-0.6421	ug/L	-0.6421	ppb	20:24:57
1	Zn 213.857†	620.0	-0.7	-0.0121	ug/L	-0.0121	ppb	20:25:17
1	SiO2†	689.5	117.4	8.0227	ug/L	8.0227	ppb	20:26:13
2	Sc Radial	5227.5	5227.5	104	%			20:24:05
2	Y RADIAL	5639.0	5639.0	103.9	%			20:24:05
2	Al 396.153Radial†	-20.4	-19.0	-14.640	ug/L	-14.640	ppb	20:24:05
2	Ca 317.933Radial†	15.4	-4.9	-7.8400	ug/L	-7.8400	ppb	20:24:25
2	Fe 238.204 Radial†	9.4	0.1	1.2286	ug/L	1.2286	ppb	20:24:25
2	K 766.490 Radial†	2616.4	-70.0	-12.827	ug/L	-12.827	ppb	20:24:05
2	Mg 279.077 IEC†	-1.9	-3.8	-126.32	ug/L	-126.32	ppb	20:24:25
2	Na 589.592 Radial†	-1307.7	20.8	6.2401	ug/L	6.2401	ppb	20:24:05
2	Sr 421.552†	48.0	65.7	0.4245	ug/L	0.4245	ppb	20:24:05
2	Sc 361.383	864825.1	864825.1	101.46	%			20:25:22
2	Y 371.029	733859.7	733859.7	101.55	%			20:25:22
2	Ag 328.068†	374.8	11.4	0.0484	ug/L	0.0484	ppb	20:25:22
2	As 188.979†	-20.5	3.4	1.4687	ug/L	1.4687	ppb	20:25:42
2	B 249.677†	-382.8	254.6	5.6754	ug/L	5.6754	ppb	20:25:42
2	Ba 233.527†	0.6	12.0	0.0928	ug/L	0.0928	ppb	20:25:42
2	Be 313.107†	-4504.8	145.3	0.0557	ug/L	0.0557	ppb	20:25:22
2	Cd 226.502†	-187.1	19.7	0.2197	ug/L	0.2197	ppb	20:25:42
2	Co 228.616†	-78.9	-3.1	-0.0634	ug/L	-0.0634	ppb	20:25:42
2	Cr 267.716†	86.4	1.9	0.0190	ug/L	0.0190	ppb	20:25:42
2	Cu 324.752†	6350.3	-153.1	-0.4600	ug/L	-0.4600	ppb	20:25:22
2	Mn 257.610†	473.6	21.9	0.0296	ug/L	0.0296	ppb	20:25:42
2	Mo 202.031†	23.1	-0.9	-0.0637	ug/L	-0.0637	ppb	20:25:42
2	Ni 231.604†	77.5	8.5	0.2108	ug/L	0.2108	ppb	20:25:42

2	P 214.914†	218.5	-14.5	-8.7715 ug/L	-8.7715 ppb	20:25:42
2	Pb 220.353†	-60.3	3.9	0.4776 ug/L	0.4776 ppb	20:25:42
2	S 181.975 Axial†	51.2	7.5	10.617 ug/L	10.617 ppb	20:25:42
2	Sb 206.836†	30.5	2.1	0.7130 ug/L	0.7130 ppb	20:25:42
2	Se 196.026†	-27.5	4.9	3.1416 ug/L	3.1416 ppb	20:25:42
2	Si 251.611†	704.9	144.3	4.5957 ug/L	4.5957 ppb	20:25:42
2	Sn 189.927†	2.7	-5.0	-0.8897 ug/L	-0.8897 ppb	20:25:42
2	Ti 334.940†	-1294.8	98.3	0.1661 ug/L	0.1661 ppb	20:25:22
2	Tl 190.801†	-36.8	-3.4	-1.0369 ug/L	-1.0369 ppb	20:25:42
2	U 409.014†	-1905.9	133.1	3.9266 ug/L	3.9266 ppb	20:25:22
2	V 292.402†	-1383.5	-53.9	-0.3641 ug/L	-0.3641 ppb	20:25:22
2	Zn 213.857†	614.4	-14.7	-0.1399 ug/L	-0.1399 ppb	20:25:42
2	SiO2†	700.1	118.4	8.0796 ug/L	8.0796 ppb	20:26:18
3	Sc Radial	5262.0	5262.0	105 %		20:24:30
3	Y RADIAL	5649.7	5649.7	104.1 %		20:24:30
3	Al 396.153Radial†	-18.3	-16.9	-12.989 ug/L	-12.989 ppb	20:24:30
3	Ca 317.933Radial†	15.0	-5.5	-8.7462 ug/L	-8.7462 ppb	20:24:50
3	Fe 238.204 Radial†	8.9	-0.4	-3.1283 ug/L	-3.1283 ppb	20:24:50
3	K 766.490 Radial†	2725.7	18.1	3.3111 ug/L	3.3111 ppb	20:24:30
3	Mg 279.077 IEC†	-2.0	-3.8	-128.50 ug/L	-128.50 ppb	20:24:50
3	Na 589.592 Radial†	-1272.7	62.6	18.739 ug/L	18.739 ppb	20:24:30
3	Sr 421.552†	9.2	28.3	0.1832 ug/L	0.1832 ppb	20:24:30
3	Sc 361.383	855729.8	855729.8	100.39 %		20:25:47
3	Y 371.029	728817.4	728817.4	100.85 %		20:25:47
3	Ag 328.068†	295.2	-63.9	-0.2973 ug/L	-0.2973 ppb	20:25:47
3	As 188.979†	-13.8	9.9	4.2994 ug/L	4.2994 ppb	20:26:07
3	B 249.677†	-390.3	243.0	5.4171 ug/L	5.4171 ppb	20:26:07
3	Ba 233.527†	0.2	11.6	0.0898 ug/L	0.0898 ppb	20:26:07
3	Be 313.107†	-4415.2	187.3	0.0716 ug/L	0.0716 ppb	20:25:47
3	Cd 226.502†	-191.0	13.8	0.1541 ug/L	0.1541 ppb	20:26:07
3	Co 228.616†	-51.2	23.6	0.4829 ug/L	0.4829 ppb	20:26:07
3	Cr 267.716†	90.7	7.1	0.0785 ug/L	0.0785 ppb	20:26:07
3	Cu 324.752†	6404.0	-33.1	-0.0999 ug/L	-0.0999 ppb	20:25:47
3	Mn 257.610†	472.1	25.4	0.0330 ug/L	0.0330 ppb	20:26:07
3	Mo 202.031†	20.0	-3.7	-0.2653 ug/L	-0.2653 ppb	20:26:07
3	Ni 231.604†	90.0	21.7	0.5401 ug/L	0.5401 ppb	20:26:07
3	P 214.914†	221.6	-9.2	-5.5903 ug/L	-5.5903 ppb	20:26:07
3	Pb 220.353†	-58.9	4.7	0.5729 ug/L	0.5729 ppb	20:26:07
3	S 181.975 Axial†	49.2	6.0	8.4500 ug/L	8.4500 ppb	20:26:07
3	Sb 206.836†	40.1	12.0	4.1074 ug/L	4.1074 ppb	20:26:07
3	Se 196.026†	-28.5	3.6	2.2897 ug/L	2.2897 ppb	20:26:07
3	Si 251.611†	670.7	117.6	3.7486 ug/L	3.7486 ppb	20:26:07
3	Sn 189.927†	4.3	-3.4	-0.6029 ug/L	-0.6029 ppb	20:26:07
3	Ti 334.940†	-1330.3	49.4	0.0885 ug/L	0.0885 ppb	20:25:47
3	Tl 190.801†	-43.8	-10.8	-3.3221 ug/L	-3.3221 ppb	20:26:07
3	U 409.014†	-1976.6	42.7	1.2606 ug/L	1.2606 ppb	20:25:47
3	V 292.402†	-1350.4	-35.5	-0.2457 ug/L	-0.2457 ppb	20:25:47
3	Zn 213.857†	618.1	-4.6	-0.0463 ug/L	-0.0463 ppb	20:26:07
3	SiO2†	723.9	149.4	10.203 ug/L	10.203 ppb	20:26:23

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	857855.5	100.64	%	0.726				0.72%
Sc Radial	5157.1	102	%	3.0				2.96%
Y 371.029	728854.7	100.86	%	0.690				0.68%
Y RADIAL	5528.0	101.8	%	3.71				3.65%
Ag 328.068†	-42.7	-0.1961	ug/L	0.21281	-0.1961	ppb	0.21281	108.50%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-13.4	-10.305	ug/L	6.1349	-10.305	ppb	6.1349	59.53%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	5.1	2.2076	ug/L	1.83740	2.2076	ppb	1.83740	83.23%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	249.6	5.5631	ug/L	0.13240	5.5631	ppb	0.13240	2.38%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	3.1	0.0239	ug/L	0.11674	0.0239	ppb	0.11674	489.17%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	137.1	0.0526	ug/L	0.02061	0.0526	ppb	0.02061	39.15%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-3.4	-5.5019	ug/L	4.85568	-5.5019	ppb	4.85568	88.25%

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   QC value within limits for Ca 317.933Radial  Recovery = Not calculated
Cd 226.502†                17.0      0.1885 ug/L       0.03294      0.1885 ppb        0.03294  17.47%
   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†                 5.1      0.1026 ug/L       0.33023      0.1026 ppb        0.33023 321.83%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                 4.4      0.0474 ug/L       0.02986      0.0474 ppb        0.02986  63.03%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†               -78.7     -0.2359 ug/L       0.19558     -0.2359 ppb        0.19558  82.91%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          1.5      12.843 ug/L       23.9896      12.843 ppb        23.9896 186.79%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†          57.9      10.615 ug/L       27.8222      10.615 ppb        27.8222 262.11%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†            -2.5     -82.515 ug/L       77.7739     -82.515 ppb        77.7739  94.25%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†                26.2      0.0338 ug/L       0.00474      0.0338 ppb        0.00474  14.01%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                -4.1     -0.2901 ug/L       0.23983     -0.2901 ppb        0.23983  82.66%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†         20.0      5.9945 ug/L      12.86916      5.9945 ppb       12.86916 214.68%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                14.1      0.3505 ug/L       0.17027      0.3505 ppb        0.17027  48.58%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                -13.0     -7.8912 ug/L       2.01093     -7.8912 ppb        2.01093  25.48%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 6.9      0.8455 ug/L       0.55672      0.8455 ppb        0.55672  65.84%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†            7.7      10.955 ug/L        2.6900      10.955 ppb         2.6900  24.55%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                 7.0      2.3680 ug/L       1.69880      2.3680 ppb        1.69880  71.74%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 1.9      1.2585 ug/L       2.55959      1.2585 ppb        2.55959 203.39%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               146.0      4.6528 ug/L       0.93413      4.6528 ppb        0.93413  20.08%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                -4.5     -0.7984 ug/L       0.16938     -0.7984 ppb        0.16938  21.22%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                41.2      0.2664 ug/L       0.13700      0.2664 ppb        0.13700  51.43%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†               107.2      0.1777 ug/L       0.09559      0.1777 ppb        0.09559  53.78%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -5.3     -1.6145 ug/L       1.50442     -1.6145 ppb        1.50442  93.18%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                 85.1      2.5085 ug/L       1.34114      2.5085 ppb        1.34114  53.46%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                -60.7     -0.4173 ug/L       0.20345     -0.4173 ppb        0.20345  48.75%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†                -6.7     -0.0661 ug/L       0.06615     -0.0661 ppb        0.06615 100.13%
   QC value within limits for Zn 213.857  Recovery = Not calculated
SiO2†                     128.4      8.7686 ug/L       1.24294      8.7686 ppb        1.24294  14.17%
   QC value within limits for SiO2  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 55
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 1/11/2010 21:31:45
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5066.2	5066.2	101	%			21:33:37
1	Y RADIAL	5441.3	5441.3	100.2	%			21:33:37
1	Al 396.153Radial†	6383.7	6345.5	4871.0	ug/L	4871.0	ppb	21:33:37
1	Ca 317.933Radial†	3196.5	3157.3	5052.0	ug/L	5052.0	ppb	21:33:57
1	Fe 238.204 Radial†	606.4	593.8	5153.7	ug/L	5153.7	ppb	21:33:57
1	K 766.490 Radial†	29519.1	26749.0	4887.1	ug/L	4887.1	ppb	21:33:37
1	Mg 279.077 IEC†	159.7	156.8	5238.6	ug/L	5238.6	ppb	21:33:57
1	Na 589.592 Radial†	32360.9	33444.2	10014	ug/L	10014	ppb	21:33:37
1	Sr 421.552†	76677.6	76229.8	492.32	ug/L	492.32	ppb	21:33:37
1	Sc 361.383	875346.8	875346.8	102.69	%			21:34:55
1	Y 371.029	729099.0	729099.0	100.89	%			21:34:55
1	Ag 328.068†	112658.0	109346.5	506.66	ug/L	506.66	ppb	21:35:00
1	As 188.979†	1155.9	1149.2	500.10	ug/L	500.10	ppb	21:35:20
1	B 249.677†	22100.4	22152.9	491.91	ug/L	491.91	ppb	21:35:00
1	Ba 233.527†	65674.8	63964.4	500.63	ug/L	500.63	ppb	21:35:00
1	Be 313.107†	1358475.6	1327446.2	506.92	ug/L	506.92	ppb	21:34:55
1	Cd 226.502†	46031.0	45028.3	499.54	ug/L	499.54	ppb	21:35:00
1	Co 228.616†	25094.9	24511.7	501.83	ug/L	501.83	ppb	21:35:00
1	Cr 267.716†	46050.2	44759.7	501.03	ug/L	501.03	ppb	21:35:00
1	Cu 324.752†	176802.3	165754.9	495.64	ug/L	495.64	ppb	21:35:00
1	Mn 257.610†	464878.2	452245.7	501.72	ug/L	501.72	ppb	21:34:55
1	Mo 202.031†	7356.8	7140.2	505.04	ug/L	505.04	ppb	21:35:20
1	Ni 231.604†	20781.9	20169.1	501.91	ug/L	501.91	ppb	21:35:00
1	P 214.914†	4397.3	4052.2	2371.3	ug/L	2371.3	ppb	21:35:20
1	Pb 220.353†	4137.2	4092.1	502.72	ug/L	502.72	ppb	21:35:20
1	S 181.975 Axial†	783.5	720.0	1018.0	ug/L	1018.0	ppb	21:35:20
1	Sb 206.836†	1520.7	1452.9	515.75	ug/L	515.75	ppb	21:35:20
1	Se 196.026†	761.9	773.9	516.93	ug/L	516.93	ppb	21:35:20
1	Si 251.611†	82585.4	79869.8	2537.5	ug/L	2537.5	ppb	21:35:00
1	Sn 189.927†	2923.7	2839.3	503.84	ug/L	503.84	ppb	21:35:20
1	Ti 334.940†	314313.7	307447.9	495.07	ug/L	495.07	ppb	21:35:00
1	Tl 190.801†	1641.5	1631.3	503.54	ug/L	503.54	ppb	21:35:20
1	U 409.014†	15737.1	17336.2	509.70	ug/L	509.70	ppb	21:35:00
1	V 292.402†	73799.0	73174.0	506.58	ug/L	506.58	ppb	21:35:00
1	Zn 213.857†	54975.2	52913.7	496.10	ug/L	496.10	ppb	21:35:00
1	SiO2†	82106.4	79382.2	5402.6	ug/L	5402.6	ppb	21:36:27
2	Sc Radial	5209.2	5209.2	103	%			21:34:02
2	Y RADIAL	5586.2	5586.2	102.9	%			21:34:02
2	Al 396.153Radial†	6435.7	6221.5	4775.4	ug/L	4775.4	ppb	21:34:02
2	Ca 317.933Radial†	3194.7	3068.3	4909.6	ug/L	4909.6	ppb	21:34:22
2	Fe 238.204 Radial†	606.3	577.2	5009.9	ug/L	5009.9	ppb	21:34:22
2	K 766.490 Radial†	29846.0	26259.5	4797.5	ug/L	4797.5	ppb	21:34:02
2	Mg 279.077 IEC†	161.3	154.0	5145.9	ug/L	5145.9	ppb	21:34:22
2	Na 589.592 Radial†	32639.6	32830.4	9829.8	ug/L	9829.8	ppb	21:34:02
2	Sr 421.552†	77456.0	74889.6	483.67	ug/L	483.67	ppb	21:34:02
2	Sc 361.383	871437.5	871437.5	102.23	%			21:35:26
2	Y 371.029	726898.8	726898.8	100.59	%			21:35:26
2	Ag 328.068†	112636.2	109817.3	508.79	ug/L	508.79	ppb	21:35:31
2	As 188.979†	1165.3	1163.5	506.26	ug/L	506.26	ppb	21:35:51
2	B 249.677†	22161.1	22308.8	495.40	ug/L	495.40	ppb	21:35:31
2	Ba 233.527†	65521.6	64101.4	501.70	ug/L	501.70	ppb	21:35:31
2	Be 313.107†	1352406.9	1327444.5	506.92	ug/L	506.92	ppb	21:35:26
2	Cd 226.502†	45917.3	45118.2	500.55	ug/L	500.55	ppb	21:35:31
2	Co 228.616†	25042.2	24569.8	503.02	ug/L	503.02	ppb	21:35:31
2	Cr 267.716†	45965.9	44878.3	502.35	ug/L	502.35	ppb	21:35:31
2	Cu 324.752†	176633.0	166361.7	497.45	ug/L	497.45	ppb	21:35:31
2	Mn 257.610†	462563.7	452012.6	501.45	ug/L	501.45	ppb	21:35:26
2	Mo 202.031†	7318.1	7134.5	504.63	ug/L	504.63	ppb	21:35:51
2	Ni 231.604†	20700.4	20180.2	502.19	ug/L	502.19	ppb	21:35:31

2	P 214.914†	4371.4	4046.0	2367.3 ug/L	2367.3 ppb	21:35:51
2	Pb 220.353†	4092.2	4066.2	499.53 ug/L	499.53 ppb	21:35:51
2	S 181.975 Axial†	783.5	723.4	1022.8 ug/L	1022.8 ppb	21:35:51
2	Sb 206.836†	1502.5	1441.8	511.94 ug/L	511.94 ppb	21:35:51
2	Se 196.026†	760.7	776.1	517.90 ug/L	517.90 ppb	21:35:51
2	Si 251.611†	82471.6	80119.2	2545.5 ug/L	2545.5 ppb	21:35:31
2	Sn 189.927†	2912.3	2841.0	504.11 ug/L	504.11 ppb	21:35:51
2	Ti 334.940†	313626.5	308148.8	496.19 ug/L	496.19 ppb	21:35:31
2	Tl 190.801†	1627.1	1624.4	501.40 ug/L	501.40 ppb	21:35:51
2	U 409.014†	15756.8	17424.2	512.31 ug/L	512.31 ppb	21:35:31
2	V 292.402†	73580.2	73282.3	507.34 ug/L	507.34 ppb	21:35:31
2	Zn 213.857†	54868.9	53049.9	497.39 ug/L	497.39 ppb	21:35:31
2	SiO2†	81589.1	79234.8	5392.6 ug/L	5392.6 ppb	21:36:32
3	Sc Radial	5107.5	5107.5	101 %		21:34:27
3	Y RADIAL	5450.1	5450.1	100.4 %		21:34:27
3	Al 396.153Radial†	6461.6	6370.9	4890.3 ug/L	4890.3 ppb	21:34:27
3	Ca 317.933Radial†	3182.0	3117.3	4987.9 ug/L	4987.9 ppb	21:34:47
3	Fe 238.204 Radial†	609.7	592.2	5140.4 ug/L	5140.4 ppb	21:34:47
3	K 766.490 Radial†	29867.9	26855.4	4906.5 ug/L	4906.5 ppb	21:34:27
3	Mg 279.077 IEC†	158.8	154.6	5165.8 ug/L	5165.8 ppb	21:34:47
3	Na 589.592 Radial†	32598.1	33417.6	10006 ug/L	10006 ppb	21:34:27
3	Sr 421.552†	77241.7	76169.0	491.93 ug/L	491.93 ppb	21:34:27
3	Sc 361.383	862911.4	862911.4	101.23 %		21:35:57
3	Y 371.029	720012.6	720012.6	99.633 %		21:35:57
3	Ag 328.068†	111990.9	110268.5	510.92 ug/L	510.92 ppb	21:36:02
3	As 188.979†	1158.0	1167.5	508.03 ug/L	508.03 ppb	21:36:22
3	B 249.677†	22120.2	22482.5	499.25 ug/L	499.25 ppb	21:36:02
3	Ba 233.527†	65127.9	64345.8	503.62 ug/L	503.62 ppb	21:36:02
3	Be 313.107†	1339368.0	1327635.0	507.00 ug/L	507.00 ppb	21:35:57
3	Cd 226.502†	45605.2	45253.7	502.05 ug/L	502.05 ppb	21:36:02
3	Co 228.616†	24961.4	24732.0	506.35 ug/L	506.35 ppb	21:36:02
3	Cr 267.716†	45778.0	45137.0	505.25 ug/L	505.25 ppb	21:36:02
3	Cu 324.752†	175415.1	166865.7	498.96 ug/L	498.96 ppb	21:36:02
3	Mn 257.610†	458190.1	452162.8	501.63 ug/L	501.63 ppb	21:35:57
3	Mo 202.031†	7356.7	7243.3	512.33 ug/L	512.33 ppb	21:36:22
3	Ni 231.604†	20654.1	20334.5	506.03 ug/L	506.03 ppb	21:36:02
3	P 214.914†	4407.0	4123.4	2414.3 ug/L	2414.3 ppb	21:36:22
3	Pb 220.353†	4130.7	4143.7	509.06 ug/L	509.06 ppb	21:36:22
3	S 181.975 Axial†	778.8	726.3	1026.9 ug/L	1026.9 ppb	21:36:22
3	Sb 206.836†	1531.5	1484.9	527.05 ug/L	527.05 ppb	21:36:22
3	Se 196.026†	764.5	787.2	525.51 ug/L	525.51 ppb	21:36:22
3	Si 251.611†	81919.7	80371.2	2553.4 ug/L	2553.4 ppb	21:36:02
3	Sn 189.927†	2946.5	2903.0	515.10 ug/L	515.10 ppb	21:36:22
3	Ti 334.940†	311769.7	309345.7	498.13 ug/L	498.13 ppb	21:36:02
3	Tl 190.801†	1641.6	1654.5	510.64 ug/L	510.64 ppb	21:36:22
3	U 409.014†	15648.5	17469.4	513.63 ug/L	513.63 ppb	21:36:02
3	V 292.402†	73224.0	73641.5	509.89 ug/L	509.89 ppb	21:36:02
3	Zn 213.857†	54598.3	53312.9	499.84 ug/L	499.84 ppb	21:36:02
3	SiO2†	82326.4	80751.7	5495.9 ug/L	5495.9 ppb	21:36:37

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	869898.5	102.05	%	0.746				0.73%
Sc Radial	5127.6	102	%	1.5				1.44%
Y 371.029	725336.8	100.37	%	0.656				0.65%
Y RADIAL	5492.5	101.2	%	1.50				1.48%
Ag 328.068†	109810.7	508.79	ug/L	2.126	508.79	ppb	2.126	0.42%
QC value within limits for Ag 328.068 Recovery = 101.76%								
Al 396.153Radial†	6312.6	4845.5	ug/L	61.53	4845.5	ppb	61.53	1.27%
QC value within limits for Al 396.153Radial Recovery = 96.91%								
As 188.979†	1160.1	504.79	ug/L	4.162	504.79	ppb	4.162	0.82%
QC value within limits for As 188.979 Recovery = 100.96%								
B 249.677†	22314.7	495.52	ug/L	3.670	495.52	ppb	3.670	0.74%
QC value within limits for B 249.677 Recovery = 99.10%								
Ba 233.527†	64137.2	501.98	ug/L	1.512	501.98	ppb	1.512	0.30%
QC value within limits for Ba 233.527 Recovery = 100.40%								
Be 313.107†	1327508.5	506.95	ug/L	0.045	506.95	ppb	0.045	0.01%
QC value within limits for Be 313.107 Recovery = 101.39%								
Ca 317.933Radial†	3114.3	4983.1	ug/L	71.31	4983.1	ppb	71.31	1.43%

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   QC value within limits for Ca 317.933Radial  Recovery = 99.66%
Cd 226.502†            45133.4      500.71 ug/L         1.260      500.71 ppb          1.260   0.25%
   QC value within limits for Cd 226.502  Recovery = 100.14%
Co 228.616†            24604.5      503.73 ug/L         2.343      503.73 ppb          2.343   0.47%
   QC value within limits for Co 228.616  Recovery = 100.75%
Cr 267.716†            44925.0      502.88 ug/L         2.159      502.88 ppb          2.159   0.43%
   QC value within limits for Cr 267.716  Recovery = 100.58%
Cu 324.752†           166327.4      497.35 ug/L         1.661      497.35 ppb          1.661   0.33%
   QC value within limits for Cu 324.752  Recovery = 99.47%
Fe 238.204 Radial†       587.7      5101.3 ug/L        79.42      5101.3 ppb         79.42   1.56%
   QC value within limits for Fe 238.204 Radial  Recovery = 102.03%
K 766.490 Radial†      26621.3      4863.7 ug/L        58.18      4863.7 ppb         58.18   1.20%
   QC value within limits for K 766.490 Radial  Recovery = 97.27%
Mg 279.077 IEC†          155.1      5183.4 ug/L        48.79      5183.4 ppb         48.79   0.94%
   QC value within limits for Mg 279.077 IEC  Recovery = 103.67%
Mn 257.610†           452140.4      501.60 ug/L         0.138      501.60 ppb          0.138   0.03%
   QC value within limits for Mn 257.610  Recovery = 100.32%
Mo 202.031†             7172.7      507.34 ug/L         4.332      507.34 ppb          4.332   0.85%
   QC value within limits for Mo 202.031  Recovery = 101.47%
Na 589.592 Radial†     33230.7      9949.7 ug/L       103.88      9949.7 ppb        103.88   1.04%
   QC value within limits for Na 589.592 Radial  Recovery = 99.50%
Ni 231.604†            20227.9      503.37 ug/L         2.300      503.37 ppb          2.300   0.46%
   QC value within limits for Ni 231.604  Recovery = 100.67%
P 214.914†              4073.9      2384.3 ug/L        26.06      2384.3 ppb         26.06   1.09%
   QC value within limits for P 214.914  Recovery = 95.37%
Pb 220.353†             4100.7      503.77 ug/L         4.850      503.77 ppb          4.850   0.96%
   QC value within limits for Pb 220.353  Recovery = 100.75%
S 181.975 Axial†         723.2      1022.6 ug/L         4.48      1022.6 ppb          4.48   0.44%
   QC value within limits for S 181.975 Axial  Recovery = 102.26%
Sb 206.836†             1459.9      518.24 ug/L         7.859      518.24 ppb          7.859   1.52%
   QC value within limits for Sb 206.836  Recovery = 103.65%
Se 196.026†              779.1      520.11 ug/L         4.699      520.11 ppb          4.699   0.90%
   QC value within limits for Se 196.026  Recovery = 104.02%
Si 251.611†            80120.1      2545.5 ug/L         7.94      2545.5 ppb          7.94   0.31%
   QC value within limits for Si 251.611  Recovery = 101.82%
Sn 189.927†             2861.1      507.68 ug/L         6.424      507.68 ppb          6.424   1.27%
   QC value within limits for Sn 189.927  Recovery = 101.54%
Sr 421.552†            75762.8      489.31 ug/L         4.888      489.31 ppb          4.888   1.00%
   QC value within limits for Sr 421.552  Recovery = 97.86%
Ti 334.940†           308314.1      496.46 ug/L         1.545      496.46 ppb          1.545   0.31%
   QC value within limits for Ti 334.940  Recovery = 99.29%
Tl 190.801†             1636.7      505.19 ug/L         4.835      505.19 ppb          4.835   0.96%
   QC value within limits for Tl 190.801  Recovery = 101.04%
U 409.014†             17409.9      511.88 ug/L         1.997      511.88 ppb          1.997   0.39%
   QC value within limits for U 409.014  Recovery = 102.38%
V 292.402†             73366.0      507.94 ug/L         1.731      507.94 ppb          1.731   0.34%
   QC value within limits for V 292.402  Recovery = 101.59%
Zn 213.857†            53092.1      497.78 ug/L         1.902      497.78 ppb          1.902   0.38%
   QC value within limits for Zn 213.857  Recovery = 99.56%
SiO2†                  79789.6      5430.4 ug/L        56.96      5430.4 ppb         56.96   1.05%
   QC value within limits for SiO2  Recovery = 101.55%
All analyte(s) passed QC.
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Sequence No.: 56
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 1/11/2010 21:38:47
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5036.0	5036.0	100	%			21:40:39
1	Y RADIAL	5431.9	5431.9	100.0	%			21:40:39
1	Al 396.153Radial†	-25.1	-24.4	-18.838	ug/L	-18.838	ppb	21:40:39
1	Ca 317.933Radial†	14.8	-5.0	-7.9749	ug/L	-7.9749	ppb	21:40:59
1	Fe 238.204 Radial†	10.4	1.5	13.342	ug/L	13.342	ppb	21:40:59
1	K 766.490 Radial†	2643.8	53.3	9.7766	ug/L	9.7766	ppb	21:40:39
1	Mg 279.077 IEC†	0.2	-1.7	-55.846	ug/L	-55.846	ppb	21:40:59
1	Na 589.592 Radial†	-1324.6	-44.0	-13.176	ug/L	-13.176	ppb	21:40:39
1	Sr 421.552†	9.8	29.3	0.1892	ug/L	0.1892	ppb	21:40:39
1	Sc 361.383	858553.8	858553.8	100.72	%			21:41:56
1	Y 371.029	729508.5	729508.5	100.95	%			21:41:56
1	Ag 328.068†	269.3	-90.6	-0.4159	ug/L	-0.4159	ppb	21:41:56
1	As 188.979†	-17.3	6.4	2.7976	ug/L	2.7976	ppb	21:42:16
1	B 249.677†	-478.0	157.3	3.5058	ug/L	3.5058	ppb	21:42:16
1	Ba 233.527†	-11.0	0.4	0.0038	ug/L	0.0038	ppb	21:42:16
1	Be 313.107†	-4505.6	112.1	0.0431	ug/L	0.0431	ppb	21:41:56
1	Cd 226.502†	-182.1	23.3	0.2576	ug/L	0.2576	ppb	21:42:16
1	Co 228.616†	-77.9	-2.6	-0.0542	ug/L	-0.0542	ppb	21:42:16
1	Cr 267.716†	78.4	-5.4	-0.0617	ug/L	-0.0617	ppb	21:42:16
1	Cu 324.752†	6455.0	-3.5	-0.0115	ug/L	-0.0115	ppb	21:41:56
1	Mn 257.610†	416.7	-31.2	-0.0308	ug/L	-0.0308	ppb	21:42:16
1	Mo 202.031†	23.6	-0.3	-0.0213	ug/L	-0.0213	ppb	21:42:16
1	Ni 231.604†	76.2	7.7	0.1912	ug/L	0.1912	ppb	21:42:16
1	P 214.914†	219.4	-12.0	-7.3778	ug/L	-7.3778	ppb	21:42:16
1	Pb 220.353†	-52.5	11.2	1.3690	ug/L	1.3690	ppb	21:42:16
1	S 181.975 Axial†	46.6	3.3	4.6507	ug/L	4.6507	ppb	21:42:16
1	Sb 206.836†	35.8	7.6	2.6108	ug/L	2.6108	ppb	21:42:16
1	Se 196.026†	-31.9	0.3	0.2340	ug/L	0.2340	ppb	21:42:16
1	Si 251.611†	551.4	-3.1	-0.0972	ug/L	-0.0972	ppb	21:42:16
1	Sn 189.927†	5.8	-1.9	-0.3375	ug/L	-0.3375	ppb	21:42:16
1	Ti 334.940†	-1272.6	111.0	0.1811	ug/L	0.1811	ppb	21:41:56
1	Tl 190.801†	-32.4	0.7	0.2110	ug/L	0.2110	ppb	21:42:16
1	U 409.014†	-1913.0	112.3	3.3118	ug/L	3.3118	ppb	21:41:56
1	V 292.402†	-1329.0	-9.8	-0.0639	ug/L	-0.0639	ppb	21:41:56
1	Zn 213.857†	601.6	-23.0	-0.2196	ug/L	-0.2196	ppb	21:42:16
1	SiO2†	583.4	7.5	0.5136	ug/L	0.5136	ppb	21:43:12
2	Sc Radial	5141.4	5141.4	102	%			21:41:04
2	Y RADIAL	5519.8	5519.8	101.7	%			21:41:04
2	Al 396.153Radial†	-16.9	-15.9	-12.212	ug/L	-12.212	ppb	21:41:04
2	Ca 317.933Radial†	15.3	-4.8	-7.7466	ug/L	-7.7466	ppb	21:41:24
2	Fe 238.204 Radial†	9.1	-0.0	-0.0300	ug/L	-0.0300	ppb	21:41:24
2	K 766.490 Radial†	2551.3	-91.5	-16.772	ug/L	-16.772	ppb	21:41:04
2	Mg 279.077 IEC†	0.9	-1.0	-33.471	ug/L	-33.471	ppb	21:41:24
2	Na 589.592 Radial†	-1307.5	-0.1	-0.0182	ug/L	-0.0182	ppb	21:41:04
2	Sr 421.552†	13.1	32.4	0.2092	ug/L	0.2092	ppb	21:41:04
2	Sc 361.383	896670.4	896670.4	105.19	%			21:42:21
2	Y 371.029	762390.0	762390.0	105.50	%			21:42:21
2	Ag 328.068†	330.5	-43.8	-0.2068	ug/L	-0.2068	ppb	21:42:21
2	As 188.979†	-16.9	7.6	3.2850	ug/L	3.2850	ppb	21:42:41
2	B 249.677†	-488.9	167.1	3.7232	ug/L	3.7232	ppb	21:42:41
2	Ba 233.527†	-10.9	1.1	0.0081	ug/L	0.0081	ppb	21:42:41
2	Be 313.107†	-4505.2	302.6	0.1157	ug/L	0.1157	ppb	21:42:21
2	Cd 226.502†	-207.8	6.6	0.0743	ug/L	0.0743	ppb	21:42:41
2	Co 228.616†	-60.9	16.8	0.3409	ug/L	0.3409	ppb	21:42:41
2	Cr 267.716†	94.2	6.3	0.0682	ug/L	0.0682	ppb	21:42:41
2	Cu 324.752†	6372.1	-354.7	-1.0640	ug/L	-1.0640	ppb	21:42:21
2	Mn 257.610†	411.7	-53.5	-0.0580	ug/L	-0.0580	ppb	21:42:41
2	Mo 202.031†	10.6	-13.7	-0.9656	ug/L	-0.9656	ppb	21:42:41
2	Ni 231.604†	74.7	3.0	0.0754	ug/L	0.0754	ppb	21:42:41

2	P 214.914†	209.1	-31.1	-18.822	ug/L	-18.822 ppb	21:42:41
2	Pb 220.353†	-59.8	6.5	0.7931	ug/L	0.7931 ppb	21:42:41
2	S 181.975 Axial†	48.2	2.8	3.9710	ug/L	3.9710 ppb	21:42:41
2	Sb 206.836†	38.0	8.2	2.7546	ug/L	2.7546 ppb	21:42:41
2	Se 196.026†	-29.1	4.4	2.8147	ug/L	2.8147 ppb	21:42:41
2	Si 251.611†	579.5	0.5	0.0265	ug/L	0.0265 ppb	21:42:41
2	Sn 189.927†	-1.9	-9.4	-1.6725	ug/L	-1.6725 ppb	21:42:41
2	Ti 334.940†	-1333.2	107.1	0.1718	ug/L	0.1718 ppb	21:42:21
2	Tl 190.801†	-27.4	6.8	2.1005	ug/L	2.1005 ppb	21:42:41
2	U 409.014†	-1904.9	200.8	5.9222	ug/L	5.9222 ppb	21:42:21
2	V 292.402†	-1385.1	-7.0	-0.0518	ug/L	-0.0518 ppb	21:42:21
2	Zn 213.857†	615.9	-34.7	-0.3274	ug/L	-0.3274 ppb	21:42:41
2	SiO2†	587.0	-13.7	-0.9059	ug/L	-0.9059 ppb	21:43:17
3	Sc Radial	5157.0	5157.0	102	%		21:41:29
3	Y RADIAL	5520.8	5520.8	101.7	%		21:41:29
3	Al 396.153Radial†	-10.6	-9.7	-7.5096	ug/L	-7.5096 ppb	21:41:29
3	Ca 317.933Radial†	18.5	-1.7	-2.7649	ug/L	-2.7649 ppb	21:41:49
3	Fe 238.204 Radial†	11.2	2.1	17.749	ug/L	17.749 ppb	21:41:49
3	K 766.490 Radial†	2676.0	22.7	4.1773	ug/L	4.1773 ppb	21:41:29
3	Mg 279.077 IEC†	5.8	3.7	123.88	ug/L	123.88 ppb	21:41:49
3	Na 589.592 Radial†	-1401.1	-87.6	-26.223	ug/L	-26.223 ppb	21:41:29
3	Sr 421.552†	-16.2	3.7	0.0241	ug/L	0.0241 ppb	21:41:29
3	Sc 361.383	850118.4	850118.4	99.733	%		21:42:46
3	Y 371.029	721245.4	721245.4	99.803	%		21:42:46
3	Ag 328.068†	281.8	-75.4	-0.3458	ug/L	-0.3458 ppb	21:42:46
3	As 188.979†	-16.6	7.0	3.0346	ug/L	3.0346 ppb	21:43:06
3	B 249.677†	-490.9	139.7	3.1121	ug/L	3.1121 ppb	21:43:06
3	Ba 233.527†	4.0	15.4	0.1193	ug/L	0.1193 ppb	21:43:06
3	Be 313.107†	-4454.2	119.2	0.0456	ug/L	0.0456 ppb	21:42:46
3	Cd 226.502†	-185.5	18.1	0.1995	ug/L	0.1995 ppb	21:43:06
3	Co 228.616†	-76.9	-2.5	-0.0501	ug/L	-0.0501 ppb	21:43:06
3	Cr 267.716†	82.0	-1.0	-0.0132	ug/L	-0.0132 ppb	21:43:06
3	Cu 324.752†	6398.6	3.5	0.0104	ug/L	0.0104 ppb	21:42:46
3	Mn 257.610†	440.0	-3.7	-0.0071	ug/L	-0.0071 ppb	21:43:06
3	Mo 202.031†	28.8	5.1	0.3645	ug/L	0.3645 ppb	21:43:06
3	Ni 231.604†	77.2	9.4	0.2344	ug/L	0.2344 ppb	21:43:06
3	P 214.914†	215.4	-13.8	-8.4896	ug/L	-8.4896 ppb	21:43:06
3	Pb 220.353†	-69.1	-5.9	-0.7282	ug/L	-0.7282 ppb	21:43:06
3	S 181.975 Axial†	48.0	5.2	7.3212	ug/L	7.3212 ppb	21:43:06
3	Sb 206.836†	44.2	16.4	5.6220	ug/L	5.6220 ppb	21:43:06
3	Se 196.026†	-40.8	-8.9	-5.6819	ug/L	-5.6819 ppb	21:43:06
3	Si 251.611†	570.1	21.2	0.6694	ug/L	0.6694 ppb	21:43:06
3	Sn 189.927†	4.5	-3.1	-0.5560	ug/L	-0.5560 ppb	21:43:06
3	Ti 334.940†	-1325.8	45.2	0.0616	ug/L	0.0616 ppb	21:42:46
3	Tl 190.801†	-37.8	-5.0	-1.5435	ug/L	-1.5435 ppb	21:43:06
3	U 409.014†	-1942.5	63.9	1.8840	ug/L	1.8840 ppb	21:42:46
3	V 292.402†	-1407.9	-102.0	-0.6875	ug/L	-0.6875 ppb	21:42:46
3	Zn 213.857†	625.0	6.4	0.0577	ug/L	0.0577 ppb	21:43:06
3	SiO2†	555.9	-14.3	-0.9848	ug/L	-0.9848 ppb	21:43:22

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	868447.5	101.88	%	2.910				2.86%
Sc Radial	5111.5	102	%	1.3				1.29%
Y 371.029	737714.6	102.08	%	3.012				2.95%
Y RADIAL	5490.8	101.1	%	0.94				0.93%
Ag 328.068†	-70.0	-0.3228	ug/L	0.10644	-0.3228	ppb	0.10644	32.97%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-16.7	-12.853	ug/L	5.6914	-12.853	ppb	5.6914	44.28%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	7.0	3.0391	ug/L	0.24372	3.0391	ppb	0.24372	8.02%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	154.7	3.4470	ug/L	0.30976	3.4470	ppb	0.30976	8.99%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	5.6	0.0438	ug/L	0.06550	0.0438	ppb	0.06550	149.68%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	178.0	0.0681	ug/L	0.04121	0.0681	ppb	0.04121	60.49%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-3.9	-6.1622	ug/L	2.94432	-6.1622	ppb	2.94432	47.78%

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   QC value within limits for Ca 317.933Radial  Recovery = Not calculated
Cd 226.502†                16.0      0.1771 ug/L       0.09368      0.1771 ppb        0.09368  52.89%
   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†                 3.9      0.0789 ug/L       0.22693      0.0789 ppb        0.22693 287.67%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                -0.0     -0.0022 ug/L       0.06563     -0.0022 ppb        0.06563 >999.9%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†              -118.2     -0.3550 ug/L       0.61409     -0.3550 ppb        0.61409 172.97%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          1.2      10.354 ug/L        9.2586      10.354 ppb         9.2586  89.42%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†          -5.2     -0.9394 ug/L      13.99436     -0.9394 ppb       13.99436 >999.9%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†             0.3      11.521 ug/L       97.9465      11.521 ppb        97.9465 850.15%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†               -29.4     -0.0320 ug/L       0.02543     -0.0320 ppb        0.02543  79.57%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                -2.9     -0.2075 ug/L       0.68432     -0.2075 ppb        0.68432 329.86%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        -43.9     -13.139 ug/L       13.1026     -13.139 ppb        13.1026  99.72%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                 6.7      0.1670 ug/L       0.08223      0.1670 ppb        0.08223  49.24%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                -19.0     -11.563 ug/L        6.3108     -11.563 ppb         6.3108  54.58%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 3.9      0.4780 ug/L       1.08353      0.4780 ppb        1.08353 226.69%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†            3.8      5.3143 ug/L       1.77095      5.3143 ppb        1.77095  33.32%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                10.7      3.6625 ug/L       1.69854      3.6625 ppb        1.69854  46.38%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                -1.4     -0.8777 ug/L       4.35607     -0.8777 ppb        4.35607 496.28%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†                 6.2      0.1995 ug/L       0.41157      0.1995 ppb        0.41157 206.25%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                -4.8     -0.8553 ug/L       0.71607     -0.8553 ppb        0.71607  83.72%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                21.8      0.1408 ug/L       0.10158      0.1408 ppb        0.10158  72.14%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†                87.8      0.1382 ug/L       0.06650      0.1382 ppb        0.06650  48.13%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                 0.8      0.2560 ug/L       1.82240      0.2560 ppb        1.82240 711.87%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                125.7      3.7060 ug/L       2.04774      3.7060 ppb        2.04774  55.25%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                -39.6     -0.2677 ug/L       0.36359     -0.2677 ppb        0.36359 135.80%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†               -17.1     -0.1631 ug/L       0.19868     -0.1631 ppb        0.19868 121.84%
   QC value within limits for Zn 213.857  Recovery = Not calculated
SiO2†                      -6.8     -0.4590 ug/L       0.84325     -0.4590 ppb        0.84325 183.71%
   QC value within limits for SiO2  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 57
Sample ID: 1202003764|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 69
Date Collected: 1/11/2010 21:45:31
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202003764|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5443.6	5443.6	108	%			21:47:24
1	Y RADIAL	5883.2	5883.2	108.4	%			21:47:24
1	Al 396.153Radial†	-3.9	-3.0	-2.2635	ug/L	-2.2635	ppb	21:47:24
1	Ca 317.933Radial†	44.0	20.9	33.436	ug/L	33.436	ppb	21:47:44
1	Fe 238.204 Radial†	15.6	5.6	48.129	ug/L	48.129	ppb	21:47:44
1	K 766.490 Radial†	2626.6	-160.6	-29.492	ug/L	-29.492	ppb	21:47:24
1	Mg 279.077 IEC†	3.8	1.6	52.473	ug/L	52.473	ppb	21:47:44
1	Na 589.592 Radial†	-1166.3	201.6	60.365	ug/L	60.365	ppb	21:47:24
1	Sr 421.552†	57.0	72.3	0.4664	ug/L	0.4664	ppb	21:47:24
1	Sc 361.383	861853.8	861853.8	101.11	%			21:48:41
1	Y 371.029	730212.6	730212.6	101.04	%			21:48:41
1	Ag 328.068†	355.2	-6.7	-0.0199	ug/L	-0.0199	ppb	21:48:41
1	As 188.979†	-31.0	-7.1	-3.0550	ug/L	-3.0550	ppb	21:49:01
1	B 249.677†	-524.5	113.1	2.5157	ug/L	2.5157	ppb	21:49:01
1	Ba 233.527†	13.3	24.5	0.1941	ug/L	0.1941	ppb	21:49:01
1	Be 313.107†	-4330.4	302.5	0.1166	ug/L	0.1166	ppb	21:48:41
1	Cd 226.502†	-181.4	24.7	0.2702	ug/L	0.2702	ppb	21:49:01
1	Co 228.616†	-68.5	7.0	0.1381	ug/L	0.1381	ppb	21:49:01
1	Cr 267.716†	131.3	46.6	0.5203	ug/L	0.5203	ppb	21:49:01
1	Cu 324.752†	6600.1	115.5	0.3442	ug/L	0.3442	ppb	21:48:41
1	Mn 257.610†	946.9	491.6	0.5482	ug/L	0.5482	ppb	21:49:01
1	Mo 202.031†	11.4	-12.4	-0.8753	ug/L	-0.8753	ppb	21:49:01
1	Ni 231.604†	73.9	5.1	0.1278	ug/L	0.1278	ppb	21:49:01
1	P 214.914†	219.7	-12.6	-7.8039	ug/L	-7.8039	ppb	21:49:01
1	Pb 220.353†	-60.1	3.9	0.4684	ug/L	0.4684	ppb	21:49:01
1	S 181.975 Axial†	61.6	17.9	25.347	ug/L	25.347	ppb	21:49:01
1	Sb 206.836†	40.3	12.0	4.0779	ug/L	4.0779	ppb	21:49:01
1	Se 196.026†	-30.7	1.7	1.2184	ug/L	1.2184	ppb	21:49:01
1	Si 251.611†	1176.9	613.5	19.550	ug/L	19.550	ppb	21:49:01
1	Sn 189.927†	5.5	-2.2	-0.3835	ug/L	-0.3835	ppb	21:49:01
1	Ti 334.940†	-1010.3	375.3	0.6011	ug/L	0.6011	ppb	21:48:41
1	Tl 190.801†	-27.6	5.6	1.7226	ug/L	1.7226	ppb	21:49:01
1	U 409.014†	-1811.6	219.9	6.4791	ug/L	6.4791	ppb	21:48:41
1	V 292.402†	-1276.3	47.4	0.3161	ug/L	0.3161	ppb	21:48:41
1	Zn 213.857†	1228.8	595.1	5.6227	ug/L	5.6227	ppb	21:49:01
1	SiO2†	1219.7	634.6	43.325	ug/L	43.325	ppb	21:49:57
2	Sc Radial	5249.1	5249.1	104	%			21:47:49
2	Y RADIAL	5652.1	5652.1	104.1	%			21:47:49
2	Al 396.153Radial†	22.0	21.8	16.825	ug/L	16.825	ppb	21:47:49
2	Ca 317.933Radial†	45.2	23.6	37.788	ug/L	37.788	ppb	21:48:09
2	Fe 238.204 Radial†	14.3	4.8	41.731	ug/L	41.731	ppb	21:48:09
2	K 766.490 Radial†	2834.1	128.5	23.520	ug/L	23.520	ppb	21:47:49
2	Mg 279.077 IEC†	2.7	0.7	23.076	ug/L	23.076	ppb	21:48:09
2	Na 589.592 Radial†	-1174.0	154.3	46.196	ug/L	46.196	ppb	21:47:49
2	Sr 421.552†	46.3	63.9	0.4124	ug/L	0.4124	ppb	21:47:49
2	Sc 361.383	850220.6	850220.6	99.745	%			21:49:06
2	Y 371.029	721557.1	721557.1	99.846	%			21:49:06
2	Ag 328.068†	254.7	-102.6	-0.4629	ug/L	-0.4629	ppb	21:49:06
2	As 188.979†	-15.9	7.6	3.3256	ug/L	3.3256	ppb	21:49:26
2	B 249.677†	-526.8	103.7	2.3083	ug/L	2.3083	ppb	21:49:26
2	Ba 233.527†	18.1	29.6	0.2323	ug/L	0.2323	ppb	21:49:26
2	Be 313.107†	-4370.3	203.8	0.0789	ug/L	0.0789	ppb	21:49:06
2	Cd 226.502†	-189.2	14.4	0.1567	ug/L	0.1567	ppb	21:49:26
2	Co 228.616†	-72.4	2.1	0.0395	ug/L	0.0395	ppb	21:49:26
2	Cr 267.716†	168.6	85.8	0.9578	ug/L	0.9578	ppb	21:49:26
2	Cu 324.752†	6461.6	65.9	0.1973	ug/L	0.1973	ppb	21:49:06
2	Mn 257.610†	980.8	538.4	0.6006	ug/L	0.6006	ppb	21:49:26
2	Mo 202.031†	12.0	-11.7	-0.8228	ug/L	-0.8228	ppb	21:49:26
2	Ni 231.604†	79.2	11.4	0.2843	ug/L	0.2843	ppb	21:49:26

2	P 214.914†	233.3	4.1	2.4339 ug/L	2.4339 ppb		21:49:26
2	Pb 220.353†	-52.9	10.3	1.2592 ug/L	1.2592 ppb		21:49:26
2	S 181.975 Axial†	60.5	17.6	24.917 ug/L	24.917 ppb		21:49:26
2	Sb 206.836†	40.4	12.6	4.3203 ug/L	4.3203 ppb		21:49:26
2	Se 196.026†	-19.9	12.1	7.9039 ug/L	7.9039 ppb		21:49:26
2	Si 251.611†	1209.4	662.1	21.095 ug/L	21.095 ppb		21:49:26
2	Sn 189.927†	18.6	11.0	1.9501 ug/L	1.9501 ppb		21:49:26
2	Ti 334.940†	-1038.0	333.8	0.5383 ug/L	0.5383 ppb		21:49:06
2	Tl 190.801†	-48.1	-15.4	-4.7256 ug/L	-4.7256 ppb		21:49:26
2	U 409.014†	-1882.8	124.0	3.6507 ug/L	3.6507 ppb		21:49:06
2	V 292.402†	-1318.1	-11.8	-0.0925 ug/L	-0.0925 ppb		21:49:06
2	Zn 213.857†	1237.8	620.7	5.8644 ug/L	5.8644 ppb		21:49:26
2	SiO2†	1210.4	641.8	43.814 ug/L	43.814 ppb		21:50:02
3	Sc Radial	5174.6	5174.6	103 %			21:48:14
3	Y RADIAL	5544.2	5544.2	102.1 %			21:48:14
3	Al 396.153Radial†	19.4	19.6	15.110 ug/L	15.110 ppb		21:48:14
3	Ca 317.933Radial†	45.8	24.8	39.730 ug/L	39.730 ppb		21:48:34
3	Fe 238.204 Radial†	12.1	2.9	25.194 ug/L	25.194 ppb		21:48:34
3	K 766.490 Radial†	2640.0	-21.2	-3.9344 ug/L	-3.9344 ppb		21:48:14
3	Mg 279.077 IEC†	1.6	-0.4	-12.937 ug/L	-12.937 ppb		21:48:34
3	Na 589.592 Radial†	-1133.3	177.6	53.186 ug/L	53.186 ppb		21:48:14
3	Sr 421.552†	50.0	68.1	0.4396 ug/L	0.4396 ppb		21:48:14
3	Sc 361.383	853350.3	853350.3	100.11 %			21:49:32
3	Y 371.029	723122.3	723122.3	100.06 %			21:49:32
3	Ag 328.068†	312.4	-45.9	-0.2061 ug/L	-0.2061 ppb		21:49:32
3	As 188.979†	-28.8	-5.1	-2.2148 ug/L	-2.2148 ppb		21:49:52
3	B 249.677†	-537.7	94.8	2.1103 ug/L	2.1103 ppb		21:49:52
3	Ba 233.527†	22.8	34.2	0.2675 ug/L	0.2675 ppb		21:49:52
3	Be 313.107†	-4376.7	213.5	0.0827 ug/L	0.0827 ppb		21:49:32
3	Cd 226.502†	-185.2	19.1	0.2099 ug/L	0.2099 ppb		21:49:52
3	Co 228.616†	-79.7	-5.0	-0.1049 ug/L	-0.1049 ppb		21:49:52
3	Cr 267.716†	151.0	67.6	0.7548 ug/L	0.7548 ppb		21:49:52
3	Cu 324.752†	6533.4	113.9	0.3410 ug/L	0.3410 ppb		21:49:32
3	Mn 257.610†	984.3	538.3	0.6001 ug/L	0.6001 ppb		21:49:52
3	Mo 202.031†	17.8	-6.0	-0.4201 ug/L	-0.4201 ppb		21:49:52
3	Ni 231.604†	106.6	38.5	0.9582 ug/L	0.9582 ppb		21:49:52
3	P 214.914†	211.0	-19.1	-11.787 ug/L	-11.787 ppb		21:49:52
3	Pb 220.353†	-42.5	20.9	2.5568 ug/L	2.5568 ppb		21:49:52
3	S 181.975 Axial†	63.7	20.6	29.166 ug/L	29.166 ppb		21:49:52
3	Sb 206.836†	28.5	0.6	0.2116 ug/L	0.2116 ppb		21:49:52
3	Se 196.026†	-19.6	12.5	8.1064 ug/L	8.1064 ppb		21:49:52
3	Si 251.611†	1201.2	649.4	20.688 ug/L	20.688 ppb		21:49:52
3	Sn 189.927†	15.2	7.5	1.3417 ug/L	1.3417 ppb		21:49:52
3	Ti 334.940†	-998.9	376.7	0.6114 ug/L	0.6114 ppb		21:49:32
3	Tl 190.801†	-43.9	-11.0	-3.3677 ug/L	-3.3677 ppb		21:49:52
3	U 409.014†	-1948.1	65.7	1.9323 ug/L	1.9323 ppb		21:49:32
3	V 292.402†	-1335.9	-24.7	-0.1761 ug/L	-0.1761 ppb		21:49:32
3	Zn 213.857†	1240.4	618.8	5.8434 ug/L	5.8434 ppb		21:49:52
3	SiO2†	1219.2	646.2	44.103 ug/L	44.103 ppb		21:50:07

Mean Data: 1202003764|936480|1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	855141.6	100.32	%	0.706				0.70%
Sc Radial	5289.1	105	%	2.8				2.63%
Y 371.029	724964.0	100.32	%	0.638				0.64%
Y RADIAL	5693.2	104.9	%	3.19				3.04%
Ag 328.068†	-51.8	-0.2297	ug/L	0.22242	-0.2297	ppb	0.22242	96.85%
Al 396.153Radial†	12.8	9.8906	ug/L	10.56059	9.8906	ppb	10.56059	106.77%
As 188.979†	-1.5	-0.6481	ug/L	3.46685	-0.6481	ppb	3.46685	534.95%
B 249.677†	103.9	2.3114	ug/L	0.20271	2.3114	ppb	0.20271	8.77%
Ba 233.527†	29.4	0.2313	ug/L	0.03670	0.2313	ppb	0.03670	15.87%
Be 313.107†	240.0	0.0928	ug/L	0.02077	0.0928	ppb	0.02077	22.39%
Ca 317.933Radial†	23.1	36.985	ug/L	3.2229	36.985	ppb	3.2229	8.71%
Cd 226.502†	19.4	0.2123	ug/L	0.05683	0.2123	ppb	0.05683	26.77%
Co 228.616†	1.4	0.0243	ug/L	0.12221	0.0243	ppb	0.12221	503.58%
Cr 267.716†	66.7	0.7443	ug/L	0.21893	0.7443	ppb	0.21893	29.41%
Cu 324.752†	98.4	0.2941	ug/L	0.08391	0.2941	ppb	0.08391	28.53%
Fe 238.204 Radial†	4.4	38.351	ug/L	11.8352	38.351	ppb	11.8352	30.86%
K 766.490 Radial†	-17.8	-3.3019	ug/L	26.51172	-3.3019	ppb	26.51172	802.91%

Mg 279.077 IEC†	0.6	20.871	ug/L	32.7608	20.871	ppb	32.7608 156.97%
Mn 257.610†	522.8	0.5830	ug/L	0.03008	0.5830	ppb	0.03008 5.16%
Mo 202.031†	-10.0	-0.7061	ug/L	0.24907	-0.7061	ppb	0.24907 35.28%
Na 589.592 Radial†	177.8	53.249	ug/L	7.0843	53.249	ppb	7.0843 13.30%
Ni 231.604†	18.3	0.4567	ug/L	0.44126	0.4567	ppb	0.44126 96.61%
P 214.914†	-9.2	-5.7189	ug/L	7.33602	-5.7189	ppb	7.33602 128.28%
Pb 220.353†	11.7	1.4281	ug/L	1.05436	1.4281	ppb	1.05436 73.83%
S 181.975 Axial†	18.7	26.476	ug/L	2.3388	26.476	ppb	2.3388 8.83%
Sb 206.836†	8.4	2.8699	ug/L	2.30538	2.8699	ppb	2.30538 80.33%
Se 196.026†	8.7	5.7429	ug/L	3.91963	5.7429	ppb	3.91963 68.25%
Si 251.611†	641.7	20.444	ug/L	0.8008	20.444	ppb	0.8008 3.92%
Sn 189.927†	5.4	0.9695	ug/L	1.21055	0.9695	ppb	1.21055 124.87%
Sr 421.552†	68.1	0.4395	ug/L	0.02699	0.4395	ppb	0.02699 6.14%
Ti 334.940†	361.9	0.5836	ug/L	0.03958	0.5836	ppb	0.03958 6.78%
Tl 190.801†	-6.9	-2.1236	ug/L	3.39935	-2.1236	ppb	3.39935 160.08%
U 409.014†	136.5	4.0207	ug/L	2.29589	4.0207	ppb	2.29589 57.10%
V 292.402†	3.7	0.0158	ug/L	0.26333	0.0158	ppb	0.26333 >999.9%
Zn 213.857†	611.5	5.7768	ug/L	0.13390	5.7768	ppb	0.13390 2.32%
SiO2†	640.9	43.747	ug/L	0.3933	43.747	ppb	0.3933 0.90%

Sequence No.: 58
Sample ID: 1202003765|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 70
Date Collected: 1/11/2010 21:52:19
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202003765|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc Radial	5446.3	5446.3	108	%			21:54:32
1	Y RADIAL	6389.7	6389.7	117.7	%			21:54:32
1	Al 396.153Radial†	119683.8	110652.8	85343	ug/L	85343	ppb	21:54:12
1	Ca 317.933Radial†	64242.0	59374.3	95005	ug/L	95005	ppb	21:54:12
1	Fe 238.204 Radial†	22631.9	20915.2	181030	ug/L	181030	ppb	21:54:12
1	K 766.490 Radial†	242719.7	221813.2	40572	ug/L	40572	ppb	21:54:12
1	Mg 279.077 IEC†	1236.0	1140.8	37932	ug/L	37932	ppb	21:54:32
1	Na 589.592 Radial†	34923.0	33568.0	10051	ug/L	10051	ppb	21:54:12
1	Sr 421.552†	373640.3	345463.7	2230.6	ug/L	2230.6	ppb	21:54:12
1	Sc 361.383	862352.6	862352.6	101.17	%			21:55:33
1	Y 371.029	786607.7	786607.7	108.85	%			21:55:33
1	Ag 328.068†	58366.0	57334.3	326.35	ug/L	326.35	ppb	21:55:33
1	As 188.979†	2390.8	2386.8	1097.4	ug/L	1097.4	ppb	21:55:38
1	B 249.677†	68131.3	67976.7	1494.5	ug/L	1494.5	ppb	21:55:33
1	Ba 233.527†	261334.0	258328.7	2026.1	ug/L	2026.1	ppb	21:55:33
1	Be 313.107†	2153141.1	2132871.7	826.44	ug/L	826.44	ppb	21:55:33
1	Cd 226.502†	54783.0	54354.8	585.25	ug/L	585.25	ppb	21:55:38
1	Co 228.616†	45627.3	45175.3	910.38	ug/L	910.38	ppb	21:55:38
1	Cr 267.716†	215165.8	212598.7	2382.0	ug/L	2382.0	ppb	21:55:33
1	Cu 324.752†	644154.0	630306.0	1894.4	ug/L	1894.4	ppb	21:55:33
1	Mn 257.610†	4873253.0	4816553.7	5358.3	ug/L	5358.3	ppb	21:55:33
1	Mo 202.031†	7133.6	7027.6	510.18	ug/L	510.18	ppb	21:55:38
1	Ni 231.604†	53163.6	52481.9	1306.3	ug/L	1306.3	ppb	21:55:38
1	P 214.914†	13704.7	13316.7	7616.8	ug/L	7616.8	ppb	21:55:38
1	Pb 220.353†	6981.4	6964.1	855.58	ug/L	855.58	ppb	21:55:38
1	S 181.975 Axial†	3143.7	3064.4	4320.6	ug/L	4320.6	ppb	21:55:38
1	Sb 206.836†	3931.3	3858.0	1330.8	ug/L	1330.8	ppb	21:55:38
1	Se 196.026†	3979.7	3965.7	3139.1	ug/L	3139.1	ppb	21:55:38
1	Si 251.611†	1034449.7	1021958.1	32542	ug/L	32542	ppb	21:55:33
1	Sn 189.927†	6124.2	6045.8	1087.7	ug/L	1087.7	ppb	21:55:38
1	Ti 334.940†	3801765.4	3759254.2	6063.4	ug/L	6063.4	ppb	21:55:33
1	Tl 190.801†	3815.4	3804.2	1228.4	ug/L	1228.4	ppb	21:55:38
1	U 409.014†	-7308.2	-5212.2	-179.71	ug/L	-179.71	ppb	21:55:33
1	V 292.402†	189687.2	188807.2	1261.7	ug/L	1261.7	ppb	21:55:33
1	Zn 213.857†	682505.9	674007.1	6346.4	ug/L	6346.4	ppb	21:55:33
1	SiO2†	1034382.0	1021869.9	69710	ug/L	69710	ppb	21:56:13
2	Sc Radial	5393.6	5393.6	107	%			21:54:57
2	Y RADIAL	6296.4	6296.4	116.0	%			21:54:57
2	Al 396.153Radial†	118913.0	111014.3	85622	ug/L	85622	ppb	21:54:37
2	Ca 317.933Radial†	63692.6	59441.8	95113	ug/L	95113	ppb	21:54:37
2	Fe 238.204 Radial†	22403.0	20905.9	180950	ug/L	180950	ppb	21:54:37
2	K 766.490 Radial†	240811.7	222224.6	40648	ug/L	40648	ppb	21:54:37
2	Mg 279.077 IEC†	1229.4	1145.8	38099	ug/L	38099	ppb	21:54:57
2	Na 589.592 Radial†	34607.5	33589.0	10057	ug/L	10057	ppb	21:54:37
2	Sr 421.552†	370882.4	346264.5	2235.8	ug/L	2235.8	ppb	21:54:37
2	Sc 361.383	874947.1	874947.1	102.65	%			21:55:47
2	Y 371.029	797668.5	797668.5	110.38	%			21:55:47
2	Ag 328.068†	58324.1	56463.0	322.23	ug/L	322.23	ppb	21:55:47
2	As 188.979†	2426.9	2388.0	1097.4	ug/L	1097.4	ppb	21:55:52
2	B 249.677†	68190.5	67064.9	1474.2	ug/L	1474.2	ppb	21:55:47
2	Ba 233.527†	260824.5	254113.9	1993.2	ug/L	1993.2	ppb	21:55:47
2	Be 313.107†	2153135.3	2102230.1	814.55	ug/L	814.55	ppb	21:55:47
2	Cd 226.502†	55080.3	53864.9	579.81	ug/L	579.81	ppb	21:55:52
2	Co 228.616†	45854.3	44747.3	901.80	ug/L	901.80	ppb	21:55:52
2	Cr 267.716†	215129.9	209502.3	2347.3	ug/L	2347.3	ppb	21:55:47
2	Cu 324.752†	643477.8	620481.9	1865.1	ug/L	1865.1	ppb	21:55:47
2	Mn 257.610†	4868512.1	4742596.0	5276.3	ug/L	5276.3	ppb	21:55:47
2	Mo 202.031†	7157.3	6949.2	504.64	ug/L	504.64	ppb	21:55:52
2	Ni 231.604†	53351.2	51908.3	1292.0	ug/L	1292.0	ppb	21:55:52

2	P 214.914†	13818.6	13232.6	7571.9	ug/L	7571.9 ppb	21:55:52
2	Pb 220.353†	7010.4	6893.1	846.95	ug/L	846.95 ppb	21:55:52
2	S 181.975 Axial†	3183.5	3058.5	4312.3	ug/L	4312.3 ppb	21:55:52
2	Sb 206.836†	3912.7	3783.9	1305.4	ug/L	1305.4 ppb	21:55:52
2	Se 196.026†	3918.4	3849.4	3063.9	ug/L	3063.9 ppb	21:55:52
2	Si 251.611†	1033628.7	1006439.6	32047	ug/L	32047 ppb	21:55:47
2	Sn 189.927†	6182.3	6015.3	1082.3	ug/L	1082.3 ppb	21:55:52
2	Ti 334.940†	3797310.3	3700820.6	5969.3	ug/L	5969.3 ppb	21:55:47
2	Tl 190.801†	3867.8	3801.0	1226.4	ug/L	1226.4 ppb	21:55:52
2	U 409.014†	-7213.0	-5015.5	-173.82	ug/L	-173.82 ppb	21:55:47
2	V 292.402†	189405.0	185833.4	1241.5	ug/L	1241.5 ppb	21:55:47
2	Zn 213.857†	682300.9	664096.4	6252.8	ug/L	6252.8 ppb	21:55:47
2	SiO2†	1040541.7	1013153.2	69116	ug/L	69116 ppb	21:56:19
3	Sc Radial	5310.1	5310.1	105	%		21:55:22
3	Y RADIAL	6221.6	6221.6	114.6	%		21:55:22
3	Al 396.153Radial†	119821.1	113620.7	87633	ug/L	87633 ppb	21:55:02
3	Ca 317.933Radial†	64424.2	61070.3	97718	ug/L	97718 ppb	21:55:02
3	Fe 238.204 Radial†	22687.1	21504.1	186130	ug/L	186130 ppb	21:55:02
3	K 766.490 Radial†	243006.7	227840.3	41677	ug/L	41677 ppb	21:55:02
3	Mg 279.077 IEC†	1211.0	1146.4	38115	ug/L	38115 ppb	21:55:22
3	Na 589.592 Radial†	35113.1	34576.4	10353	ug/L	10353 ppb	21:55:02
3	Sr 421.552†	374518.5	355155.6	2293.2	ug/L	2293.2 ppb	21:55:02
3	Sc 361.383	873471.5	873471.5	102.47	%		21:56:02
3	Y 371.029	796257.0	796257.0	110.18	%		21:56:02
3	Ag 328.068†	58078.5	56319.3	323.19	ug/L	323.19 ppb	21:56:02
3	As 188.979†	2393.7	2359.6	1086.0	ug/L	1086.0 ppb	21:56:07
3	B 249.677†	67805.5	66801.5	1467.8	ug/L	1467.8 ppb	21:56:02
3	Ba 233.527†	259545.3	253294.8	1987.0	ug/L	1987.0 ppb	21:56:02
3	Be 313.107†	2140875.2	2093809.5	811.28	ug/L	811.28 ppb	21:56:02
3	Cd 226.502†	55139.6	54013.4	580.93	ug/L	580.93 ppb	21:56:07
3	Co 228.616†	45919.0	44885.8	904.63	ug/L	904.63 ppb	21:56:07
3	Cr 267.716†	214038.9	208791.8	2339.5	ug/L	2339.5 ppb	21:56:02
3	Cu 324.752†	639794.2	617946.3	1857.8	ug/L	1857.8 ppb	21:56:02
3	Mn 257.610†	4842500.1	4725224.5	5257.6	ug/L	5257.6 ppb	21:56:02
3	Mo 202.031†	7199.7	7002.3	508.78	ug/L	508.78 ppb	21:56:07
3	Ni 231.604†	53431.7	52074.7	1296.1	ug/L	1296.1 ppb	21:56:07
3	P 214.914†	13760.3	13198.4	7549.0	ug/L	7549.0 ppb	21:56:07
3	Pb 220.353†	7023.7	6917.6	849.95	ug/L	849.95 ppb	21:56:07
3	S 181.975 Axial†	3172.3	3052.8	4303.8	ug/L	4303.8 ppb	21:56:07
3	Sb 206.836†	3901.9	3779.8	1304.2	ug/L	1304.2 ppb	21:56:07
3	Se 196.026†	3972.1	3908.3	3118.5	ug/L	3118.5 ppb	21:56:07
3	Si 251.611†	1028146.3	1002790.6	31931	ug/L	31931 ppb	21:56:02
3	Sn 189.927†	6188.0	6031.1	1085.6	ug/L	1085.6 ppb	21:56:07
3	Ti 334.940†	3774120.6	3684440.2	5943.2	ug/L	5943.2 ppb	21:56:02
3	Tl 190.801†	3840.3	3780.5	1219.8	ug/L	1219.8 ppb	21:56:07
3	U 409.014†	-7182.7	-4997.8	-173.87	ug/L	-173.87 ppb	21:56:02
3	V 292.402†	188559.9	185320.4	1237.3	ug/L	1237.3 ppb	21:56:02
3	Zn 213.857†	678819.4	661821.8	6230.8	ug/L	6230.8 ppb	21:56:02
3	SiO2†	1035471.2	1009917.6	68895	ug/L	68895 ppb	21:56:25

Mean Data: 1202003765|936480|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	870257.1	102.10	%	0.808				0.79%
Sc Radial	5383.3	107	%	1.4				1.28%
Y 371.029	793511.1	109.80	%	0.833				0.76%
Y RADIAL	6302.6	116.1	%	1.55				1.34%
Ag 328.068†	56705.5	323.92	ug/L	2.155	323.92	ppb	2.155	0.67%
Al 396.153Radial†	111762.6	86199	ug/L	1249.2	86199	ppb	1249.2	1.45%
As 188.979†	2378.1	1093.6	ug/L	6.58	1093.6	ppb	6.58	0.60%
B 249.677†	67281.0	1478.8	ug/L	13.94	1478.8	ppb	13.94	0.94%
Ba 233.527†	255245.8	2002.1	ug/L	21.05	2002.1	ppb	21.05	1.05%
Be 313.107†	2109637.1	817.42	ug/L	7.977	817.42	ppb	7.977	0.98%
Ca 317.933Radial†	59962.1	95945	ug/L	1536.6	95945	ppb	1536.6	1.60%
Cd 226.502†	54077.7	582.00	ug/L	2.871	582.00	ppb	2.871	0.49%
Co 228.616†	44936.1	905.60	ug/L	4.370	905.60	ppb	4.370	0.48%
Cr 267.716†	210297.6	2356.3	ug/L	22.61	2356.3	ppb	22.61	0.96%
Cu 324.752†	622911.4	1872.4	ug/L	19.42	1872.4	ppb	19.42	1.04%
Fe 238.204 Radial†	21108.4	182700	ug/L	2966.0	182700	ppb	2966.0	1.62%
K 766.490 Radial†	223959.4	40966	ug/L	617.2	40966	ppb	617.2	1.51%

Mg 279.077 IEC†	1144.3	38049	ug/L	101.2	38049	ppb	101.2	0.27%
Mn 257.610†	4761458.1	5297.4	ug/L	53.56	5297.4	ppb	53.56	1.01%
Mo 202.031†	6993.0	507.87	ug/L	2.883	507.87	ppb	2.883	0.57%
Na 589.592 Radial†	33911.1	10153	ug/L	172.5	10153	ppb	172.5	1.70%
Ni 231.604†	52155.0	1298.1	ug/L	7.35	1298.1	ppb	7.35	0.57%
P 214.914†	13249.2	7579.2	ug/L	34.49	7579.2	ppb	34.49	0.46%
Pb 220.353†	6924.9	850.82	ug/L	4.381	850.82	ppb	4.381	0.51%
S 181.975 Axial†	3058.6	4312.2	ug/L	8.43	4312.2	ppb	8.43	0.20%
Sb 206.836†	3807.2	1313.5	ug/L	15.01	1313.5	ppb	15.01	1.14%
Se 196.026†	3907.8	3107.2	ug/L	38.88	3107.2	ppb	38.88	1.25%
Si 251.611†	1010396.1	32173	ug/L	324.1	32173	ppb	324.1	1.01%
Sn 189.927†	6030.7	1085.2	ug/L	2.72	1085.2	ppb	2.72	0.25%
Sr 421.552†	348961.3	2253.2	ug/L	34.73	2253.2	ppb	34.73	1.54%
Ti 334.940†	3714838.4	5992.0	ug/L	63.24	5992.0	ppb	63.24	1.06%
Tl 190.801†	3795.2	1224.9	ug/L	4.46	1224.9	ppb	4.46	0.36%
U 409.014†	-5075.2	-175.80	ug/L	3.386	-175.80	ppb	3.386	1.93%
V 292.402†	186653.7	1246.8	ug/L	13.07	1246.8	ppb	13.07	1.05%
Zn 213.857†	666641.8	6276.7	ug/L	61.40	6276.7	ppb	61.40	0.98%
SiO2†	1014980.2	69240	ug/L	421.8	69240	ppb	421.8	0.61%

Sequence No.: 59
Sample ID: 243385001|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 71
Date Collected: 1/11/2010 21:58:36
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 243385001|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5282.6	5282.6	105	%			22:00:49
1	Y RADIAL	6142.7	6142.7	113.1	%			22:00:49
1	Al 396.153Radial†	109517.4	104391.9	80537	ug/L	80537	ppb	22:00:29
1	Ca 317.933Radial†	13490.0	12838.8	20543	ug/L	20543	ppb	22:00:29
1	Fe 238.204 Radial†	14346.3	13665.9	118270	ug/L	118270	ppb	22:00:29
1	K 766.490 Radial†	88795.3	82048.9	15007	ug/L	15007	ppb	22:00:29
1	Mg 279.077 IEC†	480.7	456.3	15122	ug/L	15122	ppb	22:00:49
1	Na 589.592 Radial†	1214.8	2438.4	730.08	ug/L	730.08	ppb	22:00:29
1	Sr 421.552†	33088.3	31559.0	203.68	ug/L	203.68	ppb	22:00:29
1	Sc 361.383	848501.8	848501.8	99.543	%			22:01:52
1	Y 371.029	771965.0	771965.0	106.82	%			22:01:52
1	Ag 328.068†	-7724.9	-8118.3	1.8459	ug/L	1.8459	ppb	22:01:52
1	As 188.979†	-96.1	-72.9	19.654	ug/L	19.654	ppb	22:02:12
1	B 249.677†	1670.7	2310.2	39.334	ug/L	39.334	ppb	22:01:52
1	Ba 233.527†	146191.1	146873.8	1151.6	ug/L	1151.6	ppb	22:01:52
1	Be 313.107†	-19071.1	-14573.3	7.8238	ug/L	7.8238	ppb	22:01:52
1	Cd 226.502†	1044.7	1253.6	1.7131	ug/L	1.7131	ppb	22:02:12
1	Co 228.616†	3139.1	3228.2	52.499	ug/L	52.499	ppb	22:02:12
1	Cr 267.716†	9337.1	9296.7	106.77	ug/L	106.77	ppb	22:02:12
1	Cu 324.752†	26022.3	19729.6	65.327	ug/L	65.327	ppb	22:01:52
1	Mn 257.610†	2487297.8	2498274.4	2782.2	ug/L	2782.2	ppb	22:01:47
1	Mo 202.031†	-70.8	-94.8	1.6313	ug/L	1.6313	ppb	22:02:12
1	Ni 231.604†	2792.5	2737.4	68.122	ug/L	68.122	ppb	22:02:12
1	P 214.914†	1973.2	1752.4	983.20	ug/L	983.20	ppb	22:02:12
1	Pb 220.353†	1228.6	1297.6	165.04	ug/L	165.04	ppb	22:02:12
1	S 181.975 Axial†	586.8	546.5	758.34	ug/L	758.34	ppb	22:02:12
1	Sb 206.836†	83.9	56.3	-2.1468	ug/L	-2.1468	ppb	22:02:12
1	Se 196.026†	-590.9	-561.6	19.527	ug/L	19.527	ppb	22:02:12
1	Si 251.611†	920549.0	924225.6	29435	ug/L	29435	ppb	22:01:47
1	Sn 189.927†	-137.5	-145.7	-20.893	ug/L	-20.893	ppb	22:02:12
1	Ti 334.940†	3639080.3	3657165.1	5893.2	ug/L	5893.2	ppb	22:01:47
1	Tl 190.801†	-241.2	-209.4	-11.816	ug/L	-11.816	ppb	22:02:12
1	U 409.014†	-6319.9	-4337.3	-141.66	ug/L	-141.66	ppb	22:01:52
1	V 292.402†	41866.2	43368.1	271.64	ug/L	271.64	ppb	22:01:52
1	Zn 213.857†	29003.6	28516.5	257.73	ug/L	257.73	ppb	22:02:12
1	SiO2†	914147.4	917773.4	62621	ug/L	62621	ppb	22:03:22
2	Sc Radial	5265.0	5265.0	105	%			22:01:14
2	Y RADIAL	6127.8	6127.8	112.9	%			22:01:14
2	Al 396.153Radial†	108855.3	104107.6	80318	ug/L	80318	ppb	22:00:54
2	Ca 317.933Radial†	13360.9	12758.3	20415	ug/L	20415	ppb	22:00:54
2	Fe 238.204 Radial†	14206.6	13578.0	117510	ug/L	117510	ppb	22:00:54
2	K 766.490 Radial†	87748.6	81330.8	14876	ug/L	14876	ppb	22:00:54
2	Mg 279.077 IEC†	481.3	458.4	15194	ug/L	15194	ppb	22:01:14
2	Na 589.592 Radial†	1083.1	2316.3	693.52	ug/L	693.52	ppb	22:00:54
2	Sr 421.552†	32850.0	31436.6	202.89	ug/L	202.89	ppb	22:00:54
2	Sc 361.383	848833.0	848833.0	99.582	%			22:02:24
2	Y 371.029	774848.7	774848.7	107.22	%			22:02:24
2	Ag 328.068†	-7784.3	-8175.0	1.3424	ug/L	1.3424	ppb	22:02:24
2	As 188.979†	-104.0	-80.8	15.522	ug/L	15.522	ppb	22:02:44
2	B 249.677†	1628.8	2267.5	38.462	ug/L	38.462	ppb	22:02:24
2	Ba 233.527†	146013.0	146637.7	1149.7	ug/L	1149.7	ppb	22:02:24
2	Be 313.107†	-19553.6	-15050.3	7.3899	ug/L	7.3899	ppb	22:02:24
2	Cd 226.502†	1025.5	1233.9	1.5724	ug/L	1.5724	ppb	22:02:44
2	Co 228.616†	3078.3	3165.9	51.468	ug/L	51.468	ppb	22:02:44
2	Cr 267.716†	9260.3	9215.9	105.85	ug/L	105.85	ppb	22:02:44
2	Cu 324.752†	26125.6	19823.1	65.567	ug/L	65.567	ppb	22:02:24
2	Mn 257.610†	2441768.1	2451578.5	2730.3	ug/L	2730.3	ppb	22:02:18
2	Mo 202.031†	-68.4	-92.4	1.7509	ug/L	1.7509	ppb	22:02:44
2	Ni 231.604†	2756.3	2699.9	67.189	ug/L	67.189	ppb	22:02:44

2	P 214.914†	1930.8	1709.0	957.21 ug/L	957.21 ppb	22:02:44
2	Pb 220.353†	1203.5	1271.9	161.91 ug/L	161.91 ppb	22:02:44
2	S 181.975 Axial†	578.9	538.3	746.74 ug/L	746.74 ppb	22:02:44
2	Sb 206.836†	92.1	64.6	1.0930 ug/L	1.0930 ppb	22:02:44
2	Se 196.026†	-574.7	-545.1	27.722 ug/L	27.722 ppb	22:02:44
2	Si 251.611†	902114.3	905352.6	28834 ug/L	28834 ppb	22:02:18
2	Sn 189.927†	-126.1	-134.3	-18.898 ug/L	-18.898 ppb	22:02:44
2	Ti 334.940†	3571847.3	3588223.3	5782.1 ug/L	5782.1 ppb	22:02:18
2	Tl 190.801†	-239.2	-207.3	-12.168 ug/L	-12.168 ppb	22:02:44
2	U 409.014†	-6318.7	-4333.6	-141.47 ug/L	-141.47 ppb	22:02:24
2	V 292.402†	41960.4	43446.4	272.41 ug/L	272.41 ppb	22:02:24
2	Zn 213.857†	28675.0	28175.2	254.58 ug/L	254.58 ppb	22:02:44
2	SiO2†	905571.3	908803.0	62009 ug/L	62009 ppb	22:03:28
3	Sc Radial	5169.2	5169.2	103 %		22:01:39
3	Y RADIAL	6027.2	6027.2	111.0 %		22:01:39
3	Al 396.153Radial†	110488.3	107626.9	83033 ug/L	83033 ppb	22:01:19
3	Ca 317.933Radial†	13563.0	13191.9	21108 ug/L	21108 ppb	22:01:19
3	Fe 238.204 Radial†	14461.6	14078.1	121840 ug/L	121840 ppb	22:01:19
3	K 766.490 Radial†	89367.7	84462.6	15451 ug/L	15451 ppb	22:01:19
3	Mg 279.077 IEC†	487.1	472.6	15663 ug/L	15663 ppb	22:01:39
3	Na 589.592 Radial†	1179.4	2429.3	727.35 ug/L	727.35 ppb	22:01:19
3	Sr 421.552†	33347.3	32503.0	209.78 ug/L	209.78 ppb	22:01:19
3	Sc 361.383	876419.2	876419.2	102.82 %		22:02:55
3	Y 371.029	796274.4	796274.4	110.19 %		22:02:55
3	Ag 328.068†	-7733.4	-7879.4	4.0605 ug/L	4.0605 ppb	22:02:55
3	As 188.979†	-93.5	-67.3	21.425 ug/L	21.425 ppb	22:03:15
3	B 249.677†	1543.1	2132.7	35.021 ug/L	35.021 ppb	22:02:55
3	Ba 233.527†	146210.4	142214.4	1115.3 ug/L	1115.3 ppb	22:02:55
3	Be 313.107†	-19606.5	-14483.7	7.2139 ug/L	7.2139 ppb	22:02:55
3	Cd 226.502†	1043.4	1218.9	0.9579 ug/L	0.9579 ppb	22:03:15
3	Co 228.616†	3122.3	3111.4	50.633 ug/L	50.633 ppb	22:03:15
3	Cr 267.716†	9402.3	9061.4	104.19 ug/L	104.19 ppb	22:03:15
3	Cu 324.752†	26163.8	19034.5	63.436 ug/L	63.436 ppb	22:02:55
3	Mn 257.610†	2442500.6	2375110.9	2646.0 ug/L	2646.0 ppb	22:02:50
3	Mo 202.031†	-87.0	-108.3	0.9301 ug/L	0.9301 ppb	22:03:15
3	Ni 231.604†	2767.5	2623.7	65.293 ug/L	65.293 ppb	22:03:15
3	P 214.914†	1964.8	1681.1	937.84 ug/L	937.84 ppb	22:03:15
3	Pb 220.353†	1234.8	1264.4	161.16 ug/L	161.16 ppb	22:03:15
3	S 181.975 Axial†	592.8	533.6	739.54 ug/L	739.54 ppb	22:03:15
3	Sb 206.836†	72.0	42.1	-6.1608 ug/L	-6.1608 ppb	22:03:15
3	Se 196.026†	-593.1	-544.8	41.897 ug/L	41.897 ppb	22:03:15
3	Si 251.611†	905341.6	879977.3	28026 ug/L	28026 ppb	22:02:50
3	Sn 189.927†	-129.2	-133.3	-18.548 ug/L	-18.548 ppb	22:03:15
3	Ti 334.940†	3577765.5	3481079.6	5609.5 ug/L	5609.5 ppb	22:02:50
3	Tl 190.801†	-237.6	-198.2	-10.922 ug/L	-10.922 ppb	22:03:15
3	U 409.014†	-6410.0	-4222.7	-138.68 ug/L	-138.68 ppb	22:02:55
3	V 292.402†	42017.3	42175.4	263.25 ug/L	263.25 ppb	22:02:55
3	Zn 213.857†	29111.5	27693.3	249.62 ug/L	249.62 ppb	22:03:15
3	SiO2†	915022.5	889371.6	60683 ug/L	60683 ppb	22:03:33

Mean Data: 243385001|936480|1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	857918.0	100.65	%	1.880				1.87%
Sc Radial	5238.9	104	%	1.2				1.16%
Y 371.029	781029.4	108.08	%	1.838				1.70%
Y RADIAL	6099.2	112.3	%	1.16				1.03%
Ag 328.068†	-8057.6	2.4163	ug/L	1.44601	2.4163	ppb	1.44601	59.84%
Al 396.153Radial†	105375.5	81296	ug/L	1508.3	81296	ppb	1508.3	1.86%
As 188.979†	-73.7	18.867	ug/L	3.0295	18.867	ppb	3.0295	16.06%
B 249.677†	2236.8	37.606	ug/L	2.2804	37.606	ppb	2.2804	6.06%
Ba 233.527†	145242.0	1138.8	ug/L	20.42	1138.8	ppb	20.42	1.79%
Be 313.107†	-14702.5	7.4759	ug/L	0.31393	7.4759	ppb	0.31393	4.20%
Ca 317.933Radial†	12929.7	20689	ug/L	369.0	20689	ppb	369.0	1.78%
Cd 226.502†	1235.5	1.4144	ug/L	0.40159	1.4144	ppb	0.40159	28.39%
Co 228.616†	3168.5	51.533	ug/L	0.9346	51.533	ppb	0.9346	1.81%
Cr 267.716†	9191.3	105.60	ug/L	1.306	105.60	ppb	1.306	1.24%
Cu 324.752†	19529.1	64.777	ug/L	1.1673	64.777	ppb	1.1673	1.80%
Fe 238.204 Radial†	13774.0	119200	ug/L	2310.4	119200	ppb	2310.4	1.94%
K 766.490 Radial†	82614.1	15112	ug/L	301.3	15112	ppb	301.3	1.99%

Mg 279.077 IEC†	462.4	15326	ug/L	293.6	15326	ppb	293.6	1.92%
Mn 257.610†	2441654.6	2719.5	ug/L	68.72	2719.5	ppb	68.72	2.53%
Mo 202.031†	-98.5	1.4374	ug/L	0.44339	1.4374	ppb	0.44339	30.85%
Na 589.592 Radial†	2394.6	716.98	ug/L	20.366	716.98	ppb	20.366	2.84%
Ni 231.604†	2687.0	66.868	ug/L	1.4417	66.868	ppb	1.4417	2.16%
P 214.914†	1714.2	959.42	ug/L	22.761	959.42	ppb	22.761	2.37%
Pb 220.353†	1278.0	162.70	ug/L	2.055	162.70	ppb	2.055	1.26%
S 181.975 Axial†	539.5	748.21	ug/L	9.485	748.21	ppb	9.485	1.27%
Sb 206.836†	54.3	-2.4049	ug/L	3.63382	-2.4049	ppb	3.63382	151.10%
Se 196.026†	-550.5	29.715	ug/L	11.3174	29.715	ppb	11.3174	38.09%
Si 251.611†	903185.2	28765	ug/L	707.1	28765	ppb	707.1	2.46%
Sn 189.927†	-137.8	-19.446	ug/L	1.2654	-19.446	ppb	1.2654	6.51%
Sr 421.552†	31832.9	205.45	ug/L	3.767	205.45	ppb	3.767	1.83%
Ti 334.940†	3575489.3	5761.6	ug/L	142.94	5761.6	ppb	142.94	2.48%
Tl 190.801†	-205.0	-11.635	ug/L	0.6424	-11.635	ppb	0.6424	5.52%
U 409.014†	-4297.9	-140.60	ug/L	1.666	-140.60	ppb	1.666	1.19%
V 292.402†	42996.6	269.10	ug/L	5.077	269.10	ppb	5.077	1.89%
Zn 213.857†	28128.4	253.97	ug/L	4.089	253.97	ppb	4.089	1.61%
SiO2†	905316.0	61771	ug/L	990.6	61771	ppb	990.6	1.60%

Sequence No.: 60
Sample ID: 1202003766|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 72
Date Collected: 1/11/2010 22:05:44
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202003766|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5471.7	5471.7	109	%			22:07:58
1	Y RADIAL	6385.8	6385.8	117.6	%			22:07:58
1	Al 396.153Radial†	92377.8	85011.3	65585	ug/L	65585	ppb	22:07:38
1	Ca 317.933Radial†	13123.9	12057.5	19293	ug/L	19293	ppb	22:07:38
1	Fe 238.204 Radial†	13551.1	12461.5	107850	ug/L	107850	ppb	22:07:38
1	K 766.490 Radial†	80898.1	71856.3	13134	ug/L	13134	ppb	22:07:38
1	Mg 279.077 IEC†	437.2	400.5	13267	ug/L	13267	ppb	22:07:58
1	Na 589.592 Radial†	1158.1	2346.2	702.49	ug/L	702.49	ppb	22:07:38
1	Sr 421.552†	32108.2	29567.1	190.83	ug/L	190.83	ppb	22:07:38
1	Sc 361.383	869084.5	869084.5	101.96	%			22:09:01
1	Y 371.029	792282.7	792282.7	109.63	%			22:09:01
1	Ag 328.068†	-7443.3	-7658.3	0.5739	ug/L	0.5739	ppb	22:09:01
1	As 188.979†	-115.4	-89.5	8.9932	ug/L	8.9932	ppb	22:09:21
1	B 249.677†	1356.4	1962.2	32.623	ug/L	32.623	ppb	22:09:01
1	Ba 233.527†	150395.7	147519.5	1156.2	ug/L	1156.2	ppb	22:09:01
1	Be 313.107†	-21029.4	-16040.2	6.6012	ug/L	6.6012	ppb	22:09:01
1	Cd 226.502†	948.9	1134.7	1.4655	ug/L	1.4655	ppb	22:09:21
1	Co 228.616†	3353.1	3363.4	56.037	ug/L	56.037	ppb	22:09:21
1	Cr 267.716†	8704.8	8454.4	97.135	ug/L	97.135	ppb	22:09:21
1	Cu 324.752†	25895.5	18986.1	62.555	ug/L	62.555	ppb	22:09:01
1	Mn 257.610†	2913443.9	2857060.7	3178.9	ug/L	3178.9	ppb	22:08:56
1	Mo 202.031†	-64.6	-87.1	1.4506	ug/L	1.4506	ppb	22:09:21
1	Ni 231.604†	2582.6	2465.1	61.339	ug/L	61.339	ppb	22:09:21
1	P 214.914†	2112.4	1841.9	1043.1	ug/L	1043.1	ppb	22:09:21
1	Pb 220.353†	1379.5	1416.4	177.38	ug/L	177.38	ppb	22:09:21
1	S 181.975 Axial†	657.7	602.1	839.76	ug/L	839.76	ppb	22:09:21
1	Sb 206.836†	77.2	47.8	-3.6825	ug/L	-3.6825	ppb	22:09:21
1	Se 196.026†	-553.3	-510.7	18.340	ug/L	18.340	ppb	22:09:21
1	Si 251.611†	785253.6	769626.2	24511	ug/L	24511	ppb	22:08:56
1	Sn 189.927†	-126.2	-131.4	-18.705	ug/L	-18.705	ppb	22:09:21
1	Ti 334.940†	3542355.6	3475716.6	5600.9	ug/L	5600.9	ppb	22:08:56
1	Tl 190.801†	-230.7	-193.4	-6.9680	ug/L	-6.9680	ppb	22:09:21
1	U 409.014†	-6614.5	-4475.9	-144.54	ug/L	-144.54	ppb	22:09:01
1	V 292.402†	41476.3	41989.6	264.10	ug/L	264.10	ppb	22:09:01
1	Zn 213.857†	29277.6	28095.2	254.80	ug/L	254.80	ppb	22:09:21
1	SiO2†	798370.1	782469.7	53389	ug/L	53389	ppb	22:10:31
2	Sc Radial	5215.2	5215.2	104	%			22:08:23
2	Y RADIAL	6102.7	6102.7	112.4	%			22:08:23
2	Al 396.153Radial†	92724.9	89527.2	69069	ug/L	69069	ppb	22:08:03
2	Ca 317.933Radial†	13217.4	12741.7	20388	ug/L	20388	ppb	22:08:03
2	Fe 238.204 Radial†	13588.9	13111.3	113470	ug/L	113470	ppb	22:08:03
2	K 766.490 Radial†	81303.1	75908.5	13877	ug/L	13877	ppb	22:08:03
2	Mg 279.077 IEC†	442.1	424.9	14079	ug/L	14079	ppb	22:08:23
2	Na 589.592 Radial†	1188.1	2427.6	726.85	ug/L	726.85	ppb	22:08:03
2	Sr 421.552†	32176.9	31086.5	200.63	ug/L	200.63	ppb	22:08:03
2	Sc 361.383	861790.0	861790.0	101.10	%			22:09:33
2	Y 371.029	786814.4	786814.4	108.88	%			22:09:33
2	Ag 328.068†	-7325.0	-7603.2	2.6316	ug/L	2.6316	ppb	22:09:33
2	As 188.979†	-104.1	-79.4	14.898	ug/L	14.898	ppb	22:09:53
2	B 249.677†	1377.9	1994.8	32.778	ug/L	32.778	ppb	22:09:33
2	Ba 233.527†	148959.3	147347.3	1155.1	ug/L	1155.1	ppb	22:09:33
2	Be 313.107†	-21314.7	-16497.1	6.6156	ug/L	6.6156	ppb	22:09:33
2	Cd 226.502†	963.7	1157.3	1.1354	ug/L	1.1354	ppb	22:09:53
2	Co 228.616†	3363.8	3401.8	56.566	ug/L	56.566	ppb	22:09:53
2	Cr 267.716†	8719.0	8540.7	98.207	ug/L	98.207	ppb	22:09:53
2	Cu 324.752†	25757.6	19064.6	63.086	ug/L	63.086	ppb	22:09:33
2	Mn 257.610†	2929954.1	2897578.1	3224.4	ug/L	3224.4	ppb	22:09:27
2	Mo 202.031†	-66.4	-89.4	1.6847	ug/L	1.6847	ppb	22:09:53
2	Ni 231.604†	2561.6	2465.8	61.356	ug/L	61.356	ppb	22:09:53

2	P 214.914†	2128.2	1875.1	1059.7 ug/L	1059.7 ppb	22:09:53
2	Pb 220.353†	1385.0	1433.2	179.67 ug/L	179.67 ppb	22:09:53
2	S 181.975 Axial†	669.2	618.9	862.93 ug/L	862.93 ppb	22:09:53
2	Sb 206.836†	76.7	48.0	-4.0343 ug/L	-4.0343 ppb	22:09:53
2	Se 196.026†	-549.2	-511.2	36.156 ug/L	36.156 ppb	22:09:53
2	Si 251.611†	789931.1	780771.9	24866 ug/L	24866 ppb	22:09:27
2	Sn 189.927†	-141.7	-147.9	-21.371 ug/L	-21.371 ppb	22:09:53
2	Ti 334.940†	3564709.7	3527235.4	5684.0 ug/L	5684.0 ppb	22:09:27
2	Tl 190.801†	-253.1	-217.5	-13.609 ug/L	-13.609 ppb	22:09:53
2	U 409.014†	-6460.4	-4378.4	-142.31 ug/L	-142.31 ppb	22:09:33
2	V 292.402†	41116.5	41978.1	263.09 ug/L	263.09 ppb	22:09:33
2	Zn 213.857†	29322.5	28382.7	256.97 ug/L	256.97 ppb	22:09:53
2	SiO2†	785856.2	776720.1	52997 ug/L	52997 ppb	22:10:37
3	Sc Radial	5334.5	5334.5	106 %		22:08:48
3	Y RADIAL	6201.5	6201.5	114.2 %		22:08:48
3	Al 396.153Radial†	93510.6	88265.9	68096 ug/L	68096 ppb	22:08:28
3	Ca 317.933Radial†	13235.3	12473.1	19958 ug/L	19958 ppb	22:08:28
3	Fe 238.204 Radial†	13704.4	12926.7	111870 ug/L	111870 ppb	22:08:28
3	K 766.490 Radial†	81713.9	74540.1	13626 ug/L	13626 ppb	22:08:28
3	Mg 279.077 IEC†	443.7	416.9	13812 ug/L	13812 ppb	22:08:48
3	Na 589.592 Radial†	1159.7	2375.1	711.15 ug/L	711.15 ppb	22:08:28
3	Sr 421.552†	32482.9	30680.3	198.01 ug/L	198.01 ppb	22:08:28
3	Sc 361.383	858946.3	858946.3	100.77 %		22:10:04
3	Y 371.029	783855.7	783855.7	108.47 %		22:10:04
3	Ag 328.068†	-7359.4	-7661.3	1.8635 ug/L	1.8635 ppb	22:10:04
3	As 188.979†	-101.0	-76.7	15.448 ug/L	15.448 ppb	22:10:24
3	B 249.677†	1387.0	2008.3	33.239 ug/L	33.239 ppb	22:10:04
3	Ba 233.527†	148831.0	147707.8	1157.8 ug/L	1157.8 ppb	22:10:04
3	Be 313.107†	-20855.4	-16111.0	6.6133 ug/L	6.6133 ppb	22:10:04
3	Cd 226.502†	968.0	1164.7	1.3810 ug/L	1.3810 ppb	22:10:24
3	Co 228.616†	3378.1	3427.0	57.246 ug/L	57.246 ppb	22:10:24
3	Cr 267.716†	8775.6	8625.5	99.129 ug/L	99.129 ppb	22:10:24
3	Cu 324.752†	25906.5	19296.8	63.699 ug/L	63.699 ppb	22:10:04
3	Mn 257.610†	2888465.9	2866000.7	3189.2 ug/L	3189.2 ppb	22:09:59
3	Mo 202.031†	-54.4	-77.7	2.3993 ug/L	2.3993 ppb	22:10:24
3	Ni 231.604†	2559.8	2472.4	61.520 ug/L	61.520 ppb	22:10:24
3	P 214.914†	2123.7	1877.7	1062.1 ug/L	1062.1 ppb	22:10:24
3	Pb 220.353†	1381.2	1434.0	179.70 ug/L	179.70 ppb	22:10:24
3	S 181.975 Axial†	656.9	608.9	848.99 ug/L	848.99 ppb	22:10:24
3	Sb 206.836†	75.5	47.0	-4.1052 ug/L	-4.1052 ppb	22:10:24
3	Se 196.026†	-553.8	-517.5	26.897 ug/L	26.897 ppb	22:10:24
3	Si 251.611†	778501.9	772016.5	24588 ug/L	24588 ppb	22:09:59
3	Sn 189.927†	-141.9	-148.5	-21.565 ug/L	-21.565 ppb	22:10:24
3	Ti 334.940†	3511786.8	3486389.0	5618.1 ug/L	5618.1 ppb	22:09:59
3	Tl 190.801†	-232.9	-198.3	-8.3229 ug/L	-8.3229 ppb	22:10:24
3	U 409.014†	-6691.3	-4628.6	-149.51 ug/L	-149.51 ppb	22:10:04
3	V 292.402†	41163.2	42159.1	264.63 ug/L	264.63 ppb	22:10:04
3	Zn 213.857†	29435.9	28591.2	259.10 ug/L	259.10 ppb	22:10:24
3	SiO2†	789004.3	782417.6	53386 ug/L	53386 ppb	22:10:42

Mean Data: 1202003766|936480|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	863273.6	101.28	%	0.613				0.61%
Sc Radial	5340.5	106	%	2.5				2.40%
Y 371.029	787650.9	108.99	%	0.592				0.54%
Y RADIAL	6230.0	114.7	%	2.65				2.31%
Ag 328.068†	-7640.9	1.6897	ug/L	1.03982	1.6897	ppb	1.03982	61.54%
Al 396.153Radial†	87601.5	67584	ug/L	1797.7	67584	ppb	1797.7	2.66%
As 188.979†	-81.9	13.113	ug/L	3.5782	13.113	ppb	3.5782	27.29%
B 249.677†	1988.4	32.880	ug/L	0.3204	32.880	ppb	0.3204	0.97%
Ba 233.527†	147524.9	1156.4	ug/L	1.39	1156.4	ppb	1.39	0.12%
Be 313.107†	-16216.1	6.6100	ug/L	0.00772	6.6100	ppb	0.00772	0.12%
Ca 317.933Radial†	12424.1	19880	ug/L	551.6	19880	ppb	551.6	2.77%
Cd 226.502†	1152.2	1.3273	ug/L	0.17147	1.3273	ppb	0.17147	12.92%
Co 228.616†	3397.4	56.616	ug/L	0.6061	56.616	ppb	0.6061	1.07%
Cr 267.716†	8540.2	98.157	ug/L	0.9980	98.157	ppb	0.9980	1.02%
Cu 324.752†	19115.8	63.113	ug/L	0.5728	63.113	ppb	0.5728	0.91%
Fe 238.204 Radial†	12833.2	111060	ug/L	2897.9	111060	ppb	2897.9	2.61%
K 766.490 Radial†	74101.6	13546	ug/L	377.6	13546	ppb	377.6	2.79%

Mg 279.077 IEC†	414.1	13720	ug/L	414.0	13720	ppb	414.0	3.02%
Mn 257.610†	2873546.5	3197.5	ug/L	23.86	3197.5	ppb	23.86	0.75%
Mo 202.031†	-84.7	1.8448	ug/L	0.49420	1.8448	ppb	0.49420	26.79%
Na 589.592 Radial†	2383.0	713.49	ug/L	12.351	713.49	ppb	12.351	1.73%
Ni 231.604†	2467.7	61.405	ug/L	0.1001	61.405	ppb	0.1001	0.16%
P 214.914†	1864.9	1055.0	ug/L	10.34	1055.0	ppb	10.34	0.98%
Pb 220.353†	1427.9	178.92	ug/L	1.329	178.92	ppb	1.329	0.74%
S 181.975 Axial†	610.0	850.56	ug/L	11.667	850.56	ppb	11.667	1.37%
Sb 206.836†	47.6	-3.9406	ug/L	0.22634	-3.9406	ppb	0.22634	5.74%
Se 196.026†	-513.1	27.131	ug/L	8.9105	27.131	ppb	8.9105	32.84%
Si 251.611†	774138.2	24655	ug/L	186.9	24655	ppb	186.9	0.76%
Sn 189.927†	-142.6	-20.547	ug/L	1.5984	-20.547	ppb	1.5984	7.78%
Sr 421.552†	30444.6	196.49	ug/L	5.077	196.49	ppb	5.077	2.58%
Ti 334.940†	3496447.0	5634.3	ug/L	43.84	5634.3	ppb	43.84	0.78%
Tl 190.801†	-203.1	-9.6332	ug/L	3.50884	-9.6332	ppb	3.50884	36.42%
U 409.014†	-4494.3	-145.45	ug/L	3.687	-145.45	ppb	3.687	2.53%
V 292.402†	42042.3	263.94	ug/L	0.783	263.94	ppb	0.783	0.30%
Zn 213.857†	28356.4	256.96	ug/L	2.149	256.96	ppb	2.149	0.84%
SiO2†	780535.8	53257	ug/L	225.5	53257	ppb	225.5	0.42%

Sequence No.: 61
Sample ID: 1202003767|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 73
Date Collected: 1/11/2010 22:12:54
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202003767|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5284.1	5284.1	105	%			22:15:07
1	Y RADIAL	6119.2	6119.2	112.7	%			22:15:07
1	Al 396.153Radial†	206523.2	196800.9	151810	ug/L	151810	ppb	22:14:47
1	Ca 317.933Radial†	15924.7	15155.2	24250	ug/L	24250	ppb	22:14:47
1	Fe 238.204 Radial†	16079.7	15313.8	132540	ug/L	132540	ppb	22:14:47
1	K 766.490 Radial†	133837.6	124946.5	22862	ug/L	22862	ppb	22:14:47
1	Mg 279.077 IEC†	739.0	702.3	23331	ug/L	23331	ppb	22:15:07
1	Na 589.592 Radial†	20142.3	20474.5	6130.3	ug/L	6130.3	ppb	22:14:47
1	Sr 421.552†	117235.0	111735.2	721.51	ug/L	721.51	ppb	22:14:47
1	Sc 361.383	864018.5	864018.5	101.36	%			22:16:11
1	Y 371.029	782339.0	782339.0	108.26	%			22:16:11
1	Ag 328.068†	108850.7	107028.7	538.27	ug/L	538.27	ppb	22:16:11
1	As 188.979†	1071.3	1080.5	525.09	ug/L	525.09	ppb	22:16:31
1	B 249.677†	24716.8	25016.2	542.69	ug/L	542.69	ppb	22:16:11
1	Ba 233.527†	221870.2	218897.6	1715.5	ug/L	1715.5	ppb	22:16:11
1	Be 313.107†	1409370.7	1395001.0	546.84	ug/L	546.84	ppb	22:16:05
1	Cd 226.502†	47627.1	47190.6	510.40	ug/L	510.40	ppb	22:16:11
1	Co 228.616†	27363.8	27070.5	539.71	ug/L	539.71	ppb	22:16:31
1	Cr 267.716†	57224.7	56371.8	633.88	ug/L	633.88	ppb	22:16:11
1	Cu 324.752†	216067.6	206749.5	625.02	ug/L	625.02	ppb	22:16:11
1	Mn 257.610†	2735661.2	2698423.5	3005.3	ug/L	3005.3	ppb	22:16:05
1	Mo 202.031†	6826.4	6710.9	483.64	ug/L	483.64	ppb	22:16:31
1	Ni 231.604†	23162.4	22782.9	566.96	ug/L	566.96	ppb	22:16:31
1	P 214.914†	2878.3	2609.7	1396.6	ug/L	1396.6	ppb	22:16:31
1	Pb 220.353†	5214.0	5207.2	658.51	ug/L	658.51	ppb	22:16:31
1	S 181.975 Axial†	4443.7	4340.9	6114.7	ug/L	6114.7	ppb	22:16:31
1	Sb 206.836†	1206.3	1162.2	391.54	ug/L	391.54	ppb	22:16:31
1	Se 196.026†	192.8	222.2	575.36	ug/L	575.36	ppb	22:16:31
1	Si 251.611†	1183030.6	1166569.2	37148	ug/L	37148	ppb	22:16:05
1	Sn 189.927†	2847.7	2801.7	502.06	ug/L	502.06	ppb	22:16:31
1	Ti 334.940†	4240416.9	4184760.7	6742.6	ug/L	6742.6	ppb	22:16:05
1	Tl 190.801†	1416.3	1430.2	495.35	ug/L	495.35	ppb	22:16:31
1	U 409.014†	12192.7	14040.4	397.67	ug/L	397.67	ppb	22:16:11
1	V 292.402†	120467.2	120156.7	800.88	ug/L	800.88	ppb	22:16:11
1	Zn 213.857†	87202.4	85409.4	790.51	ug/L	790.51	ppb	22:16:11
1	SiO2†	1168424.6	1152138.5	78599	ug/L	78599	ppb	22:17:41
2	Sc Radial	5242.8	5242.8	104	%			22:15:32
2	Y RADIAL	6083.1	6083.1	112.0	%			22:15:32
2	Al 396.153Radial†	209894.3	201585.9	155500	ug/L	155500	ppb	22:15:12
2	Ca 317.933Radial†	16162.8	15503.2	24807	ug/L	24807	ppb	22:15:12
2	Fe 238.204 Radial†	16294.0	15640.1	135370	ug/L	135370	ppb	22:15:12
2	K 766.490 Radial†	135932.7	127961.4	23414	ug/L	23414	ppb	22:15:12
2	Mg 279.077 IEC†	736.8	705.8	23444	ug/L	23444	ppb	22:15:32
2	Na 589.592 Radial†	20419.8	20891.8	6255.3	ug/L	6255.3	ppb	22:15:12
2	Sr 421.552†	119254.6	114553.2	739.70	ug/L	739.70	ppb	22:15:12
2	Sc 361.383	855384.7	855384.7	100.35	%			22:16:43
2	Y 371.029	774912.6	774912.6	107.23	%			22:16:43
2	Ag 328.068†	107475.6	106742.4	537.85	ug/L	537.85	ppb	22:16:43
2	As 188.979†	1064.6	1084.5	527.44	ug/L	527.44	ppb	22:17:03
2	B 249.677†	24270.9	24818.0	537.97	ug/L	537.97	ppb	22:16:43
2	Ba 233.527†	219039.1	218285.7	1710.8	ug/L	1710.8	ppb	22:16:43
2	Be 313.107†	1398856.9	1398558.0	548.22	ug/L	548.22	ppb	22:16:37
2	Cd 226.502†	47027.0	47066.9	508.74	ug/L	508.74	ppb	22:16:43
2	Co 228.616†	27287.7	27267.1	543.68	ug/L	543.68	ppb	22:17:03
2	Cr 267.716†	56552.5	56271.8	632.81	ug/L	632.81	ppb	22:16:43
2	Cu 324.752†	213387.3	206230.0	623.62	ug/L	623.62	ppb	22:16:43
2	Mn 257.610†	2716636.2	2706705.9	3014.8	ug/L	3014.8	ppb	22:16:37
2	Mo 202.031†	6793.3	6745.9	486.32	ug/L	486.32	ppb	22:17:03
2	Ni 231.604†	23023.2	22874.9	569.25	ug/L	569.25	ppb	22:17:03

2	P 214.914†	2851.5	2611.6	1396.8	ug/L	1396.8	ppb	22:17:03
2	Pb 220.353†	5165.4	5210.7	659.47	ug/L	659.47	ppb	22:17:03
2	S 181.975 Axial†	4438.5	4380.0	6169.3	ug/L	6169.3	ppb	22:17:03
2	Sb 206.836†	1199.1	1167.0	393.15	ug/L	393.15	ppb	22:17:03
2	Se 196.026†	187.6	218.9	582.44	ug/L	582.44	ppb	22:17:03
2	Si 251.611†	1173919.5	1169270.2	37234	ug/L	37234	ppb	22:16:37
2	Sn 189.927†	2836.7	2819.2	505.28	ug/L	505.28	ppb	22:17:03
2	Ti 334.940†	4204572.9	4191266.7	6753.1	ug/L	6753.1	ppb	22:16:37
2	Tl 190.801†	1396.4	1424.4	493.69	ug/L	493.69	ppb	22:17:03
2	U 409.014†	12124.7	14094.0	398.93	ug/L	398.93	ppb	22:16:43
2	V 292.402†	119004.5	119898.7	798.72	ug/L	798.72	ppb	22:16:43
2	Zn 213.857†	86167.1	85246.0	788.68	ug/L	788.68	ppb	22:16:43
2	SiO2†	1182706.6	1178005.4	80364	ug/L	80364	ppb	22:17:47
3	Sc Radial	5235.2	5235.2	104	%			22:15:57
3	Y RADIAL	6079.0	6079.0	112.0	%			22:15:57
3	Al 396.153Radial†	204710.1	196893.0	151880	ug/L	151880	ppb	22:15:37
3	Ca 317.933Radial†	15739.5	15118.7	24191	ug/L	24191	ppb	22:15:37
3	Fe 238.204 Radial†	15918.5	15301.7	132440	ug/L	132440	ppb	22:15:37
3	K 766.490 Radial†	132502.6	124852.3	22844	ug/L	22844	ppb	22:15:37
3	Mg 279.077 IEC†	732.8	702.9	23352	ug/L	23352	ppb	22:15:57
3	Na 589.592 Radial†	19879.7	20401.0	6108.3	ug/L	6108.3	ppb	22:15:37
3	Sr 421.552†	116167.0	111750.1	721.60	ug/L	721.60	ppb	22:15:37
3	Sc 361.383	850557.2	850557.2	99.784	%			22:17:15
3	Y 371.029	770423.7	770423.7	106.61	%			22:17:15
3	Ag 328.068†	106947.1	106820.6	537.27	ug/L	537.27	ppb	22:17:15
3	As 188.979†	1073.4	1099.3	533.39	ug/L	533.39	ppb	22:17:35
3	B 249.677†	24332.9	25017.4	542.71	ug/L	542.71	ppb	22:17:15
3	Ba 233.527†	218232.4	218716.2	1714.1	ug/L	1714.1	ppb	22:17:15
3	Be 313.107†	1392401.0	1400000.0	548.84	ug/L	548.84	ppb	22:17:09
3	Cd 226.502†	46862.5	47168.1	510.16	ug/L	510.16	ppb	22:17:15
3	Co 228.616†	27230.8	27364.4	545.66	ug/L	545.66	ppb	22:17:35
3	Cr 267.716†	56309.5	56348.1	633.61	ug/L	633.61	ppb	22:17:15
3	Cu 324.752†	211661.6	205707.5	621.90	ug/L	621.90	ppb	22:17:15
3	Mn 257.610†	2711528.9	2716952.6	3025.9	ug/L	3025.9	ppb	22:17:09
3	Mo 202.031†	6804.7	6795.7	489.63	ug/L	489.63	ppb	22:17:35
3	Ni 231.604†	22996.0	22977.8	571.81	ug/L	571.81	ppb	22:17:35
3	P 214.914†	2862.7	2639.0	1415.3	ug/L	1415.3	ppb	22:17:35
3	Pb 220.353†	5143.2	5217.7	659.83	ug/L	659.83	ppb	22:17:35
3	S 181.975 Axial†	4408.3	4374.8	6162.7	ug/L	6162.7	ppb	22:17:35
3	Sb 206.836†	1192.5	1167.2	393.34	ug/L	393.34	ppb	22:17:35
3	Se 196.026†	186.6	219.0	573.00	ug/L	573.00	ppb	22:17:35
3	Si 251.611†	1173425.6	1175414.8	37429	ug/L	37429	ppb	22:17:09
3	Sn 189.927†	2835.8	2834.2	507.81	ug/L	507.81	ppb	22:17:35
3	Ti 334.940†	4198866.1	4209328.2	6782.1	ug/L	6782.1	ppb	22:17:09
3	Tl 190.801†	1413.4	1449.3	501.58	ug/L	501.58	ppb	22:17:35
3	U 409.014†	11877.0	13914.3	393.96	ug/L	393.96	ppb	22:17:15
3	V 292.402†	118166.5	119731.9	798.03	ug/L	798.03	ppb	22:17:15
3	Zn 213.857†	85559.1	85124.0	787.79	ug/L	787.79	ppb	22:17:15
3	SiO2†	1180631.3	1182614.9	80679	ug/L	80679	ppb	22:17:53

Mean Data: 1202003767|936480|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	856653.4	100.50	%	0.800				0.80%
Sc Radial	5254.0	104	%	0.5				0.50%
Y 371.029	775891.8	107.36	%	0.833				0.78%
Y RADIAL	6093.8	112.2	%	0.41				0.36%
Ag 328.068†	106863.9	537.79	ug/L	0.502	537.79	ppb	0.502	0.09%
Al 396.153Radial†	198426.6	153060	ug/L	2111.1	153060	ppb	2111.1	1.38%
As 188.979†	1088.1	528.64	ug/L	4.280	528.64	ppb	4.280	0.81%
B 249.677†	24950.5	541.12	ug/L	2.728	541.12	ppb	2.728	0.50%
Ba 233.527†	218633.2	1713.5	ug/L	2.40	1713.5	ppb	2.40	0.14%
Be 313.107†	1397853.0	547.97	ug/L	1.021	547.97	ppb	1.021	0.19%
Ca 317.933Radial†	15259.0	24416	ug/L	339.6	24416	ppb	339.6	1.39%
Cd 226.502†	47141.9	509.77	ug/L	0.899	509.77	ppb	0.899	0.18%
Co 228.616†	27234.0	543.02	ug/L	3.029	543.02	ppb	3.029	0.56%
Cr 267.716†	56330.6	633.44	ug/L	0.555	633.44	ppb	0.555	0.09%
Cu 324.752†	206229.0	623.51	ug/L	1.562	623.51	ppb	1.562	0.25%
Fe 238.204 Radial†	15418.5	133450	ug/L	1661.5	133450	ppb	1661.5	1.25%
K 766.490 Radial†	125920.1	23040	ug/L	324.1	23040	ppb	324.1	1.41%

Mg 279.077 IEC†	703.6	23375	ug/L	60.6	23375	ppb	60.6	0.26%
Mn 257.610†	2707360.7	3015.3	ug/L	10.27	3015.3	ppb	10.27	0.34%
Mo 202.031†	6750.8	486.53	ug/L	3.000	486.53	ppb	3.000	0.62%
Na 589.592 Radial†	20589.1	6164.6	ug/L	79.27	6164.6	ppb	79.27	1.29%
Ni 231.604†	22878.5	569.34	ug/L	2.426	569.34	ppb	2.426	0.43%
P 214.914†	2620.1	1402.9	ug/L	10.77	1402.9	ppb	10.77	0.77%
Pb 220.353†	5211.9	659.27	ug/L	0.686	659.27	ppb	0.686	0.10%
S 181.975 Axial†	4365.2	6148.9	ug/L	29.81	6148.9	ppb	29.81	0.48%
Sb 206.836†	1165.4	392.68	ug/L	0.989	392.68	ppb	0.989	0.25%
Se 196.026†	220.1	576.93	ug/L	4.916	576.93	ppb	4.916	0.85%
Si 251.611†	1170418.1	37270	ug/L	144.3	37270	ppb	144.3	0.39%
Sn 189.927†	2818.4	505.05	ug/L	2.883	505.05	ppb	2.883	0.57%
Sr 421.552†	112679.5	727.60	ug/L	10.478	727.60	ppb	10.478	1.44%
Ti 334.940†	4195118.5	6759.3	ug/L	20.50	6759.3	ppb	20.50	0.30%
Tl 190.801†	1434.6	496.87	ug/L	4.164	496.87	ppb	4.164	0.84%
U 409.014†	14016.2	396.85	ug/L	2.583	396.85	ppb	2.583	0.65%
V 292.402†	119929.1	799.21	ug/L	1.484	799.21	ppb	1.484	0.19%
Zn 213.857†	85259.8	788.99	ug/L	1.385	788.99	ppb	1.385	0.18%
SiO2†	1170919.6	79881	ug/L	1120.8	79881	ppb	1120.8	1.40%

Sequence No.: 62
Sample ID: 1202003769|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 74
Date Collected: 1/11/2010 22:20:04
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202003769|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5200.5	5200.5	103	%			22:22:17
1	Y RADIAL	5997.0	5997.0	110.5	%			22:22:17
1	Al 396.153Radial†	178966.0	173282.5	133660	ug/L	133660	ppb	22:21:57
1	Ca 317.933Radial†	15872.8	15348.9	24560	ug/L	24560	ppb	22:21:57
1	Fe 238.204 Radial†	14610.4	14137.5	122360	ug/L	122360	ppb	22:21:57
1	K 766.490 Radial†	122353.2	115876.9	21201	ug/L	21201	ppb	22:21:57
1	Mg 279.077 IEC†	667.8	644.7	21416	ug/L	21416	ppb	22:22:17
1	Na 589.592 Radial†	19873.3	20522.6	6144.7	ug/L	6144.7	ppb	22:21:57
1	Sr 421.552†	115754.6	112097.6	723.84	ug/L	723.84	ppb	22:21:57
1	Sc 361.383	858177.1	858177.1	100.68	%			22:23:21
1	Y 371.029	774426.5	774426.5	107.16	%			22:23:21
1	Ag 328.068†	106151.4	105078.6	525.83	ug/L	525.83	ppb	22:23:21
1	As 188.979†	1043.6	1060.2	511.37	ug/L	511.37	ppb	22:23:41
1	B 249.677†	24062.0	24531.8	532.95	ug/L	532.95	ppb	22:23:21
1	Ba 233.527†	211739.2	210324.7	1648.1	ug/L	1648.1	ppb	22:23:21
1	Be 313.107†	1364034.2	1359433.9	531.89	ug/L	531.89	ppb	22:23:15
1	Cd 226.502†	46206.1	46099.0	499.33	ug/L	499.33	ppb	22:23:21
1	Co 228.616†	26669.5	26564.6	530.77	ug/L	530.77	ppb	22:23:41
1	Cr 267.716†	54785.0	54332.9	610.82	ug/L	610.82	ppb	22:23:21
1	Cu 324.752†	210249.4	202421.3	611.54	ug/L	611.54	ppb	22:23:21
1	Mn 257.610†	2553477.4	2535837.0	2824.0	ug/L	2824.0	ppb	22:23:15
1	Mo 202.031†	6748.0	6678.9	480.69	ug/L	480.69	ppb	22:23:41
1	Ni 231.604†	22532.3	22312.6	555.26	ug/L	555.26	ppb	22:23:41
1	P 214.914†	2852.0	2602.9	1398.9	ug/L	1398.9	ppb	22:23:41
1	Pb 220.353†	5066.8	5096.0	642.02	ug/L	642.02	ppb	22:23:41
1	S 181.975 Axial†	4316.6	4244.6	5981.7	ug/L	5981.7	ppb	22:23:41
1	Sb 206.836†	1236.0	1199.8	406.73	ug/L	406.73	ppb	22:23:41
1	Se 196.026†	243.8	274.2	575.43	ug/L	575.43	ppb	22:23:41
1	Si 251.611†	1032452.3	1024949.1	32637	ug/L	32637	ppb	22:23:15
1	Sn 189.927†	2798.8	2772.2	496.71	ug/L	496.71	ppb	22:23:41
1	Ti 334.940†	3827416.6	3803016.7	6127.7	ug/L	6127.7	ppb	22:23:15
1	Tl 190.801†	1372.2	1395.8	479.88	ug/L	479.88	ppb	22:23:41
1	U 409.014†	11898.9	13830.4	392.68	ug/L	392.68	ppb	22:23:21
1	V 292.402†	113498.6	114044.0	761.28	ug/L	761.28	ppb	22:23:21
1	Zn 213.857†	82623.0	81446.4	754.11	ug/L	754.11	ppb	22:23:21
1	SiO2†	1053053.2	1045390.1	71316	ug/L	71316	ppb	22:24:51
2	Sc Radial	5249.0	5249.0	104	%			22:22:42
2	Y RADIAL	6053.3	6053.3	111.5	%			22:22:42
2	Al 396.153Radial†	178504.5	171237.1	132080	ug/L	132080	ppb	22:22:22
2	Ca 317.933Radial†	15840.8	15176.0	24283	ug/L	24283	ppb	22:22:22
2	Fe 238.204 Radial†	14483.0	13884.4	120170	ug/L	120170	ppb	22:22:22
2	K 766.490 Radial†	121792.5	114243.4	20902	ug/L	20902	ppb	22:22:22
2	Mg 279.077 IEC†	668.9	639.8	21255	ug/L	21255	ppb	22:22:42
2	Na 589.592 Radial†	19678.6	20157.9	6035.5	ug/L	6035.5	ppb	22:22:22
2	Sr 421.552†	115261.2	110587.7	714.10	ug/L	714.10	ppb	22:22:22
2	Sc 361.383	876199.1	876199.1	102.79	%			22:23:53
2	Y 371.029	788494.6	788494.6	109.11	%			22:23:53
2	Ag 328.068†	106002.1	102764.7	514.41	ug/L	514.41	ppb	22:23:53
2	As 188.979†	1071.1	1065.6	512.88	ug/L	512.88	ppb	22:24:13
2	B 249.677†	24067.8	24045.8	522.36	ug/L	522.36	ppb	22:23:53
2	Ba 233.527†	211084.0	205361.5	1609.2	ug/L	1609.2	ppb	22:23:53
2	Be 313.107†	1369256.7	1336647.6	523.00	ug/L	523.00	ppb	22:23:47
2	Cd 226.502†	46266.7	45214.0	489.73	ug/L	489.73	ppb	22:23:53
2	Co 228.616†	26837.3	26183.0	523.16	ug/L	523.16	ppb	22:24:13
2	Cr 267.716†	54732.5	53162.5	597.67	ug/L	597.67	ppb	22:23:53
2	Cu 324.752†	209949.1	197833.9	597.71	ug/L	597.71	ppb	22:23:53
2	Mn 257.610†	2568101.6	2497896.9	2781.7	ug/L	2781.7	ppb	22:23:47
2	Mo 202.031†	6803.3	6594.8	474.59	ug/L	474.59	ppb	22:24:13
2	Ni 231.604†	22652.9	21969.6	546.72	ug/L	546.72	ppb	22:24:13

2	P 214.914†	2850.9	2543.6	1366.9	ug/L	1366.9	ppb	22:24:13
2	Pb 220.353†	5067.7	4993.4	629.31	ug/L	629.31	ppb	22:24:13
2	S 181.975 Axial†	4339.3	4178.4	5888.5	ug/L	5888.5	ppb	22:24:13
2	Sb 206.836†	1244.3	1182.6	400.95	ug/L	400.95	ppb	22:24:13
2	Se 196.026†	232.6	258.2	558.07	ug/L	558.07	ppb	22:24:13
2	Si 251.611†	1039905.8	1011107.4	32196	ug/L	32196	ppb	22:23:47
2	Sn 189.927†	2825.0	2740.6	491.03	ug/L	491.03	ppb	22:24:13
2	Ti 334.940†	3847332.5	3744198.2	6033.0	ug/L	6033.0	ppb	22:23:47
2	Tl 190.801†	1387.7	1382.8	475.11	ug/L	475.11	ppb	22:24:13
2	U 409.014†	11885.8	13574.6	385.42	ug/L	385.42	ppb	22:23:53
2	V 292.402†	113357.9	111588.4	744.86	ug/L	744.86	ppb	22:23:53
2	Zn 213.857†	82623.2	79758.6	738.43	ug/L	738.43	ppb	22:23:53
2	SiO2†	1046308.7	1017315.1	69400	ug/L	69400	ppb	22:24:57
3	Sc Radial	5285.0	5285.0	105	%			22:23:07
3	Y RADIAL	6115.1	6115.1	112.6	%			22:23:07
3	Al 396.153Radial†	177724.5	169329.4	130610	ug/L	130610	ppb	22:22:47
3	Ca 317.933Radial†	15749.7	14985.9	23979	ug/L	23979	ppb	22:22:47
3	Fe 238.204 Radial†	14402.1	13712.9	118690	ug/L	118690	ppb	22:22:47
3	K 766.490 Radial†	120974.8	112669.8	20612	ug/L	20612	ppb	22:22:47
3	Mg 279.077 IEC†	673.2	639.4	21246	ug/L	21246	ppb	22:23:07
3	Na 589.592 Radial†	19506.6	19865.5	5948.0	ug/L	5948.0	ppb	22:22:47
3	Sr 421.552†	114885.9	109478.2	706.93	ug/L	706.93	ppb	22:22:47
3	Sc 361.383	857650.4	857650.4	100.62	%			22:24:25
3	Y 371.029	772229.6	772229.6	106.86	%			22:24:25
3	Ag 328.068†	105049.3	104047.9	519.87	ug/L	519.87	ppb	22:24:25
3	As 188.979†	1082.5	1099.5	528.41	ug/L	528.41	ppb	22:24:45
3	B 249.677†	23905.5	24390.9	530.19	ug/L	530.19	ppb	22:24:25
3	Ba 233.527†	209856.0	208582.2	1634.3	ug/L	1634.3	ppb	22:24:25
3	Be 313.107†	1394275.4	1390322.0	544.02	ug/L	544.02	ppb	22:24:19
3	Cd 226.502†	45763.2	45687.1	495.14	ug/L	495.14	ppb	22:24:25
3	Co 228.616†	26609.1	26520.8	529.59	ug/L	529.59	ppb	22:24:45
3	Cr 267.716†	54359.9	53943.8	606.39	ug/L	606.39	ppb	22:24:25
3	Cu 324.752†	207766.9	200082.3	604.36	ug/L	604.36	ppb	22:24:25
3	Mn 257.610†	2616127.8	2599661.5	2894.4	ug/L	2894.4	ppb	22:24:19
3	Mo 202.031†	6742.5	6677.5	480.33	ug/L	480.33	ppb	22:24:45
3	Ni 231.604†	22498.9	22293.2	554.78	ug/L	554.78	ppb	22:24:45
3	P 214.914†	2815.2	2568.1	1381.3	ug/L	1381.3	ppb	22:24:45
3	Pb 220.353†	5007.9	5040.6	634.93	ug/L	634.93	ppb	22:24:45
3	S 181.975 Axial†	4308.0	4238.6	5973.9	ug/L	5973.9	ppb	22:24:45
3	Sb 206.836†	1221.5	1186.0	401.52	ug/L	401.52	ppb	22:24:45
3	Se 196.026†	239.7	270.3	561.03	ug/L	561.03	ppb	22:24:45
3	Si 251.611†	1058323.7	1051292.0	33476	ug/L	33476	ppb	22:24:19
3	Sn 189.927†	2781.6	2756.9	493.85	ug/L	493.85	ppb	22:24:45
3	Ti 334.940†	3923337.1	3900684.6	6285.0	ug/L	6285.0	ppb	22:24:19
3	Tl 190.801†	1351.7	1376.2	475.30	ug/L	475.30	ppb	22:24:45
3	U 409.014†	11839.3	13778.4	391.58	ug/L	391.58	ppb	22:24:25
3	V 292.402†	112177.9	112800.6	753.18	ug/L	753.18	ppb	22:24:25
3	Zn 213.857†	81841.2	80719.7	747.60	ug/L	747.60	ppb	22:24:25
3	SiO2†	1046203.2	1039224.4	70895	ug/L	70895	ppb	22:25:03

Mean Data: 1202003769|936480|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	864008.9	101.36	%	1.239				1.22%
Sc Radial	5244.8	104	%	0.8				0.81%
Y 371.029	778383.5	107.71	%	1.221				1.13%
Y RADIAL	6055.1	111.5	%	1.09				0.98%
Ag 328.068†	103963.7	520.04	ug/L	5.711	520.04	ppb	5.711	1.10%
Al 396.153Radial†	171283.0	132120	ug/L	1525.2	132120	ppb	1525.2	1.15%
As 188.979†	1075.1	517.55	ug/L	9.434	517.55	ppb	9.434	1.82%
B 249.677†	24322.8	528.50	ug/L	5.492	528.50	ppb	5.492	1.04%
Ba 233.527†	208089.5	1630.6	ug/L	19.71	1630.6	ppb	19.71	1.21%
Be 313.107†	1362134.5	532.97	ug/L	10.553	532.97	ppb	10.553	1.98%
Ca 317.933Radial†	15170.3	24274	ug/L	290.5	24274	ppb	290.5	1.20%
Cd 226.502†	45666.7	494.73	ug/L	4.813	494.73	ppb	4.813	0.97%
Co 228.616†	26422.8	527.84	ug/L	4.095	527.84	ppb	4.095	0.78%
Cr 267.716†	53813.0	604.96	ug/L	6.690	604.96	ppb	6.690	1.11%
Cu 324.752†	200112.5	604.54	ug/L	6.917	604.54	ppb	6.917	1.14%
Fe 238.204 Radial†	13911.6	120410	ug/L	1848.7	120410	ppb	1848.7	1.54%
K 766.490 Radial†	114263.4	20905	ug/L	294.3	20905	ppb	294.3	1.41%

Mg 279.077 IEC†	641.3	21306	ug/L	95.9	21306	ppb	95.9	0.45%
Mn 257.610†	2544465.1	2833.4	ug/L	56.91	2833.4	ppb	56.91	2.01%
Mo 202.031†	6650.4	478.54	ug/L	3.421	478.54	ppb	3.421	0.71%
Na 589.592 Radial†	20182.0	6042.7	ug/L	98.56	6042.7	ppb	98.56	1.63%
Ni 231.604†	22191.8	552.25	ug/L	4.795	552.25	ppb	4.795	0.87%
P 214.914†	2571.5	1382.4	ug/L	16.00	1382.4	ppb	16.00	1.16%
Pb 220.353†	5043.3	635.42	ug/L	6.369	635.42	ppb	6.369	1.00%
S 181.975 Axial†	4220.5	5948.0	ug/L	51.74	5948.0	ppb	51.74	0.87%
Sb 206.836†	1189.5	403.07	ug/L	3.185	403.07	ppb	3.185	0.79%
Se 196.026†	267.6	564.84	ug/L	9.289	564.84	ppb	9.289	1.64%
Si 251.611†	1029116.2	32770	ug/L	650.1	32770	ppb	650.1	1.98%
Sn 189.927†	2756.6	493.86	ug/L	2.842	493.86	ppb	2.842	0.58%
Sr 421.552†	110721.2	714.96	ug/L	8.490	714.96	ppb	8.490	1.19%
Ti 334.940†	3815966.5	6148.6	ug/L	127.33	6148.6	ppb	127.33	2.07%
Tl 190.801†	1385.0	476.76	ug/L	2.704	476.76	ppb	2.704	0.57%
U 409.014†	13727.8	389.89	ug/L	3.916	389.89	ppb	3.916	1.00%
V 292.402†	112811.0	753.11	ug/L	8.214	753.11	ppb	8.214	1.09%
Zn 213.857†	80641.6	746.71	ug/L	7.877	746.71	ppb	7.877	1.05%
SiO2†	1033976.5	70537	ug/L	1006.7	70537	ppb	1006.7	1.43%

Sequence No.: 63
Sample ID: 1202003768|936480|5
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 75
Date Collected: 1/11/2010 22:27:13
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202003768|936480|5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5303.5	5303.5	105	%			22:29:06
1	Y RADIAL	5753.8	5753.8	106.0	%			22:29:06
1	Al 396.153Radial†	21670.1	20574.8	15873	ug/L	15873	ppb	22:29:06
1	Ca 317.933Radial†	2721.1	2563.7	4102.2	ug/L	4102.2	ppb	22:29:26
1	Fe 238.204 Radial†	3008.5	2847.4	24642	ug/L	24642	ppb	22:29:26
1	K 766.490 Radial†	19646.1	16062.4	2937.9	ug/L	2937.9	ppb	22:29:06
1	Mg 279.077 IEC†	101.1	94.1	3116.9	ug/L	3116.9	ppb	22:29:26
1	Na 589.592 Radial†	-823.7	498.4	149.23	ug/L	149.23	ppb	22:29:06
1	Sr 421.552†	6635.0	6318.9	40.783	ug/L	40.783	ppb	22:29:06
1	Sc 361.383	887211.1	887211.1	104.08	%			22:30:23
1	Y 371.029	756465.0	756465.0	104.68	%			22:30:23
1	Ag 328.068†	-1306.4	-1613.2	0.7306	ug/L	0.7306	ppb	22:30:28
1	As 188.979†	-49.0	-23.5	0.0297	ug/L	0.0297	ppb	22:30:49
1	B 249.677†	-60.5	573.7	10.258	ug/L	10.258	ppb	22:30:28
1	Ba 233.527†	29622.6	28471.7	223.29	ug/L	223.29	ppb	22:30:28
1	Be 313.107†	-7630.8	-2746.0	1.5201	ug/L	1.5201	ppb	22:30:28
1	Cd 226.502†	57.4	259.3	0.3354	ug/L	0.3354	ppb	22:30:49
1	Co 228.616†	565.3	617.8	10.014	ug/L	10.014	ppb	22:30:49
1	Cr 267.716†	2045.1	1881.6	21.618	ug/L	21.618	ppb	22:30:28
1	Cu 324.752†	10236.0	3422.2	11.552	ug/L	11.552	ppb	22:30:28
1	Mn 257.610†	512938.5	492366.6	548.46	ug/L	548.46	ppb	22:30:23
1	Mo 202.031†	11.5	-12.7	0.8365	ug/L	0.8365	ppb	22:30:49
1	Ni 231.604†	653.5	559.9	13.935	ug/L	13.935	ppb	22:30:49
1	P 214.914†	561.8	309.9	171.31	ug/L	171.31	ppb	22:30:49
1	Pb 220.353†	188.8	244.8	31.059	ug/L	31.059	ppb	22:30:49
1	S 181.975 Axial†	151.5	102.6	142.17	ug/L	142.17	ppb	22:30:49
1	Sb 206.836†	52.9	22.9	3.7022	ug/L	3.7022	ppb	22:30:49
1	Se 196.026†	-141.9	-104.4	12.186	ug/L	12.186	ppb	22:30:49
1	Si 251.611†	183662.8	175905.6	5602.3	ug/L	5602.3	ppb	22:30:23
1	Sn 189.927†	-36.1	-42.3	-6.4974	ug/L	-6.4974	ppb	22:30:49
1	Ti 334.940†	728884.9	701658.8	1130.7	ug/L	1130.7	ppb	22:30:23
1	Tl 190.801†	-72.3	-36.7	-1.1153	ug/L	-1.1153	ppb	22:30:49
1	U 409.014†	-2998.9	-869.6	-28.509	ug/L	-28.509	ppb	22:30:23
1	V 292.402†	7368.5	8389.1	52.293	ug/L	52.293	ppb	22:30:28
1	Zn 213.857†	6461.5	5587.7	50.357	ug/L	50.357	ppb	22:30:28
1	SiO2†	183440.4	175670.7	11986	ug/L	11986	ppb	22:31:55
2	Sc Radial	5259.8	5259.8	104	%			22:29:31
2	Y RADIAL	5706.4	5706.4	105.1	%			22:29:31
2	Al 396.153Radial†	21486.5	20570.0	15870	ug/L	15870	ppb	22:29:31
2	Ca 317.933Radial†	2684.6	2550.2	4080.6	ug/L	4080.6	ppb	22:29:51
2	Fe 238.204 Radial†	2961.7	2826.4	24460	ug/L	24460	ppb	22:29:51
2	K 766.490 Radial†	19448.5	16028.2	2931.6	ug/L	2931.6	ppb	22:29:31
2	Mg 279.077 IEC†	99.4	93.3	3091.2	ug/L	3091.2	ppb	22:29:51
2	Na 589.592 Radial†	-859.8	457.3	136.93	ug/L	136.93	ppb	22:29:31
2	Sr 421.552†	6567.1	6306.3	40.701	ug/L	40.701	ppb	22:29:31
2	Sc 361.383	881501.0	881501.0	103.41	%			22:30:54
2	Y 371.029	750076.4	750076.4	103.79	%			22:30:54
2	Ag 328.068†	-1309.9	-1624.6	0.6199	ug/L	0.6199	ppb	22:30:59
2	As 188.979†	-36.1	-11.3	5.2889	ug/L	5.2889	ppb	22:31:19
2	B 249.677†	-42.3	590.9	10.660	ug/L	10.660	ppb	22:30:59
2	Ba 233.527†	29988.5	29009.8	227.49	ug/L	227.49	ppb	22:30:59
2	Be 313.107†	-7634.3	-2796.9	1.4963	ug/L	1.4963	ppb	22:30:59
2	Cd 226.502†	54.2	256.5	0.3242	ug/L	0.3242	ppb	22:31:19
2	Co 228.616†	560.5	616.6	9.9964	ug/L	9.9964	ppb	22:31:19
2	Cr 267.716†	2031.1	1880.8	21.606	ug/L	21.606	ppb	22:30:59
2	Cu 324.752†	10164.9	3417.1	11.524	ug/L	11.524	ppb	22:30:59
2	Mn 257.610†	509532.9	492265.7	548.33	ug/L	548.33	ppb	22:30:54
2	Mo 202.031†	-0.1	-23.8	0.0396	ug/L	0.0396	ppb	22:31:19
2	Ni 231.604†	633.9	545.0	13.564	ug/L	13.564	ppb	22:31:19

2	P 214.914†	561.3	312.9	173.25 ug/L	173.25 ppb	22:31:19
2	Pb 220.353†	204.9	261.5	33.117 ug/L	33.117 ppb	22:31:19
2	S 181.975 Axial†	150.2	102.2	141.64 ug/L	141.64 ppb	22:31:19
2	Sb 206.836†	47.4	17.9	1.9575 ug/L	1.9575 ppb	22:31:19
2	Se 196.026†	-142.1	-105.4	10.938 ug/L	10.938 ppb	22:31:19
2	Si 251.611†	182131.6	175568.1	5591.6 ug/L	5591.6 ppb	22:30:54
2	Sn 189.927†	-47.0	-53.1	-8.4182 ug/L	-8.4182 ppb	22:31:19
2	Ti 334.940†	722947.0	700453.3	1128.7 ug/L	1128.7 ppb	22:30:54
2	Tl 190.801†	-76.7	-41.3	-2.5624 ug/L	-2.5624 ppb	22:31:19
2	U 409.014†	-2808.7	-704.4	-23.614 ug/L	-23.614 ppb	22:30:54
2	V 292.402†	7504.8	8566.7	53.532 ug/L	53.532 ppb	22:30:59
2	Zn 213.857†	6558.7	5721.9	51.646 ug/L	51.646 ppb	22:30:59
2	SiO2†	180376.2	173849.3	11862 ug/L	11862 ppb	22:32:00
3	Sc Radial	5329.0	5329.0	106 %		22:29:57
3	Y RADIAL	5772.6	5772.6	106.3 %		22:29:57
3	Al 396.153Radial†	21807.1	20605.9	15897 ug/L	15897 ppb	22:29:57
3	Ca 317.933Radial†	2691.3	2523.2	4037.3 ug/L	4037.3 ppb	22:30:17
3	Fe 238.204 Radial†	2967.7	2795.3	24191 ug/L	24191 ppb	22:30:17
3	K 766.490 Radial†	19739.0	16060.9	2937.6 ug/L	2937.6 ppb	22:29:57
3	Mg 279.077 IEC†	101.4	93.9	3112.8 ug/L	3112.8 ppb	22:30:17
3	Na 589.592 Radial†	-807.1	517.8	155.04 ug/L	155.04 ppb	22:29:57
3	Sr 421.552†	6667.0	6319.1	40.784 ug/L	40.784 ppb	22:29:57
3	Sc 361.383	893736.5	893736.5	104.85 %		22:31:24
3	Y 371.029	761309.2	761309.2	105.35 %		22:31:24
3	Ag 328.068†	-1353.7	-1649.1	0.4154 ug/L	0.4154 ppb	22:31:30
3	As 188.979†	-45.1	-19.4	1.7212 ug/L	1.7212 ppb	22:31:50
3	B 249.677†	-34.9	598.6	10.857 ug/L	10.857 ppb	22:31:30
3	Ba 233.527†	29425.7	28076.1	220.19 ug/L	220.19 ppb	22:31:30
3	Be 313.107†	-7611.8	-2674.3	1.5431 ug/L	1.5431 ppb	22:31:30
3	Cd 226.502†	48.8	250.6	0.2868 ug/L	0.2868 ppb	22:31:50
3	Co 228.616†	573.6	621.7	10.099 ug/L	10.099 ppb	22:31:50
3	Cr 267.716†	2064.6	1885.9	21.655 ug/L	21.655 ppb	22:31:30
3	Cu 324.752†	10163.3	3281.0	11.104 ug/L	11.104 ppb	22:31:30
3	Mn 257.610†	516029.9	491716.9	547.69 ug/L	547.69 ppb	22:31:24
3	Mo 202.031†	-8.7	-32.0	-0.5600 ug/L	-0.5600 ppb	22:31:50
3	Ni 231.604†	634.4	537.1	13.366 ug/L	13.366 ppb	22:31:50
3	P 214.914†	569.1	312.9	173.56 ug/L	173.56 ppb	22:31:50
3	Pb 220.353†	208.7	262.4	33.263 ug/L	33.263 ppb	22:31:50
3	S 181.975 Axial†	157.0	106.7	148.07 ug/L	148.07 ppb	22:31:50
3	Sb 206.836†	38.7	9.0	-1.1057 ug/L	-1.1057 ppb	22:31:50
3	Se 196.026†	-146.2	-107.4	8.7569 ug/L	8.7569 ppb	22:31:50
3	Si 251.611†	184475.5	175392.4	5586.0 ug/L	5586.0 ppb	22:31:24
3	Sn 189.927†	-43.8	-49.5	-7.7780 ug/L	-7.7780 ppb	22:31:50
3	Ti 334.940†	733006.4	700476.7	1128.8 ug/L	1128.8 ppb	22:31:24
3	Tl 190.801†	-61.8	-26.1	2.1081 ug/L	2.1081 ppb	22:31:50
3	U 409.014†	-2882.3	-737.3	-24.556 ug/L	-24.556 ppb	22:31:24
3	V 292.402†	7374.5	8343.1	52.037 ug/L	52.037 ppb	22:31:30
3	Zn 213.857†	6475.0	5555.3	50.098 ug/L	50.098 ppb	22:31:30
3	SiO2†	181065.7	172119.1	11744 ug/L	11744 ppb	22:32:06

Mean Data: 1202003768|936480|5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	887482.9	104.12	%	0.718				0.69%
Sc Radial	5297.5	105	%	0.7				0.66%
Y 371.029	755950.2	104.61	%	0.780				0.75%
Y RADIAL	5744.3	105.8	%	0.63				0.59%
Ag 328.068†	-1629.0	0.5886	ug/L	0.15989	0.5886	ppb	0.15989	27.16%
Al 396.153Radial†	20583.5	15880	ug/L	15.0	15880	ppb	15.0	0.09%
As 188.979†	-18.0	2.3466	ug/L	2.68481	2.3466	ppb	2.68481	114.41%
B 249.677†	587.7	10.592	ug/L	0.3051	10.592	ppb	0.3051	2.88%
Ba 233.527†	28519.2	223.66	ug/L	3.665	223.66	ppb	3.665	1.64%
Be 313.107†	-2739.1	1.5199	ug/L	0.02340	1.5199	ppb	0.02340	1.54%
Ca 317.933Radial†	2545.7	4073.4	ug/L	33.02	4073.4	ppb	33.02	0.81%
Cd 226.502†	255.5	0.3155	ug/L	0.02546	0.3155	ppb	0.02546	8.07%
Co 228.616†	618.7	10.037	ug/L	0.0551	10.037	ppb	0.0551	0.55%
Cr 267.716†	1882.8	21.626	ug/L	0.0258	21.626	ppb	0.0258	0.12%
Cu 324.752†	3373.4	11.393	ug/L	0.2511	11.393	ppb	0.2511	2.20%
Fe 238.204 Radial†	2823.0	24431	ug/L	227.1	24431	ppb	227.1	0.93%
K 766.490 Radial†	16050.5	2935.7	ug/L	3.54	2935.7	ppb	3.54	0.12%

Mg 279.077 IEC†	93.8	3107.0	ug/L	13.80	3107.0	ppb	13.80	0.44%
Mn 257.610†	492116.4	548.16	ug/L	0.412	548.16	ppb	0.412	0.08%
Mo 202.031†	-22.8	0.1054	ug/L	0.70057	0.1054	ppb	0.70057	664.95%
Na 589.592 Radial†	491.2	147.06	ug/L	9.248	147.06	ppb	9.248	6.29%
Ni 231.604†	547.4	13.622	ug/L	0.2890	13.622	ppb	0.2890	2.12%
P 214.914†	311.9	172.71	ug/L	1.222	172.71	ppb	1.222	0.71%
Pb 220.353†	256.2	32.480	ug/L	1.2325	32.480	ppb	1.2325	3.79%
S 181.975 Axial†	103.8	143.96	ug/L	3.569	143.96	ppb	3.569	2.48%
Sb 206.836†	16.6	1.5180	ug/L	2.43388	1.5180	ppb	2.43388	160.33%
Se 196.026†	-105.7	10.627	ug/L	1.7357	10.627	ppb	1.7357	16.33%
Si 251.611†	175622.0	5593.3	ug/L	8.30	5593.3	ppb	8.30	0.15%
Sn 189.927†	-48.3	-7.5645	ug/L	0.97800	-7.5645	ppb	0.97800	12.93%
Sr 421.552†	6314.8	40.756	ug/L	0.0474	40.756	ppb	0.0474	0.12%
Ti 334.940†	700862.9	1129.4	ug/L	1.11	1129.4	ppb	1.11	0.10%
Tl 190.801†	-34.7	-0.5232	ug/L	2.39089	-0.5232	ppb	2.39089	456.97%
U 409.014†	-770.4	-25.560	ug/L	2.5973	-25.560	ppb	2.5973	10.16%
V 292.402†	8433.0	52.621	ug/L	0.7997	52.621	ppb	0.7997	1.52%
Zn 213.857†	5621.7	50.700	ug/L	0.8292	50.700	ppb	0.8292	1.64%
SiO2†	173879.7	11864	ug/L	121.2	11864	ppb	121.2	1.02%

Sequence No.: 64
Sample ID: 243385002|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 76
Date Collected: 1/11/2010 22:34:17
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 243385002|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5301.7	5301.7	105	%			22:36:30
1	Y RADIAL	6233.1	6233.1	114.8	%			22:36:30
1	Al 396.153Radial†	119883.1	113858.9	87841	ug/L	87841	ppb	22:36:10
1	Ca 317.933Radial†	14593.7	13840.5	22146	ug/L	22146	ppb	22:36:10
1	Fe 238.204 Radial†	15047.5	14282.4	123610	ug/L	123610	ppb	22:36:10
1	K 766.490 Radial†	96020.0	88604.3	16130	ug/L	16130	ppb	22:36:10
1	Mg 279.077 IEC†	486.1	459.7	15231	ug/L	15231	ppb	22:36:30
1	Na 589.592 Radial†	1356.4	2568.7	769.09	ug/L	769.09	ppb	22:36:10
1	Sr 421.552†	53810.8	51126.0	330.05	ug/L	330.05	ppb	22:36:10
1	Sc 361.383	882457.5	882457.5	103.53	%			22:37:34
1	Y 371.029	811957.2	811957.2	112.36	%			22:37:34
1	Ag 328.068†	-7968.8	-8055.3	3.9537	ug/L	3.9537	ppb	22:37:34
1	As 188.979†	-83.8	-57.4	25.477	ug/L	25.477	ppb	22:37:54
1	B 249.677†	1320.5	1907.3	29.646	ug/L	29.646	ppb	22:37:34
1	Ba 233.527†	263568.4	254601.8	1992.8	ug/L	1992.8	ppb	22:37:34
1	Be 313.107†	-14031.7	-8968.4	9.0302	ug/L	9.0302	ppb	22:37:34
1	Cd 226.502†	1085.7	1252.8	1.1639	ug/L	1.1639	ppb	22:37:54
1	Co 228.616†	6189.5	6053.4	111.50	ug/L	111.50	ppb	22:37:54
1	Cr 267.716†	10283.0	9849.5	113.10	ug/L	113.10	ppb	22:37:54
1	Cu 324.752†	27724.5	20367.9	67.556	ug/L	67.556	ppb	22:37:34
1	Mn 257.610†	9335257.5	9016822.6	10009	ug/L	10009	ppb	22:37:29
1	Mo 202.031†	-51.0	-73.0	3.5603	ug/L	3.5603	ppb	22:37:54
1	Ni 231.604†	4472.4	4252.1	105.80	ug/L	105.80	ppb	22:37:54
1	P 214.914†	1383.7	1106.7	585.50	ug/L	585.50	ppb	22:37:54
1	Pb 220.353†	1512.4	1524.3	193.87	ug/L	193.87	ppb	22:37:54
1	S 181.975 Axial†	528.9	467.8	645.63	ug/L	645.63	ppb	22:37:54
1	Sb 206.836†	93.1	62.0	1.0714	ug/L	1.0714	ppb	22:37:54
1	Se 196.026†	-596.5	-544.1	48.216	ug/L	48.216	ppb	22:37:54
1	Si 251.611†	1041588.8	1005558.4	32025	ug/L	32025	ppb	22:37:34
1	Sn 189.927†	-136.4	-139.4	-19.445	ug/L	-19.445	ppb	22:37:54
1	Ti 334.940†	3521685.8	3403099.9	5484.1	ug/L	5484.1	ppb	22:37:29
1	Tl 190.801†	-336.7	-292.4	-5.8263	ug/L	-5.8263	ppb	22:37:54
1	U 409.014†	-8967.6	-6650.5	-210.52	ug/L	-210.52	ppb	22:37:34
1	V 292.402†	45808.2	45557.6	286.09	ug/L	286.09	ppb	22:37:34
1	Zn 213.857†	28893.3	27288.8	245.35	ug/L	245.35	ppb	22:37:54
1	SiO2†	1053281.6	1016831.6	69380	ug/L	69380	ppb	22:39:06
2	Sc Radial	5341.0	5341.0	106	%			22:36:55
2	Y RADIAL	6269.0	6269.0	115.5	%			22:36:55
2	Al 396.153Radial†	118660.2	111868.3	86305	ug/L	86305	ppb	22:36:35
2	Ca 317.933Radial†	14420.6	13575.3	21722	ug/L	21722	ppb	22:36:35
2	Fe 238.204 Radial†	14877.9	14017.3	121310	ug/L	121310	ppb	22:36:35
2	K 766.490 Radial†	95122.6	87087.4	15853	ug/L	15853	ppb	22:36:35
2	Mg 279.077 IEC†	478.3	449.0	14876	ug/L	14876	ppb	22:36:55
2	Na 589.592 Radial†	1276.7	2484.0	743.75	ug/L	743.75	ppb	22:36:35
2	Sr 421.552†	53148.5	50125.7	323.59	ug/L	323.59	ppb	22:36:35
2	Sc 361.383	879285.2	879285.2	103.15	%			22:38:07
2	Y 371.029	810467.5	810467.5	112.15	%			22:38:07
2	Ag 328.068†	-7920.7	-8036.5	3.3066	ug/L	3.3066	ppb	22:38:07
2	As 188.979†	-82.9	-56.8	25.174	ug/L	25.174	ppb	22:38:27
2	B 249.677†	1373.4	1963.2	31.122	ug/L	31.122	ppb	22:38:07
2	Ba 233.527†	262057.6	254055.7	1988.4	ug/L	1988.4	ppb	22:38:07
2	Be 313.107†	-14221.0	-9200.8	8.8863	ug/L	8.8863	ppb	22:38:07
2	Cd 226.502†	1098.4	1268.9	1.5803	ug/L	1.5803	ppb	22:38:27
2	Co 228.616†	6228.7	6112.9	112.80	ug/L	112.80	ppb	22:38:27
2	Cr 267.716†	10343.5	9944.0	114.11	ug/L	114.11	ppb	22:38:27
2	Cu 324.752†	27551.6	20296.9	67.223	ug/L	67.223	ppb	22:38:07
2	Mn 257.610†	9247982.9	8964749.1	9951.3	ug/L	9951.3	ppb	22:38:01
2	Mo 202.031†	-49.4	-71.6	3.4924	ug/L	3.4924	ppb	22:38:27
2	Ni 231.604†	4506.6	4300.8	107.02	ug/L	107.02	ppb	22:38:27

2	P 214.914†	1387.9	1115.6	592.44	ug/L	592.44 ppb	22:38:27
2	Pb 220.353†	1530.1	1546.6	196.49	ug/L	196.49 ppb	22:38:27
2	S 181.975 Axial†	524.7	465.7	642.82	ug/L	642.82 ppb	22:38:27
2	Sb 206.836†	72.0	41.8	-5.7296	ug/L	-5.7296 ppb	22:38:27
2	Se 196.026†	-614.6	-563.8	28.123	ug/L	28.123 ppb	22:38:27
2	Si 251.611†	1035862.5	1003636.9	31964	ug/L	31964 ppb	22:38:07
2	Sn 189.927†	-141.9	-145.2	-20.574	ug/L	-20.574 ppb	22:38:27
2	Ti 334.940†	3493419.1	3387970.3	5459.7	ug/L	5459.7 ppb	22:38:01
2	Tl 190.801†	-337.2	-294.0	-6.7629	ug/L	-6.7629 ppb	22:38:27
2	U 409.014†	-8949.1	-6663.8	-210.66	ug/L	-210.66 ppb	22:38:07
2	V 292.402†	45749.1	45659.9	287.16	ug/L	287.16 ppb	22:38:07
2	Zn 213.857†	29029.3	27521.4	247.77	ug/L	247.77 ppb	22:38:27
2	SiO2†	1052003.0	1019262.7	69546	ug/L	69546 ppb	22:39:12
3	Sc Radial	5248.0	5248.0	104	%		22:37:20
3	Y RADIAL	6147.7	6147.7	113.2	%		22:37:20
3	Al 396.153Radial†	121387.7	116468.8	89854	ug/L	89854 ppb	22:37:00
3	Ca 317.933Radial†	14730.6	14113.8	22583	ug/L	22583 ppb	22:37:00
3	Fe 238.204 Radial†	15210.3	14585.0	126220	ug/L	126220 ppb	22:37:00
3	K 766.490 Radial†	97147.1	90619.8	16500	ug/L	16500 ppb	22:37:00
3	Mg 279.077 IEC†	479.3	457.9	15168	ug/L	15168 ppb	22:37:20
3	Na 589.592 Radial†	1307.5	2535.0	759.00	ug/L	759.00 ppb	22:37:00
3	Sr 421.552†	54334.1	52151.6	336.67	ug/L	336.67 ppb	22:37:00
3	Sc 361.383	885347.2	885347.2	103.87	%		22:38:40
3	Y 371.029	816572.5	816572.5	112.99	%		22:38:40
3	Ag 328.068†	-7995.5	-8055.9	4.7928	ug/L	4.7928 ppb	22:38:40
3	As 188.979†	-83.9	-57.1	25.961	ug/L	25.961 ppb	22:39:00
3	B 249.677†	1324.6	1907.2	29.375	ug/L	29.375 ppb	22:38:40
3	Ba 233.527†	263644.1	253843.7	1987.0	ug/L	1987.0 ppb	22:38:40
3	Be 313.107†	-14626.4	-9496.7	8.7674	ug/L	8.7674 ppb	22:38:40
3	Cd 226.502†	1088.6	1252.2	0.8879	ug/L	0.8879 ppb	22:39:00
3	Co 228.616†	6251.3	6093.3	112.33	ug/L	112.33 ppb	22:39:00
3	Cr 267.716†	10357.5	9888.8	113.59	ug/L	113.59 ppb	22:39:00
3	Cu 324.752†	27968.7	20515.6	68.134	ug/L	68.134 ppb	22:38:40
3	Mn 257.610†	9304192.4	8957481.3	9943.8	ug/L	9943.8 ppb	22:38:34
3	Mo 202.031†	-58.0	-79.5	3.2826	ug/L	3.2826 ppb	22:39:00
3	Ni 231.604†	4497.2	4261.9	106.05	ug/L	106.05 ppb	22:39:00
3	P 214.914†	1393.8	1112.1	587.09	ug/L	587.09 ppb	22:39:00
3	Pb 220.353†	1570.5	1575.4	200.32	ug/L	200.32 ppb	22:39:00
3	S 181.975 Axial†	525.7	463.1	638.56	ug/L	638.56 ppb	22:39:00
3	Sb 206.836†	79.2	48.3	-3.6087	ug/L	-3.6087 ppb	22:39:00
3	Se 196.026†	-607.4	-552.8	51.114	ug/L	51.114 ppb	22:39:00
3	Si 251.611†	1043177.4	1003803.9	31970	ug/L	31970 ppb	22:38:40
3	Sn 189.927†	-144.1	-146.4	-20.581	ug/L	-20.581 ppb	22:39:00
3	Ti 334.940†	3515776.7	3386307.5	5457.1	ug/L	5457.1 ppb	22:38:34
3	Tl 190.801†	-335.6	-290.3	-5.6681	ug/L	-5.6681 ppb	22:39:00
3	U 409.014†	-8806.2	-6466.9	-205.41	ug/L	-205.41 ppb	22:38:40
3	V 292.402†	46125.4	45718.5	286.82	ug/L	286.82 ppb	22:38:40
3	Zn 213.857†	29050.9	27349.5	245.67	ug/L	245.67 ppb	22:39:00
3	SiO2†	1047885.7	1008315.7	68799	ug/L	68799 ppb	22:39:18

Mean Data: 243385002|936480|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	882363.3	103.52	%	0.356				0.34%
Sc Radial	5296.9	105	%	0.9				0.88%
Y 371.029	812999.1	112.50	%	0.440				0.39%
Y RADIAL	6216.6	114.5	%	1.15				1.00%
Ag 328.068†	-8049.3	4.0177	ug/L	0.74516	4.0177	ppb	0.74516	18.55%
Al 396.153Radial†	114065.3	88000	ug/L	1780.0	88000	ppb	1780.0	2.02%
As 188.979†	-57.1	25.537	ug/L	0.3969	25.537	ppb	0.3969	1.55%
B 249.677†	1925.9	30.048	ug/L	0.9398	30.048	ppb	0.9398	3.13%
Ba 233.527†	254167.1	1989.4	ug/L	3.03	1989.4	ppb	3.03	0.15%
Be 313.107†	-9222.0	8.8946	ug/L	0.13157	8.8946	ppb	0.13157	1.48%
Ca 317.933Radial†	13843.2	22150	ug/L	430.8	22150	ppb	430.8	1.94%
Cd 226.502†	1258.0	1.2107	ug/L	0.34853	1.2107	ppb	0.34853	28.79%
Co 228.616†	6086.5	112.21	ug/L	0.658	112.21	ppb	0.658	0.59%
Cr 267.716†	9894.1	113.60	ug/L	0.506	113.60	ppb	0.506	0.45%
Cu 324.752†	20393.5	67.638	ug/L	0.4608	67.638	ppb	0.4608	0.68%
Fe 238.204 Radial†	14294.9	123710	ug/L	2457.9	123710	ppb	2457.9	1.99%
K 766.490 Radial†	88770.5	16161	ug/L	324.9	16161	ppb	324.9	2.01%

Mg 279.077 IEC†	455.6	15092	ug/L	189.6	15092	ppb	189.6	1.26%
Mn 257.610†	8979684.3	9968.1	ug/L	35.84	9968.1	ppb	35.84	0.36%
Mo 202.031†	-74.7	3.4451	ug/L	0.14476	3.4451	ppb	0.14476	4.20%
Na 589.592 Radial†	2529.2	757.28	ug/L	12.756	757.28	ppb	12.756	1.68%
Ni 231.604†	4271.6	106.29	ug/L	0.642	106.29	ppb	0.642	0.60%
P 214.914†	1111.4	588.35	ug/L	3.637	588.35	ppb	3.637	0.62%
Pb 220.353†	1548.8	196.89	ug/L	3.243	196.89	ppb	3.243	1.65%
S 181.975 Axial†	465.5	642.33	ug/L	3.560	642.33	ppb	3.560	0.55%
Sb 206.836†	50.7	-2.7556	ug/L	3.47979	-2.7556	ppb	3.47979	126.28%
Se 196.026†	-553.6	42.484	ug/L	12.5212	42.484	ppb	12.5212	29.47%
Si 251.611†	1004333.1	31986	ug/L	33.9	31986	ppb	33.9	0.11%
Sn 189.927†	-143.6	-20.200	ug/L	0.6537	-20.200	ppb	0.6537	3.24%
Sr 421.552†	51134.4	330.11	ug/L	6.540	330.11	ppb	6.540	1.98%
Ti 334.940†	3392459.2	5467.0	ug/L	14.89	5467.0	ppb	14.89	0.27%
Tl 190.801†	-292.2	-6.0858	ug/L	0.59175	-6.0858	ppb	0.59175	9.72%
U 409.014†	-6593.7	-208.86	ug/L	2.993	-208.86	ppb	2.993	1.43%
V 292.402†	45645.3	286.69	ug/L	0.546	286.69	ppb	0.546	0.19%
Zn 213.857†	27386.6	246.27	ug/L	1.312	246.27	ppb	1.312	0.53%
SiO2†	1014803.4	69242	ug/L	392.2	69242	ppb	392.2	0.57%

Sequence No.: 65
Sample ID: 243385003|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 77
Date Collected: 1/11/2010 22:41:28
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 243385003|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5412.4	5412.4	107	%			22:43:42
1	Y RADIAL	6209.7	6209.7	114.4	%			22:43:42
1	Al 396.153Radial†	161024.5	149806.7	115570	ug/L	115570	ppb	22:43:22
1	Ca 317.933Radial†	19989.5	18577.1	29725	ug/L	29725	ppb	22:43:22
1	Fe 238.204 Radial†	16735.6	15560.8	134670	ug/L	134670	ppb	22:43:22
1	K 766.490 Radial†	132328.0	120518.7	22059	ug/L	22059	ppb	22:43:22
1	Mg 279.077 IEC†	797.5	740.0	24584	ug/L	24584	ppb	22:43:42
1	Na 589.592 Radial†	6448.5	7279.7	2179.6	ug/L	2179.6	ppb	22:43:22
1	Sr 421.552†	66556.2	61938.8	399.84	ug/L	399.84	ppb	22:43:22
1	Sc 361.383	887476.8	887476.8	104.12	%			22:44:40
1	Y 371.029	791422.9	791422.9	109.51	%			22:44:40
1	Ag 328.068†	-8984.7	-8987.5	2.8861	ug/L	2.8861	ppb	22:44:40
1	As 188.979†	-41.9	-16.6	31.142	ug/L	31.142	ppb	22:45:00
1	B 249.677†	1210.4	1794.4	26.189	ug/L	26.189	ppb	22:44:40
1	Ba 233.527†	298099.3	286327.9	2240.7	ug/L	2240.7	ppb	22:44:40
1	Be 313.107†	11194.0	15336.9	11.500	ug/L	11.500	ppb	22:44:40
1	Cd 226.502†	1114.0	1274.1	0.2636	ug/L	0.2636	ppb	22:45:00
1	Co 228.616†	3013.0	2968.6	54.570	ug/L	54.570	ppb	22:45:00
1	Cr 267.716†	15458.9	14764.6	168.13	ug/L	168.13	ppb	22:45:00
1	Cu 324.752†	29579.7	21998.4	73.017	ug/L	73.017	ppb	22:44:40
1	Mn 257.610†	2432527.0	2335933.1	2603.7	ug/L	2603.7	ppb	22:44:40
1	Mo 202.031†	-78.8	-99.4	2.5427	ug/L	2.5427	ppb	22:45:00
1	Ni 231.604†	4922.9	4660.3	116.01	ug/L	116.01	ppb	22:45:00
1	P 214.914†	1096.4	823.2	409.09	ug/L	409.09	ppb	22:45:00
1	Pb 220.353†	697.8	733.6	102.01	ug/L	102.01	ppb	22:45:00
1	S 181.975 Axial†	573.8	508.1	697.39	ug/L	697.39	ppb	22:45:00
1	Sb 206.836†	65.7	35.2	0.7885	ug/L	0.7885	ppb	22:45:00
1	Se 196.026†	-671.7	-613.2	40.460	ug/L	40.460	ppb	22:45:00
1	Si 251.611†	1052670.4	1010511.7	32183	ug/L	32183	ppb	22:44:40
1	Sn 189.927†	-150.8	-152.5	-20.499	ug/L	-20.499	ppb	22:45:00
1	Ti 334.940†	1608484.3	1546281.3	2492.6	ug/L	2492.6	ppb	22:44:40
1	Tl 190.801†	-148.7	-110.0	-5.1702	ug/L	-5.1702	ppb	22:45:00
1	U 409.014†	-8985.1	-6618.4	-210.96	ug/L	-210.96	ppb	22:44:40
1	V 292.402†	35756.9	35653.2	220.10	ug/L	220.10	ppb	22:44:40
1	Zn 213.857†	33304.5	31367.8	282.79	ug/L	282.79	ppb	22:44:40
1	SiO2†	1068476.4	1025671.7	69983	ug/L	69983	ppb	22:46:01
2	Sc Radial	5331.3	5331.3	106	%			22:44:07
2	Y RADIAL	6112.1	6112.1	112.6	%			22:44:07
2	Al 396.153Radial†	161431.1	152470.2	117630	ug/L	117630	ppb	22:43:47
2	Ca 317.933Radial†	20013.8	18883.0	30215	ug/L	30215	ppb	22:43:47
2	Fe 238.204 Radial†	16742.2	15803.9	136770	ug/L	136770	ppb	22:43:47
2	K 766.490 Radial†	132881.3	122914.5	22499	ug/L	22499	ppb	22:43:47
2	Mg 279.077 IEC†	787.8	742.2	24654	ug/L	24654	ppb	22:44:07
2	Na 589.592 Radial†	6430.8	7354.2	2201.9	ug/L	2201.9	ppb	22:43:47
2	Sr 421.552†	66610.9	62932.6	406.25	ug/L	406.25	ppb	22:43:47
2	Sc 361.383	892990.5	892990.5	104.76	%			22:45:07
2	Y 371.029	797545.3	797545.3	110.36	%			22:45:07
2	Ag 328.068†	-9150.4	-9092.5	3.0780	ug/L	3.0780	ppb	22:45:07
2	As 188.979†	-33.6	-8.5	35.054	ug/L	35.054	ppb	22:45:27
2	B 249.677†	1097.9	1679.9	23.424	ug/L	23.424	ppb	22:45:07
2	Ba 233.527†	299192.1	285603.2	2235.1	ug/L	2235.1	ppb	22:45:07
2	Be 313.107†	11150.9	15229.4	11.448	ug/L	11.448	ppb	22:45:07
2	Cd 226.502†	1103.9	1257.8	-0.1339	ug/L	-0.1339	ppb	22:45:27
2	Co 228.616†	3004.8	2942.9	54.020	ug/L	54.020	ppb	22:45:27
2	Cr 267.716†	15457.6	14671.7	167.14	ug/L	167.14	ppb	22:45:27
2	Cu 324.752†	29687.7	21926.0	72.910	ug/L	72.910	ppb	22:45:07
2	Mn 257.610†	2441143.1	2329731.8	2597.0	ug/L	2597.0	ppb	22:45:07
2	Mo 202.031†	-84.9	-104.7	2.3121	ug/L	2.3121	ppb	22:45:27
2	Ni 231.604†	4923.5	4631.7	115.29	ug/L	115.29	ppb	22:45:27

2	P 214.914†	1087.9	808.5	399.00	ug/L	399.00 ppb	22:45:27
2	Pb 220.353†	698.5	730.1	101.83	ug/L	101.83 ppb	22:45:27
2	S 181.975 Axial†	563.1	494.5	677.78	ug/L	677.78 ppb	22:45:27
2	Sb 206.836†	53.1	22.8	-3.4992	ug/L	-3.4992 ppb	22:45:27
2	Se 196.026†	-671.5	-608.9	50.004	ug/L	50.004 ppb	22:45:27
2	Si 251.611†	1056337.3	1007769.1	32096	ug/L	32096 ppb	22:45:07
2	Sn 189.927†	-149.0	-149.9	-19.942	ug/L	-19.942 ppb	22:45:27
2	Ti 334.940†	1615436.9	1543378.9	2488.0	ug/L	2488.0 ppb	22:45:07
2	Tl 190.801†	-171.9	-131.3	-11.765	ug/L	-11.765 ppb	22:45:27
2	U 409.014†	-8952.5	-6533.9	-208.71	ug/L	-208.71 ppb	22:45:07
2	V 292.402†	36091.8	35760.9	220.52	ug/L	220.52 ppb	22:45:07
2	Zn 213.857†	33440.6	31300.3	281.95	ug/L	281.95 ppb	22:45:07
2	SiO2†	1053459.0	1005000.5	68573	ug/L	68573 ppb	22:46:07
3	Sc Radial	5381.7	5381.7	107	%		22:44:32
3	Y RADIAL	6179.8	6179.8	113.8	%		22:44:32
3	Al 396.153Radial†	165659.6	154997.1	119580	ug/L	119580 ppb	22:44:12
3	Ca 317.933Radial†	20535.4	19193.8	30712	ug/L	30712 ppb	22:44:12
3	Fe 238.204 Radial†	17167.5	16053.6	138930	ug/L	138930 ppb	22:44:12
3	K 766.490 Radial†	136515.8	125138.4	22906	ug/L	22906 ppb	22:44:12
3	Mg 279.077 IEC†	793.4	740.4	24592	ug/L	24592 ppb	22:44:32
3	Na 589.592 Radial†	6730.0	7577.3	2268.7	ug/L	2268.7 ppb	22:44:12
3	Sr 421.552†	68508.2	64118.0	413.90	ug/L	413.90 ppb	22:44:12
3	Sc 361.383	891957.3	891957.3	104.64	%		22:45:34
3	Y 371.029	796525.2	796525.2	110.22	%		22:45:34
3	Ag 328.068†	-9064.9	-9020.8	4.0989	ug/L	4.0989 ppb	22:45:34
3	As 188.979†	-19.8	4.7	41.221	ug/L	41.221 ppb	22:45:54
3	B 249.677†	1224.2	1801.8	25.921	ug/L	25.921 ppb	22:45:34
3	Ba 233.527†	300021.0	286726.1	2244.0	ug/L	2244.0 ppb	22:45:34
3	Be 313.107†	11047.2	15142.6	11.431	ug/L	11.431 ppb	22:45:34
3	Cd 226.502†	1086.1	1242.0	-0.5323	ug/L	-0.5323 ppb	22:45:54
3	Co 228.616†	3035.6	2975.6	54.649	ug/L	54.649 ppb	22:45:54
3	Cr 267.716†	15536.1	14763.8	168.21	ug/L	168.21 ppb	22:45:54
3	Cu 324.752†	29760.1	22028.0	73.330	ug/L	73.330 ppb	22:45:34
3	Mn 257.610†	2445162.9	2336272.4	2604.5	ug/L	2604.5 ppb	22:45:34
3	Mo 202.031†	-79.0	-99.2	2.8563	ug/L	2.8563 ppb	22:45:54
3	Ni 231.604†	4938.5	4651.5	115.79	ug/L	115.79 ppb	22:45:54
3	P 214.914†	1103.6	824.8	407.62	ug/L	407.62 ppb	22:45:54
3	Pb 220.353†	705.5	737.6	102.96	ug/L	102.96 ppb	22:45:54
3	S 181.975 Axial†	572.5	504.1	690.97	ug/L	690.97 ppb	22:45:54
3	Sb 206.836†	79.3	47.9	5.0442	ug/L	5.0442 ppb	22:45:54
3	Se 196.026†	-679.8	-617.6	51.399	ug/L	51.399 ppb	22:45:54
3	Si 251.611†	1058891.2	1011377.8	32211	ug/L	32211 ppb	22:45:34
3	Sn 189.927†	-147.4	-148.5	-19.585	ug/L	-19.585 ppb	22:45:54
3	Ti 334.940†	1618180.6	1547787.1	2495.1	ug/L	2495.1 ppb	22:45:34
3	Tl 190.801†	-167.0	-126.7	-10.280	ug/L	-10.280 ppb	22:45:54
3	U 409.014†	-8958.2	-6549.3	-209.41	ug/L	-209.41 ppb	22:45:34
3	V 292.402†	35953.3	35668.4	219.55	ug/L	219.55 ppb	22:45:34
3	Zn 213.857†	33501.8	31395.8	282.64	ug/L	282.64 ppb	22:45:34
3	SiO2†	1057329.0	1009863.6	68905	ug/L	68905 ppb	22:46:12

Mean Data: 243385003|936480|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	890808.2	104.51	%	0.344				0.33%
Sc Radial	5375.1	107	%	0.8				0.76%
Y 371.029	795164.5	110.03	%	0.454				0.41%
Y RADIAL	6167.2	113.6	%	0.92				0.81%
Ag 328.068†	-9033.6	3.3543	ug/L	0.65193	3.3543	ppb	0.65193	19.44%
Al 396.153Radial†	152424.7	117590	ug/L	2002.4	117590	ppb	2002.4	1.70%
As 188.979†	-6.8	35.806	ug/L	5.0814	35.806	ppb	5.0814	14.19%
B 249.677†	1758.7	25.178	ug/L	1.5252	25.178	ppb	1.5252	6.06%
Ba 233.527†	286219.1	2239.9	ug/L	4.47	2239.9	ppb	4.47	0.20%
Be 313.107†	15236.3	11.460	ug/L	0.0357	11.460	ppb	0.0357	0.31%
Ca 317.933Radial†	18884.6	30217	ug/L	493.4	30217	ppb	493.4	1.63%
Cd 226.502†	1258.0	-0.1342	ug/L	0.39797	-0.1342	ppb	0.39797	296.51%
Co 228.616†	2962.4	54.413	ug/L	0.3423	54.413	ppb	0.3423	0.63%
Cr 267.716†	14733.4	167.83	ug/L	0.598	167.83	ppb	0.598	0.36%
Cu 324.752†	21984.1	73.086	ug/L	0.2181	73.086	ppb	0.2181	0.30%
Fe 238.204 Radial†	15806.1	136790	ug/L	2132.3	136790	ppb	2132.3	1.56%
K 766.490 Radial†	122857.2	22488	ug/L	423.5	22488	ppb	423.5	1.88%

Mg 279.077 IEC†	740.9	24610	ug/L	38.2	24610	ppb	38.2	0.16%
Mn 257.610†	2333979.1	2601.7	ug/L	4.10	2601.7	ppb	4.10	0.16%
Mo 202.031†	-101.1	2.5703	ug/L	0.27316	2.5703	ppb	0.27316	10.63%
Na 589.592 Radial†	7403.7	2216.8	ug/L	46.36	2216.8	ppb	46.36	2.09%
Ni 231.604†	4647.9	115.70	ug/L	0.364	115.70	ppb	0.364	0.31%
P 214.914†	818.8	405.24	ug/L	5.455	405.24	ppb	5.455	1.35%
Pb 220.353†	733.8	102.27	ug/L	0.611	102.27	ppb	0.611	0.60%
S 181.975 Axial†	502.2	688.71	ug/L	9.998	688.71	ppb	9.998	1.45%
Sb 206.836†	35.3	0.7778	ug/L	4.27168	0.7778	ppb	4.27168	549.17%
Se 196.026†	-613.2	47.288	ug/L	5.9542	47.288	ppb	5.9542	12.59%
Si 251.611†	1009886.2	32163	ug/L	60.0	32163	ppb	60.0	0.19%
Sn 189.927†	-150.3	-20.008	ug/L	0.4605	-20.008	ppb	0.4605	2.30%
Sr 421.552†	62996.5	406.66	ug/L	7.043	406.66	ppb	7.043	1.73%
Ti 334.940†	1545815.8	2491.9	ug/L	3.63	2491.9	ppb	3.63	0.15%
Tl 190.801†	-122.7	-9.0717	ug/L	3.45944	-9.0717	ppb	3.45944	38.13%
U 409.014†	-6567.2	-209.69	ug/L	1.154	-209.69	ppb	1.154	0.55%
V 292.402†	35694.2	220.06	ug/L	0.484	220.06	ppb	0.484	0.22%
Zn 213.857†	31354.6	282.46	ug/L	0.447	282.46	ppb	0.447	0.16%
SiO2†	1013512.0	69154	ug/L	737.4	69154	ppb	737.4	1.07%

Sequence No.: 66
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 1/11/2010 22:48:23
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc Radial	5079.6	5079.6	101	%			22:50:15
1	Y RADIAL	5389.7	5389.7	99.27	%			22:50:15
1	Al 396.153Radial†	6424.9	6369.6	4889.6	ug/L	4889.6	ppb	22:50:15
1	Ca 317.933Radial†	3212.7	3165.0	5064.3	ug/L	5064.3	ppb	22:50:35
1	Fe 238.204 Radial†	616.0	601.8	5222.8	ug/L	5222.8	ppb	22:50:35
1	K 766.490 Radial†	29984.7	27133.3	4957.4	ug/L	4957.4	ppb	22:50:15
1	Mg 279.077 IEC†	159.7	156.4	5224.5	ug/L	5224.5	ppb	22:50:35
1	Na 589.592 Radial†	32827.0	33821.3	10127	ug/L	10127	ppb	22:50:15
1	Sr 421.552†	77561.5	76905.0	496.69	ug/L	496.69	ppb	22:50:15
1	Sc 361.383	869829.9	869829.9	102.05	%			22:51:33
1	Y 371.029	724813.4	724813.4	100.30	%			22:51:33
1	Ag 328.068†	112256.4	109648.7	508.08	ug/L	508.08	ppb	22:51:38
1	As 188.979†	1168.9	1169.1	508.75	ug/L	508.75	ppb	22:51:58
1	B 249.677†	21933.1	22125.4	491.29	ug/L	491.29	ppb	22:51:38
1	Ba 233.527†	65369.0	64070.4	501.47	ug/L	501.47	ppb	22:51:38
1	Be 313.107†	1354071.0	1331520.0	508.47	ug/L	508.47	ppb	22:51:33
1	Cd 226.502†	45934.7	45218.2	501.64	ug/L	501.64	ppb	22:51:38
1	Co 228.616†	25026.0	24599.2	503.62	ug/L	503.62	ppb	22:51:38
1	Cr 267.716†	45970.3	44965.7	503.33	ug/L	503.33	ppb	22:51:38
1	Cu 324.752†	175429.1	165501.2	494.88	ug/L	494.88	ppb	22:51:38
1	Mn 257.610†	463526.8	453792.6	503.45	ug/L	503.45	ppb	22:51:33
1	Mo 202.031†	7299.5	7129.5	504.29	ug/L	504.29	ppb	22:51:58
1	Ni 231.604†	20709.0	20226.1	503.33	ug/L	503.33	ppb	22:51:38
1	P 214.914†	4370.4	4053.0	2372.0	ug/L	2372.0	ppb	22:51:58
1	Pb 220.353†	4106.8	4087.9	502.19	ug/L	502.19	ppb	22:51:58
1	S 181.975 Axial†	768.6	710.2	1004.1	ug/L	1004.1	ppb	22:51:58
1	Sb 206.836†	1518.9	1460.5	518.37	ug/L	518.37	ppb	22:51:58
1	Se 196.026†	760.2	777.0	519.14	ug/L	519.14	ppb	22:51:58
1	Si 251.611†	82253.8	80054.9	2543.4	ug/L	2543.4	ppb	22:51:38
1	Sn 189.927†	2909.9	2843.9	504.65	ug/L	504.65	ppb	22:51:58
1	Ti 334.940†	312356.6	307471.3	495.11	ug/L	495.11	ppb	22:51:38
1	Tl 190.801†	1628.5	1628.7	502.72	ug/L	502.72	ppb	22:51:58
1	U 409.014†	15741.1	17437.2	512.67	ug/L	512.67	ppb	22:51:38
1	V 292.402†	73659.6	73493.1	508.74	ug/L	508.74	ppb	22:51:38
1	Zn 213.857†	54822.5	53103.5	497.88	ug/L	497.88	ppb	22:51:38
1	SiO2†	81679.8	79471.2	5408.7	ug/L	5408.7	ppb	22:53:05
2	Sc Radial	5126.2	5126.2	102	%			22:50:40
2	Y RADIAL	5453.9	5453.9	100.5	%			22:50:40
2	Al 396.153Radial†	6467.9	6353.8	4877.1	ug/L	4877.1	ppb	22:50:40
2	Ca 317.933Radial†	3210.7	3134.0	5014.6	ug/L	5014.6	ppb	22:51:00
2	Fe 238.204 Radial†	615.3	595.5	5168.6	ug/L	5168.6	ppb	22:51:00
2	K 766.490 Radial†	29977.3	26855.5	4906.5	ug/L	4906.5	ppb	22:50:40
2	Mg 279.077 IEC†	161.7	157.0	5244.3	ug/L	5244.3	ppb	22:51:00
2	Na 589.592 Radial†	33137.8	33830.6	10129	ug/L	10129	ppb	22:50:40
2	Sr 421.552†	77856.0	76494.8	494.04	ug/L	494.04	ppb	22:50:40
2	Sc 361.383	864920.1	864920.1	101.47	%			22:52:04
2	Y 371.029	721286.8	721286.8	99.809	%			22:52:04
2	Ag 328.068†	113153.8	111157.7	515.04	ug/L	515.04	ppb	22:52:09
2	As 188.979†	1176.2	1182.8	514.67	ug/L	514.67	ppb	22:52:29
2	B 249.677†	22081.8	22393.9	497.26	ug/L	497.26	ppb	22:52:09
2	Ba 233.527†	66001.5	65057.4	509.18	ug/L	509.18	ppb	22:52:09
2	Be 313.107†	1345862.7	1330963.1	508.28	ug/L	508.28	ppb	22:52:04
2	Cd 226.502†	46354.3	45887.3	509.08	ug/L	509.08	ppb	22:52:09
2	Co 228.616†	25269.5	24978.3	511.38	ug/L	511.38	ppb	22:52:09
2	Cr 267.716†	46342.6	45588.4	510.30	ug/L	510.30	ppb	22:52:09
2	Cu 324.752†	176991.5	168016.9	502.40	ug/L	502.40	ppb	22:52:09
2	Mn 257.610†	460670.0	453555.7	503.18	ug/L	503.18	ppb	22:52:04
2	Mo 202.031†	7347.9	7217.8	510.53	ug/L	510.53	ppb	22:52:29
2	Ni 231.604†	20861.9	20491.9	509.94	ug/L	509.94	ppb	22:52:09

2	P 214.914†	4411.4	4117.7	2410.0 ug/L	2410.0 ppb	22:52:29
2	Pb 220.353†	4134.5	4138.0	508.34 ug/L	508.34 ppb	22:52:29
2	S 181.975 Axial†	777.6	723.4	1022.8 ug/L	1022.8 ppb	22:52:29
2	Sb 206.836†	1524.0	1474.0	523.23 ug/L	523.23 ppb	22:52:29
2	Se 196.026†	772.7	793.5	529.65 ug/L	529.65 ppb	22:52:29
2	Si 251.611†	82963.5	81211.9	2580.2 ug/L	2580.2 ppb	22:52:09
2	Sn 189.927†	2939.7	2889.4	512.70 ug/L	512.70 ppb	22:52:29
2	Ti 334.940†	314944.4	311759.2	502.01 ug/L	502.01 ppb	22:52:09
2	Tl 190.801†	1647.8	1656.8	511.34 ug/L	511.34 ppb	22:52:29
2	U 409.014†	15606.3	17392.0	511.33 ug/L	511.33 ppb	22:52:09
2	V 292.402†	74135.2	74371.6	514.83 ug/L	514.83 ppb	22:52:09
2	Zn 213.857†	55314.7	53893.6	505.30 ug/L	505.30 ppb	22:52:09
2	SiO2†	82861.2	81089.9	5519.0 ug/L	5519.0 ppb	22:53:10
3	Sc Radial	4979.8	4979.8	98.9 %		22:51:05
3	Y RADIAL	5339.0	5339.0	98.33 %		22:51:05
3	Al 396.153Radial†	6320.0	6391.1	4906.0 ug/L	4906.0 ppb	22:51:05
3	Ca 317.933Radial†	3194.3	3210.1	5136.5 ug/L	5136.5 ppb	22:51:25
3	Fe 238.204 Radial†	611.6	609.6	5290.4 ug/L	5290.4 ppb	22:51:25
3	K 766.490 Radial†	29506.6	27245.4	4977.9 ug/L	4977.9 ppb	22:51:05
3	Mg 279.077 IEC†	158.4	158.2	5286.1 ug/L	5286.1 ppb	22:51:25
3	Na 589.592 Radial†	32402.2	34043.8	10193 ug/L	10193 ppb	22:51:05
3	Sr 421.552†	76218.3	77087.4	497.86 ug/L	497.86 ppb	22:51:05
3	Sc 361.383	869477.7	869477.7	102.00 %		22:52:35
3	Y 371.029	723745.4	723745.4	100.15 %		22:52:35
3	Ag 328.068†	113071.7	110492.6	512.00 ug/L	512.00 ppb	22:52:40
3	As 188.979†	1162.3	1163.1	506.17 ug/L	506.17 ppb	22:53:00
3	B 249.677†	22328.5	22521.7	500.10 ug/L	500.10 ppb	22:52:40
3	Ba 233.527†	66096.7	64809.7	507.25 ug/L	507.25 ppb	22:52:40
3	Be 313.107†	1354396.0	1332376.2	508.81 ug/L	508.81 ppb	22:52:35
3	Cd 226.502†	46314.7	45609.0	505.98 ug/L	505.98 ppb	22:52:40
3	Co 228.616†	25237.0	24815.9	508.05 ug/L	508.05 ppb	22:52:40
3	Cr 267.716†	46299.4	45306.6	507.15 ug/L	507.15 ppb	22:52:40
3	Cu 324.752†	177407.6	167510.5	500.89 ug/L	500.89 ppb	22:52:40
3	Mn 257.610†	464762.2	455187.8	505.00 ug/L	505.00 ppb	22:52:35
3	Mo 202.031†	7342.6	7174.7	507.49 ug/L	507.49 ppb	22:53:00
3	Ni 231.604†	20871.1	20393.2	507.49 ug/L	507.49 ppb	22:52:40
3	P 214.914†	4385.3	4069.3	2380.6 ug/L	2380.6 ppb	22:53:00
3	Pb 220.353†	4133.4	4115.5	505.58 ug/L	505.58 ppb	22:53:00
3	S 181.975 Axial†	777.3	719.0	1016.6 ug/L	1016.6 ppb	22:53:00
3	Sb 206.836†	1516.3	1458.6	517.85 ug/L	517.85 ppb	22:53:00
3	Se 196.026†	758.0	775.2	518.20 ug/L	518.20 ppb	22:53:00
3	Si 251.611†	83161.4	80977.3	2572.8 ug/L	2572.8 ppb	22:52:40
3	Sn 189.927†	2938.1	2872.7	509.76 ug/L	509.76 ppb	22:53:00
3	Ti 334.940†	315694.6	310867.8	500.58 ug/L	500.58 ppb	22:52:40
3	Tl 190.801†	1638.4	1639.1	505.94 ug/L	505.94 ppb	22:53:00
3	U 409.014†	15879.4	17579.0	516.84 ug/L	516.84 ppb	22:52:40
3	V 292.402†	74064.2	73919.0	511.69 ug/L	511.69 ppb	22:52:40
3	Zn 213.857†	55358.9	53651.2	503.02 ug/L	503.02 ppb	22:52:40
3	SiO2†	82943.0	80742.0	5495.3 ug/L	5495.3 ppb	22:53:15

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	868075.9	101.84	%	0.321				0.32%
Sc Radial	5061.9	101	%	1.5				1.48%
Y 371.029	723281.8	100.08	%	0.250				0.25%
Y RADIAL	5394.2	99.35	%	1.061				1.07%
Ag 328.068†	110433.0	511.71	ug/L	3.487	511.71	ppb	3.487	0.68%
QC value within limits for Ag 328.068 Recovery = 102.34%								
Al 396.153Radial†	6371.5	4890.9	ug/L	14.49	4890.9	ppb	14.49	0.30%
QC value within limits for Al 396.153Radial Recovery = 97.82%								
As 188.979†	1171.7	509.86	ug/L	4.360	509.86	ppb	4.360	0.86%
QC value within limits for As 188.979 Recovery = 101.97%								
B 249.677†	22347.0	496.21	ug/L	4.499	496.21	ppb	4.499	0.91%
QC value within limits for B 249.677 Recovery = 99.24%								
Ba 233.527†	64645.8	505.97	ug/L	4.014	505.97	ppb	4.014	0.79%
QC value within limits for Ba 233.527 Recovery = 101.19%								
Be 313.107†	1331619.7	508.52	ug/L	0.271	508.52	ppb	0.271	0.05%
QC value within limits for Be 313.107 Recovery = 101.70%								
Ca 317.933Radial†	3169.7	5071.8	ug/L	61.31	5071.8	ppb	61.31	1.21%

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   QC value within limits for Ca 317.933Radial  Recovery = 101.44%
Cd 226.502†            45571.5      505.57 ug/L         3.734      505.57 ppb          3.734   0.74%
   QC value within limits for Cd 226.502  Recovery = 101.11%
Co 228.616†            24797.8      507.68 ug/L         3.894      507.68 ppb          3.894   0.77%
   QC value within limits for Co 228.616  Recovery = 101.54%
Cr 267.716†            45286.9      506.93 ug/L         3.490      506.93 ppb          3.490   0.69%
   QC value within limits for Cr 267.716  Recovery = 101.39%
Cu 324.752†           167009.5      499.39 ug/L         3.978      499.39 ppb          3.978   0.80%
   QC value within limits for Cu 324.752  Recovery = 99.88%
Fe 238.204 Radial†       602.3      5227.3 ug/L         61.00      5227.3 ppb          61.00   1.17%
   QC value within limits for Fe 238.204 Radial  Recovery = 104.55%
K 766.490 Radial†      27078.1      4947.3 ug/L         36.78      4947.3 ppb          36.78   0.74%
   QC value within limits for K 766.490 Radial  Recovery = 98.95%
Mg 279.077 IEC†          157.2      5251.6 ug/L         31.44      5251.6 ppb          31.44   0.60%
   QC value within limits for Mg 279.077 IEC  Recovery = 105.03%
Mn 257.610†           454178.7      503.87 ug/L         0.983      503.87 ppb          0.983   0.20%
   QC value within limits for Mn 257.610  Recovery = 100.77%
Mo 202.031†             7174.0      507.44 ug/L         3.117      507.44 ppb          3.117   0.61%
   QC value within limits for Mo 202.031  Recovery = 101.49%
Na 589.592 Radial†     33898.6       10150 ug/L          37.7       10150 ppb           37.7   0.37%
   QC value within limits for Na 589.592 Radial  Recovery = 101.50%
Ni 231.604†            20370.4      506.92 ug/L         3.344      506.92 ppb          3.344   0.66%
   QC value within limits for Ni 231.604  Recovery = 101.38%
P 214.914†              4080.0      2387.5 ug/L         19.95      2387.5 ppb          19.95   0.84%
   QC value within limits for P 214.914  Recovery = 95.50%
Pb 220.353†             4113.8      505.37 ug/L         3.079      505.37 ppb          3.079   0.61%
   QC value within limits for Pb 220.353  Recovery = 101.07%
S 181.975 Axial†         717.5      1014.5 ug/L          9.50      1014.5 ppb           9.50   0.94%
   QC value within limits for S 181.975 Axial  Recovery = 101.45%
Sb 206.836†             1464.4      519.81 ug/L         2.969      519.81 ppb          2.969   0.57%
   QC value within limits for Sb 206.836  Recovery = 103.96%
Se 196.026†              781.9      522.33 ug/L         6.358      522.33 ppb          6.358   1.22%
   QC value within limits for Se 196.026  Recovery = 104.47%
Si 251.611†            80748.1      2565.5 ug/L         19.44      2565.5 ppb          19.44   0.76%
   QC value within limits for Si 251.611  Recovery = 102.62%
Sn 189.927†             2868.7      509.04 ug/L         4.076      509.04 ppb          4.076   0.80%
   QC value within limits for Sn 189.927  Recovery = 101.81%
Sr 421.552†            76829.1      496.19 ug/L         1.960      496.19 ppb          1.960   0.39%
   QC value within limits for Sr 421.552  Recovery = 99.24%
Ti 334.940†           310032.7      499.23 ug/L         3.642      499.23 ppb          3.642   0.73%
   QC value within limits for Ti 334.940  Recovery = 99.85%
Tl 190.801†             1641.5      506.67 ug/L         4.357      506.67 ppb          4.357   0.86%
   QC value within limits for Tl 190.801  Recovery = 101.33%
U 409.014†             17469.4      513.61 ug/L         2.874      513.61 ppb          2.874   0.56%
   QC value within limits for U 409.014  Recovery = 102.72%
V 292.402†             73927.9      511.75 ug/L         3.043      511.75 ppb          3.043   0.59%
   QC value within limits for V 292.402  Recovery = 102.35%
Zn 213.857†            53549.4      502.07 ug/L         3.803      502.07 ppb          3.803   0.76%
   QC value within limits for Zn 213.857  Recovery = 100.41%
SiO2†                  80434.4      5474.4 ug/L         58.06      5474.4 ppb          58.06   1.06%
   QC value within limits for SiO2  Recovery = 102.37%
All analyte(s) passed QC.
```

Sequence No.: 67
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 1/11/2010 22:55:25
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc Radial	5176.0	5176.0	103	%			22:57:17
1	Y RADIAL	5549.0	5549.0	102.2	%			22:57:17
1	Al 396.153Radial†	-7.0	-6.1	-4.7088	ug/L	-4.7088	ppb	22:57:17
1	Ca 317.933Radial†	25.5	5.1	8.1193	ug/L	8.1193	ppb	22:57:37
1	Fe 238.204 Radial†	8.2	-0.9	-7.9800	ug/L	-7.9800	ppb	22:57:37
1	K 766.490 Radial†	2872.1	203.9	37.406	ug/L	37.406	ppb	22:57:17
1	Mg 279.077 IEC†	0.2	-1.7	-56.871	ug/L	-56.871	ppb	22:57:37
1	Na 589.592 Radial†	-1369.8	-52.1	-15.593	ug/L	-15.593	ppb	22:57:17
1	Sr 421.552†	25.8	44.6	0.2880	ug/L	0.2880	ppb	22:57:17
1	Sc 361.383	882577.1	882577.1	103.54	%			22:58:34
1	Y 371.029	747252.0	747252.0	103.40	%			22:58:34
1	Ag 328.068†	406.5	34.6	0.1559	ug/L	0.1559	ppb	22:58:39
1	As 188.979†	-18.0	6.2	2.6961	ug/L	2.6961	ppb	22:58:59
1	B 249.677†	-447.7	199.5	4.4490	ug/L	4.4490	ppb	22:58:59
1	Ba 233.527†	-0.4	11.0	0.0858	ug/L	0.0858	ppb	22:58:59
1	Be 313.107†	-4454.0	283.7	0.1085	ug/L	0.1085	ppb	22:58:39
1	Cd 226.502†	-177.9	32.3	0.3591	ug/L	0.3591	ppb	22:58:59
1	Co 228.616†	-88.7	-11.0	-0.2264	ug/L	-0.2264	ppb	22:58:59
1	Cr 267.716†	81.9	-4.2	-0.0473	ug/L	-0.0473	ppb	22:58:59
1	Cu 324.752†	6341.0	-288.0	-0.8625	ug/L	-0.8625	ppb	22:58:39
1	Mn 257.610†	490.3	28.6	0.0332	ug/L	0.0332	ppb	22:58:59
1	Mo 202.031†	15.3	-8.9	-0.6306	ug/L	-0.6306	ppb	22:58:59
1	Ni 231.604†	77.0	6.5	0.1608	ug/L	0.1608	ppb	22:58:59
1	P 214.914†	211.7	-25.4	-15.358	ug/L	-15.358	ppb	22:58:59
1	Pb 220.353†	-74.1	-8.2	-1.0056	ug/L	-1.0056	ppb	22:58:59
1	S 181.975 Axial†	46.6	2.0	2.8781	ug/L	2.8781	ppb	22:58:59
1	Sb 206.836†	33.2	4.1	1.3879	ug/L	1.3879	ppb	22:58:59
1	Se 196.026†	-30.6	2.4	1.5296	ug/L	1.5296	ppb	22:58:59
1	Si 251.611†	572.3	2.3	0.0814	ug/L	0.0814	ppb	22:58:59
1	Sn 189.927†	1.2	-6.5	-1.1515	ug/L	-1.1515	ppb	22:58:59
1	Ti 334.940†	-1307.4	111.8	0.1851	ug/L	0.1851	ppb	22:58:39
1	Tl 190.801†	-30.5	3.4	1.0374	ug/L	1.0374	ppb	22:58:59
1	U 409.014†	-2033.9	47.2	1.3945	ug/L	1.3945	ppb	22:58:34
1	V 292.402†	-1342.3	13.3	0.0837	ug/L	0.0837	ppb	22:58:39
1	Zn 213.857†	604.8	-36.2	-0.3412	ug/L	-0.3412	ppb	22:58:59
1	SiO2†	642.5	48.9	3.3509	ug/L	3.3509	ppb	23:00:05
2	Sc Radial	5278.9	5278.9	105	%			22:57:42
2	Y RADIAL	5667.0	5667.0	104.4	%			22:57:42
2	Al 396.153Radial†	-9.2	-8.1	-6.2517	ug/L	-6.2517	ppb	22:57:42
2	Ca 317.933Radial†	18.9	-1.8	-2.8339	ug/L	-2.8339	ppb	22:58:02
2	Fe 238.204 Radial†	14.4	4.9	42.006	ug/L	42.006	ppb	22:58:02
2	K 766.490 Radial†	2740.5	23.9	4.3928	ug/L	4.3928	ppb	22:57:42
2	Mg 279.077 IEC†	-2.0	-3.8	-127.27	ug/L	-127.27	ppb	22:58:02
2	Na 589.592 Radial†	-1361.1	-17.9	-5.3478	ug/L	-5.3478	ppb	22:57:42
2	Sr 421.552†	-9.2	10.8	0.0696	ug/L	0.0696	ppb	22:57:42
2	Sc 361.383	869443.9	869443.9	102.00	%			22:59:04
2	Y 371.029	736966.7	736966.7	101.98	%			22:59:04
2	Ag 328.068†	386.0	20.4	0.1054	ug/L	0.1054	ppb	22:59:09
2	As 188.979†	-12.8	11.1	4.8225	ug/L	4.8225	ppb	22:59:29
2	B 249.677†	-461.1	179.8	4.0034	ug/L	4.0034	ppb	22:59:29
2	Ba 233.527†	7.5	18.8	0.1480	ug/L	0.1480	ppb	22:59:29
2	Be 313.107†	-4488.7	184.7	0.0706	ug/L	0.0706	ppb	22:59:09
2	Cd 226.502†	-198.7	9.3	0.0990	ug/L	0.0990	ppb	22:59:29
2	Co 228.616†	-76.8	-0.6	-0.0142	ug/L	-0.0142	ppb	22:59:29
2	Cr 267.716†	98.6	13.4	0.1498	ug/L	0.1498	ppb	22:59:29
2	Cu 324.752†	6443.6	-94.9	-0.2827	ug/L	-0.2827	ppb	22:59:09
2	Mn 257.610†	492.6	38.1	0.0521	ug/L	0.0521	ppb	22:59:29
2	Mo 202.031†	20.2	-3.9	-0.2746	ug/L	-0.2746	ppb	22:59:29
2	Ni 231.604†	78.9	9.4	0.2348	ug/L	0.2348	ppb	22:59:29

2	P 214.914†	209.8	-24.2	-14.789 ug/L	-14.789 ppb	22:59:29
2	Pb 220.353†	-59.9	4.6	0.5563 ug/L	0.5563 ppb	22:59:29
2	S 181.975 Axial†	47.7	3.8	5.3736 ug/L	5.3736 ppb	22:59:29
2	Sb 206.836†	38.3	9.6	3.2680 ug/L	3.2680 ppb	22:59:29
2	Se 196.026†	-30.0	2.6	1.8303 ug/L	1.8303 ppb	22:59:29
2	Si 251.611†	581.4	19.5	0.6251 ug/L	0.6251 ppb	22:59:29
2	Sn 189.927†	4.4	-3.4	-0.5994 ug/L	-0.5994 ppb	22:59:29
2	Ti 334.940†	-1323.3	77.1	0.1334 ug/L	0.1334 ppb	22:59:09
2	Tl 190.801†	-39.1	-5.5	-1.6930 ug/L	-1.6930 ppb	22:59:29
2	U 409.014†	-1983.2	67.3	1.9794 ug/L	1.9794 ppb	22:59:04
2	V 292.402†	-1362.9	-26.5	-0.1900 ug/L	-0.1900 ppb	22:59:09
2	Zn 213.857†	618.2	-14.2	-0.1390 ug/L	-0.1390 ppb	22:59:29
2	SiO2†	596.3	12.9	0.8906 ug/L	0.8906 ppb	23:00:10
3	Sc Radial	5283.7	5283.7	105 %		22:58:07
3	Y RADIAL	5664.1	5664.1	104.3 %		22:58:07
3	Al 396.153Radial†	-26.5	-24.6	-18.945 ug/L	-18.945 ppb	22:58:07
3	Ca 317.933Radial†	11.0	-9.3	-14.855 ug/L	-14.855 ppb	22:58:27
3	Fe 238.204 Radial†	11.2	1.8	15.484 ug/L	15.484 ppb	22:58:27
3	K 766.490 Radial†	2750.3	30.9	5.6781 ug/L	5.6781 ppb	22:58:07
3	Mg 279.077 IEC†	5.4	3.2	107.93 ug/L	107.93 ppb	22:58:27
3	Na 589.592 Radial†	-1389.9	-44.1	-13.198 ug/L	-13.198 ppb	22:58:07
3	Sr 421.552†	-25.9	-5.2	-0.0334 ug/L	-0.0334 ppb	22:58:07
3	Sc 361.383	882211.9	882211.9	103.50 %		22:59:35
3	Y 371.029	746007.1	746007.1	103.23 %		22:59:35
3	Ag 328.068†	319.6	-49.2	-0.2222 ug/L	-0.2222 ppb	22:59:40
3	As 188.979†	-20.1	4.2	1.8464 ug/L	1.8464 ppb	23:00:00
3	B 249.677†	-468.9	178.8	3.9857 ug/L	3.9857 ppb	23:00:00
3	Ba 233.527†	-1.5	10.0	0.0792 ug/L	0.0792 ppb	23:00:00
3	Be 313.107†	-4449.7	286.0	0.1093 ug/L	0.1093 ppb	22:59:40
3	Cd 226.502†	-184.3	26.0	0.2875 ug/L	0.2875 ppb	23:00:00
3	Co 228.616†	-86.2	-8.6	-0.1781 ug/L	-0.1781 ppb	23:00:00
3	Cr 267.716†	108.9	22.0	0.2454 ug/L	0.2454 ppb	23:00:00
3	Cu 324.752†	6332.4	-293.9	-0.8793 ug/L	-0.8793 ppb	22:59:40
3	Mn 257.610†	502.4	40.5	0.0423 ug/L	0.0423 ppb	23:00:00
3	Mo 202.031†	13.0	-11.1	-0.7839 ug/L	-0.7839 ppb	23:00:00
3	Ni 231.604†	72.2	1.8	0.0441 ug/L	0.0441 ppb	23:00:00
3	P 214.914†	217.0	-20.3	-12.226 ug/L	-12.226 ppb	23:00:00
3	Pb 220.353†	-59.0	6.3	0.7700 ug/L	0.7700 ppb	23:00:00
3	S 181.975 Axial†	40.7	-3.6	-5.1486 ug/L	-5.1486 ppb	23:00:00
3	Sb 206.836†	38.5	9.3	3.1362 ug/L	3.1362 ppb	23:00:00
3	Se 196.026†	-24.7	8.1	5.2687 ug/L	5.2687 ppb	23:00:00
3	Si 251.611†	574.4	4.5	0.1531 ug/L	0.1531 ppb	23:00:00
3	Sn 189.927†	-2.3	-9.9	-1.7616 ug/L	-1.7616 ppb	23:00:00
3	Ti 334.940†	-1337.2	82.5	0.1212 ug/L	0.1212 ppb	22:59:40
3	Tl 190.801†	-40.6	-6.4	-1.9568 ug/L	-1.9568 ppb	23:00:00
3	U 409.014†	-1990.8	88.1	2.5956 ug/L	2.5956 ppb	22:59:35
3	V 292.402†	-1299.4	54.3	0.3632 ug/L	0.3632 ppb	22:59:40
3	Zn 213.857†	621.5	-19.8	-0.1877 ug/L	-0.1877 ppb	23:00:00
3	SiO2†	595.3	3.5	0.2626 ug/L	0.2626 ppb	23:00:15

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	878077.7	103.01	%	0.877				0.85%
Sc Radial	5246.2	104	%	1.2				1.16%
Y 371.029	743408.6	102.87	%	0.777				0.76%
Y RADIAL	5626.7	103.6	%	1.24				1.20%
Ag 328.068†	1.9	0.0130	ug/L	0.20529	0.0130	ppb	0.20529	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-13.0	-9.9686	ug/L	7.81226	-9.9686	ppb	7.81226	78.37%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	7.2	3.1217	ug/L	1.53300	3.1217	ppb	1.53300	49.11%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	186.0	4.1460	ug/L	0.26249	4.1460	ppb	0.26249	6.33%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	13.3	0.1043	ug/L	0.03793	0.1043	ppb	0.03793	36.35%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	251.4	0.0961	ug/L	0.02208	0.0961	ppb	0.02208	22.97%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-2.0	-3.1898	ug/L	11.49121	-3.1898	ppb	11.49121	360.25%

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   QC value within limits for Ca 317.933Radial  Recovery = Not calculated
Cd 226.502†              22.5      0.2485 ug/L       0.13437      0.2485 ppb        0.13437  54.07%
   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†              -6.7     -0.1396 ug/L       0.11120     -0.1396 ppb        0.11120  79.68%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              10.4      0.1160 ug/L       0.14926      0.1160 ppb        0.14926 128.68%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†            -225.6     -0.6748 ug/L       0.33974     -0.6748 ppb        0.33974  50.34%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†        1.9      16.503 ug/L       25.0087      16.503 ppb        25.0087 151.54%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†        86.2      15.826 ug/L       18.7001      15.826 ppb        18.7001 118.16%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†          -0.8     -25.405 ug/L      120.7158     -25.405 ppb       120.7158 475.17%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†              35.7      0.0425 ug/L       0.00947      0.0425 ppb        0.00947  22.27%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              -8.0     -0.5631 ug/L       0.26133     -0.5631 ppb        0.26133  46.41%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†      -38.0     -11.380 ug/L        5.3591     -11.380 ppb         5.3591  47.09%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†               5.9      0.1466 ug/L       0.09618      0.1466 ppb        0.09618  65.61%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†              -23.3     -14.124 ug/L        1.6683     -14.124 ppb         1.6683  11.81%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†               0.9      0.1069 ug/L       0.96934      0.1069 ppb        0.96934 906.74%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†          0.7      1.0344 ug/L       5.49808      1.0344 ppb        5.49808 531.54%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†               7.7      2.5973 ug/L       1.04948      2.5973 ppb        1.04948  40.41%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               4.4      2.8762 ug/L       2.07738      2.8762 ppb        2.07738  72.23%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               8.8      0.2865 ug/L       0.29536      0.2865 ppb        0.29536 103.08%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              -6.6     -1.1708 ug/L       0.58132     -1.1708 ppb        0.58132  49.65%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†              16.7      0.1080 ug/L       0.16414      0.1080 ppb        0.16414 151.93%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†              90.5      0.1466 ug/L       0.03396      0.1466 ppb        0.03396  23.17%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -2.8     -0.8708 ug/L       1.65785     -0.8708 ppb        1.65785 190.38%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†               67.5      1.9898 ug/L       0.60061      1.9898 ppb        0.60061  30.18%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†               13.7      0.0857 ug/L       0.27657      0.0857 ppb        0.27657 322.90%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†             -23.4     -0.2226 ug/L       0.10550     -0.2226 ppb        0.10550  47.39%
   QC value within limits for Zn 213.857  Recovery = Not calculated
SiO2†                    21.8      1.5014 ug/L       1.63225      1.5014 ppb        1.63225 108.72%
   QC value within limits for SiO2  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 68
Sample ID: 243385004|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 78
Date Collected: 1/11/2010 23:02:24
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 243385004|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5318.3	5318.3	106	%			23:04:37
1	Y RADIAL	6077.2	6077.2	111.9	%			23:04:37
1	Al 396.153Radial†	153196.2	145044.1	111900	ug/L	111900	ppb	23:04:17
1	Ca 317.933Radial†	20140.0	19048.4	30479	ug/L	30479	ppb	23:04:17
1	Fe 238.204 Radial†	17084.7	16166.6	139910	ug/L	139910	ppb	23:04:17
1	K 766.490 Radial†	129194.0	119728.4	21914	ug/L	21914	ppb	23:04:17
1	Mg 279.077 IEC†	761.0	718.6	23862	ug/L	23862	ppb	23:04:37
1	Na 589.592 Radial†	6696.9	7621.0	2281.8	ug/L	2281.8	ppb	23:04:17
1	Sr 421.552†	64405.8	60997.8	393.75	ug/L	393.75	ppb	23:04:17
1	Sc 361.383	882042.0	882042.0	103.48	%			23:05:36
1	Y 371.029	791275.4	791275.4	109.49	%			23:05:36
1	Ag 328.068†	-8808.4	-8870.3	5.1526	ug/L	5.1526	ppb	23:05:36
1	As 188.979†	-36.1	-11.3	35.469	ug/L	35.469	ppb	23:05:56
1	B 249.677†	1214.9	1805.9	25.914	ug/L	25.914	ppb	23:05:36
1	Ba 233.527†	265772.0	256851.3	2010.8	ug/L	2010.8	ppb	23:05:36
1	Be 313.107†	8103.1	12416.1	10.862	ug/L	10.862	ppb	23:05:36
1	Cd 226.502†	1121.1	1287.5	-0.1200	ug/L	-0.1200	ppb	23:05:56
1	Co 228.616†	2995.8	2969.7	53.950	ug/L	53.950	ppb	23:05:56
1	Cr 267.716†	19103.7	18378.4	208.65	ug/L	208.65	ppb	23:05:56
1	Cu 324.752†	28695.3	21318.7	71.260	ug/L	71.260	ppb	23:05:36
1	Mn 257.610†	2409789.8	2328356.0	2595.9	ug/L	2595.9	ppb	23:05:36
1	Mo 202.031†	-78.8	-99.8	2.8771	ug/L	2.8771	ppb	23:05:56
1	Ni 231.604†	5433.4	5182.8	129.02	ug/L	129.02	ppb	23:05:56
1	P 214.914†	1101.7	834.8	411.53	ug/L	411.53	ppb	23:05:56
1	Pb 220.353†	746.3	784.6	106.99	ug/L	106.99	ppb	23:05:56
1	S 181.975 Axial†	531.5	470.6	645.06	ug/L	645.06	ppb	23:05:56
1	Sb 206.836†	51.7	22.1	-4.2286	ug/L	-4.2286	ppb	23:05:56
1	Se 196.026†	-677.4	-622.7	50.878	ug/L	50.878	ppb	23:05:56
1	Si 251.611†	1154319.8	1114974.6	35510	ug/L	35510	ppb	23:05:36
1	Sn 189.927†	-139.3	-142.3	-18.502	ug/L	-18.502	ppb	23:05:56
1	Ti 334.940†	1733093.0	1676221.2	2702.1	ug/L	2702.1	ppb	23:05:36
1	Tl 190.801†	-160.5	-122.3	-7.5783	ug/L	-7.5783	ppb	23:05:56
1	U 409.014†	-8803.5	-6496.0	-208.04	ug/L	-208.04	ppb	23:05:36
1	V 292.402†	37249.9	37307.7	230.35	ug/L	230.35	ppb	23:05:36
1	Zn 213.857†	33132.1	31398.3	282.49	ug/L	282.49	ppb	23:05:36
1	SiO2†	1171907.0	1131949.5	77235	ug/L	77235	ppb	23:06:56
2	Sc Radial	5313.7	5313.7	106	%			23:05:02
2	Y RADIAL	6061.3	6061.3	111.6	%			23:05:02
2	Al 396.153Radial†	153642.2	145593.6	112320	ug/L	112320	ppb	23:04:42
2	Ca 317.933Radial†	20154.0	19078.4	30527	ug/L	30527	ppb	23:04:42
2	Fe 238.204 Radial†	17206.9	16296.5	141030	ug/L	141030	ppb	23:04:42
2	K 766.490 Radial†	129355.5	119988.4	21962	ug/L	21962	ppb	23:04:42
2	Mg 279.077 IEC†	769.8	727.5	24160	ug/L	24160	ppb	23:05:02
2	Na 589.592 Radial†	6709.3	7638.2	2287.0	ug/L	2287.0	ppb	23:04:42
2	Sr 421.552†	64740.2	61367.9	396.14	ug/L	396.14	ppb	23:04:42
2	Sc 361.383	883572.5	883572.5	103.66	%			23:06:03
2	Y 371.029	791644.5	791644.5	109.54	%			23:06:03
2	Ag 328.068†	-8915.7	-8959.1	5.1029	ug/L	5.1029	ppb	23:06:03
2	As 188.979†	-32.2	-7.5	37.341	ug/L	37.341	ppb	23:06:23
2	B 249.677†	1226.5	1815.0	26.005	ug/L	26.005	ppb	23:06:03
2	Ba 233.527†	267236.4	257819.1	2018.4	ug/L	2018.4	ppb	23:06:03
2	Be 313.107†	8249.4	12543.8	10.912	ug/L	10.912	ppb	23:06:03
2	Cd 226.502†	1072.1	1238.4	-0.7795	ug/L	-0.7795	ppb	23:06:23
2	Co 228.616†	2983.1	2952.5	53.586	ug/L	53.586	ppb	23:06:23
2	Cr 267.716†	18984.4	18231.3	207.02	ug/L	207.02	ppb	23:06:23
2	Cu 324.752†	28841.3	21411.5	71.593	ug/L	71.593	ppb	23:06:03
2	Mn 257.610†	2425397.3	2339379.0	2608.2	ug/L	2608.2	ppb	23:06:03
2	Mo 202.031†	-67.9	-89.2	3.7052	ug/L	3.7052	ppb	23:06:23
2	Ni 231.604†	5427.5	5168.1	128.65	ug/L	128.65	ppb	23:06:23

2	P 214.914†	1106.1	837.2	412.10 ug/L	412.10 ppb	23:06:23
2	Pb 220.353†	762.3	798.8	108.71 ug/L	108.71 ppb	23:06:23
2	S 181.975 Axial†	529.9	468.2	641.57 ug/L	641.57 ppb	23:06:23
2	Sb 206.836†	55.5	25.6	-3.0441 ug/L	-3.0441 ppb	23:06:23
2	Se 196.026†	-668.3	-612.7	60.913 ug/L	60.913 ppb	23:06:23
2	Si 251.611†	1161909.3	1120364.0	35682 ug/L	35682 ppb	23:06:03
2	Sn 189.927†	-148.8	-151.2	-20.044 ug/L	-20.044 ppb	23:06:23
2	Ti 334.940†	1736387.7	1676498.5	2702.5 ug/L	2702.5 ppb	23:06:03
2	Tl 190.801†	-159.9	-121.4	-7.2328 ug/L	-7.2328 ppb	23:06:23
2	U 409.014†	-8533.7	-6221.0	-200.05 ug/L	-200.05 ppb	23:06:03
2	V 292.402†	37400.9	37391.0	230.78 ug/L	230.78 ppb	23:06:03
2	Zn 213.857†	33346.9	31550.1	283.82 ug/L	283.82 ppb	23:06:03
2	SiO2†	1164046.0	1122404.1	76584 ug/L	76584 ppb	23:07:02
3	Sc Radial	5346.1	5346.1	106 %		23:05:27
3	Y RADIAL	6122.3	6122.3	112.8 %		23:05:27
3	Al 396.153Radial†	151282.0	142486.8	109930 ug/L	109930 ppb	23:05:07
3	Ca 317.933Radial†	19909.6	18732.2	29973 ug/L	29973 ppb	23:05:07
3	Fe 238.204 Radial†	16865.9	15876.4	137400 ug/L	137400 ppb	23:05:07
3	K 766.490 Radial†	127302.8	117311.0	21471 ug/L	21471 ppb	23:05:07
3	Mg 279.077 IEC†	766.7	720.2	23919 ug/L	23919 ppb	23:05:27
3	Na 589.592 Radial†	6622.3	7517.7	2250.9 ug/L	2250.9 ppb	23:05:07
3	Sr 421.552†	63569.3	59892.7	386.62 ug/L	386.62 ppb	23:05:07
3	Sc 361.383	887498.7	887498.7	104.12 %		23:06:30
3	Y 371.029	793465.8	793465.8	109.80 %		23:06:30
3	Ag 328.068†	-8835.3	-8843.8	4.4639 ug/L	4.4639 ppb	23:06:30
3	As 188.979†	-38.6	-13.4	34.001 ug/L	34.001 ppb	23:06:50
3	B 249.677†	1319.9	1899.5	28.257 ug/L	28.257 ppb	23:06:30
3	Ba 233.527†	267677.8	257102.5	2012.7 ug/L	2012.7 ppb	23:06:30
3	Be 313.107†	8296.8	12554.0	10.897 ug/L	10.897 ppb	23:06:30
3	Cd 226.502†	1117.9	1277.8	0.0323 ug/L	0.0323 ppb	23:06:50
3	Co 228.616†	2995.7	2951.9	53.637 ug/L	53.637 ppb	23:06:50
3	Cr 267.716†	19108.5	18269.5	207.38 ug/L	207.38 ppb	23:06:50
3	Cu 324.752†	28852.9	21299.5	71.069 ug/L	71.069 ppb	23:06:30
3	Mn 257.610†	2427587.5	2331131.2	2598.7 ug/L	2598.7 ppb	23:06:30
3	Mo 202.031†	-87.6	-107.9	2.1298 ug/L	2.1298 ppb	23:06:50
3	Ni 231.604†	5477.7	5193.1	129.27 ug/L	129.27 ppb	23:06:50
3	P 214.914†	1099.8	826.4	407.90 ug/L	407.90 ppb	23:06:50
3	Pb 220.353†	706.5	741.9	101.57 ug/L	101.57 ppb	23:06:50
3	S 181.975 Axial†	533.3	469.2	643.36 ug/L	643.36 ppb	23:06:50
3	Sb 206.836†	70.3	39.6	1.8253 ug/L	1.8253 ppb	23:06:50
3	Se 196.026†	-663.8	-605.6	53.770 ug/L	53.770 ppb	23:06:50
3	Si 251.611†	1164123.9	1117532.2	35592 ug/L	35592 ppb	23:06:30
3	Sn 189.927†	-143.3	-145.3	-19.141 ug/L	-19.141 ppb	23:06:50
3	Ti 334.940†	1738840.8	1671443.9	2694.3 ug/L	2694.3 ppb	23:06:30
3	Tl 190.801†	-161.7	-122.5	-7.6704 ug/L	-7.6704 ppb	23:06:50
3	U 409.014†	-8797.9	-6438.3	-206.05 ug/L	-206.05 ppb	23:06:30
3	V 292.402†	37350.2	37182.7	229.88 ug/L	229.88 ppb	23:06:30
3	Zn 213.857†	33433.5	31491.0	283.61 ug/L	283.61 ppb	23:06:30
3	SiO2†	1174822.8	1127786.7	76951 ug/L	76951 ppb	23:07:08

Mean Data: 243385004|936480|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	884371.1	103.75	%	0.330				0.32%
Sc Radial	5326.0	106	%	0.3				0.33%
Y 371.029	792128.5	109.61	%	0.162				0.15%
Y RADIAL	6087.0	112.1	%	0.58				0.52%
Ag 328.068†	-8891.1	4.9065	ug/L	0.38408	4.9065	ppb	0.38408	7.83%
Al 396.153Radial†	144374.8	111380	ug/L	1279.1	111380	ppb	1279.1	1.15%
As 188.979†	-10.7	35.604	ug/L	1.6741	35.604	ppb	1.6741	4.70%
B 249.677†	1840.2	26.725	ug/L	1.3273	26.725	ppb	1.3273	4.97%
Ba 233.527†	257257.6	2014.0	ug/L	3.96	2014.0	ppb	3.96	0.20%
Be 313.107†	12504.6	10.890	ug/L	0.0255	10.890	ppb	0.0255	0.23%
Ca 317.933Radial†	18953.0	30327	ug/L	306.9	30327	ppb	306.9	1.01%
Cd 226.502†	1267.9	-0.2891	ug/L	0.43149	-0.2891	ppb	0.43149	149.25%
Co 228.616†	2958.0	53.725	ug/L	0.1971	53.725	ppb	0.1971	0.37%
Cr 267.716†	18293.1	207.68	ug/L	0.854	207.68	ppb	0.854	0.41%
Cu 324.752†	21343.2	71.307	ug/L	0.2650	71.307	ppb	0.2650	0.37%
Fe 238.204 Radial†	16113.2	139450	ug/L	1861.2	139450	ppb	1861.2	1.33%
K 766.490 Radial†	119009.3	21782	ug/L	270.6	21782	ppb	270.6	1.24%

Mg 279.077 IEC†	722.1	23981	ug/L	158.2	23981	ppb	158.2	0.66%
Mn 257.610†	2332955.4	2600.9	ug/L	6.47	2600.9	ppb	6.47	0.25%
Mo 202.031†	-99.0	2.9040	ug/L	0.78802	2.9040	ppb	0.78802	27.14%
Na 589.592 Radial†	7592.3	2273.2	ug/L	19.52	2273.2	ppb	19.52	0.86%
Ni 231.604†	5181.3	128.98	ug/L	0.313	128.98	ppb	0.313	0.24%
P 214.914†	832.8	410.51	ug/L	2.275	410.51	ppb	2.275	0.55%
Pb 220.353†	775.1	105.76	ug/L	3.728	105.76	ppb	3.728	3.52%
S 181.975 Axial†	469.3	643.33	ug/L	1.743	643.33	ppb	1.743	0.27%
Sb 206.836†	29.1	-1.8158	ug/L	3.20840	-1.8158	ppb	3.20840	176.69%
Se 196.026†	-613.6	55.187	ug/L	5.1659	55.187	ppb	5.1659	9.36%
Si 251.611†	1117623.6	35595	ug/L	85.9	35595	ppb	85.9	0.24%
Sn 189.927†	-146.3	-19.229	ug/L	0.7752	-19.229	ppb	0.7752	4.03%
Sr 421.552†	60752.8	392.17	ug/L	4.955	392.17	ppb	4.955	1.26%
Ti 334.940†	1674721.2	2699.6	ug/L	4.61	2699.6	ppb	4.61	0.17%
Tl 190.801†	-122.0	-7.4938	ug/L	0.23072	-7.4938	ppb	0.23072	3.08%
U 409.014†	-6385.1	-204.71	ug/L	4.158	-204.71	ppb	4.158	2.03%
V 292.402†	37293.8	230.34	ug/L	0.448	230.34	ppb	0.448	0.19%
Zn 213.857†	31479.8	283.31	ug/L	0.714	283.31	ppb	0.714	0.25%
SiO2†	1127380.1	76923	ug/L	326.5	76923	ppb	326.5	0.42%

Sequence No.: 69
Sample ID: 243385005|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 79
Date Collected: 1/11/2010 23:09:18
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 243385005|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5320.0	5320.0	106	%			23:11:31
1	Y RADIAL	6119.3	6119.3	112.7	%			23:11:31
1	Al 396.153Radial†	157697.1	149259.1	115150	ug/L	115150	ppb	23:11:11
1	Ca 317.933Radial†	14096.7	13322.5	21317	ug/L	21317	ppb	23:11:11
1	Fe 238.204 Radial†	17009.2	16090.2	139250	ug/L	139250	ppb	23:11:11
1	K 766.490 Radial†	116418.1	107598.2	19696	ug/L	19696	ppb	23:11:11
1	Mg 279.077 IEC†	708.4	668.6	22192	ug/L	22192	ppb	23:11:31
1	Na 589.592 Radial†	6109.0	7062.5	2114.6	ug/L	2114.6	ppb	23:11:11
1	Sr 421.552†	46226.2	43772.1	282.56	ug/L	282.56	ppb	23:11:11
1	Sc 361.383	891200.1	891200.1	104.55	%			23:12:29
1	Y 371.029	806052.0	806052.0	111.54	%			23:12:29
1	Ag 328.068†	-9188.8	-9146.7	3.7953	ug/L	3.7953	ppb	23:12:34
1	As 188.979†	-62.7	-36.3	28.999	ug/L	28.999	ppb	23:12:54
1	B 249.677†	1401.5	1972.3	29.694	ug/L	29.694	ppb	23:12:34
1	Ba 233.527†	182215.1	174293.0	1366.3	ug/L	1366.3	ppb	23:12:34
1	Be 313.107†	1280.9	5810.5	10.503	ug/L	10.503	ppb	23:12:34
1	Cd 226.502†	1119.8	1275.2	-0.2097	ug/L	-0.2097	ppb	23:12:54
1	Co 228.616†	2970.5	2915.8	50.583	ug/L	50.583	ppb	23:12:54
1	Cr 267.716†	13433.6	12765.5	145.90	ug/L	145.90	ppb	23:12:34
1	Cu 324.752†	28796.9	21130.9	70.656	ug/L	70.656	ppb	23:12:34
1	Mn 257.610†	2179787.6	2084436.6	2325.5	ug/L	2325.5	ppb	23:12:29
1	Mo 202.031†	-72.1	-92.7	3.2273	ug/L	3.2273	ppb	23:12:54
1	Ni 231.604†	3920.2	3681.5	91.634	ug/L	91.634	ppb	23:12:54
1	P 214.914†	1484.8	1190.3	630.40	ug/L	630.40	ppb	23:12:54
1	Pb 220.353†	729.3	761.0	104.68	ug/L	104.68	ppb	23:12:54
1	S 181.975 Axial†	475.7	411.9	561.39	ug/L	561.39	ppb	23:12:54
1	Sb 206.836†	72.5	41.4	-0.7668	ug/L	-0.7668	ppb	23:12:54
1	Se 196.026†	-683.2	-621.5	49.705	ug/L	49.705	ppb	23:12:54
1	Si 251.611†	1293558.8	1236687.8	39387	ug/L	39387	ppb	23:12:29
1	Sn 189.927†	-118.0	-120.5	-15.960	ug/L	-15.960	ppb	23:12:54
1	Ti 334.940†	2368056.9	2266328.2	3651.9	ug/L	3651.9	ppb	23:12:29
1	Tl 190.801†	-194.4	-153.1	-11.866	ug/L	-11.866	ppb	23:12:54
1	U 409.014†	-8443.0	-6063.8	-195.07	ug/L	-195.07	ppb	23:12:29
1	V 292.402†	38271.6	37915.0	233.61	ug/L	233.61	ppb	23:12:34
1	Zn 213.857†	35530.3	33363.1	301.38	ug/L	301.38	ppb	23:12:34
1	SiO2†	1292916.0	1236051.8	84338	ug/L	84338	ppb	23:14:03
2	Sc Radial	5311.3	5311.3	105	%			23:11:57
2	Y RADIAL	6129.8	6129.8	112.9	%			23:11:57
2	Al 396.153Radial†	160258.2	151932.4	117210	ug/L	117210	ppb	23:11:37
2	Ca 317.933Radial†	14322.4	13558.5	21695	ug/L	21695	ppb	23:11:37
2	Fe 238.204 Radial†	17305.1	16397.1	141900	ug/L	141900	ppb	23:11:37
2	K 766.490 Radial†	118332.1	109593.9	20062	ug/L	20062	ppb	23:11:37
2	Mg 279.077 IEC†	710.7	671.9	22299	ug/L	22299	ppb	23:11:57
2	Na 589.592 Radial†	6188.1	7147.0	2139.9	ug/L	2139.9	ppb	23:11:37
2	Sr 421.552†	47051.2	44626.1	288.07	ug/L	288.07	ppb	23:11:37
2	Sc 361.383	894100.8	894100.8	104.89	%			23:13:00
2	Y 371.029	806884.2	806884.2	111.65	%			23:13:00
2	Ag 328.068†	-9008.6	-8946.4	5.5670	ug/L	5.5670	ppb	23:13:05
2	As 188.979†	-58.5	-32.2	31.328	ug/L	31.328	ppb	23:13:25
2	B 249.677†	1438.7	2003.5	30.120	ug/L	30.120	ppb	23:13:05
2	Ba 233.527†	180795.1	172373.9	1351.4	ug/L	1351.4	ppb	23:13:05
2	Be 313.107†	1383.5	5904.4	10.548	ug/L	10.548	ppb	23:13:05
2	Cd 226.502†	1125.5	1277.1	-0.4641	ug/L	-0.4641	ppb	23:13:25
2	Co 228.616†	2976.8	2912.6	50.464	ug/L	50.464	ppb	23:13:25
2	Cr 267.716†	13365.3	12658.6	144.75	ug/L	144.75	ppb	23:13:05
2	Cu 324.752†	28617.5	20870.5	70.023	ug/L	70.023	ppb	23:13:05
2	Mn 257.610†	2190760.6	2088133.9	2329.8	ug/L	2329.8	ppb	23:13:00
2	Mo 202.031†	-73.4	-93.6	3.3452	ug/L	3.3452	ppb	23:13:25
2	Ni 231.604†	3917.9	3667.2	91.277	ug/L	91.277	ppb	23:13:25

2	P 214.914†	1497.5	1197.8	633.48	ug/L	633.48 ppb	23:13:25
2	Pb 220.353†	719.0	748.8	103.38	ug/L	103.38 ppb	23:13:25
2	S 181.975 Axial†	462.9	398.3	541.70	ug/L	541.70 ppb	23:13:25
2	Sb 206.836†	75.0	43.6	-0.1432	ug/L	-0.1432 ppb	23:13:25
2	Se 196.026†	-675.2	-611.7	64.575	ug/L	64.575 ppb	23:13:25
2	Si 251.611†	1300338.9	1239137.8	39465	ug/L	39465 ppb	23:13:00
2	Sn 189.927†	-129.8	-131.5	-17.799	ug/L	-17.799 ppb	23:13:25
2	Ti 334.940†	2378429.6	2268869.0	3656.1	ug/L	3656.1 ppb	23:13:00
2	Tl 190.801†	-195.1	-153.1	-11.825	ug/L	-11.825 ppb	23:13:25
2	U 409.014†	-8732.3	-6313.4	-202.74	ug/L	-202.74 ppb	23:13:00
2	V 292.402†	37897.0	37439.1	229.94	ug/L	229.94 ppb	23:13:05
2	Zn 213.857†	35137.7	32878.6	296.54	ug/L	296.54 ppb	23:13:05
2	SiO2†	1284687.3	1224195.0	83529	ug/L	83529 ppb	23:14:08
3	Sc Radial	5299.9	5299.9	105	%		23:12:22
3	Y RADIAL	6115.4	6115.4	112.6	%		23:12:22
3	Al 396.153Radial†	160472.2	152461.7	117620	ug/L	117620 ppb	23:12:02
3	Ca 317.933Radial†	14338.5	13602.9	21766	ug/L	21766 ppb	23:12:02
3	Fe 238.204 Radial†	17310.4	16437.3	142250	ug/L	142250 ppb	23:12:02
3	K 766.490 Radial†	118422.8	109920.7	20122	ug/L	20122 ppb	23:12:02
3	Mg 279.077 IEC†	706.3	669.2	22209	ug/L	22209 ppb	23:12:22
3	Na 589.592 Radial†	6126.3	7100.9	2126.1	ug/L	2126.1 ppb	23:12:02
3	Sr 421.552†	46991.4	44665.0	288.32	ug/L	288.32 ppb	23:12:02
3	Sc 361.383	893189.0	893189.0	104.79	%		23:13:31
3	Y 371.029	806129.3	806129.3	111.55	%		23:13:31
3	Ag 328.068†	-8981.2	-8929.0	5.7623	ug/L	5.7623 ppb	23:13:36
3	As 188.979†	-61.9	-35.5	29.964	ug/L	29.964 ppb	23:13:56
3	B 249.677†	1344.5	1914.9	28.110	ug/L	28.110 ppb	23:13:36
3	Ba 233.527†	181457.5	173182.0	1357.7	ug/L	1357.7 ppb	23:13:36
3	Be 313.107†	1228.8	5758.1	10.486	ug/L	10.486 ppb	23:13:36
3	Cd 226.502†	1119.4	1272.4	-0.5519	ug/L	-0.5519 ppb	23:13:56
3	Co 228.616†	2975.9	2914.6	50.509	ug/L	50.509 ppb	23:13:56
3	Cr 267.716†	13425.4	12729.1	145.55	ug/L	145.55 ppb	23:13:36
3	Cu 324.752†	28812.3	21084.3	70.679	ug/L	70.679 ppb	23:13:36
3	Mn 257.610†	2185450.7	2085198.8	2326.6	ug/L	2326.6 ppb	23:13:31
3	Mo 202.031†	-78.3	-98.4	3.0336	ug/L	3.0336 ppb	23:13:56
3	Ni 231.604†	3930.6	3683.2	91.675	ug/L	91.675 ppb	23:13:56
3	P 214.914†	1488.9	1191.0	629.07	ug/L	629.07 ppb	23:13:56
3	Pb 220.353†	718.0	748.6	103.41	ug/L	103.41 ppb	23:13:56
3	S 181.975 Axial†	462.5	398.3	541.68	ug/L	541.68 ppb	23:13:56
3	Sb 206.836†	77.5	46.0	0.7268	ug/L	0.7268 ppb	23:13:56
3	Se 196.026†	-684.1	-620.9	59.810	ug/L	59.810 ppb	23:13:56
3	Si 251.611†	1295793.6	1236065.7	39367	ug/L	39367 ppb	23:13:31
3	Sn 189.927†	-115.5	-117.9	-15.388	ug/L	-15.388 ppb	23:13:56
3	Ti 334.940†	2373962.3	2266920.5	3652.9	ug/L	3652.9 ppb	23:13:31
3	Tl 190.801†	-187.5	-146.1	-9.6984	ug/L	-9.6984 ppb	23:13:56
3	U 409.014†	-8660.0	-6252.8	-200.99	ug/L	-200.99 ppb	23:13:31
3	V 292.402†	38061.5	37633.0	231.21	ug/L	231.21 ppb	23:13:36
3	Zn 213.857†	35353.6	33118.8	298.77	ug/L	298.77 ppb	23:13:36
3	SiO2†	1283420.8	1224236.8	83532	ug/L	83532 ppb	23:14:14

Mean Data: 243385005|936480|1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	892830.0	104.74	%	0.174				0.17%
Sc Radial	5310.4	105	%	0.2				0.19%
Y 371.029	806355.2	111.58	%	0.064				0.06%
Y RADIAL	6121.5	112.7	%	0.14				0.12%
Ag 328.068†	-9007.4	5.0415	ug/L	1.08370	5.0415	ppb	1.08370	21.50%
Al 396.153Radial†	151217.7	116660	ug/L	1324.4	116660	ppb	1324.4	1.14%
As 188.979†	-34.6	30.097	ug/L	1.1705	30.097	ppb	1.1705	3.89%
B 249.677†	1963.6	29.308	ug/L	1.0592	29.308	ppb	1.0592	3.61%
Ba 233.527†	173283.0	1358.5	ug/L	7.47	1358.5	ppb	7.47	0.55%
Be 313.107†	5824.3	10.513	ug/L	0.0324	10.513	ppb	0.0324	0.31%
Ca 317.933Radial†	13494.6	21593	ug/L	241.1	21593	ppb	241.1	1.12%
Cd 226.502†	1274.9	-0.4085	ug/L	0.17775	-0.4085	ppb	0.17775	43.51%
Co 228.616†	2914.4	50.519	ug/L	0.0602	50.519	ppb	0.0602	0.12%
Cr 267.716†	12717.7	145.40	ug/L	0.587	145.40	ppb	0.587	0.40%
Cu 324.752†	21028.6	70.453	ug/L	0.3727	70.453	ppb	0.3727	0.53%
Fe 238.204 Radial†	16308.2	141140	ug/L	1643.4	141140	ppb	1643.4	1.16%
K 766.490 Radial†	109037.6	19960	ug/L	230.4	19960	ppb	230.4	1.15%

Mg 279.077 IEC†	669.9	22233	ug/L	57.8	22233	ppb	57.8	0.26%
Mn 257.610†	2085923.1	2327.3	ug/L	2.27	2327.3	ppb	2.27	0.10%
Mo 202.031†	-94.9	3.2021	ug/L	0.15733	3.2021	ppb	0.15733	4.91%
Na 589.592 Radial†	7103.5	2126.9	ug/L	12.66	2126.9	ppb	12.66	0.60%
Ni 231.604†	3677.3	91.529	ug/L	0.2188	91.529	ppb	0.2188	0.24%
P 214.914†	1193.1	630.98	ug/L	2.265	630.98	ppb	2.265	0.36%
Pb 220.353†	752.8	103.82	ug/L	0.740	103.82	ppb	0.740	0.71%
S 181.975 Axial†	402.9	548.26	ug/L	11.371	548.26	ppb	11.371	2.07%
Sb 206.836†	43.7	-0.0611	ug/L	0.75019	-0.0611	ppb	0.75019	>999.9%
Se 196.026†	-618.0	58.030	ug/L	7.5929	58.030	ppb	7.5929	13.08%
Si 251.611†	1237297.1	39406	ug/L	51.7	39406	ppb	51.7	0.13%
Sn 189.927†	-123.3	-16.382	ug/L	1.2599	-16.382	ppb	1.2599	7.69%
Sr 421.552†	44354.4	286.32	ug/L	3.258	286.32	ppb	3.258	1.14%
Ti 334.940†	2267372.6	3653.6	ug/L	2.15	3653.6	ppb	2.15	0.06%
Tl 190.801†	-150.8	-11.130	ug/L	1.2396	-11.130	ppb	1.2396	11.14%
U 409.014†	-6210.0	-199.60	ug/L	4.017	-199.60	ppb	4.017	2.01%
V 292.402†	37662.4	231.59	ug/L	1.864	231.59	ppb	1.864	0.81%
Zn 213.857†	33120.1	298.90	ug/L	2.421	298.90	ppb	2.421	0.81%
SiO2†	1228161.2	83800	ug/L	466.3	83800	ppb	466.3	0.56%

Sequence No.: 70
Sample ID: 243385006|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 80
Date Collected: 1/11/2010 23:16:25
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 243385006|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5106.1	5106.1	101	%			23:18:38
1	Y RADIAL	5985.1	5985.1	110.2	%			23:18:38
1	Al 396.153Radial†	94895.8	93580.4	72196	ug/L	72196	ppb	23:18:18
1	Ca 317.933Radial†	15829.0	15589.7	24945	ug/L	24945	ppb	23:18:18
1	Fe 238.204 Radial†	14478.9	14269.3	123490	ug/L	123490	ppb	23:18:18
1	K 766.490 Radial†	69993.1	66432.2	12139	ug/L	12139	ppb	23:18:18
1	Mg 279.077 IEC†	543.5	534.0	17714	ug/L	17714	ppb	23:18:38
1	Na 589.592 Radial†	2667.2	3910.7	1170.9	ug/L	1170.9	ppb	23:18:18
1	Sr 421.552†	38326.7	37814.6	244.06	ug/L	244.06	ppb	23:18:18
1	Sc 361.383	877696.9	877696.9	102.97	%			23:19:36
1	Y 371.029	803328.2	803328.2	111.16	%			23:19:36
1	Ag 328.068†	-7607.7	-7746.4	5.1687	ug/L	5.1687	ppb	23:19:41
1	As 188.979†	-107.1	-80.3	12.652	ug/L	12.652	ppb	23:20:01
1	B 249.677†	854.1	1461.4	19.900	ug/L	19.900	ppb	23:19:41
1	Ba 233.527†	320797.5	311562.2	2437.4	ug/L	2437.4	ppb	23:19:41
1	Be 313.107†	-17225.4	-12143.5	6.4551	ug/L	6.4551	ppb	23:19:41
1	Cd 226.502†	973.7	1149.8	0.0216	ug/L	0.0216	ppb	23:20:01
1	Co 228.616†	2906.3	2897.2	48.389	ug/L	48.389	ppb	23:20:01
1	Cr 267.716†	8402.6	8077.1	93.227	ug/L	93.227	ppb	23:19:41
1	Cu 324.752†	27787.8	20574.6	68.137	ug/L	68.137	ppb	23:19:41
1	Mn 257.610†	2818044.2	2736371.6	3046.6	ug/L	3046.6	ppb	23:19:36
1	Mo 202.031†	-89.1	-110.2	0.9515	ug/L	0.9515	ppb	23:20:01
1	Ni 231.604†	3063.6	2907.3	72.357	ug/L	72.357	ppb	23:20:01
1	P 214.914†	4072.8	3725.5	2182.8	ug/L	2182.8	ppb	23:20:01
1	Pb 220.353†	584.9	631.4	81.263	ug/L	81.263	ppb	23:20:01
1	S 181.975 Axial†	389.7	335.5	461.22	ug/L	461.22	ppb	23:20:01
1	Sb 206.836†	82.8	52.5	0.0165	ug/L	0.0165	ppb	23:20:01
1	Se 196.026†	-558.9	-510.8	68.505	ug/L	68.505	ppb	23:20:01
1	Si 251.611†	773317.1	750476.4	23902	ug/L	23902	ppb	23:19:36
1	Sn 189.927†	-164.0	-166.9	-23.929	ug/L	-23.929	ppb	23:20:01
1	Ti 334.940†	3118340.1	3029831.1	4882.8	ug/L	4882.8	ppb	23:19:36
1	Tl 190.801†	-221.5	-182.3	-9.0498	ug/L	-9.0498	ppb	23:20:01
1	U 409.014†	-6964.9	-4752.5	-154.48	ug/L	-154.48	ppb	23:19:41
1	V 292.402†	42045.7	42143.5	263.57	ug/L	263.57	ppb	23:19:41
1	Zn 213.857†	27282.6	25875.9	232.22	ug/L	232.22	ppb	23:19:41
1	SiO2†	771783.0	748965.3	51103	ug/L	51103	ppb	23:21:10
2	Sc Radial	5290.2	5290.2	105	%			23:19:04
2	Y RADIAL	6161.3	6161.3	113.5	%			23:19:04
2	Al 396.153Radial†	95613.0	91006.4	70211	ug/L	70211	ppb	23:18:44
2	Ca 317.933Radial†	15942.5	15154.5	24249	ug/L	24249	ppb	23:18:44
2	Fe 238.204 Radial†	14537.6	13828.2	119670	ug/L	119670	ppb	23:18:44
2	K 766.490 Radial†	70210.9	64237.6	11737	ug/L	11737	ppb	23:18:44
2	Mg 279.077 IEC†	538.5	510.7	16937	ug/L	16937	ppb	23:19:04
2	Na 589.592 Radial†	2584.8	3740.7	1120.0	ug/L	1120.0	ppb	23:18:44
2	Sr 421.552†	38472.7	36638.4	236.46	ug/L	236.46	ppb	23:18:44
2	Sc 361.383	869865.8	869865.8	102.05	%			23:20:07
2	Y 371.029	795065.8	795065.8	110.02	%			23:20:07
2	Ag 328.068†	-7650.5	-7854.8	3.4672	ug/L	3.4672	ppb	23:20:12
2	As 188.979†	-104.8	-79.0	12.385	ug/L	12.385	ppb	23:20:32
2	B 249.677†	754.8	1371.5	18.283	ug/L	18.283	ppb	23:20:12
2	Ba 233.527†	321657.1	315209.3	2465.7	ug/L	2465.7	ppb	23:20:12
2	Be 313.107†	-17277.8	-12345.5	6.3370	ug/L	6.3370	ppb	23:20:12
2	Cd 226.502†	999.5	1183.5	0.7886	ug/L	0.7886	ppb	23:20:32
2	Co 228.616†	2884.0	2900.7	48.569	ug/L	48.569	ppb	23:20:32
2	Cr 267.716†	8468.8	8215.5	94.710	ug/L	94.710	ppb	23:20:12
2	Cu 324.752†	27774.0	20804.1	68.626	ug/L	68.626	ppb	23:20:12
2	Mn 257.610†	2785572.2	2729190.4	3038.3	ug/L	3038.3	ppb	23:20:07
2	Mo 202.031†	-79.3	-101.4	1.3057	ug/L	1.3057	ppb	23:20:32
2	Ni 231.604†	3038.1	2909.1	72.402	ug/L	72.402	ppb	23:20:32

2	P 214.914†	4093.3	3781.2	2219.3	ug/L	2219.3	ppb	23:20:32
2	Pb 220.353†	615.0	666.0	85.439	ug/L	85.439	ppb	23:20:32
2	S 181.975 Axial†	370.9	320.5	440.35	ug/L	440.35	ppb	23:20:32
2	Sb 206.836†	75.8	46.4	-1.9387	ug/L	-1.9387	ppb	23:20:32
2	Se 196.026†	-567.2	-523.8	47.840	ug/L	47.840	ppb	23:20:32
2	Si 251.611†	761884.5	746034.6	23760	ug/L	23760	ppb	23:20:07
2	Sn 189.927†	-160.3	-164.7	-23.705	ug/L	-23.705	ppb	23:20:32
2	Ti 334.940†	3079036.6	3018581.0	4864.7	ug/L	4864.7	ppb	23:20:07
2	Tl 190.801†	-234.4	-196.9	-13.702	ug/L	-13.702	ppb	23:20:32
2	U 409.014†	-7189.5	-5033.5	-162.33	ug/L	-162.33	ppb	23:20:12
2	V 292.402†	42376.5	42835.2	268.87	ug/L	268.87	ppb	23:20:12
2	Zn 213.857†	27173.3	26007.4	233.83	ug/L	233.83	ppb	23:20:12
2	SiO2†	779837.8	763606.2	52102	ug/L	52102	ppb	23:21:16
3	Sc Radial	5239.3	5239.3	104	%			23:19:29
3	Y RADIAL	6122.2	6122.2	112.8	%			23:19:29
3	Al 396.153Radial†	95408.5	91693.7	70741	ug/L	70741	ppb	23:19:09
3	Ca 317.933Radial†	15928.9	15288.8	24464	ug/L	24464	ppb	23:19:09
3	Fe 238.204 Radial†	14506.7	13932.9	120580	ug/L	120580	ppb	23:19:09
3	K 766.490 Radial†	70153.3	64831.2	11846	ug/L	11846	ppb	23:19:09
3	Mg 279.077 IEC†	545.8	522.6	17336	ug/L	17336	ppb	23:19:29
3	Na 589.592 Radial†	2659.7	3836.5	1148.7	ug/L	1148.7	ppb	23:19:09
3	Sr 421.552†	38332.4	36859.1	237.89	ug/L	237.89	ppb	23:19:09
3	Sc 361.383	878023.8	878023.8	103.01	%			23:20:38
3	Y 371.029	803966.2	803966.2	111.25	%			23:20:38
3	Ag 328.068†	-7627.6	-7762.9	4.1688	ug/L	4.1688	ppb	23:20:43
3	As 188.979†	-110.7	-83.9	10.523	ug/L	10.523	ppb	23:21:03
3	B 249.677†	766.0	1375.5	18.280	ug/L	18.280	ppb	23:20:43
3	Ba 233.527†	322395.3	312997.4	2448.5	ug/L	2448.5	ppb	23:20:43
3	Be 313.107†	-17604.5	-12505.4	6.3025	ug/L	6.3025	ppb	23:20:43
3	Cd 226.502†	988.8	1164.0	0.4803	ug/L	0.4803	ppb	23:21:03
3	Co 228.616†	2913.7	2903.3	48.572	ug/L	48.572	ppb	23:21:03
3	Cr 267.716†	8499.5	8168.2	94.194	ug/L	94.194	ppb	23:20:43
3	Cu 324.752†	27720.0	20498.8	67.758	ug/L	67.758	ppb	23:20:43
3	Mn 257.610†	2812828.9	2730289.6	3039.6	ug/L	3039.6	ppb	23:20:38
3	Mo 202.031†	-100.5	-121.3	-0.0336	ug/L	-0.0336	ppb	23:21:03
3	Ni 231.604†	3097.3	2939.0	73.145	ug/L	73.145	ppb	23:21:03
3	P 214.914†	4091.3	3742.0	2194.9	ug/L	2194.9	ppb	23:21:03
3	Pb 220.353†	632.5	677.4	86.858	ug/L	86.858	ppb	23:21:03
3	S 181.975 Axial†	402.1	347.4	478.34	ug/L	478.34	ppb	23:21:03
3	Sb 206.836†	68.6	38.6	-4.7078	ug/L	-4.7078	ppb	23:21:03
3	Se 196.026†	-572.9	-524.1	50.567	ug/L	50.567	ppb	23:21:03
3	Si 251.611†	772040.4	748957.4	23853	ug/L	23853	ppb	23:20:38
3	Sn 189.927†	-172.1	-174.8	-25.433	ug/L	-25.433	ppb	23:21:03
3	Ti 334.940†	3115372.4	3025822.6	4876.3	ug/L	4876.3	ppb	23:20:38
3	Tl 190.801†	-234.2	-194.5	-12.887	ug/L	-12.887	ppb	23:21:03
3	U 409.014†	-7067.0	-4849.2	-157.00	ug/L	-157.00	ppb	23:20:43
3	V 292.402†	42464.5	42534.9	266.66	ug/L	266.66	ppb	23:20:43
3	Zn 213.857†	27336.1	25918.0	232.89	ug/L	232.89	ppb	23:20:43
3	SiO2†	775697.6	752486.7	51344	ug/L	51344	ppb	23:21:21

Mean Data: 243385006|936480|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	875195.5	102.67	%	0.542				0.53%
Sc Radial	5211.9	104	%	1.9				1.82%
Y 371.029	800786.8	110.81	%	0.687				0.62%
Y RADIAL	6089.6	112.2	%	1.70				1.52%
Ag 328.068†	-7788.1	4.2682	ug/L	0.85509	4.2682	ppb	0.85509	20.03%
Al 396.153Radial†	92093.5	71049	ug/L	1028.2	71049	ppb	1028.2	1.45%
As 188.979†	-81.1	11.853	ug/L	1.1596	11.853	ppb	1.1596	9.78%
B 249.677†	1402.8	18.821	ug/L	0.9347	18.821	ppb	0.9347	4.97%
Ba 233.527†	313256.3	2450.5	ug/L	14.28	2450.5	ppb	14.28	0.58%
Be 313.107†	-12331.4	6.3649	ug/L	0.08001	6.3649	ppb	0.08001	1.26%
Ca 317.933Radial†	15344.3	24552	ug/L	356.6	24552	ppb	356.6	1.45%
Cd 226.502†	1165.8	0.4302	ug/L	0.38593	0.4302	ppb	0.38593	89.71%
Co 228.616†	2900.4	48.510	ug/L	0.1051	48.510	ppb	0.1051	0.22%
Cr 267.716†	8153.6	94.044	ug/L	0.7530	94.044	ppb	0.7530	0.80%
Cu 324.752†	20625.8	68.174	ug/L	0.4351	68.174	ppb	0.4351	0.64%
Fe 238.204 Radial†	14010.1	121250	ug/L	1994.4	121250	ppb	1994.4	1.64%
K 766.490 Radial†	65167.0	11907	ug/L	208.0	11907	ppb	208.0	1.75%

Mg 279.077 IEC†	522.4	17329	ug/L	388.3	17329	ppb	388.3	2.24%
Mn 257.610†	2731950.5	3041.5	ug/L	4.50	3041.5	ppb	4.50	0.15%
Mo 202.031†	-111.0	0.7412	ug/L	0.69398	0.7412	ppb	0.69398	93.63%
Na 589.592 Radial†	3829.3	1146.5	ug/L	25.51	1146.5	ppb	25.51	2.23%
Ni 231.604†	2918.5	72.635	ug/L	0.4424	72.635	ppb	0.4424	0.61%
P 214.914†	3749.6	2199.0	ug/L	18.60	2199.0	ppb	18.60	0.85%
Pb 220.353†	658.3	84.520	ug/L	2.9084	84.520	ppb	2.9084	3.44%
S 181.975 Axial†	334.4	459.97	ug/L	19.026	459.97	ppb	19.026	4.14%
Sb 206.836†	45.9	-2.2100	ug/L	2.37383	-2.2100	ppb	2.37383	107.41%
Se 196.026†	-519.6	55.637	ug/L	11.2271	55.637	ppb	11.2271	20.18%
Si 251.611†	748489.5	23838	ug/L	71.9	23838	ppb	71.9	0.30%
Sn 189.927†	-168.8	-24.356	ug/L	0.9399	-24.356	ppb	0.9399	3.86%
Sr 421.552†	37104.1	239.47	ug/L	4.036	239.47	ppb	4.036	1.69%
Ti 334.940†	3024744.9	4874.6	ug/L	9.19	4874.6	ppb	9.19	0.19%
Tl 190.801†	-191.2	-11.880	ug/L	2.4845	-11.880	ppb	2.4845	20.91%
U 409.014†	-4878.4	-157.94	ug/L	4.012	-157.94	ppb	4.012	2.54%
V 292.402†	42504.5	266.37	ug/L	2.664	266.37	ppb	2.664	1.00%
Zn 213.857†	25933.8	232.98	ug/L	0.810	232.98	ppb	0.810	0.35%
SiO2†	755019.4	51516	ug/L	521.4	51516	ppb	521.4	1.01%

Sequence No.: 71
Sample ID: 243385007|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 81
Date Collected: 1/11/2010 23:23:33
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 243385007|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5310.6	5310.6	105	%			23:25:46
1	Y RADIAL	6098.9	6098.9	112.3	%			23:25:46
1	Al 396.153Radial†	132513.8	125645.6	96934	ug/L	96934	ppb	23:25:26
1	Ca 317.933Radial†	16846.4	15953.4	25527	ug/L	25527	ppb	23:25:26
1	Fe 238.204 Radial†	15698.7	14876.0	128740	ug/L	128740	ppb	23:25:26
1	K 766.490 Radial†	108808.0	100577.7	18407	ug/L	18407	ppb	23:25:26
1	Mg 279.077 IEC†	685.0	647.6	21501	ug/L	21501	ppb	23:25:46
1	Na 589.592 Radial†	7496.0	8387.9	2511.4	ug/L	2511.4	ppb	23:25:26
1	Sr 421.552†	51338.4	48696.8	314.34	ug/L	314.34	ppb	23:25:26
1	Sc 361.383	891135.1	891135.1	104.54	%			23:26:45
1	Y 371.029	798493.5	798493.5	110.49	%			23:26:45
1	Ag 328.068†	-8310.4	-8307.1	4.0791	ug/L	4.0791	ppb	23:26:45
1	As 188.979†	-33.6	-8.5	33.298	ug/L	33.298	ppb	23:27:05
1	B 249.677†	891.3	1484.4	19.856	ug/L	19.856	ppb	23:26:45
1	Ba 233.527†	345711.7	330695.2	2586.8	ug/L	2586.8	ppb	23:26:45
1	Be 313.107†	7515.9	11774.5	10.066	ug/L	10.066	ppb	23:26:45
1	Cd 226.502†	1025.2	1184.8	-0.1435	ug/L	-0.1435	ppb	23:27:05
1	Co 228.616†	3440.2	3365.3	63.053	ug/L	63.053	ppb	23:27:05
1	Cr 267.716†	7554.8	7143.1	82.799	ug/L	82.799	ppb	23:27:05
1	Cu 324.752†	27998.6	20369.4	67.829	ug/L	67.829	ppb	23:26:45
1	Mn 257.610†	2169685.8	2074926.0	2313.8	ug/L	2313.8	ppb	23:26:45
1	Mo 202.031†	-55.7	-76.9	3.6711	ug/L	3.6711	ppb	23:27:05
1	Ni 231.604†	3018.2	2819.0	70.153	ug/L	70.153	ppb	23:27:05
1	P 214.914†	1299.6	1013.3	526.51	ug/L	526.51	ppb	23:27:05
1	Pb 220.353†	558.8	597.9	81.931	ug/L	81.931	ppb	23:27:05
1	S 181.975 Axial†	627.1	556.9	769.89	ug/L	769.89	ppb	23:27:05
1	Sb 206.836†	57.7	27.2	-1.3387	ug/L	-1.3387	ppb	23:27:05
1	Se 196.026†	-634.3	-574.7	45.383	ug/L	45.383	ppb	23:27:05
1	Si 251.611†	1127864.1	1078286.1	34342	ug/L	34342	ppb	23:26:45
1	Sn 189.927†	-139.5	-141.1	-19.182	ug/L	-19.182	ppb	23:27:05
1	Ti 334.940†	1593246.1	1525363.2	2458.7	ug/L	2458.7	ppb	23:26:45
1	Tl 190.801†	-148.1	-108.8	-6.4207	ug/L	-6.4207	ppb	23:27:05
1	U 409.014†	-8810.9	-6416.3	-204.13	ug/L	-204.13	ppb	23:26:45
1	V 292.402†	32898.7	32778.3	201.42	ug/L	201.42	ppb	23:26:45
1	Zn 213.857†	31760.2	29759.3	268.45	ug/L	268.45	ppb	23:26:45
1	SiO2†	1133217.3	1083385.3	73921	ug/L	73921	ppb	23:28:05
2	Sc Radial	5337.4	5337.4	106	%			23:26:11
2	Y RADIAL	6086.1	6086.1	112.1	%			23:26:11
2	Al 396.153Radial†	132497.4	124998.0	96434	ug/L	96434	ppb	23:25:51
2	Ca 317.933Radial†	16785.5	15815.5	25306	ug/L	25306	ppb	23:25:51
2	Fe 238.204 Radial†	15570.9	14680.6	127050	ug/L	127050	ppb	23:25:51
2	K 766.490 Radial†	108617.9	99879.4	18280	ug/L	18280	ppb	23:25:51
2	Mg 279.077 IEC†	693.0	651.8	21647	ug/L	21647	ppb	23:26:11
2	Na 589.592 Radial†	7329.9	8195.4	2453.8	ug/L	2453.8	ppb	23:25:51
2	Sr 421.552†	51239.9	48358.9	312.16	ug/L	312.16	ppb	23:25:51
2	Sc 361.383	898923.7	898923.7	105.46	%			23:27:12
2	Y 371.029	806939.5	806939.5	111.66	%			23:27:12
2	Ag 328.068†	-8404.1	-8327.1	3.4371	ug/L	3.4371	ppb	23:27:12
2	As 188.979†	-47.7	-21.6	27.213	ug/L	27.213	ppb	23:27:32
2	B 249.677†	878.7	1465.1	19.597	ug/L	19.597	ppb	23:27:12
2	Ba 233.527†	345597.3	327721.6	2563.5	ug/L	2563.5	ppb	23:27:12
2	Be 313.107†	7406.2	11608.3	9.9601	ug/L	9.9601	ppb	23:27:12
2	Cd 226.502†	1034.5	1185.0	0.0341	ug/L	0.0341	ppb	23:27:32
2	Co 228.616†	3444.0	3340.5	62.596	ug/L	62.596	ppb	23:27:32
2	Cr 267.716†	7612.3	7135.1	82.674	ug/L	82.674	ppb	23:27:32
2	Cu 324.752†	28028.3	20165.4	67.129	ug/L	67.129	ppb	23:27:12
2	Mn 257.610†	2168055.7	2055398.6	2291.9	ug/L	2291.9	ppb	23:27:12
2	Mo 202.031†	-62.5	-82.9	3.1291	ug/L	3.1291	ppb	23:27:32
2	Ni 231.604†	3018.9	2794.7	69.548	ug/L	69.548	ppb	23:27:32

2	P 214.914†	1304.9	1007.5	524.40	ug/L	524.40 ppb	23:27:32
2	Pb 220.353†	576.3	609.8	83.443	ug/L	83.443 ppb	23:27:32
2	S 181.975 Axial†	618.6	543.5	751.12	ug/L	751.12 ppb	23:27:32
2	Sb 206.836†	50.2	19.6	-3.8242	ug/L	-3.8242 ppb	23:27:32
2	Se 196.026†	-617.3	-553.4	53.710	ug/L	53.710 ppb	23:27:32
2	Si 251.611†	1127647.5	1068733.3	34038	ug/L	34038 ppb	23:27:12
2	Sn 189.927†	-120.4	-121.8	-15.820	ug/L	-15.820 ppb	23:27:32
2	Ti 334.940†	1594994.7	1513816.9	2440.1	ug/L	2440.1 ppb	23:27:12
2	Tl 190.801†	-153.9	-113.1	-7.9541	ug/L	-7.9541 ppb	23:27:32
2	U 409.014†	-8859.1	-6389.0	-203.13	ug/L	-203.13 ppb	23:27:12
2	V 292.402†	32995.1	32597.1	200.46	ug/L	200.46 ppb	23:27:12
2	Zn 213.857†	31770.9	29506.3	266.23	ug/L	266.23 ppb	23:27:12
2	SiO2†	1142635.1	1082923.9	73890	ug/L	73890 ppb	23:28:11
3	Sc Radial	5275.3	5275.3	105	%		23:26:36
3	Y RADIAL	6025.8	6025.8	111.0	%		23:26:36
3	Al 396.153Radial†	131470.6	125490.4	96814	ug/L	96814 ppb	23:26:16
3	Ca 317.933Radial†	16681.2	15902.6	25446	ug/L	25446 ppb	23:26:16
3	Fe 238.204 Radial†	15506.8	14792.4	128020	ug/L	128020 ppb	23:26:16
3	K 766.490 Radial†	107746.8	100255.0	18348	ug/L	18348 ppb	23:26:16
3	Mg 279.077 IEC†	687.0	653.8	21712	ug/L	21712 ppb	23:26:36
3	Na 589.592 Radial†	7375.7	8320.6	2491.3	ug/L	2491.3 ppb	23:26:16
3	Sr 421.552†	50906.5	48610.2	313.78	ug/L	313.78 ppb	23:26:16
3	Sc 361.383	903340.0	903340.0	105.98	%		23:27:39
3	Y 371.029	810635.8	810635.8	112.17	%		23:27:39
3	Ag 328.068†	-8532.2	-8409.1	3.3736	ug/L	3.3736 ppb	23:27:39
3	As 188.979†	-45.8	-19.6	28.374	ug/L	28.374 ppb	23:27:59
3	B 249.677†	982.9	1559.3	21.604	ug/L	21.604 ppb	23:27:39
3	Ba 233.527†	349071.4	329397.7	2576.6	ug/L	2576.6 ppb	23:27:39
3	Be 313.107†	7333.0	11504.9	9.9555	ug/L	9.9555 ppb	23:27:39
3	Cd 226.502†	1010.0	1157.1	-0.3755	ug/L	-0.3755 ppb	23:27:59
3	Co 228.616†	3381.7	3265.7	61.024	ug/L	61.024 ppb	23:27:59
3	Cr 267.716†	7543.0	7034.4	81.569	ug/L	81.569 ppb	23:27:59
3	Cu 324.752†	28393.2	20379.8	67.818	ug/L	67.818 ppb	23:27:39
3	Mn 257.610†	2192357.7	2068279.4	2306.3	ug/L	2306.3 ppb	23:27:39
3	Mo 202.031†	-78.7	-98.0	2.1322	ug/L	2.1322 ppb	23:27:59
3	Ni 231.604†	2977.2	2741.3	68.219	ug/L	68.219 ppb	23:27:59
3	P 214.914†	1288.5	986.0	510.40	ug/L	510.40 ppb	23:27:59
3	Pb 220.353†	582.8	613.3	83.850	ug/L	83.850 ppb	23:27:59
3	S 181.975 Axial†	612.5	534.9	738.89	ug/L	738.89 ppb	23:27:59
3	Sb 206.836†	72.7	40.7	3.2984	ug/L	3.2984 ppb	23:27:59
3	Se 196.026†	-610.4	-543.9	62.882	ug/L	62.882 ppb	23:27:59
3	Si 251.611†	1141261.1	1076351.6	34280	ug/L	34280 ppb	23:27:39
3	Sn 189.927†	-126.2	-126.8	-16.664	ug/L	-16.664 ppb	23:27:59
3	Ti 334.940†	1612920.9	1523338.1	2455.4	ug/L	2455.4 ppb	23:27:39
3	Tl 190.801†	-152.4	-110.9	-7.1180	ug/L	-7.1180 ppb	23:27:59
3	U 409.014†	-8682.5	-6181.3	-197.12	ug/L	-197.12 ppb	23:27:39
3	V 292.402†	33464.6	32887.2	202.27	ug/L	202.27 ppb	23:27:39
3	Zn 213.857†	32101.6	29671.1	267.70	ug/L	267.70 ppb	23:27:39
3	SiO2†	1146572.1	1081342.0	73782	ug/L	73782 ppb	23:28:17

Mean Data: 243385007|936480|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	897799.6	105.33	%	0.725				0.69%
Sc Radial	5307.8	105	%	0.6				0.59%
Y 371.029	805356.3	111.44	%	0.861				0.77%
Y RADIAL	6070.3	111.8	%	0.72				0.64%
Ag 328.068†	-8347.8	3.6300	ug/L	0.39030	3.6300	ppb	0.39030	10.75%
Al 396.153Radial†	125378.0	96728	ug/L	260.8	96728	ppb	260.8	0.27%
As 188.979†	-16.6	29.628	ug/L	3.2306	29.628	ppb	3.2306	10.90%
B 249.677†	1502.9	20.352	ug/L	1.0917	20.352	ppb	1.0917	5.36%
Ba 233.527†	329271.5	2575.7	ug/L	11.67	2575.7	ppb	11.67	0.45%
Be 313.107†	11629.2	9.9938	ug/L	0.06231	9.9938	ppb	0.06231	0.62%
Ca 317.933Radial†	15890.5	25426	ug/L	111.6	25426	ppb	111.6	0.44%
Cd 226.502†	1175.6	-0.1616	ug/L	0.20541	-0.1616	ppb	0.20541	127.07%
Co 228.616†	3323.8	62.224	ug/L	1.0644	62.224	ppb	1.0644	1.71%
Cr 267.716†	7104.2	82.347	ug/L	0.6772	82.347	ppb	0.6772	0.82%
Cu 324.752†	20304.8	67.592	ug/L	0.4009	67.592	ppb	0.4009	0.59%
Fe 238.204 Radial†	14783.0	127940	ug/L	848.5	127940	ppb	848.5	0.66%
K 766.490 Radial†	100237.4	18345	ug/L	63.9	18345	ppb	63.9	0.35%

Mg 279.077 IEC†	651.1	21620	ug/L	107.9	21620	ppb	107.9	0.50%
Mn 257.610†	2066201.4	2304.0	ug/L	11.10	2304.0	ppb	11.10	0.48%
Mo 202.031†	-86.0	2.9775	ug/L	0.78057	2.9775	ppb	0.78057	26.22%
Na 589.592 Radial†	8301.3	2485.5	ug/L	29.24	2485.5	ppb	29.24	1.18%
Ni 231.604†	2785.0	69.307	ug/L	0.9894	69.307	ppb	0.9894	1.43%
P 214.914†	1002.2	520.44	ug/L	8.752	520.44	ppb	8.752	1.68%
Pb 220.353†	607.0	83.075	ug/L	1.0113	83.075	ppb	1.0113	1.22%
S 181.975 Axial†	545.1	753.30	ug/L	15.617	753.30	ppb	15.617	2.07%
Sb 206.836†	29.2	-0.6215	ug/L	3.61507	-0.6215	ppb	3.61507	581.67%
Se 196.026†	-557.3	53.992	ug/L	8.7530	53.992	ppb	8.7530	16.21%
Si 251.611†	1074457.0	34220	ug/L	160.8	34220	ppb	160.8	0.47%
Sn 189.927†	-129.9	-17.222	ug/L	1.7492	-17.222	ppb	1.7492	10.16%
Sr 421.552†	48555.3	313.42	ug/L	1.133	313.42	ppb	1.133	0.36%
Ti 334.940†	1520839.4	2451.4	ug/L	9.95	2451.4	ppb	9.95	0.41%
Tl 190.801†	-111.0	-7.1643	ug/L	0.76773	-7.1643	ppb	0.76773	10.72%
U 409.014†	-6328.8	-201.46	ug/L	3.796	-201.46	ppb	3.796	1.88%
V 292.402†	32754.2	201.39	ug/L	0.907	201.39	ppb	0.907	0.45%
Zn 213.857†	29645.6	267.46	ug/L	1.131	267.46	ppb	1.131	0.42%
SiO2†	1082550.4	73864	ug/L	73.1	73864	ppb	73.1	0.10%

Sequence No.: 72
Sample ID: 243385008|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 82
Date Collected: 1/11/2010 23:30:28
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 243385008|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Units	Sample Conc.	Units	Analysis Time
1	Sc Radial	5285.1	5285.1	105	%			23:32:41
1	Y RADIAL	6049.8	6049.8	111.4	%			23:32:41
1	Al 396.153Radial†	142819.3	136070.6	104980	ug/L	104980	ppb	23:32:21
1	Ca 317.933Radial†	11172.6	10624.8	17001	ug/L	17001	ppb	23:32:21
1	Fe 238.204 Radial†	15510.4	14768.6	127810	ug/L	127810	ppb	23:32:21
1	K 766.490 Radial†	86135.9	79475.2	14547	ug/L	14547	ppb	23:32:21
1	Mg 279.077 IEC†	505.4	479.6	15891	ug/L	15891	ppb	23:32:41
1	Na 589.592 Radial†	4499.2	5567.0	1666.8	ug/L	1666.8	ppb	23:32:21
1	Sr 421.552†	31489.2	30020.6	193.77	ug/L	193.77	ppb	23:32:21
1	Sc 361.383	882806.9	882806.9	103.57	%			23:33:38
1	Y 371.029	788273.4	788273.4	109.08	%			23:33:38
1	Ag 328.068†	-8311.8	-8383.5	3.4346	ug/L	3.4346	ppb	23:33:43
1	As 188.979†	-94.2	-67.4	12.741	ug/L	12.741	ppb	23:34:03
1	B 249.677†	938.5	1538.0	21.176	ug/L	21.176	ppb	23:33:43
1	Ba 233.527†	151867.7	146647.9	1149.9	ug/L	1149.9	ppb	23:33:43
1	Be 313.107†	-5394.0	-622.8	7.7911	ug/L	7.7911	ppb	23:33:43
1	Cd 226.502†	983.3	1153.6	-0.3943	ug/L	-0.3943	ppb	23:34:03
1	Co 228.616†	2836.7	2813.7	48.816	ug/L	48.816	ppb	23:34:03
1	Cr 267.716†	9739.8	9321.1	107.07	ug/L	107.07	ppb	23:33:43
1	Cu 324.752†	23307.2	16092.2	54.987	ug/L	54.987	ppb	23:33:43
1	Mn 257.610†	1684275.6	1625814.7	1816.0	ug/L	1816.0	ppb	23:33:38
1	Mo 202.031†	-54.9	-76.7	3.5236	ug/L	3.5236	ppb	23:34:03
1	Ni 231.604†	2878.7	2711.5	67.483	ug/L	67.483	ppb	23:34:03
1	P 214.914†	1542.8	1259.8	682.87	ug/L	682.87	ppb	23:34:03
1	Pb 220.353†	438.2	486.5	69.931	ug/L	69.931	ppb	23:34:03
1	S 181.975 Axial†	285.8	233.0	310.04	ug/L	310.04	ppb	23:34:03
1	Sb 206.836†	56.4	26.5	-5.2883	ug/L	-5.2883	ppb	23:34:03
1	Se 196.026†	-613.0	-559.9	52.378	ug/L	52.378	ppb	23:34:03
1	Si 251.611†	860335.2	830149.9	26439	ug/L	26439	ppb	23:33:38
1	Sn 189.927†	-86.4	-91.1	-11.564	ug/L	-11.564	ppb	23:34:03
1	Ti 334.940†	2271832.4	2194952.1	3537.0	ug/L	3537.0	ppb	23:33:38
1	Tl 190.801†	-162.7	-124.3	-6.0926	ug/L	-6.0926	ppb	23:34:03
1	U 409.014†	-8557.7	-6251.3	-199.22	ug/L	-199.22	ppb	23:33:38
1	V 292.402†	28400.2	28731.7	172.69	ug/L	172.69	ppb	23:33:43
1	Zn 213.857†	33450.7	31678.2	286.72	ug/L	286.72	ppb	23:33:43
1	SiO2†	857670.9	827556.2	56466	ug/L	56466	ppb	23:35:12
2	Sc Radial	5290.3	5290.3	105	%			23:33:06
2	Y RADIAL	6035.7	6035.7	111.2	%			23:33:06
2	Al 396.153Radial†	141556.0	134734.2	103950	ug/L	103950	ppb	23:32:46
2	Ca 317.933Radial†	11051.1	10498.7	16799	ug/L	16799	ppb	23:32:46
2	Fe 238.204 Radial†	15351.4	14602.7	126380	ug/L	126380	ppb	23:32:46
2	K 766.490 Radial†	85332.5	78629.7	14392	ug/L	14392	ppb	23:32:46
2	Mg 279.077 IEC†	503.0	476.9	15801	ug/L	15801	ppb	23:33:06
2	Na 589.592 Radial†	4462.2	5527.6	1655.0	ug/L	1655.0	ppb	23:32:46
2	Sr 421.552†	31129.6	29648.8	191.37	ug/L	191.37	ppb	23:32:46
2	Sc 361.383	878418.7	878418.7	103.05	%			23:34:09
2	Y 371.029	786004.7	786004.7	108.76	%			23:34:09
2	Ag 328.068†	-8233.8	-8347.9	3.1457	ug/L	3.1457	ppb	23:34:14
2	As 188.979†	-78.2	-52.3	18.999	ug/L	18.999	ppb	23:34:35
2	B 249.677†	914.4	1519.1	20.900	ug/L	20.900	ppb	23:34:14
2	Ba 233.527†	152323.4	147822.7	1159.0	ug/L	1159.0	ppb	23:34:14
2	Be 313.107†	-5804.0	-1046.7	7.6279	ug/L	7.6279	ppb	23:34:14
2	Cd 226.502†	994.7	1169.3	-0.0725	ug/L	-0.0725	ppb	23:34:35
2	Co 228.616†	2830.1	2820.9	48.989	ug/L	48.989	ppb	23:34:35
2	Cr 267.716†	9761.9	9389.5	107.82	ug/L	107.82	ppb	23:34:14
2	Cu 324.752†	23327.3	16224.1	55.309	ug/L	55.309	ppb	23:34:14
2	Mn 257.610†	1673374.8	1623360.9	1813.1	ug/L	1813.1	ppb	23:34:09
2	Mo 202.031†	-54.1	-76.2	3.4572	ug/L	3.4572	ppb	23:34:35
2	Ni 231.604†	2840.5	2688.4	66.908	ug/L	66.908	ppb	23:34:35

2	P 214.914†	1522.6	1247.6	676.26 ug/L	676.26 ppb	23:34:35
2	Pb 220.353†	445.1	495.3	70.926 ug/L	70.926 ppb	23:34:35
2	S 181.975 Axial†	279.5	228.2	303.51 ug/L	303.51 ppb	23:34:35
2	Sb 206.836†	63.2	33.4	-2.8623 ug/L	-2.8623 ppb	23:34:35
2	Se 196.026†	-618.4	-568.1	42.439 ug/L	42.439 ppb	23:34:35
2	Si 251.611†	854519.7	828656.6	26391 ug/L	26391 ppb	23:34:09
2	Sn 189.927†	-77.2	-82.5	-10.095 ug/L	-10.095 ppb	23:34:35
2	Ti 334.940†	2260070.8	2194497.2	3536.2 ug/L	3536.2 ppb	23:34:09
2	Tl 190.801†	-167.7	-129.9	-7.8442 ug/L	-7.8442 ppb	23:34:35
2	U 409.014†	-8736.7	-6466.2	-205.39 ug/L	-205.39 ppb	23:34:09
2	V 292.402†	28431.0	28898.5	174.04 ug/L	174.04 ppb	23:34:14
2	Zn 213.857†	33425.6	31815.2	288.16 ug/L	288.16 ppb	23:34:14
2	SiO2†	874710.0	848227.6	57876 ug/L	57876 ppb	23:35:18
3	Sc Radial	5276.4	5276.4	105 %		23:33:31
3	Y RADIAL	6001.2	6001.2	110.5 %		23:33:31
3	Al 396.153Radial†	140628.8	134202.8	103540 ug/L	103540 ppb	23:33:11
3	Ca 317.933Radial†	11022.7	10499.2	16800 ug/L	16800 ppb	23:33:11
3	Fe 238.204 Radial†	15261.5	14555.1	125960 ug/L	125960 ppb	23:33:11
3	K 766.490 Radial†	84667.1	78207.7	14314 ug/L	14314 ppb	23:33:11
3	Mg 279.077 IEC†	500.1	475.3	15749 ug/L	15749 ppb	23:33:31
3	Na 589.592 Radial†	4421.8	5500.1	1646.8 ug/L	1646.8 ppb	23:33:11
3	Sr 421.552†	30889.3	29497.2	190.39 ug/L	190.39 ppb	23:33:11
3	Sc 361.383	881279.3	881279.3	103.39 %		23:34:40
3	Y 371.029	788283.4	788283.4	109.08 %		23:34:40
3	Ag 328.068†	-8160.9	-8251.5	3.4499 ug/L	3.4499 ppb	23:34:46
3	As 188.979†	-89.9	-63.4	14.116 ug/L	14.116 ppb	23:35:06
3	B 249.677†	910.4	1512.4	20.794 ug/L	20.794 ppb	23:34:46
3	Ba 233.527†	151952.6	146984.2	1152.5 ug/L	1152.5 ppb	23:34:46
3	Be 313.107†	-5658.0	-887.2	7.6933 ug/L	7.6933 ppb	23:34:46
3	Cd 226.502†	969.1	1141.5	-0.3384 ug/L	-0.3384 ppb	23:35:06
3	Co 228.616†	2816.9	2799.3	48.547 ug/L	48.547 ppb	23:35:06
3	Cr 267.716†	9749.0	9346.2	107.32 ug/L	107.32 ppb	23:34:46
3	Cu 324.752†	23310.2	16134.0	55.016 ug/L	55.016 ppb	23:34:46
3	Mn 257.610†	1682931.8	1627334.0	1817.5 ug/L	1817.5 ppb	23:34:40
3	Mo 202.031†	-50.9	-72.9	3.6625 ug/L	3.6625 ppb	23:35:06
3	Ni 231.604†	2869.6	2707.6	67.386 ug/L	67.386 ppb	23:35:06
3	P 214.914†	1521.8	1242.0	673.13 ug/L	673.13 ppb	23:35:06
3	Pb 220.353†	449.8	498.4	71.257 ug/L	71.257 ppb	23:35:06
3	S 181.975 Axial†	285.9	233.6	311.13 ug/L	311.13 ppb	23:35:06
3	Sb 206.836†	63.7	33.7	-2.7732 ug/L	-2.7732 ppb	23:35:06
3	Se 196.026†	-620.4	-568.1	41.113 ug/L	41.113 ppb	23:35:06
3	Si 251.611†	858174.1	829499.6	26418 ug/L	26418 ppb	23:34:40
3	Sn 189.927†	-81.8	-86.8	-10.849 ug/L	-10.849 ppb	23:35:06
3	Ti 334.940†	2268747.0	2195770.2	3538.3 ug/L	3538.3 ppb	23:34:40
3	Tl 190.801†	-176.4	-137.8	-10.221 ug/L	-10.221 ppb	23:35:06
3	U 409.014†	-8632.7	-6338.2	-201.57 ug/L	-201.57 ppb	23:34:40
3	V 292.402†	28374.6	28754.4	173.12 ug/L	173.12 ppb	23:34:46
3	Zn 213.857†	33354.9	31641.5	286.56 ug/L	286.56 ppb	23:34:46
3	SiO2†	857727.1	829046.0	56567 ug/L	56567 ppb	23:35:24

Mean Data: 243385008|936480|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	880835.0	103.34	%	0.261				0.25%
Sc Radial	5283.9	105	%	0.1				0.13%
Y 371.029	787520.5	108.97	%	0.182				0.17%
Y RADIAL	6028.9	111.0	%	0.46				0.41%
Ag 328.068†	-8327.6	3.3434	ug/L	0.17137	3.3434	ppb	0.17137	5.13%
Al 396.153Radial†	135002.5	104150	ug/L	742.5	104150	ppb	742.5	0.71%
As 188.979†	-61.0	15.285	ug/L	3.2888	15.285	ppb	3.2888	21.52%
B 249.677†	1523.2	20.957	ug/L	0.1973	20.957	ppb	0.1973	0.94%
Ba 233.527†	147151.6	1153.8	ug/L	4.70	1153.8	ppb	4.70	0.41%
Be 313.107†	-852.2	7.7041	ug/L	0.08212	7.7041	ppb	0.08212	1.07%
Ca 317.933Radial†	10540.9	16866	ug/L	116.3	16866	ppb	116.3	0.69%
Cd 226.502†	1154.8	-0.2684	ug/L	0.17194	-0.2684	ppb	0.17194	64.05%
Co 228.616†	2811.3	48.784	ug/L	0.2232	48.784	ppb	0.2232	0.46%
Cr 267.716†	9352.3	107.40	ug/L	0.377	107.40	ppb	0.377	0.35%
Cu 324.752†	16150.1	55.104	ug/L	0.1781	55.104	ppb	0.1781	0.32%
Fe 238.204 Radial†	14642.1	126720	ug/L	969.8	126720	ppb	969.8	0.77%
K 766.490 Radial†	78770.9	14418	ug/L	118.3	14418	ppb	118.3	0.82%

Mg 279.077 IEC†	477.3	15814	ug/L	71.8	15814	ppb	71.8	0.45%
Mn 257.610†	1625503.2	1815.5	ug/L	2.22	1815.5	ppb	2.22	0.12%
Mo 202.031†	-75.3	3.5478	ug/L	0.10477	3.5478	ppb	0.10477	2.95%
Na 589.592 Radial†	5531.6	1656.2	ug/L	10.06	1656.2	ppb	10.06	0.61%
Ni 231.604†	2702.5	67.259	ug/L	0.3080	67.259	ppb	0.3080	0.46%
P 214.914†	1249.8	677.42	ug/L	4.969	677.42	ppb	4.969	0.73%
Pb 220.353†	493.4	70.705	ug/L	0.6900	70.705	ppb	0.6900	0.98%
S 181.975 Axial†	231.6	308.23	ug/L	4.124	308.23	ppb	4.124	1.34%
Sb 206.836†	31.2	-3.6413	ug/L	1.42704	-3.6413	ppb	1.42704	39.19%
Se 196.026†	-565.4	45.310	ug/L	6.1566	45.310	ppb	6.1566	13.59%
Si 251.611†	829435.4	26416	ug/L	23.8	26416	ppb	23.8	0.09%
Sn 189.927†	-86.8	-10.836	ug/L	0.7350	-10.836	ppb	0.7350	6.78%
Sr 421.552†	29722.2	191.85	ug/L	1.739	191.85	ppb	1.739	0.91%
Ti 334.940†	2195073.2	3537.2	ug/L	1.04	3537.2	ppb	1.04	0.03%
Tl 190.801†	-130.6	-8.0527	ug/L	2.07234	-8.0527	ppb	2.07234	25.73%
U 409.014†	-6351.9	-202.06	ug/L	3.118	-202.06	ppb	3.118	1.54%
V 292.402†	28794.9	173.28	ug/L	0.687	173.28	ppb	0.687	0.40%
Zn 213.857†	31711.7	287.15	ug/L	0.883	287.15	ppb	0.883	0.31%
SiO2†	834943.3	56970	ug/L	786.6	56970	ppb	786.6	1.38%

Sequence No.: 73
Sample ID: 243385009|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 83
Date Collected: 1/11/2010 23:37:34
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 243385009|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5328.5	5328.5	106	%			23:39:47
1	Y RADIAL	6222.5	6222.5	114.6	%			23:39:47
1	Al 396.153Radial†	90097.8	85140.8	65685	ug/L	65685	ppb	23:39:27
1	Ca 317.933Radial†	9800.0	9241.0	14787	ug/L	14787	ppb	23:39:27
1	Fe 238.204 Radial†	13492.7	12741.3	110270	ug/L	110270	ppb	23:39:27
1	K 766.490 Radial†	64885.9	58725.3	10732	ug/L	10732	ppb	23:39:27
1	Mg 279.077 IEC†	427.9	402.4	13330	ug/L	13330	ppb	23:39:47
1	Na 589.592 Radial†	1503.2	2701.0	808.70	ug/L	808.70	ppb	23:39:27
1	Sr 421.552†	28722.4	27161.4	175.32	ug/L	175.32	ppb	23:39:27
1	Sc 361.383	892551.5	892551.5	104.71	%			23:40:45
1	Y 371.029	816434.0	816434.0	112.97	%			23:40:45
1	Ag 328.068†	-7267.6	-7298.7	2.9708	ug/L	2.9708	ppb	23:40:50
1	As 188.979†	-90.2	-62.5	16.373	ug/L	16.373	ppb	23:41:10
1	B 249.677†	845.0	1438.8	20.733	ug/L	20.733	ppb	23:40:50
1	Ba 233.527†	122981.9	117460.7	921.55	ug/L	921.55	ppb	23:40:50
1	Be 313.107†	-14397.5	-9164.4	6.9235	ug/L	6.9235	ppb	23:40:50
1	Cd 226.502†	909.9	1073.0	0.5215	ug/L	0.5215	ppb	23:41:10
1	Co 228.616†	3051.4	2988.8	50.349	ug/L	50.349	ppb	23:41:10
1	Cr 267.716†	8318.2	7860.7	90.498	ug/L	90.498	ppb	23:40:50
1	Cu 324.752†	21530.4	14149.6	48.238	ug/L	48.238	ppb	23:40:50
1	Mn 257.610†	2617917.6	2499699.7	2782.9	ug/L	2782.9	ppb	23:40:45
1	Mo 202.031†	-44.2	-65.9	3.0588	ug/L	3.0588	ppb	23:41:10
1	Ni 231.604†	2459.5	2280.9	56.757	ug/L	56.757	ppb	23:41:10
1	P 214.914†	1291.1	1003.1	531.52	ug/L	531.52	ppb	23:41:10
1	Pb 220.353†	820.2	846.6	107.33	ug/L	107.33	ppb	23:41:10
1	S 181.975 Axial†	466.1	402.1	556.74	ug/L	556.74	ppb	23:41:10
1	Sb 206.836†	76.2	44.8	-1.3309	ug/L	-1.3309	ppb	23:41:10
1	Se 196.026†	-543.9	-487.4	41.085	ug/L	41.085	ppb	23:41:10
1	Si 251.611†	999316.4	953809.4	30377	ug/L	30377	ppb	23:40:45
1	Sn 189.927†	-102.8	-105.8	-14.781	ug/L	-14.781	ppb	23:41:10
1	Ti 334.940†	2980255.1	2847555.9	4588.4	ug/L	4588.4	ppb	23:40:45
1	Tl 190.801†	-212.2	-169.8	-8.3975	ug/L	-8.3975	ppb	23:41:10
1	U 409.014†	-7922.0	-5554.0	-176.61	ug/L	-176.61	ppb	23:40:45
1	V 292.402†	37223.6	36858.7	229.74	ug/L	229.74	ppb	23:40:50
1	Zn 213.857†	25905.9	24120.2	217.02	ug/L	217.02	ppb	23:40:50
1	SiO2†	992582.9	947357.6	64640	ug/L	64640	ppb	23:42:19
2	Sc Radial	5291.0	5291.0	105	%			23:40:13
2	Y RADIAL	6175.8	6175.8	113.7	%			23:40:13
2	Al 396.153Radial†	90296.0	85932.2	66296	ug/L	66296	ppb	23:39:53
2	Ca 317.933Radial†	9780.0	9287.5	14861	ug/L	14861	ppb	23:39:53
2	Fe 238.204 Radial†	13493.3	12832.2	111050	ug/L	111050	ppb	23:39:53
2	K 766.490 Radial†	65190.5	59449.3	10865	ug/L	10865	ppb	23:39:53
2	Mg 279.077 IEC†	431.8	409.0	13549	ug/L	13549	ppb	23:40:13
2	Na 589.592 Radial†	1598.6	2801.8	838.88	ug/L	838.88	ppb	23:39:53
2	Sr 421.552†	28873.7	27497.5	177.49	ug/L	177.49	ppb	23:39:53
2	Sc 361.383	891920.3	891920.3	104.64	%			23:41:16
2	Y 371.029	816564.6	816564.6	112.99	%			23:41:16
2	Ag 328.068†	-7198.4	-7237.4	3.5077	ug/L	3.5077	ppb	23:41:21
2	As 188.979†	-77.7	-50.6	21.699	ug/L	21.699	ppb	23:41:41
2	B 249.677†	992.9	1580.8	23.818	ug/L	23.818	ppb	23:41:21
2	Ba 233.527†	123972.1	118490.1	929.62	ug/L	929.62	ppb	23:41:21
2	Be 313.107†	-14561.9	-9331.2	6.8694	ug/L	6.8694	ppb	23:41:21
2	Cd 226.502†	919.6	1082.9	0.5512	ug/L	0.5512	ppb	23:41:41
2	Co 228.616†	3025.5	2966.1	49.868	ug/L	49.868	ppb	23:41:41
2	Cr 267.716†	8345.9	7892.8	90.873	ug/L	90.873	ppb	23:41:21
2	Cu 324.752†	21778.6	14401.3	49.029	ug/L	49.029	ppb	23:41:21
2	Mn 257.610†	2620312.6	2503757.9	2787.5	ug/L	2787.5	ppb	23:41:16
2	Mo 202.031†	-49.9	-71.4	2.7268	ug/L	2.7268	ppb	23:41:41
2	Ni 231.604†	2450.0	2273.5	56.574	ug/L	56.574	ppb	23:41:41

2	P 214.914†	1282.6	995.9	526.44 ug/L	526.44 ppb	23:41:41
2	Pb 220.353†	806.8	834.4	105.89 ug/L	105.89 ppb	23:41:41
2	S 181.975 Axial†	465.9	402.2	556.81 ug/L	556.81 ppb	23:41:41
2	Sb 206.836†	68.7	37.7	-3.8373 ug/L	-3.8373 ppb	23:41:41
2	Se 196.026†	-543.3	-487.2	43.748 ug/L	43.748 ppb	23:41:41
2	Si 251.611†	1000405.5	955525.6	30432 ug/L	30432 ppb	23:41:16
2	Sn 189.927†	-114.9	-117.5	-16.818 ug/L	-16.818 ppb	23:41:41
2	Ti 334.940†	2980851.2	2850139.9	4592.5 ug/L	4592.5 ppb	23:41:16
2	Tl 190.801†	-216.4	-173.9	-9.6365 ug/L	-9.6365 ppb	23:41:41
2	U 409.014†	-7667.6	-5316.2	-169.68 ug/L	-169.68 ppb	23:41:16
2	V 292.402†	37490.8	37139.3	231.54 ug/L	231.54 ppb	23:41:21
2	Zn 213.857†	26211.8	24430.1	219.87 ug/L	219.87 ppb	23:41:21
2	SiO2†	991444.3	946940.3	64611 ug/L	64611 ppb	23:42:24
3	Sc Radial	5287.9	5287.9	105 %		23:40:38
3	Y RADIAL	6158.0	6158.0	113.4 %		23:40:38
3	Al 396.153Radial†	90135.3	85829.6	66217 ug/L	66217 ppb	23:40:18
3	Ca 317.933Radial†	9836.1	9346.4	14955 ug/L	14955 ppb	23:40:18
3	Fe 238.204 Radial†	13454.3	12802.6	110800 ug/L	110800 ppb	23:40:18
3	K 766.490 Radial†	64939.6	59246.9	10828 ug/L	10828 ppb	23:40:18
3	Mg 279.077 IEC†	429.4	407.0	13483 ug/L	13483 ppb	23:40:38
3	Na 589.592 Radial†	1548.3	2754.8	824.82 ug/L	824.82 ppb	23:40:18
3	Sr 421.552†	28797.2	27440.9	177.13 ug/L	177.13 ppb	23:40:18
3	Sc 361.383	884681.0	884681.0	103.79 %		23:41:47
3	Y 371.029	809934.5	809934.5	112.08 %		23:41:47
3	Ag 328.068†	-7408.1	-7495.8	2.2409 ug/L	2.2409 ppb	23:41:52
3	As 188.979†	-93.7	-66.7	14.684 ug/L	14.684 ppb	23:42:12
3	B 249.677†	982.2	1578.2	23.782 ug/L	23.782 ppb	23:41:52
3	Ba 233.527†	123732.6	119228.9	935.38 ug/L	935.38 ppb	23:41:52
3	Be 313.107†	-14214.5	-9110.4	6.9443 ug/L	6.9443 ppb	23:41:52
3	Cd 226.502†	909.0	1079.9	0.5455 ug/L	0.5455 ppb	23:42:12
3	Co 228.616†	3082.0	3044.2	51.481 ug/L	51.481 ppb	23:42:12
3	Cr 267.716†	8336.2	7948.8	91.497 ug/L	91.497 ppb	23:41:52
3	Cu 324.752†	21933.0	14720.5	49.969 ug/L	49.969 ppb	23:41:52
3	Mn 257.610†	2601205.2	2505839.4	2789.8 ug/L	2789.8 ppb	23:41:47
3	Mo 202.031†	-42.0	-64.2	3.2170 ug/L	3.2170 ppb	23:42:12
3	Ni 231.604†	2482.8	2324.3	57.837 ug/L	57.837 ppb	23:42:12
3	P 214.914†	1302.8	1025.4	544.47 ug/L	544.47 ppb	23:42:12
3	Pb 220.353†	827.4	860.6	109.10 ug/L	109.10 ppb	23:42:12
3	S 181.975 Axial†	475.8	415.4	575.52 ug/L	575.52 ppb	23:42:12
3	Sb 206.836†	70.6	40.1	-2.9865 ug/L	-2.9865 ppb	23:42:12
3	Se 196.026†	-545.0	-493.1	39.125 ug/L	39.125 ppb	23:42:12
3	Si 251.611†	991304.1	954579.9	30402 ug/L	30402 ppb	23:41:47
3	Sn 189.927†	-106.5	-110.3	-15.535 ug/L	-15.535 ppb	23:42:12
3	Ti 334.940†	2954030.8	2847609.5	4588.4 ug/L	4588.4 ppb	23:41:47
3	Tl 190.801†	-210.8	-170.3	-8.5343 ug/L	-8.5343 ppb	23:42:12
3	U 409.014†	-7549.5	-5262.4	-168.07 ug/L	-168.07 ppb	23:41:47
3	V 292.402†	37523.8	37464.2	233.81 ug/L	233.81 ppb	23:41:52
3	Zn 213.857†	26075.3	24503.6	220.58 ug/L	220.58 ppb	23:41:52
3	SiO2†	999319.1	962281.2	65658 ug/L	65658 ppb	23:42:30

Mean Data: 243385009|936480|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	889717.6	104.38	%	0.513				0.49%
Sc Radial	5302.5	105	%	0.4				0.43%
Y 371.029	814311.0	112.68	%	0.525				0.47%
Y RADIAL	6185.4	113.9	%	0.61				0.54%
Ag 328.068†	-7344.0	2.9065	ug/L	0.63585	2.9065	ppb	0.63585	21.88%
Al 396.153Radial†	85634.2	66066	ug/L	332.0	66066	ppb	332.0	0.50%
As 188.979†	-59.9	17.585	ug/L	3.6618	17.585	ppb	3.6618	20.82%
B 249.677†	1532.6	22.777	ug/L	1.7711	22.777	ppb	1.7711	7.78%
Ba 233.527†	118393.2	928.85	ug/L	6.948	928.85	ppb	6.948	0.75%
Be 313.107†	-9202.0	6.9124	ug/L	0.03866	6.9124	ppb	0.03866	0.56%
Ca 317.933Radial†	9291.6	14868	ug/L	84.5	14868	ppb	84.5	0.57%
Cd 226.502†	1078.6	0.5394	ug/L	0.01577	0.5394	ppb	0.01577	2.92%
Co 228.616†	2999.7	50.566	ug/L	0.8284	50.566	ppb	0.8284	1.64%
Cr 267.716†	7900.8	90.956	ug/L	0.5043	90.956	ppb	0.5043	0.55%
Cu 324.752†	14423.8	49.078	ug/L	0.8663	49.078	ppb	0.8663	1.77%
Fe 238.204 Radial†	12792.1	110710	ug/L	400.9	110710	ppb	400.9	0.36%
K 766.490 Radial†	59140.5	10809	ug/L	68.4	10809	ppb	68.4	0.63%

Mg 279.077 IEC†	406.1	13454	ug/L	112.1	13454	ppb	112.1	0.83%
Mn 257.610†	2503099.0	2786.8	ug/L	3.49	2786.8	ppb	3.49	0.13%
Mo 202.031†	-67.2	3.0008	ug/L	0.25019	3.0008	ppb	0.25019	8.34%
Na 589.592 Radial†	2752.5	824.14	ug/L	15.101	824.14	ppb	15.101	1.83%
Ni 231.604†	2292.9	57.056	ug/L	0.6826	57.056	ppb	0.6826	1.20%
P 214.914†	1008.1	534.14	ug/L	9.295	534.14	ppb	9.295	1.74%
Pb 220.353†	847.2	107.44	ug/L	1.611	107.44	ppb	1.611	1.50%
S 181.975 Axial†	406.6	563.02	ug/L	10.825	563.02	ppb	10.825	1.92%
Sb 206.836†	40.9	-2.7182	ug/L	1.27454	-2.7182	ppb	1.27454	46.89%
Se 196.026†	-489.2	41.319	ug/L	2.3206	41.319	ppb	2.3206	5.62%
Si 251.611†	954638.3	30404	ug/L	27.4	30404	ppb	27.4	0.09%
Sn 189.927†	-111.2	-15.711	ug/L	1.0299	-15.711	ppb	1.0299	6.55%
Sr 421.552†	27366.6	176.65	ug/L	1.162	176.65	ppb	1.162	0.66%
Ti 334.940†	2848435.1	4589.8	ug/L	2.37	4589.8	ppb	2.37	0.05%
Tl 190.801†	-171.3	-8.8561	ug/L	0.67933	-8.8561	ppb	0.67933	7.67%
U 409.014†	-5377.5	-171.45	ug/L	4.537	-171.45	ppb	4.537	2.65%
V 292.402†	37154.1	231.70	ug/L	2.041	231.70	ppb	2.041	0.88%
Zn 213.857†	24351.3	219.16	ug/L	1.887	219.16	ppb	1.887	0.86%
SiO2†	952193.0	64970	ug/L	596.3	64970	ppb	596.3	0.92%

Sequence No.: 74
Sample ID: 243385010|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 84
Date Collected: 1/11/2010 23:44:42
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 243385010|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc Radial	5498.0	5498.0	109	%			23:46:55
1	Y RADIAL	6340.6	6340.6	116.8	%			23:46:55
1	Al 396.153Radial†	95246.5	87232.0	67299	ug/L	67299	ppb	23:46:35
1	Ca 317.933Radial†	13907.5	12717.3	20349	ug/L	20349	ppb	23:46:35
1	Fe 238.204 Radial†	13877.6	12700.9	109920	ug/L	109920	ppb	23:46:35
1	K 766.490 Radial†	66693.1	58490.6	10682	ug/L	10682	ppb	23:46:35
1	Mg 279.077 IEC†	527.4	481.1	15960	ug/L	15960	ppb	23:46:55
1	Na 589.592 Radial†	2309.7	3395.8	1016.7	ug/L	1016.7	ppb	23:46:35
1	Sr 421.552†	37196.9	34086.2	220.01	ug/L	220.01	ppb	23:46:35
1	Sc 361.383	887648.1	887648.1	104.14	%			23:47:54
1	Y 371.029	811321.8	811321.8	112.27	%			23:47:54
1	Ag 328.068†	-7015.8	-7095.2	3.7659	ug/L	3.7659	ppb	23:47:59
1	As 188.979†	-108.9	-80.9	9.4465	ug/L	9.4465	ppb	23:48:19
1	B 249.677†	761.7	1363.3	19.103	ug/L	19.103	ppb	23:47:59
1	Ba 233.527†	293990.8	282327.4	2208.6	ug/L	2208.6	ppb	23:47:59
1	Be 313.107†	-17890.7	-12594.9	6.1476	ug/L	6.1476	ppb	23:47:59
1	Cd 226.502†	959.6	1125.6	1.1559	ug/L	1.1559	ppb	23:48:19
1	Co 228.616†	2678.0	2646.3	43.470	ug/L	43.470	ppb	23:48:19
1	Cr 267.716†	8595.9	8171.3	93.983	ug/L	93.983	ppb	23:47:59
1	Cu 324.752†	32963.9	25242.7	81.365	ug/L	81.365	ppb	23:47:59
1	Mn 257.610†	3081028.4	2958230.6	3291.1	ug/L	3291.1	ppb	23:47:54
1	Mo 202.031†	-66.9	-88.0	1.5416	ug/L	1.5416	ppb	23:48:19
1	Ni 231.604†	2865.9	2684.1	66.802	ug/L	66.802	ppb	23:48:19
1	P 214.914†	3725.2	3347.4	1958.3	ug/L	1958.3	ppb	23:48:19
1	Pb 220.353†	738.0	772.1	98.658	ug/L	98.658	ppb	23:48:19
1	S 181.975 Axial†	415.1	355.7	490.70	ug/L	490.70	ppb	23:48:19
1	Sb 206.836†	75.0	44.1	-2.4425	ug/L	-2.4425	ppb	23:48:19
1	Se 196.026†	-525.3	-472.4	49.708	ug/L	49.708	ppb	23:48:19
1	Si 251.611†	846683.9	812510.1	25877	ug/L	25877	ppb	23:47:54
1	Sn 189.927†	-130.9	-133.4	-18.875	ug/L	-18.875	ppb	23:48:19
1	Ti 334.940†	3115110.6	2992778.7	4822.7	ug/L	4822.7	ppb	23:47:54
1	Tl 190.801†	-236.0	-193.8	-11.770	ug/L	-11.770	ppb	23:48:19
1	U 409.014†	-6222.4	-3963.7	-129.66	ug/L	-129.66	ppb	23:47:59
1	V 292.402†	40493.1	40194.8	252.43	ug/L	252.43	ppb	23:47:59
1	Zn 213.857†	26642.3	24964.1	224.92	ug/L	224.92	ppb	23:47:59
1	SiO2†	848162.5	813908.8	55534	ug/L	55534	ppb	23:49:29
2	Sc Radial	5324.5	5324.5	106	%			23:47:20
2	Y RADIAL	6180.6	6180.6	113.8	%			23:47:20
2	Al 396.153Radial†	94259.2	89140.3	68771	ug/L	68771	ppb	23:47:00
2	Ca 317.933Radial†	13806.4	13036.7	20860	ug/L	20860	ppb	23:47:00
2	Fe 238.204 Radial†	13788.8	13031.0	112770	ug/L	112770	ppb	23:47:00
2	K 766.490 Radial†	66690.8	60478.4	11046	ug/L	11046	ppb	23:47:00
2	Mg 279.077 IEC†	539.7	508.5	16871	ug/L	16871	ppb	23:47:20
2	Na 589.592 Radial†	2321.3	3475.7	1040.7	ug/L	1040.7	ppb	23:47:00
2	Sr 421.552†	36840.5	34859.0	225.00	ug/L	225.00	ppb	23:47:00
2	Sc 361.383	892264.7	892264.7	104.68	%			23:48:26
2	Y 371.029	814013.5	814013.5	112.64	%			23:48:26
2	Ag 328.068†	-7124.1	-7163.7	4.3631	ug/L	4.3631	ppb	23:48:31
2	As 188.979†	-94.7	-66.8	16.067	ug/L	16.067	ppb	23:48:51
2	B 249.677†	751.9	1350.2	18.522	ug/L	18.522	ppb	23:48:31
2	Ba 233.527†	294204.7	281071.0	2198.9	ug/L	2198.9	ppb	23:48:31
2	Be 313.107†	-17559.8	-12189.9	6.2766	ug/L	6.2766	ppb	23:48:31
2	Cd 226.502†	944.2	1106.1	0.6444	ug/L	0.6444	ppb	23:48:51
2	Co 228.616†	2694.3	2648.6	43.496	ug/L	43.496	ppb	23:48:51
2	Cr 267.716†	8621.9	8153.4	93.837	ug/L	93.837	ppb	23:48:31
2	Cu 324.752†	32886.2	25004.6	80.806	ug/L	80.806	ppb	23:48:31
2	Mn 257.610†	3089669.7	2951177.3	3283.6	ug/L	3283.6	ppb	23:48:26
2	Mo 202.031†	-51.9	-73.2	2.7848	ug/L	2.7848	ppb	23:48:51
2	Ni 231.604†	2872.5	2676.2	66.606	ug/L	66.606	ppb	23:48:51

2	P 214.914†	3701.8	3306.5	1931.5	ug/L	1931.5 ppb	23:48:51
2	Pb 220.353†	744.1	774.2	98.970	ug/L	98.970 ppb	23:48:51
2	S 181.975 Axial†	416.6	355.0	489.46	ug/L	489.46 ppb	23:48:51
2	Sb 206.836†	86.5	54.7	1.1667	ug/L	1.1667 ppb	23:48:51
2	Se 196.026†	-539.5	-483.4	51.795	ug/L	51.795 ppb	23:48:51
2	Si 251.611†	850764.4	812201.5	25867	ug/L	25867 ppb	23:48:26
2	Sn 189.927†	-149.3	-150.3	-21.751	ug/L	-21.751 ppb	23:48:51
2	Ti 334.940†	3124068.5	2985858.6	4811.6	ug/L	4811.6 ppb	23:48:26
2	Tl 190.801†	-237.7	-194.2	-12.010	ug/L	-12.010 ppb	23:48:51
2	U 409.014†	-6364.3	-4068.4	-133.08	ug/L	-133.08 ppb	23:48:31
2	V 292.402†	40379.0	39884.6	249.92	ug/L	249.92 ppb	23:48:31
2	Zn 213.857†	26599.3	24790.6	223.01	ug/L	223.01 ppb	23:48:31
2	SiO2†	852022.7	813382.3	55498	ug/L	55498 ppb	23:49:35
3	Sc Radial	5242.9	5242.9	104	%		23:47:45
3	Y RADIAL	6123.7	6123.7	112.8	%		23:47:45
3	Al 396.153Radial†	96268.6	92457.5	71330	ug/L	71330 ppb	23:47:25
3	Ca 317.933Radial†	14052.9	13476.7	21564	ug/L	21564 ppb	23:47:25
3	Fe 238.204 Radial†	13985.9	13423.3	116170	ug/L	116170 ppb	23:47:25
3	K 766.490 Radial†	67286.7	62032.3	11331	ug/L	11331 ppb	23:47:25
3	Mg 279.077 IEC†	529.7	506.8	16812	ug/L	16812 ppb	23:47:45
3	Na 589.592 Radial†	2366.1	3552.8	1063.8	ug/L	1063.8 ppb	23:47:25
3	Sr 421.552†	37476.0	36011.7	232.44	ug/L	232.44 ppb	23:47:25
3	Sc 361.383	890973.1	890973.1	104.53	%		23:48:58
3	Y 371.029	812062.8	812062.8	112.37	%		23:48:58
3	Ag 328.068†	-7093.6	-7144.4	5.5522	ug/L	5.5522 ppb	23:49:03
3	As 188.979†	-122.1	-93.2	5.3854	ug/L	5.3854 ppb	23:49:23
3	B 249.677†	844.0	1439.3	20.165	ug/L	20.165 ppb	23:49:03
3	Ba 233.527†	295774.0	282979.8	2214.0	ug/L	2214.0 ppb	23:49:03
3	Be 313.107†	-17808.0	-12451.6	6.2109	ug/L	6.2109 ppb	23:49:03
3	Cd 226.502†	944.6	1107.8	0.3127	ug/L	0.3127 ppb	23:49:23
3	Co 228.616†	2705.4	2662.9	43.712	ug/L	43.712 ppb	23:49:23
3	Cr 267.716†	8638.0	8180.8	94.214	ug/L	94.214 ppb	23:49:03
3	Cu 324.752†	33108.4	25262.7	81.758	ug/L	81.758 ppb	23:49:03
3	Mn 257.610†	3096057.6	2961567.5	3295.5	ug/L	3295.5 ppb	23:48:58
3	Mo 202.031†	-74.3	-94.8	1.5026	ug/L	1.5026 ppb	23:49:23
3	Ni 231.604†	2899.9	2706.4	67.356	ug/L	67.356 ppb	23:49:23
3	P 214.914†	3722.2	3331.2	1944.3	ug/L	1944.3 ppb	23:49:23
3	Pb 220.353†	734.9	766.5	98.253	ug/L	98.253 ppb	23:49:23
3	S 181.975 Axial†	419.8	358.6	494.08	ug/L	494.08 ppb	23:49:23
3	Sb 206.836†	77.2	45.9	-2.0290	ug/L	-2.0290 ppb	23:49:23
3	Se 196.026†	-526.4	-471.6	70.402	ug/L	70.402 ppb	23:49:23
3	Si 251.611†	852449.9	814992.2	25956	ug/L	25956 ppb	23:48:58
3	Sn 189.927†	-154.4	-155.4	-22.495	ug/L	-22.495 ppb	23:49:23
3	Ti 334.940†	3129295.8	2995186.0	4826.7	ug/L	4826.7 ppb	23:48:58
3	Tl 190.801†	-223.5	-181.0	-7.7989	ug/L	-7.7989 ppb	23:49:23
3	U 409.014†	-6419.9	-4130.3	-135.29	ug/L	-135.29 ppb	23:49:03
3	V 292.402†	40685.4	40233.6	251.74	ug/L	251.74 ppb	23:49:03
3	Zn 213.857†	26776.9	24997.3	224.63	ug/L	224.63 ppb	23:49:03
3	SiO2†	855063.1	817471.1	55778	ug/L	55778 ppb	23:49:41

Mean Data: 243385010|936480|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	890295.3	104.45	%	0.279				0.27%
Sc Radial	5355.1	106	%	2.6				2.43%
Y 371.029	812466.0	112.43	%	0.192				0.17%
Y RADIAL	6215.0	114.5	%	2.07				1.81%
Ag 328.068†	-7134.5	4.5604	ug/L	0.90937	4.5604	ppb	0.90937	19.94%
Al 396.153Radial†	89609.9	69133	ug/L	2040.0	69133	ppb	2040.0	2.95%
As 188.979†	-80.3	10.300	ug/L	5.3918	10.300	ppb	5.3918	52.35%
B 249.677†	1384.3	19.263	ug/L	0.8331	19.263	ppb	0.8331	4.32%
Ba 233.527†	282126.0	2207.2	ug/L	7.62	2207.2	ppb	7.62	0.35%
Be 313.107†	-12412.1	6.2117	ug/L	0.06451	6.2117	ppb	0.06451	1.04%
Ca 317.933Radial†	13076.9	20924	ug/L	610.1	20924	ppb	610.1	2.92%
Cd 226.502†	1113.2	0.7043	ug/L	0.42480	0.7043	ppb	0.42480	60.31%
Co 228.616†	2652.6	43.559	ug/L	0.1330	43.559	ppb	0.1330	0.31%
Cr 267.716†	8168.5	94.011	ug/L	0.1901	94.011	ppb	0.1901	0.20%
Cu 324.752†	25170.0	81.310	ug/L	0.4786	81.310	ppb	0.4786	0.59%
Fe 238.204 Radial†	13051.7	112950	ug/L	3129.6	112950	ppb	3129.6	2.77%
K 766.490 Radial†	60333.8	11020	ug/L	325.3	11020	ppb	325.3	2.95%

Mg 279.077 IEC†	498.8	16548	ug/L	509.7	16548	ppb	509.7	3.08%
Mn 257.610†	2956991.8	3290.1	ug/L	6.02	3290.1	ppb	6.02	0.18%
Mo 202.031†	-85.3	1.9430	ug/L	0.72928	1.9430	ppb	0.72928	37.53%
Na 589.592 Radial†	3474.8	1040.4	ug/L	23.51	1040.4	ppb	23.51	2.26%
Ni 231.604†	2688.9	66.922	ug/L	0.3891	66.922	ppb	0.3891	0.58%
P 214.914†	3328.4	1944.7	ug/L	13.41	1944.7	ppb	13.41	0.69%
Pb 220.353†	770.9	98.627	ug/L	0.3593	98.627	ppb	0.3593	0.36%
S 181.975 Axial†	356.4	491.41	ug/L	2.391	491.41	ppb	2.391	0.49%
Sb 206.836†	48.3	-1.1016	ug/L	1.97523	-1.1016	ppb	1.97523	179.31%
Se 196.026†	-475.8	57.302	ug/L	11.3928	57.302	ppb	11.3928	19.88%
Si 251.611†	813234.6	25900	ug/L	48.7	25900	ppb	48.7	0.19%
Sn 189.927†	-146.4	-21.040	ug/L	1.9121	-21.040	ppb	1.9121	9.09%
Sr 421.552†	34985.6	225.81	ug/L	6.254	225.81	ppb	6.254	2.77%
Ti 334.940†	2991274.4	4820.3	ug/L	7.84	4820.3	ppb	7.84	0.16%
Tl 190.801†	-189.7	-10.526	ug/L	2.3651	-10.526	ppb	2.3651	22.47%
U 409.014†	-4054.1	-132.68	ug/L	2.835	-132.68	ppb	2.835	2.14%
V 292.402†	40104.3	251.36	ug/L	1.299	251.36	ppb	1.299	0.52%
Zn 213.857†	24917.3	224.19	ug/L	1.031	224.19	ppb	1.031	0.46%
SiO2†	814920.7	55603	ug/L	151.8	55603	ppb	151.8	0.27%

Sequence No.: 75
Sample ID: 243385011|936480|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 85
Date Collected: 1/11/2010 23:51:52
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 243385011|936480|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5327.8	5327.8	106	%			23:54:05
1	Y RADIAL	6355.7	6355.7	117.1	%			23:54:05
1	Al 396.153Radial†	149504.5	141298.0	109010	ug/L	109010	ppb	23:53:45
1	Ca 317.933Radial†	13583.9	12818.5	20511	ug/L	20511	ppb	23:53:45
1	Fe 238.204 Radial†	15973.7	15087.9	130580	ug/L	130580	ppb	23:53:45
1	K 766.490 Radial†	99804.9	91735.9	16782	ug/L	16782	ppb	23:53:45
1	Mg 279.077 IEC†	614.9	579.2	19216	ug/L	19216	ppb	23:54:05
1	Na 589.592 Radial†	1813.1	2994.0	896.44	ug/L	896.44	ppb	23:53:45
1	Sr 421.552†	39753.1	37590.3	242.64	ug/L	242.64	ppb	23:53:45
1	Sc 361.383	873975.6	873975.6	102.53	%			23:55:08
1	Y 371.029	816252.4	816252.4	112.95	%			23:55:08
1	Ag 328.068†	-8587.0	-8733.0	3.0838	ug/L	3.0838	ppb	23:55:08
1	As 188.979†	-103.5	-77.3	20.000	ug/L	20.000	ppb	23:55:29
1	B 249.677†	1211.1	1813.0	26.983	ug/L	26.983	ppb	23:55:08
1	Ba 233.527†	222046.6	216575.9	1696.2	ug/L	1696.2	ppb	23:55:08
1	Be 313.107†	-12713.0	-7813.7	10.333	ug/L	10.333	ppb	23:55:08
1	Cd 226.502†	1087.7	1264.9	0.5681	ug/L	0.5681	ppb	23:55:29
1	Co 228.616†	3592.0	3578.0	59.792	ug/L	59.792	ppb	23:55:29
1	Cr 267.716†	11202.7	10842.9	124.33	ug/L	124.33	ppb	23:55:29
1	Cu 324.752†	24936.1	17908.2	60.560	ug/L	60.560	ppb	23:55:08
1	Mn 257.610†	2681082.2	2614444.1	2912.2	ug/L	2912.2	ppb	23:55:03
1	Mo 202.031†	-85.5	-107.1	1.6074	ug/L	1.6074	ppb	23:55:29
1	Ni 231.604†	3565.6	3409.6	84.855	ug/L	84.855	ppb	23:55:29
1	P 214.914†	1522.6	1255.2	677.58	ug/L	677.58	ppb	23:55:29
1	Pb 220.353†	1019.9	1058.0	140.57	ug/L	140.57	ppb	23:55:29
1	S 181.975 Axial†	747.0	685.6	949.81	ug/L	949.81	ppb	23:55:29
1	Sb 206.836†	93.4	63.2	-0.4022	ug/L	-0.4022	ppb	23:55:29
1	Se 196.026†	-614.6	-567.4	56.538	ug/L	56.538	ppb	23:55:29
1	Si 251.611†	1036493.4	1010353.0	32178	ug/L	32178	ppb	23:55:03
1	Sn 189.927†	-129.0	-133.5	-18.515	ug/L	-18.515	ppb	23:55:29
1	Ti 334.940†	3729632.9	3638926.5	5863.5	ug/L	5863.5	ppb	23:55:03
1	Tl 190.801†	-263.4	-224.0	-15.937	ug/L	-15.937	ppb	23:55:29
1	U 409.014†	-8219.8	-6005.3	-192.31	ug/L	-192.31	ppb	23:55:08
1	V 292.402†	44842.5	45045.0	281.20	ug/L	281.20	ppb	23:55:08
1	Zn 213.857†	25774.0	24517.5	218.61	ug/L	218.61	ppb	23:55:29
1	SiO2†	1032114.2	1006060.7	68645	ug/L	68645	ppb	23:56:38
2	Sc Radial	5303.1	5303.1	105	%			23:54:30
2	Y RADIAL	6355.4	6355.4	117.1	%			23:54:30
2	Al 396.153Radial†	150340.5	142748.2	110130	ug/L	110130	ppb	23:54:10
2	Ca 317.933Radial†	13604.1	12897.3	20637	ug/L	20637	ppb	23:54:10
2	Fe 238.204 Radial†	15930.2	15116.8	130830	ug/L	130830	ppb	23:54:10
2	K 766.490 Radial†	99779.9	92150.4	16858	ug/L	16858	ppb	23:54:10
2	Mg 279.077 IEC†	617.2	584.1	19380	ug/L	19380	ppb	23:54:30
2	Na 589.592 Radial†	1813.3	3002.1	898.88	ug/L	898.88	ppb	23:54:10
2	Sr 421.552†	39803.4	37812.7	244.07	ug/L	244.07	ppb	23:54:10
2	Sc 361.383	871941.8	871941.8	102.29	%			23:55:40
2	Y 371.029	814090.8	814090.8	112.65	%			23:55:40
2	Ag 328.068†	-8643.3	-8807.5	2.8116	ug/L	2.8116	ppb	23:55:40
2	As 188.979†	-107.9	-81.9	18.354	ug/L	18.354	ppb	23:56:00
2	B 249.677†	1171.9	1777.4	26.162	ug/L	26.162	ppb	23:55:40
2	Ba 233.527†	221698.6	216740.9	1697.5	ug/L	1697.5	ppb	23:55:40
2	Be 313.107†	-12369.9	-7507.3	10.575	ug/L	10.575	ppb	23:55:40
2	Cd 226.502†	1100.4	1279.8	0.7094	ug/L	0.7094	ppb	23:56:00
2	Co 228.616†	3621.7	3615.2	60.434	ug/L	60.434	ppb	23:56:00
2	Cr 267.716†	11249.0	10913.6	125.12	ug/L	125.12	ppb	23:56:00
2	Cu 324.752†	25022.9	18049.8	60.992	ug/L	60.992	ppb	23:55:40
2	Mn 257.610†	2700763.5	2639783.4	2940.3	ug/L	2940.3	ppb	23:55:35
2	Mo 202.031†	-86.4	-108.2	1.5456	ug/L	1.5456	ppb	23:56:00
2	Ni 231.604†	3586.7	3438.3	85.571	ug/L	85.571	ppb	23:56:00

2	P 214.914†	1500.2	1236.7	666.29	ug/L	666.29 ppb	23:56:00
2	Pb 220.353†	997.5	1038.5	138.40	ug/L	138.40 ppb	23:56:00
2	S 181.975 Axial†	743.7	684.0	947.35	ug/L	947.35 ppb	23:56:00
2	Sb 206.836†	90.6	60.6	-1.5117	ug/L	-1.5117 ppb	23:56:00
2	Se 196.026†	-634.4	-588.2	44.028	ug/L	44.028 ppb	23:56:00
2	Si 251.611†	1044270.2	1020313.3	32495	ug/L	32495 ppb	23:55:35
2	Sn 189.927†	-129.5	-134.3	-18.638	ug/L	-18.638 ppb	23:56:00
2	Ti 334.940†	3755933.5	3673122.1	5918.6	ug/L	5918.6 ppb	23:55:35
2	Tl 190.801†	-253.7	-215.2	-12.713	ug/L	-12.713 ppb	23:56:00
2	U 409.014†	-7939.9	-5750.3	-184.82	ug/L	-184.82 ppb	23:55:40
2	V 292.402†	44654.7	44963.5	280.56	ug/L	280.56 ppb	23:55:40
2	Zn 213.857†	25754.3	24556.8	218.95	ug/L	218.95 ppb	23:56:00
2	SiO2†	1033714.6	1009973.1	68912	ug/L	68912 ppb	23:56:44
3	Sc Radial	5345.7	5345.7	106	%		23:54:55
3	Y RADIAL	6411.0	6411.0	118.1	%		23:54:55
3	Al 396.153Radial†	150781.5	142028.1	109570	ug/L	109570 ppb	23:54:35
3	Ca 317.933Radial†	13687.2	12872.8	20598	ug/L	20598 ppb	23:54:35
3	Fe 238.204 Radial†	16005.7	15067.6	130400	ug/L	130400 ppb	23:54:35
3	K 766.490 Radial†	100100.8	91699.0	16775	ug/L	16775 ppb	23:54:35
3	Mg 279.077 IEC†	617.5	579.8	19234	ug/L	19234 ppb	23:54:55
3	Na 589.592 Radial†	1842.3	3015.8	902.98	ug/L	902.98 ppb	23:54:35
3	Sr 421.552†	39823.0	37530.5	242.25	ug/L	242.25 ppb	23:54:35
3	Sc 361.383	868120.3	868120.3	101.84	%		23:56:12
3	Y 371.029	811269.8	811269.8	112.26	%		23:56:12
3	Ag 328.068†	-8567.5	-8770.3	2.8498	ug/L	2.8498 ppb	23:56:12
3	As 188.979†	-102.7	-77.2	19.891	ug/L	19.891 ppb	23:56:32
3	B 249.677†	1170.1	1780.7	26.280	ug/L	26.280 ppb	23:56:12
3	Ba 233.527†	220089.3	216114.8	1692.6	ug/L	1692.6 ppb	23:56:12
3	Be 313.107†	-12670.1	-7855.2	10.249	ug/L	10.249 ppb	23:56:12
3	Cd 226.502†	1117.6	1301.5	0.9928	ug/L	0.9928 ppb	23:56:32
3	Co 228.616†	3586.5	3596.2	60.228	ug/L	60.228 ppb	23:56:32
3	Cr 267.716†	11224.5	10938.0	125.38	ug/L	125.38 ppb	23:56:32
3	Cu 324.752†	24651.0	17792.4	60.203	ug/L	60.203 ppb	23:56:12
3	Mn 257.610†	2648231.5	2599825.4	2896.0	ug/L	2896.0 ppb	23:56:06
3	Mo 202.031†	-84.7	-106.9	1.6117	ug/L	1.6117 ppb	23:56:32
3	Ni 231.604†	3567.1	3434.5	85.476	ug/L	85.476 ppb	23:56:32
3	P 214.914†	1508.0	1250.8	675.28	ug/L	675.28 ppb	23:56:32
3	Pb 220.353†	996.6	1041.9	138.73	ug/L	138.73 ppb	23:56:32
3	S 181.975 Axial†	741.0	684.6	948.30	ug/L	948.30 ppb	23:56:32
3	Sb 206.836†	93.2	63.6	-0.1911	ug/L	-0.1911 ppb	23:56:32
3	Se 196.026†	-630.2	-586.8	43.539	ug/L	43.539 ppb	23:56:32
3	Si 251.611†	1022939.1	1003862.5	31972	ug/L	31972 ppb	23:56:06
3	Sn 189.927†	-127.4	-132.8	-18.387	ug/L	-18.387 ppb	23:56:32
3	Ti 334.940†	3685738.0	3620361.3	5833.6	ug/L	5833.6 ppb	23:56:06
3	Tl 190.801†	-248.6	-211.3	-12.300	ug/L	-12.300 ppb	23:56:32
3	U 409.014†	-8086.6	-5928.6	-190.03	ug/L	-190.03 ppb	23:56:12
3	V 292.402†	44457.3	44961.9	280.70	ug/L	280.70 ppb	23:56:12
3	Zn 213.857†	25686.4	24600.9	219.41	ug/L	219.41 ppb	23:56:32
3	SiO2†	1024472.3	1005346.7	68597	ug/L	68597 ppb	23:56:50

Mean Data: 243385011|936480|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	871345.9	102.22	%	0.349				0.34%
Sc Radial	5325.5	106	%	0.4				0.40%
Y 371.029	813871.0	112.62	%	0.346				0.31%
Y RADIAL	6374.0	117.4	%	0.59				0.50%
Ag 328.068†	-8770.3	2.9151	ug/L	0.14737	2.9151	ppb	0.14737	5.06%
Al 396.153Radial†	142024.8	109570	ug/L	559.4	109570	ppb	559.4	0.51%
As 188.979†	-78.8	19.415	ug/L	0.9209	19.415	ppb	0.9209	4.74%
B 249.677†	1790.4	26.475	ug/L	0.4438	26.475	ppb	0.4438	1.68%
Ba 233.527†	216477.2	1695.4	ug/L	2.54	1695.4	ppb	2.54	0.15%
Be 313.107†	-7725.4	10.385	ug/L	0.1691	10.385	ppb	0.1691	1.63%
Ca 317.933Radial†	12862.8	20582	ug/L	64.5	20582	ppb	64.5	0.31%
Cd 226.502†	1282.1	0.7568	ug/L	0.21630	0.7568	ppb	0.21630	28.58%
Co 228.616†	3596.5	60.151	ug/L	0.3278	60.151	ppb	0.3278	0.55%
Cr 267.716†	10898.2	124.94	ug/L	0.550	124.94	ppb	0.550	0.44%
Cu 324.752†	17916.8	60.585	ug/L	0.3954	60.585	ppb	0.3954	0.65%
Fe 238.204 Radial†	15090.8	130600	ug/L	214.1	130600	ppb	214.1	0.16%
K 766.490 Radial†	91861.7	16805	ug/L	45.7	16805	ppb	45.7	0.27%

Mg 279.077 IEC†	581.0	19277	ug/L	89.6	19277	ppb	89.6	0.47%
Mn 257.610†	2618017.6	2916.1	ug/L	22.43	2916.1	ppb	22.43	0.77%
Mo 202.031†	-107.4	1.5882	ug/L	0.03697	1.5882	ppb	0.03697	2.33%
Na 589.592 Radial†	3004.0	899.43	ug/L	3.304	899.43	ppb	3.304	0.37%
Ni 231.604†	3427.5	85.300	ug/L	0.3889	85.300	ppb	0.3889	0.46%
P 214.914†	1247.6	673.05	ug/L	5.965	673.05	ppb	5.965	0.89%
Pb 220.353†	1046.2	139.23	ug/L	1.170	139.23	ppb	1.170	0.84%
S 181.975 Axial†	684.7	948.49	ug/L	1.237	948.49	ppb	1.237	0.13%
Sb 206.836†	62.5	-0.7016	ug/L	0.70940	-0.7016	ppb	0.70940	101.11%
Se 196.026†	-580.8	48.035	ug/L	7.3675	48.035	ppb	7.3675	15.34%
Si 251.611†	1011509.6	32215	ug/L	263.9	32215	ppb	263.9	0.82%
Sn 189.927†	-133.5	-18.513	ug/L	0.1259	-18.513	ppb	0.1259	0.68%
Sr 421.552†	37644.5	242.99	ug/L	0.960	242.99	ppb	0.960	0.40%
Ti 334.940†	3644136.6	5871.9	ug/L	43.11	5871.9	ppb	43.11	0.73%
Tl 190.801†	-216.8	-13.650	ug/L	1.9913	-13.650	ppb	1.9913	14.59%
U 409.014†	-5894.7	-189.05	ug/L	3.839	-189.05	ppb	3.839	2.03%
V 292.402†	44990.2	280.82	ug/L	0.336	280.82	ppb	0.336	0.12%
Zn 213.857†	24558.4	218.99	ug/L	0.403	218.99	ppb	0.403	0.18%
SiO2†	1007126.8	68718	ug/L	169.9	68718	ppb	169.9	0.25%

Sequence No.: 76
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 1/11/2010 23:59:01
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	5171.4	5171.4	103	%			00:00:53
1	Y RADIAL	5504.9	5504.9	101.4	%			00:00:53
1	Al 396.153Radial†	6468.8	6299.2	4835.4	ug/L	4835.4	ppb	00:00:53
1	Ca 317.933Radial†	3277.9	3171.9	5075.3	ug/L	5075.3	ppb	00:01:13
1	Fe 238.204 Radial†	630.7	605.2	5252.3	ug/L	5252.3	ppb	00:01:13
1	K 766.490 Radial†	30222.9	26837.2	4903.0	ug/L	4903.0	ppb	00:00:53
1	Mg 279.077 IEC†	163.6	157.4	5257.8	ug/L	5257.8	ppb	00:01:13
1	Na 589.592 Radial†	34025.6	34410.4	10303	ug/L	10303	ppb	00:00:53
1	Sr 421.552†	78867.7	76811.2	496.08	ug/L	496.08	ppb	00:00:53
1	Sc 361.383	885814.6	885814.6	103.92	%			00:02:11
1	Y 371.029	736563.1	736563.1	101.92	%			00:02:11
1	Ag 328.068†	112966.0	108346.5	502.08	ug/L	502.08	ppb	00:02:16
1	As 188.979†	1170.9	1150.3	500.69	ug/L	500.69	ppb	00:02:36
1	B 249.677†	21966.9	21770.1	483.38	ug/L	483.38	ppb	00:02:16
1	Ba 233.527†	66106.4	63624.0	497.97	ug/L	497.97	ppb	00:02:16
1	Be 313.107†	1384368.1	1336729.4	510.49	ug/L	510.49	ppb	00:02:11
1	Cd 226.502†	46498.1	44948.1	498.64	ug/L	498.64	ppb	00:02:16
1	Co 228.616†	25255.0	24376.9	499.03	ug/L	499.03	ppb	00:02:16
1	Cr 267.716†	46300.8	44470.9	497.80	ug/L	497.80	ppb	00:02:16
1	Cu 324.752†	176249.6	163188.5	487.98	ug/L	487.98	ppb	00:02:16
1	Mn 257.610†	475068.5	456702.0	506.67	ug/L	506.67	ppb	00:02:11
1	Mo 202.031†	7401.7	7098.8	502.12	ug/L	502.12	ppb	00:02:36
1	Ni 231.604†	20860.6	20005.7	497.84	ug/L	497.84	ppb	00:02:16
1	P 214.914†	4468.2	4069.7	2383.7	ug/L	2383.7	ppb	00:02:36
1	Pb 220.353†	4173.0	4078.9	501.08	ug/L	501.08	ppb	00:02:36
1	S 181.975 Axial†	798.9	725.8	1026.2	ug/L	1026.2	ppb	00:02:36
1	Sb 206.836†	1542.5	1456.4	516.87	ug/L	516.87	ppb	00:02:36
1	Se 196.026†	775.0	777.8	519.74	ug/L	519.74	ppb	00:02:36
1	Si 251.611†	83038.7	79355.7	2521.2	ug/L	2521.2	ppb	00:02:16
1	Sn 189.927†	2972.1	2852.4	506.15	ug/L	506.15	ppb	00:02:36
1	Ti 334.940†	328133.2	317129.2	510.68	ug/L	510.68	ppb	00:02:11
1	Tl 190.801†	1656.5	1626.8	502.30	ug/L	502.30	ppb	00:02:36
1	U 409.014†	15652.4	17073.6	501.95	ug/L	501.95	ppb	00:02:16
1	V 292.402†	74171.3	72682.9	503.14	ug/L	503.14	ppb	00:02:16
1	Zn 213.857†	55289.5	52583.5	493.00	ug/L	493.00	ppb	00:02:16
1	SiO2†	82534.3	78849.1	5366.3	ug/L	5366.3	ppb	00:03:44
2	Sc Radial	5097.9	5097.9	101	%			00:01:18
2	Y RADIAL	5437.9	5437.9	100.2	%			00:01:18
2	Al 396.153Radial†	6436.9	6358.5	4880.7	ug/L	4880.7	ppb	00:01:18
2	Ca 317.933Radial†	3244.0	3184.4	5095.3	ug/L	5095.3	ppb	00:01:38
2	Fe 238.204 Radial†	623.9	607.4	5271.6	ug/L	5271.6	ppb	00:01:38
2	K 766.490 Radial†	29994.1	27035.7	4939.3	ug/L	4939.3	ppb	00:01:18
2	Mg 279.077 IEC†	165.0	161.1	5382.1	ug/L	5382.1	ppb	00:01:38
2	Na 589.592 Radial†	33544.4	34413.1	10304	ug/L	10304	ppb	00:01:18
2	Sr 421.552†	78187.3	77247.1	498.89	ug/L	498.89	ppb	00:01:18
2	Sc 361.383	869801.0	869801.0	102.04	%			00:02:42
2	Y 371.029	724270.0	724270.0	100.22	%			00:02:42
2	Ag 328.068†	113175.2	110552.8	512.28	ug/L	512.28	ppb	00:02:47
2	As 188.979†	1175.5	1175.6	511.60	ug/L	511.60	ppb	00:03:07
2	B 249.677†	22113.2	22302.6	495.22	ug/L	495.22	ppb	00:02:47
2	Ba 233.527†	66099.5	64788.4	507.08	ug/L	507.08	ppb	00:02:47
2	Be 313.107†	1357609.0	1335031.4	509.84	ug/L	509.84	ppb	00:02:42
2	Cd 226.502†	46619.3	45890.6	509.10	ug/L	509.10	ppb	00:02:47
2	Co 228.616†	25319.2	24887.3	509.50	ug/L	509.50	ppb	00:02:47
2	Cr 267.716†	46458.5	45445.7	508.71	ug/L	508.71	ppb	00:02:47
2	Cu 324.752†	176893.0	166941.5	499.19	ug/L	499.19	ppb	00:02:47
2	Mn 257.610†	466029.2	456260.0	506.18	ug/L	506.18	ppb	00:02:42
2	Mo 202.031†	7416.1	7244.0	512.39	ug/L	512.39	ppb	00:03:07
2	Ni 231.604†	20974.0	20486.4	509.81	ug/L	509.81	ppb	00:02:47

2	P 214.914†	4450.5	4131.6	2419.2 ug/L	2419.2 ppb	00:03:07
2	Pb 220.353†	4167.5	4147.5	509.51 ug/L	509.51 ppb	00:03:07
2	S 181.975 Axial†	786.9	728.2	1029.5 ug/L	1029.5 ppb	00:03:07
2	Sb 206.836†	1547.7	1488.8	528.34 ug/L	528.34 ppb	00:03:07
2	Se 196.026†	776.4	792.9	529.57 ug/L	529.57 ppb	00:03:07
2	Si 251.611†	83070.1	80857.6	2568.9 ug/L	2568.9 ppb	00:02:47
2	Sn 189.927†	2969.6	2902.5	515.03 ug/L	515.03 ppb	00:03:07
2	Ti 334.940†	321752.0	316688.9	509.95 ug/L	509.95 ppb	00:02:42
2	Tl 190.801†	1670.1	1669.5	515.34 ug/L	515.34 ppb	00:03:07
2	U 409.014†	15898.9	17592.5	517.23 ug/L	517.23 ppb	00:02:47
2	V 292.402†	74312.2	74135.1	513.23 ug/L	513.23 ppb	00:02:47
2	Zn 213.857†	55432.8	53703.4	503.50 ug/L	503.50 ppb	00:02:47
2	SiO2†	82790.6	80562.5	5483.0 ug/L	5483.0 ppb	00:03:49
3	Sc Radial	5270.9	5270.9	105 %		00:01:43
3	Y RADIAL	5614.5	5614.5	103.4 %		00:01:43
3	Al 396.153Radial†	6648.6	6352.1	4875.9 ug/L	4875.9 ppb	00:01:43
3	Ca 317.933Radial†	3221.5	3057.7	4892.7 ug/L	4892.7 ppb	00:02:03
3	Fe 238.204 Radial†	623.0	586.3	5089.3 ug/L	5089.3 ppb	00:02:03
3	K 766.490 Radial†	30804.9	26837.9	4903.2 ug/L	4903.2 ppb	00:01:43
3	Mg 279.077 IEC†	165.6	156.2	5220.6 ug/L	5220.6 ppb	00:02:03
3	Na 589.592 Radial†	34698.7	34428.3	10308 ug/L	10308 ppb	00:01:43
3	Sr 421.552†	80835.6	77242.2	498.86 ug/L	498.86 ppb	00:01:43
3	Sc 361.383	871664.6	871664.6	102.26 %		00:03:13
3	Y 371.029	726041.6	726041.6	100.47 %		00:03:13
3	Ag 328.068†	113985.2	111107.7	514.78 ug/L	514.78 ppb	00:03:18
3	As 188.979†	1172.4	1170.1	509.21 ug/L	509.21 ppb	00:03:38
3	B 249.677†	22353.4	22491.2	499.43 ug/L	499.43 ppb	00:03:18
3	Ba 233.527†	66445.0	64987.7	508.64 ug/L	508.64 ppb	00:03:18
3	Be 313.107†	1362122.5	1336600.7	510.44 ug/L	510.44 ppb	00:03:13
3	Cd 226.502†	46771.9	45942.2	509.70 ug/L	509.70 ppb	00:03:18
3	Co 228.616†	25498.7	25009.8	512.00 ug/L	512.00 ppb	00:03:18
3	Cr 267.716†	46716.4	45600.6	510.43 ug/L	510.43 ppb	00:03:18
3	Cu 324.752†	178604.5	168244.6	503.07 ug/L	503.07 ppb	00:03:18
3	Mn 257.610†	467051.8	456283.6	506.19 ug/L	506.19 ppb	00:03:13
3	Mo 202.031†	7377.6	7190.8	508.61 ug/L	508.61 ppb	00:03:38
3	Ni 231.604†	21019.8	20487.2	509.83 ug/L	509.83 ppb	00:03:18
3	P 214.914†	4440.1	4112.1	2406.5 ug/L	2406.5 ppb	00:03:38
3	Pb 220.353†	4152.4	4123.9	506.62 ug/L	506.62 ppb	00:03:38
3	S 181.975 Axial†	777.0	716.8	1013.5 ug/L	1013.5 ppb	00:03:38
3	Sb 206.836†	1549.0	1486.9	527.57 ug/L	527.57 ppb	00:03:38
3	Se 196.026†	771.4	786.4	524.77 ug/L	524.77 ppb	00:03:38
3	Si 251.611†	83713.6	81312.8	2583.4 ug/L	2583.4 ppb	00:03:18
3	Sn 189.927†	2960.7	2887.6	512.37 ug/L	512.37 ppb	00:03:38
3	Ti 334.940†	322420.5	316668.5	509.90 ug/L	509.90 ppb	00:03:13
3	Tl 190.801†	1649.6	1646.0	508.11 ug/L	508.11 ppb	00:03:38
3	U 409.014†	16116.1	17771.5	522.53 ug/L	522.53 ppb	00:03:18
3	V 292.402†	74729.8	74387.7	514.93 ug/L	514.93 ppb	00:03:18
3	Zn 213.857†	55793.4	53939.9	505.75 ug/L	505.75 ppb	00:03:18
3	SiO2†	84213.5	81780.4	5566.2 ug/L	5566.2 ppb	00:03:54

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	875760.1	102.74	%	1.027				1.00%
Sc Radial	5180.1	103	%	1.7				1.68%
Y 371.029	728958.3	100.87	%	0.920				0.91%
Y RADIAL	5519.1	101.7	%	1.64				1.62%
Ag 328.068†	110002.3	509.71	ug/L	6.724	509.71	ppb	6.724	1.32%
QC value within limits for Ag 328.068 Recovery = 101.94%								
Al 396.153Radial†	6336.6	4864.0	ug/L	24.87	4864.0	ppb	24.87	0.51%
QC value within limits for Al 396.153Radial Recovery = 97.28%								
As 188.979†	1165.3	507.16	ug/L	5.735	507.16	ppb	5.735	1.13%
QC value within limits for As 188.979 Recovery = 101.43%								
B 249.677†	22188.0	492.67	ug/L	8.324	492.67	ppb	8.324	1.69%
QC value within limits for B 249.677 Recovery = 98.53%								
Ba 233.527†	64466.7	504.56	ug/L	5.762	504.56	ppb	5.762	1.14%
QC value within limits for Ba 233.527 Recovery = 100.91%								
Be 313.107†	1336120.5	510.26	ug/L	0.361	510.26	ppb	0.361	0.07%
QC value within limits for Be 313.107 Recovery = 102.05%								
Ca 317.933Radial†	3138.0	5021.1	ug/L	111.68	5021.1	ppb	111.68	2.22%

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   QC value within limits for Ca 317.933Radial  Recovery = 100.42%
Cd 226.502†            45593.7      505.81 ug/L         6.221      505.81 ppb          6.221   1.23%
   QC value within limits for Cd 226.502  Recovery = 101.16%
Co 228.616†            24758.0      506.85 ug/L         6.882      506.85 ppb          6.882   1.36%
   QC value within limits for Co 228.616  Recovery = 101.37%
Cr 267.716†            45172.4      505.65 ug/L         6.851      505.65 ppb          6.851   1.35%
   QC value within limits for Cr 267.716  Recovery = 101.13%
Cu 324.752†           166124.9      496.75 ug/L         7.840      496.75 ppb          7.840   1.58%
   QC value within limits for Cu 324.752  Recovery = 99.35%
Fe 238.204 Radial†       599.6      5204.4 ug/L        100.17      5204.4 ppb         100.17   1.92%
   QC value within limits for Fe 238.204 Radial  Recovery = 104.09%
K 766.490 Radial†      26903.6      4915.2 ug/L         20.92      4915.2 ppb          20.92   0.43%
   QC value within limits for K 766.490 Radial  Recovery = 98.30%
Mg 279.077 IEC†          158.2      5286.8 ug/L         84.58      5286.8 ppb          84.58   1.60%
   QC value within limits for Mg 279.077 IEC  Recovery = 105.74%
Mn 257.610†           456415.2      506.35 ug/L         0.281      506.35 ppb          0.281   0.06%
   QC value within limits for Mn 257.610  Recovery = 101.27%
Mo 202.031†             7177.8      507.71 ug/L         5.191      507.71 ppb          5.191   1.02%
   QC value within limits for Mo 202.031  Recovery = 101.54%
Na 589.592 Radial†     34417.2       10305 ug/L           2.9       10305 ppb            2.9   0.03%
   QC value within limits for Na 589.592 Radial  Recovery = 103.05%
Ni 231.604†            20326.4      505.83 ug/L         6.912      505.83 ppb          6.912   1.37%
   QC value within limits for Ni 231.604  Recovery = 101.17%
P 214.914†              4104.5      2403.1 ug/L         17.97      2403.1 ppb          17.97   0.75%
   QC value within limits for P 214.914  Recovery = 96.12%
Pb 220.353†             4116.8      505.74 ug/L         4.283      505.74 ppb          4.283   0.85%
   QC value within limits for Pb 220.353  Recovery = 101.15%
S 181.975 Axial†         723.6      1023.1 ug/L          8.46      1023.1 ppb           8.46   0.83%
   QC value within limits for S 181.975 Axial  Recovery = 102.31%
Sb 206.836†             1477.4      524.26 ug/L         6.409      524.26 ppb          6.409   1.22%
   QC value within limits for Sb 206.836  Recovery = 104.85%
Se 196.026†              785.7      524.69 ug/L         4.915      524.69 ppb          4.915   0.94%
   QC value within limits for Se 196.026  Recovery = 104.94%
Si 251.611†            80508.7      2557.8 ug/L         32.57      2557.8 ppb          32.57   1.27%
   QC value within limits for Si 251.611  Recovery = 102.31%
Sn 189.927†             2880.8      511.18 ug/L         4.560      511.18 ppb          4.560   0.89%
   QC value within limits for Sn 189.927  Recovery = 102.24%
Sr 421.552†            77100.1      497.95 ug/L         1.617      497.95 ppb          1.617   0.32%
   QC value within limits for Sr 421.552  Recovery = 99.59%
Ti 334.940†           316828.8      510.18 ug/L         0.434      510.18 ppb          0.434   0.09%
   QC value within limits for Ti 334.940  Recovery = 102.04%
Tl 190.801†             1647.5      508.58 ug/L         6.530      508.58 ppb          6.530   1.28%
   QC value within limits for Tl 190.801  Recovery = 101.72%
U 409.014†             17479.2      513.91 ug/L        10.685      513.91 ppb         10.685   2.08%
   QC value within limits for U 409.014  Recovery = 102.78%
V 292.402†             73735.2      510.44 ug/L         6.375      510.44 ppb          6.375   1.25%
   QC value within limits for V 292.402  Recovery = 102.09%
Zn 213.857†            53408.9      500.75 ug/L         6.805      500.75 ppb          6.805   1.36%
   QC value within limits for Zn 213.857  Recovery = 100.15%
SiO2†                  80397.3      5471.8 ug/L        100.38      5471.8 ppb         100.38   1.83%
   QC value within limits for SiO2  Recovery = 102.32%
All analyte(s) passed QC.
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Sequence No.: 77
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 1/12/2010 00:06:03
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc Radial	4856.1	4856.1	96.4	%			00:07:55
1	Y RADIAL	5198.1	5198.1	95.74	%			00:07:55
1	Al 396.153Radial†	2.4	3.2	2.4705	ug/L	2.4705	ppb	00:07:55
1	Ca 317.933Radial†	14.8	-4.5	-7.1219	ug/L	-7.1219	ppb	00:08:15
1	Fe 238.204 Radial†	14.5	6.1	53.223	ug/L	53.223	ppb	00:08:15
1	K 766.490 Radial†	2783.9	296.5	54.379	ug/L	54.379	ppb	00:07:55
1	Mg 279.077 IEC†	3.9	2.1	71.426	ug/L	71.426	ppb	00:08:15
1	Na 589.592 Radial†	-1291.8	-59.0	-17.677	ug/L	-17.677	ppb	00:07:55
1	Sr 421.552†	29.1	49.7	0.3209	ug/L	0.3209	ppb	00:07:55
1	Sc 361.383	894686.7	894686.7	104.96	%			00:09:12
1	Y 371.029	757293.5	757293.5	104.79	%			00:09:12
1	Ag 328.068†	396.2	19.5	0.1031	ug/L	0.1031	ppb	00:09:17
1	As 188.979†	-18.9	5.6	2.4376	ug/L	2.4376	ppb	00:09:37
1	B 249.677†	-498.0	157.4	3.5032	ug/L	3.5032	ppb	00:09:37
1	Ba 233.527†	-25.7	-13.1	-0.0999	ug/L	-0.0999	ppb	00:09:37
1	Be 313.107†	-4578.0	223.7	0.0858	ug/L	0.0858	ppb	00:09:17
1	Cd 226.502†	-185.3	27.6	0.3017	ug/L	0.3017	ppb	00:09:37
1	Co 228.616†	-61.7	15.9	0.3215	ug/L	0.3215	ppb	00:09:37
1	Cr 267.716†	95.8	8.0	0.0888	ug/L	0.0888	ppb	00:09:37
1	Cu 324.752†	6435.2	-281.2	-0.8414	ug/L	-0.8414	ppb	00:09:17
1	Mn 257.610†	471.8	4.6	0.0082	ug/L	0.0082	ppb	00:09:37
1	Mo 202.031†	14.8	-9.6	-0.6780	ug/L	-0.6780	ppb	00:09:37
1	Ni 231.604†	68.2	-3.0	-0.0741	ug/L	-0.0741	ppb	00:09:37
1	P 214.914†	215.3	-24.8	-15.019	ug/L	-15.019	ppb	00:09:37
1	Pb 220.353†	-60.4	5.8	0.7027	ug/L	0.7027	ppb	00:09:37
1	S 181.975 Axial†	47.9	2.6	3.7238	ug/L	3.7238	ppb	00:09:37
1	Sb 206.836†	37.4	7.7	2.6143	ug/L	2.6143	ppb	00:09:37
1	Se 196.026†	-33.3	0.3	0.3294	ug/L	0.3294	ppb	00:09:37
1	Si 251.611†	550.1	-26.4	-0.8309	ug/L	-0.8309	ppb	00:09:37
1	Sn 189.927†	3.2	-4.6	-0.8184	ug/L	-0.8184	ppb	00:09:37
1	Ti 334.940†	-1287.2	148.2	0.2293	ug/L	0.2293	ppb	00:09:17
1	Tl 190.801†	-31.9	2.4	0.7458	ug/L	0.7458	ppb	00:09:37
1	U 409.014†	-1889.2	211.7	6.2388	ug/L	6.2388	ppb	00:09:12
1	V 292.402†	-1336.2	36.7	0.2452	ug/L	0.2452	ppb	00:09:17
1	Zn 213.857†	625.3	-24.5	-0.2357	ug/L	-0.2357	ppb	00:09:37
1	SiO2†	554.3	-43.6	-2.9567	ug/L	-2.9567	ppb	00:10:43
2	Sc Radial	5145.7	5145.7	102	%			00:08:20
2	Y RADIAL	5534.4	5534.4	101.9	%			00:08:20
2	Al 396.153Radial†	-12.7	-11.8	-9.1278	ug/L	-9.1278	ppb	00:08:20
2	Ca 317.933Radial†	17.0	-3.2	-5.0466	ug/L	-5.0466	ppb	00:08:40
2	Fe 238.204 Radial†	13.0	3.8	33.312	ug/L	33.312	ppb	00:08:40
2	K 766.490 Radial†	2788.1	138.1	25.327	ug/L	25.327	ppb	00:08:20
2	Mg 279.077 IEC†	2.2	0.3	9.7783	ug/L	9.7783	ppb	00:08:40
2	Na 589.592 Radial†	-1375.4	-65.4	-19.594	ug/L	-19.594	ppb	00:08:20
2	Sr 421.552†	4.9	24.3	0.1570	ug/L	0.1570	ppb	00:08:20
2	Sc 361.383	877558.5	877558.5	102.95	%			00:09:42
2	Y 371.029	742412.1	742412.1	102.73	%			00:09:42
2	Ag 328.068†	416.9	47.0	0.2229	ug/L	0.2229	ppb	00:09:47
2	As 188.979†	-23.8	0.5	0.2213	ug/L	0.2213	ppb	00:10:07
2	B 249.677†	-511.3	135.2	3.0105	ug/L	3.0105	ppb	00:10:07
2	Ba 233.527†	-10.1	1.6	0.0131	ug/L	0.0131	ppb	00:10:07
2	Be 313.107†	-4609.7	107.8	0.0415	ug/L	0.0415	ppb	00:09:47
2	Cd 226.502†	-207.1	3.0	0.0302	ug/L	0.0302	ppb	00:10:07
2	Co 228.616†	-77.8	-0.9	-0.0188	ug/L	-0.0188	ppb	00:10:07
2	Cr 267.716†	70.6	-14.6	-0.1649	ug/L	-0.1649	ppb	00:10:07
2	Cu 324.752†	6486.9	-111.3	-0.3333	ug/L	-0.3333	ppb	00:09:47
2	Mn 257.610†	469.3	11.0	0.0155	ug/L	0.0155	ppb	00:10:07
2	Mo 202.031†	28.1	3.5	0.2527	ug/L	0.2527	ppb	00:10:07
2	Ni 231.604†	69.4	-0.6	-0.0146	ug/L	-0.0146	ppb	00:10:07

2	P 214.914†	213.5	-22.5	-13.714 ug/L	-13.714 ppb	00:10:07
2	Pb 220.353†	-64.0	1.2	0.1460 ug/L	0.1460 ppb	00:10:07
2	S 181.975 Axial†	53.1	8.5	12.086 ug/L	12.086 ppb	00:10:07
2	Sb 206.836†	38.8	9.7	3.3179 ug/L	3.3179 ppb	00:10:07
2	Se 196.026†	-31.2	1.8	1.2356 ug/L	1.2356 ppb	00:10:07
2	Si 251.611†	533.7	-32.1	-1.0244 ug/L	-1.0244 ppb	00:10:07
2	Sn 189.927†	1.2	-6.5	-1.1499 ug/L	-1.1499 ppb	00:10:07
2	Ti 334.940†	-1293.5	118.1	0.1871 ug/L	0.1871 ppb	00:09:47
2	Tl 190.801†	-37.2	-3.3	-1.0095 ug/L	-1.0095 ppb	00:10:07
2	U 409.014†	-1926.4	140.5	4.1407 ug/L	4.1407 ppb	00:09:42
2	V 292.402†	-1384.0	-34.6	-0.2296 ug/L	-0.2296 ppb	00:09:47
2	Zn 213.857†	622.6	-15.5	-0.1493 ug/L	-0.1493 ppb	00:10:07
2	SiO2†	560.9	-26.9	-1.8422 ug/L	-1.8422 ppb	00:10:48
3	Sc Radial	5153.8	5153.8	102 %		00:08:45
3	Y RADIAL	5526.8	5526.8	101.8 %		00:08:45
3	Al 396.153Radial†	-11.2	-10.3	-7.9427 ug/L	-7.9427 ppb	00:08:45
3	Ca 317.933Radial†	18.2	-2.0	-3.2424 ug/L	-3.2424 ppb	00:09:05
3	Fe 238.204 Radial†	9.6	0.5	4.5530 ug/L	4.5530 ppb	00:09:05
3	K 766.490 Radial†	2800.9	146.4	26.850 ug/L	26.850 ppb	00:08:45
3	Mg 279.077 IEC†	1.7	-0.2	-7.8287 ug/L	-7.8287 ppb	00:09:05
3	Na 589.592 Radial†	-1378.0	-65.8	-19.707 ug/L	-19.707 ppb	00:08:45
3	Sr 421.552†	25.4	44.3	0.2861 ug/L	0.2861 ppb	00:08:45
3	Sc 361.383	877479.9	877479.9	102.94 %		00:10:13
3	Y 371.029	743999.9	743999.9	102.95 %		00:10:13
3	Ag 328.068†	316.4	-50.6	-0.2330 ug/L	-0.2330 ppb	00:10:18
3	As 188.979†	-18.7	5.5	2.3747 ug/L	2.3747 ppb	00:10:38
3	B 249.677†	-524.9	121.9	2.7169 ug/L	2.7169 ppb	00:10:38
3	Ba 233.527†	-1.9	9.6	0.0752 ug/L	0.0752 ppb	00:10:38
3	Be 313.107†	-4567.3	148.6	0.0571 ug/L	0.0571 ppb	00:10:18
3	Cd 226.502†	-185.7	23.8	0.2633 ug/L	0.2633 ppb	00:10:38
3	Co 228.616†	-72.2	4.5	0.0925 ug/L	0.0925 ppb	00:10:38
3	Cr 267.716†	86.3	0.5	0.0054 ug/L	0.0054 ppb	00:10:38
3	Cu 324.752†	6508.6	-89.6	-0.2687 ug/L	-0.2687 ppb	00:10:18
3	Mn 257.610†	452.9	-4.9	-0.0047 ug/L	-0.0047 ppb	00:10:38
3	Mo 202.031†	25.2	0.8	0.0558 ug/L	0.0558 ppb	00:10:38
3	Ni 231.604†	63.6	-6.2	-0.1533 ug/L	-0.1533 ppb	00:10:38
3	P 214.914†	225.3	-11.0	-6.6683 ug/L	-6.6683 ppb	00:10:38
3	Pb 220.353†	-46.8	17.9	2.1910 ug/L	2.1910 ppb	00:10:38
3	S 181.975 Axial†	45.5	1.2	1.7422 ug/L	1.7422 ppb	00:10:38
3	Sb 206.836†	37.6	8.6	2.9519 ug/L	2.9519 ppb	00:10:38
3	Se 196.026†	-24.6	8.1	5.2503 ug/L	5.2503 ppb	00:10:38
3	Si 251.611†	550.7	-15.5	-0.4939 ug/L	-0.4939 ppb	00:10:38
3	Sn 189.927†	9.5	1.5	0.2723 ug/L	0.2723 ppb	00:10:38
3	Ti 334.940†	-1284.6	126.6	0.2035 ug/L	0.2035 ppb	00:10:18
3	Tl 190.801†	-34.4	-0.5	-0.1640 ug/L	-0.1640 ppb	00:10:38
3	U 409.014†	-2005.9	63.0	1.8583 ug/L	1.8583 ppb	00:10:13
3	V 292.402†	-1341.1	7.0	0.0510 ug/L	0.0510 ppb	00:10:18
3	Zn 213.857†	630.0	-8.2	-0.0767 ug/L	-0.0767 ppb	00:10:38
3	SiO2†	569.2	-18.7	-1.2790 ug/L	-1.2790 ppb	00:10:53

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	883241.7	103.62	%	1.163				1.12%
Sc Radial	5051.9	100	%	3.4				3.36%
Y 371.029	747901.8	103.49	%	1.131				1.09%
Y RADIAL	5419.7	99.82	%	3.536				3.54%
Ag 328.068†	5.3	0.0310	ug/L	0.23634	0.0310	ppb	0.23634	762.39%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-6.3	-4.8667	ug/L	6.38175	-4.8667	ppb	6.38175	131.13%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	3.9	1.6779	ug/L	1.26183	1.6779	ppb	1.26183	75.20%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	138.2	3.0769	ug/L	0.39729	3.0769	ppb	0.39729	12.91%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	-0.6	-0.0039	ug/L	0.08877	-0.0039	ppb	0.08877	>999.9%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	160.1	0.0615	ug/L	0.02246	0.0615	ppb	0.02246	36.54%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-3.2	-5.1370	ug/L	1.94135	-5.1370	ppb	1.94135	37.79%

```
   QC value within limits for Ca 317.933Radial  Recovery = Not calculated
Cd 226.502†                18.1      0.1984 ug/L       0.14693      0.1984 ppb        0.14693  74.05%
   QC value within limits for Cd 226.502  Recovery = Not calculated
Co 228.616†                 6.5      0.1317 ug/L       0.17354      0.1317 ppb        0.17354 131.76%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                -2.0     -0.0235 ug/L       0.12932     -0.0235 ppb        0.12932 549.13%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†              -160.7     -0.4811 ug/L       0.31364     -0.4811 ppb        0.31364  65.19%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          3.5      30.363 ug/L       24.4687      30.363 ppb        24.4687  80.59%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†         193.6      35.519 ug/L       16.3513      35.519 ppb        16.3513  46.04%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†             0.7      24.459 ug/L       41.6168      24.459 ppb        41.6168 170.15%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†                 3.6      0.0063 ug/L       0.01020      0.0063 ppb        0.01020 160.90%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                -1.8     -0.1232 ug/L       0.49044     -0.1232 ppb        0.49044 398.18%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        -63.4     -18.993 ug/L        1.1406     -18.993 ppb         1.1406   6.01%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                -3.2     -0.0807 ug/L       0.06957     -0.0807 ppb        0.06957  86.26%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                -19.4     -11.800 ug/L        4.4921     -11.800 ppb         4.4921  38.07%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 8.3      1.0132 ug/L       1.05727      1.0132 ppb        1.05727 104.35%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†            4.1      5.8506 ug/L       5.49002      5.8506 ppb        5.49002  93.84%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                 8.7      2.9614 ug/L       0.35191      2.9614 ppb        0.35191  11.88%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 3.4      2.2718 ug/L       2.61899      2.2718 ppb        2.61899 115.28%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               -24.6     -0.7831 ug/L       0.26849     -0.7831 ppb        0.26849  34.29%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                -3.2     -0.5654 ug/L       0.74407     -0.5654 ppb        0.74407 131.61%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                39.4      0.2547 ug/L       0.08635      0.2547 ppb        0.08635  33.90%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†               131.0      0.2066 ug/L       0.02128      0.2066 ppb        0.02128  10.30%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -0.5     -0.1426 ug/L       0.87784     -0.1426 ppb        0.87784 615.62%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                138.4      4.0793 ug/L       2.19090      4.0793 ppb        2.19090  53.71%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                 3.0      0.0222 ug/L       0.23871      0.0222 ppb        0.23871 >999.9%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†               -16.1     -0.1539 ug/L       0.07959     -0.1539 ppb        0.07959  51.71%
   QC value within limits for Zn 213.857  Recovery = Not calculated
SiO2†                     -29.7     -2.0260 ug/L       0.85383     -2.0260 ppb        0.85383  42.14%
   QC value within limits for SiO2  Recovery = Not calculated
All analyte(s) passed QC.
```

Daily Performance Report

Sample ID: Sample
Sample Date/Time: Thursday, January 07, 2010 10:41:36
Sample Description:
Method File: c:\elandata\Method\daily2.mth
Dataset File: c:\elandata\Dataset\090811\Sample.347
Tuning File: c:\elandata\Tuning\default2.tun
Optimization File: c:\elandata\Optimize\default.dac
Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35
Current Dead Time (ns): 35

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Be	9.0	1035.6	1035.638	39.109	3.8
	Mg	24.0	19340.7	19340.684	122.061	0.6
	Co	58.9	50689.4	50689.371	155.025	0.3
	Rh	102.9	84264.2	84264.192	495.230	0.6
	In	114.9	107705.7	107705.718	943.088	0.9
	Pb	208.0	38437.6	38437.644	325.734	0.8
⌈>	Ba	137.9	85539.0	85538.975	598.451	0.7
⌊	Ba++	69.0	1678.6	0.020	0.000	1.0
⌈>	Ce	139.9	100755.1	100755.059	304.348	0.3
⌊	CeO	155.9	2306.1	0.023	0.001	2.4
	Bkgd	220.0	8.5	8.500	1.458	17.1

Current Optimization File Data

Current Value	Description
0.84	Nebulizer Gas Flow
6.00	Lens Voltage
1000.00	ICP RF Power
-1875.00	Analog Stage Voltage
1100.00	Pulse Stage Voltage
50.00	Discriminator Threshold
-2.00	AC Rod Offset

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	17	7.0	862.7
Co	59	17	8.5	33104.6
In	115	17	9.5	79556.6

ICPMS #4 TUNING REPORT

File Name: default2.tun
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas Peak W
He	3.0	3.0	617	2060	0.671
Be	9.0	9.1	2062	2045	0.678
Mg	24.0	24.0	5671	2075	0.585
Mg	25.0	24.9	5957	2080	0.645
Mg	26.0	26.0	6149	2085	0.616
Co	58.9	58.9	14186	2140	0.623
Rh	102.9	102.9	24869	2230	0.628
In	114.9	114.9	27789	2255	0.664
Ce	139.9	139.9	33855	2310	0.640
Pb	206.0	206.0	49930	2500	0.686
Pb	207.0	207.0	50101	2380	0.636
Pb	208.0	208.0	50448	2570	0.638
U	238.1	238.1	57705	2510	0.677

ICPMS#4 - Summary Report

Sample ID: Blank
Sample Date/Time: Thursday, January 07, 2010 17:57:21
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\Blank.101

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7		ug/L		27	
	Be	9		ug/L		4	
	B	11		ug/L		64	
	Na	23		ug/L		14007	
	Mg	24		ug/L		667	
	Al	27		ug/L		3001	
	P	31		ug/L		1820	
	K	39		ug/L		389246	
	Ca	43		ug/L		387	
>	Sc	45		ug/L		218374	
	Ti	47		ug/L		161	
	V	51		ug/L		2684	
	Cr	52		ug/L		3715	
	Cr	53		ug/L		134952	
	Mn	55		ug/L		799	
	Fe	57		ug/L		5211	
	Co	59		ug/L		174	
	Ni	60		ug/L		45	
	Cu	63		ug/L		106	
	Cu	65		ug/L		60	
	Zn	66		ug/L		103	
	Zn	67		ug/L		5573	
	Zn	68		ug/L		417	
>	Ge	74		ug/L		89952	
	As	75		ug/L		293	
	Se	77		ug/L		5624	
	Se	82		ug/L		6	
	Kr	83		ug/L		43	
	Sr	88		ug/L		126	
	Y	89		ug/L		12	
	Zr	90		ug/L		247	
	Mo	98		ug/L		39	
	Ag	107		ug/L		62	
	Cd	111		ug/L		19	
	Cd	114		ug/L		35	
>	In	115		ug/L		50993	
	Sn	120		ug/L		197	
	Sb	121		ug/L		415	
	Sb	123		ug/L		371	
	Ba	135		ug/L		18	
	Ba	137		ug/L		33	
	Ho	165		ug/L		10	
>	Lu	175		ug/L		43020	
	Tl	205		ug/L		99	
	Pb	208		ug/L		418	
	Bi	209		ug/L		19	
	Th	232		ug/L		309	
	U	238		ug/L		204	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Simple Linear	
Be	9	Simple Linear	
B	11	Simple Linear	
Na	23	Simple Linear	
Mg	24	Simple Linear	
Al	27	Simple Linear	
P	31	Simple Linear	
K	39	Simple Linear	
Ca	43	Simple Linear	
Sc	45	Simple Linear	
Ti	47	Simple Linear	
V	51	Simple Linear	
Cr	52	Simple Linear	
Cr	53	Simple Linear	
Mn	55	Simple Linear	
Fe	57	Simple Linear	
Co	59	Simple Linear	
Ni	60	Simple Linear	
Cu	63	Simple Linear	
Cu	65	Simple Linear	
Zn	66	Simple Linear	
Zn	67	Simple Linear	
Zn	68	Simple Linear	
Ge	74	Simple Linear	
As	75	Simple Linear	
Se	77	Simple Linear	
Se	82	Simple Linear	
Kr	83	Simple Linear	
Sr	88	Simple Linear	
Y	89	Simple Linear	
Zr	90	Simple Linear	
Mo	98	Simple Linear	
Ag	107	Simple Linear	
Cd	111	Simple Linear	
Cd	114	Simple Linear	
In	115	Simple Linear	
Sn	120	Simple Linear	
Sb	121	Simple Linear	
Sb	123	Simple Linear	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Simple Linear	
Th	232	Simple Linear	
U	238	Simple Linear	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45					
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175					
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Thursday, January 07, 2010 18:03:32
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\Standard 1.102

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	10.000	ug/L	2.464	1949	0.008
	Be	9	10.000	ug/L	4.337	555	0.002
	B	11	20.000	ug/L	0.769	851	0.003
	Na	23	1000.000	ug/L	4.398	1019845	4.351
	Mg	24	1000.000	ug/L	4.510	694147	3.002
	Al	27	1000.000	ug/L	2.381	1043810	4.504
	P	31	1000.000	ug/L	2.181	59055	0.247
	K	39	1000.000	ug/L	6.848	2333026	8.316
	Ca	43	1000.000	ug/L	2.661	4349	0.017
>	Sc	45		ug/L		231045	231045.052
	Ti	47	10.000	ug/L	1.907	1986	0.008
	V	51	10.000	ug/L	3.255	17487	0.063
	Cr	52	10.000	ug/L	1.194	21730	0.077
	Cr	53		ug/L		130696	-0.052
	Mn	55	10.000	ug/L	0.551	30375	0.128
	Fe	57	1000.000	ug/L	1.848	65143	0.258
	Co	59	10.000	ug/L	0.179	22730	0.098
	Ni	60	10.000	ug/L	1.811	4715	0.020
	Cu	63		ug/L		10737	0.046
	Cu	65	10.000	ug/L	1.227	5244	0.022
	Zn	66	10.000	ug/L	2.015	2753	0.029
	Zn	67		ug/L		5622	-0.001
	Zn	68		ug/L		2254	0.020
>	Ge	74		ug/L		92565	92565.258
	As	75	10.000	ug/L	6.490	3400	0.033
	Se	77		ug/L		5719	-0.001
	Se	82	10.000	ug/L	7.131	274	0.003
	Kr	83		ug/L		50	0.000
	Sr	88	10.000	ug/L	0.460	44309	0.858
	Y	89		ug/L		13	0.000
	Zr	90	10.000	ug/L	1.545	23949	0.460
	Mo	98	10.000	ug/L	1.157	10015	0.194
	Ag	107	10.000	ug/L	2.037	15576	0.301
	Cd	111	10.000	ug/L	2.505	3651	0.070
	Cd	114		ug/L		8270	0.160
>	In	115		ug/L		51525	51524.705
	Sn	120	10.000	ug/L	1.071	16234	0.311
	Sb	121	10.000	ug/L	4.347	12089	0.226
	Sb	123		ug/L		9394	0.175
	Ba	135		ug/L		3713	0.084
	Ba	137	10.000	ug/L	1.616	6401	0.144
	Ho	165		ug/L		9	-0.000
>	Lu	175		ug/L		44125	44125.484
	Tl	205	10.000	ug/L	1.145	13563	0.305
	Pb	208	10.000	ug/L	0.605	36742	0.823
	Bi	209		ug/L		23	0.000
	Th	232	10.000	ug/L	3.327	46836	1.054
	U	238	10.000	ug/L	1.395	48702	1.099

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45					
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175					
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Thursday, January 07, 2010 18:09:41
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\Standard 2.103

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**99.964**	ug/L	2.224	18426	0.080
	Be	9	**99.962**	ug/L	5.146	5266	0.023
	B	11	**200.196**	ug/L	3.226	8692	0.038
	Na	23	**10000.050**	ug/L	1.518	9995486	43.529
	Mg	24	**9999.483**	ug/L	6.205	6845739	29.863
	Al	27	**9999.101**	ug/L	2.616	10237786	44.631
	P	31	**10000.055**	ug/L	2.046	569135	2.474
	K	39	**9996.147**	ug/L	5.719	18760944	80.049
	Ca	43	**9999.269**	ug/L	1.279	39215	0.169
>	Sc	45		ug/L		229312	229311.883
	Ti	47	**100.010**	ug/L	2.008	18378	0.079
	V	51	**100.177**	ug/L	1.842	179800	0.772
	Cr	52	**100.000**	ug/L	0.758	180606	0.771
	Cr	53		ug/L		143612	0.008
	Mn	55	**99.995**	ug/L	1.648	292436	1.272
	Fe	57	**9998.911**	ug/L	1.304	590772	2.553
	Co	59	**99.974**	ug/L	0.402	218319	0.951
	Ni	60	**99.985**	ug/L	0.491	45683	0.199
	Cu	63		ug/L		103286	0.450
	Cu	65	**99.953**	ug/L	2.236	49141	0.214
	Zn	66	**99.986**	ug/L	0.606	26077	0.282
	Zn	67		ug/L		9290	0.039
	Zn	68		ug/L		18967	0.201
>	Ge	74		ug/L		92107	92106.569
	As	75	**100.007**	ug/L	0.849	31363	0.337
	Se	77		ug/L		7462	0.018
	Se	82	**100.079**	ug/L	3.970	2892	0.031
	Kr	83		ug/L		50	0.000
	Sr	88	**99.992**	ug/L	2.587	436356	8.504
	Y	89		ug/L		51	0.001
	Zr	90	**99.994**	ug/L	2.279	234776	4.572
	Mo	98	**100.004**	ug/L	2.106	99780	1.944
	Ag	107	**99.989**	ug/L	1.669	152923	2.979
	Cd	111	**99.981**	ug/L	1.781	35497	0.692
	Cd	114		ug/L		82051	1.599
>	In	115		ug/L		51318	51317.733
	Sn	120	**100.013**	ug/L	1.209	162079	3.155
	Sb	121	**100.060**	ug/L	2.516	124219	2.412
	Sb	123		ug/L		94357	1.831
	Ba	135		ug/L		36725	0.812
	Ba	137	**99.974**	ug/L	1.112	63556	1.406
	Ho	165		ug/L		8	-0.000
>	Lu	175		ug/L		45183	45183.459
	Tl	205	**99.986**	ug/L	1.356	136024	3.008
	Pb	208	**99.982**	ug/L	0.603	365496	8.079
	Bi	209		ug/L		42	0.000
	Th	232	**99.996**	ug/L	0.845	474707	10.499
	U	238	**99.988**	ug/L	1.041	490734	10.856

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45					
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175					
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Thursday, January 07, 2010 18:15:50
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 1.104

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**52.431**	ug/L	1.504	9672	0.042
	Be	9	**52.408**	ug/L	0.903	2762	0.012
	B	11	**104.384**	ug/L	2.154	4561	0.020
	Na	23	**5068.578**	ug/L	7.652	5071463	22.063
	Mg	24	**5145.675**	ug/L	1.980	3522444	15.367
	Al	27	**5237.493**	ug/L	2.683	5360197	23.378
	P	31	**5067.455**	ug/L	0.589	289174	1.254
	K	39	**5385.987**	ug/L	3.228	10290921	43.131
	Ca	43	**5047.335**	ug/L	1.739	19985	0.085
>	Sc	45		ug/L		229153	229153.246
	Ti	47	**50.946**	ug/L	1.028	9439	0.040
	V	51	**51.960**	ug/L	2.703	94532	0.400
	Cr	52	**51.702**	ug/L	0.764	95190	0.398
	Cr	53		ug/L		136565	-0.022
	Mn	55	**52.160**	ug/L	0.648	152851	0.663
	Fe	57	**5017.333**	ug/L	0.521	298981	1.281
	Co	59	**50.272**	ug/L	1.228	109796	0.478
	Ni	60	**51.835**	ug/L	0.870	23690	0.103
	Cu	63		ug/L		53035	0.231
	Cu	65	**51.229**	ug/L	0.808	25203	0.110
	Zn	66	**51.646**	ug/L	1.985	13480	0.146
	Zn	67		ug/L		7417	0.019
	Zn	68		ug/L		10074	0.105
>	Ge	74		ug/L		91824	91824.079
	As	75	**48.089**	ug/L	2.960	15189	0.162
	Se	77		ug/L		6511	0.008
	Se	82	**49.874**	ug/L	2.042	1440	0.016
	Kr	83		ug/L		43	-0.000
	Sr	88	**50.461**	ug/L	1.992	224572	4.292
	Y	89		ug/L		20	0.000
	Zr	90	**48.262**	ug/L	3.494	115643	2.206
	Mo	98	**48.369**	ug/L	2.910	49212	0.940
	Ag	107	**50.146**	ug/L	1.675	78207	1.494
	Cd	111	**50.728**	ug/L	1.035	18371	0.351
	Cd	114		ug/L		42788	0.817
>	In	115		ug/L		52307	52307.271
	Sn	120	**49.931**	ug/L	1.746	82575	1.575
	Sb	121	**49.487**	ug/L	2.897	62816	1.193
	Sb	123		ug/L		47712	0.905
	Ba	135		ug/L		18796	0.423
	Ba	137	**51.390**	ug/L	0.818	32147	0.723
	Ho	165		ug/L		12	0.000
>	Lu	175		ug/L		44437	44437.117
	Tl	205	**48.967**	ug/L	1.024	65567	1.473
	Pb	208	**51.506**	ug/L	1.708	185396	4.162
	Bi	209		ug/L		42	0.001
	Th	232	**52.027**	ug/L	1.237	243052	5.463
	U	238	**54.056**	ug/L	0.784	261020	5.869

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	104.861				
	Be	9	104.815				
	B	11	104.384				
	Na	23	101.372				
	Mg	24	102.914				
	Al	27	103.713				
	P	31	101.349				
	K	39	107.720				
	Ca	43	100.947				
>	Sc	45			104.9		
	Ti	47	101.891				
	V	51	103.921				
	Cr	52	103.404				
	Cr	53					
	Mn	55	104.321				
	Fe	57	100.347				
	Co	59	100.545				
	Ni	60	103.671				
	Cu	63					
	Cu	65	102.458				
	Zn	66	103.292				
	Zn	67					
	Zn	68					
>	Ge	74			102.1		
	As	75	96.177				
	Se	77					
	Se	82	99.748				
	Kr	83					
	Sr	88	100.922				
	Y	89					
	Zr	90	96.524				
	Mo	98	96.739				
	Ag	107	100.292				
	Cd	111	101.457				
	Cd	114					
>	In	115			102.6		
	Sn	120	99.861				
	Sb	121	98.974				
	Sb	123					
	Ba	135					
	Ba	137	102.780				
	Ho	165					
>	Lu	175			103.3		
	Tl	205	97.934				
	Pb	208	103.013				
	Bi	209					
	Th	232	104.053				
	U	238	108.112				

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Thursday, January 07, 2010 18:22:02
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 2.105

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	0.039	ug/L	73.749	35	0.000
	Be	9	-0.028	ug/L	71.867	3	-0.000
	B	11	4.072	ug/L	13.777	238	0.001
	Na	23	2.548	ug/L	130.404	17010	0.011
	Mg	24	2.938	ug/L	30.260	2667	0.009
	Al	27	1.578	ug/L	163.368	4668	0.007
	P	31	-2.191	ug/L	41.352	1760	-0.001
	K	39	-2.005	ug/L	881.270	398495	-0.016
	Ca	43	-17.959	ug/L	84.784	331	-0.000
>	Sc	45		ug/L		225811	225810.683
	Ti	47	-0.051	ug/L	55.431	158	-0.000
	V	51	0.391	ug/L	694.451	3401	0.003
	Cr	52	-0.074	ug/L	155.579	3715	-0.001
	Cr	53		ug/L		130404	-0.040
	Mn	55	-0.014	ug/L	71.354	786	-0.000
	Fe	57	-0.961	ug/L	198.473	5332	-0.000
	Co	59	-0.007	ug/L	153.594	164	-0.000
	Ni	60	-0.007	ug/L	354.704	43	-0.000
	Cu	63		ug/L		108	-0.000
	Cu	65	0.013	ug/L	45.669	69	0.000
	Zn	66	-0.061	ug/L	64.483	89	-0.000
	Zn	67		ug/L		5311	-0.004
	Zn	68		ug/L		391	-0.000
>	Ge	74		ug/L		91998	91997.557
	As	75	0.527	ug/L	64.923	464	0.002
	Se	77		ug/L		5674	-0.001
	Se	82	-0.169	ug/L	216.779	2	-0.000
	Kr	83		ug/L		40	-0.000
	Sr	88	-0.002	ug/L	53.726	120	-0.000
	Y	89		ug/L		11	-0.000
	Zr	90	0.122	ug/L	15.098	541	0.006
	Mo	98	0.043	ug/L	24.243	83	0.001
	Ag	107	0.019	ug/L	21.412	93	0.001
	Cd	111	-0.010	ug/L	277.227	16	-0.000
	Cd	114		ug/L		32	-0.000
>	In	115		ug/L		51869	51868.858
	Sn	120	0.202	ug/L	9.153	531	0.006
	Sb	121	0.994	ug/L	18.752	1665	0.024
	Sb	123		ug/L		1309	0.018
	Ba	135		ug/L		21	0.000
	Ba	137	-0.010	ug/L	18.225	27	-0.000
	Ho	165		ug/L		10	-0.000
>	Lu	175		ug/L		43576	43576.466
	Tl	205	0.088	ug/L	26.226	216	0.003
	Pb	208	-0.004	ug/L	70.071	408	-0.000
	Bi	209		ug/L		18	-0.000
	Th	232	0.121	ug/L	24.002	866	0.013
	U	238	0.007	ug/L	26.980	239	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		103.4			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		102.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		101.7			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		101.3			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Thursday, January 07, 2010 18:28:14
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 3.106

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**11.912**	**ug/L**	2.751	2201	0.010
	Be	9	**0.476**	**ug/L**	15.434	29	0.000
	B	11	**16.986**	**ug/L**	1.716	791	0.003
	Na	23	**271.955**	**ug/L**	11.032	283471	1.184
	Mg	24	**18.688**	**ug/L**	31.103	13340	0.056
	Al	27	**37.435**	**ug/L**	30.012	41062	0.167
	P	31	**50.635**	**ug/L**	3.921	4740	0.013
	K	39	**306.940**	**ug/L**	11.210	963145	2.458
	Ca	43	**198.311**	**ug/L**	6.347	1165	0.003
>	Sc	45		**ug/L**		227209	227209.452
	Ti	47	**9.619**	**ug/L**	2.971	1904	0.008
	V	51	**9.939**	**ug/L**	25.596	20168	0.077
	Cr	52	**10.949**	**ug/L**	1.127	23033	0.084
	Cr	53		**ug/L**		128943	-0.050
	Mn	55	**5.602**	**ug/L**	3.365	17014	0.071
	Fe	57	**103.480**	**ug/L**	4.272	11422	0.026
	Co	59	**1.094**	**ug/L**	5.328	2544	0.010
	Ni	60	**2.226**	**ug/L**	2.598	1053	0.004
	Cu	63		**ug/L**		1285	0.005
	Cu	65	**1.112**	**ug/L**	3.533	604	0.002
	Zn	66	**11.108**	**ug/L**	3.805	2987	0.031
	Zn	67		**ug/L**		5550	-0.002
	Zn	68		**ug/L**		2415	0.022
>	Ge	74		**ug/L**		92029	92028.766
	As	75	**6.804**	**ug/L**	21.558	2407	0.023
	Se	77		**ug/L**		5506	-0.003
	Se	82	**5.124**	**ug/L**	9.472	154	0.002
	Kr	83		**ug/L**		42	-0.000
	Sr	88	**10.747**	**ug/L**	1.679	47665	0.914
	Y	89		**ug/L**		18	0.000
	Zr	90	**1.882**	**ug/L**	5.567	4729	0.086
	Mo	98	**0.520**	**ug/L**	4.985	565	0.010
	Ag	107	**1.061**	**ug/L**	2.284	1707	0.032
	Cd	111	**1.143**	**ug/L**	3.247	431	0.008
	Cd	114		**ug/L**		916	0.017
>	In	115		**ug/L**		52020	52019.990
	Sn	120	**5.235**	**ug/L**	0.863	8791	0.165
	Sb	121	**3.040**	**ug/L**	5.437	4236	0.073
	Sb	123		**ug/L**		3343	0.057
	Ba	135		**ug/L**		788	0.018
	Ba	137	**2.165**	**ug/L**	5.563	1371	0.030
	Ho	165		**ug/L**		7	-0.000
>	Lu	175		**ug/L**		43912	43911.835
	Tl	205	**1.054**	**ug/L**	0.738	1493	0.032
	Pb	208	**2.184**	**ug/L**	2.221	8175	0.176
	Bi	209		**ug/L**		24	0.000
	Th	232	**1.055**	**ug/L**	4.563	5178	0.111
	U	238	**0.205**	**ug/L**	2.845	1187	0.022

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	119.119				
	Be	9	95.200				
	B	11	113.240				
	Na	23	108.782				
	Mg	24	124.584				
	Al	27	124.782				
	P	31	101.269				
	K	39	102.313				
	Ca	43	99.156				
>	Sc	45		104.0			
	Ti	47	96.193				
	V	51	99.388				
	Cr	52	109.493				
	Cr	53					
	Mn	55	112.041				
	Fe	57	103.480				
	Co	59	109.352				
	Ni	60	111.303				
	Cu	63					
	Cu	65	111.163				
	Zn	66	111.078				
	Zn	67					
	Zn	68					
>	Ge	74		102.3			
	As	75	136.089				
	Se	77					
	Se	82	102.476				
	Kr	83					
	Sr	88	107.465				
	Y	89					
	Zr	90	94.124				
	Mo	98	104.052				
	Ag	107	106.075				
	Cd	111	114.255				
	Cd	114					
>	In	115		102.0			
	Sn	120	104.702				
	Sb	121	101.329				
	Sb	123					
	Ba	135					
	Ba	137	108.272				
	Ho	165					
>	Lu	175		102.1			
	Tl	205	105.360				
	Pb	208	109.201				
	Bi	209					
	Th	232	105.504				
	U	238	102.681				

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 3	As	75CRDL is out of limits

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Thursday, January 07, 2010 18:34:25
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 4.107

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.092**	ug/L	29.617	44	0.000
	Be	9	**0.043**	ug/L	101.682	7	0.000
	B	11	**1.671**	ug/L	20.614	136	0.000
	Na	23	**100845.879**	ug/L	4.109	98405568	438.972
	Mg	24	**100610.199**	ug/L	2.505	67391946	300.470
	Al	27	**95695.561**	ug/L	3.109	95784030	427.139
	P	31	**98426.149**	ug/L	2.538	5461012	24.349
	K	39	**104966.140**	ug/L	14.591	188645072	840.564
	Ca	43	**97643.575**	ug/L	1.408	370995	1.653
>	Sc	45		ug/L		224235	224234.976
	Ti	47	**1495.462**	ug/L	0.309	266423	1.187
	V	51	**-2.559**	ug/L	33.138	-1680	-0.020
	Cr	52	**3.602**	ug/L	4.599	10037	0.028
	Cr	53		ug/L		109840	-0.128
	Mn	55	**5.775**	ug/L	1.559	17287	0.073
	Fe	57	**97170.536**	ug/L	2.010	5566707	24.806
	Co	59	**0.230**	ug/L	4.677	669	0.002
	Ni	60	**3.259**	ug/L	1.889	1500	0.006
	Cu	63		ug/L		2184	0.009
	Cu	65	**2.355**	ug/L	4.370	1192	0.005
	Zn	66	**3.575**	ug/L	3.574	994	0.010
	Zn	67		ug/L		5197	-0.003
	Zn	68		ug/L		593	0.002
>	Ge	74		ug/L		88515	88515.276
	As	75	**-1.080**	ug/L	81.305	-32	-0.004
	Se	77		ug/L		4891	-0.007
	Se	82	**-0.559**	ug/L	93.692	-9	-0.000
	Kr	83		ug/L		71	0.000
	Sr	88	**1.118**	ug/L	3.563	4785	0.095
	Y	89		ug/L		138	0.003
	Zr	90	**0.558**	ug/L	55.561	1484	0.026
	Mo	98	**1923.238**	ug/L	1.068	1834505	37.388
	Ag	107	**0.035**	ug/L	26.385	111	0.001
	Cd	111	**0.321**	ug/L	70.474	127	0.002
	Cd	114		ug/L		1910	0.038
>	In	115		ug/L		49069	49069.050
	Sn	120	**0.155**	ug/L	0.893	430	0.005
	Sb	121	**0.237**	ug/L	25.210	679	0.006
	Sb	123		ug/L		562	0.004
	Ba	135		ug/L		248	0.005
	Ba	137	**0.672**	ug/L	11.484	449	0.009
	Ho	165		ug/L		165	0.004
>	Lu	175		ug/L		43888	43887.753
	Tl	205	**-0.007**	ug/L	217.056	92	-0.000
	Pb	208	**0.136**	ug/L	3.466	908	0.011
	Bi	209		ug/L		129	0.002
	Th	232	**0.097**	ug/L	52.648	762	0.010
	U	238	**-0.034**	ug/L	1.056	46	-0.004

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23	100.846				
	Mg	24	100.610				
	Al	27	95.696				
	P	31	98.426				
	K	39	104.966				
	Ca	43	97.644				
>	Sc	45		102.7			
	Ti	47	74.773				
	V	51					
	Cr	52	97.354				
	Cr	53					
	Mn	55	99.567				
	Fe	57	97.171				
	Co	59	91.988				
	Ni	60	120.696				
	Cu	63					
	Cu	65	81.211				
	Zn	66	99.312				
	Zn	67					
	Zn	68					
>	Ge	74		98.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88	93.157				
	Y	89					
	Zr	90					
	Mo	98	96.162				
	Ag	107					
	Cd	111	80.244				
	Cd	114					
>	In	115		96.2			
	Sn	120					
	Sb	121	236.707				
	Sb	123					
	Ba	135					
	Ba	137	100.324				
	Ho	165					
>	Lu	175		102.0			
	Tl	205					
	Pb	208	67.953				
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 4	Ti	47ICSA is out of limits

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Thursday, January 07, 2010 18:40:36
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 5.108

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**18.467**	ug/L	3.717	3367	0.015
	Be	9	**19.459**	ug/L	0.532	1011	0.004
	B	11	**19.473**	ug/L	2.736	890	0.004
	Na	23	**99444.676**	ug/L	4.069	97506887	432.873
	Mg	24	**97287.670**	ug/L	4.109	65480118	290.547
	Al	27	**98873.350**	ug/L	1.341	99427988	441.323
	P	31	**99103.791**	ug/L	0.957	5525477	24.517
	K	39	**103390.086**	ug/L	5.350	187006263	827.943
	Ca	43	**97682.194**	ug/L	0.854	372914	1.653
>	Sc	45		ug/L		225294	225294.011
	Ti	47	**1514.386**	ug/L	1.005	271093	1.202
	V	51	**17.783**	ug/L	9.109	33655	0.137
	Cr	52	**23.183**	ug/L	2.420	44077	0.179
	Cr	53		ug/L		114007	-0.112
	Mn	55	**25.205**	ug/L	1.029	73039	0.321
	Fe	57	**96377.334**	ug/L	0.048	5548501	24.604
	Co	59	**19.083**	ug/L	1.100	41084	0.182
	Ni	60	**21.962**	ug/L	2.039	9894	0.044
	Cu	63		ug/L		20878	0.092
	Cu	65	**20.683**	ug/L	1.652	10040	0.044
	Zn	66	**22.657**	ug/L	2.140	5700	0.064
	Zn	67		ug/L		6066	0.007
	Zn	68		ug/L		3877	0.040
>	Ge	74		ug/L		87635	87634.853
	As	75	**19.999**	ug/L	1.805	6196	0.067
	Se	77		ug/L		5231	-0.003
	Se	82	**21.525**	ug/L	2.071	597	0.007
	Kr	83		ug/L		69	0.000
	Sr	88	**21.739**	ug/L	0.322	90853	1.849
	Y	89		ug/L		137	0.003
	Zr	90	**21.067**	ug/L	1.490	47507	0.963
	Mo	98	**1963.250**	ug/L	0.932	1873086	38.166
	Ag	107	**19.337**	ug/L	1.297	28333	0.576
	Cd	111	**20.253**	ug/L	1.667	6893	0.140
	Cd	114		ug/L		17276	0.351
>	In	115		ug/L		49074	49074.446
	Sn	120	**20.225**	ug/L	2.113	31496	0.638
	Sb	121	**21.686**	ug/L	1.135	26052	0.523
	Sb	123		ug/L		19873	0.398
	Ba	135		ug/L		7266	0.163
	Ba	137	**19.882**	ug/L	1.658	12450	0.280
	Ho	165		ug/L		169	0.004
>	Lu	175		ug/L		44413	44412.714
	Tl	205	**17.946**	ug/L	0.371	24081	0.540
	Pb	208	**18.901**	ug/L	0.916	68261	1.527
	Bi	209		ug/L		176	0.004
	Th	232	**19.979**	ug/L	0.769	93481	2.098
	U	238	**20.400**	ug/L	2.602	98563	2.215

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	92.335				
	Be	9	97.295				
	B	11	97.364				
	Na	23	99.445				
	Mg	24	97.288				
	Al	27	98.873				
	P	31	99.104				
	K	39	103.390				
	Ca	43	97.682				
>	Sc	45		103.2			
	Ti	47	75.719				
	V	51	88.916				
	Cr	52	97.819				
	Cr	53					
	Mn	55	97.694				
	Fe	57	96.377				
	Co	59	94.237				
	Ni	60	96.748				
	Cu	63					
	Cu	65	90.318				
	Zn	66	96.004				
	Zn	67					
	Zn	68					
>	Ge	74		97.4			
	As	75	99.997				
	Se	77					
	Se	82	107.624				
	Kr	83					
	Sr	88	102.543				
	Y	89					
	Zr	90	105.337				
	Mo	98	98.163				
	Ag	107	96.686				
	Cd	111	99.280				
	Cd	114					
>	In	115		96.2			
	Sn	120	101.125				
	Sb	121	107.890				
	Sb	123					
	Ba	135					
	Ba	137	96.188				
	Ho	165					
>	Lu	175		103.2			
	Tl	205	89.730				
	Pb	208	93.568				
	Bi	209					
	Th	232	99.897				
	U	238	102.001				

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 5	Ti	47ICSAB is out of limits

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Thursday, January 07, 2010 18:46:48
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 6.109

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**50.957**	ug/L	2.792	9312	0.041
	Be	9	**50.913**	ug/L	3.343	2658	0.012
	B	11	**96.673**	ug/L	2.047	4191	0.018
	Na	23	**5223.104**	ug/L	3.474	5174437	22.736
	Mg	24	**5195.502**	ug/L	4.375	3522444	15.516
	Al	27	**4912.286**	ug/L	2.717	4980618	21.926
	P	31	**5042.065**	ug/L	0.672	285088	1.247
	K	39	**5413.905**	ug/L	4.639	10248244	43.354
	Ca	43	**4955.076**	ug/L	0.664	19445	0.084
>	Sc	45		ug/L		227062	227062.483
	Ti	47	**52.564**	ug/L	0.950	9646	0.042
	V	51	**49.421**	ug/L	3.199	89276	0.381
	Cr	52	**51.091**	ug/L	1.981	93234	0.394
	Cr	53		ug/L		128247	-0.053
	Mn	55	**51.367**	ug/L	1.850	149128	0.653
	Fe	57	**5035.386**	ug/L	2.756	297177	1.285
	Co	59	**50.131**	ug/L	2.226	108456	0.477
	Ni	60	**52.101**	ug/L	1.646	23588	0.104
	Cu	63		ug/L		52321	0.230
	Cu	65	**51.837**	ug/L	2.145	25261	0.111
	Zn	66	**51.815**	ug/L	1.839	13373	0.146
	Zn	67		ug/L		7189	0.017
	Zn	68		ug/L		9905	0.104
>	Ge	74		ug/L		90811	90811.369
	As	75	**47.922**	ug/L	1.469	14968	0.162
	Se	77		ug/L		5913	0.003
	Se	82	**50.624**	ug/L	1.035	1446	0.016
	Kr	83		ug/L		47	0.000
	Sr	88	**49.645**	ug/L	0.826	219142	4.222
	Y	89		ug/L		40	0.001
	Zr	90	**47.631**	ug/L	2.104	113225	2.178
	Mo	98	**48.672**	ug/L	0.544	49123	0.946
	Ag	107	**49.776**	ug/L	0.974	76996	1.483
	Cd	111	**50.532**	ug/L	1.739	18151	0.350
	Cd	114		ug/L		41932	0.808
>	In	115		ug/L		51874	51874.184
	Sn	120	**50.063**	ug/L	0.316	82121	1.579
	Sb	121	**48.267**	ug/L	3.791	60781	1.163
	Sb	123		ug/L		46486	0.889
	Ba	135		ug/L		18734	0.425
	Ba	137	**51.819**	ug/L	2.303	32121	0.729
	Ho	165		ug/L		11	0.000
>	Lu	175		ug/L		44041	44041.231
	Tl	205	**49.456**	ug/L	0.453	65632	1.488
	Pb	208	**51.203**	ug/L	1.872	182630	4.138
	Bi	209		ug/L		45	0.001
	Th	232	**52.038**	ug/L	0.678	240937	5.464
	U	238	**53.682**	ug/L	1.226	256877	5.829

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	101.914				
	Be	9	101.826				
	B	11	96.673				
	Na	23	104.462				
	Mg	24	103.910				
	Al	27	97.273				
	P	31	100.841				
	K	39	108.278				
	Ca	43	99.102				
>	Sc	45			104.0		
	Ti	47	105.127				
	V	51	98.842				
	Cr	52	102.182				
	Cr	53					
	Mn	55	102.733				
	Fe	57	100.708				
	Co	59	100.262				
	Ni	60	104.202				
	Cu	63					
	Cu	65	103.675				
	Zn	66	103.629				
	Zn	67					
	Zn	68					
>	Ge	74			101.0		
	As	75	95.844				
	Se	77					
	Se	82	101.248				
	Kr	83					
	Sr	88	99.290				
	Y	89					
	Zr	90	95.262				
	Mo	98	97.344				
	Ag	107	99.553				
	Cd	111	101.064				
	Cd	114					
>	In	115			101.7		
	Sn	120	100.126				
	Sb	121	96.533				
	Sb	123					
	Ba	135					
	Ba	137	103.638				
	Ho	165					
>	Lu	175			102.4		
	Tl	205	98.912				
	Pb	208	102.406				
	Bi	209					
	Th	232	104.075				
	U	238	107.364				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Thursday, January 07, 2010 18:53:01
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 7.110

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	0.073	ug/L	87.112	41	0.000
	Be	9	0.017	ug/L	173.593	5	0.000
	B	11	2.671	ug/L	9.844	178	0.001
	Na	23	7.865	ug/L	85.185	22018	0.034
	Mg	24	1.971	ug/L	76.563	2000	0.006
	Al	27	2.906	ug/L	32.384	6001	0.013
	P	31	-1.281	ug/L	101.637	1799	-0.000
	K	39	-13.025	ug/L	94.980	376574	-0.104
	Ca	43	-4.883	ug/L	147.121	379	-0.000
>	Sc	45		ug/L		224469	224468.586
	Ti	47	0.248	ug/L	58.511	210	0.000
	V	51	-0.582	ug/L	299.813	1743	-0.004
	Cr	52	-0.555	ug/L	5.089	2860	-0.004
	Cr	53		ug/L		121874	-0.075
	Mn	55	-0.024	ug/L	28.287	753	-0.000
	Fe	57	-10.283	ug/L	19.494	4766	-0.003
	Co	59	-0.001	ug/L	1117.703	177	-0.000
	Ni	60	-0.004	ug/L	713.476	44	-0.000
	Cu	63		ug/L		111	0.000
	Cu	65	0.008	ug/L	150.922	66	0.000
	Zn	66	-0.057	ug/L	78.550	89	-0.000
	Zn	67		ug/L		5090	-0.006
	Zn	68		ug/L		366	-0.001
>	Ge	74		ug/L		90484	90484.234
	As	75	0.339	ug/L	281.594	397	0.001
	Se	77		ug/L		5244	-0.005
	Se	82	-0.309	ug/L	22.611	-2	-0.000
	Kr	83		ug/L		46	0.000
	Sr	88	0.002	ug/L	84.271	137	0.000
	Y	89		ug/L		9	-0.000
	Zr	90	0.092	ug/L	15.366	467	0.004
	Mo	98	0.108	ug/L	7.558	147	0.002
	Ag	107	0.010	ug/L	65.796	79	0.000
	Cd	111	-0.002	ug/L	574.308	19	-0.000
	Cd	114		ug/L		35	0.000
>	In	115		ug/L		51592	51592.038
	Sn	120	0.156	ug/L	21.512	454	0.005
	Sb	121	0.584	ug/L	15.864	1146	0.014
	Sb	123		ug/L		912	0.010
	Ba	135		ug/L		20	0.000
	Ba	137	-0.016	ug/L	85.264	24	-0.000
	Ho	165		ug/L		8	-0.000
>	Lu	175		ug/L		43400	43399.616
	Tl	205	0.097	ug/L	19.853	226	0.003
	Pb	208	-0.009	ug/L	6.455	390	-0.001
	Bi	209		ug/L		19	-0.000
	Th	232	0.076	ug/L	46.187	655	0.008
	U	238	0.006	ug/L	45.114	233	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			102.8		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			100.6		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			101.2		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			100.9		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 10
Sample Date/Time: Thursday, January 07, 2010 18:59:13
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 10.111

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	939.827	ug/L	2.575	167805	0.754
	Be	9	998.364	ug/L	1.180	50988	0.229
	B	11	1.368	ug/L	26.163	122	0.000
	Na	23	50894.427	ug/L	4.250	49277674	221.539
	Mg	24	51808.504	ug/L	0.799	34412909	154.725
	Al	27	50140.823	ug/L	7.714	49800755	223.804
	P	31	24313.454	ug/L	1.565	1339751	6.015
	K	39	50781.918	ug/L	3.852	90862829	406.659
	Ca	43	49259.641	ug/L	0.662	185847	0.834
>	Sc	45		ug/L		222419	222418.690
	Ti	47	31.734	ug/L	1.577	5769	0.025
	V	51	976.851	ug/L	2.426	1676667	7.525
	Cr	52	944.343	ug/L	0.594	1622297	7.277
	Cr	53		ug/L		307620	0.765
	Mn	55	969.509	ug/L	1.420	2743330	12.330
	Fe	57	48724.609	ug/L	1.886	2771995	12.439
	Co	59	898.995	ug/L	1.259	1902792	8.554
	Ni	60	936.780	ug/L	0.933	414784	1.865
	Cu	63		ug/L		915203	4.114
	Cu	65	938.686	ug/L	2.178	447124	2.010
	Zn	66	2374.410	ug/L	0.762	593427	6.696
	Zn	67		ug/L		97656	1.040
	Zn	68		ug/L		416542	4.696
>	Ge	74		ug/L		88608	88607.838
	As	75	914.495	ug/L	0.534	273546	3.084
	Se	77		ug/L		14373	0.100
	Se	82	478.634	ug/L	1.431	13287	0.150
	Kr	83		ug/L		54	0.000
	Sr	88	982.197	ug/L	2.481	4131148	83.532
	Y	89		ug/L		152	0.003
	Zr	90	489.535	ug/L	1.386	1106907	22.381
	Mo	98	973.320	ug/L	1.538	935616	18.922
	Ag	107	239.820	ug/L	1.710	353372	7.146
	Cd	111	977.586	ug/L	1.147	334350	6.761
	Cd	114		ug/L		781676	15.807
>	In	115		ug/L		49450	49450.105
	Sn	120	1004.738	ug/L	2.210	1567268	31.694
	Sb	121	247.844	ug/L	4.697	295764	5.974
	Sb	123		ug/L		226156	4.567
	Ba	135		ug/L		350175	7.761
	Ba	137	952.687	ug/L	1.418	604431	13.397
	Ho	165		ug/L		60	0.001
>	Lu	175		ug/L		45117	45116.916
	Tl	205	471.812	ug/L	0.343	640535	14.195
	Pb	208	4722.917	ug/L	0.045	17219536	381.655
	Bi	209		ug/L		418	0.009
	Th	232	2431.622	ug/L	0.254	11519230	255.310
	U	238	5017.748	ug/L	0.844	24580365	544.804

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	93.983				
	Be	9	99.836				
	B	11					
	Na	23	101.789				
	Mg	24	103.617				
	Al	27	100.282				
	P	31	97.254				
	K	39	101.564				
	Ca	43	98.519				
>	Sc	45		101.9			
	Ti	47					
	V	51	97.685				
	Cr	52	94.434				
	Cr	53					
	Mn	55	96.951				
	Fe	57	97.449				
	Co	59	89.900				
	Ni	60	93.678				
	Cu	63					
	Cu	65	93.869				
	Zn	66	94.976				
	Zn	67					
	Zn	68					
>	Ge	74		98.5			
	As	75	91.449				
	Se	77					
	Se	82	95.727				
	Kr	83					
	Sr	88	98.220				
	Y	89					
	Zr	90	97.907				
	Mo	98	97.332				
	Ag	107	95.928				
	Cd	111	97.759				
	Cd	114					
>	In	115		97.0			
	Sn	120	100.474				
	Sb	121	99.138				
	Sb	123					
	Ba	135					
	Ba	137	95.269				
	Ho	165					
>	Lu	175		104.9			
	Tl	205	94.362				
	Pb	208	94.458				
	Bi	209					
	Th	232	97.265				
	U	238	100.355				

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 10	Co	59LRS is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 11
Sample Date/Time: Thursday, January 07, 2010 19:05:23
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 11.112

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**49.427**	ug/L	2.512	9088	0.040
	Be	9	**50.786**	ug/L	2.086	2667	0.012
	B	11	**99.266**	ug/L	2.442	4326	0.019
	Na	23	**5161.582**	ug/L	2.140	5146353	22.468
	Mg	24	**5354.617**	ug/L	4.581	3651891	15.991
	Al	27	**5283.888**	ug/L	2.915	5390021	23.585
	P	31	**5067.842**	ug/L	0.403	288200	1.254
	K	39	**5388.136**	ug/L	4.873	10256779	43.148
	Ca	43	**5018.315**	ug/L	0.815	19802	0.085
>	Sc	45		ug/L		228365	228364.551
	Ti	47	**50.923**	ug/L	0.526	9403	0.040
	V	51	**49.725**	ug/L	2.473	90299	0.383
	Cr	52	**50.749**	ug/L	0.999	93188	0.391
	Cr	53		ug/L		130706	-0.045
	Mn	55	**51.619**	ug/L	0.326	150755	0.656
	Fe	57	**5032.242**	ug/L	0.547	298809	1.285
	Co	59	**50.593**	ug/L	1.141	110111	0.481
	Ni	60	**52.270**	ug/L	1.154	23804	0.104
	Cu	63		ug/L		53043	0.232
	Cu	65	**51.882**	ug/L	1.537	25433	0.111
	Zn	66	**52.796**	ug/L	1.169	13772	0.149
	Zn	67		ug/L		7561	0.020
	Zn	68		ug/L		10118	0.106
>	Ge	74		ug/L		91794	91793.916
	As	75	**48.636**	ug/L	2.418	15351	0.164
	Se	77		ug/L		5762	0.000
	Se	82	**48.884**	ug/L	2.205	1411	0.015
	Kr	83		ug/L		51	0.000
	Sr	88	**50.437**	ug/L	3.233	222915	4.289
	Y	89		ug/L		20	0.000
	Zr	90	**52.032**	ug/L	1.113	123854	2.379
	Mo	98	**48.894**	ug/L	2.221	49411	0.951
	Ag	107	**50.418**	ug/L	2.172	78095	1.502
	Cd	111	**50.660**	ug/L	1.403	18221	0.350
	Cd	114		ug/L		42386	0.815
>	In	115		ug/L		51953	51953.228
	Sn	120	**53.149**	ug/L	1.369	87297	1.677
	Sb	121	**52.674**	ug/L	4.334	66360	1.270
	Sb	123		ug/L		50642	0.968
	Ba	135		ug/L		19108	0.424
	Ba	137	**52.027**	ug/L	0.835	32936	0.732
	Ho	165		ug/L		9	-0.000
>	Lu	175		ug/L		44970	44970.462
	Tl	205	**50.248**	ug/L	1.285	68082	1.512
	Pb	208	**52.816**	ug/L	2.023	192338	4.268
	Bi	209		ug/L		47	0.001
	Th	232	**53.664**	ug/L	2.765	253646	5.634
	U	238	**55.002**	ug/L	2.590	268711	5.972

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	98.853				
	Be	9	101.571				
	B	11	99.266				
	Na	23	103.232				
	Mg	24	107.092				
	Al	27	104.631				
	P	31	101.357				
	K	39	107.763				
	Ca	43	100.366				
>	Sc	45		104.6			
	Ti	47	101.846				
	V	51	99.450				
	Cr	52	101.498				
	Cr	53					
	Mn	55	103.237				
	Fe	57	100.645				
	Co	59	101.186				
	Ni	60	104.540				
	Cu	63					
	Cu	65	103.764				
	Zn	66	105.592				
	Zn	67					
	Zn	68					
>	Ge	74		102.0			
	As	75	97.273				
	Se	77					
	Se	82	97.768				
	Kr	83					
	Sr	88	100.874				
	Y	89					
	Zr	90	104.065				
	Mo	98	97.787				
	Ag	107	100.835				
	Cd	111	101.320				
	Cd	114					
>	In	115		101.9			
	Sn	120	106.298				
	Sb	121	105.349				
	Sb	123					
	Ba	135					
	Ba	137	104.053				
	Ho	165					
>	Lu	175		104.5			
	Tl	205	100.496				
	Pb	208	105.632				
	Bi	209					
	Th	232	107.328				
	U	238	110.005				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 11	U	238	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 12
Sample Date/Time: Thursday, January 07, 2010 19:11:34
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 12.113

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.192**	ug/L	32.556	63	0.000
	Be	9	**-0.004**	ug/L	255.085	4	-0.000
	B	11	**2.474**	ug/L	19.032	173	0.000
	Na	23	**9.767**	ug/L	57.557	24355	0.043
	Mg	24	**2.868**	ug/L	77.096	2667	0.009
	Al	27	**-0.466**	ug/L	318.215	2667	-0.002
	P	31	**-1.506**	ug/L	112.061	1819	-0.000
	K	39	**-5.089**	ug/L	169.037	398148	-0.041
	Ca	43	**-27.108**	ug/L	47.307	300	-0.000
>	Sc	45		ug/L		228535	228535.368
	Ti	47	**-0.080**	ug/L	64.618	154	-0.000
	V	51	**-2.244**	ug/L	95.890	-1116	-0.017
	Cr	52	**-0.611**	ug/L	20.114	2812	-0.005
	Cr	53		ug/L		126037	-0.066
	Mn	55	**-0.007**	ug/L	111.157	817	-0.000
	Fe	57	**-15.828**	ug/L	10.323	4531	-0.004
	Co	59	**0.010**	ug/L	17.394	203	0.000
	Ni	60	**0.010**	ug/L	213.383	51	0.000
	Cu	63		ug/L		160	0.000
	Cu	65	**0.060**	ug/L	25.251	93	0.000
	Zn	66	**0.091**	ug/L	22.204	129	0.000
	Zn	67		ug/L		5467	-0.002
	Zn	68		ug/L		449	0.000
>	Ge	74		ug/L		91768	91767.773
	As	75	**0.505**	ug/L	71.790	454	0.002
	Se	77		ug/L		5225	-0.006
	Se	82	**0.095**	ug/L	617.798	9	0.000
	Kr	83		ug/L		44	0.000
	Sr	88	**0.020**	ug/L	24.064	216	0.002
	Y	89		ug/L		12	0.000
	Zr	90	**0.195**	ug/L	8.222	714	0.009
	Mo	98	**0.144**	ug/L	8.267	184	0.003
	Ag	107	**0.029**	ug/L	43.473	108	0.001
	Cd	111	**0.024**	ug/L	94.167	28	0.000
	Cd	114		ug/L		52	0.000
>	In	115		ug/L		51813	51813.468
	Sn	120	**0.962**	ug/L	7.651	1772	0.030
	Sb	121	**1.835**	ug/L	11.292	2712	0.044
	Sb	123		ug/L		2116	0.034
	Ba	135		ug/L		26	0.000
	Ba	137	**0.024**	ug/L	19.619	49	0.000
	Ho	165		ug/L		6	-0.000
>	Lu	175		ug/L		44171	44170.641
	Tl	205	**0.214**	ug/L	11.640	386	0.006
	Pb	208	**0.269**	ug/L	10.682	1392	0.022
	Bi	209		ug/L		20	-0.000
	Th	232	**0.279**	ug/L	19.314	1609	0.029
	U	238	**0.124**	ug/L	10.867	805	0.013

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			104.7		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			102.0		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			101.6		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			102.7		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 1202003841
Sample Date/Time: Thursday, January 07, 2010 19:17:47
Sample Type:
Sample Description: LANL 6020 MB
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\1202003841.114

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.036**	ug/L	37.188	35	0.000
	Be	9	**0.009**	ug/L	667.391	5	0.000
	B	11	**0.761**	ug/L	28.091	100	0.000
	Na	23	**3.970**	ug/L	53.027	18679	0.017
	Mg	24	**-0.050**	ug/L	1700.774	667	-0.000
	Al	27	**4.408**	ug/L	71.117	7669	0.020
	P	31	**17.554**	ug/L	8.300	2909	0.004
	K	39	**-2.906**	ug/L	262.198	403628	-0.023
	Ca	43	**-18.620**	ug/L	36.612	335	-0.000
>	Sc	45		ug/L		229428	229427.567
	Ti	47	**0.142**	ug/L	249.436	195	0.000
	V	51	**-1.007**	ug/L	192.978	1038	-0.008
	Cr	52	**-0.291**	ug/L	32.076	3388	-0.002
	Cr	53		ug/L		100674	-0.179
	Mn	55	**0.179**	ug/L	3.448	1362	0.002
	Fe	57	**3.516**	ug/L	80.878	5680	0.001
	Co	59	**-0.012**	ug/L	72.064	156	-0.000
	Ni	60	**0.075**	ug/L	20.277	81	0.000
	Cu	63		ug/L		506	0.002
	Cu	65	**0.393**	ug/L	17.430	256	0.001
	Zn	66	**1.664**	ug/L	10.151	527	0.005
	Zn	67		ug/L		4435	-0.013
	Zn	68		ug/L		699	0.003
>	Ge	74		ug/L		90233	90233.333
	As	75	**0.283**	ug/L	235.634	379	0.001
	Se	77		ug/L		3763	-0.021
	Se	82	**-0.156**	ug/L	131.268	2	-0.000
	Kr	83		ug/L		49	0.000
	Sr	88	**0.012**	ug/L	45.616	183	0.001
	Y	89		ug/L		16	0.000
	Zr	90	**0.379**	ug/L	18.442	1157	0.017
	Mo	98	**0.049**	ug/L	8.671	89	0.001
	Ag	107	**-0.002**	ug/L	101.875	61	-0.000
	Cd	111	**0.004**	ug/L	590.251	21	0.000
	Cd	114		ug/L		32	-0.000
>	In	115		ug/L		52216	52215.635
	Sn	120	**0.373**	ug/L	8.137	817	0.012
	Sb	121	**0.785**	ug/L	20.055	1412	0.019
	Sb	123		ug/L		1112	0.014
	Ba	135		ug/L		23	0.000
	Ba	137	**0.013**	ug/L	7.843	42	0.000
	Ho	165		ug/L		9	-0.000
>	Lu	175		ug/L		44094	44094.390
	Tl	205	**0.065**	ug/L	16.168	187	0.002
	Pb	208	**0.127**	ug/L	22.761	879	0.010
	Bi	209		ug/L		40	0.000
	Th	232	**0.205**	ug/L	22.446	1265	0.022
	U	238	**0.021**	ug/L	112.333	311	0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			105.1		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			100.3		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			102.4		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			102.5		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 1202003842
Sample Date/Time: Thursday, January 07, 2010 19:23:58
Sample Type:
Sample Description: LANL 6020 LCS
Number of Replicates: 3
Batch ID: 936515|40|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\1202003842.115

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**2.688**	ug/L	4.240	533	0.002
	Be	9	**20.615**	ug/L	2.341	1111	0.005
	B	11	**37.006**	ug/L	3.679	1693	0.007
	Na	23	**281.592**	ug/L	8.112	301495	1.226
	Mg	24	**1149.870**	ug/L	3.758	803329	3.434
	Al	27	**3097.471**	ug/L	3.749	3234555	13.826
	P	31	**206.138**	ug/L	1.627	13865	0.051
	K	39	**1297.890**	ug/L	6.654	2845154	10.393
	Ca	43	**2737.578**	ug/L	0.918	11242	0.046
>	Sc	45		ug/L		233687	233686.520
	Ti	47	**122.142**	ug/L	0.592	22837	0.097
	V	51	**23.550**	ug/L	2.487	45271	0.181
	Cr	52	**62.655**	ug/L	2.081	116789	0.483
	Cr	53		ug/L		132480	-0.051
	Mn	55	**148.564**	ug/L	1.471	442370	1.889
	Fe	57	**4573.512**	ug/L	0.919	278409	1.168
	Co	59	**24.802**	ug/L	0.906	55334	0.236
	Ni	60	**36.957**	ug/L	2.834	17236	0.074
	Cu	63		ug/L		49517	0.211
	Cu	65	**47.191**	ug/L	0.363	23681	0.101
	Zn	66	**159.561**	ug/L	4.052	41427	0.450
	Zn	67		ug/L		11360	0.062
	Zn	68		ug/L		29873	0.321
>	Ge	74		ug/L		91865	91864.712
	As	75	**27.665**	ug/L	0.631	8870	0.093
	Se	77		ug/L		6556	0.009
	Se	82	**78.315**	ug/L	1.802	2259	0.025
	Kr	83		ug/L		47	0.000
	Sr	88	**60.974**	ug/L	0.027	270663	5.186
	Y	89		ug/L		12902	0.247
	Zr	90	**2.557**	ug/L	1.738	6351	0.117
	Mo	98	**13.056**	ug/L	1.587	13280	0.254
	Ag	107	**4.622**	ug/L	2.581	7248	0.138
	Cd	111	**16.150**	ug/L	2.027	5847	0.112
	Cd	114		ug/L		13538	0.259
>	In	115		ug/L		52170	52170.363
	Sn	120	**9.093**	ug/L	1.461	15168	0.287
	Sb	121	**11.229**	ug/L	1.485	14546	0.271
	Sb	123		ug/L		10899	0.202
	Ba	135		ug/L		20155	0.450
	Ba	137	**54.498**	ug/L	1.417	34315	0.766
	Ho	165		ug/L		471	0.010
>	Lu	175		ug/L		44730	44730.366
	Tl	205	**32.395**	ug/L	0.911	43699	0.975
	Pb	208	**22.980**	ug/L	0.583	83500	1.857
	Bi	209		ug/L		644	0.014
	Th	232	**2.262**	ug/L	4.251	10945	0.238
	U	238	**0.457**	ug/L	2.860	2431	0.050

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			107.0		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			102.1		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			102.3		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			104.0		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Ti	47	Sample is out of limits (over linear range)

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 243385001
Sample Date/Time: Thursday, January 07, 2010 19:30:09
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|sk|
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\243385001.116

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	54.790	ug/L	2.274	10922	0.044
	Be	9	3.742	ug/L	4.723	218	0.001
	B	11	17.044	ug/L	6.408	865	0.003
	Na	23	505.496	ug/L	2.763	560800	2.200
	Mg	24	9265.411	ug/L	5.108	6853207	27.671
	Al	27	70946.950	ug/L	4.639	78431851	316.673
	P	31	496.274	ug/L	2.874	32468	0.123
	K	39	10017.649	ug/L	7.979	20308707	80.221
	Ca	43	9760.550	ug/L	1.804	41352	0.165
>	Sc	45		ug/L		247652	247652.295
	Ti	47	1662.458	ug/L	0.264	327092	1.320
	V	51	80.825	ug/L	1.726	157246	0.623
	Cr	52	34.928	ug/L	0.816	70864	0.269
	Cr	53		ug/L		97131	-0.226
	Mn	55	1038.795	ug/L	2.161	3272651	13.212
	Fe	57	42403.175	ug/L	1.803	2686705	10.825
	Co	59	20.831	ug/L	1.747	49284	0.198
	Ni	60	28.265	ug/L	2.198	13983	0.056
	Cu	63		ug/L		30677	0.123
	Cu	65	28.286	ug/L	0.327	15070	0.061
	Zn	66	114.034	ug/L	1.833	28201	0.322
	Zn	67		ug/L		9169	0.043
	Zn	68		ug/L		22183	0.249
>	Ge	74		ug/L		87384	87383.997
	As	75	9.077	ug/L	4.539	2960	0.031
	Se	77		ug/L		3229	-0.026
	Se	82	0.622	ug/L	71.176	23	0.000
	Kr	83		ug/L		60	0.000
	Sr	88	107.511	ug/L	2.527	460182	9.143
	Y	89		ug/L		185359	3.684
	Zr	90	95.295	ug/L	2.720	219455	4.357
	Mo	98	1.122	ug/L	3.975	1136	0.022
	Ag	107	0.404	ug/L	8.999	669	0.012
	Cd	111	1.603	ug/L	7.551	577	0.011
	Cd	114		ug/L		281	0.005
>	In	115		ug/L		50337	50337.458
	Sn	120	1.049	ug/L	2.358	1860	0.033
	Sb	121	0.492	ug/L	15.231	1005	0.012
	Sb	123		ug/L		805	0.009
	Ba	135		ug/L		213937	4.501
	Ba	137	550.582	ug/L	1.102	367970	7.742
	Ho	165		ug/L		6869	0.144
>	Lu	175		ug/L		47523	47523.390
	Tl	205	0.908	ug/L	5.826	1408	0.027
	Pb	208	70.254	ug/L	0.528	270259	5.677
	Bi	209		ug/L		2381	0.050
	Th	232	35.883	ug/L	0.583	179389	3.768
	U	238	13.674	ug/L	0.910	70779	1.485

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		113.4			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		97.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		98.7			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		110.5			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)
	Mn	55	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 1202003843
Sample Date/Time: Thursday, January 07, 2010 19:36:21
Sample Type:
Sample Description: LANL 6020 DUP
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\1202003843.117

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	51.793	ug/L	1.756	10082	0.042
	Be	9	3.771	ug/L	9.321	214	0.001
	B	11	15.249	ug/L	5.480	764	0.003
	Na	23	501.053	ug/L	3.945	542793	2.181
	Mg	24	7842.190	ug/L	1.746	5663293	23.421
	Al	27	61748.221	ug/L	5.230	66632369	275.614
	P	31	494.913	ug/L	0.446	31621	0.122
	K	39	8463.979	ug/L	4.328	16814858	67.779
	Ca	43	9393.987	ug/L	0.519	38878	0.159
>	Sc	45		ug/L		241809	241809.320
	Ti	47	1358.457	ug/L	0.371	261015	1.079
	V	51	81.523	ug/L	0.564	154826	0.628
	Cr	52	31.956	ug/L	1.615	63665	0.246
	Cr	53		ug/L		90412	-0.244
	Mn	55	1047.576	ug/L	0.096	3222585	13.323
	Fe	57	38613.975	ug/L	1.708	2389682	9.858
	Co	59	20.966	ug/L	1.854	48435	0.199
	Ni	60	26.177	ug/L	1.950	12649	0.052
	Cu	63		ug/L		27997	0.115
	Cu	65	26.455	ug/L	0.207	13766	0.057
	Zn	66	105.571	ug/L	0.672	25714	0.298
	Zn	67		ug/L		8448	0.036
	Zn	68		ug/L		20182	0.230
>	Ge	74		ug/L		86035	86034.821
	As	75	8.151	ug/L	10.393	2645	0.027
	Se	77		ug/L		2966	-0.028
	Se	82	0.946	ug/L	31.880	32	0.000
	Kr	83		ug/L		57	0.000
	Sr	88	107.035	ug/L	1.488	450828	9.103
	Y	89		ug/L		191205	3.861
	Zr	90	86.312	ug/L	1.205	195628	3.946
	Mo	98	1.111	ug/L	2.698	1107	0.022
	Ag	107	0.364	ug/L	2.360	598	0.011
	Cd	111	1.478	ug/L	6.373	525	0.010
	Cd	114		ug/L		268	0.005
>	In	115		ug/L		49511	49510.526
	Sn	120	0.803	ug/L	3.260	1446	0.025
	Sb	121	0.315	ug/L	10.903	779	0.008
	Sb	123		ug/L		617	0.005
	Ba	135		ug/L		199081	4.240
	Ba	137	512.721	ug/L	0.818	338506	7.210
	Ho	165		ug/L		7037	0.150
>	Lu	175		ug/L		46950	46949.846
	Tl	205	0.734	ug/L	6.593	1145	0.022
	Pb	208	70.827	ug/L	0.746	269145	5.723
	Bi	209		ug/L		2341	0.049
	Th	232	34.477	ug/L	1.364	170267	3.620
	U	238	12.111	ug/L	2.427	61940	1.315

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		110.7			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		95.6			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		97.1			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		109.1			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)
	Mn	55	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 1202003844
Sample Date/Time: Thursday, January 07, 2010 19:42:34
Sample Type:
Sample Description: LANL 6020 MS
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\1202003844.118

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**85.811**	ug/L	3.125	17000	0.069
	Be	9	**27.070**	ug/L	3.242	1536	0.006
	B	11	**59.933**	ug/L	1.702	2850	0.011
	Na	23	**1491.799**	ug/L	3.647	1615463	6.494
	Mg	24	**9841.564**	ug/L	7.588	7261462	29.392
	Al	27	**78784.340**	ug/L	6.219	86587375	351.655
	P	31	**1339.115**	ug/L	2.487	83711	0.331
	K	39	**10563.114**	ug/L	6.612	21330117	84.589
	Ca	43	**9902.135**	ug/L	1.645	41758	0.168
>	Sc	45		ug/L		246555	246555.251
	Ti	47	**1507.098**	ug/L	1.444	295146	1.197
	V	51	**111.230**	ug/L	2.031	214189	0.857
	Cr	52	**58.930**	ug/L	1.901	116097	0.454
	Cr	53		ug/L		96511	-0.226
	Mn	55	**1062.993**	ug/L	3.151	3331587	13.519
	Fe	57	**45447.190**	ug/L	2.561	2864560	11.602
	Co	59	**43.196**	ug/L	3.779	101435	0.411
	Ni	60	**52.062**	ug/L	2.974	25581	0.104
	Cu	63		ug/L		54718	0.222
	Cu	65	**49.452**	ug/L	2.603	26161	0.106
	Zn	66	**142.750**	ug/L	1.076	35146	0.403
	Zn	67		ug/L		10065	0.054
	Zn	68		ug/L		27440	0.311
>	Ge	74		ug/L		87067	87066.836
	As	75	**44.747**	ug/L	0.995	13421	0.151
	Se	77		ug/L		3159	-0.026
	Se	82	**8.751**	ug/L	3.060	245	0.003
	Kr	83		ug/L		70	0.000
	Sr	88	**136.224**	ug/L	1.368	582607	11.585
	Y	89		ug/L		200501	3.988
	Zr	90	**122.384**	ug/L	0.894	281548	5.595
	Mo	98	**20.574**	ug/L	1.802	20143	0.400
	Ag	107	**23.332**	ug/L	1.834	35009	0.695
	Cd	111	**6.649**	ug/L	1.966	2331	0.046
	Cd	114		ug/L		4262	0.084
>	In	115		ug/L		50281	50280.757
	Sn	120	**10.553**	ug/L	2.417	16933	0.333
	Sb	121	**16.591**	ug/L	0.223	20517	0.400
	Sb	123		ug/L		15574	0.302
	Ba	135		ug/L		225289	4.721
	Ba	137	**577.133**	ug/L	1.635	387291	8.116
	Ho	165		ug/L		7266	0.152
>	Lu	175		ug/L		47727	47726.756
	Tl	205	**45.572**	ug/L	0.229	65544	1.371
	Pb	208	**169.931**	ug/L	1.233	655746	13.732
	Bi	209		ug/L		2383	0.049
	Th	232	**58.648**	ug/L	0.965	294212	6.158
	U	238	**36.252**	ug/L	2.548	188025	3.936

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		112.9			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		96.8			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		98.6			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		110.9			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)
	V	51	Sample is out of limits (over linear range)
	Mn	55	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 1202003846
Sample Date/Time: Thursday, January 07, 2010 19:48:48
Sample Type:
Sample Description: LANL 6020 MSD
Number of Replicates: 3
Batch ID: 936515|2|sk|
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\1202003846.119

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**84.006**	ug/L	2.024	16385	0.067
	Be	9	**26.326**	ug/L	0.891	1471	0.006
	B	11	**61.430**	ug/L	1.109	2871	0.012
	Na	23	**1459.803**	ug/L	5.751	1558188	6.354
	Mg	24	**9457.370**	ug/L	6.869	6848229	28.244
	Al	27	**76314.026**	ug/L	5.940	82596374	340.629
	P	31	**1352.748**	ug/L	1.508	83194	0.335
	K	39	**9807.998**	ug/L	8.269	19466542	78.542
	Ca	43	**9334.469**	ug/L	1.108	38757	0.158
>	Sc	45		ug/L		242604	242604.251
	Ti	47	**1593.196**	ug/L	1.295	307031	1.265
	V	51	**108.952**	ug/L	1.474	206578	0.839
	Cr	52	**59.351**	ug/L	1.204	115067	0.457
	Cr	53		ug/L		95729	-0.223
	Mn	55	**1126.504**	ug/L	1.057	3476354	14.327
	Fe	57	**43025.328**	ug/L	1.170	2670128	10.984
	Co	59	**43.309**	ug/L	1.188	100163	0.412
	Ni	60	**49.243**	ug/L	0.613	23829	0.098
	Cu	63		ug/L		51698	0.213
	Cu	65	**48.276**	ug/L	1.010	25147	0.103
	Zn	66	**140.538**	ug/L	2.084	34293	0.396
	Zn	67		ug/L		9884	0.053
	Zn	68		ug/L		26395	0.301
>	Ge	74		ug/L		86295	86295.110
	As	75	**45.237**	ug/L	2.054	13442	0.153
	Se	77		ug/L		3006	-0.028
	Se	82	**8.472**	ug/L	7.682	235	0.003
	Kr	83		ug/L		58	0.000
	Sr	88	**134.086**	ug/L	0.274	568779	11.403
	Y	89		ug/L		192604	3.862
	Zr	90	**114.644**	ug/L	1.067	261621	5.241
	Mo	98	**20.859**	ug/L	2.508	20258	0.406
	Ag	107	**22.794**	ug/L	0.820	33928	0.679
	Cd	111	**6.473**	ug/L	2.647	2252	0.045
	Cd	114		ug/L		4205	0.084
>	In	115		ug/L		49867	49867.133
	Sn	120	**10.377**	ug/L	1.864	16516	0.327
	Sb	121	**25.223**	ug/L	2.000	30723	0.608
	Sb	123		ug/L		23366	0.461
	Ba	135		ug/L		241006	5.077
	Ba	137	**612.463**	ug/L	1.065	408812	8.612
	Ho	165		ug/L		7060	0.149
>	Lu	175		ug/L		47465	47464.533
	Tl	205	**44.962**	ug/L	1.784	64308	1.353
	Pb	208	**166.055**	ug/L	0.770	637349	13.419
	Bi	209		ug/L		2349	0.049
	Th	232	**57.092**	ug/L	0.518	284866	5.994
	U	238	**41.163**	ug/L	0.302	212354	4.469

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		111.1			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		95.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		97.8			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		110.3			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)
	V	51	Sample is out of limits (over linear range)
	Mn	55	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Thursday, January 07, 2010 19:55:00
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 6.120

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**51.831**	ug/L	2.726	9469	0.042
	Be	9	**51.420**	ug/L	3.712	2684	0.012
	B	11	**101.558**	ug/L	2.135	4397	0.019
	Na	23	**5354.456**	ug/L	6.563	5303154	23.307
	Mg	24	**5155.010**	ug/L	6.641	3492572	15.395
	Al	27	**5075.674**	ug/L	6.056	5143294	22.655
	P	31	**5081.931**	ug/L	1.650	287231	1.257
	K	39	**5155.754**	ug/L	1.624	9778793	41.287
	Ca	43	**5024.786**	ug/L	1.754	19708	0.085
>	Sc	45		ug/L		227002	227002.342
	Ti	47	**50.634**	ug/L	1.506	9295	0.040
	V	51	**43.493**	ug/L	32.536	79154	0.335
	Cr	52	**50.737**	ug/L	0.181	92609	0.391
	Cr	53		ug/L		116693	-0.104
	Mn	55	**51.761**	ug/L	0.287	150261	0.658
	Fe	57	**4993.122**	ug/L	1.065	294755	1.275
	Co	59	**50.045**	ug/L	1.351	108267	0.476
	Ni	60	**51.782**	ug/L	0.537	23444	0.103
	Cu	63		ug/L		52153	0.229
	Cu	65	**51.623**	ug/L	0.527	25159	0.111
	Zn	66	**51.782**	ug/L	1.246	13410	0.146
	Zn	67		ug/L		6722	0.012
	Zn	68		ug/L		9912	0.104
>	Ge	74		ug/L		91120	91120.315
	As	75	**46.717**	ug/L	0.593	14653	0.158
	Se	77		ug/L		5172	-0.006
	Se	82	**51.006**	ug/L	3.456	1461	0.016
	Kr	83		ug/L		37	-0.000
	Sr	88	**50.305**	ug/L	0.794	220856	4.278
	Y	89		ug/L		91	0.002
	Zr	90	**48.472**	ug/L	1.318	114574	2.216
	Mo	98	**48.941**	ug/L	1.026	49127	0.951
	Ag	107	**49.286**	ug/L	1.299	75823	1.469
	Cd	111	**50.486**	ug/L	1.234	18035	0.349
	Cd	114		ug/L		41749	0.809
>	In	115		ug/L		51591	51591.011
	Sn	120	**48.796**	ug/L	2.045	79600	1.539
	Sb	121	**48.092**	ug/L	4.828	60238	1.159
	Sb	123		ug/L		45691	0.878
	Ba	135		ug/L		18418	0.410
	Ba	137	**50.227**	ug/L	1.254	31742	0.706
	Ho	165		ug/L		14	0.000
>	Lu	175		ug/L		44892	44891.874
	Tl	205	**49.949**	ug/L	1.440	67560	1.503
	Pb	208	**51.434**	ug/L	0.210	187026	4.156
	Bi	209		ug/L		58	0.001
	Th	232	**52.336**	ug/L	0.836	246997	5.495
	U	238	**54.360**	ug/L	0.702	265163	5.902

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	103.662				
	Be	9	102.840				
	B	11	101.558				
	Na	23	107.089				
	Mg	24	103.100				
	Al	27	100.508				
	P	31	101.639				
	K	39	103.115				
	Ca	43	100.496				
>	Sc	45		104.0			
	Ti	47	101.268				
	V	51	86.986				
	Cr	52	101.474				
	Cr	53					
	Mn	55	103.522				
	Fe	57	99.862				
	Co	59	100.090				
	Ni	60	103.564				
	Cu	63					
	Cu	65	103.245				
	Zn	66	103.564				
	Zn	67					
	Zn	68					
>	Ge	74		101.3			
	As	75	93.435				
	Se	77					
	Se	82	102.012				
	Kr	83					
	Sr	88	100.611				
	Y	89					
	Zr	90	96.943				
	Mo	98	97.883				
	Ag	107	98.571				
	Cd	111	100.971				
	Cd	114					
>	In	115		101.2			
	Sn	120	97.592				
	Sb	121	96.185				
	Sb	123					
	Ba	135					
	Ba	137	100.454				
	Ho	165					
>	Lu	175		104.4			
	Tl	205	99.898				
	Pb	208	102.869				
	Bi	209					
	Th	232	104.671				
	U	238	108.719				

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 6	V	51CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Thursday, January 07, 2010 20:01:14
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 7.121

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	0.117	ug/L	57.077	48	0.000
	Be	9	0.051	ug/L	78.749	7	0.000
	B	11	3.003	ug/L	23.907	190	0.001
	Na	23	3.242	ug/L	51.627	17344	0.014
	Mg	24	3.014	ug/L	104.703	2667	0.009
	Al	27	1.979	ug/L	52.368	5001	0.009
	P	31	-1.942	ug/L	47.688	1741	-0.000
	K	39	-6.916	ug/L	364.149	382768	-0.055
	Ca	43	-16.493	ug/L	66.934	331	-0.000
>	Sc	45		ug/L		221706	221705.740
	Ti	47	0.078	ug/L	68.700	178	0.000
	V	51	-0.834	ug/L	228.249	1298	-0.006
	Cr	52	-0.591	ug/L	22.483	2762	-0.005
	Cr	53		ug/L		111932	-0.113
	Mn	55	0.000	ug/L	1335.459	812	0.000
	Fe	57	-13.386	ug/L	8.851	4533	-0.003
	Co	59	-0.002	ug/L	40.206	171	-0.000
	Ni	60	-0.014	ug/L	78.058	39	-0.000
	Cu	63		ug/L		123	0.000
	Cu	65	0.001	ug/L	1721.169	62	0.000
	Zn	66	-0.028	ug/L	312.860	95	-0.000
	Zn	67		ug/L		4649	-0.010
	Zn	68		ug/L		367	-0.001
>	Ge	74		ug/L		89497	89497.365
	As	75	-0.278	ug/L	345.374	207	-0.001
	Se	77		ug/L		4422	-0.013
	Se	82	-0.418	ug/L	90.291	-5	-0.000
	Kr	83		ug/L		50	0.000
	Sr	88	0.005	ug/L	74.601	149	0.000
	Y	89		ug/L		15	0.000
	Zr	90	0.136	ug/L	17.142	559	0.006
	Mo	98	0.054	ug/L	28.636	91	0.001
	Ag	107	0.008	ug/L	43.999	73	0.000
	Cd	111	-0.012	ug/L	239.653	15	-0.000
	Cd	114		ug/L		40	0.000
>	In	115		ug/L		50628	50628.222
	Sn	120	0.197	ug/L	6.087	511	0.006
	Sb	121	0.616	ug/L	20.578	1162	0.015
	Sb	123		ug/L		970	0.012
	Ba	135		ug/L		22	0.000
	Ba	137	0.006	ug/L	183.938	37	0.000
	Ho	165		ug/L		8	-0.000
>	Lu	175		ug/L		43512	43511.602
	Tl	205	0.129	ug/L	14.429	269	0.004
	Pb	208	0.030	ug/L	20.392	530	0.002
	Bi	209		ug/L		14	-0.000
	Th	232	0.094	ug/L	38.772	743	0.010
	U	238	0.008	ug/L	36.534	245	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		101.5			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		99.5			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Zr	90					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		99.3			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		101.1			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 1202003845
Sample Date/Time: Thursday, January 07, 2010 20:07:28
Sample Type:
Sample Description: LANL 6020 SDILT
Number of Replicates: 3
Batch ID: 936515|10|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\1202003845.122

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**12.421**	ug/L	0.821	2230	0.010
	Be	9	**0.866**	ug/L	4.119	48	0.000
	B	11	**4.195**	ug/L	8.159	239	0.001
	Na	23	**107.084**	ug/L	8.642	117147	0.466
	Mg	24	**2096.751**	ug/L	12.494	1383816	6.262
	Al	27	**15100.260**	ug/L	1.939	14895761	67.400
	P	31	**103.562**	ug/L	0.859	7503	0.026
	K	39	**2089.707**	ug/L	2.043	4091331	16.734
	Ca	43	**2091.856**	ug/L	1.664	8216	0.035
>	Sc	45		ug/L		220971	220971.126
	Ti	47	**363.573**	ug/L	1.396	63956	0.289
	V	51	**17.477**	ug/L	7.480	32477	0.135
	Cr	52	**6.805**	ug/L	1.227	15345	0.052
	Cr	53		ug/L		101636	-0.158
	Mn	55	**226.282**	ug/L	0.934	636757	2.878
	Fe	57	**9114.623**	ug/L	0.136	519439	2.327
	Co	59	**4.550**	ug/L	1.488	9742	0.043
	Ni	60	**6.248**	ug/L	2.297	2794	0.012
	Cu	63		ug/L		6295	0.028
	Cu	65	**6.179**	ug/L	1.547	2985	0.013
	Zn	66	**23.521**	ug/L	1.548	5776	0.066
	Zn	67		ug/L		5201	-0.001
	Zn	68		ug/L		4767	0.051
>	Ge	74		ug/L		85590	85590.154
	As	75	**1.252**	ug/L	76.241	640	0.004
	Se	77		ug/L		3696	-0.019
	Se	82	**0.146**	ug/L	473.125	10	0.000
	Kr	83		ug/L		46	0.000
	Sr	88	**21.194**	ug/L	1.785	88926	1.802
	Y	89		ug/L		35560	0.722
	Zr	90	**18.790**	ug/L	1.310	42567	0.859
	Mo	98	**0.182**	ug/L	11.476	212	0.004
	Ag	107	**0.062**	ug/L	19.642	151	0.002
	Cd	111	**0.281**	ug/L	17.526	114	0.002
	Cd	114		ug/L		65	0.001
>	In	115		ug/L		49271	49270.736
	Sn	120	**0.211**	ug/L	4.750	519	0.007
	Sb	121	**0.131**	ug/L	21.216	557	0.003
	Sb	123		ug/L		437	0.002
	Ba	135		ug/L		41303	0.948
	Ba	137	**115.192**	ug/L	0.606	70570	1.620
	Ho	165		ug/L		1312	0.030
>	Lu	175		ug/L		43549	43548.728
	Tl	205	**0.201**	ug/L	3.388	363	0.006
	Pb	208	**14.925**	ug/L	1.817	52936	1.206
	Bi	209		ug/L		465	0.010
	Th	232	**7.314**	ug/L	2.662	33751	0.768
	U	238	**2.805**	ug/L	2.179	13468	0.305

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		101.2			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		95.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		96.6			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		101.2			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Ti	47	Sample is out of limits (over linear range)

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 243385002
Sample Date/Time: Thursday, January 07, 2010 20:13:40
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\243385002.123

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**57.622**	ug/L	1.770	11261	0.046
	Be	9	**3.859**	ug/L	4.719	220	0.001
	B	11	**15.091**	ug/L	4.193	760	0.003
	Na	23	**515.319**	ug/L	3.412	560465	2.243
	Mg	24	**8180.041**	ug/L	2.199	5932144	24.429
	Al	27	**67686.809**	ug/L	5.023	73399719	302.121
	P	31	**337.689**	ug/L	1.412	22309	0.084
	K	39	**9148.408**	ug/L	2.262	18226055	73.260
	Ca	43	**9812.847**	ug/L	2.342	40766	0.166
>	Sc	45		ug/L		242839	242839.264
	Ti	47	**1482.720**	ug/L	1.066	286092	1.177
	V	51	**78.954**	ug/L	3.095	150706	0.608
	Cr	52	**35.142**	ug/L	1.684	69881	0.271
	Cr	53		ug/L		93018	-0.235
	Mn	55	**1030.181**	ug/L	0.205	3182531	13.102
	Fe	57	**41685.542**	ug/L	1.718	2589800	10.642
	Co	59	**21.487**	ug/L	1.720	49838	0.204
	Ni	60	**28.710**	ug/L	0.709	13927	0.057
	Cu	63		ug/L		28516	0.117
	Cu	65	**26.695**	ug/L	1.513	13951	0.057
	Zn	66	**111.254**	ug/L	0.830	27108	0.314
	Zn	67		ug/L		8669	0.039
	Zn	68		ug/L		20933	0.239
>	Ge	74		ug/L		86090	86089.926
	As	75	**7.850**	ug/L	9.828	2563	0.026
	Se	77		ug/L		2873	-0.029
	Se	82	**0.967**	ug/L	43.272	32	0.000
	Kr	83		ug/L		70	0.000
	Sr	88	**156.943**	ug/L	1.180	664972	13.347
	Y	89		ug/L		210973	4.235
	Zr	90	**82.886**	ug/L	0.582	189014	3.789
	Mo	98	**0.985**	ug/L	2.016	991	0.019
	Ag	107	**0.363**	ug/L	2.766	600	0.011
	Cd	111	**1.340**	ug/L	4.163	481	0.009
	Cd	114		ug/L		263	0.005
>	In	115		ug/L		49814	49814.403
	Sn	120	**0.788**	ug/L	4.513	1431	0.025
	Sb	121	**0.195**	ug/L	21.762	640	0.005
	Sb	123		ug/L		545	0.004
	Ba	135		ug/L		198661	4.213
	Ba	137	**515.597**	ug/L	0.345	341915	7.250
	Ho	165		ug/L		7579	0.160
>	Lu	175		ug/L		47154	47154.172
	Tl	205	**0.829**	ug/L	0.902	1284	0.025
	Pb	208	**64.334**	ug/L	0.371	245601	5.199
	Bi	209		ug/L		2398	0.050
	Th	232	**35.675**	ug/L	1.589	176963	3.746
	U	238	**5.254**	ug/L	2.272	27121	0.570

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		111.2			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		95.7			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		97.7			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		109.6			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)
	Mn	55	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 243385003
Sample Date/Time: Thursday, January 07, 2010 20:19:52
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\243385003.124

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**70.833**	ug/L	4.126	15654	0.057
	Be	9	**5.038**	ug/L	2.375	323	0.001
	B	11	**19.187**	ug/L	1.651	1072	0.004
	Na	23	**1104.107**	ug/L	3.999	1339449	4.806
	Mg	24	**14704.665**	ug/L	3.071	12078373	43.915
	Al	27	**99652.625**	ug/L	2.480	122332865	444.801
	P	31	**245.539**	ug/L	0.897	18991	0.061
	K	39	**14097.990**	ug/L	4.015	31501542	112.896
	Ca	43	**13228.038**	ug/L	1.733	62057	0.224
>	Sc	45		ug/L		274915	274915.026
	Ti	47	**1139.496**	ug/L	0.463	248924	0.905
	V	51	**106.606**	ug/L	2.436	229168	0.821
	Cr	52	**56.631**	ug/L	1.011	124635	0.436
	Cr	53		ug/L		97380	-0.263
	Mn	55	**1139.683**	ug/L	1.079	3984988	14.495
	Fe	57	**63622.623**	ug/L	1.000	4470826	16.242
	Co	59	**26.253**	ug/L	1.742	68869	0.250
	Ni	60	**42.257**	ug/L	2.080	23171	0.084
	Cu	63		ug/L		39431	0.143
	Cu	65	**32.445**	ug/L	2.901	19166	0.069
	Zn	66	**165.217**	ug/L	1.435	41020	0.466
	Zn	67		ug/L		11703	0.071
	Zn	68		ug/L		33833	0.381
>	Ge	74		ug/L		87838	87837.544
	As	75	**12.029**	ug/L	8.395	3853	0.041
	Se	77		ug/L		2961	-0.029
	Se	82	**0.175**	ug/L	448.284	11	0.000
	Kr	83		ug/L		76	0.000
	Sr	88	**218.553**	ug/L	0.707	940733	18.587
	Y	89		ug/L		232689	4.598
	Zr	90	**109.998**	ug/L	1.494	254714	5.029
	Mo	98	**1.749**	ug/L	1.034	1759	0.034
	Ag	107	**0.477**	ug/L	1.896	780	0.014
	Cd	111	**1.603**	ug/L	15.206	579	0.011
	Cd	114		ug/L		178	0.003
>	In	115		ug/L		50607	50606.790
	Sn	120	**0.582**	ug/L	2.913	1126	0.018
	Sb	121	**0.061**	ug/L	17.085	487	0.001
	Sb	123		ug/L		425	0.001
	Ba	135		ug/L		442000	9.113
	Ba	137	**1100.225**	ug/L	2.490	750440	15.471
	Ho	165		ug/L		7999	0.165
>	Lu	175		ug/L		48505	48505.373
	Tl	205	**1.157**	ug/L	3.768	1801	0.035
	Pb	208	**52.668**	ug/L	1.017	206893	4.256
	Bi	209		ug/L		2412	0.049
	Th	232	**39.037**	ug/L	2.983	199095	4.099
	U	238	**3.843**	ug/L	3.232	20462	0.417

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		125.9			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		97.6			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		99.2			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		112.7			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
Sc 45 Int Std for sam	Sc	45	
	Ti	47	Sample is out of limits (over linear range)
	V	51	Sample is out of limits (over linear range)
	Mn	55	Sample is out of limits (over linear range)

Fe	57Sample is out of limits (over linear range)
Ba	137Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 243385004
Sample Date/Time: Thursday, January 07, 2010 20:26:04
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|sk|
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\243385004.125

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**69.988**	ug/L	0.842	15520	0.056
	Be	9	**4.770**	ug/L	2.797	307	0.001
	B	11	**18.132**	ug/L	2.554	1020	0.003
	Na	23	**1007.012**	ug/L	4.697	1226225	4.383
	Mg	24	**14525.993**	ug/L	6.420	11963863	43.382
	Al	27	**95621.416**	ug/L	2.769	117647776	426.808
	P	31	**252.066**	ug/L	3.273	19488	0.062
	K	39	**14547.813**	ug/L	4.209	32594081	116.498
	Ca	43	**12934.381**	ug/L	1.878	60832	0.219
>	Sc	45		ug/L		275626	275626.188
	Ti	47	**1116.612**	ug/L	0.540	244576	0.887
	V	51	**108.858**	ug/L	1.772	234494	0.839
	Cr	52	**56.860**	ug/L	0.438	125447	0.438
	Cr	53		ug/L		96599	-0.267
	Mn	55	**1304.693**	ug/L	1.175	4574497	16.593
	Fe	57	**65829.083**	ug/L	0.859	4638866	16.805
	Co	59	**29.935**	ug/L	1.089	78733	0.285
	Ni	60	**44.672**	ug/L	1.669	24562	0.089
	Cu	63		ug/L		41708	0.151
	Cu	65	**34.132**	ug/L	1.163	20222	0.073
	Zn	66	**167.119**	ug/L	0.647	41871	0.471
	Zn	67		ug/L		11671	0.070
	Zn	68		ug/L		34131	0.380
>	Ge	74		ug/L		88625	88624.964
	As	75	**13.138**	ug/L	6.554	4214	0.044
	Se	77		ug/L		2940	-0.029
	Se	82	**0.282**	ug/L	93.097	14	0.000
	Kr	83		ug/L		74	0.000
	Sr	88	**215.463**	ug/L	0.599	940495	18.324
	Y	89		ug/L		236281	4.604
	Zr	90	**108.756**	ug/L	1.613	255423	4.972
	Mo	98	**1.827**	ug/L	3.425	1862	0.036
	Ag	107	**0.460**	ug/L	1.869	766	0.014
	Cd	111	**1.566**	ug/L	4.105	575	0.011
	Cd	114		ug/L		185	0.003
>	In	115		ug/L		51322	51321.528
	Sn	120	**0.547**	ug/L	2.402	1084	0.017
	Sb	121	**0.017**	ug/L	113.377	439	0.000
	Sb	123		ug/L		388	0.000
	Ba	135		ug/L		428374	8.696
	Ba	137	**1058.355**	ug/L	1.118	733127	14.883
	Ho	165		ug/L		8242	0.167
>	Lu	175		ug/L		49258	49257.948
	Tl	205	**1.230**	ug/L	0.425	1937	0.037
	Pb	208	**55.506**	ug/L	0.978	221406	4.485
	Bi	209		ug/L		2417	0.049
	Th	232	**36.267**	ug/L	1.014	187907	3.808
	U	238	**3.651**	ug/L	2.762	19755	0.396

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		126.2			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		98.5			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		100.6			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		114.5			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
Sc 45 Int Std for san	Sc	45	
	Ti	47	Sample is out of limits (over linear range)
	V	51	Sample is out of limits (over linear range)
	Mn	55	Sample is out of limits (over linear range)

Fe	57Sample is out of limits (over linear range)
Ba	137Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 243385005
Sample Date/Time: Thursday, January 07, 2010 20:32:17
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\243385005.126

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**67.440**	**ug/L**	0.382	14262	0.054
	Be	9	**4.729**	**ug/L**	2.733	291	0.001
	B	11	**16.397**	**ug/L**	3.087	887	0.003
	Na	23	**1059.611**	**ug/L**	7.901	1230420	4.612
	Mg	24	**11947.213**	**ug/L**	2.376	9382397	35.680
	Al	27	**84269.126**	**ug/L**	3.208	98907422	376.137
	P	31	**254.449**	**ug/L**	0.870	18736	0.063
	K	39	**11978.339**	**ug/L**	3.326	25674667	95.922
	Ca	43	**8367.035**	**ug/L**	1.005	37688	0.142
>	Sc	45		**ug/L**		262861	262860.770
	Ti	47	**1233.308**	**ug/L**	0.932	257601	0.979
	V	51	**93.837**	**ug/L**	1.567	193214	0.723
	Cr	52	**47.371**	**ug/L**	1.029	100411	0.365
	Cr	53		**ug/L**		92274	-0.267
	Mn	55	**851.849**	**ug/L**	0.861	2848473	10.834
	Fe	57	**55949.025**	**ug/L**	1.288	3760376	14.283
	Co	59	**23.287**	**ug/L**	1.893	58443	0.222
	Ni	60	**33.743**	**ug/L**	1.918	17705	0.067
	Cu	63		**ug/L**		31702	0.120
	Cu	65	**27.379**	**ug/L**	0.383	15484	0.059
	Zn	66	**138.406**	**ug/L**	1.617	34155	0.390
	Zn	67		**ug/L**		9694	0.049
	Zn	68		**ug/L**		26336	0.297
>	Ge	74		**ug/L**		87257	87256.563
	As	75	**9.759**	**ug/L**	3.907	3155	0.033
	Se	77		**ug/L**		2728	-0.031
	Se	82	**0.876**	**ug/L**	88.325	30	0.000
	Kr	83		**ug/L**		64	0.000
	Sr	88	**133.666**	**ug/L**	2.627	574973	11.368
	Y	89		**ug/L**		212888	4.209
	Zr	90	**108.804**	**ug/L**	1.844	251807	4.974
	Mo	98	**1.509**	**ug/L**	1.668	1522	0.029
	Ag	107	**0.434**	**ug/L**	5.951	716	0.013
	Cd	111	**1.445**	**ug/L**	5.809	525	0.010
	Cd	114		**ug/L**		137	0.002
>	In	115		**ug/L**		50583	50582.899
	Sn	120	**0.606**	**ug/L**	4.938	1164	0.019
	Sb	121	**-0.001**	**ug/L**	802.224	410	-0.000
	Sb	123		**ug/L**		365	-0.000
	Ba	135		**ug/L**		229543	4.799
	Ba	137	**588.194**	**ug/L**	0.433	395660	8.271
	Ho	165		**ug/L**		7411	0.155
>	Lu	175		**ug/L**		47832	47831.763
	Tl	205	**0.882**	**ug/L**	1.486	1380	0.027
	Pb	208	**48.037**	**ug/L**	0.823	186125	3.882
	Bi	209		**ug/L**		2061	0.043
	Th	232	**33.982**	**ug/L**	1.064	171004	3.568
	U	238	**3.170**	**ug/L**	0.507	16693	0.344

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		120.4			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		97.0			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		99.2			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		111.2			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
Sc 45 Int Std for sam	Sc	45	
	Ti	47	Sample is out of limits (over linear range)
	Fe	57	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 243385006
Sample Date/Time: Thursday, January 07, 2010 20:38:30
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\243385006.127

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**48.186**	ug/L	1.137	9628	0.039
	Be	9	**2.805**	ug/L	5.424	165	0.001
	B	11	**10.846**	ug/L	2.404	578	0.002
	Na	23	**612.033**	ug/L	4.679	676663	2.664
	Mg	24	**9730.619**	ug/L	2.087	7214164	29.060
	Al	27	**56121.812**	ug/L	5.496	62120802	250.501
	P	31	**850.983**	ug/L	0.481	54311	0.211
	K	39	**7362.565**	ug/L	2.072	15076470	58.959
	Ca	43	**11345.574**	ug/L	1.654	48109	0.192
>	Sc	45		ug/L		248171	248171.277
	Ti	47	**1435.146**	ug/L	0.354	282993	1.140
	V	51	**87.557**	ug/L	2.104	170387	0.675
	Cr	52	**29.716**	ug/L	2.794	61035	0.229
	Cr	53		ug/L		86125	-0.271
	Mn	55	**1280.176**	ug/L	2.130	4040269	16.281
	Fe	57	**39440.013**	ug/L	1.905	2503945	10.069
	Co	59	**19.855**	ug/L	2.205	47074	0.189
	Ni	60	**31.337**	ug/L	2.289	15526	0.062
	Cu	63		ug/L		37974	0.153
	Cu	65	**34.742**	ug/L	0.872	18530	0.074
	Zn	66	**97.369**	ug/L	1.905	24016	0.275
	Zn	67		ug/L		8889	0.040
	Zn	68		ug/L		21945	0.247
>	Ge	74		ug/L		87102	87102.292
	As	75	**6.447**	ug/L	2.384	2178	0.022
	Se	77		ug/L		2743	-0.031
	Se	82	**0.133**	ug/L	157.539	10	0.000
	Kr	83		ug/L		75	0.000
	Sr	88	**126.249**	ug/L	1.350	540994	10.737
	Y	89		ug/L		191477	3.802
	Zr	90	**94.226**	ug/L	3.355	217184	4.308
	Mo	98	**0.776**	ug/L	1.105	798	0.015
	Ag	107	**0.373**	ug/L	4.424	621	0.011
	Cd	111	**1.355**	ug/L	17.849	492	0.009
	Cd	114		ug/L		215	0.004
>	In	115		ug/L		50378	50378.404
	Sn	120	**0.642**	ug/L	3.786	1216	0.020
	Sb	121	**0.021**	ug/L	107.192	435	0.001
	Sb	123		ug/L		363	-0.000
	Ba	135		ug/L		458002	9.456
	Ba	137	**1155.733**	ug/L	1.961	787184	16.252
	Ho	165		ug/L		6682	0.138
>	Lu	175		ug/L		48433	48432.779
	Tl	205	**0.768**	ug/L	3.641	1230	0.023
	Pb	208	**34.780**	ug/L	0.226	136594	2.811
	Bi	209		ug/L		1677	0.034
	Th	232	**26.448**	ug/L	1.420	134840	2.777
	U	238	**6.470**	ug/L	0.690	34253	0.702

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		113.6			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		96.8			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		98.8			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		112.6			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)
	Mn	55	Sample is out of limits (over linear range)
	Ba	137	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Thursday, January 07, 2010 20:44:43
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 6.128

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**50.502**	ug/L	2.097	9339	0.041
	Be	9	**50.586**	ug/L	1.066	2673	0.012
	B	11	**97.231**	ug/L	1.288	4264	0.018
	Na	23	**5003.768**	ug/L	5.471	5017636	21.781
	Mg	24	**5222.856**	ug/L	5.647	3582189	15.598
	Al	27	**4963.708**	ug/L	4.605	5091780	22.156
	P	31	**5028.247**	ug/L	0.819	287655	1.244
	K	39	**5191.456**	ug/L	2.274	9958038	41.573
	Ca	43	**5036.980**	ug/L	0.557	19993	0.085
>	Sc	45		ug/L		229709	229709.284
	Ti	47	**50.592**	ug/L	2.266	9397	0.040
	V	51	**50.726**	ug/L	2.634	92581	0.391
	Cr	52	**50.637**	ug/L	0.764	93536	0.390
	Cr	53		ug/L		117277	-0.107
	Mn	55	**51.391**	ug/L	2.686	150969	0.654
	Fe	57	**4939.044**	ug/L	3.270	295081	1.261
	Co	59	**49.304**	ug/L	3.164	107940	0.469
	Ni	60	**51.046**	ug/L	0.951	23386	0.102
	Cu	63		ug/L		52325	0.227
	Cu	65	**50.820**	ug/L	1.591	25060	0.109
	Zn	66	**50.452**	ug/L	2.315	13378	0.142
	Zn	67		ug/L		6536	0.008
	Zn	68		ug/L		9909	0.102
>	Ge	74		ug/L		93287	93286.601
	As	75	**45.774**	ug/L	0.464	14703	0.154
	Se	77		ug/L		5191	-0.007
	Se	82	**49.782**	ug/L	3.347	1461	0.016
	Kr	83		ug/L		39	-0.000
	Sr	88	**50.042**	ug/L	1.579	220718	4.256
	Y	89		ug/L		109	0.002
	Zr	90	**48.688**	ug/L	1.954	115626	2.226
	Mo	98	**49.116**	ug/L	2.296	49526	0.955
	Ag	107	**49.255**	ug/L	0.999	76130	1.468
	Cd	111	**51.296**	ug/L	1.335	18408	0.355
	Cd	114		ug/L		42365	0.817
>	In	115		ug/L		51830	51829.949
	Sn	120	**49.123**	ug/L	0.656	80513	1.550
	Sb	121	**48.270**	ug/L	4.722	60732	1.163
	Sb	123		ug/L		46464	0.889
	Ba	135		ug/L		18960	0.418
	Ba	137	**50.776**	ug/L	1.572	32408	0.714
	Ho	165		ug/L		15	0.000
>	Lu	175		ug/L		45346	45345.988
	Tl	205	**49.315**	ug/L	2.380	67372	1.484
	Pb	208	**50.427**	ug/L	2.210	185182	4.075
	Bi	209		ug/L		49	0.001
	Th	232	**51.401**	ug/L	1.631	245009	5.397
	U	238	**53.121**	ug/L	1.350	261715	5.768

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	101.004				
	Be	9	101.172				
	B	11	97.231				
	Na	23	100.075				
	Mg	24	104.457				
	Al	27	98.291				
	P	31	100.565				
	K	39	103.829				
	Ca	43	100.740				
>	Sc	45			105.2		
	Ti	47	101.185				
	V	51	101.452				
	Cr	52	101.274				
	Cr	53					
	Mn	55	102.782				
	Fe	57	98.781				
	Co	59	98.608				
	Ni	60	102.093				
	Cu	63					
	Cu	65	101.640				
	Zn	66	100.904				
	Zn	67					
	Zn	68					
>	Ge	74			103.7		
	As	75	91.547				
	Se	77					
	Se	82	99.564				
	Kr	83					
	Sr	88	100.084				
	Y	89					
	Zr	90	97.375				
	Mo	98	98.232				
	Ag	107	98.511				
	Cd	111	102.593				
	Cd	114					
>	In	115			101.6		
	Sn	120	98.247				
	Sb	121	96.541				
	Sb	123					
	Ba	135					
	Ba	137	101.553				
	Ho	165					
>	Lu	175			105.4		
	Tl	205	98.630				
	Pb	208	100.853				
	Bi	209					
	Th	232	102.802				
	U	238	106.242				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Thursday, January 07, 2010 20:50:56
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 7.129

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	0.044	ug/L	95.749	36	0.000
	Be	9	0.003	ug/L	1601.076	5	0.000
	B	11	2.438	ug/L	29.839	170	0.000
	Na	23	1.149	ug/L	168.591	15675	0.005
	Mg	24	2.905	ug/L	76.485	2667	0.009
	Al	27	2.834	ug/L	151.341	6002	0.013
	P	31	-2.705	ug/L	25.829	1737	-0.001
	K	39	-7.748	ug/L	260.216	389602	-0.062
	Ca	43	-21.826	ug/L	23.012	318	-0.000
>	Sc	45		ug/L		226513	226512.708
	Ti	47	0.109	ug/L	22.103	187	0.000
	V	51	-1.424	ug/L	62.600	289	-0.011
	Cr	52	-0.545	ug/L	16.723	2901	-0.004
	Cr	53		ug/L		112150	-0.123
	Mn	55	0.008	ug/L	200.276	851	0.000
	Fe	57	-14.867	ug/L	36.729	4543	-0.004
	Co	59	0.002	ug/L	161.613	184	0.000
	Ni	60	0.005	ug/L	134.464	49	0.000
	Cu	63		ug/L		109	-0.000
	Cu	65	-0.005	ug/L	336.541	60	-0.000
	Zn	66	-0.057	ug/L	22.052	91	-0.000
	Zn	67		ug/L		4581	-0.012
	Zn	68		ug/L		333	-0.001
>	Ge	74		ug/L		92457	92456.866
	As	75	0.382	ug/L	75.380	420	0.001
	Se	77		ug/L		4333	-0.016
	Se	82	0.217	ug/L	227.990	13	0.000
	Kr	83		ug/L		44	0.000
	Sr	88	0.005	ug/L	40.605	153	0.000
	Y	89		ug/L		18	0.000
	Zr	90	0.135	ug/L	14.884	573	0.006
	Mo	98	0.041	ug/L	16.929	80	0.001
	Ag	107	0.006	ug/L	184.743	73	0.000
	Cd	111	-0.030	ug/L	9.461	9	-0.000
	Cd	114		ug/L		33	-0.000
>	In	115		ug/L		51957	51957.115
	Sn	120	0.154	ug/L	22.692	453	0.005
	Sb	121	0.521	ug/L	24.261	1077	0.013
	Sb	123		ug/L		867	0.009
	Ba	135		ug/L		38	0.000
	Ba	137	0.018	ug/L	52.944	45	0.000
	Ho	165		ug/L		12	0.000
>	Lu	175		ug/L		43604	43603.904
	Tl	205	0.084	ug/L	14.378	210	0.003
	Pb	208	0.008	ug/L	130.736	452	0.001
	Bi	209		ug/L		20	0.000
	Th	232	0.082	ug/L	27.462	686	0.009
	U	238	0.006	ug/L	37.711	235	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		103.7			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		102.8			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		101.9			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		101.4			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 243385007
Sample Date/Time: Thursday, January 07, 2010 20:57:10
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\243385007.130

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	58.660	ug/L	2.082	12604	0.047
	Be	9	4.139	ug/L	0.925	259	0.001
	B	11	13.256	ug/L	4.955	743	0.002
	Na	23	1138.169	ug/L	3.163	1340089	4.954
	Mg	24	11545.334	ug/L	3.255	9208142	34.480
	Al	27	68868.646	ug/L	1.429	82075808	307.396
	P	31	269.223	ug/L	1.201	20009	0.067
	K	39	10678.508	ug/L	4.946	23307499	85.513
	Ca	43	11131.237	ug/L	1.070	50781	0.188
>	Sc	45		ug/L		266998	266998.376
	Ti	47	880.949	ug/L	1.536	186976	0.699
	V	51	89.695	ug/L	2.419	187780	0.691
	Cr	52	38.833	ug/L	1.513	84440	0.299
	Cr	53		ug/L		93500	-0.268
	Mn	55	988.522	ug/L	1.138	3357894	12.572
	Fe	57	52644.646	ug/L	1.264	3594890	13.439
	Co	59	27.255	ug/L	1.656	69459	0.259
	Ni	60	32.171	ug/L	1.694	17153	0.064
	Cu	63		ug/L		32589	0.122
	Cu	65	27.584	ug/L	1.657	15847	0.059
	Zn	66	128.651	ug/L	1.996	32302	0.363
	Zn	67		ug/L		10106	0.052
	Zn	68		ug/L		27216	0.302
>	Ge	74		ug/L		88768	88767.547
	As	75	10.802	ug/L	9.345	3523	0.036
	Se	77		ug/L		2979	-0.029
	Se	82	0.435	ug/L	98.407	18	0.000
	Kr	83		ug/L		67	0.000
	Sr	88	154.112	ug/L	1.393	669048	13.107
	Y	89		ug/L		219917	4.309
	Zr	90	93.151	ug/L	1.243	217585	4.259
	Mo	98	1.681	ug/L	1.248	1707	0.033
	Ag	107	0.393	ug/L	1.474	661	0.012
	Cd	111	1.363	ug/L	15.602	501	0.009
	Cd	114		ug/L		148	0.002
>	In	115		ug/L		51033	51032.740
	Sn	120	0.715	ug/L	1.839	1348	0.023
	Sb	121	0.149	ug/L	31.753	598	0.004
	Sb	123		ug/L		515	0.003
	Ba	135		ug/L		373495	7.772
	Ba	137	949.677	ug/L	1.679	641755	13.354
	Ho	165		ug/L		7612.	0.158
>	Lu	175		ug/L		48057	48056.845
	Tl	205	0.863	ug/L	2.713	1359	0.026
	Pb	208	36.413	ug/L	0.895	141871	2.942
	Bi	209		ug/L		1687	0.035
	Th	232	29.249	ug/L	1.450	147931	3.071
	U	238	3.290	ug/L	1.753	17395	0.357

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		122.3			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		98.7			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		100.1			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		111.7			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
Sc 45 Int Std for sam	Sc	45	
	Ti	47	Sample is out of limits (over linear range)
	Fe	57	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 243385008
Sample Date/Time: Thursday, January 07, 2010 21:03:24
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\243385008.131

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	76.583	ug/L	0.854	15678	0.061
	Be	9	3.719	ug/L	6.475	222	0.001
	B	11	12.016	ug/L	4.044	649	0.002
	Na	23	973.637	ug/L	8.649	1094531	4.238
	Mg	24	9505.965	ug/L	0.425	7226611	28.389
	Al	27	78641.016	ug/L	8.686	89363724	351.016
	P	31	355.895	ug/L	0.428	24530	0.088
	K	39	8675.103	ug/L	6.997	18129319	69.470
	Ca	43	7521.712	ug/L	0.999	32857	0.127
>	Sc	45		ug/L		254521	254520.962
	Ti	47	1297.970	ug/L	0.716	262494	1.031
	V	51	73.146	ug/L	2.700	146530	0.563
	Cr	52	40.788	ug/L	1.233	84320	0.314
	Cr	53		ug/L		90302	-0.263
	Mn	55	817.909	ug/L	0.468	2648520	10.402
	Fe	57	51242.672	ug/L	0.847	3335618	13.082
	Co	59	28.863	ug/L	0.354	70104	0.275
	Ni	60	27.853	ug/L	1.867	14164	0.055
	Cu	63		ug/L		27446	0.107
	Cu	65	24.300	ug/L	1.988	13314	0.052
	Zn	66	128.842	ug/L	0.692	31953	0.363
	Zn	67		ug/L		9387	0.045
	Zn	68		ug/L		25045	0.281
>	Ge	74		ug/L		87667	87666.746
	As	75	6.910	ug/L	17.452	2332	0.023
	Se	77		ug/L		2791	-0.031
	Se	82	0.410	ug/L	119.767	17	0.000
	Kr	83		ug/L		58	0.000
	Sr	88	100.751	ug/L	1.579	439445	8.568
	Y	89		ug/L		203600	3.970
	Zr	90	102.808	ug/L	2.102	241244	4.700
	Mo	98	1.784	ug/L	1.448	1816	0.035
	Ag	107	0.411	ug/L	4.983	691	0.012
	Cd	111	1.378	ug/L	7.417	508	0.010
	Cd	114		ug/L		164	0.003
>	In	115		ug/L		51268	51268.234
	Sn	120	1.397	ug/L	2.893	2458	0.044
	Sb	121	0.027	ug/L	109.539	451	0.001
	Sb	123		ug/L		379	0.000
	Ba	135		ug/L		232396	4.862
	Ba	137	588.735	ug/L	0.292	395733	8.279
	Ho	165		ug/L		7301	0.152
>	Lu	175		ug/L		47797	47796.976
	Tl	205	0.554	ug/L	3.010	907	0.017
	Pb	208	43.215	ug/L	0.752	167390	3.492
	Bi	209		ug/L		1618	0.033
	Th	232	29.044	ug/L	0.860	146108	3.050
	U	238	3.806	ug/L	2.364	19977	0.413

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45			116.6		
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74			97.5		
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Zr	90					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115			100.5		
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175			111.1		
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)
	Fe	57	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 243385009
Sample Date/Time: Thursday, January 07, 2010 21:09:38
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\243385009.132

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**51.774**	**ug/L**	1.683	10352	0.042
	Be	9	**3.689**	**ug/L**	6.801	215	0.001
	B	11	**13.551**	**ug/L**	7.630	705	0.003
	Na	23	**563.740**	**ug/L**	7.962	625452	2.454
	Mg	24	**8266.288**	**ug/L**	3.229	6133782	24.687
	Al	27	**61686.570**	**ug/L**	4.055	68367587	275.339
	P	31	**333.265**	**ug/L**	2.724	22545	0.082
	K	39	**7564.542**	**ug/L**	2.115	15486172	60.577
	Ca	43	**7389.699**	**ug/L**	0.727	31507	0.125
>	Sc	45		**ug/L**		248372	248371.829
	Ti	47	**1365.504**	**ug/L**	0.536	269469	1.084
	V	51	**81.648**	**ug/L**	0.384	159269	0.629
	Cr	52	**33.055**	**ug/L**	1.674	67481	0.255
	Cr	53		**ug/L**		87324	-0.266
	Mn	55	**1322.370**	**ug/L**	0.614	4177959	16.818
	Fe	57	**41532.122**	**ug/L**	1.984	2638962	10.603
	Co	59	**22.253**	**ug/L**	1.998	52780	0.212
	Ni	60	**27.616**	**ug/L**	1.584	13702	0.055
	Cu	63		**ug/L**		24512	0.098
	Cu	65	**22.327**	**ug/L**	1.849	11942	0.048
	Zn	66	**102.532**	**ug/L**	1.748	25436	0.289
	Zn	67		**ug/L**		8139	0.031
	Zn	68		**ug/L**		20090	0.225
>	Ge	74		**ug/L**		87622	87621.775
	As	75	**8.014**	**ug/L**	2.430	2654	0.027
	Se	77		**ug/L**		2671	-0.032
	Se	82	**0.686**	**ug/L**	53.611	25	0.000
	Kr	83		**ug/L**		77	0.000
	Sr	88	**101.467**	**ug/L**	1.467	438261	8.629
	Y	89		**ug/L**		211025	4.156
	Zr	90	**81.333**	**ug/L**	1.076	189030	3.718
	Mo	98	**1.367**	**ug/L**	2.753	1387	0.027
	Ag	107	**0.341**	**ug/L**	2.622	578	0.010
	Cd	111	**1.347**	**ug/L**	8.463	492	0.009
	Cd	114		**ug/L**		270	0.005
>	In	115		**ug/L**		50773	50773.040
	Sn	120	**0.726**	**ug/L**	4.927	1360	0.023
	Sb	121	**0.052**	**ug/L**	44.859	477	0.001
	Sb	123		**ug/L**		410	0.001
	Ba	135		**ug/L**		192959	4.015
	Ba	137	**486.397**	**ug/L**	1.549	328704	6.840
	Ho	165		**ug/L**		7587	0.158
>	Lu	175		**ug/L**		48053	48052.829
	Tl	205	**0.817**	**ug/L**	2.555	1291	0.025
	Pb	208	**52.581**	**ug/L**	0.852	204646	4.249
	Bi	209		**ug/L**		2320	0.048
	Th	232	**34.825**	**ug/L**	1.575	176055	3.656
	U	238	**3.851**	**ug/L**	1.615	20318	0.418

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		113.7			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		97.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		99.6			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		111.7			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)
	Mn	55	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 243385010
Sample Date/Time: Thursday, January 07, 2010 21:15:50
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\243385010.133

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**50.919**	ug/L	1.281	10200	0.041
	Be	9	**3.163**	ug/L	5.934	186	0.001
	B	11	**11.123**	ug/L	2.825	592	0.002
	Na	23	**634.227**	ug/L	5.097	702915	2.761
	Mg	24	**9429.591**	ug/L	1.521	7007548	28.161
	Al	27	**54501.095**	ug/L	3.035	60559106	243.267
	P	31	**902.047**	ug/L	0.126	57594	0.223
	K	39	**7138.284**	ug/L	4.248	14661077	57.163
	Ca	43	**9836.344**	ug/L	1.644	41875	0.166
>	Sc	45		ug/L		248800	248799.922
	Ti	47	**1615.247**	ug/L	0.707	319246	1.283
	V	51	**92.894**	ug/L	0.933	181089	0.716
	Cr	52	**28.782**	ug/L	1.855	59400	0.222
	Cr	53		ug/L		83493	-0.282
	Mn	55	**1365.458**	ug/L	2.439	4320298	17.366
	Fe	57	**39911.940**	ug/L	2.590	2540022	10.189
	Co	59	**17.280**	ug/L	2.664	41088	0.164
	Ni	60	**28.581**	ug/L	3.118	14198	0.057
	Cu	63		ug/L		36128	0.145
	Cu	65	**33.337**	ug/L	1.963	17825	0.071
	Zn	66	**103.688**	ug/L	1.265	25393	0.292
	Zn	67		ug/L		8687	0.039
	Zn	68		ug/L		22014	0.250
>	Ge	74		ug/L		86495	86494.952
	As	75	**6.108**	ug/L	16.400	2061	0.021
	Se	77		ug/L		2556	-0.033
	Se	82	**0.730**	ug/L	40.666	26	0.000
	Kr	83		ug/L		59	0.000
	Sr	88	**137.056**	ug/L	0.728	582814	11.656
	Y	89		ug/L		197654	3.954
	Zr	90	**92.251**	ug/L	1.441	211061	4.218
	Mo	98	**0.996**	ug/L	1.358	1005	0.019
	Ag	107	**0.361**	ug/L	5.349	598	0.011
	Cd	111	**1.504**	ug/L	4.063	539	0.010
	Cd	114		ug/L		361	0.007
>	In	115		ug/L		49988	49988.277
	Sn	120	**0.717**	ug/L	2.415	1323	0.023
	Sb	121	**0.032**	ug/L	44.652	446	0.001
	Sb	123		ug/L		373	0.000
	Ba	135		ug/L		415047	8.699
	Ba	137	**1055.522**	ug/L	1.017	708176	14.843
	Ho	165		ug/L		6987	0.146
>	Lu	175		ug/L		47712	47712.026
	Tl	205	**0.727**	ug/L	1.590	1154	0.022
	Pb	208	**46.449**	ug/L	1.267	179533	3.753
	Bi	209		ug/L		1931	0.040
	Th	232	**25.997**	ug/L	0.571	130575	2.730
	U	238	**11.829**	ug/L	1.358	61502	1.284

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			113.9		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			96.2		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			98.0		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			110.9		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)
	Mn	55	Sample is out of limits (over linear range)
	Ba	137	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 243385011
Sample Date/Time: Thursday, January 07, 2010 21:22:02
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\243385011.134

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**66.572**	**ug/L**	1.313	13626	0.053
	Be	9	**4.675**	**ug/L**	3.416	278	0.001
	B	11	**15.076**	**ug/L**	5.703	794	0.003
	Na	23	**572.213**	**ug/L**	7.338	650556	2.491
	Mg	24	**9917.139**	**ug/L**	1.441	7535292	29.617
	Al	27	**81839.963**	**ug/L**	5.438	93007681	365.294
	P	31	**376.676**	**ug/L**	0.791	25830	0.093
	K	39	**9969.052**	**ug/L**	12.175	20781003	79.832
	Ca	43	**8874.874**	**ug/L**	0.479	38666	0.150
>	Sc	45		**ug/L**		254411	254411.200
	Ti	47	**1785.622**	**ug/L**	1.167	360951	1.418
	V	51	**99.003**	**ug/L**	1.739	197143	0.763
	Cr	52	**40.834**	**ug/L**	0.874	84379	0.315
	Cr	53		**ug/L**		87491	-0.274
	Mn	55	**1224.213**	**ug/L**	0.796	3961713	15.570
	Fe	57	**49091.003**	**ug/L**	1.040	3194233	12.532
	Co	59	**25.034**	**ug/L**	1.149	60794	0.238
	Ni	60	**35.787**	**ug/L**	1.403	18175	0.071
	Cu	63		**ug/L**		28523	0.112
	Cu	65	**25.597**	**ug/L**	1.771	14016	0.055
	Zn	66	**112.859**	**ug/L**	3.243	27681	0.318
	Zn	67		**ug/L**		8755	0.039
	Zn	68		**ug/L**		22392	0.254
>	Ge	74		**ug/L**		86661	86660.938
	As	75	**10.472**	**ug/L**	1.336	3343	0.035
	Se	77		**ug/L**		2778	-0.030
	Se	82	**0.707**	**ug/L**	77.136	25	0.000
	Kr	83		**ug/L**		75	0.000
	Sr	88	**132.594**	**ug/L**	1.011	560793	11.277
	Y	89		**ug/L**		278242	5.596
	Zr	90	**108.121**	**ug/L**	1.588	246010	4.943
	Mo	98	**1.332**	**ug/L**	3.204	1325	0.026
	Ag	107	**0.433**	**ug/L**	9.456	701	0.013
	Cd	111	**1.577**	**ug/L**	2.207	561	0.011
	Cd	114		**ug/L**		194	0.003
>	In	115		**ug/L**		49726	49725.676
	Sn	120	**0.791**	**ug/L**	0.528	1434	0.025
	Sb	121	**-0.012**	**ug/L**	124.855	391	-0.000
	Sb	123		**ug/L**		335	-0.001
	Ba	135		**ug/L**		333400	6.660
	Ba	137	**808.834**	**ug/L**	1.057	569409	11.374
	Ho	165		**ug/L**		9800	0.196
>	Lu	175		**ug/L**		50057	50057.385
	Tl	205	**0.940**	**ug/L**	4.113	1530	0.028
	Pb	208	**59.978**	**ug/L**	1.200	243113	4.847
	Bi	209		**ug/L**		2905	0.058
	Th	232	**41.928**	**ug/L**	2.221	220700	4.402
	U	238	**5.352**	**ug/L**	0.544	29324	0.581

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		116.5			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		96.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		97.5			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		116.4			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Al	27	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)
	Mn	55	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Thursday, January 07, 2010 21:28:15
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 6.135

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**49.899**	ug/L	0.874	9351	0.040
	Be	9	**51.467**	ug/L	1.012	2756	0.012
	B	11	**97.982**	ug/L	3.461	4354	0.018
	Na	23	**5170.400**	ug/L	0.630	5254007	22.506
	Mg	24	**5103.314**	ug/L	3.642	3547338	15.241
	Al	27	**5246.543**	ug/L	3.349	5452380	23.418
	P	31	**4976.410**	ug/L	1.248	288475	1.231
	K	39	**5401.579**	ug/L	4.391	10484391	43.256
	Ca	43	**4930.996**	ug/L	0.952	19840	0.083
>	Sc	45		ug/L		232777	232776.847
	Ti	47	**50.543**	ug/L	0.730	9515	0.040
	V	51	**49.569**	ug/L	4.517	91758	0.382
	Cr	52	**49.898**	ug/L	1.801	93463	0.384
	Cr	53		ug/L		115658	-0.121
	Mn	55	**50.461**	ug/L	0.926	150231	0.642
	Fe	57	**4862.224**	ug/L	1.203	294491	1.241
	Co	59	**49.089**	ug/L	1.737	108903	0.467
	Ni	60	**50.917**	ug/L	2.147	23635	0.101
	Cu	63		ug/L		52967	0.227
	Cu	65	**50.787**	ug/L	1.379	25381	0.109
	Zn	66	**51.316**	ug/L	0.605	13653	0.145
	Zn	67		ug/L		6500	0.008
	Zn	68		ug/L		10021	0.102
>	Ge	74		ug/L		93603	93602.990
	As	75	**46.060**	ug/L	0.960	14842	0.155
	Se	77		ug/L		5237	-0.007
	Se	82	**47.429**	ug/L	0.830	1397	0.015
	Kr	83		ug/L		41	-0.000
	Sr	88	**49.222**	ug/L	0.334	221876	4.186
	Y	89		ug/L		130	0.002
	Zr	90	**48.064**	ug/L	1.767	116630	2.197
	Mo	98	**47.857**	ug/L	1.473	49310	0.930
	Ag	107	**48.693**	ug/L	1.622	76898	1.451
	Cd	111	**49.590**	ug/L	2.320	18184	0.343
	Cd	114		ug/L		42130	0.795
>	In	115		ug/L		52970	52970.074
	Sn	120	**48.352**	ug/L	0.770	81001	1.525
	Sb	121	**47.325**	ug/L	4.229	60891	1.141
	Sb	123		ug/L		46767	0.875
	Ba	135		ug/L		18911	0.414
	Ba	137	**50.357**	ug/L	1.586	32377	0.708
	Ho	165		ug/L		12	0.000
>	Lu	175		ug/L		45674	45674.021
	Tl	205	**50.547**	ug/L	2.242	69561	1.521
	Pb	208	**51.135**	ug/L	1.004	189174	4.132
	Bi	209		ug/L		43	0.000
	Th	232	**51.829**	ug/L	2.353	248858	5.442
	U	238	**53.686**	ug/L	2.687	266430	5.829

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	99.797				
	Be	9	102.933				
	B	11	97.982				
	Na	23	103.408				
	Mg	24	102.066				
	Al	27	103.892				
	P	31	99.528				
	K	39	108.032				
	Ca	43	98.620				
>	Sc	45		106.6			
	Ti	47	101.085				
	V	51	99.139				
	Cr	52	99.796				
	Cr	53					
	Mn	55	100.922				
	Fe	57	97.244				
	Co	59	98.178				
	Ni	60	101.834				
	Cu	63					
	Cu	65	101.573				
	Zn	66	102.631				
	Zn	67					
	Zn	68					
>	Ge	74		104.1			
	As	75	92.120				
	Se	77					
	Se	82	94.859				
	Kr	83					
	Sr	88	98.443				
	Y	89					
	Zr	90	96.128				
	Mo	98	95.714				
	Ag	107	97.385				
	Cd	111	99.179				
	Cd	114					
>	In	115		103.9			
	Sn	120	96.705				
	Sb	121	94.650				
	Sb	123					
	Ba	135					
	Ba	137	100.714				
	Ho	165					
>	Lu	175		106.2			
	Tl	205	101.093				
	Pb	208	102.270				
	Bi	209					
	Th	232	103.657				
	U	238	107.373				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6
Report Date/Time: Thursday, January 07, 2010 21:31:02

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Thursday, January 07, 2010 21:34:28
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100107\QC Std 7.136

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.074**	ug/L	4.090	42	0.000
	Be	9	**-0.004**	ug/L	543.427	4	-0.000
	B	11	**2.457**	ug/L	9.886	173	0.000
	Na	23	**-3.706**	ug/L	47.371	11004	-0.016
	Mg	24	**0.926**	ug/L	91.452	1333	0.003
	Al	27	**0.185**	ug/L	2617.830	3334	0.001
	P	31	**-3.050**	ug/L	18.400	1738	-0.001
	K	39	**-5.703**	ug/L	31.646	398139	-0.046
	Ca	43	**-25.413**	ug/L	1.607	308	-0.000
>	Sc	45		ug/L		229237	229237.213
	Ti	47	**0.068**	ug/L	92.817	182	0.000
	V	51	**-2.919**	ug/L	13.875	-2337	-0.022
	Cr	52	**-0.557**	ug/L	14.684	2915	-0.004
	Cr	53		ug/L		112872	-0.126
	Mn	55	**-0.011**	ug/L	146.383	808	-0.000
	Fe	57	**-14.231**	ug/L	4.347	4637	-0.004
	Co	59	**-0.009**	ug/L	41.698	162	-0.000
	Ni	60	**-0.016**	ug/L	106.426	40	-0.000
	Cu	63		ug/L		103	-0.000
	Cu	65	**0.017**	ug/L	126.442	72	0.000
	Zn	66	**-0.029**	ug/L	27.577	98	-0.000
	Zn	67		ug/L		4587	-0.012
	Zn	68		ug/L		320	-0.001
>	Ge	74		ug/L		92565	92564.532
	As	75	**-0.470**	ug/L	177.100	153	-0.002
	Se	77		ug/L		4302	-0.016
	Se	82	**-0.354**	ug/L	83.401	-4	-0.000
	Kr	83		ug/L		46	0.000
	Sr	88	**0.004**	ug/L	80.928	147	0.000
	Y	89		ug/L		23	0.000
	Zr	90	**0.131**	ug/L	37.029	567	0.006
	Mo	98	**0.023**	ug/L	85.830	63	0.000
	Ag	107	**0.005**	ug/L	64.847	72	0.000
	Cd	111	**-0.015**	ug/L	62.647	15	-0.000
	Cd	114		ug/L		34	-0.000
>	In	115		ug/L		52437	52437.321
	Sn	120	**0.117**	ug/L	12.544	396	0.004
	Sb	121	**0.447**	ug/L	27.521	991	0.011
	Sb	123		ug/L		781	0.008
	Ba	135		ug/L		29	0.000
	Ba	137	**0.022**	ug/L	60.709	48	0.000
	Ho	165		ug/L		8	-0.000
>	Lu	175		ug/L		43886	43886.419
	Tl	205	**0.047**	ug/L	21.551	163	0.001
	Pb	208	**0.008**	ug/L	51.524	456	0.001
	Bi	209		ug/L		20	0.000
	Th	232	**0.069**	ug/L	26.011	633	0.007
	U	238	**0.007**	ug/L	48.009	242	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9998
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		105.0			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		102.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		102.8			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		102.0			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Daily Performance Report

Sample ID: Sample
Sample Date/Time: Monday, January 11, 2010 10:28:49
Sample Description:
Method File: c:\elandata\Method\daily2.mth
Dataset File: c:\elandata\Dataset\090811\Sample.352
Tuning File: c:\elandata\Tuning\default2.tun
Optimization File: c:\elandata\Optimize\default.dac
Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35
Current Dead Time (ns): 35

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Be	9.0	1083.4	1083.441	43.527	4.0
	Mg	24.0	20649.5	20649.516	295.332	1.4
	Co	58.9	49719.0	49718.976	488.113	1.0
	Rh	102.9	84971.4	84971.377	873.851	1.0
	In	114.9	111362.0	111361.988	875.731	0.8
	Pb	208.0	39144.6	39144.561	397.593	1.0
⌈>	Ba	137.9	88523.3	88523.277	397.772	0.4
⌊	Ba++	69.0	1722.0	0.019	0.000	0.7
⌈>	Ce	139.9	104905.2	104905.177	513.975	0.5
⌊	CeO	155.9	2248.1	0.021	0.000	2.1
	Bkgd	220.0	6.2	6.200	2.280	36.8

Current Optimization File Data

Current Value	Description
0.84	Nebulizer Gas Flow
6.00	Lens Voltage
1000.00	ICP RF Power
-1875.00	Analog Stage Voltage
1100.00	Pulse Stage Voltage
50.00	Discriminator Threshold
-2.00	AC Rod Offset

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	17	6.8	1040.0
Co	59	17	7.8	34323.2
In	115	17	9.0	83823.2

ICPMS #4 TUNING REPORT

File Name: default2.tun
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas Peak W
He	3.0	3.0	611	2060	0.645
Be	9.0	9.1	2049	2045	0.671
Mg	24.0	24.0	5677	2075	0.598
Mg	25.0	25.0	5951	2080	0.650
Mg	26.0	26.1	6156	2085	0.616
Co	58.9	59.0	14193	2140	0.615
Rh	102.9	102.9	24872	2230	0.630
In	114.9	114.8	27769	2255	0.660
Ce	139.9	139.9	33858	2310	0.617
Pb	206.0	206.0	49933	2500	0.626
Pb	207.0	207.0	50101	2380	0.593
Pb	208.0	208.0	50448	2570	0.590
U	238.1	238.0	57686	2510	0.673

ICPMS#4 - Summary Report

Sample ID: Blank
Sample Date/Time: Monday, January 11, 2010 16:15:35
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\Blank.107

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9		ug/L		4	
|>	Sc	45		ug/L		181062	
⌊	Ni	60		ug/L		44	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈	Be	9					
|>	Sc	45					
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Monday, January 11, 2010 16:17:49
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\Standard 1.108

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	10.000	ug/L	6.159	641	0.004
|>	Sc	45		ug/L		173999	173998.605
⌊	Ni	60	10.000	ug/L	4.532	5611	0.032

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈	Be	9					
|>	Sc	45					
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Monday, January 11, 2010 16:20:01
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\Standard 2.109

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	99.900	ug/L	0.453	6149	0.033
|>	Sc	45		ug/L		184533	184532.694
⌊	Ni	60	99.880	ug/L	0.563	52775	0.286

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈	Be	9					
|>	Sc	45					
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Monday, January 11, 2010 16:22:14
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\QC Std 1.110

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**51.724**	**ug/L**	0.481	3180	0.017
|>	Sc	45		**ug/L**		184170	184170.467
⌊	Ni	60	**52.181**	**ug/L**	0.864	27537	0.149

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈	Be	9	103.448				
|>	Sc	45		101.7			
⌊	Ni	60	104.363				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Monday, January 11, 2010 16:24:29
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\QC Std 2.111

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	-0.010	ug/L	346.507	4	-0.000
|>	Sc	45		ug/L		178985	178985.078
[	Ni	60	0.010	ug/L	86.160	48	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[	Be	9					
|>	Sc	45		98.9			
[	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Monday, January 11, 2010 16:26:45
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\QC Std 3.112

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.540**	**ug/L**	30.964	37	0.000
|>	Sc	45		**ug/L**		181658	181657.762
⌊	Ni	60	**2.159**	**ug/L**	4.773	1165	0.006

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈	Be	9	108.094				
|>	Sc	45			100.3		
⌊	Ni	60	107.969				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Monday, January 11, 2010 16:28:59
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\QC Std 4.113

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.049**	**ug/L**	19.211	7	0.000
|>	Sc	45		**ug/L**		181745	181745.291
⌊	Ni	60	**3.426**	**ug/L**	3.170	1825	0.010

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈	Be	9					
|>	Sc	45			100.4		
⌊	Ni	60	126.893				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Monday, January 11, 2010 16:31:13
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\QC Std 5.114

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	19.579	ug/L	2.956	1181	0.007
|>	Sc	45		ug/L		180296	180296.180
⌊	Ni	60	21.972	ug/L	1.359	11377	0.063

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈	Be	9	97.894				
|>	Sc	45			99.6		
⌊	Ni	60	96.795				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Monday, January 11, 2010 16:33:29
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\QC Std 6.115

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	50.631	ug/L	1.397	3122	0.017
|>	Sc	45		ug/L		184736	184735.650
⌊	Ni	60	50.885	ug/L	1.445	26936	0.146

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈	Be	9	101.262				
|>	Sc	45			102.0		
⌊	Ni	60	101.769				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Monday, January 11, 2010 16:35:45
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\QC Std 7.116

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	-0.011	ug/L	360.167	4	-0.000
|>	Sc	45		ug/L		179474	179473.821
⌊	Ni	60	0.004	ug/L	333.123	45	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈	Be	9					
|>	Sc	45		99.1			
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 243385003
Sample Date/Time: Monday, January 11, 2010 16:42:29
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|10|skj
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\243385003.119

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**1.447**	**ug/L**	6.788	98	0.000
|>	Sc	45		**ug/L**		192926	192926.261
⌊	Ni	60	**11.163**	**ug/L**	0.211	6208	0.032

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈	Be	9					
|>	Sc	45		106.6			
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 243385004
Sample Date/Time: Monday, January 11, 2010 16:44:43
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|10|skj
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\243385004.120

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	1.360	ug/L	14.390	90	0.000
|>	Sc	45		ug/L		188517	188516.571
⌊	Ni	60	11.590	ug/L	1.276	6296	0.033

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈	Be	9					
|>	Sc	45		104.1			
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 243385007
Sample Date/Time: Monday, January 11, 2010 16:46:57
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|10|skj
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\243385007.121

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	0.986	ug/L	8.984	66	0.000
|>	Sc	45		ug/L		186288	186287.656
⌊	Ni	60	8.017	ug/L	1.123	4317	0.023

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈	Be	9					
|>	Sc	45		102.9			
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Monday, January 11, 2010 16:49:12
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\QC Std 6.122

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Be	9	**51.820**	**ug/L**	1.337	3107	0.017
>	Sc	45		**ug/L**		179600	179599.716
	Ni	60	**50.829**	**ug/L**	0.899	26160	0.145

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Be	9	103.641				
>	Sc	45		99.2			
	Ni	60	101.657				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Monday, January 11, 2010 16:51:29
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\be and ni only.mth
Dataset File: C:\elandata\Dataset\100111\QC Std 7.123

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈	Be	9	**0.009**	**ug/L**	220.142	5	0.000
|>	Sc	45		**ug/L**		173850	173850.193
⌊	Ni	60	**0.013**	**ug/L**	132.485	49	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈	Be	9					
|>	Sc	45			96.0		
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Daily Performance Report

Sample ID: Sample
Sample Date/Time: Friday, January 15, 2010 12:11:42
Sample Description:
Method File: C:\elandata\Method\daily2.mth
Dataset File: c:\elandata\Dataset\090811\Sample.358
Tuning File: c:\elandata\Tuning\default2.tun
Optimization File: c:\elandata\Optimize\default.dac
Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35
Current Dead Time (ns): 35

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Be	9.0	561.8	561.811	19.640	3.5
	Mg	24.0	10019.3	10019.313	125.740	1.3
	Co	58.9	23669.0	23668.995	330.169	1.4
	Rh	102.9	44514.2	44514.249	357.944	0.8
	In	114.9	61105.0	61105.009	383.776	0.6
	Pb	208.0	21363.2	21363.162	98.479	0.5
⌈>	Ba	137.9	50046.0	50045.984	424.733	0.8
⌊	Ba++	69.0	807.6	0.016	0.000	2.0
⌈>	Ce	139.9	58723.3	58723.258	619.580	1.1
⌊	CeO	155.9	987.4	0.017	0.000	2.0
	Bkgd	220.0	9.2	9.200	1.823	19.8

Current Optimization File Data

Current Value	Description
0.86	Nebulizer Gas Flow
9.00	Lens Voltage
1000.00	ICP RF Power
-1875.00	Analog Stage Voltage
1100.00	Pulse Stage Voltage
50.00	Discriminator Threshold
-2.00	AC Rod Offset

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	9	9.0	512.0
Co	59	9	9.0	18118.1
In	115	9	9.8	45625.4

ICPMS #4 TUNING REPORT

File Name: default2.tun
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas Peak W
He	3.0	3.0	599	2060	0.700
Be	9.0	9.1	2050	2045	0.709
Mg	24.0	24.0	5681	2075	0.766
Mg	25.0	25.0	5919	2080	0.703
Mg	26.0	26.0	6161	2085	0.750
Co	58.9	58.9	14184	2140	0.730
Rh	102.9	102.9	24868	2230	0.714
In	114.9	114.9	27779	2255	0.722
Ce	139.9	139.9	33854	2310	0.692
Pb	206.0	206.0	49936	2500	0.749
Pb	207.0	207.0	50089	2380	0.649
Pb	208.0	208.0	50448	2570	0.643
U	238.1	238.0	57684	2510	0.679

ICPMS#4 - Summary Report

Sample ID: Blank
Sample Date/Time: Friday, January 15, 2010 12:31:41
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\Blank.001

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Sc	45		ug/L		231080	
	Ni	60		ug/L		32	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Simple Linear	
Ni	60	Simple Linear	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
>	Sc	45					
	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Friday, January 15, 2010 12:35:17
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\Standard 1.002

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Sc	45		ug/L		230570	230570.223
⌊	Ni	60	10.000	ug/L	0.253	4522	0.019

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈>	Sc	45					
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Friday, January 15, 2010 12:38:51
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\Standard 2.003

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Sc	45		ug/L		235875	235874.633
⌊	Ni	60	99.987	ug/L	1.259	45388	0.192

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈>	Sc	45					
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Friday, January 15, 2010 12:42:25
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 1.004

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Sc	45		ug/L		235026	235025.656
⌊	Ni	60	52.040	ug/L	0.496	23555	0.100

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈>	Sc	45		101.7			
⌊	Ni	60	104.079				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Friday, January 15, 2010 12:46:02
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\nl only.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 2.005

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Sc	45		ug/L		238655	238655.246
⌊	Ni	60	0.012	ug/L	112.947	38	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈>	Sc	45		103.3			
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Friday, January 15, 2010 12:49:39
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 3.006

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Sc	45		ug/L		234244	234243.854
⌊	Ni	60	2.254	ug/L	1.866	1048	0.004

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈>	Sc	45		101.4			
⌊	Ni	60	112.721				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Friday, January 15, 2010 12:53:14
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 4.007

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Sc	45		ug/L		223354	223353.831
⌊	Ni	60	3.525	ug/L	0.940	1545	0.007

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈>	Sc	45		96.7			
⌊	Ni	60	130.553				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Friday, January 15, 2010 12:56:50
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 5.008

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Sc	45		ug/L		221368	221367.525
⌊	Ni	60	22.007	ug/L	0.488	9400	0.042

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈>	Sc	45		95.8			
⌊	Ni	60	96.948				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, January 15, 2010 13:00:26
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\nl only.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 6.009

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Sc	45		ug/L		229675	229675.221
	Ni	60	51.649	ug/L	1.091	22847	0.099

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
>	Sc	45		99.4			
	Ni	60	103.299				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, January 15, 2010 13:04:04
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 7.010

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Sc	45		ug/L		233632	233632.018
⌊	Ni	60	0.007	ug/L	115.774	35	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈>	Sc	45		101.1			
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, January 15, 2010 13:14:53
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 6.013

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Sc	45		ug/L		224481	224480.550
⌊	Ni	60	51.729	ug/L	0.808	22365	0.099

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈>	Sc	45		97.1			
⌊	Ni	60	103.459				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, January 15, 2010 13:18:30
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 7.014

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Sc	45		ug/L		230411	230410.903
⌊	Ni	60	0.010	ug/L	120.240	36	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈>	Sc	45		99.7			
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 243385003
Sample Date/Time: Friday, January 15, 2010 13:29:17
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\243385003.017

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Sc	45		ug/L		267213	267213.027
⌊	Ni	60	44.201	ug/L	1.172	22753	0.085

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈>	Sc	45		115.6			
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, January 15, 2010 13:32:53
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 6.018

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Sc	45		ug/L		220436	220436.287
⌊	Ni	60	51.680	ug/L	0.463	21940	0.099

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈>	Sc	45		95.4			
⌊	Ni	60	103.359				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, January 15, 2010 13:36:31
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 7.019

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Sc	45		ug/L		226582	226582.353
⌊	Ni	60	0.031	ug/L	80.325	45	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈>	Sc	45		98.1			
⌊	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 243385004
Sample Date/Time: Friday, January 15, 2010 13:40:08
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\243385004.020

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Sc	45		ug/L		264083	264082.587
	Ni	60	46.700	ug/L	0.954	23756	0.090

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
>	Sc	45		114.3			
	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 243385007
Sample Date/Time: Friday, January 15, 2010 13:43:45
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\243385007.021

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Sc	45		ug/L		253671	253670.582
	Ni	60	35.974	ug/L	2.046	17586	0.069

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
>	Sc	45		109.8			
	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, January 15, 2010 13:47:22
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 6.022

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Sc	45		ug/L		218479	218478.816
⌊	Ni	60	52.240	ug/L	0.501	21981	0.100

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
⌈>	Sc	45		94.5			
⌊	Ni	60	104.480				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, January 15, 2010 13:50:59
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\ni only.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 7.023

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Sc	45		ug/L		221619	221619.340
[	Ni	60	0.007	ug/L	273.628	33	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[>	Sc	45		95.9			
[	Ni	60					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS #5 Daily Performance Report

Sample ID: Sample
Sample Date/Time: Wednesday, January 13, 2010 10:49:28
Sample Description:
Method File: c:\elandata\Method\Daily2.mth
Dataset File: c:\elandata\Dataset\default2\Sample.1702
Tuning File: c:\elandata\Tuning\default2.tun
Optimization File: c:\elandata\Optimize\default.dac
Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35
Current Dead Time (ns): 35

Number of Replicates: 5

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Be	9.0	3104.5	3104.537	80.190	2.6
	Mg	24.0	37415.3	37415.343	593.398	1.6
	Co	58.9	80369.3	80369.270	1058.788	1.3
	Rh	102.9	144800.6	144800.594	1227.158	0.8
	In	114.9	192991.4	192991.412	2406.552	1.2
	Pb	208.0	206351.4	206351.410	2455.641	1.2
⌈>	Ba	137.9	200440.0	200440.030	1741.718	0.9
⌊	Ba++	69.0	3542.5	0.018	0.000	1.6
⌈>	Ce	139.9	243882.4	243882.377	1285.423	0.5
⌊	CeO	155.9	4959.5	0.020	0.000	1.0
	Bkgd	220.0	24.1	24.100	3.131	13.0

Current Optimization File Data

Current Value	Description
0.85	Nebulizer Gas Flow
8.75	Lens Voltage
1450.00	ICP RF Power
-1718.75	Analog Stage Voltage
1200.00	Pulse Stage Voltage
275.00	Discriminator Threshold
-6.00	AC Rod Offset

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	19	9.3	4825.5
Co	59	19	10.3	78981.1
In	115	19	11.5	190033.3

ICPMS #5 Instrument Tuning Report

File Name: default2.tun
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	591	2050	0.651
Be	9.0	9.0	2055	2070	0.628
Mg	24.0	24.0	5687	2070	0.647
Mg	25.0	25.0	5939	2070	0.624
Mg	26.0	26.0	6183	2070	0.638
Co	58.9	59.0	14192	2105	0.623
Rh	102.9	102.9	24874	2165	0.616
In	114.9	114.9	27788	2185	0.610
Ce	139.9	139.9	33872	2200	0.628
Pb	206.0	206.0	49948	2270	0.682
Pb	207.0	206.9	50147	2235	0.681
Pb	208.0	208.0	50451	2260	0.715
U	238.1	238.0	57723	2275	0.719

ICPMS#5 - Summary Report

Sample ID: Blank
Sample Date/Time: Wednesday, January 13, 2010 15:02:50
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\Blank.035

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Ge	74		ug/L		376246	
As	75		ug/L		106	
Se	77		ug/L		8598	
Se	82		ug/L		10	
Kr	83		ug/L		108	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	
Kr	83	Linear Thru Zero	

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Wednesday, January 13, 2010 15:04:41
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\Standard 1.036

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Ge	74		ug/L		388078	388078.255
As	75	10.000	ug/L	8.782	11494	0.029
Se	77		ug/L		9674	0.002
Se	82	10.000	ug/L	0.383	1042	0.003
Kr	83		ug/L		125	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Wednesday, January 13, 2010 15:06:30
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\Standard 2.037

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		390057	390057.458
	As	75	99.975	ug/L	1.727	111723	0.286
	Se	77		ug/L		14035	0.013
	Se	82	100.017	ug/L	1.678	10562	0.027
	Kr	83		ug/L		138	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Wednesday, January 13, 2010 15:08:20
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\QC Std 1.038

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		385665	385665.024
	As	75	50.093	ug/L	1.577	55402	0.143
	Se	77		ug/L		11802	0.008
	Se	82	50.413	ug/L	0.622	5269	0.014
	Kr	83		ug/L		115	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74		102.5			
	As	75	100.186				
	Se	77					
	Se	82	100.826				
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Wednesday, January 13, 2010 15:10:12
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\QC Std 2.039

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Ge	74		ug/L		391086	391086.143
As	75	0.116	ug/L	212.449	243	0.000
Se	77		ug/L		8634	-0.001
Se	82	-0.228	ug/L	50.871	-14	-0.000
Kr	83		ug/L		123	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Ge	74		103.9			
As	75					
Se	77					
Se	82					
Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Wednesday, January 13, 2010 15:12:05
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\QC Std 3.040

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Ge	74		ug/L		386370	386370.245
As	75	5.257	ug/L	2.236	5921	0.015
Se	77		ug/L		8878	0.000
Se	82	4.665	ug/L	6.350	497	0.001
Kr	83		ug/L		123	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
Ge	74		102.7			
As	75	105.145				
Se	77					
Se	82	93.306				
Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Wednesday, January 13, 2010 15:13:56
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\QC Std 4.041

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		372098	372097.844
	As	75	0.041	ug/L	394.510	149	0.000
	Se	77		ug/L		6348	-0.006
	Se	82	-1.288	ug/L	11.620	-120	-0.000
	Kr	83		ug/L		269	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Ge	74		98.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Wednesday, January 13, 2010 15:15:47
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\QC Std 5.042

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Ge	74		ug/L		357958	357958.435
|	As	75	21.299	ug/L	0.907	21922	0.061
|	Se	77		ug/L		9805	0.005
|	Se	82	19.730	ug/L	3.096	1919	0.005
⌊	Kr	83		ug/L		276	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Ge	74		95.1			
|	As	75	106.497				
|	Se	77					
|	Se	82	98.648				
⌊	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, January 13, 2010 15:17:40
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\QC Std 6.043

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		378853	378853.151
	As	75	49.668	ug/L	2.174	53950	0.142
	Se	77		ug/L		11269	0.007
	Se	82	50.566	ug/L	1.179	5191	0.014
	Kr	83		ug/L		108	-0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Ge	74		100.7			
	As	75	99.336				
	Se	77					
	Se	82	101.132				
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, January 13, 2010 15:19:33
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\QC Std 7.044

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Ge	74		ug/L		383502	383501.668
|	As	75	0.234	ug/L	58.107	364	0.001
|	Se	77		ug/L		8462	-0.001
|	Se	82	-0.103	ug/L	86.889	-1	-0.000
[	Kr	83		ug/L		116	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[>	Ge	74		101.9			
|	As	75					
|	Se	77					
|	Se	82					
[	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, January 13, 2010 15:34:06
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\QC Std 6.049

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Ge	74		ug/L		399276	399275.533
As	75	48.119	ug/L	2.456	55091	0.138
Se	77		ug/L		12046	0.007
Se	82	48.674	ug/L	2.312	5266	0.013
Kr	83		ug/L		136	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Ge	74		106.1			
As	75	96.239				
Se	77					
Se	82	97.347				
Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, January 13, 2010 15:36:00
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\QC Std 7.050

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		384552	384551.574
	As	75	0.033	ug/L	452.769	146	0.000
	Se	77		ug/L		8805	0.000
	Se	82	-0.074	ug/L	209.717	2	-0.000
	Kr	83		ug/L		114	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74		102.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003841
Sample Date/Time: Wednesday, January 13, 2010 15:37:52
Sample Type:
Sample Description: LANL 6020 MB
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\1202003841.051

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		386660	386660.477
	As	75	0.099	ug/L	363.424	220	0.000
	Se	77		ug/L		4840	-0.010
	Se	82	-0.267	ug/L	36.245	-18	-0.000
	Kr	83		ug/L		115	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74		102.8			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003842
Sample Date/Time: Wednesday, January 13, 2010 15:39:43
Sample Type:
Sample Description: LANL 6020 LCS
Number of Replicates: 3
Batch ID: 936515|40|sk|
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\1202003842.052

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		409546	409545.762
	As	75	26.685	ug/L	2.550	31392	0.076
	Se	77		ug/L		11952	0.006
	Se	82	72.677	ug/L	2.658	8059	0.020
	Kr	83		ug/L		120	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74		108.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 243385001
Sample Date/Time: Wednesday, January 13, 2010 15:41:35
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\243385001.053

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		359630	359629.651
	As	75	11.998	ug/L	1.411	12451	0.034
	Se	77		ug/L		4484	-0.010
	Se	82	-0.971	ug/L	11.672	-85	-0.000
	Kr	83		ug/L		323	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Ge	74		95.6			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003843
Sample Date/Time: Wednesday, January 13, 2010 15:43:27
Sample Type:
Sample Description: LANL 6020 DUP
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\1202003843.054

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		357554	357553.902
	As	75	10.670	ug/L	3.283	11018	0.031
	Se	77		ug/L		3980	-0.012
	Se	82	-0.475	ug/L	34.859	-37	-0.000
	Kr	83		ug/L		268	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74		95.0			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003844
Sample Date/Time: Wednesday, January 13, 2010 15:45:20
Sample Type:
Sample Description: LANL 6020 MS
Number of Replicates: 3
Batch ID: 936515|2|sk|
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\1202003844.055

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		359359	359358.722
	As	75	57.522	ug/L	0.446	59262	0.165
	Se	77		ug/L		4728	-0.010
	Se	82	8.137	ug/L	3.058	800	0.002
	Kr	83		ug/L		337	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74		95.5			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003846
Sample Date/Time: Wednesday, January 13, 2010 15:47:14
Sample Type:
Sample Description: LANL 6020 MSD
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\1202003846.056

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		360672	360671.823
	As	75	53.919	ug/L	1.732	55760	0.154
	Se	77		ug/L		4516	-0.010
	Se	82	8.084	ug/L	4.370	798	0.002
	Kr	83		ug/L		323	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Ge	74		95.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003845
Sample Date/Time: Wednesday, January 13, 2010 15:49:08
Sample Type:
Sample Description: LANL 6020 SDILT
Number of Replicates: 3
Batch ID: 936515|10|sk|
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\1202003845.057

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		373720	373720.464
	As	75	2.382	ug/L	16.098	2650	0.007
	Se	77		ug/L		5052	-0.009
	Se	82	-0.567	ug/L	36.113	-48	-0.000
	Kr	83		ug/L		160	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74		99.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 243385002
Sample Date/Time: Wednesday, January 13, 2010 15:51:01
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\243385002.058

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		362850	362850.434
	As	75	10.577	ug/L	4.439	11084	0.030
	Se	77		ug/L		4020	-0.012
	Se	82	-0.714	ug/L	22.515	-61	-0.000
	Kr	83		ug/L		311	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74		96.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 243385003
Sample Date/Time: Wednesday, January 13, 2010 15:52:52
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\243385003.059

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		361339	361338.995
	As	75	11.899	ug/L	2.008	12406	0.034
	Se	77		ug/L		3214	-0.014
	Se	82	-1.306	ug/L	17.457	-118	-0.000
	Kr	83		ug/L		320	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74		96.0			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, January 13, 2010 15:54:45
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\QC Std 6.060

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		381041	381041.145
	As	75	49.848	ug/L	2.127	54466	0.143
	Se	77		ug/L		10307	0.004
	Se	82	50.220	ug/L	0.879	5186	0.014
	Kr	83		ug/L		108	-0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Ge	74		101.3			
	As	75	99.696				
	Se	77					
	Se	82	100.440				
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, January 13, 2010 15:56:38
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\QC Std 7.061

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		380900	380899.502
	As	75	0.255	ug/L	152.892	388	0.001
	Se	77		ug/L		6955	-0.005
	Se	82	-0.177	ug/L	79.173	-8	-0.000
	Kr	83		ug/L		120	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Ge	74		101.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 243385004
Sample Date/Time: Wednesday, January 13, 2010 15:58:32
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\243385004.062

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		361371	361371.078
	As	75	12.469	ug/L	1.052	12996	0.036
	Se	77		ug/L		3504	-0.013
	Se	82	-1.169	ug/L	25.610	-105	-0.000
	Kr	83		ug/L		310	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Ge	74		96.0			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 243385005
Sample Date/Time: Wednesday, January 13, 2010 16:00:25
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\243385005.063

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		360009	360009.418
	As	75	12.599	ug/L	1.971	13083	0.036
	Se	77		ug/L		3721	-0.013
	Se	82	-1.089	ug/L	39.657	-97	-0.000
	Kr	83		ug/L		327	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74		95.7			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 243385006
Sample Date/Time: Wednesday, January 13, 2010 16:02:18
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\243385006.064

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		365866	365865.818
	As	75	7.580	ug/L	3.522	8039	0.022
	Se	77		ug/L		3691	-0.013
	Se	82	-0.606	ug/L	29.034	-51	-0.000
	Kr	83		ug/L		262	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74		97.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 243385007
Sample Date/Time: Wednesday, January 13, 2010 16:04:12
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\243385007.065

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		363159	363158.690
	As	75	11.649	ug/L	2.923	12210	0.033
	Se	77		ug/L		3112	-0.014
	Se	82	-0.594	ug/L	23.411	-49	-0.000
	Kr	83		ug/L		260	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74		96.5			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 243385008
Sample Date/Time: Wednesday, January 13, 2010 16:06:07
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\243385008.066

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		366135	366134.674
	As	75	9.868	ug/L	2.738	10443	0.028
	Se	77		ug/L		3621	-0.013
	Se	82	-1.048	ug/L	28.056	-94	-0.000
	Kr	83		ug/L		334	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Ge	74		97.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 243385009
Sample Date/Time: Wednesday, January 13, 2010 16:08:00
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\243385009.067

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		360494	360493.900
	As	75	10.790	ug/L	1.838	11233	0.031
	Se	77		ug/L		3653	-0.013
	Se	82	-0.627	ug/L	10.461	-52	-0.000
	Kr	83		ug/L		289	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74		95.8			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 243385010
Sample Date/Time: Wednesday, January 13, 2010 16:09:53
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\243385010.068

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		358893	358892.511
	As	75	8.239	ug/L	3.719	8566	0.024
	Se	77		ug/L		3514	-0.013
	Se	82	-0.684	ug/L	49.592	-57	-0.000
	Kr	83		ug/L		282	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Ge	74		95.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 243385011
Sample Date/Time: Wednesday, January 13, 2010 16:11:45
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936515|2|skj
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\243385011.069

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		360672	360672.017
	As	75	12.388	ug/L	1.509	12890	0.035
	Se	77		ug/L		3677	-0.013
	Se	82	-0.921	ug/L	30.733	-81	-0.000
	Kr	83		ug/L		357	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Ge	74		95.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, January 13, 2010 16:13:38
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\QC Std 6.070

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Ge	74		ug/L		386611	386611.101
	As	75	48.589	ug/L	1.629	53878	0.139
	Se	77		ug/L		10119	0.003
	Se	82	49.438	ug/L	1.462	5180	0.013
	Kr	83		ug/L		116	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Ge	74		102.8			
	As	75	97.178				
	Se	77					
	Se	82	98.876				
	Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, January 13, 2010 16:15:32
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\as and se.mth
Dataset File: C:\elandata\Dataset\100113\QC Std 7.071

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Ge	74		ug/L		377821	377820.531
As	75	0.106	ug/L	271.548	223	0.000
Se	77		ug/L		6803	-0.005
Se	82	-0.355	ug/L	100.812	-26	-0.000
Kr	83		ug/L		134	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
Ge	74		100.4			
As	75					
Se	77					
Se	82					
Kr	83					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

==========
Method Name: SOIL
Method Description: 7471A, ILM04 ANALYST JXL1
Element: Hg

Date: 01/07/2010
Technique:FI-MHS
Calibration Type:
Hg, Calc. Intercept : Linear
Wavelength: 253.7 nm
Sample Info Name: 010710S1.SIF Results Data Set Name: 010710S2

==========
Element: Hg Seq. No.: 1 AS Loc.: 1 Date: 01/07/2010
Sample ID: Calib Blank

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1			0.0034	0.0034	10:15:26	No
2			0.0035	0.0035	10:16:01	No
Mean:			0.0034			
SD :			0.0000			
%RSD:			1.1933			

Auto-zero performed.

==========
Element: Hg Seq. No.: 2 AS Loc.: 2 Date: 01/07/2010
Sample ID: S0.2

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1			0.0024	0.0058	10:17:24	No
2			0.0021	0.0055	10:17:59	No
Mean:			0.0023			
SD :			0.0002			
%RSD:			10.1161			

[Hg] Standard number 1 applied. [0.200]
Correlation Coefficient: 1.00000 Slope: 0.01126
Intercept : 0.00000

==========
Element: Hg Seq. No.: 3 AS Loc.: 3 Date: 01/07/2010
Sample ID: S0.5

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1			0.0050	0.0084	10:19:22	No
2			0.0040	0.0074	10:19:58	No
Mean:			0.0045			
SD :			0.0007			
%RSD:			16.5462			

[Hg] Standard number 2 applied. [0.500]
Correlation Coefficient: 0.99318 Slope: 0.00886
Intercept : 0.00018

==========
Element: Hg Seq. No.: 4 AS Loc.: 4 Date: 01/07/2010
Sample ID: S2.0

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1			0.0188	0.0222	10:21:22	No
2			0.0195	0.0229	10:21:57	No
Mean:			0.0191			
SD :			0.0005			
%RSD:			2.5139			

[Hg] Standard number 3 applied. [2.000]

Correlation Coefficient: 0.99956 Slope: 0.00952
Intercept : 0.00004

==========

Element: Hg Seq. No.: 5 AS Loc.: 5 Date: 01/07/2010
Sample ID: S5.0

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1			0.0478	0.0512	10:23:22	No
2			0.0466	0.0500	10:23:57	No
Mean:			0.0472			
SD :			0.0008			
%RSD:			1.7801			

[Hg] Standard number 4 applied. [5.000]
Correlation Coefficient: 0.99993 Slope: 0.00942
Intercept : 0.00009

==========

Element: Hg Seq. No.: 6 AS Loc.: 6 Date: 01/07/2010
Sample ID: S10

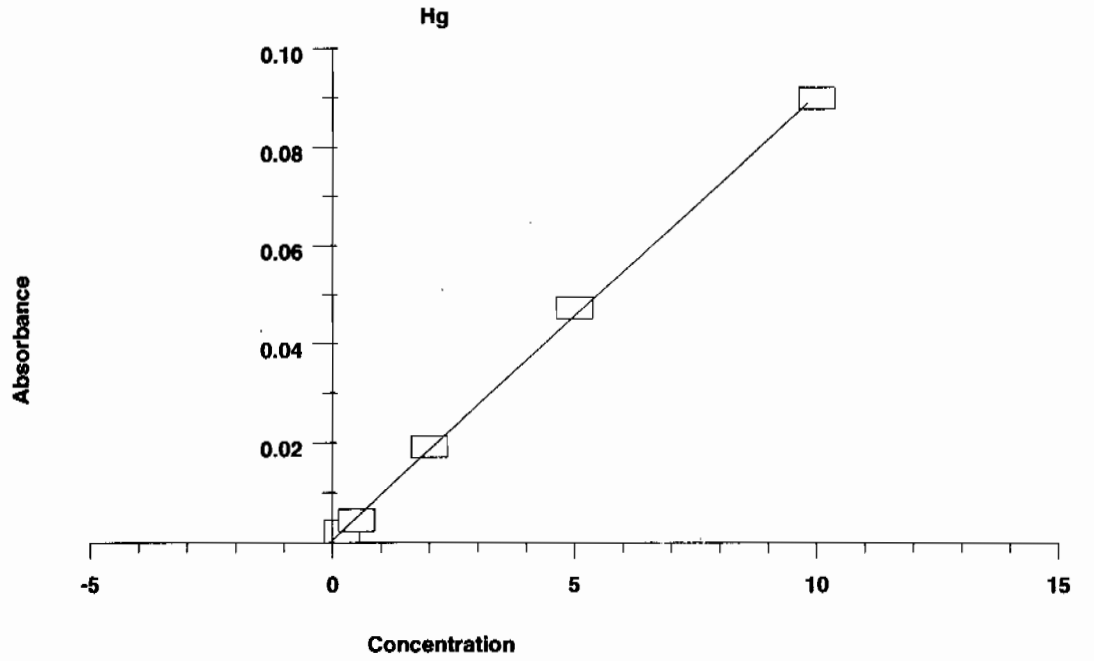
Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1			0.0897	0.0931	10:25:23	No
2			0.0899	0.0933	10:25:58	No
Mean:			0.0898			
SD :			0.0001			
%RSD:			0.1097			

[Hg] Standard number 5 applied. [10.00]
Correlation Coefficient: 0.99967 Slope: 0.00901
Intercept : 0.00056

Calibration data for Hg

Standard ID	Mean Signal (Pk Height)	Entered Concentration (µg/L)	Calculated Concentration (µg/L)	Standard Deviation	%RSD
Calib Blank	0.0034	---	----	----	----
S0.2	0.0023	0.200	0.188	0.0002	10.1
S0.5	0.0045	0.500	0.436	0.0007	16.5
S2.0	0.0191	2.000	2.061	0.0005	2.5
S5.0	0.0472	5.000	5.173	0.0008	1.8
S10	0.0898	10.000	9.905	0.0001	0.1

Correlation Coefficient: 0.99967 Slope: 0.00901 Intercept: 0.0006



Element: Hg Seq. No.: 7 AS Loc.: 9 Date: 01/07/2010
Sample ID: ICV

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	5.017	5.017	0.0458	0.0492	10:27:27	No
2	5.079	5.079	0.0463	0.0497	10:28:02	No
Mean:	5.048	5.048	0.0460			
SD :	0.0436	0.0436	0.0004			
%RSD:	0.9	0.9	0.8525			

QC value within specified limits.

Element: Hg Seq. No.: 8 AS Loc.: 10 Date: 01/07/2010
Sample ID: ICB

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.077	-0.077	-0.0001	0.0033	10:29:24	No
2	-0.069	-0.069	-0.0001	0.0034	10:29:58	No
Mean:	-0.073	-0.073	-0.0001			
SD :	0.0061	0.0061	0.0001			
%RSD:	8.4	8.4	57.6697			

QC value within specified limits.

Element: Hg Seq. No.: 9 AS Loc.: 11 Date: 01/07/2010
Sample ID: CRDL

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.212	0.212	0.0025	0.0059	10:31:21	No
2	0.190	0.190	0.0023	0.0057	10:31:56	No
Mean:	0.201	0.201	0.0024			
SD :	0.0158	0.0158	0.0001			
%RSD:	7.8	7.8	5.9868			

QC value within specified limits.

==========

Element: Hg Seq. No.: 10 AS Loc.: 7 Date: 01/07/2010
Sample ID: CCV

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	5.068	5.068	0.0462	0.0496	10:33:21	No
2	4.958	4.958	0.0452	0.0486	10:33:55	No
Mean:	5.013	5.013	0.0457			
SD :	0.0782	0.0782	0.0007			
%RSD:	1.6	1.6	1.5400			

QC value within specified limits.

==========

Element: Hg Seq. No.: 11 AS Loc.: 8 Date: 01/07/2010
Sample ID: CCB

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.081	-0.081	-0.0002	0.0033	10:35:23	No
2	-0.073	-0.073	-0.0001	0.0033	10:35:58	No
Mean:	-0.077	-0.077	-0.0001			
SD :	0.0058	0.0058	0.0001			
%RSD:	7.5	7.5	39.2466			

QC value within specified limits.

==========

Element: Hg Seq. No.: 12 AS Loc.: 12 Date: 01/07/2010
Sample ID: 1202006434|i||937632|MB

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.015	0.015	0.0007	0.0041	10:37:24	No
2	0.012	0.012	0.0007	0.0041	10:37:59	No
Mean:	0.014	0.014	0.0007			
SD :	0.0017	0.0017	0.0000			
%RSD:	12.2	12.2	2.1895			

==========

Element: Hg Seq. No.: 13 AS Loc.: 13 Date: 01/07/2010
Sample ID: 1202006439|i|10||LCS

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	2.964	2.964	0.0273	0.0307	10:39:23	No
2	3.060	3.060	0.0281	0.0315	10:39:58	No
Mean:	3.012	3.012	0.0277			
SD :	0.0677	0.0677	0.0006			
%RSD:	2.2	2.2	2.2031			

==========

Element: Hg Seq. No.: 14 AS Loc.: 14 Date: 01/07/2010
Sample ID: 243385001|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.280	0.280	0.0031	0.0065	10:41:24	No
2	0.269	0.269	0.0030	0.0064	10:41:59	No
Mean:	0.274	0.274	0.0030			
SD :	0.0081	0.0081	0.0001			
%RSD:	2.9	2.9	2.3995			

==========

Element: Hg Seq. No.: 15 AS Loc.: 15 Date: 01/07/2010
Sample ID: 1202006435|i|||DUP

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.226	0.226	0.0026	0.0060	10:43:26	No
2	0.205	0.205	0.0024	0.0058	10:44:01	No
Mean:	0.215	0.215	0.0025			
SD :	0.0149	0.0149	0.0001			
%RSD:	6.9	6.9	5.3799			

Element: Hg Seq. No.: 16 AS Loc.: 16 Date: 01/07/2010
Sample ID: 1202006437|i|||MS

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	2.399	2.399	0.0222	0.0256	10:45:29	No
2	2.395	2.395	0.0221	0.0256	10:46:03	No
Mean:	2.397	2.397	0.0222			
SD :	0.0026	0.0026	0.0000			
%RSD:	0.1	0.1	0.1041			

Element: Hg Seq. No.: 17 AS Loc.: 17 Date: 01/07/2010
Sample ID: 1202006438|i|||MSD

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	2.490	2.490	0.0230	0.0264	10:47:27	No
2	2.420	2.420	0.0224	0.0258	10:48:02	No
Mean:	2.455	2.455	0.0227			
SD :	0.0495	0.0495	0.0004			
%RSD:	2.0	2.0	1.9666			

Element: Hg Seq. No.: 18 AS Loc.: 18 Date: 01/07/2010
Sample ID: 1202006436|i|5||SDILT

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.137	-0.137	-0.0007	0.0027	10:49:23	No
2	-0.124	-0.124	-0.0006	0.0029	10:49:58	No
Mean:	-0.131	-0.131	-0.0006			
SD :	0.0094	0.0094	0.0001			
%RSD:	7.2	7.2	13.8190			

Element: Hg Seq. No.: 19 AS Loc.: 19 Date: 01/07/2010
Sample ID: 243385002|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.250	0.250	0.0028	0.0062	10:51:19	No
2	0.239	0.239	0.0027	0.0061	10:51:53	No
Mean:	0.245	0.245	0.0028			
SD :	0.0077	0.0077	0.0001			
%RSD:	3.1	3.1	2.5113			

Element: Hg Seq. No.: 20 AS Loc.: 20 Date: 01/07/2010
Sample ID: 243385003|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.458	0.458	0.0047	0.0081	10:53:15	No
2	0.436	0.436	0.0045	0.0079	10:53:50	No
Mean:	0.447	0.447	0.0046			
SD :	0.0156	0.0156	0.0001			

%RSD: 3.5 3.5 3.0607

==========

Element: Hg Seq. No.: 21 AS Loc.: 21 Date: 01/07/2010
Sample ID: 243385004|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.513	0.513	0.0052	0.0086	10:55:13	No
2	0.349	0.349	0.0037	0.0071	10:55:48	No
Mean:	0.431	0.431	0.0044			
SD :	0.1163	0.1163	0.0010			
%RSD:	27.0	27.0	23.5798			

==========

Element: Hg Seq. No.: 22 AS Loc.: 7 Date: 01/07/2010
Sample ID: CCV

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	5.266	5.266	0.0480	0.0514	10:57:12	No
2	5.299	5.299	0.0483	0.0517	10:57:47	No
Mean:	5.283	5.283	0.0481			
SD :	0.0232	0.0232	0.0002			
%RSD:	0.4	0.4	0.4345			

QC value within specified limits.

==========

Element: Hg Seq. No.: 23 AS Loc.: 8 Date: 01/07/2010
Sample ID: CCB

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.121	-0.121	-0.0005	0.0029	10:59:14	No
2	-0.118	-0.118	-0.0005	0.0029	10:59:49	No
Mean:	-0.119	-0.119	-0.0005			
SD :	0.0023	0.0023	0.0000			
%RSD:	1.9	1.9	4.0037			

QC value within specified limits.

==========

Element: Hg Seq. No.: 24 AS Loc.: 22 Date: 01/07/2010
Sample ID: 243385005|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.496	0.496	0.0050	0.0084	11:01:14	No
2	0.355	0.355	0.0038	0.0072	11:01:49	No
Mean:	0.425	0.425	0.0044			
SD :	0.0993	0.0993	0.0009			
%RSD:	23.4	23.4	20.3771			

==========

Element: Hg Seq. No.: 25 AS Loc.: 23 Date: 01/07/2010
Sample ID: 243385006|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.297	0.297	0.0032	0.0067	11:03:12	No
2	0.239	0.239	0.0027	0.0061	11:03:47	No
Mean:	0.268	0.268	0.0030			
SD :	0.0412	0.0412	0.0004			
%RSD:	15.4	15.4	12.4851			

==========

Element: Hg Seq. No.: 26 AS Loc.: 24 Date: 01/07/2010
Sample ID: 243385007|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.471	0.471	0.0048	0.0082	11:05:12	No
2	0.466	0.466	0.0048	0.0082	11:05:47	No
Mean:	0.468	0.468	0.0048			
SD :	0.0034	0.0034	0.0000			
%RSD:	0.7	0.7	0.6406			

Element: Hg Seq. No.: 27 AS Loc.: 25 Date: 01/07/2010
Sample ID: 243385008|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.264	0.264	0.0029	0.0064	11:07:11	No
2	0.247	0.247	0.0028	0.0062	11:07:46	No
Mean:	0.255	0.255	0.0029			
SD :	0.0119	0.0119	0.0001			
%RSD:	4.7	4.7	3.7399			

Element: Hg Seq. No.: 28 AS Loc.: 26 Date: 01/07/2010
Sample ID: 243385009|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.169	0.169	0.0021	0.0055	11:09:11	No
2	0.186	0.186	0.0022	0.0057	11:09:46	No
Mean:	0.178	0.178	0.0022			
SD :	0.0115	0.0115	0.0001			
%RSD:	6.5	6.5	4.8151			

Element: Hg Seq. No.: 29 AS Loc.: 27 Date: 01/07/2010
Sample ID: 243385010|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.165	0.165	0.0020	0.0055	11:11:10	No
2	0.177	0.177	0.0022	0.0056	11:11:45	No
Mean:	0.171	0.171	0.0021			
SD :	0.0085	0.0085	0.0001			
%RSD:	5.0	5.0	3.6475			

Element: Hg Seq. No.: 30 AS Loc.: 28 Date: 01/07/2010
Sample ID: 243385011|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.320	0.320	0.0034	0.0069	11:13:10	No
2	0.291	0.291	0.0032	0.0066	11:13:45	No
Mean:	0.306	0.306	0.0033			
SD :	0.0207	0.0207	0.0002			
%RSD:	6.8	6.8	5.6384			

Element: Hg Seq. No.: 31 AS Loc.: 29 Date: 01/07/2010
Sample ID: 1202006448|i||937638|MB

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.041	-0.041	0.0002	0.0036	11:15:11	No
2	-0.048	-0.048	0.0001	0.0035	11:15:46	No
Mean:	-0.045	-0.045	0.0002			
SD :	0.0050	0.0050	0.0000			

%RSD: 11.1 11.1 28.9448

==========

Element: Hg Seq. No.: 32 AS Loc.: 30 Date: 01/07/2010
Sample ID: 1202006453|i|10||LCS

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	4.321	4.321	0.0395	0.0429	11:17:13	No
2	4.436	4.436	0.0405	0.0439	11:17:49	No
Mean:	4.379	4.379	0.0400			
SD :	0.0814	0.0814	0.0007			
%RSD:	1.9	1.9	1.8329			

==========

Element: Hg Seq. No.: 33 AS Loc.: 31 Date: 01/07/2010
Sample ID: 243457001|i|||

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.216	0.216	0.0025	0.0059	11:19:16	No
2	0.194	0.194	0.0023	0.0057	11:19:51	No
Mean:	0.205	0.205	0.0024			
SD :	0.0157	0.0157	0.0001			
%RSD:	7.7	7.7	5.8916			

==========

Element: Hg Seq. No.: 34 AS Loc.: 7 Date: 01/07/2010
Sample ID: CCV

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	5.476	5.476	0.0499	0.0533	11:21:18	No
2	5.459	5.459	0.0497	0.0532	11:21:53	No
Mean:	5.468	5.468	0.0498			
SD :	0.0118	0.0118	0.0001			
%RSD:	0.2	0.2	0.2141			

QC value within specified limits.

==========

Element: Hg Seq. No.: 35 AS Loc.: 8 Date: 01/07/2010
Sample ID: CCB

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	-0.150	-0.150	-0.0008	0.0026	11:23:21	No
2	-0.146	-0.146	-0.0008	0.0027	11:23:56	No
Mean:	-0.148	-0.148	-0.0008			
SD :	0.0031	0.0031	0.0000			
%RSD:	2.1	2.1	3.6014			

QC value within specified limits.

==========

Element: Hg Seq. No.: 36 AS Loc.: 32 Date: 01/07/2010
Sample ID: 1202006449|i|||DUP

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Peak Height	Time	Peak Stored
1	0.188	0.188	0.0023	0.0057	11:25:20	No
2	0.160	0.160	0.0020	0.0054	11:25:55	No
Mean:	0.174	0.174	0.0021			
SD :	0.0196	0.0196	0.0002			
%RSD:	11.2	11.2	8.2869			

==========

Element: Hg Seq. No.: 37 AS Loc.: 33 Date: 01/07/2010
Sample ID: 1202006451|i|||MS

Miscellaneous

Prep LogBook

Analyst: AXG2 Verified by:_____

Batch: 936479

Lab SOP: GL-MA-E-009 REV# 19

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202003765	UI062540-I	.518	g
MS	1202003767	UI091124-01	.25	mL
MS	1202003767	UI091124-06	.25	mL
MSD	1202003769	UI091124-01	.25	mL
MSD	1202003769	UI091124-06	.25	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202003764		SW846 3050B	29-DEC-2009 07:00	0.513 g	50 mL	97.46589	SOIL
LCS	1202003765		SW846 3050B	29-DEC-2009 07:00	0.518 g	50 mL	96.5251	SOIL
SAMPLE	243385001		SW846 3050B	29-DEC-2009 07:00	0.522 g	50 mL	95.78544	SOIL
DUP	1202003766	243385001	SW846 3050B	29-DEC-2009 07:00	0.511 g	50 mL	97.84736	SOIL
MS	1202003767	243385001	SW846 3050B	29-DEC-2009 07:00	0.504 g	50 mL	99.20635	SOIL
MSD	1202003769	243385001	SW846 3050B	29-DEC-2009 07:00	0.503 g	50 mL	99.40358	SOIL
SDILT	1202003768	243385001	SW846 3050B	29-DEC-2009 07:00	0.522 g	50 mL	95.78544	SOIL
SAMPLE	243385002		SW846 3050B	29-DEC-2009 07:00	0.514 g	50 mL	97.27626	SOIL
SAMPLE	243385003		SW846 3050B	29-DEC-2009 07:00	0.509 g	50 mL	98.23183	SOIL
SAMPLE	243385004		SW846 3050B	29-DEC-2009 07:00	0.51 g	50 mL	98.03922	SOIL
SAMPLE	243385005		SW846 3050B	29-DEC-2009 07:00	0.514 g	50 mL	97.27626	SOIL
SAMPLE	243385006		SW846 3050B	29-DEC-2009 07:00	0.538 g	50 mL	92.9368	SOIL
SAMPLE	243385007		SW846 3050B	29-DEC-2009 07:00	0.52 g	50 mL	96.15385	SOIL
SAMPLE	243385008		SW846 3050B	29-DEC-2009 07:00	0.504 g	50 mL	99.20635	SOIL
SAMPLE	243385009		SW846 3050B	29-DEC-2009 07:00	0.524 g	50 mL	95.41985	SOIL
SAMPLE	243385010		SW846 3050B	29-DEC-2009 07:00	0.504 g	50 mL	99.20635	SOIL
SAMPLE	243385011		SW846 3050B	29-DEC-2009 07:00	0.513 g	50 mL	97.46589	SOIL

Reagent/Solvent Lot ID	Amount	Description
1244970	10 mL	HYDROCHLORIC ACID
1234886	1.25 mL	Nitric Acid CONC.

Comments: Sample 243385001 consist of brown, moist soil with plant matter and other artifacts.

Prep LogBook

Analyst: AXG2 Verified by:_____

Batch: 936514

Lab SOP: GL-MA-E-009 REV# 19

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202003842	UI062540-MS	.511	g
MS	1202003844	UI091015-A	.5	mL
MS	1202003844	UI091015-B	.5	mL
MSD	1202003846	UI091015-A	.5	mL
MSD	1202003846	UI091015-B	.5	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202003841		SW846 3050B	29-DEC-2009 07:00	0.507 g	50 mL	98.61933	SOIL
LCS	1202003842		SW846 3050B	29-DEC-2009 07:00	0.511 g	50 mL	97.84736	SOIL
SAMPLE	243385001		SW846 3050B	29-DEC-2009 07:00	0.508 g	50 mL	98.4252	SOIL
DUP	1202003843	243385001	SW846 3050B	29-DEC-2009 07:00	0.511 g	50 mL	97.84736	SOIL
MS	1202003844	243385001	SW846 3050B	29-DEC-2009 07:00	0.513 g	50 mL	97.46589	SOIL
MSD	1202003846	243385001	SW846 3050B	29-DEC-2009 07:00	0.508 g	50 mL	98.4252	SOIL
SDILT	1202003845	243385001	SW846 3050B	29-DEC-2009 07:00	0.508 g	50 mL	98.4252	SOIL
SAMPLE	243385002		SW846 3050B	29-DEC-2009 07:00	0.505 g	50 mL	99.0099	SOIL
SAMPLE	243385003		SW846 3050B	29-DEC-2009 07:00	0.511 g	50 mL	97.84736	SOIL
SAMPLE	243385004		SW846 3050B	29-DEC-2009 07:00	0.519 g	50 mL	96.33911	SOIL
SAMPLE	243385005		SW846 3050B	29-DEC-2009 07:00	0.511 g	50 mL	97.84736	SOIL
SAMPLE	243385006		SW846 3050B	29-DEC-2009 07:00	0.532 g	50 mL	93.98496	SOIL
SAMPLE	243385007		SW846 3050B	29-DEC-2009 07:00	0.507 g	50 mL	98.61933	SOIL
SAMPLE	243385008		SW846 3050B	29-DEC-2009 07:00	0.505 g	50 mL	99.0099	SOIL
SAMPLE	243385009		SW846 3050B	29-DEC-2009 07:00	0.519 g	50 mL	96.33911	SOIL
SAMPLE	243385010		SW846 3050B	29-DEC-2009 07:00	0.501 g	50 mL	99.8004	SOIL
SAMPLE	243385011		SW846 3050B	29-DEC-2009 07:00	0.508 g	50 mL	98.4252	SOIL

Reagent/Solvent Lot ID	Amount	Description
1203655-02	1.5 mL	Hydrogen Peroxide 30%
1234886	5 mL	Nitric Acid CONC.

Comments: Sample 243385001 consist of brown, moist soil with plant matter and other artifacts.

Prep LogBook

Analyst: TXB3 Verified by:_____

Batch: 937631

Lab SOP: GL-MA-E-010 REV# 23

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202006439	UI031809A	.202	g
MS	1202006437	WHG100106-14	.3	mL
MSD	1202006438	WHG100106-14	.3	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202006434		SW846 7471A Prep	06-JAN-2010 13:05	0.54 g	30 mL	55.55556	SOIL
LCS	1202006439		SW846 7471A Prep	06-JAN-2010 13:05	0.202 g	30 mL	148.51485	SOIL
SAMPLE	243385001		SW846 7471A Prep	06-JAN-2010 13:05	0.527 g	30 mL	56.926	SOIL
DUP	1202006435	243385001	SW846 7471A Prep	06-JAN-2010 13:05	0.501 g	30 mL	59.88024	SOIL
SDILT	1202006436	243385001	SW846 7471A Prep	06-JAN-2010 13:05	0.527 g	30 mL	56.926	SOIL
MS	1202006437	243385001	SW846 7471A Prep	06-JAN-2010 13:05	0.563 g	30 mL	53.28597	SOIL
MSD	1202006438	243385001	SW846 7471A Prep	06-JAN-2010 13:05	0.595 g	30 mL	50.42017	SOIL
SAMPLE	243385002		SW846 7471A Prep	06-JAN-2010 13:05	0.509 g	30 mL	58.9391	SOIL
SAMPLE	243385003		SW846 7471A Prep	06-JAN-2010 13:05	0.591 g	30 mL	50.76142	SOIL
SAMPLE	243385004		SW846 7471A Prep	06-JAN-2010 13:05	0.55 g	30 mL	54.54545	SOIL
SAMPLE	243385005		SW846 7471A Prep	06-JAN-2010 13:05	0.514 g	30 mL	58.36576	SOIL
SAMPLE	243385006		SW846 7471A Prep	06-JAN-2010 13:05	0.571 g	30 mL	52.5394	SOIL
SAMPLE	243385007		SW846 7471A Prep	06-JAN-2010 13:05	0.598 g	30 mL	50.16722	SOIL
SAMPLE	243385008		SW846 7471A Prep	06-JAN-2010 13:05	0.5 g	30 mL	60	SOIL
SAMPLE	243385009		SW846 7471A Prep	06-JAN-2010 13:05	0.568 g	30 mL	52.8169	SOIL
SAMPLE	243385010		SW846 7471A Prep	06-JAN-2010 13:05	0.599 g	30 mL	50.08347	SOIL
SAMPLE	243385011		SW846 7471A Prep	06-JAN-2010 13:05	0.501 g	30 mL	59.88024	SOIL

Reagent/Solvent Lot ID	Amount	Description
1236355-A	1.125 mL	Hydrochloric Acid Conc.
1240182-1	.375 mL	NITRIC ACID
1244904-C	7.5 mL	5% KMnO4 solution
1206350-C	2 mL	Hg reducing agent
WHG100106-07	30 uL	Mercury Working Standard 1st Source CAL S 0.2/CRA
WHG100106-08	75 uL	Mercury Working Standard 1st Source CAL S 0.5
WHG100106-11	1.5 mL	Mercury Working 1st Source CAL S 10.0
WHG100106-09	300 uL	Mercury Working 1st Source CAL S 2.0
WHG100106-10	750 uL	Mercury Working 1st Source CAL S 5.0/CCV
WHG100106-12	750 uL	Mercury Working 2nd Source S 5.0/ICV

Comments: Sample 243385001 is a rocky brown soil.
Digestion Start Date: 06-JAN-10 13:05
Digestion End Date: 06-JAN-10 13:35

DATA EXCEPTION REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
12-JAN-10	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ICP	SW846 3050B/6010B	Solid	LANL
Batch ID:	**Sample Numbers:**		
936480	See Below		

Potentially affected work order(s)(SDG): 243385(10-1032)

Application Issues:

Failed Recovery for MS/PS

Failed Recovery for MSD/PSD

Specification and Requirements Exception Description:	DER Disposition:
1. Failed Recovery for MS/PS: QC · 1202003767MS 2. Failed Recovery for MSD/PSD: QC 1202003769MSD	1./2. The matrix spike and matrix spike duplicate recovery failed outside of the control limits for magnesium and potassium due to possible matrix interferences and/or non-homogeneity. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported.

Originator's Name:

Helen Camello 12-JAN-10

Data Validator/Group Leader:

Bryan Davis 14-JAN-10

Standard Logbook

Serial ID: UHG1167639-01 **Opened:** 13-AUG-09 **Amount :** 125 mL
Name: MHGSTOCK1 **Received:** 13-AUG-09 **Catalog Number :** PLHG4-2Y
Type: Source Material **Expires:** 13-AUG-10 **Lot Number :** 15-37HG
Employee: Bryan Davis **Solvent :** 10% HNO3
Supplier: Spex
Description: Mercury Source Standard #1 1,000 mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	1000 mg/L		

Serial ID: UHG1167641-02 **Opened:** 13-AUG-09 **Amount :** 100 mL
Name: MHGSTOCK2 **Received:** 13-AUG-09 **Catalog Number :** AHG1KN-100
Type: Source Material **Expires:** 13-AUG-10 **Lot Number :** 4905530
Employee: Bryan Davis **Solvent :** 3% HNO3
Supplier: Ricca Chemical Company
Description: Mercury Source Standard #2 1,000 mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	999.7 mg/L		

Serial ID: UI031809A **Opened:** 18-MAR-09 **Catalog Number :** 540
Name: METALSOILSRM **Received:** 18-MAR-09 **Lot Number :** D061-540
Type: Source Material **Expires:** 10-OCT-10
Employee: Jamie Johnson
Supplier: ERA
Description: Metals LCS Soil SRM
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	10600 mg/kg	Antimony	126 mg/kg
Arsenic	225 mg/kg	Barium	565 mg/kg
Beryllium	162 mg/kg	Boron	107 mg/kg
Cadmium	69.1 mg/kg	Calcium	10000 mg/kg
Chromium	124 mg/kg	Cobalt	115 mg/kg
Copper	66.7 mg/kg	Iron	17600 mg/kg
Lead	223 mg/kg	Magnesium	4260 mg/kg
Manganese	368 mg/kg	Mercury	5.15 mg/kg
Molybdenum	107 mg/kg	Nickel	172 mg/kg
Potassium	4090 mg/kg	Selenium	147 mg/kg
Silver	35.2 mg/kg	Sodium	538 mg/kg
Strontium	117 mg/kg	Thallium	173 mg/kg
Tin	164 mg/kg	Titanium	381 mg/kg
Vanadium	93.9 mg/kg	Zinc	349 mg/kg

Standard Logbook

Serial ID: UI062540-I **Opened:** 12-JUN-09 **Amount :** 80 g
Name: ICP SOIL SRM **Received:** 12-JUN-09 **Lot Number :** D062-540
Type: Source Material **Expires:** 31-JAN-12
Employee: Bryan Davis
Supplier: ERA
Description: Metals Soil LCS SRM ICP/Hg
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	10500 mg/kg	Antimony	173 mg/kg
Arsenic	104 mg/kg	Barium	198 mg/kg
Beryllium	77.6 mg/kg	Boron	141 mg/kg
Cadmium	60.7 mg/kg	Calcium	9870 mg/kg
Chromium	236 mg/kg	Cobalt	91.2 mg/kg
Copper	174 mg/kg	Iron	18000 mg/kg
Lead	86 mg/kg	Magnesium	4000 mg/kg
Manganese	558 mg/kg	Mercury	8.46 mg/kg
Molybdenum	48.6 mg/kg	Nickel	134 mg/kg
Phosphorous	736 mg/kg	Potassium	4300 mg/kg
Selenium	286 mg/kg	Silica	2591 mg/kg
Silicon	1211 mg/kg	Silver	30.1 mg/kg
Sodium	1020 mg/kg	Strontium	227 mg/kg
Sulfur	385 mg/kg	Thallium	121 mg/kg
Tin	104 mg/kg	Titanium	462 mg/kg
Vanadium	115 mg/kg	Zinc	594 mg/kg

Serial ID: UI062540-MS **Opened:** 12-JUN-09 **Lot Number :** D062-540
Name: ICPMS SOIL SRM **Received:** 12-JUN-09
Type: Source Material **Expires:** 31-JAN-12
Employee: Bryan Davis
Supplier: ERA
Description: Metals Soil LCS SRM ICPMS
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	10500 mg/kg	Antimony	67.4 mg/kg
Arsenic	104 mg/kg	Barium	198 mg/kg
Beryllium	77.6 mg/kg	Boron	141 mg/kg
Cadmium	60.6 mg/kg	Calcium	9870 mg/kg
Chromium	236 mg/kg	Cobalt	91.2 mg/kg
Copper	174 mg/kg	Iron	18000 mg/kg
Lead	86 mg/kg	Lithium	10.6 mg/kg
Magnesium	4000 mg/kg	Manganese	558 mg/kg
Mercury	8.46 mg/kg	Molybdenum	48.6 mg/kg
Nickel	134 mg/kg	Phosphorous	755 mg/kg
Potassium	4300 mg/kg	Selenium	286 mg/kg
Silver	30.1 mg/kg	Sodium	1020 mg/kg

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Strontium	227 mg/kg	Thallium	121 mg/kg
Thorium	9.84 mg/kg	Tin	104 mg/kg
Titanium	462 mg/kg	Uranium	2.13 mg/kg
Uranium-235	.0153 mg/kg	Uranium-238	2.11 mg/kg
Vanadium	92.4 mg/kg	Zinc	594 mg/kg
Zirconium	10.6 mg/kg		

Serial ID: UI090422-40 **Opened:** 04-MAY-09 **Amount :** 500 mL
Name: TRACE ICP ICSA SOLN A **Received:** 22-APR-09 **Catalog Number :** 160005-01-03
Type: Source Material **Expires:** 04-MAY-10 **Lot Number :** 1013357
Employee: Helen Camello **Solvent :** 5%HNO3
Supplier: o2si
Description: TRACE ICP ICSA SOLN A mg/L+/-0.5%IN5%HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Calcium	5000 mg/L
Iron	2000 mg/L	Magnesium	5000 mg/L

Serial ID: UI090610-03 **Opened:** 10-JUN-09 **Catalog Number :** 060074-06-01
Name: ICPMS Tungsten - 10mg/L S **Received:** 10-JUN-09 **Lot Number :** 1016338
Type: Source Material **Expires:** 10-JUN-10 **Solvent :** 2% HNO3
Employee: Paul Boyd
Supplier: O2SI
Description: ICPMS Tungsten standard SPIKE - 10mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Tungsten	10 mg/L		

Serial ID: UI090701-09 **Opened:** 01-JUL-09 **Amount :** 250 mL
Name: ICP-MS CRDL Master #1 **Received:** 01-JUL-09 **Catalog Number :** 160044-09-02
Type: Source Material **Expires:** 01-JUL-10 **Lot Number :** 1016477
Employee: Paul Boyd **Solvent :** +/- 0.5% IN 2% HNO3
Supplier: 02SI
Description: ICPMS CRDL Master Soln #1
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	15 mg/L	Arsenic	5 mg/L
Barium	2 mg/L	Beryllium	.5 mg/L
Boron	15 mg/L	Cadmium	1 mg/L
Calcium	100 mg/L	Chromium	3 mg/L
Cobalt	1 mg/L	Copper	1 mg/L

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Iron	25 mg/L	Lead	2 mg/L
Lithium	10 mg/L	Magnesium	15 mg/L
Manganese	5 mg/L	Nickel	2 mg/L
Phosphorous	50 mg/L	Potassium	300 mg/L
Selenium	5 mg/L	Sodium	250 mg/L
Strontium	10 mg/L	Thallium	1 mg/L
Thorium	1 mg/L	Uranium	.2 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

Serial ID: UI090701-10 **Opened:** 01-JUL-09 **Amount :** 250 mL
Name: ICP-MS CRDL Master #2 **Received:** 01-JUL-09 **Catalog Number :** 160044-08-02
Type: Source Material **Expires:** 01-JUL-10 **Lot Number :** 1016476
Employee: Paul Boyd **Solvent :** +/- 0.5% IN 2% HNO3
Supplier: 02SI
Description: ICPMS CRDL Soln #2
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Molybdenum	.5 mg/L
Silver	1 mg/L	Tin	2 mg/L
Titanium	10 mg/L	Tungsten	5 mg/L
Zirconium	2 mg/L		

Serial ID: UI090701-40 **Opened:** 01-JUL-09 **Amount :** 500 mL
Name: TRACE ICP Stock PQL St **Received:** 30-JUN-09 **Catalog Number :** 160543-01-03
Type: Source Material **Expires:** 01-JUL-10 **Lot Number :** 1016475
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3+TrHF
Supplier: 02si
Description: TRACE ICP Stock PQL Standard
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	100 mg/L	Antimony	5 mg/L
Arsenic	15 mg/L	Barium	2.5 mg/L
Beryllium	2.5 mg/L	Boron	25 mg/L
Cadmium	2.5 mg/L	Calcium	100 mg/L
Chromium	2.5 mg/L	Cobalt	2.5 mg/L
Copper	5 mg/L	Iron	50 mg/L
Lead	5 mg/L	Magnesium	150 mg/L
Manganese	5 mg/L	Molybdenum	5 mg/L
Nickel	2.5 mg/L	Phosphorous	75 mg/L
Potassium	75 mg/L	Selenium	15 mg/L
Silicon	50 mg/L	Silver	2.5 mg/L
Sodium	150 mg/L	Strontium	2.5 mg/L
Sulfur	50 mg/L	Thallium	10 mg/L

Analyte	Concentration	Analyte	Concentration
Tin	5 mg/L	Titanium	2.5 mg/L
Uranium	25 mg/L	Vanadium	2.5 mg/L
Zinc	5 mg/L		

Serial ID: UI090828-42 **Opened:** 16-SEP-09 **Amount :** 500 mL
Name: TRACE ICP Na-1000SOUR **Received:** 27-AUG-09 **Catalog Number :** 060011-02-03
Type: Source Material **Expires:** 16-SEP-10 **Lot Number :** 1017098
Employee: Helen Camello **Solvent :** 1%HNO3
Supplier: 02SI
Description: Sodium 1000 +/- 3 ug/mL in 1% HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

Serial ID: UI090925-40 **Opened:** 23-OCT-09 **Amount :** 500 mL
Name: SECOND SOURCE STD -1 **Received:** 25-SEP-09 **Catalog Number :** SGELMX38-500N
Type: Source Material **Expires:** 30-SEP-10 **Lot Number :** 4909129
Employee: Helen Camello **Solvent :** 5%HNO3
Supplier: SPECTRO PURE
Description: SECOND SOURCE STD #1A 5%HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Arsenic	100 mg/L
Barium	100 mg/L	Boron	100 mg/L
Cadmium	100 mg/L	Calcium	1000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	1000 mg/L
Lead	100 mg/L	Phosphorous	500 mg/L
Potassium	500 mg/L	Selenium	500 mg/L
Sodium	500 mg/L	Strontium	100 mg/L

Serial ID: UI090925-41 **Opened:** 23-OCT-09 **Amount :** 500 mL
Name: SECOND SOURCE STD -1 **Received:** 25-SEP-09 **Catalog Number :** SGELMX39-500B
Type: Source Material **Expires:** 30-SEP-10 **Lot Number :** 4909130
Employee: Helen Camello **Solvent :** 5%HNO3,TR.HF
Supplier: SPECTRO PURE
Description: SECOND SOURCE STD #1B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 mg/L	Beryllium	50 mg/L
Magnesium	1000 mg/L	Manganese	100 mg/L

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Molybdenum	100 mg/L	Nickel	100 mg/L
Silver	50 mg/L	Sulfur	500 mg/L
Thallium	100 mg/L	Tin	100 mg/L
Titanium	100 mg/L	Uranium	100 mg/L
Vanadium	100 mg/L	Zinc	100 mg/L

Serial ID: UI091015-42 **Opened:** 28-OCT-09 **Amount :** 500 mL
Name: SI 1000mg/L **Received:** 15-OCT-09 **Catalog Number :** 060014-02-03
Type: Source Material **Expires:** 28-OCT-10 **Lot Number :** 1017581
Employee: Helen Camello **Solvent :** 0.3%H2O(NH4)2SiF6
Supplier: o2si
Description: Silicon 1000mg/L+/-0.3%in H2O(NH4)2SiF6
Comments: None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

Serial ID: UI091015-A **Opened:** 15-OCT-09 **Catalog Number :** 160067-03
Name: ICP-MS DOE SOIL SPIKE **Received:** 15-OCT-09 **Lot Number :** 1017142
Type: Source Material **Expires:** 15-OCT-10
Employee: Francena Armstrong
Supplier: 02si
Description: ICP-MS Spike for soil products.
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	8 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Boron	10 mg/L	Cadmium	1 mg/L
Calcium	200 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	20 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L
Phosphorus, Total as P	200 mg/L	Potassium	200 mg/L
Selenium	2 mg/L	Sodium	200 mg/L
Strontium	5 mg/L	Thallium	10 mg/L
Thorium	5 mg/L	Uranium	5 mg/L
Uranium-235	.036 mg/L	Uranium-238	4.964 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

Standard Logbook

Serial ID: UI091015-B **Opened:** 15-OCT-09 **Catalog Number :** 160067-03
Name: ICP-MS DOE SOIL SPIKE **Received:** 15-OCT-09 **Lot Number :** 1017142
Type: Source Material **Expires:** 15-OCT-10
Employee: Francena Armstrong
Supplier: 02si
Description: ICP-MS Spike for Soil Products
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	5 mg/L
Silicon	200 mg/L	Silver	5 mg/L
Tin	5 mg/L	Zirconium	5 mg/L

Serial ID: UI091102-40 **Opened:** 16-NOV-09 **Amount :** 500 mL
Name: TRACE CALSTD#1A SOUF **Received:** 02-NOV-09 **Catalog Number :** HP2270-1-500
Type: Source Material **Expires:** 31-OCT-10 **Lot Number :** 0930215
Employee: Helen Camello **Solvent :** HNO3
Supplier: Environmental Express
Description: Trace Calibration Std #1A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	2000 mg/L	Arsenic	200 mg/L
Barium	200 mg/L	Beryllium	200 mg/L
Boron	200 mg/L	Cadmium	200 mg/L
Calcium	2000 mg/L	Chromium	200 mg/L
Cobalt	200 mg/L	Copper	200 mg/L
Iron	2000 mg/L	Lead	200 mg/L
Magnesium	2000 mg/L	Manganese	200 mg/L
Nickel	200 mg/L	Phosphorous	1000 mg/L
Potassium	2000 mg/L	Selenium	200 mg/L
Sodium	2000 mg/L	Strontium	200 mg/L
Thallium	200 mg/L	Uranium	200 mg/L
Vanadium	200 mg/L	Zinc	200 mg/L

Serial ID: UI091102-41 **Opened:** 16-NOV-09 **Amount :** 500 mL
Name: TRACE CALSTD#1B SOUF **Received:** 02-NOV-09 **Catalog Number :** HP2270-2-500
Type: Source Material **Expires:** 31-OCT-10 **Lot Number :** 0930216
Employee: Helen Camello **Solvent :** HNO3
Supplier: Environmental Express
Description: Trace Calibration Standard #1B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	200 mg/L	Molybdenum	200 mg/L
Silver	200 mg/L	Sulfur	400 mg/L

Analyte	Concentration	Analyte	Concentration
Tin	200 mg/L	Titanium	200 mg/L

Serial ID: UI091102-42 **Opened:** 17-NOV-09 **Amount :** 200 mL
Name: SILICON **Received:** 02-NOV-09 **Catalog Number :** HP100050-4F
Type: Source Material **Expires:** 17-NOV-10 **Lot Number :** 0921924
Employee: Helen Carnello **Solvent :** H20/tr HF
Supplier: ENVIRNMENTAL EXPRESS
Description: SILICON 1000mg/L H20/tr HF
Comments: None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

Serial ID: UI091124-01 **Opened:** 24-NOV-09 **Lot Number :** 1017642
Name: METALSPIKE-1 **Received:** 24-NOV-09
Type: Source Material **Expires:** 24-NOV-10
Employee: Francena Armstrong
Supplier: OS2I
Description: Metals Spike Mix I
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 ug/mL	Arsenic	100 ug/mL
Barium	100 ug/mL	Beryllium	100 ug/mL
Boron	100 ug/mL	Cadmium	100 ug/mL
Calcium	1000 ug/mL	Cobalt	100 ug/mL
Iron	1000 ug/mL	Lead	100 ug/mL
Magnesium	1000 ug/mL	Phosphorous	100 ug/mL
Potassium	1000 ug/mL	Silver	100 ug/mL
Sodium	1000 ug/mL	Strontium	100 ug/mL

Serial ID: UI091124-06 **Opened:** 24-NOV-09 **Lot Number :** 1017643
Name: METALSPIKE-2 **Received:** 24-NOV-09
Type: Source Material **Expires:** 24-NOV-10
Employee: Francena Armstrong
Supplier: OS2I
Description: Metals Spike Mix II
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 ug/mL	Chromium	100 ug/mL
Copper	100 ug/mL	Manganese	100 ug/mL
Molybdenum	100 ug/mL	Nickel	100 ug/mL
Selenium	100 ug/mL	Silica	2141 ug/mL

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Silicon	1000 ug/mL	Sulfur	1000 ug/mL
Thallium	100 ug/mL	Tin	100 ug/mL
Titanium	100 ug/mL	Uranium	100 ug/mL
Vanadium	100 ug/mL	Zinc	100 ug/mL

Serial ID: UI091212-11 **Opened:** 12-DEC-09 **Amount :** 1000 mL
Name: ICP-MS ICSA Master A **Received:** 12-DEC-09 **Catalog Number :** 160013-01-01L
Type: Source Material **Expires:** 12-DEC-10 **Lot Number :** 1015303
Employee: Paul Boyd **Solvent :** 2% HNO3
Supplier: 02SI
Description: ICP-MS ICSA Master A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

Serial ID: UI091212-60 **Opened:** 12-DEC-09 **Amount :** .5 mL
Name: ICPMS High Range Standa **Received:** 12-DEC-09 **Catalog Number :** 160212-02-01
Type: Source Material **Expires:** 12-DEC-10 **Lot Number :** 1018064
Employee: Paul Boyd **Solvent :** 2%HNO3 + Tr HF
Supplier: O2SI
Description: Linear Range Standard A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Arsenic	100 mg/L
Barium	250 mg/L	Beryllium	100 mg/L
Cadmium	100 mg/L	Calcium	5000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	5000 mg/L
Lead	500 mg/L	Lithium	100 mg/L
Magnesium	5000 mg/L	Manganese	100 mg/L
Nickel	100 mg/L	Phosphorous	2500 mg/L
Potassium	5000 mg/L	Selenium	50 mg/L
Sodium	5000 mg/L	Strontium	100 mg/L
Thallium	50 mg/L	Thorium	250 mg/L
Uranium	500 mg/L	Vanadium	100 mg/L
Zinc	250 mg/L		

Standard Logbook

Serial ID: UI091212-61 **Opened:** 12-DEC-09 **Amount :** .5 mL
Name: ICPMS High Range Standa **Received:** 12-DEC-09 **Catalog Number :** 160212-02-01
Type: Source Material **Expires:** 12-DEC-10 **Lot Number :** 1018064
Employee: Paul Boyd **Solvent :** 2%HNO3 + Tr HF
Supplier: O2SI
Description: Linear Range Standard B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	25 mg/L	Molybdenum	100 mg/L
Silver	25 mg/L	Tin	100 mg/L
Tungsten	100 mg/L	Zirconium	50 mg/L

Serial ID: UI091215-48 **Opened:** 04-JAN-10 **Amount :** 1000 mL
Name: Trace ICP ICSA **Received:** 18-DEC-09 **Catalog Number :** 160005-02
Type: Source Material **Expires:** 04-JAN-11 **Lot Number :** 1018219
Employee: Helen Camello **Solvent :** 3% HCl + 1% HNO3
Supplier: o2si
Description: Trace ICP Interferent Check Standard A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 UG/L	Calcium	500000 UG/L
Iron	200000 UG/L	Magnesium	500000 UG/L

Serial ID: UI091217-06 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master A **Received:** 17-DEC-09 **Catalog Number :** 160055-01
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018209
Employee: Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV SOLN A - 10ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	2020 mg/L	Calcium	2000 mg/L
Iron	2000 mg/L	Magnesium	2000 mg/L
Phosphorous	2000 mg/L	Potassium	2000 mg/L
Sodium	2000 mg/L		

Serial ID: UI091217-07 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master B **Received:** 17-DEC-09 **Catalog Number :** 160054-02
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018210
Employee: Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV Soln B - 10ppm
Comments: None

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Arsenic	20 mg/L	Barium	20 mg/L
Beryllium	20 mg/L	Boron	40 mg/L
Cadmium	20 mg/L	Chromium	20 mg/L
Cobalt	20 mg/L	Copper	20 mg/L
Lead	20 mg/L	Lithium	20 mg/L
Manganese	20 mg/L	Nickel	20 mg/L
Selenium	20 mg/L	Strontium	20 mg/L
Thallium	20 mg/L	Thorium	20 mg/L
Uranium	20 mg/L	Vanadium	20 mg/L
Zinc	20 mg/L		

Serial ID: UI091217-08 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master C **Received:** 17-DEC-09 **Catalog Number :** 160054-03
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018211
Employee: Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV Soln C - 10ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	20 mg/L
Silver	20 mg/L	Tin	20 mg/L
Titanium	20 mg/L	Tungsten	20 mg/L
Zirconium	20 mg/L		

Serial ID: UI091217-12 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICSAB Master B **Received:** 17-DEC-09 **Catalog Number :** 160033-02
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018212
Employee: Paul Boyd **Solvent :** +/- 0.5% in 2% HNO3
Supplier: 02SI
Description: ICPMS ICSAB Master B
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	2 mg/L	Barium	2 mg/L
Beryllium	2 mg/L	Boron	2 mg/L
Cadmium	2 mg/L	Chromium	2 mg/L
Cobalt	2 mg/L	Copper	2 mg/L
Lead	2 mg/L	Lithium	2 mg/L
Manganese	2 mg/L	Nickel	2 mg/L
Selenium	2 mg/L	Strontium	2 mg/L
Thallium	2 mg/L	Thorium	2 mg/L
Uranium	2 mg/L	Vanadium	2 mg/L
Zinc	2 mg/L		

Standard Logbook

Serial ID: UI091217-13 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICSAB Master C **Received:** 17-DEC-09 **Catalog Number :** 160033-03
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1016926
Employee: Paul Boyd **Solvent :** +/- 0.5% in 2% HNO3
Supplier: 02SI
Description: ICPMS ICSAB Master C
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Silver	2 mg/L
Tin	2 mg/L	Tungsten	2 mg/L
Zirconium	2 mg/L		

Serial ID: UI091228-40 **Opened:** 28-DEC-09 **Amount :** 500 mL
Name: ICP HIGH RANGE STD-A **Received:** 21-DEC-09 **Catalog Number :** 160211-05-03
Type: Source Material **Expires:** 28-DEC-10 **Lot Number :** 1018160
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3
Supplier: 02SI
Description: ICP HIGH RANGE STD SOLUTION A
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	10000 ug/L	Arsenic	10000 ug/L
Barium	15000 ug/L	Beryllium	3000 ug/L
Boron	5000 ug/L	Cadmium	10000 ug/L
Chromium	25000 ug/L	Cobalt	10000 ug/L
Copper	20000 ug/L	Lead	25000 ug/L
Manganese	10000 ug/L	Molybdenum	10000 ug/L
Nickel	10000 ug/L	Phosphorous	15000 ug/L
Potassium	300000 ug/L	Selenium	10000 ug/L
Silica	107000 ug/L	Silicon	50000 ug/L
Silver	1000 ug/L	Strontium	10000 ug/L
Sulfur	50000 ug/L	Thallium	10000 ug/L
Tin	10000 ug/L	Titanium	10000 ug/L
Vanadium	10000 ug/L	Zinc	15000 ug/L

Serial ID: UI091228-41 **Opened:** 28-DEC-09 **Amount :** 500 mL
Name: ICP HIGH RANGE STD B **Received:** 21-DEC-09 **Catalog Number :** 160211-05-03
Type: Source Material **Expires:** 28-DEC-10 **Lot Number :** 1018160
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3
Supplier: 02SI
Description: ICP HIGH RANGE STD SOLUTION B
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 ug/L	Calcium	500000 ug/L

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Iron	500000 ug/L	Magnesium	500000 ug/L
Sodium	500000 ug/L	Uranium	15000 ug/L

Serial ID: UMS090303-01 **Opened:** 03-MAR-09 **Amount :** 250 mL
Name: ICPMSCalSPIKEB **Received:** 03-MAR-09 **Catalog Number :** ZGEL-100-250
Type: Source Material **Expires:** 28-FEB-10 **Lot Number :** 14-81JB
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution B
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	10 mg/L	Barium	10 mg/L
Beryllium	10 mg/L	Boron	20 mg/L
Cadmium	10 mg/L	Chromium	10 mg/L
Cobalt	10 mg/L	Copper	10 mg/L
Lead	10 mg/L	Lithium	10 mg/L
Manganese	10 mg/L	Nickel	10 mg/L
Selenium	10 mg/L	Silver	10 mg/L
Strontium	10 mg/L	Thallium	10 mg/L
Thorium	10 mg/L	Uranium	10 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

Serial ID: UMS090303-02 **Opened:** 03-MAR-09 **Catalog Number :** ZGEL-102-250
Name: ICPMSCalSPIKEA **Received:** 03-MAR-09 **Lot Number :** 14-83JB
Type: Source Material **Expires:** 28-FEB-10
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Phosphorous	1000 mg/L	Potassium	1000 mg/L
Sodium	1000 mg/L		

Serial ID: UMS090303-03 **Opened:** 03-MAR-09 **Amount :** 250 ml
Name: ICPMSCalSPIKEC **Received:** 03-MAR-09 **Catalog Number :** ZGEL-101-250
Type: Source Material **Expires:** 28-FEB-10 **Lot Number :** 15-199JB
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution C
Comments: None

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Antimony	10 mg/L	Molybdenum	10 mg/L
Tin	10 mg/L	Titanium	10 mg/L
Zirconium	10 mg/L		

Serial ID: IHG100106-01 **Opened:** 06-JAN-10 **Instrument Id :** Mercury
Name: MHGINTER1 **Received:** 06-JAN-10 **Pipet Id :** Minou1
Type: Intermediate **Expires:** 07-JAN-10 **Solvent :** 1mL HNO3 + Typel H2O
Employee: Tara Griffin
Supplier: GEL
Description: Mercury Intermediate 1st Source 200 ug/L
Comments: Prepare fresh daily

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: IHG100106-02 **Opened:** 06-JAN-10 **Pipet Id :** Minou1
Name: MHGINTER2 **Received:** 06-JAN-10 **Solvent :** 2% HNO3-1240182
Type: Intermediate **Expires:** 07-JAN-10
Employee: Tara Griffin
Supplier: GEL
Description: Mercury Intermediate 2nd Source 200 ug/L
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167641-02	Mercury	999.7 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: WHG100106-07 **Opened:** 06-JAN-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS0.2CRA **Received:** 06-JAN-10 **Solvent :** 2% HNO3-1240182
Type: Working **Expires:** 13-JAN-10
Employee: Tara Griffin
Supplier: GEL
Description: Mercury Working Standard 1st Source CAL S 0.2/CRA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100106-01	Mercury	200 ug/L	30 uL	30 mL	.2 ug/L

Serial ID: WHG100106-08 **Opened:** 06-JAN-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS0.5 **Received:** 06-JAN-10 **Solvent :** 2% HNO3-1240182
Type: Working **Expires:** 13-JAN-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working Standard 1st Source CAL S 0.5
Comments: None

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100106-01	Mercury	200 ug/L	75 uL	30 mL	.5 ug/L

Serial ID: WHG100106-09 **Opened:** 06-JAN-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS2.0 **Received:** 06-JAN-10 **Solvent :** 2% HNO3-1240182
Type: Working **Expires:** 13-JAN-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working 1st Source CAL S 2.0
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100106-01	Mercury	200 ug/L	300 uL	30 mL	2 ug/L

Serial ID: WHG100106-10 **Opened:** 06-JAN-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS5.0CCV **Received:** 06-JAN-10 **Solvent :** 2% HNO3-1240182
Type: Working **Expires:** 13-JAN-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working 1st Source CAL S 5.0/CCV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100106-01	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

Serial ID: WHG100106-11 **Opened:** 06-JAN-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS10.0 **Received:** 06-JAN-10 **Solvent :** 2% HNO3-1240182
Type: Working **Expires:** 13-JAN-10
Employee: Tara Griffin
Supplier: GEL
Description: Mercury Working 1st Source CAL S 10.0
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100106-01	Mercury	200 ug/L	1.5 mL	30 mL	10 ug/L

Serial ID: WHG100106-12 **Opened:** 06-JAN-10 **Pipet Id :** Hg1289245
Name: MHGWORKS5.0ICV **Received:** 06-JAN-10 **Solvent :** 2% HNO3-1240182
Type: Working **Expires:** 13-JAN-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working 2nd Source S 5.0/ICV
Comments: None

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100106-02	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

Serial ID: WHG100106-14 **Opened:** 06-JAN-10 **Pipet Id :** Hg1289245
Name: MHGSOILMSSPIKE **Received:** 06-JAN-10 **Solvent :** 2% HNO3-1240182
Type: Working **Expires:** 07-JAN-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury soil working intermediate standard for MS
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: WI100111-42 **Opened:** 11-JAN-10 **Balance Id :** 216
Name: TRACE ICP 0.1 PPM STD. **Received:** 02-NOV-09 **Pipet Id :** 1099667
Type: Working **Expires:** 12-JAN-10 **Solvent :** 3%HCL and 1%HNO3 -1253514
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP 0.1 PPM CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI100111-44	Aluminum	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100111-44	Antimony	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Arsenic	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Barium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Beryllium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Boron	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Cadmium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Calcium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100111-44	Chromium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Cobalt	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Copper	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Iron	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100111-44	Lead	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Magnesium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100111-44	Manganese	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Molybdenum	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Nickel	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Phosphorous	5000 ug/L	10 mL	100 mL	500 ug/L
WI100111-44	Potassium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100111-44	Selenium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Silica	10698 ug/L	10 mL	100 mL	1069 ug/L
WI100111-44	Silicon	5000 ug/L	10 mL	100 mL	500 ug/L
WI100111-44	Silver	1000 ug/L	10 mL	100 mL	100 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI100111-44	Sodium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100111-44	Strontium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Sulfur	2000 ug/L	10 mL	100 mL	200 ug/L
WI100111-44	Thallium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Tin	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Titanium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Uranium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Vanadium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100111-44	Zinc	1000 ug/L	10 mL	100 mL	100 ug/L

Serial ID: WI100111-43 **Opened:** 11-JAN-10 **Balance Id :** 216
Name: TRACE ICP 0.5/CCV STD. **Received:** 02-NOV-09 **Pipet Id :** 1099667
Type: Working **Expires:** 12-JAN-10 **Solvent :** 3%HCL and 1%HNO3 -1253514
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP 0.5/CCV CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090828-42	Sodium	1000 ug/mL	5 mL	1000 mL	5000 UG/L
UI091015-42	Silica	2139 mg/L	2.5 mL	1000 mL	5348.25 UG/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI091102-40	Aluminum	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Barium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Beryllium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Boron	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Chromium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Copper	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Iron	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Lead	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Manganese	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Nickel	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Selenium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Strontium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Thallium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Uranium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	1000 mL	500 UG/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091102-40	Zinc	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Antimony	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Silver	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	1000 mL	1000 UG/L
UI091102-41	Tin	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Titanium	200 mg/L	2.5 mL	1000 mL	500 UG/L

Serial ID: WI100111-44 **Opened:** 11-JAN-10 **Balance Id :** 216
Name: TRACE ICP SCAL 1.0 **Received:** 02-NOV-09 **Pipet Id :** 1099667
Type: Working **Expires:** 12-JAN-10 **Solvent :** 3%HCL and 1 %HNO3-1253514
Employee: Helen Camello
Supplier: o2si
Description: Trace ICP Calibration Standard 1.0ppm
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091015-42	Silica	2139 mg/L	2.5 mL	500 mL	10698 ug/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Aluminum	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Barium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Beryllium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Boron	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Chromium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Copper	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Iron	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Lead	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Manganese	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Nickel	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Selenium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Strontium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Thallium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Uranium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Zinc	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Antimony	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	500 mL	1000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091102-41	Silver	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	500 mL	2000 ug/L
UI091102-41	Tin	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Titanium	200 mg/L	2.5 mL	500 mL	1000 ug/L

Serial ID: WI100111-45 **Opened:** 11-JAN-10 **Balance Id :** 216
Name: TRACE ICP S-10 STD **Received:** 22-APR-09 **Pipet Id :** 1099667
Type: Working **Expires:** 12-JAN-10 **Solvent :** 3%HCL and 1%HNO3 -1253514
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP S-10 CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090422-40	Aluminum	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Calcium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Iron	2000 mg/L	5 mL	500 mL	20000 UG/L
UI090422-40	Magnesium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090828-42	Sodium	1000 ug/mL	10 mL	500 mL	20000 UG/L

Serial ID: WI100111-46 **Opened:** 11-JAN-10 **Balance Id :** 216
Name: ICP TRACE ICV **Received:** 25-SEP-09 **Pipet Id :** 1099667
Type: Working **Expires:** 12-JAN-10 **Solvent :** 3%HCL AND 1%HNO3-1253514
Employee: Helen Camello
Supplier: GEL
Description: Initial Calibration Verification ICP Trace Metals
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090925-40	Aluminum	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Arsenic	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Barium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Boron	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cadmium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Calcium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Chromium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cobalt	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Copper	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Iron	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Lead	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Phosphorous	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Potassium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Selenium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Sodium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Strontium	100 mg/L	2.5 mL	500 mL	500 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090925-41	Antimony	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Beryllium	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Magnesium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-41	Manganese	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Molybdenum	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Nickel	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Silver	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Sulfur	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-41	Thallium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Tin	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Titanium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Uranium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Vanadium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Zinc	100 mg/L	2.5 mL	500 mL	500 ug/L
UI091102-42	Silica	2139 mg/L	2.5 mL	500 mL	10695 ug/L
UI091102-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L

Serial ID: WI100111-47 **Opened:** 11-JAN-10 **Balance Id :** 216
Name: PQL Working Standard **Received:** 30-JUN-09 **Pipet Id :** 1099667
Type: Working **Expires:** 12-JAN-10 **Solvent :** 3%HCL &1%HNO3-1253514
Employee: Helen Camello
Supplier: 02si
Description: PQL Working Standard
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-40	Aluminum	100 mg/L	2 mL	1000 mL	200 ug/L
UI090701-40	Antimony	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Arsenic	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Barium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Beryllium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Boron	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Cadmium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Calcium	100 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Chromium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Cobalt	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Copper	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Iron	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Lead	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Magnesium	150 mg/L	2 mL	1000 mL	300 ug/L
UI090701-40	Manganese	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Molybdenum	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Nickel	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Phosphorous	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Potassium	75 mg/L	2 mL	1000 mL	150 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-40	Selenium	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Silicon	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Silver	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sodium	150 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Strontium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sulfur	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Thallium	10 mg/L	2 mL	1000 mL	20 ug/L
UI090701-40	Tin	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Titanium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Uranium	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Vanadium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Zinc	5 mg/L	2 mL	1000 mL	10 ug/L

Serial ID: WMS100107-04 **Opened:** 07-JAN-10 **Amount :** 50 mL
Name: ICPMS Cal Standard 100 **Received:** 07-JAN-10 **Balance Id :** 4025216
Type: Working **Expires:** 08-JAN-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl-1249336
Supplier: GEL
Description: ICPMS Calibration Standard (100 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

Serial ID: WMS100107-04A **Opened:** 07-JAN-10 **Balance Id :** 4025216
Name: ICPMS Cal Standard 10 **Received:** 07-JAN-10 **Pipet Id :** 3541598
Type: Working **Expires:** 08-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1249336
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS Calibration Standard (10 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100107-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100107-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100107-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100107-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100107-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100107-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100107-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100107-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100107-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100107-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100107-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100107-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

Serial ID: WMS100107-05 **Opened:** 07-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICV **Received:** 07-JAN-10 **Pipet Id :** 3541598
Type: Working **Expires:** 08-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1249336
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

Serial ID: WMS100107-06 **Opened:** 07-JAN-10 **Balance Id :** 40245216
Name: ICPMS CRDL **Received:** 07-JAN-10 **Pipet Id :** 3820544
Type: Working **Expires:** 08-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1249336
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS CRDL
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

Serial ID: WMS100107-07 **Opened:** 07-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSA **Received:** 07-JAN-10 **Lot Number :** 1010773
Type: Working **Expires:** 08-JAN-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl - 1249336
Supplier: GEL
Description: ICPMS ICSA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Serial ID: WMS100107-08 **Opened:** 07-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSAB **Received:** 07-JAN-10 **Pipet Id :** 1758088
Type: Working **Expires:** 08-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1249336
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICSAB
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L

Serial ID: WMS100107-70 **Opened:** 07-JAN-10 **Balance Id :** 40245216
Name: ICPMS LINEAR RANGE ST **Received:** 07-JAN-10 **Pipet Id :** 1758088
Type: Working **Expires:** 08-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1249336
Employee: Paul Boyd
Supplier: 02SI
Description: ICPMS LINEAR RANGE STANDARD
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-60	Aluminum	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Arsenic	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Barium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Beryllium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cadmium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Calcium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Chromium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cobalt	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Copper	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Iron	5000 mg/L	.5 mL	50 mL	50000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-60	Lead	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Lithium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Magnesium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Manganese	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Nickel	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Phosphorous	2500 mg/L	.5 mL	50 mL	25000 ug/L
UI091212-60	Potassium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Selenium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Sodium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Strontium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Thallium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Thorium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Uranium	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Vanadium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Zinc	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-61	Antimony	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Molybdenum	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Silver	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Tin	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Tungsten	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Zirconium	50 mg/L	.5 mL	50 mL	500 ug/L

Serial ID: WMS100111-04 **Opened:** 11-JAN-10 **Amount :** 50 mL
Name: ICPMS Cal Standard 100 **Received:** 11-JAN-10 **Balance Id :** 4025216
Type: Working **Expires:** 12-JAN-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl-1253206
Supplier: GEL
Description: ICPMS Calibration Standard (100 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

Serial ID: WMS100111-04A **Opened:** 11-JAN-10 **Balance Id :** 4025216
Name: ICPMS Cal Standard 10 **Received:** 11-JAN-10 **Pipet Id :** 3541598
Type: Working **Expires:** 12-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1253206
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS Calibration Standard (10 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100111-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100111-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100111-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100111-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100111-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100111-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100111-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100111-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100111-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100111-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100111-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100111-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

Serial ID: WMS100111-05 **Opened:** 11-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICV **Received:** 11-JAN-10 **Pipet Id :** 3541598
Type: Working **Expires:** 12-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1253206
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

Serial ID: WMS100111-06 **Opened:** 11-JAN-10 **Balance Id :** 40245216
Name: ICPMS CRDL **Received:** 11-JAN-10 **Pipet Id :** 3820544
Type: Working **Expires:** 12-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1253206
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS CRDL
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

Serial ID: WMS100111-07 **Opened:** 11-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSA **Received:** 11-JAN-10 **Lot Number :** 1010773
Type: Working **Expires:** 12-JAN-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl - 1253206
Supplier: GEL
Description: ICPMS ICSA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Serial ID: WMS100111-08 **Opened:** 11-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSAB **Received:** 11-JAN-10 **Pipet Id :** 1758088
Type: Working **Expires:** 12-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1253206
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICSAB
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L

Serial ID: WMS100112-04B **Opened:** 12-JAN-10 **Amount :** 50 mL
Name: ICPMS Cal Standard 100 **Received:** 12-JAN-10 **Balance Id :** 40245216
Type: Working **Expires:** 13-JAN-10 **Pipet Id :** 1758088
Employee: Rose Jenkins **Solvent :** 2%HNO3/1%HCl- 1238829
Supplier: GEL
Description: ICPMS Calibration Standard (100 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS090303-01	Arsenic	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5	50 mL	100 ug/l

Serial ID: WMS100113-04 **Opened:** 13-JAN-10 **Amount :** 50 mL
Name: ICPMS Cal Standard 100 **Received:** 13-JAN-10 **Balance Id :** 4025216
Type: Working **Expires:** 14-JAN-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl-1253206
Supplier: GEL
Description: ICPMS Calibration Standard (100 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

Serial ID: WMS100113-04A **Opened:** 13-JAN-10 **Balance Id :** 4025216

Name: ICPMS Cal Standard 10 **Received:** 13-JAN-10 **Pipet Id :** 3541598

Type: Working **Expires:** 14-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1253206

Employee: Paul Boyd

Supplier: GEL

Description: ICPMS Calibration Standard (10 ppb)

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100112-04B	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100112-04B	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100112-04B	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100112-04B	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100112-04B	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100112-04B	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100112-04B	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100112-04B	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100112-04B	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100112-04B	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100112-04B	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100112-04B	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

Serial ID: WMS100113-05 **Opened:** 13-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICV **Received:** 13-JAN-10 **Pipet Id :** 3541598
Type: Working **Expires:** 14-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1253206
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

Serial ID: WMS100113-06 **Opened:** 13-JAN-10 **Balance Id :** 40245216
Name: ICPMS CRDL **Received:** 13-JAN-10 **Pipet Id :** 3820544
Type: Working **Expires:** 14-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1253206
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS CRDL
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

Serial ID: WMS100113-07 **Opened:** 13-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSA **Received:** 13-JAN-10 **Lot Number :** 1010773
Type: Working **Expires:** 14-JAN-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl - 1253206
Supplier: GEL
Description: ICPMS ICSA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Standard Logbook

Serial ID: WMS100113-08
Name: ICPMS ICSAB
Type: Working
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICSAB
Comments: None

Opened: 13-JAN-10
Received: 13-JAN-10
Expires: 14-JAN-10

Balance Id : 40245216
Pipet Id : 1758088
Solvent : 2%HNO3/1%HCl - 1253206

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L

Standard Logbook

Serial ID: WMS100114-04B **Opened:** 14-JAN-10 **Amount :** 50 mL
Name: ICPMS Cal Standard 100 **Received:** 14-JAN-10 **Balance Id :** 40245216
Type: Working **Expires:** 15-JAN-10 **Pipet Id :** 1758088
Employee: Rose Jenkins **Solvent :** 2%HNO3/1%HCl- 1238829
Supplier: GEL
Description: ICPMS Calibration Standard (100 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5	50 mL	100 ug/l

Standard Logbook

Serial ID: WMS100115-04 **Opened:** 15-JAN-10 **Amount :** 50 mL
Name: ICPMS Cal Standard 100 **Received:** 15-JAN-10 **Balance Id :** 4025216
Type: Working **Expires:** 16-JAN-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl-1253206
Supplier: GEL
Description: ICPMS Calibration Standard (100 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

Standard Logbook

Serial ID: WMS100115-04A **Opened:** 15-JAN-10 **Balance Id :** 4025216
Name: ICPMS Cal Standard 10 **Received:** 15-JAN-10 **Pipet Id :** 3541598
Type: Working **Expires:** 16-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1253206
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS Calibration Standard (10 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100114-04B	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100114-04B	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100114-04B	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100114-04B	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100114-04B	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100114-04B	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100114-04B	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100114-04B	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100114-04B	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100114-04B	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

Standard Logbook

Serial ID: WMS100115-05
Name: ICPMS ICV
Type: Working
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICV
Comments: None

Opened: 15-JAN-10
Received: 15-JAN-10
Expires: 16-JAN-10

Balance Id : 40245216
Pipet Id : 3541598
Solvent : 2%HNO3/1%HCl - 1253206

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

Standard Logbook

Serial ID:	WMS100115-06	**Opened:**	15-JAN-10	**Balance Id :**	40245216
Name:	ICPMS CRDL	**Received:**	15-JAN-10	**Pipet Id :**	3820544
Type:	Working	**Expires:**	16-JAN-10	**Solvent :**	2%HNO3/1%HCl - 1253206
Employee:	Paul Boyd				
Supplier:	GEL				
Description:	ICPMS CRDL				
Comments:	None				

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

Standard Logbook

Serial ID: WMS100115-07 **Opened:** 15-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSA **Received:** 15-JAN-10 **Lot Number :** 1010773
Type: Working **Expires:** 16-JAN-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl - 1253206
Supplier: GEL
Description: ICPMS ICSA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Serial ID: WMS100115-08 **Opened:** 15-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSAB **Received:** 15-JAN-10 **Pipet Id :** 1758088
Type: Working **Expires:** 16-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1253206
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICSAB
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L

Serial ID: 1156689-A **Opened:** 20-JUL-09 **Lot Number :** 41226920
Name: B-KMnO4(VWR)-MER **Received:** 20-JUL-09
Type: Reagent/Solvent **Expires:** 20-JUL-10
Employee: Tara Griffin **Verified:** 07-AUG-07
Supplier: VWR
Description: Potassium Permanganate
Comments: None

Serial ID: 1164796-A **Opened:** 06-AUG-09 **Lot Number :** 49149927
Name: B-NH2OH.HCl-MER **Received:** 06-AUG-09
Type: Reagent/Solvent **Expires:** 06-AUG-10
Employee: Tara Griffin
Supplier: Fisher Scientific
Description: Hydroxlyamine Hydrochloride
Comments: None

Serial ID: 1203655-02 **Opened:** 15-OCT-09 **Lot Number :** ZU74081198 mL
Name: B-H2O2 **Received:** 15-OCT-09
Type: Reagent/Solvent **Expires:** 15-OCT-10
Employee: Francena Armstrong
Supplier: EM SCIENCE
Description: Hydrogen Peroxide 30%
Comments: None

Standard Logbook

Serial ID: 1206350-C **Opened:** 22-OCT-09 **Balance Id :** BAL-002
Name: B-NaCl.NH2OH.HCl-MER **Received:** 22-OCT-09
Type: Reagent/Solvent **Expires:** 15-JAN-10
Employee: Tara Griffin
Supplier: GEL
Description: Hg reducing agent
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1164796-A	B-NH2OH.HCl-MER	N/A	120 g	1000 mL	N/A

Serial ID: 1234886 **Opened:** 27-NOV-09 **Lot Number :** H20053 L
Name: I-HNO3 **Received:** 27-NOV-09
Type: Reagent/Solvent **Expires:** 27-NOV-10
Employee: Bryan Davis
Supplier: BAKER
Description: Nitric Acid CONC.
Comments: None

Serial ID: 1236355-A **Opened:** 01-DEC-09 **Lot Number :** 200930201
Name: B-HCl-MER **Received:** 01-DEC-09
Type: Reagent/Solvent **Expires:** 01-DEC-10
Employee: Tara Griffin
Supplier: Aristar
Description: Hydrochloric Acid Conc.
Comments: None

Serial ID: 1238345 **Opened:** 04-DEC-09 **Lot Number :** H20053 L
Name: I-HNO3 **Received:** 04-DEC-09
Type: Reagent/Solvent **Expires:** 04-DEC-10
Employee: Francena Armstrong
Supplier: BAKER
Description: Nitric Acid CONC.
Comments: None

Serial ID: 1240182-1 **Opened:** 09-DEC-09 **Instrument Id :** MERCURY
Name: B-HNO3-MER **Received:** 09-DEC-09 **Lot Number :** H34040
Type: Reagent/Solvent **Expires:** 09-DEC-10
Employee: Tara Griffin
Supplier: Mallinckrodt Chemicals
Description: NITRIC ACID
Comments: None

Standard Logbook

Serial ID: 1244904-C **Opened:** 18-DEC-09 **Balance Id :** BAL-002
Name: B-KMnO4-MER **Received:** 18-DEC-09
Type: Reagent/Solvent **Expires:** 18-JUN-10
Employee: Tara Griffin
Supplier: GEL
Description: 5% KMnO4 solution
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1156689-A	B-KMnO4(VWR)-MER	Crystals	50 g	1000 mL	3%

Serial ID: 1244970 **Opened:** 18-DEC-09 **Lot Number :** H41032
Name: I-HCL **Received:** 18-DEC-09 **Preservative_Id :** 5 none
Type: Reagent/Solvent **Expires:** 18-DEC-10
Employee: Francena Armstrong
Supplier: J.T. BAKER
Description: HYDROCHLORIC ACID
Comments: None

Serial ID: 1249336 **Opened:** 04-JAN-10 **Solvent :** Type I Water
Name: B-2%HNO3/1%HCl-ICPMS **Received:** 04-JAN-10
Type: Reagent/Solvent **Expires:** 11-JAN-10
Employee: Paul Boyd
Supplier: GEL
Description: 2%HNO3/1%HCl Solution (Type I Water)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1238345	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1244970	I-HCL	36.5-38.0	90 mL	9 l	N/A

Serial ID: 1253206 **Opened:** 11-JAN-10 **Solvent :** Type I Water
Name: B-2%HNO3/1%HCl-ICPMS **Received:** 11-JAN-10
Type: Reagent/Solvent **Expires:** 18-JAN-10
Employee: Paul Boyd
Supplier: GEL
Description: 2%HNO3/1%HCl Solution (Type I Water)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1238345	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1244970	I-HCL	36.5-38.0	90 mL	9 l	N/A

Standard Logbook

Serial ID:	1253514	**Opened:**	11-JAN-10	**Amount :**	20 L
Name:	B-ICP-RINSE SOLN	**Received:**	11-JAN-10	**Lot Number :**	H04040+G34050
Type:	Reagent/Solvent	**Expires:**	17-JAN-10	**Solvent :**	3%HCL+1%HNO3

Employee: Helen Camello

Supplier: GEL

Description: 3%HCL+1%HNO3 RINSE SOLN.

Comments: None

Metals Analysis

Case Narrative

Metals Fractional Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1032-1

Sample Analysis

Sample ID	Client ID
243386001	RE12-10-7595
1202003798	Method Blank (MB) **ICP**
1202003799	Laboratory Control Sample (LCS)
1202003802	243386001(RE12-10-7595L) Serial Dilution (SD)
1202003800	243386001(RE12-10-7595D) Sample Duplicate (DUP)
1202003801	243386001(RE12-10-7595S) Matrix Spike (MS)
1202003863	Method Blank (MB) **ICP-MS**
1202003864	Laboratory Control Sample (LCS)
1202003867	243386001(RE12-10-7595L) Serial Dilution (SD)
1202003865	243386001(RE12-10-7595D) Sample Duplicate (DUP)
1202003866	243386001(RE12-10-7595S) Matrix Spike (MS)
1202005775	Method Blank (MB) **CVAA**
1202005776	Laboratory Control Sample (LCS)
1202005779	243539001(RE16-10-1012L) Serial Dilution (SD)
1202005777	243539001(RE16-10-1012D) Sample Duplicate (DUP)
1202005778	243539001(RE16-10-1012S) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Method/Analysis Information

Analytical Batch:	936494, 936526 and 937342
Prep Batch :	936493, 936525 and 937341
Standard Operating Procedures:	GL-MA-E-013 REV# 20, GL-MA-E-006 REV# 9, GL-MA-E-014 REV# 21 and GL-MA-E-010 REV# 23
Analytical Method:	SW846 3005/6010B, SW846 3005/6020 and SW846 7470A
Prep Method :	SW846 3005A and SW846 7470A Prep

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

System Configuration

The Metals analysis-ICP was performed on a P E 4300 Optima radial/axial-viewing inductively coupled plasma atomic emission spectrometer. The instrument is equipped with a Burgener nebulizer, cyclonic spray chamber, and yttrium or scandium internal standard. Operating conditions for the ICP are set at a power level of 1500 watts. The instrument has a peristaltic pump flow rate of 1.4L/min, argon gas flows of 15 L/min and 0.2 L/min for the torch and auxiliary gases, and a flow setting of 0.65L/min for the nebulizer.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 9000 inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 360+/-7 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

The Metals analysis-Mercury was performed on a Perkin-Elmer Flow Injection Mercury System (FIMS-100) automated mercury analyzer. The instrument consists of a cold vapor atomic absorption spectrometer set to detect mercury at a wavelength of 253.7 nm. Sample introduction through the flow injection system is performed via a peristaltic pump at 9 mL/min and nitrogen carrier gas rate of 80 mL/min.

Calibration Information

Instrument Calibration
All initial calibration requirements have been met for this sample delivery group (SDG).

CRDL Requirements
All CRDL standard(s) met the referenced advisory control limits.

ICSA/ICSAB Statement
All interference check samples (ICSA and ICSAB) associated with this SDG met the established acceptance criteria.

Continuing Calibration Blank (CCB) Requirements
All continuing calibration blanks (CCB) bracketing this batch met the established acceptance criteria.

Continuing Calibration Verification (CCV) Requirements
All continuing calibration verifications (CCV) bracketing this SDG met the acceptance criteria.

Quality Control (QC) Information

Method Blank (MB) Statement
The MBs analyzed with this SDG met the acceptance criteria.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Quality Control (QC) Sample Statement
The following samples were selected as the quality control (QC) samples for this SDG: 243386001 (RE12-10-7595)-ICP and ICP-MS and 243539001 (RE16-10-1012)-CVAA.

Matrix Spike (MS) Recovery Statement
The percent recoveries (%R) obtained from the MS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. All applicable elements met the acceptance criteria.

Duplicate Relative Percent Difference (RPD) Statement
The RPD obtained from the designated sample duplicate (DUP) is evaluated based on acceptance criteria of 20% when the sample is >5X the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control of +/-RL is used to evaluate the DUP results. All applicable analytes met these requirements.

Serial Dilution % Difference Statement
The serial dilution is used to assess matrix suppression or enhancement. Raw element concentrations that are 25X the IDL/MDL for CVAA, 50X the IDL/MDL for ICP, and 100X the IDL/MDL for ICP-MS analyses are applicable for serial dilution assessment. All applicable analytes met the acceptance criteria of less than 10% difference (%D).

Technical Information

Holding Time Specifications
GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Sample Dilutions
Dilutions are performed to minimize matrix interferences resulting from elevated mineral element concentrations present in solid samples and/or to bring over range target analyte concentrations into the linear calibration range of the instrument. The samples in this SDG did not require dilutions.

Preparation Information
The samples in this SDG were prepared exactly according to the cited SOP.

Miscellaneous Information

Electronic Packaging Comment
This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Data Exception (DER) Documentation
Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Additional Comments
Additional comments were not required for this SDG.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Nick-Cole A. Elmore **Date:** 1.15.10

Sample Data Summary

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1032-1 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 243386001 **BASIS:** As Received **DATE COLLECTED** 17-DEC-09

CLIENT ID: RE12-10-7595 **LEVEL:** Low **DATE RECEIVED** 22-DEC-09

MATRIX: WATER **%SOLIDS:** 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	200	ug/L	U	68	200	200	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-36-0	Antimony	3	ug/L	U	1	3	3	1	MS	BAJ	01/03/10 22:31	100103-2	936526
7440-38-2	Arsenic	5.37	ug/L	J	5	30	30	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-39-3	Barium	5	ug/L	U	1	5	5	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-41-7	Beryllium	0.50	ug/L	U	0.1	0.5	0.5	1	MS	BAJ	01/03/10 22:31	100103-2	936526
7440-43-9	Cadmium	1	ug/L	U	0.11	1	1	1	MS	BAJ	01/03/10 22:31	100103-2	936526
7440-70-2	Calcium	200	ug/L	U	50	200	200	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-47-3	Chromium	5	ug/L	U	1	5	5	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-48-4	Cobalt	5	ug/L	U	1	5	5	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-50-8	Copper	3.57	ug/L	J	3	10	10	1	P	HSC	01/05/10 13:38	010510-1	936494
7439-89-6	Iron	100	ug/L	U	30	100	100	1	P	HSC	01/05/10 13:38	010510-1	936494
7439-92-1	Lead	2	ug/L	U	0.5	2	2	1	MS	BAJ	01/03/10 22:31	100103-2	936526
7439-95-4	Magnesium	300	ug/L	U	85	300	300	1	P	HSC	01/05/10 13:38	010510-1	936494
7439-96-5	Manganese	5	ug/L	U	1	5	5	1	MS	BAJ	01/03/10 22:31	100103-2	936526
7439-97-6	Mercury	0.20	ug/L	U	0.066	0.2	0.2	1	AV	JXL1	12/30/09 10:31	123009W1-10	937342
7440-02-0	Nickel	5	ug/L	U	1.5	5	5	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-09-7	Potassium	139	ug/L	J	50	150	150	1	P	HSC	01/05/10 13:38	010510-1	936494
7782-49-2	Selenium	5.49	ug/L	J	5	30	30	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-22-4	Silver	5	ug/L	U	1	5	5	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-23-5	Sodium	113	ug/L	J	100	300	300	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-28-0	Thallium	1	ug/L	U	0.3	1	1	1	MS	BAJ	01/04/10 11:50	100104-3	936526
7440-61-1	Uranium	0.20	ug/L	U	0.05	0.2	0.2	1	MS	BAJ	01/04/10 17:10	100104-9	936526
7440-62-2	Vanadium	5	ug/L	U	1	5	5	1	P	HSC	01/05/10 13:38	010510-1	936494
7440-66-6	Zinc	10	ug/L	U	3.3	10	10	1	P	HSC	01/05/10 13:38	010510-1	936494

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
936494	936493	SW846 3005A	50	mL	50	mL	12/29/09	AXG2
936526	936525	SW846 3005A	50	mL	50	mL	12/29/09	AXG2
937342	937341	SW846 7470A Prep	20	mL	20	mL	12/29/09	BCD1

Quality Control Summary

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1032–1

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
ICV01										
	Mercury	5.12	ug/L	5	ug/L	102.4	90.0 – 110.0	AV	30–DEC–09 09:12	123009W1–10
	Antimony	49.7	ug/L	50	ug/L	99.4	90.0 – 110.0	MS	03–JAN–10 18:44	100103–2
	Beryllium	49.9	ug/L	50	ug/L	99.8	90.0 – 110.0	MS	03–JAN–10 18:44	100103–2
	Cadmium	49.2	ug/L	50	ug/L	98.4	90.0 – 110.0	MS	03–JAN–10 18:44	100103–2
	Lead	53	ug/L	50	ug/L	106	90.0 – 110.0	MS	03–JAN–10 18:44	100103–2
	Manganese	51.2	ug/L	50	ug/L	102.3	90.0 – 110.0	MS	03–JAN–10 18:44	100103–2
	Thallium	51.8	ug/L	50	ug/L	103.6	90.0 – 110.0	MS	04–JAN–10 11:09	100104–3
	Uranium	53.6	ug/L	50	ug/L	107.2	90.0 – 110.0	MS	04–JAN–10 16:28	100104–9
	Aluminum	5180	ug/L	5000	ug/L	103.6	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Arsenic	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Barium	514	ug/L	500	ug/L	102.7	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Calcium	4980	ug/L	5000	ug/L	99.6	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Chromium	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Cobalt	515	ug/L	500	ug/L	103	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Copper	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Iron	5110	ug/L	5000	ug/L	102.2	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Magnesium	5120	ug/L	5000	ug/L	102.5	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Nickel	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Potassium	2490	ug/L	2500	ug/L	99.7	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Selenium	2630	ug/L	2500	ug/L	105.2	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Silver	255	ug/L	250	ug/L	102	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Sodium	2550	ug/L	2500	ug/L	102	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Vanadium	508	ug/L	500	ug/L	101.7	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
	Zinc	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	05–JAN–10 11:56	010510–1
CCV01										
	Mercury	5.09	ug/L	5	ug/L	101.8	80.0 – 120.0	AV	30–DEC–09 09:18	123009W1–10
	Antimony	51	ug/L	50	ug/L	101.9	90.0 – 110.0	MS	03–JAN–10 19:14	100103–2
	Beryllium	52.2	ug/L	50	ug/L	104.3	90.0 – 110.0	MS	03–JAN–10 19:14	100103–2
	Cadmium	50.5	ug/L	50	ug/L	101	90.0 – 110.0	MS	03–JAN–10 19:14	100103–2
	Lead	52.7	ug/L	50	ug/L	105.4	90.0 – 110.0	MS	03–JAN–10 19:14	100103–2

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1032–1

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Manganese	53.7	ug/L	50	ug/L	107.4	90.0 – 110.0	MS	03–JAN–10 19:14	100103–2
	Thallium	50.5	ug/L	50	ug/L	100.9	90.0 – 110.0	MS	04–JAN–10 11:32	100104–3
	Uranium	52.7	ug/L	50	ug/L	105.4	90.0 – 110.0	MS	04–JAN–10 16:36	100104–9
	Aluminum	4940	ug/L	5000	ug/L	98.8	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Arsenic	503	ug/L	500	ug/L	100.5	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Barium	497	ug/L	500	ug/L	99.4	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Calcium	4980	ug/L	5000	ug/L	99.6	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Chromium	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Cobalt	498	ug/L	500	ug/L	99.6	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Copper	483	ug/L	500	ug/L	96.6	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Iron	5120	ug/L	5000	ug/L	102.4	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Magnesium	4990	ug/L	5000	ug/L	99.9	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Nickel	495	ug/L	500	ug/L	99	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Potassium	5210	ug/L	5000	ug/L	104.1	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Selenium	517	ug/L	500	ug/L	103.4	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Silver	486	ug/L	500	ug/L	97.3	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Sodium	9950	ug/L	10000	ug/L	99.5	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Vanadium	496	ug/L	500	ug/L	99.1	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
	Zinc	502	ug/L	500	ug/L	100.3	90.0 – 110.0	P	05–JAN–10 12:20	010510–1
CCV02										
	Mercury	5.04	ug/L	5	ug/L	100.7	80.0 – 120.0	AV	30–DEC–09 09:41	123009W1–10
	Antimony	51.9	ug/L	50	ug/L	103.8	90.0 – 110.0	MS	03–JAN–10 19:33	100103–2
	Beryllium	51.2	ug/L	50	ug/L	102.5	90.0 – 110.0	MS	03–JAN–10 19:33	100103–2
	Cadmium	50.9	ug/L	50	ug/L	101.8	90.0 – 110.0	MS	03–JAN–10 19:33	100103–2
	Lead	53.2	ug/L	50	ug/L	106.4	90.0 – 110.0	MS	03–JAN–10 19:33	100103–2
	Manganese	52.5	ug/L	50	ug/L	105	90.0 – 110.0	MS	03–JAN–10 19:33	100103–2
	Thallium	50.2	ug/L	50	ug/L	100.4	90.0 – 110.0	MS	04–JAN–10 12:08	100104–3
	Uranium	54	ug/L	50	ug/L	108.1	90.0 – 110.0	MS	04–JAN–10 16:51	100104–9
	Aluminum	5090	ug/L	5000	ug/L	101.7	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
	Arsenic	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	05–JAN–10 12:46	010510–1

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1032–1

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Barium	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
	Calcium	5050	ug/L	5000	ug/L	101	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
	Chromium	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
	Cobalt	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
	Copper	495	ug/L	500	ug/L	99	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
	Iron	5220	ug/L	5000	ug/L	104.4	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
	Magnesium	5150	ug/L	5000	ug/L	103	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
	Nickel	507	ug/L	500	ug/L	101.3	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
	Potassium	5140	ug/L	5000	ug/L	102.8	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
	Selenium	512	ug/L	500	ug/L	102.5	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
	Silver	499	ug/L	500	ug/L	99.9	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
	Sodium	10200	ug/L	10000	ug/L	102.1	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
	Vanadium	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
	Zinc	506	ug/L	500	ug/L	101.3	90.0 – 110.0	P	05–JAN–10 12:46	010510–1
CCV03										
	Mercury	5.16	ug/L	5	ug/L	103.1	80.0 – 120.0	AV	30–DEC–09 10:04	123009W1–10
	Antimony	49.9	ug/L	50	ug/L	99.8	90.0 – 110.0	MS	03–JAN–10 20:28	100103–2
	Beryllium	50.3	ug/L	50	ug/L	100.5	90.0 – 110.0	MS	03–JAN–10 20:28	100103–2
	Cadmium	49.4	ug/L	50	ug/L	98.8	90.0 – 110.0	MS	03–JAN–10 20:28	100103–2
	Lead	52.5	ug/L	50	ug/L	105.1	90.0 – 110.0	MS	03–JAN–10 20:28	100103–2
	Manganese	51.5	ug/L	50	ug/L	103	90.0 – 110.0	MS	03–JAN–10 20:28	100103–2
	Uranium	53.9	ug/L	50	ug/L	107.7	90.0 – 110.0	MS	04–JAN–10 17:04	100104–9
	Aluminum	4960	ug/L	5000	ug/L	99.3	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
	Arsenic	478	ug/L	500	ug/L	95.6	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
	Barium	486	ug/L	500	ug/L	97.3	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
	Calcium	4870	ug/L	5000	ug/L	97.3	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
	Chromium	485	ug/L	500	ug/L	97	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
	Cobalt	486	ug/L	500	ug/L	97.3	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
	Copper	477	ug/L	500	ug/L	95.4	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
	Iron	5010	ug/L	5000	ug/L	100.2	90.0 – 110.0	P	05–JAN–10 13:22	010510–1

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1032–1

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Magnesium	5000	ug/L	5000	ug/L	100.1	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
	Nickel	486	ug/L	500	ug/L	97.1	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
	Potassium	4980	ug/L	5000	ug/L	99.6	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
	Selenium	503	ug/L	500	ug/L	100.5	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
	Silver	483	ug/L	500	ug/L	96.6	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
	Sodium	9970	ug/L	10000	ug/L	99.7	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
	Vanadium	490	ug/L	500	ug/L	97.9	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
	Zinc	484	ug/L	500	ug/L	96.9	90.0 – 110.0	P	05–JAN–10 13:22	010510–1
CCV04										
	Mercury	5.19	ug/L	5	ug/L	103.9	80.0 – 120.0	AV	30–DEC–09 10:27	123009W1–10
	Antimony	50.2	ug/L	50	ug/L	100.3	90.0 – 110.0	MS	03–JAN–10 21:23	100103–2
	Beryllium	52.5	ug/L	50	ug/L	105.1	90.0 – 110.0	MS	03–JAN–10 21:23	100103–2
	Cadmium	49.5	ug/L	50	ug/L	98.9	90.0 – 110.0	MS	03–JAN–10 21:23	100103–2
	Lead	51.4	ug/L	50	ug/L	102.8	90.0 – 110.0	MS	03–JAN–10 21:23	100103–2
	Manganese	52.3	ug/L	50	ug/L	104.5	90.0 – 110.0	MS	03–JAN–10 21:23	100103–2
	Uranium	53	ug/L	50	ug/L	106.1	90.0 – 110.0	MS	04–JAN–10 17:17	100104–9
	Aluminum	5090	ug/L	5000	ug/L	101.7	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
	Arsenic	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
	Barium	494	ug/L	500	ug/L	98.8	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
	Calcium	4990	ug/L	5000	ug/L	99.7	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
	Chromium	494	ug/L	500	ug/L	98.9	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
	Cobalt	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
	Copper	486	ug/L	500	ug/L	97.2	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
	Iron	5190	ug/L	5000	ug/L	103.7	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
	Magnesium	5140	ug/L	5000	ug/L	102.8	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
	Nickel	495	ug/L	500	ug/L	99.1	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
	Potassium	5080	ug/L	5000	ug/L	101.7	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
	Selenium	512	ug/L	500	ug/L	102.4	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
	Silver	491	ug/L	500	ug/L	98.3	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
	Sodium	10200	ug/L	10000	ug/L	102.1	90.0 – 110.0	P	05–JAN–10 13:53	010510–1

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1032–1

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Vanadium	498	ug/L	500	ug/L	99.7	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
	Zinc	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	05–JAN–10 13:53	010510–1
CCV05										
	Mercury	5.2	ug/L	5	ug/L	104.1	80.0 – 120.0	AV	30–DEC–09 10:50	123009W1–10
	Antimony	50.7	ug/L	50	ug/L	101.4	90.0 – 110.0	MS	03–JAN–10 22:07	100103–2
	Beryllium	52.3	ug/L	50	ug/L	104.5	90.0 – 110.0	MS	03–JAN–10 22:07	100103–2
	Cadmium	50.1	ug/L	50	ug/L	100.2	90.0 – 110.0	MS	03–JAN–10 22:07	100103–2
	Lead	52.3	ug/L	50	ug/L	104.5	90.0 – 110.0	MS	03–JAN–10 22:07	100103–2
	Manganese	52.9	ug/L	50	ug/L	105.7	90.0 – 110.0	MS	03–JAN–10 22:07	100103–2
CCV06										
	Mercury	4.98	ug/L	5	ug/L	99.6	80.0 – 120.0	AV	30–DEC–09 11:13	123009W1–10
	Antimony	50.6	ug/L	50	ug/L	101.2	90.0 – 110.0	MS	03–JAN–10 22:56	100103–2
	Beryllium	52.9	ug/L	50	ug/L	105.7	90.0 – 110.0	MS	03–JAN–10 22:56	100103–2
	Cadmium	50.1	ug/L	50	ug/L	100.2	90.0 – 110.0	MS	03–JAN–10 22:56	100103–2
	Lead	52.2	ug/L	50	ug/L	104.4	90.0 – 110.0	MS	03–JAN–10 22:56	100103–2
	Manganese	52.5	ug/L	50	ug/L	105.1	90.0 – 110.0	MS	03–JAN–10 22:56	100103–2

METALS
-2b-
CRDL Standard for AA & ICP

SDG No: 10-1032-1

Contract: LANL01004 **Lab Code:** GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: HG3,ICPMS5,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Advisory Limits (%R)	M	Analysis Date/Time	Run Number
CRDL01										
	Mercury	.185	ug/L	.2	ug/L	92.5	70.0 - 130.0	AV	30-DEC-09 09:16	123009W1-10
	Lead	2.42	ug/L	2	ug/L	121	70.0 - 130.0	MS	03-JAN-10 18:56	100103-2
	Manganese	5.87	ug/L	5	ug/L	117.4	70.0 - 130.0	MS	03-JAN-10 18:56	100103-2
	Antimony	3.33	ug/L	3	ug/L	111.1	70.0 - 130.0	MS	03-JAN-10 18:56	100103-2
	Beryllium	.526	ug/L	.5	ug/L	105.2	70.0 - 130.0	MS	03-JAN-10 18:56	100103-2
	Cadmium	1.08	ug/L	1	ug/L	107.5	70.0 - 130.0	MS	03-JAN-10 18:56	100103-2
	Thallium	1.22	ug/L	1	ug/L	121.7	70.0 - 130.0	MS	04-JAN-10 11:18	100104-3
	Uranium	.257	ug/L	.2	ug/L	128.5	70.0 - 130.0	MS	04-JAN-10 16:31	100104-9
PQL01										
	Aluminum	186	ug/L	200	ug/L	93.1	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Iron	100	ug/L	100	ug/L	100.3	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Magnesium	260	ug/L	300	ug/L	86.6	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Nickel	3.6	ug/L	5	ug/L	72	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Potassium	157	ug/L	150	ug/L	104.8	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Silver	4.4	ug/L	5	ug/L	87.9	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Sodium	304	ug/L	300	ug/L	101.3	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Arsenic	31.7	ug/L	30	ug/L	105.7	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Barium	4.31	ug/L	5	ug/L	86.2	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Chromium	4.16	ug/L	5	ug/L	83.2	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Cobalt	4.29	ug/L	5	ug/L	85.9	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Copper	8.93	ug/L	10	ug/L	89.3	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Vanadium	4.19	ug/L	5	ug/L	83.8	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Zinc	8.63	ug/L	10	ug/L	86.3	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Calcium	179	ug/L	200	ug/L	89.4	70.0 - 130.0	P	05-JAN-10 12:03	010510-1
	Selenium	30.6	ug/L	30	ug/L	101.9	70.0 - 130.0	P	05-JAN-10 12:03	010510-1

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1032-1

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
ICB01										
	Mercury	0.066	+/-.2	U	0.066	0.2	LIQ	AV	30-DEC-09 09:14	123009W1-10
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	03-JAN-10 18:50	100103-2
	Beryllium	0.1	+/-.5	U	0.1	0.5	LIQ	MS	03-JAN-10 18:50	100103-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	03-JAN-10 18:50	100103-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	03-JAN-10 18:50	100103-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	03-JAN-10 18:50	100103-2
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	04-JAN-10 11:14	100104-3
	Uranium	0.05	+/-.2	U	0.05	0.2	LIQ	MS	04-JAN-10 16:29	100104-9
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	05-JAN-10 11:59	010510-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	05-JAN-10 11:59	010510-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 11:59	010510-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	05-JAN-10 11:59	010510-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 11:59	010510-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 11:59	010510-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	05-JAN-10 11:59	010510-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	05-JAN-10 11:59	010510-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	05-JAN-10 11:59	010510-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	05-JAN-10 11:59	010510-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	05-JAN-10 11:59	010510-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	05-JAN-10 11:59	010510-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 11:59	010510-1
	Sodium	100	+/-300	U	100	300	LIQ	P	05-JAN-10 11:59	010510-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 11:59	010510-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	05-JAN-10 11:59	010510-1
CCB01										
	Mercury	0.066	+/-.2	U	0.066	0.2	LIQ	AV	30-DEC-09 09:20	123009W1-10
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	03-JAN-10 19:20	100103-2
	Beryllium	0.1	+/-.5	U	0.1	0.5	LIQ	MS	03-JAN-10 19:20	100103-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	03-JAN-10 19:20	100103-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	03-JAN-10 19:20	100103-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	03-JAN-10 19:20	100103-2

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1032-1

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	04-JAN-10 11:36	100104-3
	Uranium	0.05	+/-.2	U	0.05	0.2	LIQ	MS	04-JAN-10 16:38	100104-9
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	05-JAN-10 12:24	010510-1
	Arsenic	8.49	+/-30	J	5.0	30.0	LIQ	P	05-JAN-10 12:24	010510-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 12:24	010510-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	05-JAN-10 12:24	010510-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 12:24	010510-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 12:24	010510-1
	Copper	5.69	+/-10	J	3.0	10.0	LIQ	P	05-JAN-10 12:24	010510-1
	Iron	61.11	+/-100	J	30.0	100	LIQ	P	05-JAN-10 12:24	010510-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	05-JAN-10 12:24	010510-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	05-JAN-10 12:24	010510-1
	Potassium	108.99	+/-150	J	50.0	150	LIQ	P	05-JAN-10 12:24	010510-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	05-JAN-10 12:24	010510-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 12:24	010510-1
	Sodium	100	+/-300	U	100	300	LIQ	P	05-JAN-10 12:24	010510-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 12:24	010510-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	05-JAN-10 12:24	010510-1
CCB02										
	Mercury	0.066	+/-.2	U	0.066	0.2	LIQ	AV	30-DEC-09 09:43	123009W1-10
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	03-JAN-10 19:39	100103-2
	Beryllium	0.1	+/-.5	U	0.1	0.5	LIQ	MS	03-JAN-10 19:39	100103-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	03-JAN-10 19:39	100103-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	03-JAN-10 19:39	100103-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	03-JAN-10 19:39	100103-2
	Thallium	0.3	+/-1	U	0.3	1.0	LIQ	MS	04-JAN-10 12:13	100104-3
	Uranium	0.05	+/-.2	U	0.05	0.2	LIQ	MS	04-JAN-10 16:53	100104-9
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	05-JAN-10 12:49	010510-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	05-JAN-10 12:49	010510-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 12:49	010510-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	05-JAN-10 12:49	010510-1

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1032-1

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 12:49	010510-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 12:49	010510-1
	Copper	4.86	+/-10	J	3.0	10.0	LIQ	P	05-JAN-10 12:49	010510-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	05-JAN-10 12:49	010510-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	05-JAN-10 12:49	010510-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	05-JAN-10 12:49	010510-1
	Potassium	67.96	+/-150	J	50.0	150	LIQ	P	05-JAN-10 12:49	010510-1
	Selenium	5.0	+/-30	U	5.0	30.0	LIQ	P	05-JAN-10 12:49	010510-1
	Silver	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 12:49	010510-1
	Sodium	100	+/-300	U	100	300	LIQ	P	05-JAN-10 12:49	010510-1
	Vanadium	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 12:49	010510-1
	Zinc	3.3	+/-10	U	3.3	10.0	LIQ	P	05-JAN-10 12:49	010510-1
CCB03										
	Mercury	0.066	+/-.2	U	0.066	0.2	LIQ	AV	30-DEC-09 10:06	123009W1-10
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	03-JAN-10 20:34	100103-2
	Beryllium	0.1	+/-.5	U	0.1	0.5	LIQ	MS	03-JAN-10 20:34	100103-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	03-JAN-10 20:34	100103-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	03-JAN-10 20:34	100103-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	03-JAN-10 20:34	100103-2
	Uranium	0.05	+/-.2	U	0.05	0.2	LIQ	MS	04-JAN-10 17:05	100104-9
	Aluminum	68.0	+/-200	U	68.0	200	LIQ	P	05-JAN-10 13:26	010510-1
	Arsenic	5.0	+/-30	U	5.0	30.0	LIQ	P	05-JAN-10 13:26	010510-1
	Barium	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 13:26	010510-1
	Calcium	50.0	+/-200	U	50.0	200	LIQ	P	05-JAN-10 13:26	010510-1
	Chromium	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 13:26	010510-1
	Cobalt	1.0	+/-5	U	1.0	5.0	LIQ	P	05-JAN-10 13:26	010510-1
	Copper	3.0	+/-10	U	3.0	10.0	LIQ	P	05-JAN-10 13:26	010510-1
	Iron	30.0	+/-100	U	30.0	100	LIQ	P	05-JAN-10 13:26	010510-1
	Magnesium	85.0	+/-300	U	85.0	300	LIQ	P	05-JAN-10 13:26	010510-1
	Nickel	1.5	+/-5	U	1.5	5.0	LIQ	P	05-JAN-10 13:26	010510-1
	Potassium	50.0	+/-150	U	50.0	150	LIQ	P	05-JAN-10 13:26	010510-1

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 10–1032–1

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Selenium	5.0	+/–30	U	5.0	30.0	LIQ	P	05–JAN–10 13:26	010510–1
	Silver	1.0	+/–5	U	1.0	5.0	LIQ	P	05–JAN–10 13:26	010510–1
	Sodium	100	+/–300	U	100	300	LIQ	P	05–JAN–10 13:26	010510–1
	Vanadium	1.0	+/–5	U	1.0	5.0	LIQ	P	05–JAN–10 13:26	010510–1
	Zinc	3.3	+/–10	U	3.3	10.0	LIQ	P	05–JAN–10 13:26	010510–1
CCB04										
	Mercury	0.066	+/–.2	U	0.066	0.2	LIQ	AV	30–DEC–09 10:29	123009W1–10
	Antimony	1.0	+/–3	U	1.0	3.0	LIQ	MS	03–JAN–10 21:30	100103–2
	Beryllium	0.1	+/–.5	U	0.1	0.5	LIQ	MS	03–JAN–10 21:30	100103–2
	Cadmium	0.11	+/–1	U	0.11	1.0	LIQ	MS	03–JAN–10 21:30	100103–2
	Lead	0.5	+/–2	U	0.5	2.0	LIQ	MS	03–JAN–10 21:30	100103–2
	Manganese	1.0	+/–5	U	1.0	5.0	LIQ	MS	03–JAN–10 21:30	100103–2
	Uranium	0.05	+/–.2	U	0.05	0.2	LIQ	MS	04–JAN–10 17:19	100104–9
	Aluminum	68.0	+/–200	U	68.0	200	LIQ	P	05–JAN–10 13:56	010510–1
	Arsenic	5.0	+/–30	U	5.0	30.0	LIQ	P	05–JAN–10 13:56	010510–1
	Barium	1.0	+/–5	U	1.0	5.0	LIQ	P	05–JAN–10 13:56	010510–1
	Calcium	50.0	+/–200	U	50.0	200	LIQ	P	05–JAN–10 13:56	010510–1
	Chromium	1.0	+/–5	U	1.0	5.0	LIQ	P	05–JAN–10 13:56	010510–1
	Cobalt	1.0	+/–5	U	1.0	5.0	LIQ	P	05–JAN–10 13:56	010510–1
	Copper	3.0	+/–10	U	3.0	10.0	LIQ	P	05–JAN–10 13:56	010510–1
	Iron	30.0	+/–100	U	30.0	100	LIQ	P	05–JAN–10 13:56	010510–1
	Magnesium	85.0	+/–300	U	85.0	300	LIQ	P	05–JAN–10 13:56	010510–1
	Nickel	1.5	+/–5	U	1.5	5.0	LIQ	P	05–JAN–10 13:56	010510–1
	Potassium	50.0	+/–150	U	50.0	150	LIQ	P	05–JAN–10 13:56	010510–1
	Selenium	5.0	+/–30	U	5.0	30.0	LIQ	P	05–JAN–10 13:56	010510–1
	Silver	1.0	+/–5	U	1.0	5.0	LIQ	P	05–JAN–10 13:56	010510–1
	Sodium	100	+/–300	U	100	300	LIQ	P	05–JAN–10 13:56	010510–1
	Vanadium	1.0	+/–5	U	1.0	5.0	LIQ	P	05–JAN–10 13:56	010510–1
	Zinc	3.3	+/–10	U	3.3	10.0	LIQ	P	05–JAN–10 13:56	010510–1
CCB05										
	Mercury	0.066	+/–.2	U	0.066	0.2	LIQ	AV	30–DEC–09 10:52	123009W1–10

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1032-1

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	03-JAN-10 22:13	100103-2
	Beryllium	0.1	+/-.5	U	0.1	0.5	LIQ	MS	03-JAN-10 22:13	100103-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	03-JAN-10 22:13	100103-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	03-JAN-10 22:13	100103-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	03-JAN-10 22:13	100103-2
CCB06	Mercury	0.066	+/-.2	U	0.066	0.2	LIQ	AV	30-DEC-09 11:15	123009W1-10
	Antimony	1.0	+/-3	U	1.0	3.0	LIQ	MS	03-JAN-10 23:02	100103-2
	Beryllium	0.1	+/-.5	U	0.1	0.5	LIQ	MS	03-JAN-10 23:02	100103-2
	Cadmium	0.11	+/-1	U	0.11	1.0	LIQ	MS	03-JAN-10 23:02	100103-2
	Lead	0.5	+/-2	U	0.5	2.0	LIQ	MS	03-JAN-10 23:02	100103-2
	Manganese	1.0	+/-5	U	1.0	5.0	LIQ	MS	03-JAN-10 23:02	100103-2

METALS
–3b–
PREPARATION BLANK SUMMARY

SDG NO. 10–1032–1

Contract: LANL01004

Matrix: WATER

Sample ID	Analyte	Result	Units	Acceptance Window	Conc Qual	M	MDL	RDL
1202003798								
	Aluminum	68	ug/L	+/–200	U	P	68	200
	Arsenic	11.2	ug/L	+/–30	J	P	5	30
	Barium	1	ug/L	+/–5	U	P	1	5
	Chromium	1	ug/L	+/–5	U	P	1	5
	Iron	30	ug/L	+/–100	U	P	30	100
	Copper	3	ug/L	+/–10	U	P	3	10
	Cobalt	1	ug/L	+/–5	U	P	1	5
	Calcium	50	ug/L	+/–200	U	P	50	200
	Magnesium	85	ug/L	+/–300	U	P	85	300
	Zinc	3.3	ug/L	+/–10	U	P	3.3	10
	Vanadium	1	ug/L	+/–5	U	P	1	5
	Sodium	100	ug/L	+/–300	U	P	100	300
	Silver	1	ug/L	+/–5	U	P	1	5
	Selenium	5	ug/L	+/–30	U	P	5	30
	Potassium	50	ug/L	+/–150	U	P	50	150
	Nickel	1.5	ug/L	+/–5	U	P	1.5	5
1202003863								
	Beryllium	0.1	ug/L	+/–0.5	U	MS	0.1	0.5
	Cadmium	0.11	ug/L	+/–1	U	MS	0.11	1
	Lead	0.5	ug/L	+/–2	U	MS	0.5	2
	Manganese	1	ug/L	+/–5	U	MS	1	5
	Antimony	1	ug/L	+/–3	U	MS	1	3
	Thallium	0.3	ug/L	+/–1	U	MS	0.3	1
	Uranium	0.05	ug/L	+/–0.2	U	MS	0.05	0.2
1202005775								
	Mercury	0.066	ug/L	+/–0.2	U	AV	0.066	0.2

METALS
–4–
Interference Check Sample

SDG No: 10–1032–1

Contract: LANL01004 **Lab Code:** GEL

ICS: O2Si

Instrument: OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Aluminum	514000	ug/L	500000	ug/L	103	80.0 – 120.0	05–JAN–10 12:07	010510–1
	Arsenic	–18.8	ug/L					05–JAN–10 12:07	010510–1
	Barium	8.8	ug/L					05–JAN–10 12:07	010510–1
	Calcium	495000	ug/L	500000	ug/L	99	80.0 – 120.0	05–JAN–10 12:07	010510–1
	Chromium	–2.36	ug/L					05–JAN–10 12:07	010510–1
	Cobalt	–4.19	ug/L					05–JAN–10 12:07	010510–1
	Copper	2.59	ug/L					05–JAN–10 12:07	010510–1
	Iron	188000	ug/L	200000	ug/L	93.8	80.0 – 120.0	05–JAN–10 12:07	010510–1
	Magnesium	485000	ug/L	500000	ug/L	96.9	80.0 – 120.0	05–JAN–10 12:07	010510–1
	Nickel	–1.89	ug/L					05–JAN–10 12:07	010510–1
	Potassium	–26.3	ug/L					05–JAN–10 12:07	010510–1
	Selenium	3.07	ug/L					05–JAN–10 12:07	010510–1
	Silver	–3.48	ug/L					05–JAN–10 12:07	010510–1
	Sodium	13.3	ug/L					05–JAN–10 12:07	010510–1
	Vanadium	–0.011	ug/L					05–JAN–10 12:07	010510–1
	Zinc	–0.843	ug/L					05–JAN–10 12:07	010510–1
ICSAB01									
	Aluminum	504000	ug/L	500000	ug/L	101	80.0 – 120.0	05–JAN–10 12:10	010510–1
	Arsenic	483	ug/L	500	ug/L	96.6	80.0 – 120.0	05–JAN–10 12:10	010510–1
	Barium	481	ug/L	500	ug/L	96.2	80.0 – 120.0	05–JAN–10 12:10	010510–1
	Calcium	485000	ug/L	500000	ug/L	96.9	80.0 – 120.0	05–JAN–10 12:10	010510–1
	Chromium	467	ug/L	500	ug/L	93.3	80.0 – 120.0	05–JAN–10 12:10	010510–1
	Cobalt	410	ug/L	500	ug/L	81.9	80.0 – 120.0	05–JAN–10 12:10	010510–1
	Copper	529	ug/L	500	ug/L	106	80.0 – 120.0	05–JAN–10 12:10	010510–1
	Iron	184000	ug/L	200000	ug/L	91.9	80.0 – 120.0	05–JAN–10 12:10	010510–1
	Magnesium	479000	ug/L	500000	ug/L	95.9	80.0 – 120.0	05–JAN–10 12:10	010510–1
	Nickel	418	ug/L	500	ug/L	83.6	80.0 – 120.0	05–JAN–10 12:10	010510–1
	Potassium	5080	ug/L	5000	ug/L	102	80.0 – 120.0	05–JAN–10 12:10	010510–1
	Selenium	2300	ug/L	2500	ug/L	91.9	80.0 – 120.0	05–JAN–10 12:10	010510–1

METALS
–4–
Interference Check Sample

SDG No: 10–1032–1

Contract: LANL01004 **Lab Code:** GEL

ICS:

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
	Silver	252	ug/L	250	ug/L	101	80.0 – 120.0	05–JAN–10 12:10	010510–1
	Sodium	5100	ug/L	5000	ug/L	102	80.0 – 120.0	05–JAN–10 12:10	010510–1
	Vanadium	502	ug/L	500	ug/L	100	80.0 – 120.0	05–JAN–10 12:10	010510–1
	Zinc	453	ug/L	500	ug/L	90.6	80.0 – 120.0	05–JAN–10 12:10	010510–1

METALS
-4-
Interference Check Sample

SDG No: 10-1032-1

Contract: LANL01004 **Lab Code:** GEL

ICS: O2Si

Instrument: ICPMS5

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Antimony	0.065	ug/L					03-JAN-10 19:02	100103-2
	Beryllium	0.077	ug/L					03-JAN-10 19:02	100103-2
	Cadmium	0.395	ug/L					03-JAN-10 19:02	100103-2
	Lead	0.194	ug/L					03-JAN-10 19:02	100103-2
	Manganese	6.26	ug/L					03-JAN-10 19:02	100103-2
ICSAB01									
	Antimony	21.2	ug/L	20.1	ug/L	105	80.0 - 120.0	03-JAN-10 19:08	100103-2
	Beryllium	19.2	ug/L	20	ug/L	96	80.0 - 120.0	03-JAN-10 19:08	100103-2
	Cadmium	19.7	ug/L	20.4	ug/L	96.7	80.0 - 120.0	03-JAN-10 19:08	100103-2
	Lead	21.2	ug/L	20.5	ug/L	103	80.0 - 120.0	03-JAN-10 19:08	100103-2
	Manganese	27.4	ug/L	25.8	ug/L	106	80.0 - 120.0	03-JAN-10 19:08	100103-2

METALS
–4–
Interference Check Sample

SDG No: 10–1032–1

Contract: LANL01004 **Lab Code:** GEL

ICS: O2Si

Instrument: ICPMS5

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Thallium	0.026	ug/L					04–JAN–10 11:23	100104–3
ICSAB01									
	Thallium	20.4	ug/L	20	ug/L	102	80.0 – 120.0	04–JAN–10 11:27	100104–3

METALS
–4–
Interference Check Sample

SDG No: 10–1032–1

Contract: LANL01004 **Lab Code:** GEL

ICS: O2Si

Instrument: ICPMS5

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Uranium	–0.017	ug/L					04–JAN–10 16:33	100104–9
ICSAB01									
	Uranium	23.9	ug/L	20	ug/L	119	80.0 – 120.0	04–JAN–10 16:34	100104–9

METALS
–5a–
Matrix Spike Summary

SDG NO. 10–1032–1 **Client ID** RE12–10–7595S

Contract: LANL01004 **Level:** Low

Matrix: WATER **% Solids:**

Sample ID: 243386001 **Spike ID:** 1202003801

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Magnesium	ug/L	75–125	5250		85	U	5000	105		P
Nickel	ug/L	75–125	505		1.5	U	500	101		P
Potassium	ug/L	75–125	5280		139	J	5000	103		P
Selenium	ug/L	75–125	498		5.49	J	500	98.4		P
Silver	ug/L	75–125	493		1	U	500	98.5		P
Sodium	ug/L	75–125	5310		113	J	5000	104		P
Vanadium	ug/L	75–125	510		1	U	500	102		P
Zinc	ug/L	75–125	487		3.3	U	500	97		P
Aluminum	ug/L	75–125	5190		68	U	5000	104		P
Arsenic	ug/L	75–125	502		5.37	J	500	99.3		P
Barium	ug/L	75–125	512		1	U	500	102		P
Calcium	ug/L	75–125	5080		50	U	5000	101		P
Chromium	ug/L	75–125	503		1	U	500	101		P
Cobalt	ug/L	75–125	501		1	U	500	100		P
Copper	ug/L	75–125	501		3.57	J	500	99.5		P
Iron	ug/L	75–125	5230		30	U	5000	104		P

METALS
-5a-
Matrix Spike Summary

SDG NO. 10-1032-1 **Client ID** RE12-10-7595S

Contract: LANL01004 **Level:** Low

Matrix: WATER **% Solids:**

Sample ID: 243386001 **Spike ID:** 1202003866

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Antimony	ug/L	75-125	189		1	U	200	94.3		MS
Beryllium	ug/L	75-125	51.5		0.1	U	50	103		MS
Cadmium	ug/L	75-125	10.3		0.11	U	10	103		MS
Lead	ug/L	75-125	42.2		0.5	U	40	105		MS
Manganese	ug/L	75-125	49.6		1	U	50	98		MS
Thallium	ug/L	75-125	81.5		0.3	U	100	81.3		MS
Uranium	ug/L	75-125	53.1		0.05	U	50	106		MS

METALS
-5a-

Matrix Spike Summary

SDG NO. 10-1032-1 **Client ID** RE16-10-1012S

Contract: LANL01004 **Level:** Low

Matrix: WATER **% Solids:**

Sample ID: 243539001 **Spike ID:** 1202005778

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75-125	2.1		0.066	U	2	105		AV

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1032–1

Contract: LANL01004 **Lab Code:** GEL

Matrix: LIQUID **Level:** Low **Client ID:** RE12–10–7595D

Sample ID: 243386001 **Duplicate ID:** 1202003800 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L		68	U	68	U			P
Arsenic	ug/L	+/–30	5.37	J	12.5	J	79.7		P
Barium	ug/L		1	U	1	U			P
Calcium	ug/L		50	U	50	U			P
Chromium	ug/L		1	U	1	U			P
Cobalt	ug/L		1	U	1	U			P
Copper	ug/L	+/–10	3.57	J	3.28	J	8.52		P
Iron	ug/L		30	U	30	U			P
Magnesium	ug/L		85	U	85	U			P
Nickel	ug/L		1.5	U	1.5	U			P
Potassium	ug/L	+/–150	139	J	107	J	26.1		P
Selenium	ug/L		5.49	J	5	U	200		P
Silver	ug/L		1	U	1	U			P
Sodium	ug/L	+/–300	113	J	111	J	1.63		P
Vanadium	ug/L		1	U	1	U			P
Zinc	ug/L		3.3	U	3.3	U			P

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1032–1

Contract: LANL01004 **Lab Code:** GEL

Matrix: LIQUID **Level:** Low **Client ID:** RE12–10–7595D

Sample ID: 243386001 **Duplicate ID:** 1202003865 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Antimony	ug/L		1	U	1	U			MS
Beryllium	ug/L		0.1	U	0.1	U			MS
Cadmium	ug/L		0.11	U	0.11	U			MS
Lead	ug/L		0.5	U	0.5	U			MS
Manganese	ug/L		1	U	1	U			MS
Thallium	ug/L		0.3	U	0.3	U			MS
Uranium	ug/L		0.05	U	0.05	U			MS

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1032–1

Contract: LANL01004 **Lab Code:** GEL

Matrix: LIQUID **Level:** Low **Client ID:** RE16–10–1012D

Sample ID: 243539001 **Duplicate ID:** 1202005777 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L		0.066	U	0.066	U			AV

METALS
–7–
Laboratory Control Sample Summary

SDG NO. 10–1032–1

Contract: LANL01004

Aqueous LCS Source: OS2I **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1202003799								
	Aluminum	ug/L	5000	5140		103	80–120	P
	Arsenic	ug/L	500	496		99.3	80–120	P
	Barium	ug/L	500	504		101	80–120	P
	Calcium	ug/L	5000	5010		100	80–120	P
	Chromium	ug/L	500	498		99.6	80–120	P
	Cobalt	ug/L	500	494		98.7	80–120	P
	Copper	ug/L	500	494		98.8	80–120	P
	Iron	ug/L	5000	5280		106	80–120	P
	Magnesium	ug/L	5000	5150		103	80–120	P
	Nickel	ug/L	500	501		100	80–120	P
	Potassium	ug/L	5000	5120		102	80–120	P
	Selenium	ug/L	500	486		97.2	80–120	P
	Silver	ug/L	500	485		97	80–120	P
	Sodium	ug/L	5000	5220		104	80–120	P
	Vanadium	ug/L	500	505		101	80–120	P
	Zinc	ug/L	500	483		96.6	80–120	P

METALS
-7-
Laboratory Control Sample Summary

SDG NO. 10-1032-1

Contract: LANL01004

Aqueous LCS Source: O2si **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1202003864								
	Antimony	ug/L	50	49		98	80-120	MS
	Beryllium	ug/L	50	51.4		103	80-120	MS
	Cadmium	ug/L	50	48.2		96.5	80-120	MS
	Lead	ug/L	50	50.4		101	80-120	MS
	Manganese	ug/L	50	48.5		97	80-120	MS
	Thallium	ug/L	50	44.7		89.3	80-120	MS
	Uranium	ug/L	50	52.3		105	80-120	MS

METALS
–7–
Laboratory Control Sample Summary

SDG NO. 10–1032–1

Contract: LANL01004

Aqueous LCS Source: GEL **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1202005776								
	Mercury	ug/L	2	2.1		105	80–120	AV

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 10-1032-1 **Client ID** RE12-10-7595L

Contract: LANL01004

Matrix: LIQUID **Level:** Low

Sample ID: 243386001 **Serial Dilution ID:** 1202003802

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Aluminum	68	U	340	U				P
Arsenic	5.37	J	67	J	1150			P
Barium	1	U	5	U				P
Calcium	50	U	250	U				P
Chromium	1	U	5	U				P
Cobalt	1	U	5	U				P
Copper	3.57	J	15		320			P
Iron	30	U	150	U				P
Magnesium	85	U	425	U				P
Nickel	1.5	U	7.5	U				P
Potassium	139	J	250	U	100			P
Selenium	5.49	J	25	U	100			P
Silver	1	U	5	U				P
Sodium	113	J	500	U	100			P
Vanadium	1	U	5	U				P
Zinc	3.3	U	16.5	U				P

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 10-1032-1 **Client ID** RE12-10-7595L

Contract: LANL01004

Matrix: LIQUID **Level:** Low

Sample ID: 243386001 **Serial Dilution ID:** 1202003867

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Antimony	1	U	5	U				MS
Beryllium	.1	U	.5	U				MS
Cadmium	.11	U	.55	U				MS
Lead	.5	U	2.5	U				MS
Manganese	1	U	5	U				MS
Thallium	.3	U	3.11	J				MS
Uranium	.05	U	.25	U				MS

METALS
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Serial Dilution Sample Summary

SDG NO. 10-1032-1 **Client ID** RE16-10-1012L

Contract: LANL01004

Matrix: LIQUID **Level:** Low

Sample ID: 243539001 **Serial Dilution ID:** 1202005779

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Mercury	.066	U	.33	U				AV

METALS
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SAMPLE PREPARATION SUMMARY

SDG No: 10–1032–1 **Method Type:** P

Contract: LANL01004 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number 936493							
1202003798	MB for batch 936493	MB	W	29–DEC–09	50mL	50mL	
1202003799	LCS for batch 936493	LCS	W	29–DEC–09	50mL	50mL	
1202003801	RE12–10–7595S	MS	W	29–DEC–09	50mL	50mL	
1202003800	RE12–10–7595D	DUP	W	29–DEC–09	50mL	50mL	
243386001	RE12–10–7595	SAMPLE	W	29–DEC–09	50mL	50mL	

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 10-1032-1 **Method Type:** MS

Contract: LANL01004 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number	936525						
1202003863	MB for batch 936525	MB	W	29-DEC-09	50mL	50mL	
1202003864	LCS for batch 936525	LCS	W	29-DEC-09	50mL	50mL	
1202003866	RE12-10-7595S	MS	W	29-DEC-09	50mL	50mL	
1202003865	RE12-10-7595D	DUP	W	29-DEC-09	50mL	50mL	
243386001	RE12-10-7595	SAMPLE	W	29-DEC-09	50mL	50mL	

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 10-1032-1 **Method Type:** AV

Contract: LANL01004 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number	937341						
1202005775	MB for batch 937341	MB	W	29-DEC-09	20mL	20mL	
1202005776	LCS for batch 937341	LCS	W	29-DEC-09	20mL	20mL	
1202005778	RE16-10-1012S	MS	W	29-DEC-09	20mL	20mL	
1202005777	RE16-10-1012D	DUP	W	29-DEC-09	20mL	20mL	
243386001	RE12-10-7595	SAMPLE	W	29-DEC-09	20mL	20mL	

Metals
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Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: ICPMS5
Start Date: 03–JAN–10 **End Date:** 03–JAN–10

Client Sdg: 10–1032–1
Method MS
Data File: 100103–2

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	18:25		X			X	X						X		X										
S10	1	18:32		X			X	X						X		X										
S100	1	18:38		X			X	X						X		X										
ICV01	1	18:44		X			X	X						X		X										
ICB01	1	18:50		X			X	X						X		X										
CRDL01	1	18:56		X			X	X						X		X										
ICSA01	1	19:02		X			X	X						X		X										
ICSAB01	1	19:08		X			X	X						X		X										
CCV01	1	19:14		X			X	X						X		X										
CCB01	1	19:20		X			X	X						X		X										
LR01	1	19:27		X			X	X						X		X										
CCV02	1	19:33		X			X	X						X		X										
CCB02	1	19:39		X			X	X						X		X										
ZZZZZZ	1	19:45																								
ZZZZZZ	1	19:51																								
ZZZZZZ	1	19:57																								
ZZZZZZ	1	20:03																								
ZZZZZZ	1	20:09																								
ZZZZZZ	5	20:16																								
ZZZZZZ	1	20:22																								
CCV03	1	20:28		X			X	X						X		X										
CCB03	1	20:34		X			X	X						X		X										
ZZZZZZ	1	20:40																								
ZZZZZZ	1	20:46																								
ZZZZZZ	1	20:53																								
ZZZZZZ	1	20:59																								
ZZZZZZ	1	21:05																								
ZZZZZZ	1	21:11																								
ZZZZZZ	5	21:17																								
CCV04	1	21:23		X			X	X						X		X										
CCB04	1	21:30		X			X	X						X		X										
ZZZZZZ	1	21:36																								
ZZZZZZ	1	21:42																								
ZZZZZZ	1	21:48																								
ZZZZZZ	1	21:54																								
ZZZZZZ	1	22:01																								
CCV05	1	22:07		X			X	X						X		X										
CCB05	1	22:13		X			X	X						X		X										
1202003863	1	22:19		X			X	X						X		X										
1202003864	1	22:25		X			X	X						X		X										

Metals
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Analysis Run Log

Samp No.	D/F	Run Time																							
243386001	1	22:31		X			X	X						X		X									
1202003865	1	22:38		X			X	X						X		X									
1202003866	1	22:44		X			X	X						X		X									
1202003867	5	22:50		X			X	X						X		X									
CCV06	1	22:56		X			X	X						X		X									
CCB06	1	23:02		X			X	X						X		X									

Metals
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Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: ICPMS5
Start Date: 04-JAN-10 **End Date:** 04-JAN-10

Client Sdg: 10-1032-1
Method MS
Data File: 100104-3

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	10:56																					X			
S10	1	11:00																					X			
S100	1	11:05																					X			
ICV01	1	11:09																					X			
ICB01	1	11:14																					X			
CRDL01	1	11:18																					X			
ICSA01	1	11:23																					X			
ICSAB01	1	11:27																					X			
CCV01	1	11:32																					X			
CCB01	1	11:36																					X			
1202003863	1	11:41																					X			
1202003864	1	11:45																					X			
243386001	1	11:50																					X			
1202003865	1	11:54																					X			
1202003866	1	11:59																					X			
1202003867	5	12:04																					X			
CCV02	1	12:08																					X			
CCB02	1	12:13																					X			

Metals
–14–
Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: ICPMS5
Start Date: 04–JAN–10 **End Date:** 04–JAN–10

Client Sdg: 10–1032–1
Method MS
Data File: 100104–9

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	16:23																						X		
S10	1	16:24																						X		
S100	1	16:26																						X		
ICV01	1	16:28																						X		
ICB01	1	16:29																						X		
CRDL01	1	16:31																						X		
ICSA01	1	16:33																						X		
ICSAB01	1	16:34																						X		
CCV01	1	16:36																						X		
CCB01	1	16:38																						X		
ZZZZZZ	1	16:39																								
ZZZZZZ	1	16:41																								
ZZZZZZ	1	16:43																								
ZZZZZZ	1	16:45																								
ZZZZZZ	1	16:46																								
ZZZZZZ	1	16:48																								
ZZZZZZ	5	16:50																								
CCV02	1	16:51																						X		
CCB02	1	16:53																						X		
ZZZZZZ	1	16:55																								
ZZZZZZ	1	16:57																								
ZZZZZZ	1	16:58																								
ZZZZZZ	1	17:00																								
ZZZZZZ	1	17:02																								
CCV03	1	17:04																						X		
CCB03	1	17:05																						X		
1202003863	1	17:07																						X		
1202003864	1	17:09																						X		
243386001	1	17:10																						X		
1202003865	1	17:12																						X		
1202003866	1	17:14																						X		
1202003867	5	17:16																						X		
CCV04	1	17:17																						X		
CCB04	1	17:19																						X		

Metals
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Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: HG3
Start Date: 30-DEC-09 **End Date:** 30-DEC-09

Client Sdg: 10-1032-1
Method AV
Data File: 123009W1-10

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	09:00															X									
S0.2	1	09:02															X									
S0.5	1	09:04															X									
S2.0	1	09:06															X									
S5.0	1	09:08															X									
S10.0	1	09:10															X									
ICV01	1	09:12															X									
ICB01	1	09:14															X									
CRDL01	1	09:16															X									
CCV01	1	09:18															X									
CCB01	1	09:20															X									
ZZZZZZ	1	09:22																								
ZZZZZZ	1	09:24																								
ZZZZZZ	1	09:25																								
ZZZZZZ	1	09:27																								
ZZZZZZ	1	09:29																								
ZZZZZZ	1	09:31																								
ZZZZZZ	1	09:33																								
ZZZZZZ	5	09:35																								
ZZZZZZ	1	09:37																								
ZZZZZZ	1	09:39																								
CCV02	1	09:41															X									
CCB02	1	09:43															X									
ZZZZZZ	1	09:45																								
ZZZZZZ	1	09:47																								
ZZZZZZ	1	09:49																								
ZZZZZZ	1	09:50																								
ZZZZZZ	1	09:52																								
ZZZZZZ	1	09:54																								
ZZZZZZ	1	09:56																								
ZZZZZZ	1	09:58																								
ZZZZZZ	5	10:00																								
ZZZZZZ	1	10:02																								
CCV03	1	10:04															X									
CCB03	1	10:06															X									
ZZZZZZ	1	10:08																								
ZZZZZZ	1	10:10																								
ZZZZZZ	1	10:12																								
ZZZZZZ	1	10:14																								
ZZZZZZ	1	10:15																								

Metals
-14-
Analysis Run Log

Samp No.	D/F	Run Time																							
ZZZZZZ	5	10:17																							
ZZZZZZ	1	10:19																							
ZZZZZZ	1	10:21																							
1202005775	1	10:23													X										
1202005776	1	10:25													X										
CCV04	1	10:27													X										
CCB04	1	10:29													X										
243386001	1	10:31													X										
ZZZZZZ	1	10:33																							
ZZZZZZ	1	10:35																							
ZZZZZZ	1	10:37																							
ZZZZZZ	1	10:39																							
ZZZZZZ	1	10:41																							
ZZZZZZ	1	10:42																							
ZZZZZZ	1	10:44																							
1202005777	1	10:46													X										
1202005778	1	10:48													X										
CCV05	1	10:50													X										
CCB05	1	10:52													X										
1202005779	5	10:54													X										
ZZZZZZ	1	10:56																							
ZZZZZZ	1	10:58																							
ZZZZZZ	1	11:00																							
ZZZZZZ	1	11:02																							
ZZZZZZ	1	11:04																							
ZZZZZZ	1	11:06																							
ZZZZZZ	5	11:08																							
ZZZZZZ	1	11:09																							
ZZZZZZ	1	11:11																							
CCV06	1	11:13													X										
CCB06	1	11:15													X										

Metals
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Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: OPTIMA1
Start Date: 05–JAN–10 **End Date:** 05–JAN–10

Client Sdg: 10–1032–1
Method P
Data File: 010510–1

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	11:40	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
S0.1	1	11:44			X	X				X	X	X						X	X	X	X				X	X
S0.5	1	11:46	X		X	X			X	X	X	X			X			X	X	X	X				X	X
SCAL	1	11:50	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
S10	1	11:53	X						X				X		X							X				
ICV01	1	11:56	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICB01	1	11:59	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
PQL01	1	12:03	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICSA01	1	12:07	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ICSAB01	1	12:10	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
LR01	1	12:13	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	12:16																								
CCV01	1	12:20	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB01	1	12:24	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
LR02	1	12:29	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	12:33																								
ZZZZZZ	1	12:36																								
CCV02	1	12:46	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB02	1	12:49	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
ZZZZZZ	1	12:54																								
ZZZZZZ	1	12:58																								
ZZZZZZ	1	13:02																								
ZZZZZZ	1	13:06																								
ZZZZZZ	1	13:10																								
ZZZZZZ	1	13:15																								
ZZZZZZ	5	13:18																								
CCV03	1	13:22	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB03	1	13:26	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
1202003798	1	13:30	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
1202003799	1	13:34	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
243386001	1	13:38	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
1202003800	1	13:42	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
1202003801	1	13:46	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
1202003802	5	13:49	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCV04	1	13:53	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X
CCB04	1	13:56	X		X	X			X	X	X	X	X		X			X	X	X	X	X			X	X

Standards

METALS
-10-
Instrument Detection Limits

SDG NO. 10-1032-1

Contract: LANL01004 **Lab Code: GEL** **MDL Effective Date:** 01-JUL-09

ICP/MS	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
LIQUID	Aluminum		15.0	30
	Antimony		1.0	3
	Arsenic		1.6	5
	Barium		0.6	2
	Beryllium		0.1	.5
	Cadmium		0.11	1
	Calcium		65.0	200
	Chromium		2.0	10
	Cobalt		0.1	1
	Copper		0.33	1
	Iron		33.0	100
	Lead		0.5	2
	Magnesium		5.2	15
	Manganese		1.0	5
	Nickel		0.5	2
	Potassium		80.0	300
	Selenium		1.0	5
	Silver		0.2	1
	Sodium		80.0	250
	Thallium		0.3	1
	Uranium		0.05	.2
	Vanadium		3.0	10
	Zinc		3.0	10

METALS
-10-
Instrument Detection Limits

SDG NO. 10-1032-1

Contract: LANL01004 **Lab Code: GEL** **MDL Effective Date:** 01-JUL-09

	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
MERCURY				
LIQUID	Mercury		0.066	.2

METALS
-10-
Instrument Detection Limits

SDG NO. 10-1032-1

Contract: LANL01004 **Lab Code: GEL** **MDL Effective Date:** 01-JUL-09

ICP	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
LIQUID	Aluminum	396.153	68.0	200
	Antimony	206.836	3.0	10
	Arsenic	188.979	5.0	30
	Barium	233.527	1.0	5
	Beryllium	313.107	1.0	5
	Cadmium	226.502	1.0	5
	Calcium	317.933	50.0	200
	Chromium	267.716	1.0	5
	Cobalt	228.616	1.0	5
	Copper	324.752	3.0	10
	Iron	238.204	30.0	100
	Lead	220.353	3.3	10
	Magnesium	279.077	85.0	300
	Manganese	257.61	2.0	10
	Nickel	231.604	1.5	5
	Potassium	766.49	50.0	150
	Selenium	196.026	5.0	30
	Silver	328.068	1.0	5
	Sodium	589.592	100	300
	Thallium	190.801	5.0	20
	Uranium	409.014	10.0	50
	Vanadium	292.402	1.0	5
	Zinc	213.857	3.3	10

METALS
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Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1032-1
Effective Dates: 01-NOV-09

Parmname	Wavelength	Aluminum	Antimony	Arsenic	Barium	Beryllium
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	-0.08714	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	-0.36980	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	-0.02864	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
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Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1032-1
Effective Dates: 01-NOV-09

Parmname	Wavelength	Boron	Cadmium	Chromium	Cobalt	Copper
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	4.75140	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	-33.0980	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	1.36057
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.03970	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	122.96
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	4.07230	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	1.45160

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1032-1
Effective Dates: 01-NOV-09

Parmname	Wavelength	Iron	Lead	Magnesium	Manganese	Molybdenum
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	38.0301
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	1.47380
Arsenic	188.979	-0.82061	0.00000	0.00000	0.00000	1.83900
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.31446	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.07749	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	-2.33110
Copper	324.752	-0.24488	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.01248	0.00000	0.00000	0.00000	-2.95230
Magnesium	279.077	1.47510	0.00000	0.00000	0.00000	-24.9658
Manganese	257.61	-0.12666	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	-0.03930	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	1.17810	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	-0.61937	0.00000	0.41160	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	17.0660
Silver	328.068	-0.07890	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.14830	0.00000	0.14260	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	-4.63400	0.00000
Tin	189.927	-0.09214	0.00000	-0.16050	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.18670	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	-0.08158	0.00000	0.00000	0.00000	-6.97050
Zinc	213.857	0.06940	0.00000	0.02727	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1032-1
Effective Dates: 01-NOV-09

Parmname	Wavelength	Nickel	Phosphorous	Selenium	Silicon	Silver
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	-1.09390	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	5.19130	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1032-1
Effective Dates: 01-NOV-09

Parmname	Wavelength	Sulfur	Thallium	Tin	Titanium	Uranium
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	-3.74360	-0.55870
Arsenic	188.979	0.00000	0.00000	0.00000	-2.71110	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.37024	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	-0.71290
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	2.08900	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.84100
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	-21.8313	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	38.5869	36.0710	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	-7.24690	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	-1.61770
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1032-1
Effective Dates: 01-NOV-09

Parmname	Wavelength	Vanadium	Zinc
Aluminum	396.153	0.00000	0.00000
Antimony	206.836	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000
Barium	233.527	-2.10080	0.00000
Beryllium	313.107	0.00000	0.00000
Boron	249.677	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000
Chromium	267.716	-2.34600	0.00000
Cobalt	228.616	0.00000	0.00000
Copper	324.752	0.00000	0.00000
Iron	238.204	0.00000	0.00000
Lead	220.353	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000
Manganese	257.61	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000
Nickel	231.604	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000
Selenium	196.026	0.00000	0.00000
Silicon	251.611	0.00000	0.00000
Silver	328.068	-6.85200	0.00000
Sulfur	181.975	0.00000	0.00000
Thallium	190.801	0.00000	0.00000
Tin	189.927	0.00000	0.00000
Titanium	334.94	0.00000	0.00000
Uranium	409.014	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000
Zinc	213.857	0.00000	0.00000

METALS
-12-
Linear Ranges

SDG NO. 10-1032-1

Contract: LANL01004 **Lab Code: GEL**

Instrument ID ICPMS5

Analyte	Integration Time (msec)	LDR	Units	Effective Date
Aluminum	1	50000	ug/L	01-NOV-09
Antimony	1000	250	ug/L	01-NOV-09
Arsenic	1000	1000	ug/L	01-NOV-09
Barium	1000	1000	ug/L	01-NOV-09
Beryllium	1000	1000	ug/L	01-NOV-09
Cadmium	1000	1000	ug/L	01-NOV-09
Calcium	500	50000	ug/L	01-NOV-09
Chromium	1000	1000	ug/L	01-NOV-09
Cobalt	1000	1000	ug/L	01-NOV-09
Copper	1000	1000	ug/L	01-NOV-09
Iron	500	50000	ug/L	01-NOV-09
Lead	1000	5000	ug/L	01-NOV-09
Magnesium	1	50000	ug/L	01-NOV-09
Manganese	1000	1000	ug/L	01-NOV-09
Nickel	1000	1000	ug/L	01-NOV-09
Potassium	1	50000	ug/L	01-NOV-09
Selenium	1000	500	ug/L	01-NOV-09
Silver	1000	250	ug/L	01-NOV-09
Sodium	1	50000	ug/L	01-NOV-09
Thallium	1000	500	ug/L	01-NOV-09
Uranium	1000	5000	ug/L	01-NOV-09
Vanadium	1000	100	ug/L	01-NOV-09
Zinc	1000	2500	ug/L	01-NOV-09

METALS
-12-
Linear Ranges

SDG NO. 10-1032-1

Contract: LANL01004 **Lab Code: GEL**

Instrument ID OPTIMA1

Analyte	Integration Time (sec)	LDR	Units	Effective Date
Zinc	20	15000	ug/L	01-NOV-09
Aluminum	20	500000	ug/L	01-NOV-09
Antimony	20	10000	ug/L	01-NOV-09
Arsenic	20	10000	ug/L	01-NOV-09
Barium	20	15000	ug/L	01-NOV-09
Beryllium	20	3000	ug/L	01-NOV-09
Cadmium	20	10000	ug/L	01-NOV-09
Calcium	20	500000	ug/L	01-NOV-09
Chromium	20	25000	ug/L	01-NOV-09
Cobalt	20	10000	ug/L	01-NOV-09
Copper	20	20000	ug/L	01-NOV-09
Iron	20	500000	ug/L	01-NOV-09
Lead	20	25000	ug/L	01-NOV-09
Magnesium	20	500000	ug/L	01-NOV-09
Manganese	20	10000	ug/L	01-NOV-09
Nickel	20	10000	ug/L	01-NOV-09
Potassium	20	300000	ug/L	01-NOV-09
Selenium	20	10000	ug/L	01-NOV-09
Silver	20	1000	ug/L	01-NOV-09
Sodium	20	500000	ug/L	01-NOV-09
Thallium	20	10000	ug/L	01-NOV-09
Uranium	20	15000	ug/L	01-NOV-09
Vanadium	20	10000	ug/L	01-NOV-09

Raw Data

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Analysis Begun

Start Time: 1/5/2010 11:40:24 Plasma On Time: 1/4/2010 04:48:24
Logged In Analyst: optima Technique: ICP Continuous
Spectrometer Model: Optima 4300 DV, S/N 077N1030502Autosampler Model: AS-93plus

Sample Information File: C:\pe\optima1\Sample Information\010510A.sif
Batch ID:
Results Data Set: 010510
Results Library: c:\pe\optima1\Results\Results.mdb

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Sequence No.: 1 Autosampler Location: 8
Sample ID: S0 Date Collected: 1/5/2010 11:40:24
Analyst: Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Replicate Data: S0

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	50033.9	50033.9	99.8	%	11:41:05
1	Al 396.153Radial†	25.7	25.8	[0.00]	µg/L	11:41:25
1	Ca 317.933Radial†	182.9	183.3	[0.00]	µg/L	11:41:25
1	Fe 238.204 Radial†	6.9	6.9	[0.00]	µg/L	11:41:25
1	K 766.490 Radial†	210.7	211.1	[0.00]	µg/L	11:41:05
1	Mg 279.077 IEC†	8.8	8.8	[0.00]	µg/L	11:41:25
1	Na 589.592 Radial†	56.3	56.4	[0.00]	µg/L	11:41:05
1	Sr 421.552†	0.5	0.5	[0.00]	µg/L	11:41:25
1	Sc 361.383	1229741.4	1229741.4	100.22	%	11:42:27
1	Y 371.029	854195.8	854195.8	100.21	%	11:42:27
1	Ag 328.068†	3.8	3.8	[0.00]	µg/L	11:42:32
1	As 188.979†	1.2	1.2	[0.00]	µg/L	11:42:53
1	B 249.677†	213.6	213.1	[0.00]	µg/L	11:42:53
1	Ba 233.527†	-42.0	-41.9	[0.00]	µg/L	11:42:53
1	Be 313.107†	1425.9	1422.8	[0.00]	µg/L	11:42:32
1	Cd 226.502†	-55.4	-55.3	[0.00]	µg/L	11:42:53
1	Co 228.616†	-12.1	-12.1	[0.00]	µg/L	11:42:53
1	Cr 267.716†	-31.3	-31.2	[0.00]	µg/L	11:42:53
1	Cu 324.752†	2533.1	2527.6	[0.00]	µg/L	11:42:32
1	Mn 257.610†	98.8	98.6	[0.00]	µg/L	11:42:53
1	Mo 202.031†	1.1	1.1	[0.00]	µg/L	11:42:53
1	Ni 231.604†	122.6	122.4	[0.00]	µg/L	11:42:53
1	P 214.914†	122.4	122.2	[0.00]	µg/L	11:42:53
1	Pb 220.353†	28.6	28.5	[0.00]	µg/L	11:42:53
1	S 181.975 Axial†	9.9	9.9	[0.00]	µg/L	11:42:53
1	Sb 206.836†	6.1	6.1	[0.00]	µg/L	11:42:53
1	Se 196.026†	3.3	3.3	[0.00]	µg/L	11:42:53
1	SiO2†	1426.5	1423.4	[0.00]	µg/L	11:42:53
1	Si 251.611†	561.9	560.7	[0.00]	µg/L	11:42:53
1	Sn 189.927†	-4.1	-4.1	[0.00]	µg/L	11:42:53
1	Ti 334.940†	198.9	198.5	[0.00]	µg/L	11:42:53
1	Tl 190.801†	-8.1	-8.1	[0.00]	µg/L	11:42:53
1	U 409.014†	-58.3	-58.2	[0.00]	µg/L	11:42:32
1	V 292.402†	-230.2	-229.7	[0.00]	µg/L	11:42:53
1	Zn 213.857†	266.5	265.9	[0.00]	µg/L	11:42:53
2	Sc RADIAL	50405.4	50405.4	101	%	11:41:31
2	Al 396.153Radial†	37.3	37.1	[0.00]	µg/L	11:41:51
2	Ca 317.933Radial†	177.3	176.4	[0.00]	µg/L	11:41:51
2	Fe 238.204 Radial†	7.8	7.8	[0.00]	µg/L	11:41:51
2	K 766.490 Radial†	213.9	212.8	[0.00]	µg/L	11:41:31
2	Mg 279.077 IEC†	7.6	7.6	[0.00]	µg/L	11:41:51
2	Na 589.592 Radial†	40.4	40.2	[0.00]	µg/L	11:41:31
2	Sr 421.552†	11.5	11.5	[0.00]	µg/L	11:41:51
2	Sc 361.383	1225425.9	1225425.9	99.867	%	11:42:59
2	Y 371.029	851462.1	851462.1	99.892	%	11:42:59
2	Ag 328.068†	30.7	30.8	[0.00]	µg/L	11:43:04
2	As 188.979†	-1.1	-1.1	[0.00]	µg/L	11:43:25

2	B 249.677†	212.3	212.5	[0.00]	µg/L	11:43:25
2	Ba 233.527†	-46.7	-46.8	[0.00]	µg/L	11:43:25
2	Be 313.107†	1399.4	1401.2	[0.00]	µg/L	11:43:04
2	Cd 226.502†	-54.2	-54.3	[0.00]	µg/L	11:43:25
2	Co 228.616†	-16.4	-16.4	[0.00]	µg/L	11:43:25
2	Cr 267.716†	-34.2	-34.2	[0.00]	µg/L	11:43:25
2	Cu 324.752†	2547.5	2550.9	[0.00]	µg/L	11:43:04
2	Mn 257.610†	102.7	102.8	[0.00]	µg/L	11:43:25
2	Mo 202.031†	-1.4	-1.4	[0.00]	µg/L	11:43:25
2	Ni 231.604†	124.5	124.7	[0.00]	µg/L	11:43:25
2	P 214.914†	114.0	114.2	[0.00]	µg/L	11:43:25
2	Pb 220.353†	26.9	27.0	[0.00]	µg/L	11:43:25
2	S 181.975 Axial†	9.5	9.5	[0.00]	µg/L	11:43:25
2	Sb 206.836†	4.1	4.1	[0.00]	µg/L	11:43:25
2	Se 196.026†	5.7	5.7	[0.00]	µg/L	11:43:25
2	SiO2†	1424.8	1426.7	[0.00]	µg/L	11:43:25
2	Si 251.611†	542.3	543.0	[0.00]	µg/L	11:43:25
2	Sn 189.927†	-0.4	-0.4	[0.00]	µg/L	11:43:25
2	Ti 334.940†	208.1	208.4	[0.00]	µg/L	11:43:25
2	Tl 190.801†	-8.0	-8.0	[0.00]	µg/L	11:43:25
2	U 409.014†	-105.0	-105.2	[0.00]	µg/L	11:43:04
2	V 292.402†	-231.4	-231.7	[0.00]	µg/L	11:43:25
2	Zn 213.857†	268.4	268.8	[0.00]	µg/L	11:43:25
3	Sc RADIAL	49998.0	49998.0	99.7	%	11:41:57
3	Al 396.153Radial†	37.2	37.3	[0.00]	µg/L	11:42:17
3	Ca 317.933Radial†	180.4	180.9	[0.00]	µg/L	11:42:17
3	Fe 238.204 Radial†	8.0	8.0	[0.00]	µg/L	11:42:17
3	K 766.490 Radial†	247.2	247.9	[0.00]	µg/L	11:41:57
3	Mg 279.077 IEC†	8.0	8.0	[0.00]	µg/L	11:42:17
3	Na 589.592 Radial†	61.2	61.4	[0.00]	µg/L	11:41:57
3	Sr 421.552†	11.0	11.0	[0.00]	µg/L	11:42:17
3	Sc 361.383	1226008.2	1226008.2	99.914	%	11:43:30
3	Y 371.029	851479.8	851479.8	99.894	%	11:43:30
3	Ag 328.068†	48.8	48.8	[0.00]	µg/L	11:43:36
3	As 188.979†	-1.1	-1.1	[0.00]	µg/L	11:43:57
3	B 249.677†	211.7	211.8	[0.00]	µg/L	11:43:57
3	Ba 233.527†	-46.7	-46.7	[0.00]	µg/L	11:43:57
3	Be 313.107†	1411.4	1412.6	[0.00]	µg/L	11:43:36
3	Cd 226.502†	-58.9	-59.0	[0.00]	µg/L	11:43:57
3	Co 228.616†	-12.8	-12.8	[0.00]	µg/L	11:43:57
3	Cr 267.716†	-34.5	-34.5	[0.00]	µg/L	11:43:57
3	Cu 324.752†	2539.7	2541.8	[0.00]	µg/L	11:43:36
3	Mn 257.610†	103.3	103.4	[0.00]	µg/L	11:43:57
3	Mo 202.031†	-2.4	-2.4	[0.00]	µg/L	11:43:57
3	Ni 231.604†	124.9	125.0	[0.00]	µg/L	11:43:57
3	P 214.914†	118.3	118.4	[0.00]	µg/L	11:43:57
3	Pb 220.353†	20.7	20.7	[0.00]	µg/L	11:43:57
3	S 181.975 Axial†	7.2	7.2	[0.00]	µg/L	11:43:57
3	Sb 206.836†	3.5	3.5	[0.00]	µg/L	11:43:57
3	Se 196.026†	7.4	7.4	[0.00]	µg/L	11:43:57
3	SiO2†	1430.3	1431.5	[0.00]	µg/L	11:43:57
3	Si 251.611†	555.2	555.6	[0.00]	µg/L	11:43:57
3	Sn 189.927†	-2.1	-2.1	[0.00]	µg/L	11:43:57
3	Ti 334.940†	197.7	197.8	[0.00]	µg/L	11:43:57
3	Tl 190.801†	-9.6	-9.6	[0.00]	µg/L	11:43:57
3	U 409.014†	-38.6	-38.7	[0.00]	µg/L	11:43:36
3	V 292.402†	-228.1	-228.3	[0.00]	µg/L	11:43:57
3	Zn 213.857†	263.4	263.6	[0.00]	µg/L	11:43:57

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1227058.5	2341.61	0.19%	100.00	%
Sc RADIAL	50145.8	225.58	0.45%	100	%
Y 371.029	852379.2	1573.20	0.18%	100.00	%
Ag 328.068†	27.8	22.63	81.41%	[0.00]	µg/L
Al 396.153Radial†	33.4	6.59	19.74%	[0.00]	µg/L
As 188.979†	-0.3	1.35	418.27%	[0.00]	µg/L
B 249.677†	212.5	0.63	0.30%	[0.00]	µg/L
Ba 233.527†	-45.1	2.80	6.19%	[0.00]	µg/L

Be 313.107†	1412.2	10.77	0.76%	[0.00]	µg/L
Ca 317.933Radial†	180.2	3.54	1.96%	[0.00]	µg/L
Cd 226.502†	-56.2	2.46	4.37%	[0.00]	µg/L
Co 228.616†	-13.8	2.33	16.95%	[0.00]	µg/L
Cr 267.716†	-33.3	1.84	5.52%	[0.00]	µg/L
Cu 324.752†	2540.1	11.72	0.46%	[0.00]	µg/L
Fe 238.204 Radial†	7.6	0.57	7.57%	[0.00]	µg/L
K 766.490 Radial†	224.0	20.78	9.28%	[0.00]	µg/L
Mg 279.077 IEC†	8.1	0.62	7.64%	[0.00]	µg/L
Mn 257.610†	101.6	2.63	2.58%	[0.00]	µg/L
Mo 202.031†	-0.9	1.79	197.16%	[0.00]	µg/L
Na 589.592 Radial†	52.7	11.10	21.09%	[0.00]	µg/L
Ni 231.604†	124.0	1.46	1.17%	[0.00]	µg/L
P 214.914†	118.3	4.00	3.38%	[0.00]	µg/L
Pb 220.353†	25.4	4.13	16.28%	[0.00]	µg/L
S 181.975 Axial†	8.9	1.42	15.97%	[0.00]	µg/L
Sb 206.836†	4.5	1.35	29.61%	[0.00]	µg/L
Se 196.026†	5.5	2.10	38.39%	[0.00]	µg/L
SiO2†	1427.2	4.05	0.28%	[0.00]	µg/L
Si 251.611†	553.1	9.13	1.65%	[0.00]	µg/L
Sn 189.927†	-2.2	1.85	85.23%	[0.00]	µg/L
Sr 421.552†	7.7	6.21	81.10%	[0.00]	µg/L
Ti 334.940†	201.6	5.90	2.93%	[0.00]	µg/L
Tl 190.801†	-8.6	0.92	10.73%	[0.00]	µg/L
U 409.014†	-67.3	34.19	50.78%	[0.00]	µg/L
V 292.402†	-229.9	1.72	0.75%	[0.00]	µg/L
Zn 213.857†	266.1	2.60	0.98%	[0.00]	µg/L

Sequence No.: 2
Sample ID: S0.1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 1/5/2010 11:44:06
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: S0.1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	51071.9	51071.9	102	%	11:44:40
1	K 766.490 Radial†	1751.3	1495.6	[1000]	µg/L	11:44:40
1	Sr 421.552†	9403.6	9225.4	[100]	µg/L	11:44:40
1	Sc 361.383	1222089.6	1222089.6	99.595	%	11:45:01
1	Y 371.029	849016.3	849016.3	99.605	%	11:45:01
1	Ag 328.068†	7893.0	7897.3	[100]	µg/L	11:45:07
1	As 188.979†	22.2	22.6	[100]	µg/L	11:45:27
1	B 249.677†	1496.6	1290.2	[100]	µg/L	11:45:27
1	Ba 233.527†	1694.0	1746.1	[100]	µg/L	11:45:27
1	Be 313.107†	66415.3	65273.1	[100]	µg/L	11:45:01
1	Cd 226.502†	1360.5	1422.2	[100]	µg/L	11:45:27
1	Co 228.616†	900.2	917.6	[100]	µg/L	11:45:27
1	Cr 267.716†	2088.9	2130.8	[100]	µg/L	11:45:27
1	Cu 324.752†	15241.8	12763.7	[100]	µg/L	11:45:07
1	Mn 257.610†	15160.5	15120.5	[100]	µg/L	11:45:07
1	Mo 202.031†	448.3	451.0	[100]	µg/L	11:45:27
1	Ni 231.604†	909.0	788.7	[100]	µg/L	11:45:27
1	P 214.914†	208.8	91.4	[500]	µg/L	11:45:27
1	Pb 220.353†	206.7	182.2	[100]	µg/L	11:45:27
1	S 181.975 Axial†	26.2	17.5	[200]	µg/L	11:45:27
1	Sb 206.836†	58.5	54.2	[100]	µg/L	11:45:27
1	Se 196.026†	43.1	37.8	[100]	µg/L	11:45:27
1	SiO2†	4589.3	3180.8	[1069.5]	µg/L	11:45:07
1	Si 251.611†	4202.7	3666.7	[500]	µg/L	11:45:07
1	Sn 189.927†	82.3	84.8	[100]	µg/L	11:45:27
1	Ti 334.940†	27229.2	27138.4	[100]	µg/L	11:45:07
1	Tl 190.801†	24.0	32.7	[100]	µg/L	11:45:27
1	U 409.014†	937.2	1008.3	[100]	µg/L	11:45:07
1	V 292.402†	4559.6	4808.1	[100]	µg/L	11:45:07
1	Zn 213.857†	1941.1	1682.9	[100]	µg/L	11:45:27
2	Sc RADIAL	50781.3	50781.3	101	%	11:44:46
2	K 766.490 Radial†	1772.0	1525.9	[1000]	µg/L	11:44:46
2	Sr 421.552†	9363.8	9239.0	[100]	µg/L	11:44:46
2	Sc 361.383	1226967.7	1226967.7	99.993	%	11:45:33
2	Y 371.029	853120.0	853120.0	100.09	%	11:45:33
2	Ag 328.068†	7862.8	7835.6	[100]	µg/L	11:45:39
2	As 188.979†	23.4	23.8	[100]	µg/L	11:45:59
2	B 249.677†	1478.1	1265.7	[100]	µg/L	11:45:59
2	Ba 233.527†	1678.2	1723.5	[100]	µg/L	11:45:59
2	Be 313.107†	66368.0	64960.7	[100]	µg/L	11:45:33
2	Cd 226.502†	1335.9	1392.2	[100]	µg/L	11:45:59
2	Co 228.616†	896.5	910.4	[100]	µg/L	11:45:59
2	Cr 267.716†	2070.8	2104.3	[100]	µg/L	11:45:59
2	Cu 324.752†	15152.1	12613.1	[100]	µg/L	11:45:39
2	Mn 257.610†	15075.5	14975.0	[100]	µg/L	11:45:39
2	Mo 202.031†	443.1	444.0	[100]	µg/L	11:45:59
2	Ni 231.604†	894.7	770.8	[100]	µg/L	11:45:59
2	P 214.914†	214.9	96.7	[500]	µg/L	11:45:59
2	Pb 220.353†	204.8	179.5	[100]	µg/L	11:45:59
2	S 181.975 Axial†	24.9	16.0	[200]	µg/L	11:45:59
2	Sb 206.836†	63.0	58.5	[100]	µg/L	11:45:59
2	Se 196.026†	44.3	38.8	[100]	µg/L	11:45:59
2	SiO2†	4592.7	3165.8	[1069.5]	µg/L	11:45:39
2	Si 251.611†	4196.6	3643.8	[500]	µg/L	11:45:39
2	Sn 189.927†	79.9	82.1	[100]	µg/L	11:45:59
2	Ti 334.940†	27165.8	26966.3	[100]	µg/L	11:45:39
2	Tl 190.801†	24.2	32.8	[100]	µg/L	11:45:59
2	U 409.014†	925.5	992.9	[100]	µg/L	11:45:39
2	V 292.402†	4548.0	4778.3	[100]	µg/L	11:45:39

2	Zn 213.857†	1926.0	1660.1	[100]	µg/L	11:45:59
3	Sc RADIAL	50394.9	50394.9	100	%	11:44:51
3	K 766.490 Radial†	1702.0	1469.6	[1000]	µg/L	11:44:51
3	Sr 421.552†	9337.1	9283.3	[100]	µg/L	11:44:51
3	Sc 361.383	1275148.5	1275148.5	103.92	%	11:46:05
3	Y 371.029	882694.1	882694.1	103.56	%	11:46:05
3	Ag 328.068†	7959.8	7631.8	[100]	µg/L	11:46:10
3	As 188.979†	21.2	20.7	[100]	µg/L	11:46:31
3	B 249.677†	1511.4	1241.9	[100]	µg/L	11:46:31
3	Ba 233.527†	1707.2	1687.9	[100]	µg/L	11:46:31
3	Be 313.107†	64204.3	60370.8	[100]	µg/L	11:46:05
3	Cd 226.502†	1364.3	1369.0	[100]	µg/L	11:46:31
3	Co 228.616†	903.9	883.6	[100]	µg/L	11:46:31
3	Cr 267.716†	2093.9	2048.2	[100]	µg/L	11:46:31
3	Cu 324.752†	15302.3	12185.1	[100]	µg/L	11:46:10
3	Mn 257.610†	15204.8	14529.8	[100]	µg/L	11:46:10
3	Mo 202.031†	448.1	432.1	[100]	µg/L	11:46:31
3	Ni 231.604†	916.9	758.3	[100]	µg/L	11:46:31
3	P 214.914†	217.0	90.6	[500]	µg/L	11:46:31
3	Pb 220.353†	205.0	171.9	[100]	µg/L	11:46:31
3	S 181.975 Axial†	30.7	20.6	[200]	µg/L	11:46:31
3	Sb 206.836†	58.5	51.7	[100]	µg/L	11:46:31
3	Se 196.026†	40.9	33.9	[100]	µg/L	11:46:31
3	SiO2†	4585.5	2985.3	[1069.5]	µg/L	11:46:10
3	Si 251.611†	4244.0	3530.8	[500]	µg/L	11:46:10
3	Sn 189.927†	84.8	83.8	[100]	µg/L	11:46:31
3	Ti 334.940†	27381.3	26147.1	[100]	µg/L	11:46:10
3	Tl 190.801†	25.2	32.8	[100]	µg/L	11:46:31
3	U 409.014†	977.4	1007.8	[100]	µg/L	11:46:10
3	V 292.402†	4631.9	4687.2	[100]	µg/L	11:46:10
3	Zn 213.857†	1953.7	1614.0	[100]	µg/L	11:46:31

Mean Data: S0.1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1241402.0	29326.99	2.36%	101.17	%
Sc RADIAL	50749.4	339.67	0.67%	101	%
Y 371.029	861610.1	18374.17	2.13%	101.08	%
Ag 328.068†	7788.2	138.94	1.78%	[100]	µg/L
As 188.979†	22.4	1.52	6.79%	[100]	µg/L
B 249.677†	1265.9	24.18	1.91%	[100]	µg/L
Ba 233.527†	1719.2	29.30	1.70%	[100]	µg/L
Be 313.107†	63534.9	2744.65	4.32%	[100]	µg/L
Cd 226.502†	1394.5	26.68	1.91%	[100]	µg/L
Co 228.616†	903.9	17.91	1.98%	[100]	µg/L
Cr 267.716†	2094.4	42.14	2.01%	[100]	µg/L
Cu 324.752†	12520.6	300.19	2.40%	[100]	µg/L
K 766.490 Radial†	1497.0	28.16	1.88%	[1000]	µg/L
Mn 257.610†	14875.1	307.76	2.07%	[100]	µg/L
Mo 202.031†	442.4	9.59	2.17%	[100]	µg/L
Ni 231.604†	772.6	15.28	1.98%	[100]	µg/L
P 214.914†	92.9	3.31	3.56%	[500]	µg/L
Pb 220.353†	177.8	5.35	3.01%	[100]	µg/L
S 181.975 Axial†	18.0	2.36	13.09%	[200]	µg/L
Sb 206.836†	54.8	3.41	6.23%	[100]	µg/L
Se 196.026†	36.9	2.59	7.02%	[100]	µg/L
SiO2†	3110.6	108.78	3.50%	[1069.5]	µg/L
Si 251.611†	3613.8	72.73	2.01%	[500]	µg/L
Sn 189.927†	83.6	1.41	1.68%	[100]	µg/L
Sr 421.552†	9249.2	30.27	0.33%	[100]	µg/L
Ti 334.940†	26750.6	529.65	1.98%	[100]	µg/L
Tl 190.801†	32.8	0.06	0.18%	[100]	µg/L
U 409.014†	1003.0	8.78	0.88%	[100]	µg/L
V 292.402†	4757.8	62.99	1.32%	[100]	µg/L
Zn 213.857†	1652.3	35.13	2.13%	[100]	µg/L

Sequence No.: 3
Sample ID: S0.5
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 1/5/2010 11:46:41
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: S0.5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	51066.7	51066.7	102	%	11:47:13
1	Al 396.153Radial†	7084.7	6923.6	[5000]	µg/L	11:47:13
1	Ca 317.933Radial†	3320.3	3080.2	[5000]	µg/L	11:47:34
1	K 766.490 Radial†	7623.5	7262.1	[5000]	µg/L	11:47:13
1	Mg 279.077 IEC†	501.9	484.8	[5000]	µg/L	11:47:34
1	Sr 421.552†	45485.0	44657.0	[500]	µg/L	11:47:13
1	Sc 361.383	1239172.2	1239172.2	100.99	%	11:48:36
1	Y 371.029	855183.3	855183.3	100.33	%	11:48:36
1	Ag 328.068†	37211.4	36819.8	[500]	µg/L	11:48:42
1	As 188.979†	103.2	102.5	[500]	µg/L	11:49:02
1	B 249.677†	6586.1	6309.2	[500]	µg/L	11:48:42
1	Ba 233.527†	8290.3	8254.3	[500]	µg/L	11:48:42
1	Be 313.107†	313148.7	308675.3	[500]	µg/L	11:48:36
1	Cd 226.502†	6601.3	6592.9	[500]	µg/L	11:48:42
1	Co 228.616†	4307.9	4279.6	[500]	µg/L	11:48:42
1	Cr 267.716†	10156.6	10090.7	[500]	µg/L	11:48:42
1	Cu 324.752†	61618.9	58476.4	[500]	µg/L	11:48:42
1	Mn 257.610†	71111.1	70314.4	[500]	µg/L	11:48:36
1	Mo 202.031†	2119.8	2100.0	[500]	µg/L	11:49:02
1	Ni 231.604†	3816.8	3655.5	[500]	µg/L	11:48:42
1	P 214.914†	574.1	450.2	[2500]	µg/L	11:49:02
1	Pb 220.353†	867.9	834.0	[500]	µg/L	11:49:02
1	S 181.975 Axial†	106.6	96.6	[1000]	µg/L	11:49:02
1	Sb 206.836†	263.6	256.4	[500]	µg/L	11:49:02
1	Se 196.026†	171.1	163.9	[500]	µg/L	11:49:02
1	SiO2†	16218.6	14632.9	[5347.5]	µg/L	11:48:42
1	Si 251.611†	17910.9	17182.7	[2500]	µg/L	11:48:42
1	Sn 189.927†	408.5	406.7	[500]	µg/L	11:49:02
1	Ti 334.940†	130713.8	129234.4	[500]	µg/L	11:48:36
1	Tl 190.801†	151.7	158.8	[500]	µg/L	11:49:02
1	U 409.014†	4640.1	4662.1	[500]	µg/L	11:48:42
1	V 292.402†	22689.4	22697.5	[500]	µg/L	11:48:42
1	Zn 213.857†	8244.1	7897.4	[500]	µg/L	11:48:42
2	Sc RADIAL	55454.8	55454.8	111	%	11:47:39
2	Al 396.153Radial†	6473.5	5820.3	[5000]	µg/L	11:47:39
2	Ca 317.933Radial†	3278.3	2784.3	[5000]	µg/L	11:48:00
2	K 766.490 Radial†	7012.7	6117.4	[5000]	µg/L	11:47:39
2	Mg 279.077 IEC†	499.5	443.6	[5000]	µg/L	11:48:00
2	Sr 421.552†	41604.4	37613.7	[500]	µg/L	11:47:39
2	Sc 361.383	1237857.2	1237857.2	100.88	%	11:49:08
2	Y 371.029	856676.2	856676.2	100.50	%	11:49:08
2	Ag 328.068†	37169.4	36817.4	[500]	µg/L	11:49:14
2	As 188.979†	103.7	103.1	[500]	µg/L	11:49:34
2	B 249.677†	6527.1	6257.6	[500]	µg/L	11:49:14
2	Ba 233.527†	8277.4	8250.3	[500]	µg/L	11:49:14
2	Be 313.107†	312478.8	308340.6	[500]	µg/L	11:49:08
2	Cd 226.502†	6568.4	6567.2	[500]	µg/L	11:49:14
2	Co 228.616†	4290.6	4266.9	[500]	µg/L	11:49:14
2	Cr 267.716†	10162.4	10107.1	[500]	µg/L	11:49:14
2	Cu 324.752†	61519.8	58443.0	[500]	µg/L	11:49:14
2	Mn 257.610†	70742.2	70023.5	[500]	µg/L	11:49:08
2	Mo 202.031†	2110.6	2093.1	[500]	µg/L	11:49:34
2	Ni 231.604†	3835.1	3677.7	[500]	µg/L	11:49:14
2	P 214.914†	567.2	444.0	[2500]	µg/L	11:49:34
2	Pb 220.353†	866.7	833.7	[500]	µg/L	11:49:34
2	S 181.975 Axial†	106.9	97.1	[1000]	µg/L	11:49:34
2	Sb 206.836†	261.0	254.2	[500]	µg/L	11:49:34
2	Se 196.026†	170.6	163.7	[500]	µg/L	11:49:34
2	SiO2†	16170.6	14602.3	[5347.5]	µg/L	11:49:14

2	Si 251.611†	17871.0	17162.0	[2500]	µg/L	11:49:14
2	Sn 189.927†	403.7	402.3	[500]	µg/L	11:49:34
2	Ti 334.940†	130552.7	129212.3	[500]	µg/L	11:49:08
2	Tl 190.801†	147.5	154.8	[500]	µg/L	11:49:34
2	U 409.014†	4687.4	4713.8	[500]	µg/L	11:49:14
2	V 292.402†	22625.4	22657.9	[500]	µg/L	11:49:14
2	Zn 213.857†	8231.5	7893.6	[500]	µg/L	11:49:14
3	Sc RADIAL	51346.4	51346.4	102	%	11:48:05
3	Al 396.153Radial†	7071.3	6872.6	[5000]	µg/L	11:48:05
3	Ca 317.933Radial†	3288.2	3031.2	[5000]	µg/L	11:48:26
3	K 766.490 Radial†	7557.6	7156.9	[5000]	µg/L	11:48:05
3	Mg 279.077 IEC†	498.8	479.0	[5000]	µg/L	11:48:26
3	Sr 421.552†	45070.5	44009.0	[500]	µg/L	11:48:05
3	Sc 361.383	1232721.4	1232721.4	100.46	%	11:49:40
3	Y 371.029	852952.3	852952.3	100.07	%	11:49:40
3	Ag 328.068†	36337.9	36143.2	[500]	µg/L	11:49:46
3	As 188.979†	91.2	91.1	[500]	µg/L	11:50:06
3	B 249.677†	6394.9	6153.1	[500]	µg/L	11:49:46
3	Ba 233.527†	7986.6	7995.0	[500]	µg/L	11:49:46
3	Be 313.107†	305963.8	303146.1	[500]	µg/L	11:49:40
3	Cd 226.502†	6359.2	6386.2	[500]	µg/L	11:49:46
3	Co 228.616†	4144.4	4139.1	[500]	µg/L	11:49:46
3	Cr 267.716†	9699.6	9688.3	[500]	µg/L	11:49:46
3	Cu 324.752†	59584.6	56770.8	[500]	µg/L	11:49:46
3	Mn 257.610†	69439.8	69019.2	[500]	µg/L	11:49:40
3	Mo 202.031†	1887.5	1879.7	[500]	µg/L	11:50:06
3	Ni 231.604†	3671.2	3530.3	[500]	µg/L	11:49:46
3	P 214.914†	527.0	406.4	[2500]	µg/L	11:50:06
3	Pb 220.353†	799.1	770.1	[500]	µg/L	11:50:06
3	S 181.975 Axial†	101.0	91.7	[1000]	µg/L	11:50:06
3	Sb 206.836†	234.9	229.3	[500]	µg/L	11:50:06
3	Se 196.026†	163.5	157.2	[500]	µg/L	11:50:06
3	SiO2†	15790.7	14291.0	[5347.5]	µg/L	11:49:46
3	Si 251.611†	17308.2	16675.6	[2500]	µg/L	11:49:46
3	Sn 189.927†	355.0	355.6	[500]	µg/L	11:50:06
3	Ti 334.940†	127768.8	126980.3	[500]	µg/L	11:49:40
3	Tl 190.801†	146.8	154.7	[500]	µg/L	11:50:06
3	U 409.014†	4501.6	4548.2	[500]	µg/L	11:49:46
3	V 292.402†	21723.2	21853.3	[500]	µg/L	11:49:46
3	Zn 213.857†	7906.9	7604.5	[500]	µg/L	11:49:46

Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1236583.6	3408.79	0.28%	100.78	%
Sc RADIAL	52622.6	2456.71	4.67%	105	%
Y 371.029	854937.3	1874.12	0.22%	100.30	%
Ag 328.068†	36593.5	389.95	1.07%	[500]	µg/L
Al 396.153Radial†	6538.8	622.74	9.52%	[5000]	µg/L
As 188.979†	98.9	6.76	6.83%	[500]	µg/L
B 249.677†	6240.0	79.56	1.28%	[500]	µg/L
Ba 233.527†	8166.5	148.58	1.82%	[500]	µg/L
Be 313.107†	306720.7	3100.19	1.01%	[500]	µg/L
Ca 317.933Radial†	2965.2	158.59	5.35%	[5000]	µg/L
Cd 226.502†	6515.4	112.70	1.73%	[500]	µg/L
Co 228.616†	4228.6	77.71	1.84%	[500]	µg/L
Cr 267.716†	9962.0	237.16	2.38%	[500]	µg/L
Cu 324.752†	57896.7	975.26	1.68%	[500]	µg/L
K 766.490 Radial†	6845.5	632.71	9.24%	[5000]	µg/L
Mg 279.077 IEC†	469.1	22.30	4.75%	[5000]	µg/L
Mn 257.610†	69785.7	679.53	0.97%	[500]	µg/L
Mo 202.031†	2024.3	125.23	6.19%	[500]	µg/L
Ni 231.604†	3621.1	79.45	2.19%	[500]	µg/L
P 214.914†	433.5	23.74	5.48%	[2500]	µg/L
Pb 220.353†	812.6	36.84	4.53%	[500]	µg/L
S 181.975 Axial†	95.1	3.00	3.16%	[1000]	µg/L
Sb 206.836†	246.6	15.07	6.11%	[500]	µg/L
Se 196.026†	161.6	3.79	2.34%	[500]	µg/L
SiO2†	14508.7	189.19	1.30%	[5347.5]	µg/L
Si 251.611†	17006.8	286.99	1.69%	[2500]	µg/L

Sn 189.927†	388.2	28.35	7.30%	[500] µg/L
Sr 421.552†	42093.2	3892.92	9.25%	[500] µg/L
Ti 334.940†	128475.7	1295.08	1.01%	[500] µg/L
Tl 190.801†	156.1	2.31	1.48%	[500] µg/L
U 409.014†	4641.4	84.70	1.82%	[500] µg/L
V 292.402†	22402.9	476.39	2.13%	[500] µg/L
Zn 213.857†	7798.5	168.07	2.16%	[500] µg/L

Sequence No.: 4
Sample ID: SCAL
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 1/5/2010 11:50:15
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: SCAL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	51144.0	51144.0	102	%	11:50:48
1	Al 396.153Radial†	14505.4	14188.9	[10000]	µg/L	11:50:48
1	Ca 317.933Radial†	6532.3	6224.6	[10000]	µg/L	11:51:08
1	Fe 238.204 Radial†	525.4	507.6	[10000]	µg/L	11:51:08
1	K 766.490 Radial†	15357.2	14833.5	[10000]	µg/L	11:50:48
1	Mg 279.077 IEC†	1024.3	996.2	[10000]	µg/L	11:51:08
1	Na 589.592 Radial†	32940.9	32245.3	[10000]	µg/L	11:50:48
1	Sr 421.552†	92727.8	90910.2	[1000]	µg/L	11:50:48
1	Sc 361.383	1239044.8	1239044.8	100.98	%	11:52:11
1	Y 371.029	856114.9	856114.9	100.44	%	11:52:11
1	Ag 328.068†	77572.3	76794.1	[1000]	µg/L	11:52:11
1	As 188.979†	214.4	212.7	[1000]	µg/L	11:52:37
1	B 249.677†	13567.5	13223.7	[1000]	µg/L	11:52:17
1	Ba 233.527†	17355.2	17232.5	[1000]	µg/L	11:52:17
1	Be 313.107†	643111.3	635477.7	[1000]	µg/L	11:52:11
1	Cd 226.502†	13786.5	13709.3	[1000]	µg/L	11:52:17
1	Co 228.616†	8937.3	8864.6	[1000]	µg/L	11:52:17
1	Cr 267.716†	21253.4	21081.2	[1000]	µg/L	11:52:17
1	Cu 324.752†	126967.3	123199.0	[1000]	µg/L	11:52:11
1	Mn 257.610†	145746.2	144234.7	[1000]	µg/L	11:52:11
1	Mo 202.031†	4461.0	4418.8	[1000]	µg/L	11:52:17
1	Ni 231.604†	7832.7	7632.9	[1000]	µg/L	11:52:17
1	P 214.914†	1050.1	921.7	[5000]	µg/L	11:52:37
1	Pb 220.353†	1763.2	1720.8	[1000]	µg/L	11:52:37
1	S 181.975 Axial†	209.8	198.9	[2000]	µg/L	11:52:37
1	Sb 206.836†	548.3	538.5	[1000]	µg/L	11:52:37
1	Se 196.026†	342.0	333.2	[1000]	µg/L	11:52:37
1	SiO2†	32033.4	30296.3	[10695]	µg/L	11:52:17
1	Si 251.611†	36417.5	35512.1	[5000]	µg/L	11:52:17
1	Sn 189.927†	847.7	841.7	[1000]	µg/L	11:52:37
1	Ti 334.940†	269878.0	267065.7	[1000]	µg/L	11:52:11
1	Tl 190.801†	326.0	331.4	[1000]	µg/L	11:52:37
1	U 409.014†	9690.1	9663.6	[1000]	µg/L	11:52:17
1	V 292.402†	47472.1	47242.8	[1000]	µg/L	11:52:17
1	Zn 213.857†	16755.3	16327.1	[1000]	µg/L	11:52:17
2	Sc RADIAL	51213.8	51213.8	102	%	11:51:14
2	Al 396.153Radial†	14533.5	14197.0	[10000]	µg/L	11:51:14
2	Ca 317.933Radial†	6566.3	6249.2	[10000]	µg/L	11:51:34
2	Fe 238.204 Radial†	523.3	504.8	[10000]	µg/L	11:51:34
2	K 766.490 Radial†	15458.2	14911.9	[10000]	µg/L	11:51:14
2	Mg 279.077 IEC†	1018.7	989.4	[10000]	µg/L	11:51:34
2	Na 589.592 Radial†	32959.8	32219.8	[10000]	µg/L	11:51:14
2	Sr 421.552†	92724.1	90782.7	[1000]	µg/L	11:51:14
2	Sc 361.383	1218783.5	1218783.5	99.326	%	11:52:43
2	Y 371.029	842172.8	842172.8	98.803	%	11:52:43
2	Ag 328.068†	76902.5	77396.8	[1000]	µg/L	11:52:43
2	As 188.979†	215.8	217.6	[1000]	µg/L	11:53:09
2	B 249.677†	13401.6	13280.1	[1000]	µg/L	11:52:49
2	Ba 233.527†	17083.1	17244.2	[1000]	µg/L	11:52:49
2	Be 313.107†	636848.8	639760.5	[1000]	µg/L	11:52:43
2	Cd 226.502†	13558.2	13706.4	[1000]	µg/L	11:52:49
2	Co 228.616†	8838.8	8912.6	[1000]	µg/L	11:52:49
2	Cr 267.716†	20951.1	21126.6	[1000]	µg/L	11:52:49
2	Cu 324.752†	125864.9	124179.3	[1000]	µg/L	11:52:43
2	Mn 257.610†	144426.7	145305.7	[1000]	µg/L	11:52:43
2	Mo 202.031†	4404.8	4435.6	[1000]	µg/L	11:52:49
2	Ni 231.604†	7691.8	7620.0	[1000]	µg/L	11:52:49
2	P 214.914†	1051.3	940.1	[5000]	µg/L	11:53:09
2	Pb 220.353†	1767.3	1753.9	[1000]	µg/L	11:53:09

2	S 181.975 Axial†	214.2	206.8	[2000]	µg/L	11:53:09
2	Sb 206.836†	542.6	541.8	[1000]	µg/L	11:53:09
2	Se 196.026†	346.0	342.9	[1000]	µg/L	11:53:09
2	SiO2†	31623.9	30411.4	[10695]	µg/L	11:52:49
2	Si 251.611†	35962.8	35653.8	[5000]	µg/L	11:52:49
2	Sn 189.927†	848.3	856.3	[1000]	µg/L	11:53:09
2	Ti 334.940†	267512.9	269127.6	[1000]	µg/L	11:52:43
2	Tl 190.801†	318.3	329.0	[1000]	µg/L	11:53:09
2	U 409.014†	9570.2	9702.6	[1000]	µg/L	11:52:49
2	V 292.402†	46809.8	47357.5	[1000]	µg/L	11:52:49
2	Zn 213.857†	16521.6	16367.6	[1000]	µg/L	11:52:49
3	Sc RADIAL	50979.2	50979.2	102	%	11:51:40
3	Al 396.153Radial†	14519.6	14248.8	[10000]	µg/L	11:51:40
3	Ca 317.933Radial†	6477.7	6191.6	[10000]	µg/L	11:52:00
3	Fe 238.204 Radial†	518.0	501.9	[10000]	µg/L	11:52:00
3	K 766.490 Radial†	15451.2	14974.7	[10000]	µg/L	11:51:40
3	Mg 279.077 IEC†	1014.6	989.9	[10000]	µg/L	11:52:00
3	Na 589.592 Radial†	32816.9	32227.7	[10000]	µg/L	11:51:40
3	Sr 421.552†	92751.7	91227.7	[1000]	µg/L	11:51:40
3	Sc 361.383	1228738.3	1228738.3	100.14	%	11:53:16
3	Y 371.029	848180.9	848180.9	99.507	%	11:53:16
3	Ag 328.068†	76430.5	76298.2	[1000]	µg/L	11:53:16
3	As 188.979†	191.6	191.6	[1000]	µg/L	11:53:42
3	B 249.677†	13056.2	12825.9	[1000]	µg/L	11:53:21
3	Ba 233.527†	16438.7	16461.3	[1000]	µg/L	11:53:21
3	Be 313.107†	624586.6	622320.6	[1000]	µg/L	11:53:16
3	Cd 226.502†	13003.1	13041.5	[1000]	µg/L	11:53:21
3	Co 228.616†	8424.0	8426.2	[1000]	µg/L	11:53:21
3	Cr 267.716†	19629.9	19636.4	[1000]	µg/L	11:53:21
3	Cu 324.752†	123632.6	120923.4	[1000]	µg/L	11:53:16
3	Mn 257.610†	141723.6	141428.3	[1000]	µg/L	11:53:16
3	Mo 202.031†	4180.9	4176.1	[1000]	µg/L	11:53:21
3	Ni 231.604†	7325.1	7191.0	[1000]	µg/L	11:53:21
3	P 214.914†	956.0	836.4	[5000]	µg/L	11:53:42
3	Pb 220.353†	1590.5	1562.9	[1000]	µg/L	11:53:42
3	S 181.975 Axial†	196.3	187.1	[2000]	µg/L	11:53:42
3	Sb 206.836†	489.4	484.2	[1000]	µg/L	11:53:42
3	Se 196.026†	311.3	305.4	[1000]	µg/L	11:53:42
3	SiO2†	30629.3	29160.3	[10695]	µg/L	11:53:21
3	Si 251.611†	34830.2	34229.5	[5000]	µg/L	11:53:21
3	Sn 189.927†	728.5	729.7	[1000]	µg/L	11:53:42
3	Ti 334.940†	261399.8	260840.9	[1000]	µg/L	11:53:16
3	Tl 190.801†	302.5	310.7	[1000]	µg/L	11:53:42
3	U 409.014†	8970.6	9025.7	[1000]	µg/L	11:53:21
3	V 292.402†	44263.8	44433.2	[1000]	µg/L	11:53:21
3	Zn 213.857†	15814.3	15526.5	[1000]	µg/L	11:53:21

Mean Data: SCAL

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1228855.5	10131.18	0.82%	100.15	%
Sc RADIAL	51112.3	120.49	0.24%	102	%
Y 371.029	848822.9	6993.21	0.82%	99.583	%
Ag 328.068†	76829.7	550.17	0.72%	[1000]	µg/L
Al 396.153Radial†	14211.6	32.52	0.23%	[10000]	µg/L
As 188.979†	207.3	13.76	6.64%	[1000]	µg/L
B 249.677†	13109.9	247.60	1.89%	[1000]	µg/L
Ba 233.527†	16979.3	448.65	2.64%	[1000]	µg/L
Be 313.107†	632519.6	9088.51	1.44%	[1000]	µg/L
Ca 317.933Radial†	6221.8	28.89	0.46%	[10000]	µg/L
Cd 226.502†	13485.7	384.70	2.85%	[1000]	µg/L
Co 228.616†	8734.5	268.02	3.07%	[1000]	µg/L
Cr 267.716†	20614.7	847.57	4.11%	[1000]	µg/L
Cu 324.752†	122767.2	1670.32	1.36%	[1000]	µg/L
Fe 238.204 Radial†	504.8	2.84	0.56%	[10000]	µg/L
K 766.490 Radial†	14906.7	70.76	0.47%	[10000]	µg/L
Mg 279.077 IEC†	991.8	3.79	0.38%	[10000]	µg/L
Mn 257.610†	143656.2	2002.39	1.39%	[1000]	µg/L
Mo 202.031†	4343.5	145.19	3.34%	[1000]	µg/L
Na 589.592 Radial†	32230.9	13.08	0.04%	[10000]	µg/L

Ni 231.604†	7481.3	251.48	3.36%	[1000]	µg/L
P 214.914†	899.4	55.34	6.15%	[5000]	µg/L
Pb 220.353†	1679.2	102.05	6.08%	[1000]	µg/L
S 181.975 Axial†	197.6	9.90	5.01%	[2000]	µg/L
Sb 206.836†	521.5	32.37	6.21%	[1000]	µg/L
Se 196.026†	327.2	19.45	5.94%	[1000]	µg/L
SiO2†	29956.0	691.52	2.31%	[10695]	µg/L
Si 251.611†	35131.8	784.65	2.23%	[5000]	µg/L
Sn 189.927†	809.2	69.27	8.56%	[1000]	µg/L
Sr 421.552†	90973.5	229.18	0.25%	[1000]	µg/L
Ti 334.940†	265678.1	4314.12	1.62%	[1000]	µg/L
Tl 190.801†	323.7	11.33	3.50%	[1000]	µg/L
U 409.014†	9464.0	380.05	4.02%	[1000]	µg/L
V 292.402†	46344.5	1656.24	3.57%	[1000]	µg/L
Zn 213.857†	16073.7	474.34	2.95%	[1000]	µg/L

Sequence No.: 5
Sample ID: S10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 1/5/2010 11:53:50
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: S10

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	50981.6	50981.6	102	%	11:54:23
1	Al 396.153Radial†	71039.3	69841.2	[50000]	µg/L	11:54:23
1	Ca 317.933Radial†	32356.0	31645.3	[50000]	µg/L	11:54:23
1	Fe 238.204 Radial†	1040.2	1015.6	[20000]	µg/L	11:54:43
1	Mg 279.077 IEC†	4982.9	4893.0	[50000]	µg/L	11:54:43
1	Na 589.592 Radial†	64227.4	63121.8	[20000]	µg/L	11:54:23
1	Sc 361.383	1232384.5	1232384.5	100.43	%	11:55:46
1	Y 371.029	846998.2	846998.2	99.369	%	11:55:46
2	Sc RADIAL	50586.9	50586.9	101	%	11:54:49
2	Al 396.153Radial†	70939.7	70287.6	[50000]	µg/L	11:54:49
2	Ca 317.933Radial†	32209.8	31748.7	[50000]	µg/L	11:54:49
2	Fe 238.204 Radial†	1035.6	1019.0	[20000]	µg/L	11:55:09
2	Mg 279.077 IEC†	4977.8	4926.3	[50000]	µg/L	11:55:09
2	Na 589.592 Radial†	64163.5	63551.2	[20000]	µg/L	11:54:49
2	Sc 361.383	1288887.4	1288887.4	105.04	%	11:55:54
2	Y 371.029	884954.7	884954.7	103.82	%	11:55:54
3	Sc RADIAL	51994.3	51994.3	104	%	11:55:14
3	Al 396.153Radial†	69365.0	66865.5	[50000]	µg/L	11:55:14
3	Ca 317.933Radial†	31487.7	30188.0	[50000]	µg/L	11:55:14
3	Fe 238.204 Radial†	1050.4	1005.5	[20000]	µg/L	11:55:35
3	Mg 279.077 IEC†	5002.0	4816.0	[50000]	µg/L	11:55:35
3	Na 589.592 Radial†	62642.2	60362.4	[20000]	µg/L	11:55:14
3	Sc 361.383	1242167.9	1242167.9	101.23	%	11:56:02
3	Y 371.029	851660.8	851660.8	99.916	%	11:56:02

Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1254480.0	30196.61	2.41%	102.23	%
Sc RADIAL	51187.6	725.93	1.42%	102	%
Y 371.029	861204.6	20699.89	2.40%	101.04	%
Al 396.153Radial†	68998.1	1860.32	2.70%	[50000]	µg/L
Ca 317.933Radial†	31194.0	872.72	2.80%	[50000]	µg/L
Fe 238.204 Radial†	1013.3	7.01	0.69%	[20000]	µg/L
Mg 279.077 IEC†	4878.5	56.55	1.16%	[50000]	µg/L
Na 589.592 Radial†	62345.2	1730.45	2.78%	[20000]	µg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	76.12	0.00000	0.999816	
Al 396.153Radial	3	Lin Thru 0	0.0	1.381	0.00000	0.999970	
As 188.979	3	Lin Thru 0	0.0	0.2055	0.00000	0.999800	
B 249.677	3	Lin Thru 0	0.0	12.98	0.00000	0.999811	
Ba 233.527	3	Lin Thru 0	0.0	16.85	0.00000	0.999882	
Be 313.107	3	Lin Thru 0	0.0	628.8	0.00000	0.999926	
Ca 317.933Radial	3	Lin Thru 0	0.0	0.6235	0.00000	0.999988	
Cd 226.502	3	Lin Thru 0	0.0	13.40	0.00000	0.999902	
Co 228.616	3	Lin Thru 0	0.0	8.682	0.00000	0.999912	
Cr 267.716	3	Lin Thru 0	0.0	20.48	0.00000	0.999908	
Cu 324.752	3	Lin Thru 0	0.0	121.4	0.00000	0.999734	
Fe 238.204 Radia	2	Lin Thru 0	0.0	0.0506	0.00000	0.999999	
K 766.490 Radial	3	Lin Thru 0	0.0	1.467	0.00000	0.999453	
Mg 279.077 IEC	3	Lin Thru 0	0.0	0.0976	0.00000	0.999988	
Mn 257.610	3	Lin Thru 0	0.0	142.9	0.00000	0.999928	
Mo 202.031	3	Lin Thru 0	0.0	4.286	0.00000	0.999620	
Na 589.592 Radia	2	Lin Thru 0	0.0	3.138	0.00000	0.999909	

Ni 231.604	3	Lin Thru 0	0.0	7.436	0.00000	0.999912
P 214.914	3	Lin Thru 0	0.0	0.1786	0.00000	0.999890
Pb 220.353	3	Lin Thru 0	0.0	1.669	0.00000	0.999900
S 181.975 Axial	3	Lin Thru 0	0.0	0.0980	0.00000	0.999863
Sb 206.836	3	Lin Thru 0	0.0	0.5161	0.00000	0.999748
Se 196.026	3	Lin Thru 0	0.0	0.3267	0.00000	0.999923
SiO2	3	Lin Thru 0	0.0	2.784	0.00000	0.999913
Si 251.611	3	Lin Thru 0	0.0	6.984	0.00000	0.999914
Sn 189.927	3	Lin Thru 0	0.0	0.8029	0.00000	0.999861
Sr 421.552	3	Lin Thru 0	0.0	89.64	0.00000	0.999541
Ti 334.940	3	Lin Thru 0	0.0	264.0	0.00000	0.999913
Tl 190.801	3	Lin Thru 0	0.0	0.3215	0.00000	0.999896
U 409.014	3	Lin Thru 0	0.0	9.432	0.00000	0.999955
V 292.402	3	Lin Thru 0	0.0	46.05	0.00000	0.999907
Zn 213.857	3	Lin Thru 0	0.0	15.98	0.00000	0.999925

Sequence No.: 6
Sample ID: ICV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 1/5/2010 11:56:11
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	51376.4	51376.4	102	%			11:56:44
1	Al 396.153Radial†	7382.1	7171.9	5173.6	µg/L	5173.6	ppb	11:56:44
1	Ca 317.933Radial†	3341.1	3080.8	4941.0	µg/L	4941.0	ppb	11:57:05
1	Fe 238.204 Radial†	269.4	255.4	5061.2	µg/L	5061.2	ppb	11:57:05
1	K 766.490 Radial†	3947.1	3628.6	2474.1	µg/L	2474.1	ppb	11:56:44
1	Mg 279.077 IEC†	513.3	492.9	5056.6	µg/L	5056.6	ppb	11:57:05
1	Na 589.592 Radial†	8212.9	7963.5	2537.4	µg/L	2537.4	ppb	11:56:44
1	Sr 421.552†	48864.7	47686.6	531.99	µg/L	531.99	ppb	11:56:44
1	Sc 361.383	1237197.2	1237197.2	100.83	%			11:58:07
1	Y 371.029	855175.4	855175.4	100.33	%			11:58:07
1	Ag 328.068†	19287.2	19101.3	254.81	µg/L	254.81	ppb	11:58:12
1	As 188.979†	102.0	101.5	492.13	µg/L	492.13	ppb	11:58:33
1	B 249.677†	7052.4	6782.1	520.87	µg/L	520.87	ppb	11:58:12
1	Ba 233.527†	8670.4	8644.5	514.00	µg/L	514.00	ppb	11:58:12
1	Be 313.107†	166066.4	163293.3	259.53	µg/L	259.53	ppb	11:58:07
1	Cd 226.502†	6790.8	6791.3	506.50	µg/L	506.50	ppb	11:58:12
1	Co 228.616†	4484.8	4461.8	514.14	µg/L	514.14	ppb	11:58:12
1	Cr 267.716†	10230.3	10179.8	498.24	µg/L	498.24	ppb	11:58:12
1	Cu 324.752†	64266.1	61199.3	504.56	µg/L	504.56	ppb	11:58:12
1	Mn 257.610†	73463.5	72759.9	509.85	µg/L	509.85	ppb	11:58:07
1	Mo 202.031†	2298.6	2280.7	532.38	µg/L	532.38	ppb	11:58:33
1	Ni 231.604†	3852.9	3697.3	497.20	µg/L	497.20	ppb	11:58:12
1	P 214.914†	591.7	468.6	2569.0	µg/L	2569.0	ppb	11:58:33
1	Pb 220.353†	904.7	871.9	522.91	µg/L	522.91	ppb	11:58:33
1	S 181.975 Axial†	259.3	248.3	2531.7	µg/L	2531.7	ppb	11:58:33
1	Sb 206.836†	272.8	266.0	514.07	µg/L	514.07	ppb	11:58:33
1	Se 196.026†	885.2	872.5	2673.2	µg/L	2673.2	ppb	11:58:33
1	SiO2†	31393.0	29708.5	10670	µg/L	10670	ppb	11:58:12
1	Si 251.611†	35583.3	34738.6	4925.3	µg/L	4925.3	ppb	11:58:12
1	Sn 189.927†	444.2	442.7	552.94	µg/L	552.94	ppb	11:58:33
1	Ti 334.940†	131085.4	129809.6	491.48	µg/L	491.48	ppb	11:58:07
1	Tl 190.801†	164.7	171.9	536.73	µg/L	536.73	ppb	11:58:33
1	U 409.014†	4539.2	4569.3	483.19	µg/L	483.19	ppb	11:58:12
1	V 292.402†	23233.8	23273.3	510.31	µg/L	510.31	ppb	11:58:12
1	Zn 213.857†	8472.0	8136.5	504.39	µg/L	504.39	ppb	11:58:12
2	Sc RADIAL	50590.3	50590.3	101	%			11:57:10
2	Al 396.153Radial†	7269.7	7172.4	5174.1	µg/L	5174.1	ppb	11:57:10
2	Ca 317.933Radial†	3319.7	3110.3	4988.3	µg/L	4988.3	ppb	11:57:31
2	Fe 238.204 Radial†	267.9	257.9	5111.7	µg/L	5111.7	ppb	11:57:31
2	K 766.490 Radial†	3918.6	3660.2	2495.7	µg/L	2495.7	ppb	11:57:10
2	Mg 279.077 IEC†	515.2	502.6	5155.1	µg/L	5155.1	ppb	11:57:31
2	Na 589.592 Radial†	8153.7	8029.4	2558.4	µg/L	2558.4	ppb	11:57:10
2	Sr 421.552†	48133.4	47702.7	532.17	µg/L	532.17	ppb	11:57:10
2	Sc 361.383	1242780.4	1242780.4	101.28	%			11:58:39
2	Y 371.029	857792.8	857792.8	100.64	%			11:58:39
2	Ag 328.068†	19420.5	19147.0	255.43	µg/L	255.43	ppb	11:58:45
2	As 188.979†	103.3	102.3	495.99	µg/L	495.99	ppb	11:59:05
2	B 249.677†	7102.2	6799.9	522.22	µg/L	522.22	ppb	11:58:45
2	Ba 233.527†	8722.6	8657.3	514.77	µg/L	514.77	ppb	11:58:45
2	Be 313.107†	166601.5	163081.7	259.19	µg/L	259.19	ppb	11:58:39
2	Cd 226.502†	6867.6	6836.9	509.89	µg/L	509.89	ppb	11:58:45
2	Co 228.616†	4544.9	4501.2	518.66	µg/L	518.66	ppb	11:58:45
2	Cr 267.716†	10305.8	10208.8	499.66	µg/L	499.66	ppb	11:58:45
2	Cu 324.752†	64689.5	61331.0	505.65	µg/L	505.65	ppb	11:58:45
2	Mn 257.610†	73726.4	72692.1	509.38	µg/L	509.38	ppb	11:58:39
2	Mo 202.031†	2298.2	2270.0	529.88	µg/L	529.88	ppb	11:59:05
2	Ni 231.604†	3885.9	3712.7	499.28	µg/L	499.28	ppb	11:58:45
2	P 214.914†	593.8	468.0	2565.6	µg/L	2565.6	ppb	11:59:05
2	Pb 220.353†	903.4	866.6	519.73	µg/L	519.73	ppb	11:59:05

2	S 181.975 Axial†	257.9	245.8	2506.2 µg/L	2506.2 ppb	11:59:05
2	Sb 206.836†	273.0	265.0	512.11 µg/L	512.11 ppb	11:59:05
2	Se 196.026†	889.0	872.3	2672.6 µg/L	2672.6 ppb	11:59:05
2	SiO2†	31562.5	29736.0	10680 µg/L	10680 ppb	11:58:45
2	Si 251.611†	35763.5	34758.0	4928.1 µg/L	4928.1 ppb	11:58:45
2	Sn 189.927†	447.0	443.5	554.00 µg/L	554.00 ppb	11:59:05
2	Ti 334.940†	131420.4	129556.3	490.52 µg/L	490.52 ppb	11:58:39
2	Tl 190.801†	166.4	172.8	539.51 µg/L	539.51 ppb	11:59:05
2	U 409.014†	4578.9	4588.3	485.18 µg/L	485.18 ppb	11:58:45
2	V 292.402†	23412.2	23346.0	511.88 µg/L	511.88 ppb	11:58:45
2	Zn 213.857†	8551.1	8176.8	506.89 µg/L	506.89 ppb	11:58:45
3	Sc RADIAL	50616.7	50616.7	101 %		11:57:36
3	Al 396.153Radial†	7291.8	7190.6	5188.6 µg/L	5188.6 ppb	11:57:36
3	Ca 317.933Radial†	3335.9	3124.7	5011.4 µg/L	5011.4 ppb	11:57:57
3	Fe 238.204 Radial†	270.0	259.9	5150.5 µg/L	5150.5 ppb	11:57:57
3	K 766.490 Radial†	3932.8	3672.2	2503.9 µg/L	2503.9 ppb	11:57:36
3	Mg 279.077 IEC†	516.1	503.2	5160.7 µg/L	5160.7 ppb	11:57:57
3	Na 589.592 Radial†	8148.9	8020.4	2555.5 µg/L	2555.5 ppb	11:57:36
3	Sr 421.552†	48136.9	47681.4	531.93 µg/L	531.93 ppb	11:57:36
3	Sc 361.383	1233024.3	1233024.3	100.49 %		11:59:11
3	Y 371.029	852757.9	852757.9	100.04 %		11:59:11
3	Ag 328.068†	19205.4	19084.6	254.55 µg/L	254.55 ppb	11:59:17
3	As 188.979†	95.7	95.5	463.20 µg/L	463.20 ppb	11:59:37
3	B 249.677†	7025.6	6779.1	520.60 µg/L	520.60 ppb	11:59:17
3	Ba 233.527†	8605.6	8609.0	511.88 µg/L	511.88 ppb	11:59:17
3	Be 313.107†	163832.8	161627.9	256.88 µg/L	256.88 ppb	11:59:11
3	Cd 226.502†	6755.2	6778.7	505.53 µg/L	505.53 ppb	11:59:17
3	Co 228.616†	4449.6	4441.8	511.75 µg/L	511.75 ppb	11:59:17
3	Cr 267.716†	10032.7	10017.4	490.29 µg/L	490.29 ppb	11:59:17
3	Cu 324.752†	63692.8	60844.5	501.64 µg/L	501.64 ppb	11:59:17
3	Mn 257.610†	72552.9	72100.3	505.24 µg/L	505.24 ppb	11:59:11
3	Mo 202.031†	2123.8	2114.4	493.58 µg/L	493.58 ppb	11:59:37
3	Ni 231.604†	3820.9	3678.4	494.66 µg/L	494.66 ppb	11:59:17
3	P 214.914†	559.4	438.4	2399.6 µg/L	2399.6 ppb	11:59:37
3	Pb 220.353†	848.1	818.7	490.89 µg/L	490.89 ppb	11:59:37
3	S 181.975 Axial†	244.2	234.2	2387.9 µg/L	2387.9 ppb	11:59:37
3	Sb 206.836†	256.6	250.8	484.68 µg/L	484.68 ppb	11:59:37
3	Se 196.026†	840.1	830.6	2544.8 µg/L	2544.8 ppb	11:59:37
3	SiO2†	31143.4	29565.5	10618 µg/L	10618 ppb	11:59:17
3	Si 251.611†	35301.5	34577.6	4904.8 µg/L	4904.8 ppb	11:59:17
3	Sn 189.927†	406.2	406.4	507.81 µg/L	507.81 ppb	11:59:37
3	Ti 334.940†	129208.6	128381.9	486.07 µg/L	486.07 ppb	11:59:11
3	Tl 190.801†	154.8	162.7	507.90 µg/L	507.90 ppb	11:59:37
3	U 409.014†	4475.6	4521.2	478.07 µg/L	478.07 ppb	11:59:17
3	V 292.402†	22821.6	22941.1	502.82 µg/L	502.82 ppb	11:59:17
3	Zn 213.857†	8393.6	8086.9	501.28 µg/L	501.28 ppb	11:59:17

Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1237667.3	100.86	%	0.399				0.40%
Sc RADIAL	50861.1	101	%	0.9				0.88%
Y 371.029	855242.0	100.34	%	0.295				0.29%
Ag 328.068†	19111.0	254.93	µg/L	0.450	254.93	ppb	0.450	0.18%
QC value within limits for Ag 328.068 Recovery = 101.97%								
Al 396.153Radial†	7178.3	5178.8	µg/L	8.53	5178.8	ppb	8.53	0.16%
QC value within limits for Al 396.153Radial Recovery = 103.58%								
As 188.979†	99.8	483.77	µg/L	17.923	483.77	ppb	17.923	3.70%
QC value within limits for As 188.979 Recovery = 96.75%								
B 249.677†	6787.0	521.23	µg/L	0.865	521.23	ppb	0.865	0.17%
QC value within limits for B 249.677 Recovery = 104.25%								
Ba 233.527†	8637.0	513.55	µg/L	1.494	513.55	ppb	1.494	0.29%
QC value within limits for Ba 233.527 Recovery = 102.71%								
Be 313.107†	162667.6	258.53	µg/L	1.441	258.53	ppb	1.441	0.56%
QC value within limits for Be 313.107 Recovery = 103.41%								
Ca 317.933Radial†	3105.3	4980.3	µg/L	35.86	4980.3	ppb	35.86	0.72%
QC value within limits for Ca 317.933Radial Recovery = 99.61%								
Cd 226.502†	6802.3	507.31	µg/L	2.290	507.31	ppb	2.290	0.45%
QC value within limits for Cd 226.502 Recovery = 101.46%								
Co 228.616†	4468.3	514.85	µg/L	3.510	514.85	ppb	3.510	0.68%

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   QC value within limits for Co 228.616  Recovery = 102.97%
Cr 267.716†            10135.3      496.06 µg/L        5.046      496.06 ppb        5.046   1.02%
   QC value within limits for Cr 267.716  Recovery = 99.21%
Cu 324.752†            61124.9      503.95 µg/L        2.070      503.95 ppb        2.070   0.41%
   QC value within limits for Cu 324.752  Recovery = 100.79%
Fe 238.204 Radial†       257.7      5107.8 µg/L       44.78      5107.8 ppb       44.78   0.88%
   QC value within limits for Fe 238.204 Radial  Recovery = 102.16%
K 766.490 Radial†       3653.7      2491.3 µg/L       15.37      2491.3 ppb       15.37   0.62%
   QC value within limits for K 766.490 Radial  Recovery = 99.65%
Mg 279.077 IEC†          499.6      5124.1 µg/L       58.56      5124.1 ppb       58.56   1.14%
   QC value within limits for Mg 279.077 IEC  Recovery = 102.48%
Mn 257.610†            72517.4      508.16 µg/L        2.534      508.16 ppb        2.534   0.50%
   QC value within limits for Mn 257.610  Recovery = 101.63%
Mo 202.031†             2221.7      518.61 µg/L       21.714      518.61 ppb       21.714   4.19%
   QC value within limits for Mo 202.031  Recovery = 103.72%
Na 589.592 Radial†      8004.4      2550.5 µg/L       11.37      2550.5 ppb       11.37   0.45%
   QC value within limits for Na 589.592 Radial  Recovery = 102.02%
Ni 231.604†             3696.1      497.05 µg/L        2.315      497.05 ppb        2.315   0.47%
   QC value within limits for Ni 231.604  Recovery = 99.41%
P 214.914†               458.3      2511.4 µg/L       96.87      2511.4 ppb       96.87   3.86%
   QC value within limits for P 214.914  Recovery = 100.46%
Pb 220.353†              852.4      511.17 µg/L       17.641      511.17 ppb       17.641   3.45%
   QC value within limits for Pb 220.353  Recovery = 102.23%
S 181.975 Axial†         242.7      2475.3 µg/L       76.77      2475.3 ppb       76.77   3.10%
   QC value within limits for S 181.975 Axial  Recovery = 99.01%
Sb 206.836†              260.6      503.62 µg/L       16.430      503.62 ppb       16.430   3.26%
   QC value within limits for Sb 206.836  Recovery = 100.72%
Se 196.026†              858.5      2630.2 µg/L       73.97      2630.2 ppb       73.97   2.81%
   QC value within limits for Se 196.026  Recovery = 105.21%
SiO2†                  29670.0       10656 µg/L        32.9       10656 ppb        32.9   0.31%
   QC value within limits for SiO2  Recovery = 99.63%
Si 251.611†            34691.4      4919.4 µg/L       12.70      4919.4 ppb       12.70   0.26%
   QC value within limits for Si 251.611  Recovery = 98.39%
Sn 189.927†              430.9      538.25 µg/L       26.365      538.25 ppb       26.365   4.90%
   QC value within limits for Sn 189.927  Recovery = 107.65%
Sr 421.552†            47690.2      532.03 µg/L        0.124      532.03 ppb        0.124   0.02%
   QC value within limits for Sr 421.552  Recovery = 106.41%
Ti 334.940†           129249.3      489.36 µg/L        2.888      489.36 ppb        2.888   0.59%
   QC value within limits for Ti 334.940  Recovery = 97.87%
Tl 190.801†              169.1      528.05 µg/L       17.506      528.05 ppb       17.506   3.32%
   QC value within limits for Tl 190.801  Recovery = 105.61%
U 409.014†              4559.6      482.15 µg/L        3.671      482.15 ppb        3.671   0.76%
   QC value within limits for U 409.014  Recovery = 96.43%
V 292.402†             23186.8      508.34 µg/L        4.838      508.34 ppb        4.838   0.95%
   QC value within limits for V 292.402  Recovery = 101.67%
Zn 213.857†             8133.4      504.18 µg/L        2.810      504.18 ppb        2.810   0.56%
   QC value within limits for Zn 213.857  Recovery = 100.84%
All analyte(s) passed QC.
```

Sequence No.: 7
Sample ID: ICB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 10
Date Collected: 1/5/2010 11:59:46
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	50413.0	50413.0	101	%			12:00:19
1	Al 396.153Radial†	17.8	-15.7	-11.444	µg/L	-11.444	ppb	12:00:39
1	Ca 317.933Radial†	167.8	-13.3	-21.346	µg/L	-21.346	ppb	12:00:39
1	Fe 238.204 Radial†	9.5	1.8	36.236	µg/L	36.236	ppb	12:00:39
1	K 766.490 Radial†	192.4	-32.6	-22.207	µg/L	-22.207	ppb	12:00:19
1	Mg 279.077 IEC†	4.8	-3.3	-34.001	µg/L	-34.001	ppb	12:00:39
1	Na 589.592 Radial†	45.5	-7.4	-2.3510	µg/L	-2.3510	ppb	12:00:19
1	Sr 421.552†	23.4	15.6	0.1737	µg/L	0.1737	ppb	12:00:39
1	Sc 361.383	1277680.0	1277680.0	104.13	%			12:01:41
1	Y 371.029	885798.7	885798.7	103.92	%			12:01:41
1	Ag 328.068†	52.6	22.7	0.3033	µg/L	0.3033	ppb	12:01:46
1	As 188.979†	-1.0	-0.6	-3.0619	µg/L	-3.0619	ppb	12:02:07
1	B 249.677†	260.0	37.2	2.8527	µg/L	2.8527	ppb	12:02:07
1	Ba 233.527†	-40.6	6.1	0.3641	µg/L	0.3641	ppb	12:02:07
1	Be 313.107†	1524.8	52.2	0.0829	µg/L	0.0829	ppb	12:01:46
1	Cd 226.502†	-52.0	6.3	0.4568	µg/L	0.4568	ppb	12:02:07
1	Co 228.616†	-12.0	2.2	0.2592	µg/L	0.2592	ppb	12:02:07
1	Cr 267.716†	-27.9	6.6	0.3218	µg/L	0.3218	ppb	12:02:07
1	Cu 324.752†	2607.6	-35.8	-0.2916	µg/L	-0.2916	ppb	12:01:46
1	Mn 257.610†	112.7	6.6	0.0507	µg/L	0.0507	ppb	12:02:07
1	Mo 202.031†	4.4	5.1	1.1936	µg/L	1.1936	ppb	12:02:07
1	Ni 231.604†	124.4	-4.6	-0.6196	µg/L	-0.6196	ppb	12:02:07
1	P 214.914†	121.0	-2.1	-11.647	µg/L	-11.647	ppb	12:02:07
1	Pb 220.353†	25.8	-0.6	-0.3368	µg/L	-0.3368	ppb	12:02:07
1	S 181.975 Axial†	7.9	-1.2	-12.753	µg/L	-12.753	ppb	12:02:07
1	Sb 206.836†	7.2	2.3	4.5339	µg/L	4.5339	ppb	12:02:07
1	Se 196.026†	7.1	1.4	4.3096	µg/L	4.3096	ppb	12:02:07
1	SiO2†	1440.1	-44.2	-15.862	µg/L	-15.862	ppb	12:02:07
1	Si 251.611†	564.4	-11.1	-1.6940	µg/L	-1.6940	ppb	12:02:07
1	Sn 189.927†	-0.4	1.8	2.2468	µg/L	2.2468	ppb	12:02:07
1	Ti 334.940†	224.5	14.0	0.0544	µg/L	0.0544	ppb	12:02:07
1	Tl 190.801†	-11.0	-2.0	-6.2347	µg/L	-6.2347	ppb	12:02:07
1	U 409.014†	-99.5	-28.2	-2.9950	µg/L	-2.9950	ppb	12:01:46
1	V 292.402†	-222.8	15.9	0.3516	µg/L	0.3516	ppb	12:02:07
1	Zn 213.857†	271.6	-5.2	-0.3341	µg/L	-0.3341	ppb	12:02:07
2	Sc RADIAL	50121.4	50121.4	100.0	%			12:00:45
2	Al 396.153Radial†	11.9	-21.5	-15.536	µg/L	-15.536	ppb	12:01:05
2	Ca 317.933Radial†	164.7	-15.4	-24.709	µg/L	-24.709	ppb	12:01:05
2	Fe 238.204 Radial†	8.6	1.0	19.694	µg/L	19.694	ppb	12:01:05
2	K 766.490 Radial†	191.5	-32.4	-22.100	µg/L	-22.100	ppb	12:00:45
2	Mg 279.077 IEC†	5.2	-3.0	-30.435	µg/L	-30.435	ppb	12:01:05
2	Na 589.592 Radial†	54.2	1.6	0.5024	µg/L	0.5024	ppb	12:00:45
2	Sr 421.552†	19.9	12.2	0.1363	µg/L	0.1363	ppb	12:01:05
2	Sc 361.383	1230732.4	1230732.4	100.30	%			12:02:12
2	Y 371.029	853641.3	853641.3	100.15	%			12:02:12
2	Ag 328.068†	18.0	-9.8	-0.1263	µg/L	-0.1263	ppb	12:02:18
2	As 188.979†	0.6	0.9	4.5105	µg/L	4.5105	ppb	12:02:38
2	B 249.677†	246.8	33.6	2.5815	µg/L	2.5815	ppb	12:02:38
2	Ba 233.527†	-36.0	9.2	0.5475	µg/L	0.5475	ppb	12:02:38
2	Be 313.107†	1440.2	23.7	0.0376	µg/L	0.0376	ppb	12:02:18
2	Cd 226.502†	-50.2	6.1	0.4551	µg/L	0.4551	ppb	12:02:38
2	Co 228.616†	-10.5	3.3	0.3795	µg/L	0.3795	ppb	12:02:38
2	Cr 267.716†	-31.1	2.3	0.1139	µg/L	0.1139	ppb	12:02:38
2	Cu 324.752†	2617.9	70.0	0.5785	µg/L	0.5785	ppb	12:02:18
2	Mn 257.610†	101.5	-0.4	-0.0002	µg/L	-0.0002	ppb	12:02:38
2	Mo 202.031†	-1.9	-1.0	-0.2243	µg/L	-0.2243	ppb	12:02:38
2	Ni 231.604†	119.0	-5.4	-0.7306	µg/L	-0.7306	ppb	12:02:38
2	P 214.914†	119.4	0.8	4.3932	µg/L	4.3932	ppb	12:02:38
2	Pb 220.353†	28.0	2.5	1.5141	µg/L	1.5141	ppb	12:02:38

2	S 181.975 Axial†	5.6	-3.3	-33.598 µg/L	-33.598 ppb	12:02:38
2	Sb 206.836†	4.9	0.3	0.5743 µg/L	0.5743 ppb	12:02:38
2	Se 196.026†	5.0	-0.5	-1.4195 µg/L	-1.4195 ppb	12:02:38
2	SiO2†	1443.2	11.7	4.2090 µg/L	4.2090 ppb	12:02:38
2	Si 251.611†	561.2	6.4	0.8900 µg/L	0.8900 ppb	12:02:38
2	Sn 189.927†	-1.4	0.8	0.9858 µg/L	0.9858 ppb	12:02:38
2	Ti 334.940†	250.2	47.9	0.1829 µg/L	0.1829 ppb	12:02:38
2	Tl 190.801†	-6.3	2.3	7.2533 µg/L	7.2533 ppb	12:02:38
2	U 409.014†	-40.4	27.0	2.8602 µg/L	2.8602 ppb	12:02:18
2	V 292.402†	-220.6	10.0	0.2220 µg/L	0.2220 ppb	12:02:38
2	Zn 213.857†	269.3	2.4	0.1484 µg/L	0.1484 ppb	12:02:38
3	Sc RADIAL	50690.4	50690.4	101 %		12:01:10
3	Al 396.153Radial†	17.2	-16.4	-11.891 µg/L	-11.891 ppb	12:01:31
3	Ca 317.933Radial†	162.6	-19.3	-30.938 µg/L	-30.938 ppb	12:01:31
3	Fe 238.204 Radial†	8.0	0.3	6.0709 µg/L	6.0709 ppb	12:01:31
3	K 766.490 Radial†	216.0	-10.3	-7.0028 µg/L	-7.0028 ppb	12:01:10
3	Mg 279.077 IEC†	7.0	-1.2	-12.064 µg/L	-12.064 ppb	12:01:31
3	Na 589.592 Radial†	47.8	-5.3	-1.6987 µg/L	-1.6987 ppb	12:01:10
3	Sr 421.552†	29.0	21.1	0.2350 µg/L	0.2350 ppb	12:01:31
3	Sc 361.383	1231539.1	1231539.1	100.37 %		12:02:44
3	Y 371.029	853270.3	853270.3	100.10 %		12:02:44
3	Ag 328.068†	24.6	-3.2	-0.0409 µg/L	-0.0409 ppb	12:02:49
3	As 188.979†	1.9	2.3	10.995 µg/L	10.995 ppb	12:03:10
3	B 249.677†	239.9	26.5	2.0418 µg/L	2.0418 ppb	12:03:10
3	Ba 233.527†	-41.6	3.7	0.2196 µg/L	0.2196 ppb	12:03:10
3	Be 313.107†	1425.1	7.7	0.0122 µg/L	0.0122 ppb	12:02:49
3	Cd 226.502†	-51.8	4.6	0.3391 µg/L	0.3391 ppb	12:03:10
3	Co 228.616†	-10.4	3.4	0.3899 µg/L	0.3899 ppb	12:03:10
3	Cr 267.716†	-30.7	2.7	0.1337 µg/L	0.1337 ppb	12:03:10
3	Cu 324.752†	2644.1	94.4	0.7781 µg/L	0.7781 ppb	12:02:49
3	Mn 257.610†	95.5	-6.5	-0.0447 µg/L	-0.0447 ppb	12:03:10
3	Mo 202.031†	2.4	3.3	0.7670 µg/L	0.7670 ppb	12:03:10
3	Ni 231.604†	124.1	-0.4	-0.0557 µg/L	-0.0557 ppb	12:03:10
3	P 214.914†	121.2	2.5	13.798 µg/L	13.798 ppb	12:03:10
3	Pb 220.353†	19.7	-5.8	-3.4476 µg/L	-3.4476 ppb	12:03:10
3	S 181.975 Axial†	5.2	-3.7	-37.637 µg/L	-37.637 ppb	12:03:10
3	Sb 206.836†	7.1	2.5	4.9280 µg/L	4.9280 ppb	12:03:10
3	Se 196.026†	8.6	3.1	9.4398 µg/L	9.4398 ppb	12:03:10
3	SiO2†	1426.7	-5.7	-2.0581 µg/L	-2.0581 ppb	12:03:10
3	Si 251.611†	558.4	3.2	0.4501 µg/L	0.4501 ppb	12:03:10
3	Sn 189.927†	-2.2	-0.0	-0.0251 µg/L	-0.0251 ppb	12:03:10
3	Ti 334.940†	200.0	-2.3	-0.0067 µg/L	-0.0067 ppb	12:03:10
3	Tl 190.801†	-8.9	-0.3	-0.8336 µg/L	-0.8336 ppb	12:03:10
3	U 409.014†	-74.5	-6.9	-0.7351 µg/L	-0.7351 ppb	12:02:49
3	V 292.402†	-222.4	8.3	0.1858 µg/L	0.1858 ppb	12:03:10
3	Zn 213.857†	269.3	2.2	0.1380 µg/L	0.1380 ppb	12:03:10

Mean Data: ICB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1246650.5	101.60	%	2.190				2.16%
Sc RADIAL	50408.3	101	%	0.6				0.56%
Y 371.029	864236.8	101.39	%	2.191				2.16%
Ag 328.068†	3.2	0.0454	µg/L	0.22742	0.0454	ppb	0.22742	501.15%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-17.9	-12.957	µg/L	2.2448	-12.957	ppb	2.2448	17.33%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	0.9	4.1477	µg/L	7.03522	4.1477	ppb	7.03522	169.62%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	32.4	2.4920	µg/L	0.41276	2.4920	ppb	0.41276	16.56%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	6.3	0.3771	µg/L	0.16432	0.3771	ppb	0.16432	43.58%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	27.8	0.0442	µg/L	0.03582	0.0442	ppb	0.03582	80.95%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-16.0	-25.664	µg/L	4.8669	-25.664	ppb	4.8669	18.96%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	5.7	0.4170	µg/L	0.06743	0.4170	ppb	0.06743	16.17%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	3.0	0.3429	µg/L	0.07265	0.3429	ppb	0.07265	21.19%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                 3.9      0.1898 µg/L       0.11475      0.1898 ppb        0.11475  60.46%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†                42.9      0.3550 µg/L       0.56883      0.3550 ppb        0.56883 160.23%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          1.0      20,667 µg/L       15.1059      20.667 ppb        15.1059  73.09%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†         -25.1     -17.103 µg/L        8.7474     -17.103 ppb         8.7474  51.14%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†            -2.5     -25.500 µg/L       11.7719     -25.500 ppb        11.7719  46.16%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†                -0.1      0.0019 µg/L       0.04774      0.0019 ppb        0.04774 >999.9%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                 2.5      0.5788 µg/L       0.72746      0.5788 ppb        0.72746 125.69%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†         -3.7     -1.1824 µg/L       1.49512     -1.1824 ppb        1.49512 126.44%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                -3.5     -0.4686 µg/L       0.36191     -0.4686 ppb        0.36191  77.23%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                  0.4      2.1815 µg/L      12.86600      2.1815 ppb       12.86600 589.78%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                -1.3     -0.7567 µg/L       2.50735     -0.7567 ppb        2.50735 331.34%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†           -2.7     -27.996 µg/L       13.3548     -27.996 ppb        13.3548  47.70%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                 1.7      3.3454 µg/L       2.40794      3.3454 ppb        2.40794  71.98%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 1.3      4.1100 µg/L       5.43240      4.1100 ppb        5.43240 132.18%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                     -12.7     -4.5702 µg/L      10.26842     -4.5702 ppb       10.26842 224.68%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†                -0.5     -0.1180 µg/L       1.38249     -0.1180 ppb        1.38249 >999.9%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 0.9      1.0692 µg/L       1.13826      1.0692 ppb        1.13826 106.46%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                16.3      0.1817 µg/L       0.04982      0.1817 ppb        0.04982  27.42%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†                19.9      0.0769 µg/L       0.09679      0.0769 ppb        0.09679 125.93%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                 0.0      0.0617 µg/L       6.78842      0.0617 ppb        6.78842 >999.9%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                 -2.7     -0.2900 µg/L       2.95287     -0.2900 ppb        2.95287 >999.9%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                 11.4      0.2531 µg/L       0.08719      0.2531 ppb        0.08719  34.44%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†                -0.2     -0.0159 µg/L       0.27562     -0.0159 ppb        0.27562 >999.9%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 8
Sample ID: PQL
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 101
Date Collected: 1/5/2010 12:03:20
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	50080.2	50080.2	99.9	%			12:04:08
1	Al 396.153Radial†	290.5	257.5	186.12	µg/L	186.12	ppb	12:04:28
1	Ca 317.933Radial†	292.1	112.3	180.09	µg/L	180.09	ppb	12:04:28
1	Fe 238.204 Radial†	11.8	4.2	83.231	µg/L	83.231	ppb	12:04:28
1	K 766.490 Radial†	437.7	214.3	146.15	µg/L	146.15	ppb	12:04:08
1	Mg 279.077 IEC†	33.1	25.0	256.63	µg/L	256.63	ppb	12:04:28
1	Na 589.592 Radial†	1001.6	950.2	302.77	µg/L	302.77	ppb	12:04:08
1	Sr 421.552†	446.2	439.1	4.8989	µg/L	4.8989	ppb	12:04:08
1	Sc 361.383	1236197.7	1236197.7	100.74	%			12:06:00
1	Y 371.029	856318.2	856318.2	100.46	%			12:06:00
1	Ag 328.068†	387.6	357.0	4.7291	µg/L	4.7291	ppb	12:06:05
1	As 188.979†	7.9	8.2	39.697	µg/L	39.697	ppb	12:06:26
1	B 249.677†	845.2	626.5	48.236	µg/L	48.236	ppb	12:06:26
1	Ba 233.527†	43.8	88.6	5.2657	µg/L	5.2657	ppb	12:06:26
1	Be 313.107†	4446.9	3001.9	4.7725	µg/L	4.7725	ppb	12:06:05
1	Cd 226.502†	9.7	65.8	4.9295	µg/L	4.9295	ppb	12:06:26
1	Co 228.616†	32.8	46.3	5.3462	µg/L	5.3462	ppb	12:06:26
1	Cr 267.716†	73.4	106.2	5.1955	µg/L	5.1955	ppb	12:06:26
1	Cu 324.752†	3755.4	1187.5	9.7894	µg/L	9.7894	ppb	12:06:05
1	Mn 257.610†	1497.7	1385.0	9.7037	µg/L	9.7037	ppb	12:06:26
1	Mo 202.031†	41.1	41.7	9.7372	µg/L	9.7372	ppb	12:06:26
1	Ni 231.604†	153.6	28.4	3.8227	µg/L	3.8227	ppb	12:06:26
1	P 214.914†	142.8	23.5	130.45	µg/L	130.45	ppb	12:06:26
1	Pb 220.353†	44.1	18.4	11.006	µg/L	11.006	ppb	12:06:26
1	S 181.975 Axial†	16.9	7.9	80.176	µg/L	80.176	ppb	12:06:26
1	Sb 206.836†	11.6	6.9	13.437	µg/L	13.437	ppb	12:06:26
1	Se 196.026†	16.6	11.0	33.637	µg/L	33.637	ppb	12:06:26
1	SiO2†	2011.2	569.1	204.38	µg/L	204.38	ppb	12:06:26
1	Si 251.611†	1234.9	672.6	95.583	µg/L	95.583	ppb	12:06:26
1	Sn 189.927†	4.8	6.9	8.7317	µg/L	8.7317	ppb	12:06:26
1	Ti 334.940†	1522.4	1309.6	4.9505	µg/L	4.9505	ppb	12:06:05
1	Tl 190.801†	2.4	11.0	34.165	µg/L	34.165	ppb	12:06:26
1	U 409.014†	403.8	468.1	49.601	µg/L	49.601	ppb	12:06:05
1	V 292.402†	-9.6	220.4	4.9402	µg/L	4.9402	ppb	12:06:26
1	Zn 213.857†	429.3	160.0	9.9524	µg/L	9.9524	ppb	12:06:26
2	Sc RADIAL	49893.2	49893.2	99.5	%			12:04:48
2	Al 396.153Radial†	289.8	257.9	186.42	µg/L	186.42	ppb	12:05:09
2	Ca 317.933Radial†	292.3	113.6	182.21	µg/L	182.21	ppb	12:05:09
2	Fe 238.204 Radial†	12.9	5.4	107.30	µg/L	107.30	ppb	12:05:09
2	K 766.490 Radial†	455.8	234.1	159.65	µg/L	159.65	ppb	12:04:48
2	Mg 279.077 IEC†	35.5	27.5	282.00	µg/L	282.00	ppb	12:05:09
2	Na 589.592 Radial†	1001.9	954.3	304.06	µg/L	304.06	ppb	12:04:48
2	Sr 421.552†	434.1	428.6	4.7814	µg/L	4.7814	ppb	12:04:48
2	Sc 361.383	1232805.4	1232805.4	100.47	%			12:06:32
2	Y 371.029	853462.8	853462.8	100.13	%			12:06:32
2	Ag 328.068†	400.1	370.5	4.9038	µg/L	4.9038	ppb	12:06:37
2	As 188.979†	6.7	7.0	34.135	µg/L	34.135	ppb	12:06:57
2	B 249.677†	759.3	543.3	41.817	µg/L	41.817	ppb	12:06:57
2	Ba 233.527†	24.6	69.6	4.1412	µg/L	4.1412	ppb	12:06:57
2	Be 313.107†	4138.3	2706.8	4.3034	µg/L	4.3034	ppb	12:06:37
2	Cd 226.502†	1.4	57.6	4.3114	µg/L	4.3114	ppb	12:06:57
2	Co 228.616†	21.3	34.9	4.0345	µg/L	4.0345	ppb	12:06:57
2	Cr 267.716†	50.9	83.9	4.1079	µg/L	4.1079	ppb	12:06:57
2	Cu 324.752†	3678.9	1121.7	9.2489	µg/L	9.2489	ppb	12:06:37
2	Mn 257.610†	1292.8	1185.2	8.3082	µg/L	8.3082	ppb	12:06:57
2	Mo 202.031†	37.9	38.6	9.0134	µg/L	9.0134	ppb	12:06:57
2	Ni 231.604†	155.5	30.7	4.1349	µg/L	4.1349	ppb	12:06:57
2	P 214.914†	145.2	26.3	145.92	µg/L	145.92	ppb	12:06:57
2	Pb 220.353†	37.1	11.6	6.9219	µg/L	6.9219	ppb	12:06:57

2	S 181.975 Axial†	15.0	6.1	62.195 µg/L	62.195 ppb	12:06:57
2	Sb 206.836†	11.9	7.3	14.160 µg/L	14.160 ppb	12:06:57
2	Se 196.026†	14.3	8.7	26.730 µg/L	26.730 ppb	12:06:57
2	SiO2†	1920.0	483.8	173.77 µg/L	173.77 ppb	12:06:57
2	Si 251.611†	1139.9	581.5	82.619 µg/L	82.619 ppb	12:06:57
2	Sn 189.927†	3.4	5.6	7.0096 µg/L	7.0096 ppb	12:06:57
2	Ti 334.940†	1395.6	1187.6	4.4883 µg/L	4.4883 ppb	12:06:37
2	Tl 190.801†	-1.7	6.9	21.567 µg/L	21.567 ppb	12:06:57
2	U 409.014†	388.0	453.5	48.045 µg/L	48.045 ppb	12:06:37
2	V 292.402†	-42.2	187.9	4.2306 µg/L	4.2306 ppb	12:06:57
2	Zn 213.857†	413.0	145.0	9.0074 µg/L	9.0074 ppb	12:06:57
3	Sc RADIAL	50051.8	50051.8	99.8 %		12:05:29
3	Al 396.153Radial†	290.1	257.2	186.03 µg/L	186.03 ppb	12:05:50
3	Ca 317.933Radial†	288.0	108.4	173.83 µg/L	173.83 ppb	12:05:50
3	Fe 238.204 Radial†	13.1	5.6	110.45 µg/L	110.45 ppb	12:05:50
3	K 766.490 Radial†	466.3	243.2	165.84 µg/L	165.84 ppb	12:05:29
3	Mg 279.077 IEC†	31.5	23.5	240.55 µg/L	240.55 ppb	12:05:50
3	Na 589.592 Radial†	1007.9	957.1	304.96 µg/L	304.96 ppb	12:05:29
3	Sr 421.552†	426.3	419.4	4.6791 µg/L	4.6791 ppb	12:05:29
3	Sc 361.383	1238137.0	1238137.0	100.90 %		12:07:03
3	Y 371.029	860259.1	860259.1	100.92 %		12:07:03
3	Ag 328.068†	298.7	268.2	3.5554 µg/L	3.5554 ppb	12:07:09
3	As 188.979†	4.1	4.4	21.330 µg/L	21.330 ppb	12:07:29
3	B 249.677†	652.5	434.2	33.411 µg/L	33.411 ppb	12:07:29
3	Ba 233.527†	14.2	59.2	3.5176 µg/L	3.5176 ppb	12:07:29
3	Be 313.107†	3631.8	2187.1	3.4771 µg/L	3.4771 ppb	12:07:09
3	Cd 226.502†	-14.8	41.5	3.0979 µg/L	3.0979 ppb	12:07:29
3	Co 228.616†	16.7	30.3	3.4990 µg/L	3.4990 ppb	12:07:29
3	Cr 267.716†	31.9	64.9	3.1790 µg/L	3.1790 ppb	12:07:29
3	Cu 324.752†	3509.8	938.3	7.7391 µg/L	7.7391 ppb	12:07:09
3	Mn 257.610†	1021.1	910.4	6.3851 µg/L	6.3851 ppb	12:07:29
3	Mo 202.031†	27.2	27.8	6.5025 µg/L	6.5025 ppb	12:07:29
3	Ni 231.604†	146.4	21.1	2.8379 µg/L	2.8379 ppb	12:07:29
3	P 214.914†	138.5	19.0	105.39 µg/L	105.39 ppb	12:07:29
3	Pb 220.353†	41.8	16.0	9.5888 µg/L	9.5888 ppb	12:07:29
3	S 181.975 Axial†	15.1	6.0	61.672 µg/L	61.672 ppb	12:07:29
3	Sb 206.836†	8.1	3.4	6.6598 µg/L	6.6598 ppb	12:07:29
3	Se 196.026†	15.8	10.2	31.300 µg/L	31.300 ppb	12:07:29
3	SiO2†	1813.8	370.3	132.99 µg/L	132.99 ppb	12:07:29
3	Si 251.611†	1024.3	462.0	65.607 µg/L	65.607 ppb	12:07:29
3	Sn 189.927†	3.1	5.3	6.6239 µg/L	6.6239 ppb	12:07:29
3	Ti 334.940†	1135.4	923.7	3.4890 µg/L	3.4890 ppb	12:07:09
3	Tl 190.801†	-2.5	6.1	18.923 µg/L	18.923 ppb	12:07:29
3	U 409.014†	291.1	355.8	37.690 µg/L	37.690 ppb	12:07:09
3	V 292.402†	-79.7	150.9	3.3928 µg/L	3.3928 ppb	12:07:29
3	Zn 213.857†	381.0	111.5	6.9188 µg/L	6.9188 ppb	12:07:29

Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1235713.4	100.71	%	0.220				0.22%
Sc RADIAL	50008.4	99.7	%	0.20				0.20%
Y 371.029	856680.0	100.50	%	0.400				0.40%
Ag 328.068†	331.9	4.3961	µg/L	0.73331	4.3961	ppb	0.73331	16.68%
QC value within limits for Ag 328.068 Recovery = 87.92%								
Al 396.153Radial†	257.5	186.19	µg/L	0.201	186.19	ppb	0.201	0.11%
QC value within limits for Al 396.153Radial Recovery = 93.10%								
As 188.979†	6.5	31.720	µg/L	9.4185	31.720	ppb	9.4185	29.69%
QC value within limits for As 188.979 Recovery = 105.73%								
B 249.677†	534.7	41.155	µg/L	7.4342	41.155	ppb	7.4342	18.06%
QC value within limits for B 249.677 Recovery = 82.31%								
Ba 233.527†	72.5	4.3082	µg/L	0.88593	4.3082	ppb	0.88593	20.56%
QC value within limits for Ba 233.527 Recovery = 86.16%								
Be 313.107†	2631.9	4.1843	µg/L	0.65581	4.1843	ppb	0.65581	15.67%
QC value within limits for Be 313.107 Recovery = 83.69%								
Ca 317.933Radial†	111.4	178.71	µg/L	4.359	178.71	ppb	4.359	2.44%
QC value within limits for Ca 317.933Radial Recovery = 89.35%								
Cd 226.502†	55.0	4.1129	µg/L	0.93182	4.1129	ppb	0.93182	22.66%
QC value within limits for Cd 226.502 Recovery = 82.26%								
Co 228.616†	37.2	4.2932	µg/L	0.95038	4.2932	ppb	0.95038	22.14%

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   QC value within limits for Co 228.616  Recovery = 85.86%
Cr 267.716†              85.0      4.1608 µg/L      1.00929      4.1608 ppb        1.00929  24.26%
   QC value within limits for Cr 267.716  Recovery = 83.22%
Cu 324.752†            1082.5      8.9258 µg/L      1.06267      8.9258 ppb        1.06267  11.91%
   QC value within limits for Cu 324.752  Recovery = 89.26%
Fe 238.204 Radial†        5.1      100.33 µg/L       14.888      100.33 ppb         14.888  14.84%
   QC value within limits for Fe 238.204 Radial  Recovery = 100.33%
K 766.490 Radial†       230.6      157.21 µg/L       10.070      157.21 ppb         10.070   6.41%
   QC value within limits for K 766.490 Radial  Recovery = 104.81%
Mg 279.077 IEC†          25.3      259.73 µg/L       20.895      259.73 ppb         20.895   8.05%
   QC value within limits for Mg 279.077 IEC  Recovery = 86.58%
Mn 257.610†            1160.2      8.1323 µg/L      1.66626      8.1323 ppb        1.66626  20.49%
   QC value within limits for Mn 257.610  Recovery = 81.32%
Mo 202.031†              36.1      8.4177 µg/L      1.69764      8.4177 ppb        1.69764  20.17%
   QC value within limits for Mo 202.031  Recovery = 84.18%
Na 589.592 Radial†       953.9      303.93 µg/L        1.100      303.93 ppb          1.100   0.36%
   QC value within limits for Na 589.592 Radial  Recovery = 101.31%
Ni 231.604†              26.8      3.5985 µg/L      0.67689      3.5985 ppb        0.67689  18.81%
   QC value within limits for Ni 231.604  Recovery = 71.97%
P 214.914†               22.9      127.25 µg/L       20.454      127.25 ppb         20.454  16.07%
   QC value within limits for P 214.914  Recovery = 84.83%
Pb 220.353†              15.3      9.1722 µg/L      2.07362      9.1722 ppb        2.07362  22.61%
   QC value within limits for Pb 220.353  Recovery = 91.72%
S 181.975 Axial†          6.7      68.014 µg/L      10.5355      68.014 ppb        10.5355  15.49%
   QC value less than the lower limit for S 181.975 Axial  Recovery = 68.01%
Sb 206.836†               5.9      11.419 µg/L       4.1373      11.419 ppb         4.1373  36.23%
   QC value within limits for Sb 206.836  Recovery = 114.19%
Se 196.026†              10.0      30.556 µg/L       3.5133      30.556 ppb         3.5133  11.50%
   QC value within limits for Se 196.026  Recovery = 101.85%
SiO2†                   474.4      170.38 µg/L       35.812      170.38 ppb         35.812  21.02%
   QC value within limits for SiO2  Recovery = 79.99%
Si 251.611†             572.0      81.270 µg/L      15.0336      81.270 ppb        15.0336  18.50%
   QC value within limits for Si 251.611  Recovery = 81.27%
Sn 189.927†               5.9      7.4551 µg/L      1.12229      7.4551 ppb        1.12229  15.05%
   QC value within limits for Sn 189.927  Recovery = 74.55%
Sr 421.552†             429.1      4.7865 µg/L      0.10996      4.7865 ppb        0.10996   2.30%
   QC value within limits for Sr 421.552  Recovery = 95.73%
Ti 334.940†            1140.3      4.3093 µg/L      0.74700      4.3093 ppb        0.74700  17.33%
   QC value within limits for Ti 334.940  Recovery = 86.19%
Tl 190.801†               8.0      24.885 µg/L       8.1449      24.885 ppb         8.1449  32.73%
   QC value within limits for Tl 190.801  Recovery = 124.43%
U 409.014†              425.8      45.112 µg/L       6.4744      45.112 ppb         6.4744  14.35%
   QC value within limits for U 409.014  Recovery = 90.22%
V 292.402†              186.4      4.1879 µg/L      0.77456      4.1879 ppb        0.77456  18.50%
   QC value within limits for V 292.402  Recovery = 83.76%
Zn 213.857†             138.8      8.6262 µg/L      1.55233      8.6262 ppb        1.55233  18.00%
   QC value within limits for Zn 213.857  Recovery = 86.26%
QC Failed.  Continue with analysis.
```

Sequence No.: 9
Sample ID: ICSA
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 103
Date Collected: 1/5/2010 12:07:38
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICSA

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	47493.9	47493.9	94.7	%			12:08:19
1	Al 396.153Radial†	666273.8	703442.9	509430	µg/L	509430	ppb	12:08:13
1	Ca 317.933Radial†	289680.6	305675.2	490240	µg/L	490240	ppb	12:08:13
1	Fe 238.204 Radial†	9000.6	9495.6	187550	µg/L	187550	ppb	12:08:19
1	K 766.490 Radial†	185.8	-27.8	-18.951	µg/L	-18.951	ppb	12:08:19
1	Mg 279.077 IEC†	44690.6	47177.8	483130	µg/L	483130	ppb	12:08:19
1	Na 589.592 Radial†	97.0	49.8	15.855	µg/L	15.855	ppb	12:08:19
1	Sr 421.552†	281.2	289.3	3.2270	µg/L	3.2270	ppb	12:08:19
1	Sc 361.383	1122214.2	1122214.2	91.456	%			12:08:51
1	Y 371.029	778001.7	778001.7	91.274	%			12:08:51
1	Ag 328.068†	-1285.1	-1433.0	-4.1289	µg/L	-4.1289	ppb	12:08:56
1	As 188.979†	29.6	32.7	-20.144	µg/L	-20.144	ppb	12:09:17
1	B 249.677†	469.0	300.3	-35.844	µg/L	-35.844	ppb	12:08:56
1	Ba 233.527†	92.8	146.6	8.6705	µg/L	8.6705	ppb	12:09:17
1	Be 313.107†	1187.8	-113.4	-0.1910	µg/L	-0.1910	ppb	12:08:56
1	Cd 226.502†	480.1	581.2	-2.4584	µg/L	-2.4584	ppb	12:09:17
1	Co 228.616†	-44.0	-34.3	-4.0520	µg/L	-4.0520	ppb	12:09:17
1	Cr 267.716†	-66.7	-39.6	-1.9692	µg/L	-1.9692	ppb	12:09:17
1	Cu 324.752†	717.8	-1755.3	2.5703	µg/L	2.5703	ppb	12:08:56
1	Mn 257.610†	-2875.9	-3246.2	0.8568	µg/L	0.8568	ppb	12:08:56
1	Mo 202.031†	-65.6	-70.8	-9.1520	µg/L	-9.1520	ppb	12:09:17
1	Ni 231.604†	100.6	-14.0	-1.8856	µg/L	-1.8856	ppb	12:09:17
1	P 214.914†	133.8	28.1	122.05	µg/L	122.05	ppb	12:09:17
1	Pb 220.353†	-10.9	-37.3	-9.4576	µg/L	-9.4576	ppb	12:09:17
1	S 181.975 Axial†	23.8	17.2	78.349	µg/L	78.349	ppb	12:09:17
1	Sb 206.836†	18.3	15.5	2.0911	µg/L	2.0911	ppb	12:09:17
1	Se 196.026†	-17.4	-24.5	-19.848	µg/L	-19.848	ppb	12:09:17
1	SiO2†	1312.4	7.8	2.8033	µg/L	2.8033	ppb	12:09:17
1	Si 251.611†	546.7	44.7	13.445	µg/L	13.445	ppb	12:09:17
1	Sn 189.927†	-150.3	-162.2	4.3487	µg/L	4.3487	ppb	12:09:17
1	Ti 334.940†	7110.8	7573.6	-0.2407	µg/L	-0.2407	ppb	12:08:56
1	Tl 190.801†	15.8	25.8	-22.594	µg/L	-22.594	ppb	12:09:17
1	U 409.014†	326.3	424.1	-19.394	µg/L	-19.394	ppb	12:08:56
1	V 292.402†	-825.9	-673.2	0.6389	µg/L	0.6389	ppb	12:08:56
1	Zn 213.857†	983.7	809.5	-0.9297	µg/L	-0.9297	ppb	12:09:17
2	Sc RADIAL	47444.9	47444.9	94.6	%			12:08:30
2	Al 396.153Radial†	673120.4	711404.4	515200	µg/L	515200	ppb	12:08:24
2	Ca 317.933Radial†	293029.3	309529.8	496420	µg/L	496420	ppb	12:08:24
2	Fe 238.204 Radial†	8980.7	9484.4	187330	µg/L	187330	ppb	12:08:30
2	K 766.490 Radial†	179.9	-33.8	-23.066	µg/L	-23.066	ppb	12:08:30
2	Mg 279.077 IEC†	44822.7	47366.1	485060	µg/L	485060	ppb	12:08:30
2	Na 589.592 Radial†	98.0	50.9	16.221	µg/L	16.221	ppb	12:08:30
2	Sr 421.552†	299.5	308.9	3.4465	µg/L	3.4465	ppb	12:08:30
2	Sc 361.383	1111403.4	1111403.4	90.575	%			12:09:22
2	Y 371.029	768173.7	768173.7	90.121	%			12:09:22
2	Ag 328.068†	-1217.9	-1372.5	-3.3588	µg/L	-3.3588	ppb	12:09:28
2	As 188.979†	31.5	35.2	-10.435	µg/L	-10.435	ppb	12:09:49
2	B 249.677†	447.0	281.1	-37.256	µg/L	-37.256	ppb	12:09:28
2	Ba 233.527†	90.7	145.3	8.5884	µg/L	8.5884	ppb	12:09:49
2	Be 313.107†	1175.3	-114.5	-0.1927	µg/L	-0.1927	ppb	12:09:28
2	Cd 226.502†	494.6	602.3	-0.8382	µg/L	-0.8382	ppb	12:09:49
2	Co 228.616†	-47.4	-38.5	-4.5292	µg/L	-4.5292	ppb	12:09:49
2	Cr 267.716†	-71.0	-45.1	-2.2367	µg/L	-2.2367	ppb	12:09:49
2	Cu 324.752†	720.5	-1744.6	2.6378	µg/L	2.6378	ppb	12:09:28
2	Mn 257.610†	-2870.6	-3271.0	0.6553	µg/L	0.6553	ppb	12:09:28
2	Mo 202.031†	-53.6	-58.2	-6.2250	µg/L	-6.2250	ppb	12:09:49
2	Ni 231.604†	96.2	-17.8	-2.3902	µg/L	-2.3902	ppb	12:09:49
2	P 214.914†	145.3	42.1	202.97	µg/L	202.97	ppb	12:09:49
2	Pb 220.353†	-8.2	-34.4	-7.5320	µg/L	-7.5320	ppb	12:09:49

2	S 181.975 Axial†	31.2	25.6	164.27 µg/L	164.27 ppb	12:09:49
2	Sb 206.836†	18.8	16.2	3.0846 µg/L	3.0846 ppb	12:09:49
2	Se 196.026†	-9.1	-15.5	8.1692 µg/L	8.1692 ppb	12:09:49
2	SiO2†	1311.3	20.6	7.3808 µg/L	7.3808 ppb	12:09:49
2	Si 251.611†	550.0	54.1	14.906 µg/L	14.906 ppb	12:09:49
2	Sn 189.927†	-151.7	-165.4	2.3416 µg/L	2.3416 ppb	12:09:49
2	Ti 334.940†	6992.8	7518.9	-0.8125 µg/L	-0.8125 ppb	12:09:28
2	Tl 190.801†	14.8	24.9	-26.614 µg/L	-26.614 ppb	12:09:49
2	U 409.014†	214.4	304.0	-32.457 µg/L	-32.457 ppb	12:09:28
2	V 292.402†	-864.5	-724.5	-0.4936 µg/L	-0.4936 ppb	12:09:28
2	Zn 213.857†	981.6	817.6	-0.3594 µg/L	-0.3594 ppb	12:09:49
3	Sc RADIAL	47459.0	47459.0	94.6 %		12:08:41
3	Al 396.153Radial†	675544.0	713754.5	516900 µg/L	516900 ppb	12:08:35
3	Ca 317.933Radial†	294097.1	310566.3	498080 µg/L	498080 ppb	12:08:35
3	Fe 238.204 Radial†	9006.5	9508.7	187810 µg/L	187810 ppb	12:08:41
3	K 766.490 Radial†	160.9	-54.0	-36.797 µg/L	-36.797 ppb	12:08:41
3	Mg 279.077 IEC†	44866.2	47398.1	485380 µg/L	485380 ppb	12:08:41
3	Na 589.592 Radial†	73.1	24.5	7.8220 µg/L	7.8220 ppb	12:08:41
3	Sr 421.552†	295.3	304.4	3.3955 µg/L	3.3955 ppb	12:08:41
3	Sc 361.383	1115820.9	1115820.9	90.935 %		12:09:54
3	Y 371.029	774962.5	774962.5	90.918 %		12:09:54
3	Ag 328.068†	-1197.3	-1344.5	-2.9513 µg/L	-2.9513 ppb	12:10:00
3	As 188.979†	28.9	32.1	-25.671 µg/L	-25.671 ppb	12:10:20
3	B 249.677†	443.2	274.8	-37.887 µg/L	-37.887 ppb	12:10:00
3	Ba 233.527†	99.7	154.8	9.1508 µg/L	9.1508 ppb	12:10:20
3	Be 313.107†	1190.6	-102.9	-0.1742 µg/L	-0.1742 ppb	12:10:00
3	Cd 226.502†	480.1	584.1	-2.3023 µg/L	-2.3023 ppb	12:10:20
3	Co 228.616†	-43.4	-33.9	-3.9995 µg/L	-3.9995 ppb	12:10:20
3	Cr 267.716†	-83.1	-58.0	-2.8699 µg/L	-2.8699 ppb	12:10:20
3	Cu 324.752†	710.4	-1758.9	2.5642 µg/L	2.5642 ppb	12:10:00
3	Mn 257.610†	-2848.8	-3234.4	0.9715 µg/L	0.9715 ppb	12:10:00
3	Mo 202.031†	-58.5	-63.4	-7.4190 µg/L	-7.4190 ppb	12:10:20
3	Ni 231.604†	103.4	-10.3	-1.3914 µg/L	-1.3914 ppb	12:10:20
3	P 214.914†	143.1	39.2	186.62 µg/L	186.62 ppb	12:10:20
3	Pb 220.353†	-14.3	-41.1	-11.486 µg/L	-11.486 ppb	12:10:20
3	S 181.975 Axial†	27.4	21.3	120.24 µg/L	120.24 ppb	12:10:20
3	Sb 206.836†	18.6	15.9	2.4121 µg/L	2.4121 ppb	12:10:20
3	Se 196.026†	-5.6	-11.6	20.885 µg/L	20.885 ppb	12:10:20
3	SiO2†	1325.4	30.3	10.886 µg/L	10.886 ppb	12:10:20
3	Si 251.611†	553.3	55.3	14.666 µg/L	14.666 ppb	12:10:20
3	Sn 189.927†	-144.0	-156.2	14.179 µg/L	14.179 ppb	12:10:20
3	Ti 334.940†	7023.0	7521.5	-0.9008 µg/L	-0.9008 ppb	12:10:00
3	Tl 190.801†	20.1	30.6	-9.2471 µg/L	-9.2471 ppb	12:10:20
3	U 409.014†	294.2	390.8	-23.440 µg/L	-23.440 ppb	12:10:00
3	V 292.402†	-856.6	-712.1	-0.1786 µg/L	-0.1786 ppb	12:10:00
3	Zn 213.857†	974.7	805.8	-1.2386 µg/L	-1.2386 ppb	12:10:20

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1116479.5	90.988	%	0.4430				0.49%
Sc RADIAL	47465.9	94.7	%	0.05				0.05%
Y 371.029	773712.6	90.771	%	0.5903				0.65%
Ag 328.068†	-1383.3	-3.4797	µg/L	0.59805	-3.4797	ppb	0.59805	17.19%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	709533.9	513840	µg/L	3913.7	513840	ppb	3913.7	0.76%
QC value within limits for Al 396.153Radial Recovery = 102.77%								
As 188.979†	33.3	-18.750	µg/L	7.7131	-18.750	ppb	7.7131	41.14%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	285.4	-36.996	µg/L	1.0460	-36.996	ppb	1.0460	2.83%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	148.9	8.8032	µg/L	0.30382	8.8032	ppb	0.30382	3.45%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-110.3	-0.1860	µg/L	0.01024	-0.1860	ppb	0.01024	5.51%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	308590.5	494920	µg/L	4133.5	494920	ppb	4133.5	0.84%
QC value within limits for Ca 317.933Radial Recovery = 98.98%								
Cd 226.502†	589.2	-1.8663	µg/L	0.89376	-1.8663	ppb	0.89376	47.89%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	-35.6	-4.1935	µg/L	0.29186	-4.1935	ppb	0.29186	6.96%

```
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -47.6     -2.3586 µg/L       0.46253     -2.3586 ppb        0.46253  19.61%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†            -1752.9      2.5908 µg/L       0.04084      2.5908 ppb        0.04084   1.58%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†      9496.3      187560 µg/L         240.8      187560 ppb          240.8   0.13%
   QC value within limits for Fe 238.204 Radial  Recovery = 93.78%
K 766.490 Radial†        -38.5     -26.271 µg/L        9.3447     -26.271 ppb         9.3447  35.57%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†        47314.0      484520 µg/L        1219.3      484520 ppb         1219.3   0.25%
   QC value within limits for Mg 279.077 IEC  Recovery = 96.90%
Mn 257.610†            -3250.5      0.8279 µg/L       0.16010      0.8279 ppb        0.16010  19.34%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              -64.2     -7.5987 µg/L       1.47174     -7.5987 ppb        1.47174  19.37%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        41.7      13.299 µg/L        4.7469      13.299 ppb         4.7469  35.69%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†              -14.0     -1.8891 µg/L       0.49942     -1.8891 ppb        0.49942  26.44%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                36.5      170.54 µg/L        42.788      170.54 ppb         42.788  25.09%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†              -37.6     -9.4920 µg/L       1.97736     -9.4920 ppb        1.97736  20.83%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†          21.4      120.95 µg/L        42.966      120.95 ppb         42.966  35.52%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†               15.8      2.5292 µg/L       0.50699      2.5292 ppb        0.50699  20.05%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -17.2      3.0688 µg/L      20.84031      3.0688 ppb       20.84031 679.11%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                     19.6      7.0232 µg/L       4.05299      7.0232 ppb        4.05299  57.71%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†               51.4      14.339 µg/L        0.7837      14.339 ppb         0.7837   5.47%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†             -161.2      6.9563 µg/L       6.33479      6.9563 ppb        6.33479  91.07%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†              300.9      3.3563 µg/L       0.11488      3.3563 ppb        0.11488   3.42%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†             7538.0     -0.6514 µg/L       0.35834     -0.6514 ppb        0.35834  55.01%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               27.1     -19.485 µg/L        9.0913     -19.485 ppb         9.0913  46.66%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†               373.0     -25.097 µg/L        6.6871     -25.097 ppb         6.6871  26.64%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†              -703.3     -0.0111 µg/L       0.58452     -0.0111 ppb        0.58452 >999.9%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†              811.0     -0.8426 µg/L       0.44602     -0.8426 ppb        0.44602  52.94%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 10
Sample ID: ICSAB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 104
Date Collected: 1/5/2010 12:10:29
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICSAB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	48051.2	48051.2	95.8	%			12:11:08
1	Al 396.153Radial†	665857.4	694848.7	503190	µg/L	503190	ppb	12:11:02
1	Ca 317.933Radial†	289127.6	301550.4	483620	µg/L	483620	ppb	12:11:02
1	Fe 238.204 Radial†	8933.1	9314.9	184000	µg/L	184000	ppb	12:11:08
1	K 766.490 Radial†	7354.7	7451.3	5080.7	µg/L	5080.7	ppb	12:11:08
1	Mg 279.077 IEC†	44767.9	46711.2	478360	µg/L	478360	ppb	12:11:08
1	Na 589.592 Radial†	15353.0	15969.6	5088.4	µg/L	5088.4	ppb	12:11:08
1	Sr 421.552†	42597.1	44446.3	495.84	µg/L	495.84	ppb	12:11:08
1	Sc 361.383	1111132.3	1111132.3	90.553	%			12:11:40
1	Y 371.029	771524.3	771524.3	90.514	%			12:11:40
1	Ag 328.068†	16209.7	17873.1	252.64	µg/L	252.64	ppb	12:11:46
1	As 188.979†	123.6	136.8	488.98	µg/L	488.98	ppb	12:12:06
1	B 249.677†	6378.5	6831.5	468.40	µg/L	468.40	ppb	12:11:46
1	Ba 233.527†	7289.4	8095.1	481.35	µg/L	481.35	ppb	12:11:46
1	Be 313.107†	132209.0	144590.4	229.77	µg/L	229.77	ppb	12:11:40
1	Cd 226.502†	5806.5	6468.5	438.59	µg/L	438.59	ppb	12:12:06
1	Co 228.616†	3218.8	3568.4	411.02	µg/L	411.02	ppb	12:12:06
1	Cr 267.716†	8607.8	9539.2	466.91	µg/L	466.91	ppb	12:11:46
1	Cu 324.752†	58763.8	62354.7	530.32	µg/L	530.32	ppb	12:11:46
1	Mn 257.610†	55116.5	60765.3	448.40	µg/L	448.40	ppb	12:11:46
1	Mo 202.031†	1779.5	1966.1	466.00	µg/L	466.00	ppb	12:12:06
1	Ni 231.604†	2928.7	3110.2	418.25	µg/L	418.25	ppb	12:12:06
1	P 214.914†	553.5	493.0	2672.8	µg/L	2672.8	ppb	12:12:06
1	Pb 220.353†	692.8	739.7	456.13	µg/L	456.13	ppb	12:12:06
1	S 181.975 Axial†	253.6	271.2	2671.6	µg/L	2671.6	ppb	12:12:06
1	Sb 206.836†	253.7	275.6	505.66	µg/L	505.66	ppb	12:12:06
1	Se 196.026†	666.5	730.6	2288.9	µg/L	2288.9	ppb	12:12:06
1	SiO2†	28240.5	29759.6	10688	µg/L	10688	ppb	12:11:46
1	Si 251.611†	32211.7	35019.3	4974.4	µg/L	4974.4	ppb	12:11:46
1	Sn 189.927†	223.1	248.6	513.75	µg/L	513.75	ppb	12:12:06
1	Ti 334.940†	122441.3	135014.2	482.95	µg/L	482.95	ppb	12:11:46
1	Tl 190.801†	138.0	161.0	402.39	µg/L	402.39	ppb	12:12:06
1	U 409.014†	4404.7	4931.6	459.54	µg/L	459.54	ppb	12:11:46
1	V 292.402†	19915.4	22223.1	501.65	µg/L	501.65	ppb	12:11:46
1	Zn 213.857†	7577.7	8102.2	453.39	µg/L	453.39	ppb	12:11:46
2	Sc RADIAL	48213.9	48213.9	96.1	%			12:11:19
2	Al 396.153Radial†	669023.5	695797.3	503880	µg/L	503880	ppb	12:11:13
2	Ca 317.933Radial†	290763.5	302234.0	484720	µg/L	484720	ppb	12:11:13
2	Fe 238.204 Radial†	8912.6	9262.2	182950	µg/L	182950	ppb	12:11:19
2	K 766.490 Radial†	7377.1	7448.7	5078.9	µg/L	5078.9	ppb	12:11:19
2	Mg 279.077 IEC†	44946.9	46739.7	478660	µg/L	478660	ppb	12:11:19
2	Na 589.592 Radial†	15382.3	15946.0	5080.9	µg/L	5080.9	ppb	12:11:19
2	Sr 421.552†	42933.7	44646.3	498.07	µg/L	498.07	ppb	12:11:19
2	Sc 361.383	1116834.0	1116834.0	91.017	%			12:12:12
2	Y 371.029	775156.5	775156.5	90.940	%			12:12:12
2	Ag 328.068†	16296.9	17877.5	252.62	µg/L	252.62	ppb	12:12:18
2	As 188.979†	119.7	131.9	464.89	µg/L	464.89	ppb	12:12:38
2	B 249.677†	6418.7	6839.7	469.36	µg/L	469.36	ppb	12:12:18
2	Ba 233.527†	7311.9	8078.7	480.38	µg/L	480.38	ppb	12:12:18
2	Be 313.107†	133101.6	144825.7	230.15	µg/L	230.15	ppb	12:12:12
2	Cd 226.502†	5807.1	6436.4	436.45	µg/L	436.45	ppb	12:12:38
2	Co 228.616†	3215.2	3546.3	408.48	µg/L	408.48	ppb	12:12:38
2	Cr 267.716†	8664.2	9552.6	467.56	µg/L	467.56	ppb	12:12:18
2	Cu 324.752†	58756.0	62014.7	527.43	µg/L	527.43	ppb	12:12:18
2	Mn 257.610†	55373.0	60736.4	448.06	µg/L	448.06	ppb	12:12:18
2	Mo 202.031†	1785.2	1962.3	465.07	µg/L	465.07	ppb	12:12:38
2	Ni 231.604†	2943.2	3109.7	418.19	µg/L	418.19	ppb	12:12:38
2	P 214.914†	552.5	488.8	2650.5	µg/L	2650.5	ppb	12:12:38
2	Pb 220.353†	687.4	729.8	450.29	µg/L	450.29	ppb	12:12:38

2	S 181.975 Axial†	256.7	273.2	2691.8 µg/L	2691.8 ppb	12:12:38
2	Sb 206.836†	258.2	279.2	512.50 µg/L	512.50 ppb	12:12:38
2	Se 196.026†	667.1	727.4	2278.8 µg/L	2278.8 ppb	12:12:38
2	SiO2†	28305.4	29671.8	10657 µg/L	10657 ppb	12:12:18
2	Si 251.611†	32346.9	34986.2	4970.4 µg/L	4970.4 ppb	12:12:18
2	Sn 189.927†	212.1	235.2	497.59 µg/L	497.59 ppb	12:12:38
2	Ti 334.940†	122677.5	134583.4	481.25 µg/L	481.25 ppb	12:12:18
2	Tl 190.801†	136.4	158.4	394.22 µg/L	394.22 ppb	12:12:38
2	U 409.014†	4340.4	4836.1	449.54 µg/L	449.54 ppb	12:12:18
2	V 292.402†	20033.6	22240.7	501.93 µg/L	501.93 ppb	12:12:18
2	Zn 213.857†	7598.8	8082.7	452.45 µg/L	452.45 ppb	12:12:18
3	Sc RADIAL	47752.6	47752.6	95.2 %		12:11:30
3	Al 396.153Radial†	665076.0	698373.4	505740 µg/L	505740 ppb	12:11:25
3	Ca 317.933Radial†	288277.6	302544.6	485220 µg/L	485220 ppb	12:11:25
3	Fe 238.204 Radial†	8895.9	9334.1	184380 µg/L	184380 ppb	12:11:30
3	K 766.490 Radial†	7308.1	7450.4	5080.1 µg/L	5080.1 ppb	12:11:30
3	Mg 279.077 IEC†	44766.6	47002.0	481340 µg/L	481340 ppb	12:11:30
3	Na 589.592 Radial†	15383.5	16101.8	5130.5 µg/L	5130.5 ppb	12:11:30
3	Sr 421.552†	42617.4	44745.5	499.18 µg/L	499.18 ppb	12:11:30
3	Sc 361.383	1116389.1	1116389.1	90.981 %		12:12:44
3	Y 371.029	772573.6	772573.6	90.637 %		12:12:44
3	Ag 328.068†	16238.3	17820.3	251.98 µg/L	251.98 ppb	12:12:50
3	As 188.979†	125.4	138.2	495.27 µg/L	495.27 ppb	12:13:10
3	B 249.677†	6388.3	6809.1	466.56 µg/L	466.56 ppb	12:12:50
3	Ba 233.527†	7316.5	8087.0	480.87 µg/L	480.87 ppb	12:12:50
3	Be 313.107†	132704.6	144447.6	229.55 µg/L	229.55 ppb	12:12:44
3	Cd 226.502†	5825.3	6458.9	437.78 µg/L	437.78 ppb	12:13:10
3	Co 228.616†	3218.3	3551.1	409.04 µg/L	409.04 ppb	12:13:10
3	Cr 267.716†	8623.1	9511.3	465.54 µg/L	465.54 ppb	12:12:50
3	Cu 324.752†	58793.8	62082.0	528.11 µg/L	528.11 ppb	12:12:50
3	Mn 257.610†	55348.2	60733.3	448.22 µg/L	448.22 ppb	12:12:50
3	Mo 202.031†	1799.8	1979.1	469.05 µg/L	469.05 ppb	12:13:10
3	Ni 231.604†	2938.8	3106.1	417.71 µg/L	417.71 ppb	12:13:10
3	P 214.914†	542.4	477.9	2589.0 µg/L	2589.0 ppb	12:13:10
3	Pb 220.353†	702.0	746.2	460.16 µg/L	460.16 ppb	12:13:10
3	S 181.975 Axial†	253.0	269.2	2650.3 µg/L	2650.3 ppb	12:13:10
3	Sb 206.836†	250.6	270.9	496.53 µg/L	496.53 ppb	12:13:10
3	Se 196.026†	680.9	743.0	2326.3 µg/L	2326.3 ppb	12:13:10
3	SiO2†	28290.3	29667.5	10655 µg/L	10655 ppb	12:12:50
3	Si 251.611†	32355.6	35009.9	4973.0 µg/L	4973.0 ppb	12:12:50
3	Sn 189.927†	226.3	250.9	517.67 µg/L	517.67 ppb	12:13:10
3	Ti 334.940†	122409.9	134343.0	480.31 µg/L	480.31 ppb	12:12:50
3	Tl 190.801†	143.5	166.3	418.71 µg/L	418.71 ppb	12:13:10
3	U 409.014†	4310.7	4805.3	445.98 µg/L	445.98 ppb	12:12:50
3	V 292.402†	20019.1	22233.5	501.91 µg/L	501.91 ppb	12:12:50
3	Zn 213.857†	7607.8	8095.9	452.89 µg/L	452.89 ppb	12:12:50

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1114785.1	90.850	%	0.2584				0.28%
Sc RADIAL	48005.9	95.7	%	0.47				0.49%
Y 371.029	773084.8	90.697	%	0.2193				0.24%
Ag 328.068†	17856.9	252.41	µg/L	0.376	252.41	ppb	0.376	0.15%
QC value within limits for Ag 328.068 Recovery = 100.96%								
Al 396.153Radial†	696339.8	504270	µg/L	1320.8	504270	ppb	1320.8	0.26%
QC value within limits for Al 396.153Radial Recovery = 100.85%								
As 188.979†	135.6	483.05	µg/L	16.031	483.05	ppb	16.031	3.32%
QC value within limits for As 188.979 Recovery = 96.61%								
B 249.677†	6826.8	468.10	µg/L	1.422	468.10	ppb	1.422	0.30%
QC value within limits for B 249.677 Recovery = 93.62%								
Ba 233.527†	8086.9	480.87	µg/L	0.486	480.87	ppb	0.486	0.10%
QC value within limits for Ba 233.527 Recovery = 96.17%								
Be 313.107†	144621.2	229.82	µg/L	0.304	229.82	ppb	0.304	0.13%
QC value within limits for Be 313.107 Recovery = 91.93%								
Ca 317.933Radial†	302109.7	484520	µg/L	815.7	484520	ppb	815.7	0.17%
QC value within limits for Ca 317.933Radial Recovery = 96.90%								
Cd 226.502†	6454.6	437.61	µg/L	1.084	437.61	ppb	1.084	0.25%
QC value within limits for Cd 226.502 Recovery = 87.52%								
Co 228.616†	3555.3	409.51	µg/L	1.333	409.51	ppb	1.333	0.33%

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   QC value within limits for Co 228.616  Recovery = 81.90%
Cr 267.716†            9534.4      466.67 µg/L        1.029      466.67 ppb          1.029   0.22%
   QC value within limits for Cr 267.716  Recovery = 93.33%
Cu 324.752†           62150.5      528.62 µg/L        1.513      528.62 ppb          1.513   0.29%
   QC value within limits for Cu 324.752  Recovery = 105.72%
Fe 238.204 Radial†     9303.7      183780 µg/L        735.6      183780 ppb          735.6   0.40%
   QC value within limits for Fe 238.204 Radial  Recovery = 91.89%
K 766.490 Radial†      7450.2      5079.9 µg/L         0.90      5079.9 ppb           0.90   0.02%
   QC value within limits for K 766.490 Radial  Recovery = 101.60%
Mg 279.077 IEC†       46817.6      479450 µg/L       1641.6      479450 ppb         1641.6   0.34%
   QC value within limits for Mg 279.077 IEC  Recovery = 95.89%
Mn 257.610†           60745.0      448.23 µg/L        0.167      448.23 ppb          0.167   0.04%
   QC value within limits for Mn 257.610  Recovery = 89.65%
Mo 202.031†            1969.2      466.71 µg/L        2.080      466.71 ppb          2.080   0.45%
   QC value within limits for Mo 202.031  Recovery = 93.34%
Na 589.592 Radial†    16005.8      5099.9 µg/L        26.76      5099.9 ppb          26.76   0.52%
   QC value within limits for Na 589.592 Radial  Recovery = 102.00%
Ni 231.604†            3108.7      418.05 µg/L        0.298      418.05 ppb          0.298   0.07%
   QC value within limits for Ni 231.604  Recovery = 83.61%
P 214.914†              486.6      2637.5 µg/L        43.44      2637.5 ppb          43.44   1.65%
   QC value within limits for P 214.914  Recovery = 105.50%
Pb 220.353†             738.6      455.53 µg/L        4.961      455.53 ppb          4.961   1.09%
   QC value within limits for Pb 220.353  Recovery = 91.11%
S 181.975 Axial†        271.2      2671.2 µg/L        20.76      2671.2 ppb          20.76   0.78%
   QC value within limits for S 181.975 Axial  Recovery = 106.85%
Sb 206.836†             275.2      504.90 µg/L        8.011      504.90 ppb          8.011   1.59%
   QC value within limits for Sb 206.836  Recovery = 100.98%
Se 196.026†             733.6      2298.0 µg/L        25.04      2298.0 ppb          25.04   1.09%
   QC value within limits for Se 196.026  Recovery = 91.92%
SiO2†                  29699.6       10667 µg/L         18.7       10667 ppb           18.7   0.18%
   QC value within limits for SiO2  Recovery = 99.73%
Si 251.611†            35005.1      4972.6 µg/L         2.04      4972.6 ppb           2.04   0.04%
   QC value within limits for Si 251.611  Recovery = 99.45%
Sn 189.927†             244.9      509.67 µg/L       10.644      509.67 ppb         10.644   2.09%
   QC value within limits for Sn 189.927  Recovery = 101.93%
Sr 421.552†            44612.7      497.69 µg/L        1.701      497.69 ppb          1.701   0.34%
   QC value within limits for Sr 421.552  Recovery = 99.54%
Ti 334.940†           134646.9      481.51 µg/L        1.336      481.51 ppb          1.336   0.28%
   QC value within limits for Ti 334.940  Recovery = 96.30%
Tl 190.801†             161.9      405.11 µg/L       12.466      405.11 ppb         12.466   3.08%
   QC value within limits for Tl 190.801  Recovery = 81.02%
U 409.014†             4857.7      451.69 µg/L        7.026      451.69 ppb          7.026   1.56%
   QC value within limits for U 409.014  Recovery = 90.34%
V 292.402†            22232.5      501.83 µg/L        0.153      501.83 ppb          0.153   0.03%
   QC value within limits for V 292.402  Recovery = 100.37%
Zn 213.857†            8093.6      452.91 µg/L        0.466      452.91 ppb          0.466   0.10%
   QC value within limits for Zn 213.857  Recovery = 90.58%
All analyte(s) passed QC.
```

Sequence No.: 11
Sample ID: LR1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 105
Date Collected: 1/5/2010 12:13:20
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	47770.2	47770.2	95.3	%			12:13:59
1	Al 396.153Radial†	659541.2	692306.2	501370	µg/L	501370	ppb	12:13:54
1	Ca 317.933Radial†	292969.2	307358.1	492940	µg/L	492940	ppb	12:13:54
1	Fe 238.204 Radial†	22389.2	23495.0	464060	µg/L	464060	ppb	12:13:59
1	K 766.490 Radial†	236.9	24.7	16.835	µg/L	16.835	ppb	12:13:59
1	Mg 279.077 IEC†	44348.7	46546.0	476250	µg/L	476250	ppb	12:13:59
1	Na 589.592 Radial†	1453413.1	1525637.5	486120	µg/L	486120	ppb	12:13:54
1	Sr 421.552†	432.7	446.6	4.9823	µg/L	4.9823	ppb	12:13:59
1	Sc 361.383	1151096.9	1151096.9	93.809	%			12:14:33
1	Y 371.029	789678.0	789678.0	92.644	%			12:14:33
1	Ag 328.068†	-2802.6	-3015.3	-3.4041	µg/L	-3.4041	ppb	12:14:38
1	As 188.979†	39.2	42.1	4.3473	µg/L	4.3473	ppb	12:14:59
1	B 249.677†	758.6	596.2	-100.000	µg/L	-100.000	ppb	12:14:38
1	Ba 233.527†	192.7	250.6	14.746	µg/L	14.746	ppb	12:14:59
1	Be 313.107†	-2144.7	-3698.4	-5.8939	µg/L	-5.8939	ppb	12:14:38
1	Cd 226.502†	1210.9	1347.0	-3.0773	µg/L	-3.0773	ppb	12:14:38
1	Co 228.616†	-8.7	4.5	0.3915	µg/L	0.3915	ppb	12:14:59
1	Cr 267.716†	-29.6	1.8	-0.0492	µg/L	-0.0492	ppb	12:14:59
1	Cu 324.752†	-2503.0	-5208.3	-0.7675	µg/L	-0.7675	ppb	12:14:38
1	Mn 257.610†	-10325.2	-11108.1	-19.409	µg/L	-19.409	ppb	12:14:38
1	Mo 202.031†	-105.7	-111.8	-7.8513	µg/L	-7.8513	ppb	12:14:59
1	Ni 231.604†	111.6	-5.1	-0.6799	µg/L	-0.6799	ppb	12:14:59
1	P 214.914†	232.0	129.0	361.09	µg/L	361.09	ppb	12:14:59
1	Pb 220.353†	32.8	9.6	3.3351	µg/L	3.3351	ppb	12:14:59
1	S 181.975 Axial†	30.7	23.8	106.29	µg/L	106.29	ppb	12:14:59
1	Sb 206.836†	12.2	8.5	-3.7911	µg/L	-3.7911	ppb	12:14:59
1	Se 196.026†	-45.0	-53.4	88.652	µg/L	88.652	ppb	12:14:59
1	SiO2†	1346.1	7.7	2.7604	µg/L	2.7604	ppb	12:14:59
1	Si 251.611†	160.9	-381.6	-46.279	µg/L	-46.279	ppb	12:14:59
1	Sn 189.927†	-179.2	-188.8	-76.155	µg/L	-76.155	ppb	12:14:59
1	Ti 334.940†	8099.6	8432.6	2.8542	µg/L	2.8542	ppb	12:14:38
1	Tl 190.801†	11.8	21.1	-38.115	µg/L	-38.115	ppb	12:14:59
1	U 409.014†	122482.4	130632.4	13733	µg/L	13733	ppb	12:14:33
1	V 292.402†	-2756.1	-2708.1	1.2718	µg/L	1.2718	ppb	12:14:38
1	Zn 213.857†	1842.2	1697.6	-20.654	µg/L	-20.654	ppb	12:14:59
2	Sc RADIAL	48247.8	48247.8	96.2	%			12:14:11
2	Al 396.153Radial†	666144.4	692315.5	501370	µg/L	501370	ppb	12:14:06
2	Ca 317.933Radial†	300197.6	311826.4	500110	µg/L	500110	ppb	12:14:06
2	Fe 238.204 Radial†	22691.2	23576.3	465670	µg/L	465670	ppb	12:14:11
2	K 766.490 Radial†	279.0	66.0	44.989	µg/L	44.989	ppb	12:14:11
2	Mg 279.077 IEC†	44597.0	46343.2	474170	µg/L	474170	ppb	12:14:11
2	Na 589.592 Radial†	1464143.3	1521686.4	484860	µg/L	484860	ppb	12:14:06
2	Sr 421.552†	410.6	419.1	4.6750	µg/L	4.6750	ppb	12:14:11
2	Sc 361.383	1157439.3	1157439.3	94.326	%			12:15:05
2	Y 371.029	793148.9	793148.9	93.051	%			12:15:05
2	Ag 328.068†	-2772.9	-2967.5	-2.6452	µg/L	-2.6452	ppb	12:15:10
2	As 188.979†	36.7	39.2	-12.251	µg/L	-12.251	ppb	12:15:31
2	B 249.677†	731.6	563.1	-103.06	µg/L	-103.06	ppb	12:15:10
2	Ba 233.527†	204.6	262.0	15.424	µg/L	15.424	ppb	12:15:31
2	Be 313.107†	-2078.2	-3615.4	-5.7620	µg/L	-5.7620	ppb	12:15:10
2	Cd 226.502†	1232.1	1362.4	-2.3741	µg/L	-2.3741	ppb	12:15:10
2	Co 228.616†	-14.3	-1.4	-0.2922	µg/L	-0.2922	ppb	12:15:31
2	Cr 267.716†	-36.8	-5.7	-0.4133	µg/L	-0.4133	ppb	12:15:31
2	Cu 324.752†	-2599.3	-5295.7	-1.3417	µg/L	-1.3417	ppb	12:15:10
2	Mn 257.610†	-10328.9	-11051.7	-18.812	µg/L	-18.812	ppb	12:15:10
2	Mo 202.031†	-118.9	-125.1	-10.896	µg/L	-10.896	ppb	12:15:31
2	Ni 231.604†	128.6	12.4	1.6612	µg/L	1.6612	ppb	12:15:31
2	P 214.914†	240.2	136.4	400.64	µg/L	400.64	ppb	12:15:31
2	Pb 220.353†	34.0	10.6	4.0115	µg/L	4.0115	ppb	12:15:31

2	S 181.975 Axial†	25.2	17.9	45.756 µg/L	45.756 ppb	12:15:31
2	Sb 206.836†	17.0	13.5	5.4670 µg/L	5.4670 ppb	12:15:31
2	Se 196.026†	-50.5	-59.0	75.355 µg/L	75.355 ppb	12:15:31
2	SiO2†	1362.6	17.3	6.2148 µg/L	6.2148 ppb	12:15:31
2	Si 251.611†	157.0	-386.7	-47.000 µg/L	-47.000 ppb	12:15:31
2	Sn 189.927†	-179.7	-188.3	-74.611 µg/L	-74.611 ppb	12:15:31
2	Ti 334.940†	8226.9	8520.2	2.7633 µg/L	2.7633 ppb	12:15:10
2	Tl 190.801†	10.2	19.4	-45.023 µg/L	-45.023 ppb	12:15:31
2	U 409.014†	122447.3	129879.8	13653 µg/L	13653 ppb	12:15:05
2	V 292.402†	-2750.4	-2685.9	1.7328 µg/L	1.7328 ppb	12:15:10
2	Zn 213.857†	1852.6	1697.9	-21.081 µg/L	-21.081 ppb	12:15:31
3	Sc RADIAL	48458.1	48458.1	96.6 %		12:14:23
3	Al 396.153Radial†	666594.8	689776.4	499530 µg/L	499530 ppb	12:14:17
3	Ca 317.933Radial†	303068.5	313443.1	502700 µg/L	502700 ppb	12:14:17
3	Fe 238.204 Radial†	22918.0	23708.6	468280 µg/L	468280 ppb	12:14:23
3	K 766.490 Radial†	259.9	44.9	30.647 µg/L	30.647 ppb	12:14:23
3	Mg 279.077 IEC†	44842.2	46395.7	474700 µg/L	474700 ppb	12:14:23
3	Na 589.592 Radial†	1461802.6	1512659.0	481980 µg/L	481980 ppb	12:14:17
3	Sr 421.552†	439.2	446.8	4.9845 µg/L	4.9845 ppb	12:14:23
3	Sc 361.383	1165496.7	1165496.7	94.983 %		12:15:37
3	Y 371.029	798956.2	798956.2	93.732 %		12:15:37
3	Ag 328.068†	-2836.0	-3013.6	-3.0455 µg/L	-3.0455 ppb	12:15:42
3	As 188.979†	32.6	34.7	-35.427 µg/L	-35.427 ppb	12:16:03
3	B 249.677†	708.5	533.4	-106.16 µg/L	-106.16 ppb	12:15:42
3	Ba 233.527†	194.5	249.9	14.708 µg/L	14.708 ppb	12:16:03
3	Be 313.107†	-2086.8	-3609.2	-5.7520 µg/L	-5.7520 ppb	12:15:42
3	Cd 226.502†	1185.0	1303.8	-7.4185 µg/L	-7.4185 ppb	12:15:42
3	Co 228.616†	-1.7	12.0	1.2435 µg/L	1.2435 ppb	12:16:03
3	Cr 267.716†	-25.6	6.4	0.1750 µg/L	0.1750 ppb	12:16:03
3	Cu 324.752†	-2732.5	-5416.9	-2.1028 µg/L	-2.1028 ppb	12:15:42
3	Mn 257.610†	-10404.4	-11055.6	-18.511 µg/L	-18.511 ppb	12:15:42
3	Mo 202.031†	-117.3	-122.6	-10.211 µg/L	-10.211 ppb	12:16:03
3	Ni 231.604†	109.9	-8.3	-1.1169 µg/L	-1.1169 ppb	12:16:03
3	P 214.914†	244.2	138.9	410.76 µg/L	410.76 ppb	12:16:03
3	Pb 220.353†	29.2	5.3	0.7740 µg/L	0.7740 ppb	12:16:03
3	S 181.975 Axial†	21.4	13.6	1.6825 µg/L	1.6825 ppb	12:16:03
3	Sb 206.836†	19.2	15.7	9.4886 µg/L	9.4886 ppb	12:16:03
3	Se 196.026†	-61.5	-70.2	43.239 µg/L	43.239 ppb	12:16:03
3	SiO2†	1347.0	-9.1	-3.2740 µg/L	-3.2740 ppb	12:16:03
3	Si 251.611†	159.3	-385.4	-46.944 µg/L	-46.944 ppb	12:16:03
3	Sn 189.927†	-178.2	-185.4	-70.707 µg/L	-70.707 ppb	12:16:03
3	Ti 334.940†	8157.5	8386.8	2.1051 µg/L	2.1051 ppb	12:15:42
3	Tl 190.801†	10.2	19.3	-46.105 µg/L	-46.105 ppb	12:16:03
3	U 409.014†	122932.2	129492.9	13611 µg/L	13611 ppb	12:15:37
3	V 292.402†	-2773.3	-2689.9	1.7978 µg/L	1.7978 ppb	12:15:42
3	Zn 213.857†	1862.3	1694.6	-21.989 µg/L	-21.989 ppb	12:16:03

Mean Data: LR1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1158011.0	94.373	%	0.5881				0.62%
Sc RADIAL	48158.7	96.0	%	0.70				0.73%
Y 371.029	793927.7	93.143	%	0.5500				0.59%
Ag 328.068†	-2998.8	-3.0316	µg/L	0.37961	-3.0316	ppb	0.37961	12.52%
Al 396.153Radial†	691466.0	500760	µg/L	1059.7	500760	ppb	1059.7	0.21%
QC value within limits for Al 396.153Radial Recovery = 100.15%								
As 188.979†	38.7	-14.444	µg/L	19.9778	-14.444	ppb	19.9778	138.31%
B 249.677†	564.2	-103.07	µg/L	3.082	-103.07	ppb	3.082	2.99%
Ba 233.527†	254.2	14.959	µg/L	0.4029	14.959	ppb	0.4029	2.69%
Be 313.107†	-3641.0	-5.8026	µg/L	0.07917	-5.8026	ppb	0.07917	1.36%
Ca 317.933Radial†	310875.9	498580	µg/L	5055.0	498580	ppb	5055.0	1.01%
QC value within limits for Ca 317.933Radial Recovery = 99.72%								
Cd 226.502†	1337.7	-4.2900	µg/L	2.73212	-4.2900	ppb	2.73212	63.69%
Co 228.616†	5.0	0.4476	µg/L	0.76937	0.4476	ppb	0.76937	171.88%
Cr 267.716†	0.8	-0.0959	µg/L	0.29693	-0.0959	ppb	0.29693	309.76%
Cu 324.752†	-5307.0	-1.4040	µg/L	0.66980	-1.4040	ppb	0.66980	47.71%
Fe 238.204 Radial†	23593.3	466000	µg/L	2129.3	466000	ppb	2129.3	0.46%
QC value within limits for Fe 238.204 Radial Recovery = 93.20%								
K 766.490 Radial†	45.2	30.824	µg/L	14.0776	30.824	ppb	14.0776	45.67%
Mg 279.077 IEC†	46428.3	475040	µg/L	1080.2	475040	ppb	1080.2	0.23%

QC value within limits for Mg 279.077 IEC Recovery = 95.01%

Mn 257.610†	-11071.8	-18.911 µg/L	0.4569	-18.911 ppb	0.4569	2.42%
Mo 202.031†	-119.9	-9.6528 µg/L	1.59735	-9.6528 ppb	1.59735	16.55%
Na 589.592 Radial†	1519994.3	484320 µg/L	2119.7	484320 ppb	2119.7	0.44%

QC value within limits for Na 589.592 Radial Recovery = 96.86%

Ni 231.604†	-0.3	-0.0452 µg/L	1.49387	-0.0452 ppb	1.49387	>999.9%
P 214.914†	134.8	390.83 µg/L	26.248	390.83 ppb	26.248	6.72%
Pb 220.353†	8.5	2.7069 µg/L	1.70772	2.7069 ppb	1.70772	63.09%
S 181.975 Axial†	18.4	51.244 µg/L	52.5204	51.244 ppb	52.5204	102.49%
Sb 206.836†	12.6	3.7215 µg/L	6.80972	3.7215 ppb	6.80972	182.98%
Se 196.026†	-60.9	69.082 µg/L	23.3472	69.082 ppb	23.3472	33.80%
SiO2†	5.3	1.9004 µg/L	4.80249	1.9004 ppb	4.80249	252.71%
Si 251.611†	-384.5	-46.741 µg/L	0.4014	-46.741 ppb	0.4014	0.86%
Sn 189.927†	-187.5	-73.825 µg/L	2.8076	-73.825 ppb	2.8076	3.80%
Sr 421.552†	437.5	4.8806 µg/L	0.17807	4.8806 ppb	0.17807	3.65%
Ti 334.940†	8446.5	2.5742 µg/L	0.40882	2.5742 ppb	0.40882	15.88%
Tl 190.801†	20.0	-43.081 µg/L	4.3343	-43.081 ppb	4.3343	10.06%
U 409.014†	130001.7	13665 µg/L	62.1	13665 ppb	62.1	0.45%

QC value within limits for U 409.014 Recovery = 91.10%

V 292.402†	-2694.6	1.6008 µg/L	0.28676	1.6008 ppb	0.28676	17.91%
Zn 213.857†	1696.7	-21.241 µg/L	0.6817	-21.241 ppb	0.6817	3.21%

All analyte(s) passed QC.

Sequence No.: 13
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 1/5/2010 12:20:22
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	51043.7	51043.7	102	%			12:21:00
1	Al 396.153Radial†	6991.2	6834.8	4931.0	µg/L	4931.0	ppb	12:21:00
1	Ca 317.933Radial†	3367.0	3127.6	5016.1	µg/L	5016.1	ppb	12:21:20
1	Fe 238.204 Radial†	273.5	261.1	5173.6	µg/L	5173.6	ppb	12:21:20
1	K 766.490 Radial†	8109.4	7742.8	5279.4	µg/L	5279.4	ppb	12:21:00
1	Mg 279.077 IEC†	504.5	487.5	4999.4	µg/L	4999.4	ppb	12:21:20
1	Na 589.592 Radial†	31856.5	31243.5	9955.1	µg/L	9955.1	ppb	12:21:00
1	Sr 421.552†	45144.4	44342.5	494.68	µg/L	494.68	ppb	12:21:00
1	Sc 361.383	1250077.5	1250077.5	101.88	%			12:22:23
1	Y 371.029	860748.8	860748.8	100.98	%			12:22:23
1	Ag 328.068†	37553.5	36834.1	487.73	µg/L	487.73	ppb	12:22:28
1	As 188.979†	106.6	105.0	509.12	µg/L	509.12	ppb	12:22:49
1	B 249.677†	6841.3	6502.8	499.31	µg/L	499.31	ppb	12:22:28
1	Ba 233.527†	8525.6	8413.8	500.29	µg/L	500.29	ppb	12:22:28
1	Be 313.107†	319001.3	311715.0	495.58	µg/L	495.58	ppb	12:22:23
1	Cd 226.502†	6787.6	6718.8	501.06	µg/L	501.06	ppb	12:22:28
1	Co 228.616†	4421.2	4353.6	501.59	µg/L	501.59	ppb	12:22:28
1	Cr 267.716†	10419.5	10260.9	502.18	µg/L	502.18	ppb	12:22:28
1	Cu 324.752†	62673.5	58979.3	486.28	µg/L	486.28	ppb	12:22:28
1	Mn 257.610†	72657.8	71218.3	499.08	µg/L	499.08	ppb	12:22:23
1	Mo 202.031†	2154.5	2115.7	493.88	µg/L	493.88	ppb	12:22:49
1	Ni 231.604†	3906.2	3710.2	498.94	µg/L	498.94	ppb	12:22:28
1	P 214.914†	584.9	455.9	2499.3	µg/L	2499.3	ppb	12:22:49
1	Pb 220.353†	916.6	874.3	524.24	µg/L	524.24	ppb	12:22:49
1	S 181.975 Axial†	109.1	98.2	1000.2	µg/L	1000.2	ppb	12:22:49
1	Sb 206.836†	268.2	258.7	500.03	µg/L	500.03	ppb	12:22:49
1	Se 196.026†	177.1	168.4	518.21	µg/L	518.21	ppb	12:22:49
1	SiO2†	16515.6	14784.2	5309.7	µg/L	5309.7	ppb	12:22:28
1	Si 251.611†	18233.2	17344.3	2435.6	µg/L	2435.6	ppb	12:22:28
1	Sn 189.927†	418.8	413.3	516.27	µg/L	516.27	ppb	12:22:49
1	Ti 334.940†	132015.2	129382.7	489.86	µg/L	489.86	ppb	12:22:23
1	Tl 190.801†	157.0	162.7	508.12	µg/L	508.12	ppb	12:22:49
1	U 409.014†	4565.3	4548.6	480.96	µg/L	480.96	ppb	12:22:28
1	V 292.402†	23013.7	22819.9	500.20	µg/L	500.20	ppb	12:22:28
1	Zn 213.857†	8622.2	8197.3	508.18	µg/L	508.18	ppb	12:22:28
2	Sc RADIAL	50885.4	50885.4	101	%			12:21:26
2	Al 396.153Radial†	6986.1	6851.2	4942.8	µg/L	4942.8	ppb	12:21:26
2	Ca 317.933Radial†	3321.3	3092.8	4960.2	µg/L	4960.2	ppb	12:21:46
2	Fe 238.204 Radial†	268.4	256.9	5091.0	µg/L	5091.0	ppb	12:21:46
2	K 766.490 Radial†	7954.9	7615.3	5192.5	µg/L	5192.5	ppb	12:21:26
2	Mg 279.077 IEC†	502.4	487.0	4994.9	µg/L	4994.9	ppb	12:21:46
2	Na 589.592 Radial†	31699.1	31185.7	9936.7	µg/L	9936.7	ppb	12:21:26
2	Sr 421.552†	44808.1	44149.2	492.52	µg/L	492.52	ppb	12:21:26
2	Sc 361.383	1237083.0	1237083.0	100.82	%			12:22:55
2	Y 371.029	851989.4	851989.4	99.954	%			12:22:55
2	Ag 328.068†	37483.2	37151.6	491.92	µg/L	491.92	ppb	12:23:01
2	As 188.979†	105.6	105.1	509.63	µg/L	509.63	ppb	12:23:21
2	B 249.677†	6840.4	6572.5	504.71	µg/L	504.71	ppb	12:23:01
2	Ba 233.527†	8507.2	8483.3	504.43	µg/L	504.43	ppb	12:23:01
2	Be 313.107†	315108.4	311142.7	494.67	µg/L	494.67	ppb	12:22:55
2	Cd 226.502†	6782.6	6783.8	505.95	µg/L	505.95	ppb	12:23:01
2	Co 228.616†	4428.7	4406.6	507.69	µg/L	507.69	ppb	12:23:01
2	Cr 267.716†	10386.1	10335.3	505.82	µg/L	505.82	ppb	12:23:01
2	Cu 324.752†	62642.0	59594.3	491.34	µg/L	491.34	ppb	12:23:01
2	Mn 257.610†	71820.3	71136.8	498.49	µg/L	498.49	ppb	12:22:55
2	Mo 202.031†	2134.0	2117.6	494.32	µg/L	494.32	ppb	12:23:21
2	Ni 231.604†	3894.9	3739.3	502.86	µg/L	502.86	ppb	12:23:01
2	P 214.914†	579.9	456.9	2504.5	µg/L	2504.5	ppb	12:23:21
2	Pb 220.353†	909.5	876.7	525.67	µg/L	525.67	ppb	12:23:21

2	S 181.975 Axial†	109.6	99.8	1016.7 µg/L	1016.7 ppb	12:23:21
2	Sb 206.836†	270.2	263.5	509.21 µg/L	509.21 ppb	12:23:21
2	Se 196.026†	183.1	176.2	541.95 µg/L	541.95 ppb	12:23:21
2	SiO2†	16494.6	14933.7	5363.4 µg/L	5363.4 ppb	12:23:01
2	Si 251.611†	18210.3	17509.7	2459.4 µg/L	2459.4 ppb	12:23:01
2	Sn 189.927†	413.1	411.9	514.60 µg/L	514.60 ppb	12:23:21
2	Ti 334.940†	130792.5	129531.0	490.43 µg/L	490.43 ppb	12:22:55
2	Tl 190.801†	152.4	159.8	498.97 µg/L	498.97 ppb	12:23:21
2	U 409.014†	4604.8	4634.8	490.12 µg/L	490.12 ppb	12:23:01
2	V 292.402†	22957.4	23001.3	504.15 µg/L	504.15 ppb	12:23:01
2	Zn 213.857†	8551.7	8216.3	509.36 µg/L	509.36 ppb	12:23:01
3	Sc RADIAL	50930.6	50930.6	102 %		12:21:52
3	Al 396.153Radial†	6993.5	6852.3	4945.6 µg/L	4945.6 ppb	12:21:52
3	Ca 317.933Radial†	3326.0	3094.6	4963.0 µg/L	4963.0 ppb	12:22:12
3	Fe 238.204 Radial†	269.0	257.3	5097.3 µg/L	5097.3 ppb	12:22:12
3	K 766.490 Radial†	7888.5	7543.0	5143.2 µg/L	5143.2 ppb	12:21:52
3	Mg 279.077 IEC†	502.3	486.4	4987.5 µg/L	4987.5 ppb	12:22:12
3	Na 589.592 Radial†	31809.6	31266.7	9962.6 µg/L	9962.6 ppb	12:21:52
3	Sr 421.552†	44869.3	44170.2	492.76 µg/L	492.76 ppb	12:21:52
3	Sc 361.383	1238748.4	1238748.4	100.95 %		12:23:27
3	Y 371.029	854271.4	854271.4	100.22 %		12:23:27
3	Ag 328.068†	36563.0	36190.1	479.14 µg/L	479.14 ppb	12:23:33
3	As 188.979†	101.5	100.9	489.25 µg/L	489.25 ppb	12:23:53
3	B 249.677†	6637.5	6362.3	488.52 µg/L	488.52 ppb	12:23:33
3	Ba 233.527†	8210.1	8177.7	486.25 µg/L	486.25 ppb	12:23:33
3	Be 313.107†	310320.4	305979.7	486.46 µg/L	486.46 ppb	12:23:27
3	Cd 226.502†	6527.5	6522.1	486.38 µg/L	486.38 ppb	12:23:33
3	Co 228.616†	4237.5	4211.3	485.09 µg/L	485.09 ppb	12:23:33
3	Cr 267.716†	9868.2	9808.4	480.04 µg/L	480.04 ppb	12:23:33
3	Cu 324.752†	60300.5	57191.4	471.55 µg/L	471.55 ppb	12:23:33
3	Mn 257.610†	70714.0	69945.1	490.15 µg/L	490.15 ppb	12:23:27
3	Mo 202.031†	1905.6	1888.5	440.87 µg/L	440.87 ppb	12:23:53
3	Ni 231.604†	3757.2	3597.7	483.82 µg/L	483.82 ppb	12:23:33
3	P 214.914†	538.7	415.4	2273.0 µg/L	2273.0 ppb	12:23:53
3	Pb 220.353†	835.5	802.2	480.93 µg/L	480.93 ppb	12:23:53
3	S 181.975 Axial†	101.3	91.5	931.62 µg/L	931.62 ppb	12:23:53
3	Sb 206.836†	243.3	236.5	457.06 µg/L	457.06 ppb	12:23:53
3	Se 196.026†	166.6	159.6	491.24 µg/L	491.24 ppb	12:23:53
3	SiO2†	15962.9	14385.1	5166.3 µg/L	5166.3 ppb	12:23:33
3	Si 251.611†	17580.1	16861.1	2370.0 µg/L	2370.0 ppb	12:23:33
3	Sn 189.927†	367.4	366.1	457.53 µg/L	457.53 ppb	12:23:53
3	Ti 334.940†	128645.8	127230.2	481.71 µg/L	481.71 ppb	12:23:27
3	Tl 190.801†	144.5	151.7	473.79 µg/L	473.79 ppb	12:23:53
3	U 409.014†	4489.6	4514.6	477.38 µg/L	477.38 ppb	12:23:33
3	V 292.402†	22013.8	22036.0	482.79 µg/L	482.79 ppb	12:23:33
3	Zn 213.857†	8209.4	7865.8	487.56 µg/L	487.56 ppb	12:23:33

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	1241969.6	101.22	%	0.576				0.57%
Sc RADIAL	50953.2	102	%	0.2				0.16%
Y 371.029	855669.9	100.39	%	0.533				0.53%
Ag 328.068†	36725.3	486.26	µg/L	6.512	486.26	ppb	6.512	1.34%
QC value within limits for Ag 328.068 Recovery = 97.25%								
Al 396.153Radial†	6846.1	4939.8	µg/L	7.78	4939.8	ppb	7.78	0.16%
QC value within limits for Al 396.153Radial Recovery = 98.80%								
As 188.979†	103.6	502.67	µg/L	11.621	502.67	ppb	11.621	2.31%
QC value within limits for As 188.979 Recovery = 100.53%								
B 249.677†	6479.2	497.51	µg/L	8.245	497.51	ppb	8.245	1.66%
QC value within limits for B 249.677 Recovery = 99.50%								
Ba 233.527†	8358.3	496.99	µg/L	9.528	496.99	ppb	9.528	1.92%
QC value within limits for Ba 233.527 Recovery = 99.40%								
Be 313.107†	309612.5	492.24	µg/L	5.023	492.24	ppb	5.023	1.02%
QC value within limits for Be 313.107 Recovery = 98.45%								
Ca 317.933Radial†	3105.0	4979.8	µg/L	31.45	4979.8	ppb	31.45	0.63%
QC value within limits for Ca 317.933Radial Recovery = 99.60%								
Cd 226.502†	6674.9	497.80	µg/L	10.184	497.80	ppb	10.184	2.05%
QC value within limits for Cd 226.502 Recovery = 99.56%								
Co 228.616†	4323.8	498.12	µg/L	11.695	498.12	ppb	11.695	2.35%

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   QC value within limits for Co 228.616  Recovery = 99.62%
Cr 267.716†            10134.9      496.01 µg/L        13.951      496.01 ppb        13.951   2.81%
   QC value within limits for Cr 267.716  Recovery = 99.20%
Cu 324.752†            58588.3      483.06 µg/L        10.283      483.06 ppb        10.283   2.13%
   QC value within limits for Cu 324.752  Recovery = 96.61%
Fe 238.204 Radial†       258.4      5120.6 µg/L         45.97      5120.6 ppb         45.97   0.90%
   QC value within limits for Fe 238.204 Radial  Recovery = 102.41%
K 766.490 Radial†       7633.7      5205.1 µg/L         68.97      5205.1 ppb         68.97   1.33%
   QC value within limits for K 766.490 Radial  Recovery = 104.10%
Mg 279.077 IEC†          487.0      4993.9 µg/L          5.99      4993.9 ppb          5.99   0.12%
   QC value within limits for Mg 279.077 IEC  Recovery = 99.88%
Mn 257.610†            70766.7      495.91 µg/L         4.991      495.91 ppb         4.991   1.01%
   QC value within limits for Mn 257.610  Recovery = 99.18%
Mo 202.031†             2040.6      476.36 µg/L        30.735      476.36 ppb        30.735   6.45%
   QC value within limits for Mo 202.031  Recovery = 95.27%
Na 589.592 Radial†     31232.0      9951.5 µg/L         13.30      9951.5 ppb         13.30   0.13%
   QC value within limits for Na 589.592 Radial  Recovery = 99.51%
Ni 231.604†             3682.4      495.21 µg/L        10.053      495.21 ppb        10.053   2.03%
   QC value within limits for Ni 231.604  Recovery = 99.04%
P 214.914†               442.7      2425.6 µg/L        132.19      2425.6 ppb        132.19   5.45%
   QC value within limits for P 214.914  Recovery = 97.02%
Pb 220.353†              851.1      510.28 µg/L        25.428      510.28 ppb        25.428   4.98%
   QC value within limits for Pb 220.353  Recovery = 102.06%
S 181.975 Axial†          96.5      982.87 µg/L        45.147      982.87 ppb        45.147   4.59%
   QC value within limits for S 181.975 Axial  Recovery = 98.29%
Sb 206.836†              252.9      488.76 µg/L        27.839      488.76 ppb        27.839   5.70%
   QC value within limits for Sb 206.836  Recovery = 97.75%
Se 196.026†              168.1      517.13 µg/L        25.370      517.13 ppb        25.370   4.91%
   QC value within limits for Se 196.026  Recovery = 103.43%
SiO2†                  14701.0      5279.8 µg/L        101.87      5279.8 ppb        101.87   1.93%
   QC value within limits for SiO2  Recovery = 98.73%
Si 251.611†            17238.4      2421.7 µg/L         46.32      2421.7 ppb         46.32   1.91%
   QC value within limits for Si 251.611  Recovery = 96.87%
Sn 189.927†              397.1      496.13 µg/L        33.443      496.13 ppb        33.443   6.74%
   QC value within limits for Sn 189.927  Recovery = 99.23%
Sr 421.552†            44220.6      493.32 µg/L         1.184      493.32 ppb         1.184   0.24%
   QC value within limits for Sr 421.552  Recovery = 98.66%
Ti 334.940†           128714.7      487.33 µg/L         4.878      487.33 ppb         4.878   1.00%
   QC value within limits for Ti 334.940  Recovery = 97.47%
Tl 190.801†              158.1      493.63 µg/L        17.774      493.63 ppb        17.774   3.60%
   QC value within limits for Tl 190.801  Recovery = 98.73%
U 409.014†              4566.0      482.82 µg/L         6.574      482.82 ppb         6.574   1.36%
   QC value within limits for U 409.014  Recovery = 96.56%
V 292.402†             22619.0      495.71 µg/L        11.362      495.71 ppb        11.362   2.29%
   QC value within limits for V 292.402  Recovery = 99.14%
Zn 213.857†             8093.1      501.70 µg/L        12.259      501.70 ppb        12.259   2.44%
   QC value within limits for Zn 213.857  Recovery = 100.34%
All analyte(s) passed QC.
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Sequence No.: 14
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 1/5/2010 12:24:03
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analys Time
1	Sc RADIAL	49673.2	49673.2	99.1	%			12:24:
1	Al 396.153Radial†	13.5	-19.7	-14.309	µg/L	-14.309	ppb	12:25:
1	Ca 317.933Radial†	167.3	-11.3	-18.067	µg/L	-18.067	ppb	12:25:
1	Fe 238.204 Radial†	10.4	2.9	57.979	µg/L	57.979	ppb	12:25:
1	K 766.490 Radial†	391.2	171.0	116.59	µg/L	116.59	ppb	12:24:
1	Mg 279.077 IEC†	5.1	-3.0	-30.452	µg/L	-30.452	ppb	12:25:
1	Na 589.592 Radial†	249.1	198.9	63.360	µg/L	63.360	ppb	12:24
1	Sr 421.552†	35.0	27.7	0.3091	µg/L	0.3091	ppb	12:25
1	Sc 361.383	1232492.4	1232492.4	100.44	%			12:26
1	Y 371.029	852386.0	852386.0	100.00	%			12:26
1	Ag 328.068†	66.8	38.7	0.5154	µg/L	0.5154	ppb	12:26
1	As 188.979†	-0.3	-0.0	-0.0667	µg/L	-0.0667	ppb	12:27
1	B 249.677†	325.4	111.5	8.5684	µg/L	8.5684	ppb	12:27
1	Ba 233.527†	-36.7	8.6	0.5128	µg/L	0.5128	ppb	12:27
1	Be 313.107†	1600.6	181.3	0.2883	µg/L	0.2883	ppb	12:26
1	Cd 226.502†	-43.3	13.0	0.9602	µg/L	0.9602	ppb	12:27
1	Co 228.616†	-13.9	-0.0	-0.0037	µg/L	-0.0037	ppb	12:27
1	Cr 267.716†	-20.4	13.0	0.6377	µg/L	0.6377	ppb	12:27
1	Cu 324.752†	3290.0	735.4	6.0627	µg/L	6.0627	ppb	12:26:
1	Mn 257.610†	157.7	55.4	0.3951	µg/L	0.3951	ppb	12:27:09
1	Mo 202.031†	1.3	2.3	0.5273	µg/L	0.5273	ppb	12:27:09
1	Ni 231.604†	128.5	3.9	0.5312	µg/L	0.5312	ppb	12:27:09
1	P 214.914†	121.1	2.3	12.394	µg/L	12.394	ppb	12:27:09
1	Pb 220.353†	44.6	19.0	11.374	µg/L	11.374	ppb	12:27:09
1	S 181.975 Axial†	10.4	1.5	15.179	µg/L	15.179	ppb	12:27:09
1	Sb 206.836†	8.2	3.6	7.0121	µg/L	7.0121	ppb	12:27:09
1	Se 196.026†	0.7	-4.8	-14.500	µg/L	-14.500	ppb	12:27:09
1	SiO2†	1393.8	-39.5	-14.204	µg/L	-14.204	ppb	12:27:09
1	Si 251.611†	528.1	-27.3	-4.2262	µg/L	-4.2262	ppb	12:27:09
1	Sn 189.927†	3.1	5.2	6.4798	µg/L	6.4798	ppb	12:27:09
1	Ti 334.940†	303.1	100.2	0.3807	µg/L	0.3807	ppb	12:26:48
1	Tl 190.801†	-8.1	0.6	1.7525	µg/L	1.7525	ppb	12:27:09
1	U 409.014†	-45.0	22.5	2.3795	µg/L	2.3795	ppb	12:26:48
1	V 292.402†	-215.8	15.1	0.3403	µg/L	0.3403	ppb	12:27:09
1	Zn 213.857†	300.6	33.1	2.0458	µg/L	2.0458	ppb	12:27:09
2	Sc RADIAL	49723.9	49723.9	99.2	%			12:25:31
2	Al 396.153Radial†	13.5	-19.8	-14.353	µg/L	-14.353	ppb	12:25:52
2	Ca 317.933Radial†	168.5	-10.2	-16.416	µg/L	-16.416	ppb	12:25:52
2	Fe 238.204 Radial†	10.0	2.5	49.776	µg/L	49.776	ppb	12:25:52
2	K 766.490 Radial†	383.2	162.5	110.77	µg/L	110.77	ppb	12:25:31
2	Mg 279.077 IEC†	4.9	-3.2	-32.884	µg/L	-32.884	ppb	12:25:52
2	Na 589.592 Radial†	233.4	182.7	58.220	µg/L	58.220	ppb	12:25:31
2	Sr 421.552†	34.2	26.8	0.2989	µg/L	0.2989	ppb	12:25:52
2	Sc 361.383	1230085.4	1230085.4	100.25	%			12:27:14
2	Y 371.029	849831.5	849831.5	99.701	%			12:27:14
2	Ag 328.068†	56.4	28.5	0.3806	µg/L	0.3806	ppb	12:27:20
2	As 188.979†	-1.0	-0.7	-3.3103	µg/L	-3.3103	ppb	12:27:40
2	B 249.677†	313.0	99.8	7.6695	µg/L	7.6695	ppb	12:27:40
2	Ba 233.527†	-39.6	5.7	0.3370	µg/L	0.3370	ppb	12:27:40
2	Be 313.107†	1490.0	74.2	0.1179	µg/L	0.1179	ppb	12:27:20
2	Cd 226.502†	-46.6	9.7	0.7123	µg/L	0.7123	ppb	12:27:40
2	Co 228.616†	-8.0	5.7	0.6625	µg/L	0.6625	ppb	12:27:40
2	Cr 267.716†	-21.1	12.3	0.6017	µg/L	0.6017	ppb	12:27:40
2	Cu 324.752†	3253.1	705.0	5.8116	µg/L	5.8116	ppb	12:27:20
2	Mn 257.610†	153.7	51.7	0.3683	µg/L	0.3683	ppb	12:27:40
2	Mo 202.031†	2.9	3.8	0.8975	µg/L	0.8975	ppb	12:27:40
2	Ni 231.604†	124.2	-0.2	-0.0228	µg/L	-0.0228	ppb	12:27:40
2	P 214.914†	122.9	4.4	23.873	µg/L	23.873	ppb	12:27:40
2	Pb 220.353†	38.6	13.1	7.8364	µg/L	7.8364	ppb	12:27:40

2	S 181.975 Axial†	8.0	-0.9	-8.8784 µg/L	-8.8784 ppb	12:27:40
2	Sb 206.836†	5.8	1.2	2.3416 µg/L	2.3416 ppb	12:27:40
2	Se 196.026†	4.6	-0.8	-2.5040 µg/L	-2.5040 ppb	12:27:40
2	SiO2†	1397.1	-33.5	-12.049 µg/L	-12.049 ppb	12:27:40
2	Si 251.611†	524.1	-30.3	-4.6758 µg/L	-4.6758 ppb	12:27:40
2	Sn 189.927†	3.3	5.5	6.8222 µg/L	6.8222 ppb	12:27:40
2	Ti 334.940†	289.4	87.2	0.3312 µg/L	0.3312 ppb	12:27:20
2	Tl 190.801†	-10.5	-1.9	-5.9488 µg/L	-5.9488 ppb	12:27:40
2	U 409.014†	-79.7	-12.2	-1.3034 µg/L	-1.3034 ppb	12:27:20
2	V 292.402†	-211.5	18.9	0.4188 µg/L	0.4188 ppb	12:27:40
2	Zn 213.857†	297.0	30.2	1.8681 µg/L	1.8681 ppb	12:27:40
3	Sc RADIAL	49756.5	49756.5	99.2 %		12:26:12
3	Al 396.153Radial†	15.6	-17.7	-12.865 µg/L	-12.865 ppb	12:26:33
3	Ca 317.933Radial†	166.6	-12.3	-19.724 µg/L	-19.724 ppb	12:26:33
3	Fe 238.204 Radial†	11.3	3.8	75.560 µg/L	75.560 ppb	12:26:33
3	K 766.490 Radial†	367.2	146.1	99.606 µg/L	99.606 ppb	12:26:12
3	Mg 279.077 IEC†	6.1	-2.0	-20.454 µg/L	-20.454 ppb	12:26:33
3	Na 589.592 Radial†	202.7	151.6	48.302 µg/L	48.302 ppb	12:26:12
3	Sr 421.552†	25.9	18.4	0.2056 µg/L	0.2056 ppb	12:26:33
3	Sc 361.383	1230562.9	1230562.9	100.29 %		12:27:46
3	Y 371.029	851346.0	851346.0	99.879 %		12:27:46
3	Ag 328.068†	88.3	60.3	0.8023 µg/L	0.8023 ppb	12:27:51
3	As 188.979†	5.6	5.9	28.832 µg/L	28.832 ppb	12:28:12
3	B 249.677†	307.7	94.3	7.2418 µg/L	7.2418 ppb	12:28:12
3	Ba 233.527†	-40.7	4.6	0.2719 µg/L	0.2719 ppb	12:28:12
3	Be 313.107†	1547.1	130.5	0.2075 µg/L	0.2075 ppb	12:27:51
3	Cd 226.502†	-48.1	8.2	0.5943 µg/L	0.5943 ppb	12:28:12
3	Co 228.616†	-10.4	3.4	0.3955 µg/L	0.3955 ppb	12:28:12
3	Cr 267.716†	-15.6	17.7	0.8671 µg/L	0.8671 ppb	12:28:12
3	Cu 324.752†	3177.6	628.4	5.1834 µg/L	5.1834 ppb	12:27:51
3	Mn 257.610†	157.8	55.7	0.3993 µg/L	0.3993 ppb	12:28:12
3	Mo 202.031†	4.1	5.0	1.1649 µg/L	1.1649 ppb	12:28:12
3	Ni 231.604†	128.5	4.1	0.5508 µg/L	0.5508 ppb	12:28:12
3	P 214.914†	121.3	2.7	14.736 µg/L	14.736 ppb	12:28:12
3	Pb 220.353†	40.2	14.7	8.8072 µg/L	8.8072 ppb	12:28:12
3	S 181.975 Axial†	7.0	-1.9	-19.424 µg/L	-19.424 ppb	12:28:12
3	Sb 206.836†	8.8	4.2	8.1868 µg/L	8.1868 ppb	12:28:12
3	Se 196.026†	6.2	0.7	2.2420 µg/L	2.2420 ppb	12:28:12
3	SiO2†	1400.3	-30.9	-11.102 µg/L	-11.102 ppb	12:28:12
3	Si 251.611†	526.6	-28.1	-4.2664 µg/L	-4.2664 ppb	12:28:12
3	Sn 189.927†	1.7	3.8	4.7687 µg/L	4.7687 ppb	12:28:12
3	Ti 334.940†	254.7	52.4	0.1998 µg/L	0.1998 ppb	12:27:51
3	Tl 190.801†	-8.3	0.3	1.0627 µg/L	1.0627 ppb	12:28:12
3	U 409.014†	-64.4	3.2	0.3221 µg/L	0.3221 ppb	12:27:51
3	V 292.402†	-200.7	29.8	0.6613 µg/L	0.6613 ppb	12:28:12
3	Zn 213.857†	298.4	31.5	1.9372 µg/L	1.9372 ppb	12:28:12

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1231046.9	100.33	%	0.104				0.10%
Sc RADIAL	49717.9	99.1	%	0.08				0.08%
Y 371.029	851187.8	99.860	%	0.1507				0.15%
Ag 328.068†	42.5	0.5661	µg/L	0.21535	0.5661	ppb	0.21535	38.04%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-19.1	-13.842	µg/L	0.8468	-13.842	ppb	0.8468	6.12%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	1.7	8.4852	µg/L	17.69578	8.4852	ppb	17.69578	208.55%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	101.8	7.8266	µg/L	0.67710	7.8266	ppb	0.67710	8.65%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	6.3	0.3739	µg/L	0.12460	0.3739	ppb	0.12460	33.33%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	128.7	0.2045	µg/L	0.08523	0.2045	ppb	0.08523	41.67%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-11.3	-18.069	µg/L	1.6541	-18.069	ppb	1.6541	9.15%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	10.3	0.7556	µg/L	0.18675	0.7556	ppb	0.18675	24.72%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	3.0	0.3515	µg/L	0.33527	0.3515	ppb	0.33527	95.40%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                14.4      0.7022 µg/L       0.14401      0.7022 ppb        0.14401  20.51%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†               689.6      5.6859 µg/L       0.45294      5.6859 ppb        0.45294   7.97%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          3.1      61.105 µg/L       13.1734      61.105 ppb        13.1734  21.56%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†         159.8      108.99 µg/L         8.631      108.99 ppb          8.631   7.92%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†            -2.7     -27.930 µg/L        6.5872     -27.930 ppb        6.5872  23.58%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†                54.3      0.3876 µg/L       0.01681      0.3876 ppb       0.01681   4.34%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                 3.7      0.8633 µg/L       0.32016      0.8633 ppb       0.32016  37.09%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        177.7      56.627 µg/L        7.6545      56.627 ppb        7.6545  13.52%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                 2.6      0.3530 µg/L       0.32564      0.3530 ppb       0.32564  92.24%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                  3.2      17.001 µg/L        6.0657      17.001 ppb        6.0657  35.68%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                15.6      9.3392 µg/L       1.82778      9.3392 ppb       1.82778  19.57%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†           -0.4     -4.3746 µg/L      17.73585     -4.3746 ppb      17.73585 405.42%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                 3.0      5.8468 µg/L       3.09192      5.8468 ppb       3.09192  52.88%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                -1.6     -4.9206 µg/L       8.62858     -4.9206 ppb       8.62858 175.36%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                     -34.7     -12.452 µg/L        1.5896     -12.452 ppb        1.5896  12.77%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†               -28.6     -4.3895 µg/L       0.24880     -4.3895 ppb       0.24880   5.67%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 4.9      6.0236 µg/L       1.10013      6.0236 ppb       1.10013  18.26%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                24.3      0.2712 µg/L       0.05707      0.2712 ppb       0.05707  21.04%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†                79.9      0.3039 µg/L       0.09349      0.3039 ppb       0.09349  30.76%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -0.3     -1.0445 µg/L       4.26118     -1.0445 ppb       4.26118 407.95%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                  4.5      0.4661 µg/L       1.84564      0.4661 ppb       1.84564 396.00%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                 21.3      0.4735 µg/L       0.16731      0.4735 ppb       0.16731  35.34%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†                31.6      1.9503 µg/L       0.08958      1.9503 ppb       0.08958   4.59%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
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Analysis Begun

Start Time: 1/5/2010 12:29:03
Logged In Analyst: optima
Spectrometer Model: Optima 4300 DV, S/N 077N1030502
Plasma On Time: 1/4/2010 04:48:24
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\optima1\Sample Information\010510A.sif
Batch ID:
Results Data Set: 010510
Results Library: c:\pe\optima1\Results\Results.mdb

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Method Loaded
Method Name: Gen Eng fast_new Si
IEC File: 101509.iec
Method Description:
Method Last Saved: 1/5/2010 11:13:16
MSF File:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

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Sequence No.: 1
Sample ID: LR2
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 108
Date Collected: 1/5/2010 12:29:05
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	49972.3	49972.3	99.7	%			12:29:50
1	Al 396.153Radial†	176.4	143.6	-264.63	µg/L	-264.63	ppb	12:30:10
1	Ca 317.933Radial†	178.5	-1.1	-1.7566	µg/L	-1.7566	ppb	12:30:10
1	Fe 238.204 Radial†	-4.6	-12.1	75.167	µg/L	75.167	ppb	12:30:10

1	K 766.490 Radial†	422552.2	423794.9	288970 µg/L	288970 ppb	12:29:44
1	Mg 279.077 IEC†	-16.8	-25.0	-13.682 µg/L	-13.682 ppb	12:30:10
1	Na 589.592 Radial†	203.2	151.3	48.206 µg/L	48.206 ppb	12:29:50
1	Sr 421.552†	855744.9	858707.4	9579.6 µg/L	9579.6 ppb	12:29:44
1	Sc 361.383	1246433.6	1246433.6	101.58 %		12:31:32
1	Y 371.029	851505.3	851505.3	99.897 %		12:31:32
1	Ag 328.068†	-3190.6	-3168.8	26.955 µg/L	26.955 ppb	12:31:32
1	As 188.979†	2084.5	2052.4	9993.3 µg/L	9993.3 ppb	12:31:53
1	B 249.677†	65571.7	64340.0	4956.4 µg/L	4956.4 ppb	12:31:32
1	Ba 233.527†	253061.5	249172.9	14806 µg/L	14806 ppb	12:31:32
1	Be 313.107†	1856041.7	1825778.4	2900.3 µg/L	2900.3 ppb	12:31:32
1	Cd 226.502†	132329.1	130328.3	9737.3 µg/L	9737.3 ppb	12:31:32
1	Co 228.616†	83911.2	82620.6	9519.3 µg/L	9519.3 ppb	12:31:32
1	Cr 267.716†	510301.3	502402.3	24554 µg/L	24554 ppb	12:31:32
1	Cu 324.752†	2357602.9	2318415.1	19097 µg/L	19097 ppb	12:31:32
1	Mn 257.610†	1372029.0	1350600.0	9452.3 µg/L	9452.3 ppb	12:31:32
1	Mo 202.031†	42194.6	41539.6	9692.8 µg/L	9692.8 ppb	12:31:32
1	Ni 231.604†	73215.4	71953.3	9676.2 µg/L	9676.2 ppb	12:31:32
1	P 214.914†	3616.7	3442.2	17158 µg/L	17158 ppb	12:31:53
1	Pb 220.353†	42070.6	41391.2	24798 µg/L	24798 ppb	12:31:32
1	S 181.975 Axial†	5136.7	5048.0	51505 µg/L	51505 ppb	12:31:53
1	Sb 206.836†	5258.7	5172.4	9926.9 µg/L	9926.9 ppb	12:31:53
1	Se 196.026†	3317.3	3260.3	9978.6 µg/L	9978.6 ppb	12:31:53
1	SiO2†	276930.6	271198.6	97400 µg/L	97400 ppb	12:31:32
1	Si 251.611†	323266.2	317688.1	44457 µg/L	44457 ppb	12:31:32
1	Sn 189.927†	8833.1	8698.0	10833 µg/L	10833 ppb	12:31:53
1	Ti 334.940†	2540887.1	2501188.8	9475.6 µg/L	9475.6 ppb	12:31:32
1	Tl 190.801†	2991.9	2954.0	9247.2 µg/L	9247.2 ppb	12:31:53
1	U 409.014†	565.7	624.2	66.221 µg/L	66.221 ppb	12:31:32
1	V 292.402†	468111.1	461064.5	10080 µg/L	10080 ppb	12:31:32
1	Zn 213.857†	241570.9	237549.7	14785 µg/L	14785 ppb	12:31:32
2	Sc RADIAL	50193.8	50193.8	100 %		12:30:22
2	Al 396.153Radial†	177.3	143.8	-262.70 µg/L	-262.70 ppb	12:30:42
2	Ca 317.933Radial†	188.3	8.0	12.754 µg/L	12.754 ppb	12:30:42
2	Fe 238.204 Radial†	-4.8	-12.3	70.022 µg/L	70.022 ppb	12:30:42
2	K 766.490 Radial†	429290.0	428655.3	292280 µg/L	292280 ppb	12:30:16
2	Mg 279.077 IEC†	-20.4	-28.5	-51.003 µg/L	-51.003 ppb	12:30:42
2	Na 589.592 Radial†	214.3	161.4	51.437 µg/L	51.437 ppb	12:30:22
2	Sr 421.552†	875358.0	874512.9	9755.9 µg/L	9755.9 ppb	12:30:16
2	Sc 361.383	1248064.4	1248064.4	101.71 %		12:32:04
2	Y 371.029	853372.6	853372.6	100.12 %		12:32:04
2	Ag 328.068†	-3239.8	-3213.1	25.839 µg/L	25.839 ppb	12:32:04
2	As 188.979†	2014.6	1981.0	9646.0 µg/L	9646.0 ppb	12:32:24
2	B 249.677†	65330.2	64018.2	4931.6 µg/L	4931.6 ppb	12:32:04
2	Ba 233.527†	252613.6	248407.0	14761 µg/L	14761 ppb	12:32:04
2	Be 313.107†	1847703.1	1815192.7	2883.5 µg/L	2883.5 ppb	12:32:04
2	Cd 226.502†	131779.3	129617.5	9684.2 µg/L	9684.2 ppb	12:32:04
2	Co 228.616†	83674.8	82280.2	9480.1 µg/L	9480.1 ppb	12:32:04
2	Cr 267.716†	506836.2	498339.1	24356 µg/L	24356 ppb	12:32:04
2	Cu 324.752†	2333882.9	2292061.8	18880 µg/L	18880 ppb	12:32:04
2	Mn 257.610†	1365386.3	1342304.2	9394.2 µg/L	9394.2 ppb	12:32:04
2	Mo 202.031†	42042.8	41336.1	9645.3 µg/L	9645.3 ppb	12:32:04
2	Ni 231.604†	73020.9	71667.9	9637.8 µg/L	9637.8 ppb	12:32:04
2	P 214.914†	3441.4	3265.2	16178 µg/L	16178 ppb	12:32:24
2	Pb 220.353†	42041.5	41308.5	24749 µg/L	24749 ppb	12:32:04
2	S 181.975 Axial†	4935.5	4843.5	49419 µg/L	49419 ppb	12:32:24
2	Sb 206.836†	5020.6	4931.6	9461.1 µg/L	9461.1 ppb	12:32:24
2	Se 196.026†	3192.7	3133.5	9590.6 µg/L	9590.6 ppb	12:32:24
2	SiO2†	275860.9	269790.7	96895 µg/L	96895 ppb	12:32:04
2	Si 251.611†	321938.3	315966.7	44241 µg/L	44241 ppb	12:32:04
2	Sn 189.927†	8254.0	8117.3	10110 µg/L	10110 ppb	12:32:24
2	Ti 334.940†	2523660.3	2480983.6	9399.1 µg/L	9399.1 ppb	12:32:04
2	Tl 190.801†	2938.6	2897.7	9071.3 µg/L	9071.3 ppb	12:32:24
2	U 409.014†	514.0	572.7	60.762 µg/L	60.762 ppb	12:32:04
2	V 292.402†	465075.7	457478.0	10002 µg/L	10002 ppb	12:32:04
2	Zn 213.857†	241040.0	236717.0	14733 µg/L	14733 ppb	12:32:04
3	Sc RADIAL	50405.6	50405.6	101 %		12:30:54
3	Al 396.153Radial†	199.8	165.4	-194.91 µg/L	-194.91 ppb	12:31:14
3	Ca 317.933Radial†	186.9	5.7	9.1565 µg/L	9.1565 ppb	12:31:14
3	Fe 238.204 Radial†	-2.9	-10.4	62.632 µg/L	62.632 ppb	12:31:14
3	K 766.490 Radial†	434770.8	432305.9	294770 µg/L	294770 ppb	12:30:48

3	Mg 279.077 IEC†	-15.3	-23.4	-32.575 µg/L	-32.575 ppb	12:31:14
3	Na 589.592 Radial†	205.4	151.7	48.325 µg/L	48.325 ppb	12:30:54
3	Sr 421.552†	891767.9	887163.8	9897.1 µg/L	9897.1 ppb	12:30:48
3	Sc 361.383	1258663.9	1258663.9	102.58 %		12:32:36
3	Y 371.029	859768.8	859768.8	100.87 %		12:32:36
3	Ag 328.068†	-2753.2	-2711.9	22.429 µg/L	22.429 ppb	12:32:36
3	As 188.979†	1687.4	1645.4	8011.7 µg/L	8011.7 ppb	12:32:56
3	B 249.677†	59416.8	57712.3	4445.9 µg/L	4445.9 ppb	12:32:36
3	Ba 233.527†	222271.6	216735.4	12878 µg/L	12878 ppb	12:32:36
3	Be 313.107†	1601656.9	1560026.6	2478.2 µg/L	2478.2 ppb	12:32:36
3	Cd 226.502†	115509.6	112665.3	8417.5 µg/L	8417.5 ppb	12:32:36
3	Co 228.616†	72350.6	70547.6	8128.3 µg/L	8128.3 ppb	12:32:36
3	Cr 267.716†	424993.2	414354.9	20252 µg/L	20252 ppb	12:32:36
3	Cu 324.752†	2014646.5	1961518.1	16157 µg/L	16157 ppb	12:32:36
3	Mn 257.610†	1183461.7	1153643.1	8073.8 µg/L	8073.8 ppb	12:32:36
3	Mo 202.031†	36372.8	35460.4	8274.3 µg/L	8274.3 ppb	12:32:36
3	Ni 231.604†	63224.6	61513.0	8272.2 µg/L	8272.2 ppb	12:32:36
3	P 214.914†	2865.8	2675.6	13169 µg/L	13169 ppb	12:32:56
3	Pb 220.353†	37540.7	36572.6	21912 µg/L	21912 ppb	12:32:36
3	S 181.975 Axial†	4162.5	4049.2	41314 µg/L	41314 ppb	12:32:56
3	Sb 206.836†	4191.3	4081.5	7830.3 µg/L	7830.3 ppb	12:32:56
3	Se 196.026†	2698.3	2625.1	8034.5 µg/L	8034.5 ppb	12:32:56
3	SiO2†	246098.7	238491.9	85654 µg/L	85654 ppb	12:32:36
3	Si 251.611†	287151.2	279387.6	39149 µg/L	39149 ppb	12:32:36
3	Sn 189.927†	6728.7	6561.9	8172.5 µg/L	8172.5 ppb	12:32:56
3	Ti 334.940†	2178982.2	2124065.8	8046.9 µg/L	8046.9 ppb	12:32:36
3	Tl 190.801†	2587.8	2531.4	7923.7 µg/L	7923.7 ppb	12:32:56
3	U 409.014†	448.4	504.5	53.524 µg/L	53.524 ppb	12:32:36
3	V 292.402†	400099.7	390283.0	8533.1 µg/L	8533.1 ppb	12:32:36
3	Zn 213.857†	209947.4	204409.4	12723 µg/L	12723 ppb	12:32:36

Mean Data: LR2

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1251054.0	101.96	%	0.541				0.53%
Sc RADIAL	50190.5	100	%	0.4				0.43%
Y 371.029	854882.2	100.29	%	0.508				0.51%
Ag 328.068†	-3031.3	25.074	µg/L	2.3579	25.074	ppb	2.3579	9.40%
Al 396.153Radial†	150.9	-240.75	µg/L	39.708	-240.75	ppb	39.708	16.49%
As 188.979†	1892.9	9217.0	µg/L	1058.18	9217.0	ppb	1058.18	11.48%
QC value within limits for As 188.979 Recovery = 92.17%								
B 249.677†	62023.5	4778.0	µg/L	287.88	4778.0	ppb	287.88	6.03%
QC value within limits for B 249.677 Recovery = 95.56%								
Ba 233.527†	238105.1	14148	µg/L	1100.2	14148	ppb	1100.2	7.78%
QC value within limits for Ba 233.527 Recovery = 94.32%								
Be 313.107†	1733665.9	2754.0	µg/L	239.01	2754.0	ppb	239.01	8.68%
QC value within limits for Be 313.107 Recovery = 91.80%								
Ca 317.933Radial†	4.2	6.7181	µg/L	7.55648	6.7181	ppb	7.55648	112.48%
Cd 226.502†	124203.7	9279.7	µg/L	747.12	9279.7	ppb	747.12	8.05%
QC value within limits for Cd 226.502 Recovery = 92.80%								
Co 228.616†	78482.8	9042.6	µg/L	791.99	9042.6	ppb	791.99	8.76%
QC value within limits for Co 228.616 Recovery = 90.43%								
Cr 267.716†	471698.8	23054	µg/L	2428.9	23054	ppb	2428.9	10.54%
QC value within limits for Cr 267.716 Recovery = 92.22%								
Cu 324.752†	2190665.0	18045	µg/L	1638.2	18045	ppb	1638.2	9.08%
QC value within limits for Cu 324.752 Recovery = 90.22%								
Fe 238.204 Radial†	-11.6	69.274	µg/L	6.3006	69.274	ppb	6.3006	9.10%
K 766.490 Radial†	428252.0	292000	µg/L	2911.4	292000	ppb	2911.4	1.00%
QC value within limits for K 766.490 Radial Recovery = 97.33%								
Mg 279.077 IEC†	-25.6	-32.420	µg/L	18.6609	-32.420	ppb	18.6609	57.56%
Mn 257.610†	1282182.4	8973.4	µg/L	779.61	8973.4	ppb	779.61	8.69%
QC value less than the lower limit for Mn 257.610 Recovery = 89.73%								
Mo 202.031†	39445.3	9204.2	µg/L	805.63	9204.2	ppb	805.63	8.75%
QC value within limits for Mo 202.031 Recovery = 92.04%								
Na 589.592 Radial†	154.8	49.323	µg/L	1.8321	49.323	ppb	1.8321	3.71%
Ni 231.604†	68378.1	9195.4	µg/L	799.75	9195.4	ppb	799.75	8.70%
QC value within limits for Ni 231.604 Recovery = 91.95%								
P 214.914†	3127.7	15502	µg/L	2078.3	15502	ppb	2078.3	13.41%
QC value within limits for P 214.914 Recovery = 103.34%								
Pb 220.353†	39757.5	23820	µg/L	1652.6	23820	ppb	1652.6	6.94%

```
   QC value within limits for Pb 220.353  Recovery = 95.28%
S 181.975 Axial†        4646.9       47412 µg/L        5383.7       47412 ppb        5383.7  11.35%
   QC value within limits for S 181.975 Axial  Recovery = 94.82%
Sb 206.836†             4728.5      9072.7 µg/L       1100.93      9072.7 ppb       1100.93  12.13%
   QC value within limits for Sb 206.836  Recovery = 90.73%
Se 196.026†             3006.3      9201.2 µg/L       1028.92      9201.2 ppb       1028.92  11.18%
   QC value within limits for Se 196.026  Recovery = 92.01%
SiO2†                 259827.1       93316 µg/L        6640.7       93316 ppb        6640.7   7.12%
   QC value less than the lower limit for SiO2  Recovery = 87.21%
Si 251.611†           304347.5       42616 µg/L        3004.2       42616 ppb        3004.2   7.05%
   QC value less than the lower limit for Si 251.611  Recovery = 85.23%
Sn 189.927†             7792.4      9705.0 µg/L       1375.58      9705.0 ppb       1375.58  14.17%
   QC value within limits for Sn 189.927  Recovery = 97.05%
Sr 421.552†           873461.4      9744.2 µg/L        159.05      9744.2 ppb        159.05   1.63%
   QC value within limits for Sr 421.552  Recovery = 97.44%
Ti 334.940†          2368746.1      8973.8 µg/L        803.68      8973.8 ppb        803.68   8.96%
   QC value less than the lower limit for Ti 334.940  Recovery = 89.74%
Tl 190.801†             2794.4      8747.4 µg/L        718.77      8747.4 ppb        718.77   8.22%
   QC value less than the lower limit for Tl 190.801  Recovery = 87.47%
U 409.014†               567.1      60.169 µg/L        6.3692      60.169 ppb        6.3692  10.59%
V 292.402†            436275.2      9538.4 µg/L        871.46      9538.4 ppb        871.46   9.14%
   QC value within limits for V 292.402  Recovery = 95.38%
Zn 213.857†           226225.4       14081 µg/L        1175.9       14081 ppb        1175.9   8.35%
   QC value within limits for Zn 213.857  Recovery = 93.87%
QC Failed.  Continue with analysis.
```

==========

Analysis Begun

Start Time: 1/5/2010 12:46:18
Plasma On Time: 1/4/2010 04:48:24
Logged In Analyst: optima
Technique: ICP Continuous
Spectrometer Model: Optima 4300 DV, S/N 077N1030502**Autosampler Model:** AS-93plus

Sample Information File: C:\pe\optima1\Sample Information\010510A.sif
Batch ID:
Results Data Set: 010510
Results Library: c:\pe\optima1\Results\Results.mdb

==========

Method Loaded
Method Name: Gen Eng fast_new Si
Method Last Saved: 1/5/2010 12:32:58
IEC File: 101509.iec
MSF File:
Method Description:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

==========

Sequence No.: 1
Autosampler Location: 7
Sample ID: CCV
Date Collected: 1/5/2010 12:46:20
Analyst:
Data Type: Original
Initial Sample Wt:
Initial Sample Vol:
Dilution:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Units	Sample Conc.	Units	Analysis Time
1	Sc RADIAL	49471.2	49471.2	98.7	%			12:46:54
1	Al 396.153Radial†	6997.2	7059.2	5093.1	µg/L	5093.1	ppb	12:46:54
1	Ca 317.933Radial†	3291.4	3156.1	5061.7	µg/L	5061.7	ppb	12:47:14
1	Fe 238.204 Radial†	266.0	262.1	5193.9	µg/L	5193.9	ppb	12:47:14

1	K 766.490 Radial†	7659.7	7540.2	5141.3 µg/L	5141.3 ppb	12:46:54
1	Mg 279.077 IEC†	508.3	507.1	5201.4 µg/L	5201.4 ppb	12:47:14
1	Na 589.592 Radial†	31746.9	32127.1	10237 µg/L	10237 ppb	12:46:54
1	Sr 421.552†	44844.6	45448.4	507.02 µg/L	507.02 ppb	12:46:54
1	Sc 361.383	1225106.6	1225106.6	99.841 %		12:48:17
1	Y 371.029	844706.9	844706.9	99.100 %		12:48:17
1	Ag 328.068†	37902.5	37935.1	502.30 µg/L	502.30 ppb	12:48:23
1	As 188.979†	106.7	107.2	520.04 µg/L	520.04 ppb	12:48:43
1	B 249.677†	6845.4	6643.9	510.17 µg/L	510.17 ppb	12:48:23
1	Ba 233.527†	8508.0	8566.7	509.40 µg/L	509.40 ppb	12:48:23
1	Be 313.107†	318115.6	317210.2	504.32 µg/L	504.32 ppb	12:48:17
1	Cd 226.502†	6816.9	6883.9	513.42 µg/L	513.42 ppb	12:48:23
1	Co 228.616†	4459.8	4480.6	516.22 µg/L	516.22 ppb	12:48:23
1	Cr 267.716†	10460.9	10510.9	514.42 µg/L	514.42 ppb	12:48:23
1	Cu 324.752†	63098.9	60659.3	500.12 µg/L	500.12 ppb	12:48:23
1	Mn 257.610†	72288.6	72302.2	506.66 µg/L	506.66 ppb	12:48:17
1	Mo 202.031†	2155.6	2159.9	504.20 µg/L	504.20 ppb	12:48:43
1	Ni 231.604†	3940.0	3822.3	514.01 µg/L	514.01 ppb	12:48:23
1	P 214.914†	581.8	464.4	2545.5 µg/L	2545.5 ppb	12:48:43
1	Pb 220.353†	888.4	864.5	518.34 µg/L	518.34 ppb	12:48:43
1	S 181.975 Axial†	110.1	101.4	1033.2 µg/L	1033.2 ppb	12:48:43
1	Sb 206.836†	270.2	266.1	514.24 µg/L	514.24 ppb	12:48:43
1	Se 196.026†	173.0	167.8	516.47 µg/L	516.47 ppb	12:48:43
1	SiO2†	16571.0	15170.1	5448.3 µg/L	5448.3 ppb	12:48:23
1	Si 251.611†	18360.9	17837.1	2505.4 µg/L	2505.4 ppb	12:48:23
1	Sn 189.927†	417.2	420.0	524.75 µg/L	524.75 ppb	12:48:43
1	Ti 334.940†	132219.0	132228.1	500.64 µg/L	500.64 ppb	12:48:17
1	Tl 190.801†	156.1	165.0	515.12 µg/L	515.12 ppb	12:48:43
1	U 409.014†	4691.9	4766.7	504.08 µg/L	504.08 ppb	12:48:23
1	V 292.402†	23247.3	23514.3	515.39 µg/L	515.39 ppb	12:48:23
1	Zn 213.857†	8514.1	8261.5	512.09 µg/L	512.09 ppb	12:48:23
2	Sc RADIAL	50267.7	50267.7	100 %		12:47:20
2	Al 396.153Radial†	7064.2	7013.7	5059.9 µg/L	5059.9 ppb	12:47:20
2	Ca 317.933Radial†	3299.6	3111.4	4990.1 µg/L	4990.1 ppb	12:47:40
2	Fe 238.204 Radial†	267.9	259.7	5146.5 µg/L	5146.5 ppb	12:47:40
2	K 766.490 Radial†	7732.2	7489.5	5106.7 µg/L	5106.7 ppb	12:47:20
2	Mg 279.077 IEC†	505.9	496.6	5093.2 µg/L	5093.2 ppb	12:47:40
2	Na 589.592 Radial†	31939.7	31809.6	10136 µg/L	10136 ppb	12:47:20
2	Sr 421.552†	45209.3	45092.0	503.04 µg/L	503.04 ppb	12:47:20
2	Sc 361.383	1221204.7	1221204.7	99.523 %		12:48:49
2	Y 371.029	840516.2	840516.2	98.608 %		12:48:49
2	Ag 328.068†	38171.4	38326.6	507.47 µg/L	507.47 ppb	12:48:55
2	As 188.979†	107.2	108.1	524.06 µg/L	524.06 ppb	12:49:15
2	B 249.677†	6858.4	6678.8	512.88 µg/L	512.88 ppb	12:48:55
2	Ba 233.527†	8638.7	8725.2	518.81 µg/L	518.81 ppb	12:48:55
2	Be 313.107†	318561.8	318676.7	506.65 µg/L	506.65 ppb	12:48:49
2	Cd 226.502†	6913.4	7002.8	522.31 µg/L	522.31 ppb	12:48:55
2	Co 228.616†	4491.0	4526.3	521.49 µg/L	521.49 ppb	12:48:55
2	Cr 267.716†	10553.6	10637.5	520.61 µg/L	520.61 ppb	12:48:55
2	Cu 324.752†	63548.1	61312.6	505.50 µg/L	505.50 ppb	12:48:55
2	Mn 257.610†	72555.1	72801.3	510.15 µg/L	510.15 ppb	12:48:49
2	Mo 202.031†	2175.9	2187.2	510.57 µg/L	510.57 ppb	12:49:15
2	Ni 231.604†	3963.1	3858.1	518.83 µg/L	518.83 ppb	12:48:55
2	P 214.914†	582.7	467.2	2560.5 µg/L	2560.5 ppb	12:49:15
2	Pb 220.353†	906.3	885.3	530.83 µg/L	530.83 ppb	12:49:15
2	S 181.975 Axial†	111.1	102.8	1047.2 µg/L	1047.2 ppb	12:49:15
2	Sb 206.836†	268.1	264.8	511.79 µg/L	511.79 ppb	12:49:15
2	Se 196.026†	179.7	175.1	538.72 µg/L	538.72 ppb	12:49:15
2	SiO2†	16678.3	15331.1	5506.1 µg/L	5506.1 ppb	12:48:55
2	Si 251.611†	18447.3	17982.6	2525.7 µg/L	2525.7 ppb	12:48:55
2	Sn 189.927†	422.3	426.5	532.80 µg/L	532.80 ppb	12:49:15
2	Ti 334.940†	132580.0	133014.0	503.62 µg/L	503.62 ppb	12:48:49
2	Tl 190.801†	154.6	163.9	511.79 µg/L	511.79 ppb	12:49:15
2	U 409.014†	4752.5	4842.6	512.14 µg/L	512.14 ppb	12:48:55
2	V 292.402†	23402.8	23744.9	520.45 µg/L	520.45 ppb	12:48:55
2	Zn 213.857†	8555.2	8330.1	516.37 µg/L	516.37 ppb	12:48:55
3	Sc RADIAL	49412.6	49412.6	98.5 %		12:47:46
3	Al 396.153Radial†	7004.3	7074.8	5106.3 µg/L	5106.3 ppb	12:47:46
3	Ca 317.933Radial†	3307.8	3176.7	5094.7 µg/L	5094.7 ppb	12:48:06
3	Fe 238.204 Radial†	271.8	268.3	5315.1 µg/L	5315.1 ppb	12:48:06
3	K 766.490 Radial†	7686.3	7576.4	5166.0 µg/L	5166.0 ppb	12:47:46

3	Mg 279.077 IEC†	504.0	503.3	5161.0 µg/L	5161.0 ppb	12:48:06
3	Na 589.592 Radial†	31728.5	32146.7	10243 µg/L	10243 ppb	12:47:46
3	Sr 421.552†	44745.4	45401.6	506.49 µg/L	506.49 ppb	12:47:46
3	Sc 361.383	1218286.1	1218286.1	99.285 %		12:49:21
3	Y 371.029	838765.5	838765.5	98.403 %		12:49:21
3	Ag 328.068†	36670.5	36906.7	488.63 µg/L	488.63 ppb	12:49:27
3	As 188.979†	95.4	96.4	467.28 µg/L	467.28 ppb	12:49:47
3	B 249.677†	6575.7	6410.6	492.16 µg/L	492.16 ppb	12:49:27
3	Ba 233.527†	8179.2	8283.2	492.53 µg/L	492.53 ppb	12:49:27
3	Be 313.107†	315025.8	315881.9	502.21 µg/L	502.21 ppb	12:49:21
3	Cd 226.502†	6502.0	6605.0	492.52 µg/L	492.52 ppb	12:49:27
3	Co 228.616†	4205.8	4249.9	489.52 µg/L	489.52 ppb	12:49:27
3	Cr 267.716†	9838.0	9942.1	486.59 µg/L	486.59 ppb	12:49:27
3	Cu 324.752†	60240.3	58134.0	479.33 µg/L	479.33 ppb	12:49:27
3	Mn 257.610†	71705.6	72120.3	505.41 µg/L	505.41 ppb	12:49:21
3	Mo 202.031†	1924.0	1938.7	452.59 µg/L	452.59 ppb	12:49:47
3	Ni 231.604†	3720.8	3623.6	487.30 µg/L	487.30 ppb	12:49:27
3	P 214.914†	538.8	424.5	2323.0 µg/L	2323.0 ppb	12:49:47
3	Pb 220.353†	831.7	812.3	486.96 µg/L	486.96 ppb	12:49:47
3	S 181.975 Axial†	101.1	92.9	946.80 µg/L	946.80 ppb	12:49:47
3	Sb 206.836†	247.1	244.4	472.40 µg/L	472.40 ppb	12:49:47
3	Se 196.026†	160.9	156.6	482.17 µg/L	482.17 ppb	12:49:47
3	SiO2†	15930.0	14617.4	5249.8 µg/L	5249.8 ppb	12:49:27
3	Si 251.611†	17591.0	17164.5	2412.1 µg/L	2412.1 ppb	12:49:27
3	Sn 189.927†	372.5	377.4	471.64 µg/L	471.64 ppb	12:49:47
3	Ti 334.940†	130790.7	131530.9	498.00 µg/L	498.00 ppb	12:49:21
3	Tl 190.801†	147.7	157.3	491.50 µg/L	491.50 ppb	12:49:47
3	U 409.014†	4451.1	4550.5	481.13 µg/L	481.13 ppb	12:49:27
3	V 292.402†	22010.7	22399.1	490.79 µg/L	490.79 ppb	12:49:27
3	Zn 213.857†	8122.4	7914.8	490.54 µg/L	490.54 ppb	12:49:27

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1221532.5	99.550	%	0.2789				0.28%
Sc RADIAL	49717.2	99.1	%	0.95				0.96%
Y 371.029	841329.5	98.704	%	0.3582				0.36%
Ag 328.068†	37722.8	499.47	µg/L	9.734	499.47	ppb	9.734	1.95%
QC value within limits for Ag 328.068 Recovery = 99.89%								
Al 396.153Radial†	7049.2	5086.4	µg/L	23.94	5086.4	ppb	23.94	0.47%
QC value within limits for Al 396.153Radial Recovery = 101.73%								
As 188.979†	103.9	503.79	µg/L	31.681	503.79	ppb	31.681	6.29%
QC value within limits for As 188.979 Recovery = 100.76%								
B 249.677†	6577.8	505.07	µg/L	11.261	505.07	ppb	11.261	2.23%
QC value within limits for B 249.677 Recovery = 101.01%								
Ba 233.527†	8525.1	506.91	µg/L	13.319	506.91	ppb	13.319	2.63%
QC value within limits for Ba 233.527 Recovery = 101.38%								
Be 313.107†	317256.3	504.39	µg/L	2.222	504.39	ppb	2.222	0.44%
QC value within limits for Be 313.107 Recovery = 100.88%								
Ca 317.933Radial†	3148.1	5048.8	µg/L	53.51	5048.8	ppb	53.51	1.06%
QC value within limits for Ca 317.933Radial Recovery = 100.98%								
Cd 226.502†	6830.6	509.42	µg/L	15.289	509.42	ppb	15.289	3.00%
QC value within limits for Cd 226.502 Recovery = 101.88%								
Co 228.616†	4418.9	509.08	µg/L	17.137	509.08	ppb	17.137	3.37%
QC value within limits for Co 228.616 Recovery = 101.82%								
Cr 267.716†	10363.5	507.21	µg/L	18.121	507.21	ppb	18.121	3.57%
QC value within limits for Cr 267.716 Recovery = 101.44%								
Cu 324.752†	60035.3	494.98	µg/L	13.819	494.98	ppb	13.819	2.79%
QC value within limits for Cu 324.752 Recovery = 99.00%								
Fe 238.204 Radial†	263.4	5218.5	µg/L	86.94	5218.5	ppb	86.94	1.67%
QC value within limits for Fe 238.204 Radial Recovery = 104.37%								
K 766.490 Radial†	7535.4	5138.0	µg/L	29.78	5138.0	ppb	29.78	0.58%
QC value within limits for K 766.490 Radial Recovery = 102.76%								
Mg 279.077 IEC†	502.4	5151.9	µg/L	54.64	5151.9	ppb	54.64	1.06%
QC value within limits for Mg 279.077 IEC Recovery = 103.04%								
Mn 257.610†	72407.9	507.41	µg/L	2.458	507.41	ppb	2.458	0.48%
QC value within limits for Mn 257.610 Recovery = 101.48%								
Mo 202.031†	2095.3	489.12	µg/L	31.798	489.12	ppb	31.798	6.50%
QC value within limits for Mo 202.031 Recovery = 97.82%								
Na 589.592 Radial†	32027.8	10205	µg/L	60.3	10205	ppb	60.3	0.59%

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   QC value within limits for Na 589.592 Radial  Recovery = 102.05%
Ni 231.604†            3768.0      506.71 µg/L        16.986      506.71 ppb        16.986   3.35%
   QC value within limits for Ni 231.604  Recovery = 101.34%
P 214.914†              452.0      2476.4 µg/L       133.02      2476.4 ppb       133.02   5.37%
   QC value within limits for P 214.914  Recovery = 99.05%
Pb 220.353†             854.0      512.04 µg/L        22.599      512.04 ppb        22.599   4.41%
   QC value within limits for Pb 220.353  Recovery = 102.41%
S 181.975 Axial†         99.0      1009.1 µg/L         54.38      1009.1 ppb         54.38   5.39%
   QC value within limits for S 181.975 Axial  Recovery = 100.91%
Sb 206.836†             258.4      499.47 µg/L        23.480      499.47 ppb        23.480   4.70%
   QC value within limits for Sb 206.836  Recovery = 99.89%
Se 196.026†             166.5      512.45 µg/L        28.488      512.45 ppb        28.488   5.56%
   QC value within limits for Se 196.026  Recovery = 102.49%
SiO2†                 15039.6      5401.4 µg/L       134.43      5401.4 ppb       134.43   2.49%
   QC value within limits for SiO2  Recovery = 101.01%
Si 251.611†           17661.4      2481.0 µg/L         60.58      2481.0 ppb         60.58   2.44%
   QC value within limits for Si 251.611  Recovery = 99.24%
Sn 189.927†             408.0      509.73 µg/L        33.233      509.73 ppb        33.233   6.52%
   QC value within limits for Sn 189.927  Recovery = 101.95%
Sr 421.552†           45314.0      505.52 µg/L         2.161      505.52 ppb         2.161   0.43%
   QC value within limits for Sr 421.552  Recovery = 101.10%
Ti 334.940†          132257.7      500.75 µg/L         2.814      500.75 ppb         2.814   0.56%
   QC value within limits for Ti 334.940  Recovery = 100.15%
Tl 190.801†             162.1      506.13 µg/L        12.782      506.13 ppb        12.782   2.53%
   QC value within limits for Tl 190.801  Recovery = 101.23%
U 409.014†             4719.9      499.12 µg/L        16.089      499.12 ppb        16.089   3.22%
   QC value within limits for U 409.014  Recovery = 99.82%
V 292.402†            23219.5      508.88 µg/L        15.869      508.88 ppb        15.869   3.12%
   QC value within limits for V 292.402  Recovery = 101.78%
Zn 213.857†            8168.8      506.33 µg/L        13.846      506.33 ppb        13.846   2.73%
   QC value within limits for Zn 213.857  Recovery = 101.27%
All analyte(s) passed QC.
```

Sequence No.: 2
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 1/5/2010 12:49:57
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	49656.5	49656.5	99.0	%			12:50:45
1	Al 396.153Radial†	12.8	-20.4	-14.814	µg/L	-14.814	ppb	12:51:05
1	Ca 317.933Radial†	161.9	-16.7	-26.771	µg/L	-26.771	ppb	12:51:05
1	Fe 238.204 Radial†	8.4	0.9	17.608	µg/L	17.608	ppb	12:51:05
1	K 766.490 Radial†	310.5	89.6	61.089	µg/L	61.089	ppb	12:50:45
1	Mg 279.077 IEC†	5.2	-2.9	-29.793	µg/L	-29.793	ppb	12:51:05
1	Na 589.592 Radial†	98.7	47.0	14.978	µg/L	14.978	ppb	12:50:45
1	Sr 421.552†	15.5	8.0	0.0893	µg/L	0.0893	ppb	12:51:05
1	Sc 361.383	1230668.8	1230668.8	100.29	%			12:52:37
1	Y 371.029	851989.7	851989.7	99.954	%			12:52:37
1	Ag 328.068†	55.7	27.7	0.3683	µg/L	0.3683	ppb	12:52:42
1	As 188.979†	-1.9	-1.6	-7.6765	µg/L	-7.6765	ppb	12:53:03
1	B 249.677†	297.6	84.2	6.4823	µg/L	6.4823	ppb	12:53:03
1	Ba 233.527†	-38.3	7.0	0.4138	µg/L	0.4138	ppb	12:53:03
1	Be 313.107†	1544.2	127.4	0.2026	µg/L	0.2026	ppb	12:52:42
1	Cd 226.502†	-48.0	8.3	0.6172	µg/L	0.6172	ppb	12:53:03
1	Co 228.616†	-8.5	5.3	0.6074	µg/L	0.6074	ppb	12:53:03
1	Cr 267.716†	-21.4	12.0	0.5850	µg/L	0.5850	ppb	12:53:03
1	Cu 324.752†	3102.7	553.5	4.5604	µg/L	4.5604	ppb	12:52:42
1	Mn 257.610†	136.1	34.1	0.2406	µg/L	0.2406	ppb	12:53:03
1	Mo 202.031†	0.9	1.8	0.4139	µg/L	0.4139	ppb	12:53:03
1	Ni 231.604†	123.4	-1.0	-0.1291	µg/L	-0.1291	ppb	12:53:03
1	P 214.914†	121.6	3.0	16.080	µg/L	16.080	ppb	12:53:03
1	Pb 220.353†	31.7	6.3	3.7479	µg/L	3.7479	ppb	12:53:03
1	S 181.975 Axial†	8.1	-0.7	-7.6073	µg/L	-7.6073	ppb	12:53:03
1	Sb 206.836†	8.8	4.2	8.1968	µg/L	8.1968	ppb	12:53:03
1	Se 196.026†	5.9	0.4	1.3512	µg/L	1.3512	ppb	12:53:03
1	SiO2†	1414.4	-17.0	-6.0880	µg/L	-6.0880	ppb	12:53:03
1	Si 251.611†	540.3	-14.4	-2.2920	µg/L	-2.2920	ppb	12:53:03
1	Sn 189.927†	2.0	4.1	5.1117	µg/L	5.1117	ppb	12:53:03
1	Ti 334.940†	246.7	44.4	0.1698	µg/L	0.1698	ppb	12:52:42
1	Tl 190.801†	-10.1	-1.5	-4.6887	µg/L	-4.6887	ppb	12:53:03
1	U 409.014†	-53.8	13.7	1.4495	µg/L	1.4495	ppb	12:52:42
1	V 292.402†	-210.4	20.2	0.4447	µg/L	0.4447	ppb	12:53:03
1	Zn 213.857†	281.0	14.0	0.8674	µg/L	0.8674	ppb	12:53:03
2	Sc RADIAL	50906.1	50906.1	102	%			12:51:26
2	Al 396.153Radial†	12.8	-20.8	-15.069	µg/L	-15.069	ppb	12:51:46
2	Ca 317.933Radial†	169.4	-13.4	-21.435	µg/L	-21.435	ppb	12:51:46
2	Fe 238.204 Radial†	7.7	-0.0	0.0271	µg/L	0.0271	ppb	12:51:46
2	K 766.490 Radial†	333.8	104.9	71.507	µg/L	71.507	ppb	12:51:26
2	Mg 279.077 IEC†	5.9	-2.4	-24.082	µg/L	-24.082	ppb	12:51:46
2	Na 589.592 Radial†	98.4	44.2	14.093	µg/L	14.093	ppb	12:51:26
2	Sr 421.552†	19.6	11.6	0.1295	µg/L	0.1295	ppb	12:51:46
2	Sc 361.383	1215018.0	1215018.0	99.019	%			12:53:08
2	Y 371.029	838409.7	838409.7	98.361	%			12:53:08
2	Ag 328.068†	77.7	50.6	0.6658	µg/L	0.6658	ppb	12:53:14
2	As 188.979†	0.7	1.1	5.2398	µg/L	5.2398	ppb	12:53:34
2	B 249.677†	288.6	78.9	6.0813	µg/L	6.0813	ppb	12:53:34
2	Ba 233.527†	-43.0	1.7	0.0992	µg/L	0.0992	ppb	12:53:34
2	Be 313.107†	1572.3	175.6	0.2793	µg/L	0.2793	ppb	12:53:14
2	Cd 226.502†	-51.8	3.8	0.2861	µg/L	0.2861	ppb	12:53:34
2	Co 228.616†	-6.5	7.2	0.8251	µg/L	0.8251	ppb	12:53:34
2	Cr 267.716†	-23.4	9.7	0.4716	µg/L	0.4716	ppb	12:53:34
2	Cu 324.752†	3126.5	617.4	5.0855	µg/L	5.0855	ppb	12:53:14
2	Mn 257.610†	136.7	36.5	0.2554	µg/L	0.2554	ppb	12:53:34
2	Mo 202.031†	1.1	2.0	0.4652	µg/L	0.4652	ppb	12:53:34
2	Ni 231.604†	114.4	-8.5	-1.1399	µg/L	-1.1399	ppb	12:53:34
2	P 214.914†	125.2	8.2	45.295	µg/L	45.295	ppb	12:53:34
2	Pb 220.353†	32.0	6.9	4.1158	µg/L	4.1158	ppb	12:53:34

2	S 181.975 Axial†	6.2	-2.6	-26.834 µg/L	-26.834 ppb	12:53:34
2	Sb 206.836†	6.3	1.9	3.6229 µg/L	3.6229 ppb	12:53:34
2	Se 196.026†	3.8	-1.6	-5.0150 µg/L	-5.0150 ppb	12:53:34
2	SiO2†	1410.9	-2.4	-0.8442 µg/L	-0.8442 ppb	12:53:34
2	Si 251.611†	533.8	-14.1	-2.2182 µg/L	-2.2182 ppb	12:53:34
2	Sn 189.927†	1.2	3.3	4.1512 µg/L	4.1512 ppb	12:53:34
2	Ti 334.940†	258.5	59.5	0.2266 µg/L	0.2266 ppb	12:53:14
2	Tl 190.801†	-7.2	1.3	4.0012 µg/L	4.0012 ppb	12:53:34
2	U 409.014†	-40.2	26.7	2.8369 µg/L	2.8369 ppb	12:53:14
2	V 292.402†	-224.9	2.8	0.0682 µg/L	0.0682 ppb	12:53:34
2	Zn 213.857†	281.4	18.1	1.1303 µg/L	1.1303 ppb	12:53:34
3	Sc RADIAL	50140.5	50140.5	100.0 %		12:52:06
3	Al 396.153Radial†	9.9	-23.5	-17.038 µg/L	-17.038 ppb	12:52:27
3	Ca 317.933Radial†	158.6	-21.6	-34.669 µg/L	-34.669 ppb	12:52:27
3	Fe 238.204 Radial†	8.8	1.2	24.109 µg/L	24.109 ppb	12:52:27
3	K 766.490 Radial†	328.5	104.6	71.293 µg/L	71.293 ppb	12:52:06
3	Mg 279.077 IEC†	4.9	-3.3	-33.409 µg/L	-33.409 ppb	12:52:27
3	Na 589.592 Radial†	99.1	46.4	14.798 µg/L	14.798 ppb	12:52:06
3	Sr 421.552†	18.6	10.9	0.1221 µg/L	0.1221 ppb	12:52:27
3	Sc 361.383	1217692.6	1217692.6	99.237 %		12:53:40
3	Y 371.029	840893.5	840893.5	98.653 %		12:53:40
3	Ag 328.068†	73.6	46.3	0.6118 µg/L	0.6118 ppb	12:53:45
3	As 188.979†	2.1	2.5	11.952 µg/L	11.952 ppb	12:54:06
3	B 249.677†	284.7	74.4	5.7245 µg/L	5.7245 ppb	12:54:06
3	Ba 233.527†	-45.3	-0.5	-0.0290 µg/L	-0.0290 ppb	12:54:06
3	Be 313.107†	1491.9	91.1	0.1450 µg/L	0.1450 ppb	12:53:45
3	Cd 226.502†	-48.7	7.1	0.5231 µg/L	0.5231 ppb	12:54:06
3	Co 228.616†	-14.6	-1.0	-0.1128 µg/L	-0.1128 ppb	12:54:06
3	Cr 267.716†	-25.1	8.0	0.3917 µg/L	0.3917 ppb	12:54:06
3	Cu 324.752†	3113.4	597.2	4.9213 µg/L	4.9213 ppb	12:53:45
3	Mn 257.610†	114.6	13.9	0.1001 µg/L	0.1001 ppb	12:54:06
3	Mo 202.031†	-0.7	0.2	0.0581 µg/L	0.0581 ppb	12:54:06
3	Ni 231.604†	119.3	-3.9	-0.5194 µg/L	-0.5194 ppb	12:54:06
3	P 214.914†	126.5	9.2	50.802 µg/L	50.802 ppb	12:54:06
3	Pb 220.353†	31.2	6.0	3.6090 µg/L	3.6090 ppb	12:54:06
3	S 181.975 Axial†	8.5	-0.4	-3.5863 µg/L	-3.5863 ppb	12:54:06
3	Sb 206.836†	6.7	2.2	4.2340 µg/L	4.2340 ppb	12:54:06
3	Se 196.026†	7.4	2.0	5.9916 µg/L	5.9916 ppb	12:54:06
3	SiO2†	1418.4	2.1	0.7459 µg/L	0.7459 ppb	12:54:06
3	Si 251.611†	543.3	-5.6	-0.9656 µg/L	-0.9656 ppb	12:54:06
3	Sn 189.927†	0.5	2.7	3.3551 µg/L	3.3551 ppb	12:54:06
3	Ti 334.940†	203.2	3.2	0.0140 µg/L	0.0140 ppb	12:53:45
3	Tl 190.801†	-7.8	0.7	2.3324 µg/L	2.3324 ppb	12:54:06
3	U 409.014†	-42.7	24.3	2.5687 µg/L	2.5687 ppb	12:53:45
3	V 292.402†	-219.4	8.8	0.1985 µg/L	0.1985 ppb	12:54:06
3	Zn 213.857†	277.1	13.2	0.8133 µg/L	0.8133 ppb	12:54:06

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1221126.5	99.517	%	0.6822				0.69%
Sc RADIAL	50234.4	100	%	1.3				1.25%
Y 371.029	843764.3	98.989	%	0.8483				0.86%
Ag 328.068†	41.6	0.5486	µg/L	0.15848	0.5486	ppb	0.15848	28.89%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-21.6	-15.640	µg/L	1.2174	-15.640	ppb	1.2174	7.78%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	0.7	3.1717	µg/L	9.97619	3.1717	ppb	9.97619	314.54%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	79.2	6.0960	µg/L	0.37914	6.0960	ppb	0.37914	6.22%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	2.7	0.1613	µg/L	0.22786	0.1613	ppb	0.22786	141.23%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	131.4	0.2089	µg/L	0.06738	0.2089	ppb	0.06738	32.25%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-17.2	-27.625	µg/L	6.6580	-27.625	ppb	6.6580	24.10%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	6.4	0.4755	µg/L	0.17061	0.4755	ppb	0.17061	35.88%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	3.8	0.4399	µg/L	0.49087	0.4399	ppb	0.49087	111.60%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                 9.9      0.4828 µg/L       0.09713      0.4828 ppb        0.09713  20.12%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†               589.3      4.8557 µg/L       0.26860      4.8557 ppb        0.26860   5.53%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          0.7      13.914 µg/L       12.4583      13.914 ppb        12.4583  89.54%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†          99.7      67.963 µg/L        5.9541      67.963 ppb         5.9541   8.76%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†            -2.8     -29.095 µg/L        4.7022     -29.095 ppb         4.7022  16.16%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†                28.1      0.1987 µg/L       0.08573      0.1987 ppb        0.08573  43.15%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                 1.3      0.3124 µg/L       0.22174      0.3124 ppb        0.22174  70.98%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†         45.9      14.623 µg/L        0.4674      14.623 ppb         0.4674   3.20%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                -4.4     -0.5962 µg/L       0.50974     -0.5962 ppb        0.50974  85.51%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                  6.8      37.393 µg/L       18.6614      37.393 ppb        18.6614  49.91%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 6.4      3.8243 µg/L       0.26191      3.8243 ppb        0.26191   6.85%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†           -1.2     -12.676 µg/L       12.4250     -12.676 ppb        12.4250  98.02%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                 2.8      5.3512 µg/L       2.48319      5.3512 ppb        2.48319  46.40%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 0.2      0.7759 µg/L       5.52584      0.7759 ppb        5.52584 712.16%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                      -5.7     -2.0621 µg/L       3.57602     -2.0621 ppb        3.57602 173.42%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†               -11.4     -1.8252 µg/L       0.74542     -1.8252 ppb        0.74542  40.84%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 3.4      4.2060 µg/L       0.87955      4.2060 ppb        0.87955  20.91%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                10.2      0.1136 µg/L       0.02140      0.1136 ppb        0.02140  18.84%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†                35.7      0.1368 µg/L       0.11006      0.1368 ppb        0.11006  80.46%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                 0.2      0.5483 µg/L       4.61152      0.5483 ppb        4.61152 841.07%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                 21.6      2.2850 µg/L       0.73592      2.2850 ppb        0.73592  32.21%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                 10.6      0.2371 µg/L       0.19121      0.2371 ppb        0.19121  80.64%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†                15.1      0.9370 µg/L       0.16959      0.9370 ppb        0.16959  18.10%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 10
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 1/5/2010 13:22:57
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	49819.2	49819.2	99.3	%			13:23:36
1	Al 396.153Radial†	6854.2	6865.7	4953.5	µg/L	4953.5	ppb	13:23:36
1	Ca 317.933Radial†	3203.6	3044.4	4882.6	µg/L	4882.6	ppb	13:23:56
1	Fe 238.204 Radial†	260.2	254.3	5038.8	µg/L	5038.8	ppb	13:23:56
1	K 766.490 Radial†	7483.4	7308.5	4983.3	µg/L	4983.3	ppb	13:23:36
1	Mg 279.077 IEC†	491.2	486.3	4987.2	µg/L	4987.2	ppb	13:23:56
1	Na 589.592 Radial†	31173.2	31324.8	9981.1	µg/L	9981.1	ppb	13:23:36
1	Sr 421.552†	43426.9	43703.9	487.55	µg/L	487.55	ppb	13:23:36
1	Sc 361.383	1231968.6	1231968.6	100.40	%			13:24:59
1	Y 371.029	846568.0	846568.0	99.318	%			13:24:59
1	Ag 328.068†	36855.9	36681.2	485.67	µg/L	485.67	ppb	13:25:04
1	As 188.979†	98.2	98.1	475.67	µg/L	475.67	ppb	13:25:25
1	B 249.677†	6528.9	6290.4	483.00	µg/L	483.00	ppb	13:25:04
1	Ba 233.527†	8208.8	8221.2	488.86	µg/L	488.86	ppb	13:25:04
1	Be 313.107†	309792.9	307146.0	488.32	µg/L	488.32	ppb	13:24:59
1	Cd 226.502†	6537.9	6568.0	489.84	µg/L	489.84	ppb	13:25:04
1	Co 228.616†	4257.0	4253.8	490.09	µg/L	490.09	ppb	13:25:04
1	Cr 267.716†	10063.7	10056.9	492.20	µg/L	492.20	ppb	13:25:04
1	Cu 324.752†	61305.3	58520.8	482.49	µg/L	482.49	ppb	13:25:04
1	Mn 257.610†	70752.3	70368.7	493.11	µg/L	493.11	ppb	13:24:59
1	Mo 202.031†	2101.6	2094.1	488.84	µg/L	488.84	ppb	13:25:25
1	Ni 231.604†	3799.0	3659.8	492.17	µg/L	492.17	ppb	13:25:04
1	P 214.914†	570.2	449.7	2465.0	µg/L	2465.0	ppb	13:25:25
1	Pb 220.353†	876.5	847.7	508.25	µg/L	508.25	ppb	13:25:25
1	S 181.975 Axial†	104.6	95.3	971.14	µg/L	971.14	ppb	13:25:25
1	Sb 206.836†	263.6	258.0	498.74	µg/L	498.74	ppb	13:25:25
1	Se 196.026†	173.6	167.4	515.14	µg/L	515.14	ppb	13:25:25
1	SiO2†	16106.6	14615.1	5249.0	µg/L	5249.0	ppb	13:25:04
1	Si 251.611†	17736.0	17112.2	2403.1	µg/L	2403.1	ppb	13:25:04
1	Sn 189.927†	403.8	404.3	505.16	µg/L	505.16	ppb	13:25:25
1	Ti 334.940†	129427.7	128710.3	487.32	µg/L	487.32	ppb	13:24:59
1	Tl 190.801†	152.7	160.7	501.79	µg/L	501.79	ppb	13:25:25
1	U 409.014†	4601.8	4650.8	491.83	µg/L	491.83	ppb	13:25:04
1	V 292.402†	22442.8	22583.3	495.03	µg/L	495.03	ppb	13:25:04
1	Zn 213.857†	8194.1	7895.4	489.37	µg/L	489.37	ppb	13:25:04
2	Sc RADIAL	50081.7	50081.7	99.9	%			13:24:01
2	Al 396.153Radial†	6907.9	6883.4	4966.2	µg/L	4966.2	ppb	13:24:01
2	Ca 317.933Radial†	3213.6	3037.5	4871.5	µg/L	4871.5	ppb	13:24:22
2	Fe 238.204 Radial†	261.6	254.3	5039.6	µg/L	5039.6	ppb	13:24:22
2	K 766.490 Radial†	7513.6	7299.3	4977.0	µg/L	4977.0	ppb	13:24:01
2	Mg 279.077 IEC†	496.3	488.9	5013.9	µg/L	5013.9	ppb	13:24:22
2	Na 589.592 Radial†	31287.6	31274.9	9965.2	µg/L	9965.2	ppb	13:24:01
2	Sr 421.552†	43715.8	43764.0	488.23	µg/L	488.23	ppb	13:24:01
2	Sc 361.383	1232102.6	1232102.6	100.41	%			13:25:31
2	Y 371.029	847248.1	847248.1	99.398	%			13:25:31
2	Ag 328.068†	36944.3	36765.3	486.79	µg/L	486.79	ppb	13:25:36
2	As 188.979†	104.1	104.0	504.27	µg/L	504.27	ppb	13:25:57
2	B 249.677†	6594.2	6354.7	487.94	µg/L	487.94	ppb	13:25:36
2	Ba 233.527†	8264.7	8276.0	492.11	µg/L	492.11	ppb	13:25:36
2	Be 313.107†	312471.4	309780.0	492.50	µg/L	492.50	ppb	13:25:31
2	Cd 226.502†	6556.7	6586.1	491.19	µg/L	491.19	ppb	13:25:36
2	Co 228.616†	4294.2	4290.3	494.29	µg/L	494.29	ppb	13:25:36
2	Cr 267.716†	10073.8	10065.9	492.65	µg/L	492.65	ppb	13:25:36
2	Cu 324.752†	61392.2	58600.8	483.15	µg/L	483.15	ppb	13:25:36
2	Mn 257.610†	71238.1	70844.9	496.44	µg/L	496.44	ppb	13:25:31
2	Mo 202.031†	2114.4	2106.7	491.77	µg/L	491.77	ppb	13:25:57
2	Ni 231.604†	3786.7	3647.2	490.47	µg/L	490.47	ppb	13:25:36
2	P 214.914†	572.3	451.7	2476.1	µg/L	2476.1	ppb	13:25:57
2	Pb 220.353†	870.9	841.9	504.82	µg/L	504.82	ppb	13:25:57

2	S 181.975 Axial†	103.7	94.4	961.51 µg/L	961.51 ppb	13:25:57
2	Sb 206.836†	263.0	257.4	497.45 µg/L	497.45 ppb	13:25:57
2	Se 196.026†	173.6	167.5	515.23 µg/L	515.23 ppb	13:25:57
2	SiO2†	16125.6	14632.4	5255.2 µg/L	5255.2 ppb	13:25:36
2	Si 251.611†	17791.0	17165.1	2410.5 µg/L	2410.5 ppb	13:25:36
2	Sn 189.927†	403.4	403.9	504.61 µg/L	504.61 ppb	13:25:57
2	Ti 334.940†	130505.1	129769.3	491.34 µg/L	491.34 ppb	13:25:31
2	Tl 190.801†	154.9	162.9	508.65 µg/L	508.65 ppb	13:25:57
2	U 409.014†	4614.4	4662.8	493.11 µg/L	493.11 ppb	13:25:36
2	V 292.402†	22523.7	22661.4	496.75 µg/L	496.75 ppb	13:25:36
2	Zn 213.857†	8250.9	7951.1	492.86 µg/L	492.86 ppb	13:25:36
3	Sc RADIAL	50398.3	50398.3	101 %		13:24:27
3	Al 396.153Radial†	6954.0	6885.8	4970.1 µg/L	4970.1 ppb	13:24:27
3	Ca 317.933Radial†	3217.7	3021.4	4845.6 µg/L	4845.6 ppb	13:24:48
3	Fe 238.204 Radial†	258.8	249.9	4952.2 µg/L	4952.2 ppb	13:24:48
3	K 766.490 Radial†	7560.7	7298.8	4976.7 µg/L	4976.7 ppb	13:24:27
3	Mg 279.077 IEC†	498.8	488.2	5005.8 µg/L	5005.8 ppb	13:24:48
3	Na 589.592 Radial†	31449.1	31238.8	9953.7 µg/L	9953.7 ppb	13:24:27
3	Sr 421.552†	44030.1	43801.8	488.65 µg/L	488.65 ppb	13:24:27
3	Sc 361.383	1238746.0	1238746.0	100.95 %		13:26:03
3	Y 371.029	852158.9	852158.9	99.974 %		13:26:03
3	Ag 328.068†	36316.9	35946.5	475.89 µg/L	475.89 ppb	13:26:09
3	As 188.979†	94.2	93.6	454.10 µg/L	454.10 ppb	13:26:29
3	B 249.677†	6465.9	6192.4	475.47 µg/L	475.47 ppb	13:26:09
3	Ba 233.527†	8067.4	8036.4	477.85 µg/L	477.85 ppb	13:26:09
3	Be 313.107†	308294.0	303973.1	483.27 µg/L	483.27 ppb	13:26:03
3	Cd 226.502†	6388.1	6384.0	476.10 µg/L	476.10 ppb	13:26:09
3	Co 228.616†	4146.7	4121.4	474.72 µg/L	474.72 ppb	13:26:09
3	Cr 267.716†	9655.0	9597.3	469.72 µg/L	469.72 ppb	13:26:09
3	Cu 324.752†	59614.8	56512.2	465.94 µg/L	465.94 ppb	13:26:09
3	Mn 257.610†	70327.8	69562.7	487.46 µg/L	487.46 ppb	13:26:03
3	Mo 202.031†	1884.0	1867.1	435.87 µg/L	435.87 ppb	13:26:29
3	Ni 231.604†	3687.1	3528.2	474.47 µg/L	474.47 ppb	13:26:09
3	P 214.914†	533.4	410.1	2244.2 µg/L	2244.2 ppb	13:26:29
3	Pb 220.353†	809.5	776.5	465.52 µg/L	465.52 ppb	13:26:29
3	S 181.975 Axial†	99.8	90.0	916.83 µg/L	916.83 ppb	13:26:29
3	Sb 206.836†	244.0	237.2	458.46 µg/L	458.46 ppb	13:26:29
3	Se 196.026†	162.2	155.2	477.69 µg/L	477.69 ppb	13:26:29
3	SiO2†	15791.6	14215.3	5105.4 µg/L	5105.4 ppb	13:26:09
3	Si 251.611†	17400.8	16683.5	2345.5 µg/L	2345.5 ppb	13:26:09
3	Sn 189.927†	351.5	350.4	437.94 µg/L	437.94 ppb	13:26:29
3	Ti 334.940†	128430.6	127017.3	480.91 µg/L	480.91 ppb	13:26:03
3	Tl 190.801†	145.7	153.0	477.83 µg/L	477.83 ppb	13:26:29
3	U 409.014†	4428.5	4454.0	470.99 µg/L	470.99 ppb	13:26:09
3	V 292.402†	21738.8	21763.6	476.82 µg/L	476.82 ppb	13:26:09
3	Zn 213.857†	7936.3	7595.3	470.73 µg/L	470.73 ppb	13:26:09

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1234272.4	100.59	%	0.316				0.31%
Sc RADIAL	50099.7	99.9	%	0.58				0.58%
Y 371.029	848658.3	99.563	%	0.3579				0.36%
Ag 328.068†	36464.3	482.78	µg/L	5.996	482.78	ppb	5.996	1.24%
QC value within limits for Ag 328.068 Recovery = 96.56%								
Al 396.153Radial†	6878.3	4963.3	µg/L	8.67	4963.3	ppb	8.67	0.17%
QC value within limits for Al 396.153Radial Recovery = 99.27%								
As 188.979†	98.6	478.01	µg/L	25.168	478.01	ppb	25.168	5.27%
QC value within limits for As 188.979 Recovery = 95.60%								
B 249.677†	6279.2	482.14	µg/L	6.283	482.14	ppb	6.283	1.30%
QC value within limits for B 249.677 Recovery = 96.43%								
Ba 233.527†	8177.9	486.27	µg/L	7.474	486.27	ppb	7.474	1.54%
QC value within limits for Ba 233.527 Recovery = 97.25%								
Be 313.107†	306966.4	488.03	µg/L	4.622	488.03	ppb	4.622	0.95%
QC value within limits for Be 313.107 Recovery = 97.61%								
Ca 317.933Radial†	3034.4	4866.6	µg/L	18.97	4866.6	ppb	18.97	0.39%
QC value within limits for Ca 317.933Radial Recovery = 97.33%								
Cd 226.502†	6512.7	485.71	µg/L	8.351	485.71	ppb	8.351	1.72%
QC value within limits for Cd 226.502 Recovery = 97.14%								
Co 228.616†	4221.9	486.37	µg/L	10.301	486.37	ppb	10.301	2.12%

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   QC value within limits for Co 228.616  Recovery = 97.27%
Cr 267.716†            9906.7      484.86 µg/L        13.111      484.86 ppb        13.111   2.70%
   QC value within limits for Cr 267.716  Recovery = 96.97%
Cu 324.752†           57877.9      477.20 µg/L         9.752      477.20 ppb         9.752   2.04%
   QC value within limits for Cu 324.752  Recovery = 95.44%
Fe 238.204 Radial†      252.8      5010.2 µg/L        50.24      5010.2 ppb        50.24   1.00%
   QC value within limits for Fe 238.204 Radial  Recovery = 100.20%
K 766.490 Radial†      7302.2      4979.0 µg/L         3.71      4979.0 ppb         3.71   0.07%
   QC value within limits for K 766.490 Radial  Recovery = 99.58%
Mg 279.077 IEC†         487.8      5002.3 µg/L        13.72      5002.3 ppb        13.72   0.27%
   QC value within limits for Mg 279.077 IEC  Recovery = 100.05%
Mn 257.610†           70258.8      492.34 µg/L         4.542      492.34 ppb         4.542   0.92%
   QC value within limits for Mn 257.610  Recovery = 98.47%
Mo 202.031†            2022.6      472.16 µg/L        31.464      472.16 ppb        31.464   6.66%
   QC value within limits for Mo 202.031  Recovery = 94.43%
Na 589.592 Radial†    31279.5      9966.6 µg/L        13.76      9966.6 ppb        13.76   0.14%
   QC value within limits for Na 589.592 Radial  Recovery = 99.67%
Ni 231.604†            3611.8      485.70 µg/L         9.763      485.70 ppb         9.763   2.01%
   QC value within limits for Ni 231.604  Recovery = 97.14%
P 214.914†              437.2      2395.1 µg/L       130.79      2395.1 ppb       130.79   5.46%
   QC value within limits for P 214.914  Recovery = 95.80%
Pb 220.353†             822.0      492.86 µg/L        23.745      492.86 ppb        23.745   4.82%
   QC value within limits for Pb 220.353  Recovery = 98.57%
S 181.975 Axial†         93.2      949.83 µg/L        28.979      949.83 ppb        28.979   3.05%
   QC value within limits for S 181.975 Axial  Recovery = 94.98%
Sb 206.836†             250.9      484.88 µg/L        22.895      484.88 ppb        22.895   4.72%
   QC value within limits for Sb 206.836  Recovery = 96.98%
Se 196.026†             163.4      502.69 µg/L        21.648      502.69 ppb        21.648   4.31%
   QC value within limits for Se 196.026  Recovery = 100.54%
SiO2†                  14487.6      5203.2 µg/L        84.74      5203.2 ppb        84.74   1.63%
   QC value within limits for SiO2  Recovery = 97.30%
Si 251.611†            16986.9      2386.4 µg/L        35.61      2386.4 ppb        35.61   1.49%
   QC value within limits for Si 251.611  Recovery = 95.45%
Sn 189.927†             386.2      482.57 µg/L        38.653      482.57 ppb        38.653   8.01%
   QC value within limits for Sn 189.927  Recovery = 96.51%
Sr 421.552†            43756.6      488.14 µg/L         0.551      488.14 ppb         0.551   0.11%
   QC value within limits for Sr 421.552  Recovery = 97.63%
Ti 334.940†           128499.0      486.52 µg/L         5.258      486.52 ppb         5.258   1.08%
   QC value within limits for Ti 334.940  Recovery = 97.30%
Tl 190.801†             158.8      496.09 µg/L        16.179      496.09 ppb        16.179   3.26%
   QC value within limits for Tl 190.801  Recovery = 99.22%
U 409.014†             4589.2      485.31 µg/L        12.418      485.31 ppb        12.418   2.56%
   QC value within limits for U 409.014  Recovery = 97.06%
V 292.402†            22336.1      489.54 µg/L        11.043      489.54 ppb        11.043   2.26%
   QC value within limits for V 292.402  Recovery = 97.91%
Zn 213.857†            7813.9      484.32 µg/L        11.894      484.32 ppb        11.894   2.46%
   QC value within limits for Zn 213.857  Recovery = 96.86%
All analyte(s) passed QC.
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Sequence No.: 11
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 1/5/2010 13:26:38
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	49284.7	49284.7	98.3	%			13:27:26
1	Al 396.153Radial†	15.0	-18.1	-13.135	µg/L	-13.135	ppb	13:27:46
1	Ca 317.933Radial†	161.1	-16.3	-26.094	µg/L	-26.094	ppb	13:27:46
1	Fe 238.204 Radial†	7.5	0.1	1.8926	µg/L	1.8926	ppb	13:27:46
1	K 766.490 Radial†	254.1	34.6	23.595	µg/L	23.595	ppb	13:27:26
1	Mg 279.077 IEC†	6.0	-2.0	-20.962	µg/L	-20.962	ppb	13:27:46
1	Na 589.592 Radial†	75.2	23.8	7.5965	µg/L	7.5965	ppb	13:27:26
1	Sr 421.552†	14.5	7.1	0.0792	µg/L	0.0792	ppb	13:27:46
1	Sc 361.383	1224832.6	1224832.6	99.819	%			13:29:18
1	Y 371.029	847482.8	847482.8	99.426	%			13:29:18
1	Ag 328.068†	81.2	53.5	0.7041	µg/L	0.7041	ppb	13:29:23
1	As 188.979†	-0.8	-0.5	-2.1898	µg/L	-2.1898	ppb	13:29:44
1	B 249.677†	246.9	34.9	2.6875	µg/L	2.6875	ppb	13:29:44
1	Ba 233.527†	-39.8	5.3	0.3122	µg/L	0.3122	ppb	13:29:44
1	Be 313.107†	1508.5	99.0	0.1575	µg/L	0.1575	ppb	13:29:23
1	Cd 226.502†	-51.5	4.6	0.3439	µg/L	0.3439	ppb	13:29:44
1	Co 228.616†	-8.8	4.9	0.5675	µg/L	0.5675	ppb	13:29:44
1	Cr 267.716†	-29.6	3.7	0.1814	µg/L	0.1814	ppb	13:29:44
1	Cu 324.752†	2879.3	344.5	2.8375	µg/L	2.8375	ppb	13:29:23
1	Mn 257.610†	107.9	6.5	0.0455	µg/L	0.0455	ppb	13:29:44
1	Mo 202.031†	0.3	1.2	0.2838	µg/L	0.2838	ppb	13:29:44
1	Ni 231.604†	122.4	-1.4	-0.1934	µg/L	-0.1934	ppb	13:29:44
1	P 214.914†	120.6	2.6	13.999	µg/L	13.999	ppb	13:29:44
1	Pb 220.353†	30.1	4.8	2.8839	µg/L	2.8839	ppb	13:29:44
1	S 181.975 Axial†	7.4	-1.4	-14.422	µg/L	-14.422	ppb	13:29:44
1	Sb 206.836†	4.6	0.1	0.1731	µg/L	0.1731	ppb	13:29:44
1	Se 196.026†	4.7	-0.7	-2.2451	µg/L	-2.2451	ppb	13:29:44
1	SiO2†	1399.6	-25.1	-8.9996	µg/L	-8.9996	ppb	13:29:44
1	Si 251.611†	526.1	-26.1	-3.7701	µg/L	-3.7701	ppb	13:29:44
1	Sn 189.927†	-1.7	0.5	0.6281	µg/L	0.6281	ppb	13:29:44
1	Ti 334.940†	201.6	0.4	0.0030	µg/L	0.0030	ppb	13:29:44
1	Tl 190.801†	-7.1	1.5	4.6718	µg/L	4.6718	ppb	13:29:44
1	U 409.014†	-67.5	-0.3	-0.0258	µg/L	-0.0258	ppb	13:29:23
1	V 292.402†	-223.0	6.6	0.1443	µg/L	0.1443	ppb	13:29:44
1	Zn 213.857†	266.5	0.9	0.0504	µg/L	0.0504	ppb	13:29:44
2	Sc RADIAL	49386.5	49386.5	98.5	%			13:28:07
2	Al 396.153Radial†	2.6	-30.7	-22.242	µg/L	-22.242	ppb	13:28:27
2	Ca 317.933Radial†	159.1	-18.7	-29.924	µg/L	-29.924	ppb	13:28:27
2	Fe 238.204 Radial†	8.4	1.0	19.487	µg/L	19.487	ppb	13:28:27
2	K 766.490 Radial†	251.7	31.6	21.555	µg/L	21.555	ppb	13:28:07
2	Mg 279.077 IEC†	4.0	-4.0	-41.521	µg/L	-41.521	ppb	13:28:27
2	Na 589.592 Radial†	57.2	5.4	1.7293	µg/L	1.7293	ppb	13:28:07
2	Sr 421.552†	9.4	1.8	0.0206	µg/L	0.0206	ppb	13:28:27
2	Sc 361.383	1234801.6	1234801.6	100.63	%			13:29:49
2	Y 371.029	851543.1	851543.1	99.902	%			13:29:49
2	Ag 328.068†	13.5	-14.4	-0.1860	µg/L	-0.1860	ppb	13:29:55
2	As 188.979†	-0.4	-0.0	-0.1326	µg/L	-0.1326	ppb	13:30:15
2	B 249.677†	248.3	34.2	2.6300	µg/L	2.6300	ppb	13:30:15
2	Ba 233.527†	-50.3	-4.8	-0.2870	µg/L	-0.2870	ppb	13:30:15
2	Be 313.107†	1509.3	87.6	0.1393	µg/L	0.1393	ppb	13:29:55
2	Cd 226.502†	-54.8	1.7	0.1241	µg/L	0.1241	ppb	13:30:15
2	Co 228.616†	-15.7	-1.8	-0.2113	µg/L	-0.2113	ppb	13:30:15
2	Cr 267.716†	-26.2	7.3	0.3563	µg/L	0.3563	ppb	13:30:15
2	Cu 324.752†	2890.1	331.8	2.7352	µg/L	2.7352	ppb	13:29:55
2	Mn 257.610†	106.6	4.3	0.0328	µg/L	0.0328	ppb	13:30:15
2	Mo 202.031†	-2.4	-1.5	-0.3547	µg/L	-0.3547	ppb	13:30:15
2	Ni 231.604†	120.2	-4.5	-0.6116	µg/L	-0.6116	ppb	13:30:15
2	P 214.914†	121.1	2.1	11.188	µg/L	11.188	ppb	13:30:15
2	Pb 220.353†	30.1	4.5	2.7003	µg/L	2.7003	ppb	13:30:15

2	S 181.975 Axial†	5.7	-3.2	-32.537 µg/L	-32.537 ppb	13:30:15
2	Sb 206.836†	5.3	0.7	1.4524 µg/L	1.4524 ppb	13:30:15
2	Se 196.026†	3.3	-2.2	-6.6681 µg/L	-6.6681 ppb	13:30:15
2	SiO2†	1399.6	-36.4	-13.085 µg/L	-13.085 ppb	13:30:15
2	Si 251.611†	521.8	-34.6	-4.9364 µg/L	-4.9364 ppb	13:30:15
2	Sn 189.927†	-2.7	-0.5	-0.6104 µg/L	-0.6104 ppb	13:30:15
2	Ti 334.940†	211.0	8.1	0.0326 µg/L	0.0326 ppb	13:30:15
2	Tl 190.801†	-8.8	-0.2	-0.5828 µg/L	-0.5828 ppb	13:30:15
2	U 409.014†	-76.0	-8.2	-0.8704 µg/L	-0.8704 ppb	13:29:55
2	V 292.402†	-224.3	7.0	0.1505 µg/L	0.1505 ppb	13:30:15
2	Zn 213.857†	266.8	-1.0	-0.0659 µg/L	-0.0659 ppb	13:30:15
3	Sc RADIAL	48847.2	48847.2	97.4 %		13:28:48
3	Al 396.153Radial†	10.9	-22.2	-16.124 µg/L	-16.124 ppb	13:29:08
3	Ca 317.933Radial†	157.0	-19.0	-30.470 µg/L	-30.470 ppb	13:29:08
3	Fe 238.204 Radial†	8.3	0.9	18.593 µg/L	18.593 ppb	13:29:08
3	K 766.490 Radial†	234.3	16.6	11.330 µg/L	11.330 ppb	13:28:48
3	Mg 279.077 IEC†	5.0	-3.0	-30.378 µg/L	-30.378 ppb	13:29:08
3	Na 589.592 Radial†	65.7	14.8	4.7239 µg/L	4.7239 ppb	13:28:48
3	Sr 421.552†	21.6	14.6	0.1625 µg/L	0.1625 ppb	13:29:08
3	Sc 361.383	1232408.6	1232408.6	100.44 %		13:30:21
3	Y 371.029	850997.4	850997.4	99.838 %		13:30:21
3	Ag 328.068†	63.9	35.9	0.4753 µg/L	0.4753 ppb	13:30:27
3	As 188.979†	1.9	2.2	10.951 µg/L	10.951 ppb	13:30:47
3	B 249.677†	247.3	33.7	2.5928 µg/L	2.5928 ppb	13:30:47
3	Ba 233.527†	-43.1	2.2	0.1298 µg/L	0.1298 ppb	13:30:47
3	Be 313.107†	1486.8	68.1	0.1083 µg/L	0.1083 ppb	13:30:27
3	Cd 226.502†	-48.8	7.6	0.5673 µg/L	0.5673 ppb	13:30:47
3	Co 228.616†	-16.6	-2.7	-0.3122 µg/L	-0.3122 ppb	13:30:47
3	Cr 267.716†	-28.1	5.3	0.2602 µg/L	0.2602 ppb	13:30:47
3	Cu 324.752†	2941.3	388.4	3.2008 µg/L	3.2008 ppb	13:30:27
3	Mn 257.610†	102.3	0.2	0.0041 µg/L	0.0041 ppb	13:30:47
3	Mo 202.031†	2.3	3.2	0.7378 µg/L	0.7378 ppb	13:30:47
3	Ni 231.604†	124.8	0.2	0.0256 µg/L	0.0256 ppb	13:30:47
3	P 214.914†	130.7	11.9	65.988 µg/L	65.988 ppb	13:30:47
3	Pb 220.353†	31.0	5.5	3.2948 µg/L	3.2948 ppb	13:30:47
3	S 181.975 Axial†	6.5	-2.4	-24.916 µg/L	-24.916 ppb	13:30:47
3	Sb 206.836†	5.4	0.8	1.6287 µg/L	1.6287 ppb	13:30:47
3	Se 196.026†	7.2	1.7	5.2920 µg/L	5.2920 ppb	13:30:47
3	SiO2†	1395.3	-37.9	-13.628 µg/L	-13.628 ppb	13:30:47
3	Si 251.611†	533.7	-21.7	-3.2412 µg/L	-3.2412 ppb	13:30:47
3	Sn 189.927†	0.1	2.2	2.7530 µg/L	2.7530 ppb	13:30:47
3	Ti 334.940†	228.8	26.2	0.1012 µg/L	0.1012 ppb	13:30:47
3	Tl 190.801†	-9.3	-0.7	-2.0395 µg/L	-2.0395 ppb	13:30:47
3	U 409.014†	-45.3	22.3	2.3590 µg/L	2.3590 ppb	13:30:27
3	V 292.402†	-212.9	17.9	0.4001 µg/L	0.4001 ppb	13:30:47
3	Zn 213.857†	267.2	-0.0	-0.0125 µg/L	-0.0125 ppb	13:30:47

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1230680.9	100.30	%	0.424				0.42%
Sc RADIAL	49172.8	98.1	%	0.57				0.58%
Y 371.029	850007.7	99.722	%	0.2585				0.26%
Ag 328.068†	25.0	0.3311	µg/L	0.46226	0.3311	ppb	0.46226	139.59%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-23.7	-17.167	µg/L	4.6419	-17.167	ppb	4.6419	27.04%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	0.6	2.8763	µg/L	7.06845	2.8763	ppb	7.06845	245.75%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	34.3	2.6368	µg/L	0.04772	2.6368	ppb	0.04772	1.81%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	0.9	0.0517	µg/L	0.30717	0.0517	ppb	0.30717	594.61%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	84.9	0.1350	µg/L	0.02484	0.1350	ppb	0.02484	18.40%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-18.0	-28.829	µg/L	2.3846	-28.829	ppb	2.3846	8.27%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	4.7	0.3451	µg/L	0.22161	0.3451	ppb	0.22161	64.22%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	0.1	0.0146	µg/L	0.48145	0.0146	ppb	0.48145	>999.9%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                5.4      0.2660 µg/L       0.08760      0.2660 ppb        0.08760  32.93%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†              354.9      2.9245 µg/L       0.24468      2.9245 ppb        0.24468   8.37%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†         0.7      13.324 µg/L        9.9102     13.324 ppb         9.9102  74.38%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†         27.6      18.827 µg/L        6.5719     18.827 ppb         6.5719  34.91%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†           -3.0     -30.954 µg/L       10.2915    -30.954 ppb        10.2915  33.25%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†                3.7      0.0274 µg/L       0.02123      0.0274 ppb        0.02123  77.37%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                1.0      0.2223 µg/L       0.54885      0.2223 ppb        0.54885 246.94%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        14.7      4.6832 µg/L       2.93379      4.6832 ppb        2.93379  62.64%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†               -1.9     -0.2598 µg/L       0.32371     -0.2598 ppb        0.32371 124.59%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                 5.5      30.392 µg/L       30.8596      30.392 ppb        30.8596 101.54%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                4.9      2.9597 µg/L       0.30441      2.9597 ppb        0.30441  10.29%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†          -2.3     -23.958 µg/L        9.0956     -23.958 ppb         9.0956  37.96%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                0.6      1.0848 µg/L       0.79439      1.0848 ppb        0.79439  73.23%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -0.4     -1.2070 µg/L       6.04724     -1.2070 ppb        6.04724 501.00%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    -33.1     -11.904 µg/L        2.5299     -11.904 ppb         2.5299  21.25%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              -27.5     -3.9826 µg/L       0.86734     -3.9826 ppb        0.86734  21.78%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                0.8      0.9236 µg/L       1.70104      0.9236 ppb        1.70104 184.18%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                7.8      0.0874 µg/L       0.07133      0.0874 ppb        0.07133  81.59%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†               11.6      0.0456 µg/L       0.05038      0.0456 ppb        0.05038 110.51%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                0.2      0.6831 µg/L       3.53021      0.6831 ppb        3.53021 516.76%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                 4.6      0.4876 µg/L       1.67477      0.4876 ppb        1.67477 343.48%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                10.5      0.2317 µg/L       0.14591      0.2317 ppb        0.14591  62.99%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†               -0.0     -0.0094 µg/L       0.05822     -0.0094 ppb        0.05822 621.12%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 12
Sample ID: 1202003798|936494|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 308
Date Collected: 1/5/2010 13:30:57
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202003798|936494|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	49169.0	49169.0	98.1	%			13:31:35
1	Al 396.153Radial†	8.5	-24.8	-17.939	µg/L	-17.939	ppb	13:31:55
1	Ca 317.933Radial†	163.5	-13.4	-21.539	µg/L	-21.539	ppb	13:31:55
1	Fe 238.204 Radial†	8.1	0.7	14.022	µg/L	14.022	ppb	13:31:55
1	K 766.490 Radial†	220.1	0.5	0.3658	µg/L	0.3658	ppb	13:31:35
1	Mg 279.077 IEC†	2.9	-5.2	-53.175	µg/L	-53.175	ppb	13:31:55
1	Na 589.592 Radial†	93.5	42.7	13.598	µg/L	13.598	ppb	13:31:35
1	Sr 421.552†	15.8	8.5	0.0948	µg/L	0.0948	ppb	13:31:55
1	Sc 361.383	1235777.4	1235777.4	100.71	%			13:32:57
1	Y 371.029	851876.8	851876.8	99.941	%			13:32:57
1	Ag 328.068†	49.0	20.9	0.2782	µg/L	0.2782	ppb	13:33:02
1	As 188.979†	2.8	3.1	14.916	µg/L	14.916	ppb	13:33:23
1	B 249.677†	240.4	26.3	2.0185	µg/L	2.0185	ppb	13:33:23
1	Ba 233.527†	-39.9	5.5	0.3289	µg/L	0.3289	ppb	13:33:23
1	Be 313.107†	1427.1	4.8	0.0076	µg/L	0.0076	ppb	13:33:02
1	Cd 226.502†	-51.8	4.8	0.3556	µg/L	0.3556	ppb	13:33:23
1	Co 228.616†	-13.6	0.3	0.0336	µg/L	0.0336	ppb	13:33:23
1	Cr 267.716†	-29.0	4.5	0.2217	µg/L	0.2217	ppb	13:33:23
1	Cu 324.752†	2880.6	320.2	2.6389	µg/L	2.6389	ppb	13:33:02
1	Mn 257.610†	137.9	35.3	0.2490	µg/L	0.2490	ppb	13:33:23
1	Mo 202.031†	0.6	1.5	0.3459	µg/L	0.3459	ppb	13:33:23
1	Ni 231.604†	118.3	-6.6	-0.8861	µg/L	-0.8861	ppb	13:33:23
1	P 214.914†	124.1	5.0	27.453	µg/L	27.453	ppb	13:33:23
1	Pb 220.353†	27.2	1.6	0.9686	µg/L	0.9686	ppb	13:33:23
1	S 181.975 Axial†	7.3	-1.7	-16.840	µg/L	-16.840	ppb	13:33:23
1	Sb 206.836†	7.2	2.6	5.0120	µg/L	5.0120	ppb	13:33:23
1	Se 196.026†	3.0	-2.4	-7.4478	µg/L	-7.4478	ppb	13:33:23
1	SiO2†	1492.4	54.6	19.615	µg/L	19.615	ppb	13:33:23
1	Si 251.611†	614.9	57.4	8.0493	µg/L	8.0493	ppb	13:33:23
1	Sn 189.927†	1.1	3.3	4.0870	µg/L	4.0870	ppb	13:33:23
1	Ti 334.940†	256.8	53.4	0.2037	µg/L	0.2037	ppb	13:33:23
1	Tl 190.801†	-10.3	-1.7	-5.2560	µg/L	-5.2560	ppb	13:33:23
1	U 409.014†	-31.8	35.8	3.7921	µg/L	3.7921	ppb	13:33:02
1	V 292.402†	-214.6	16.8	0.3747	µg/L	0.3747	ppb	13:33:23
1	Zn 213.857†	285.8	17.7	1.1050	µg/L	1.1050	ppb	13:33:23
2	Sc RADIAL	49649.8	49649.8	99.0	%			13:32:01
2	Al 396.153Radial†	6.0	-27.4	-19.823	µg/L	-19.823	ppb	13:32:21
2	Ca 317.933Radial†	166.1	-12.4	-19.888	µg/L	-19.888	ppb	13:32:21
2	Fe 238.204 Radial†	8.3	0.8	16.198	µg/L	16.198	ppb	13:32:21
2	K 766.490 Radial†	249.4	27.9	19.034	µg/L	19.034	ppb	13:32:01
2	Mg 279.077 IEC†	6.5	-1.5	-15.557	µg/L	-15.557	ppb	13:32:21
2	Na 589.592 Radial†	73.6	21.7	6.9079	µg/L	6.9079	ppb	13:32:01
2	Sr 421.552†	19.1	11.6	0.1296	µg/L	0.1296	ppb	13:32:21
2	Sc 361.383	1225878.4	1225878.4	99.904	%			13:33:28
2	Y 371.029	844297.1	844297.1	99.052	%			13:33:28
2	Ag 328.068†	51.8	24.0	0.3168	µg/L	0.3168	ppb	13:33:34
2	As 188.979†	1.0	1.4	6.5770	µg/L	6.5770	ppb	13:33:54
2	B 249.677†	247.3	35.0	2.6922	µg/L	2.6922	ppb	13:33:54
2	Ba 233.527†	-39.7	5.4	0.3176	µg/L	0.3176	ppb	13:33:54
2	Be 313.107†	1455.4	44.6	0.0708	µg/L	0.0708	ppb	13:33:34
2	Cd 226.502†	-54.1	2.0	0.1445	µg/L	0.1445	ppb	13:33:54
2	Co 228.616†	-12.3	1.4	0.1653	µg/L	0.1653	ppb	13:33:54
2	Cr 267.716†	-25.2	8.1	0.3940	µg/L	0.3940	ppb	13:33:54
2	Cu 324.752†	2863.0	325.7	2.6840	µg/L	2.6840	ppb	13:33:34
2	Mn 257.610†	141.6	40.1	0.2829	µg/L	0.2829	ppb	13:33:54
2	Mo 202.031†	-1.5	-0.6	-0.1351	µg/L	-0.1351	ppb	13:33:54
2	Ni 231.604†	125.1	1.1	0.1545	µg/L	0.1545	ppb	13:33:54
2	P 214.914†	124.2	6.1	33.573	µg/L	33.573	ppb	13:33:54
2	Pb 220.353†	26.8	1.4	0.8333	µg/L	0.8333	ppb	13:33:54

2	S 181.975 Axial†	9.8	0.9	9.2397 µg/L	9.2397 ppb	13:33:54
2	Sb 206.836†	6.5	1.9	3.7623 µg/L	3.7623 ppb	13:33:54
2	Se 196.026†	7.8	2.3	7.1982 µg/L	7.1982 ppb	13:33:54
2	SiO2†	1489.2	63.4	22.769 µg/L	22.769 ppb	13:33:54
2	Si 251.611†	606.2	53.7	7.6683 µg/L	7.6683 ppb	13:33:54
2	Sn 189.927†	-1.9	0.3	0.3083 µg/L	0.3083 ppb	13:33:54
2	Ti 334.940†	244.1	42.8	0.1632 µg/L	0.1632 ppb	13:33:54
2	Tl 190.801†	-7.6	1.0	3.1129 µg/L	3.1129 ppb	13:33:54
2	U 409.014†	-81.2	-14.0	-1.4847 µg/L	-1.4847 ppb	13:33:34
2	V 292.402†	-228.9	0.8	0.0161 µg/L	0.0161 ppb	13:33:54
2	Zn 213.857†	286.6	20.8	1.2928 µg/L	1.2928 ppb	13:33:54
3	Sc RADIAL	49602.9	49602.9	98.9 %		13:32:26
3	Al 396.153Radial†	11.7	-21.6	-15.662 µg/L	-15.662 ppb	13:32:47
3	Ca 317.933Radial†	169.5	-8.8	-14.186 µg/L	-14.186 ppb	13:32:47
3	Fe 238.204 Radial†	7.9	0.4	7.4410 µg/L	7.4410 ppb	13:32:47
3	K 766.490 Radial†	240.1	18.7	12.780 µg/L	12.780 ppb	13:32:26
3	Mg 279.077 IEC†	2.9	-5.2	-53.239 µg/L	-53.239 ppb	13:32:47
3	Na 589.592 Radial†	79.8	28.0	8.9145 µg/L	8.9145 ppb	13:32:26
3	Sr 421.552†	13.8	6.2	0.0697 µg/L	0.0697 ppb	13:32:47
3	Sc 361.383	1233085.8	1233085.8	100.49 %		13:34:00
3	Y 371.029	850047.8	850047.8	99.726 %		13:34:00
3	Ag 328.068†	70.5	42.3	0.5589 µg/L	0.5589 ppb	13:34:06
3	As 188.979†	2.2	2.5	12.236 µg/L	12.236 ppb	13:34:26
3	B 249.677†	243.5	29.8	2.2955 µg/L	2.2955 ppb	13:34:26
3	Ba 233.527†	-47.3	-1.9	-0.1131 µg/L	-0.1131 ppb	13:34:26
3	Be 313.107†	1435.9	16.7	0.0265 µg/L	0.0265 ppb	13:34:06
3	Cd 226.502†	-49.1	7.3	0.5494 µg/L	0.5494 ppb	13:34:26
3	Co 228.616†	-13.6	0.3	0.0339 µg/L	0.0339 ppb	13:34:26
3	Cr 267.716†	-23.7	9.8	0.4770 µg/L	0.4770 ppb	13:34:26
3	Cu 324.752†	2860.9	306.8	2.5282 µg/L	2.5282 ppb	13:34:06
3	Mn 257.610†	134.8	32.6	0.2289 µg/L	0.2289 ppb	13:34:26
3	Mo 202.031†	2.8	3.7	0.8736 µg/L	0.8736 ppb	13:34:26
3	Ni 231.604†	125.1	0.5	0.0656 µg/L	0.0656 ppb	13:34:26
3	P 214.914†	125.6	6.7	37.210 µg/L	37.210 ppb	13:34:26
3	Pb 220.353†	31.7	6.1	3.6704 µg/L	3.6704 ppb	13:34:26
3	S 181.975 Axial†	5.4	-3.5	-36.132 µg/L	-36.132 ppb	13:34:26
3	Sb 206.836†	9.6	5.0	9.7367 µg/L	9.7367 ppb	13:34:26
3	Se 196.026†	4.2	-1.3	-3.9903 µg/L	-3.9903 ppb	13:34:26
3	SiO2†	1475.5	41.1	14.760 µg/L	14.760 ppb	13:34:26
3	Si 251.611†	599.8	43.7	6.1946 µg/L	6.1946 ppb	13:34:26
3	Sn 189.927†	-1.3	0.8	1.0364 µg/L	1.0364 ppb	13:34:26
3	Ti 334.940†	236.0	33.2	0.1268 µg/L	0.1268 ppb	13:34:26
3	Tl 190.801†	-11.3	-2.7	-8.4156 µg/L	-8.4156 ppb	13:34:26
3	U 409.014†	-24.4	43.0	4.5626 µg/L	4.5626 ppb	13:34:06
3	V 292.402†	-217.5	13.4	0.3059 µg/L	0.3059 ppb	13:34:26
3	Zn 213.857†	280.5	13.1	0.8119 µg/L	0.8119 ppb	13:34:26

Mean Data: 1202003798|936494|1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1231580.5	100.37	%	0.417				0.42%
Sc RADIAL	49473.9	98.7	%	0.53				0.54%
Y 371.029	848740.6	99.573	%	0.4640				0.47%
Ag 328.068†	29.1	0.3847	µg/L	0.15214	0.3847	ppb	0.15214	39.55%
Al 396.153Radial†	-24.6	-17.808	µg/L	2.0833	-17.808	ppb	2.0833	11.70%
As 188.979†	2.3	11.243	µg/L	4.2574	11.243	ppb	4.2574	37.87%
B 249.677†	30.4	2.3354	µg/L	0.33863	2.3354	ppb	0.33863	14.50%
Ba 233.527†	3.0	0.1778	µg/L	0.25199	0.1778	ppb	0.25199	141.74%
Be 313.107†	22.0	0.0350	µg/L	0.03249	0.0350	ppb	0.03249	92.95%
Ca 317.933Radial†	-11.6	-18.538	µg/L	3.8578	-18.538	ppb	3.8578	20.81%
Cd 226.502†	4.7	0.3498	µg/L	0.20253	0.3498	ppb	0.20253	57.89%
Co 228.616†	0.7	0.0776	µg/L	0.07594	0.0776	ppb	0.07594	97.86%
Cr 267.716†	7.4	0.3642	µg/L	0.13022	0.3642	ppb	0.13022	35.75%
Cu 324.752†	317.6	2.6170	µg/L	0.08017	2.6170	ppb	0.08017	3.06%
Fe 238.204 Radial†	0.6	12.554	µg/L	4.5594	12.554	ppb	4.5594	36.32%
K 766.490 Radial†	15.7	10.727	µg/L	9.5020	10.727	ppb	9.5020	88.58%
Mg 279.077 IEC†	-4.0	-40.657	µg/L	21.7371	-40.657	ppb	21.7371	53.46%
Mn 257.610†	36.0	0.2536	µg/L	0.02726	0.2536	ppb	0.02726	10.75%
Mo 202.031†	1.5	0.3615	µg/L	0.50455	0.3615	ppb	0.50455	139.59%
Na 589.592 Radial†	30.8	9.8068	µg/L	3.43301	9.8068	ppb	3.43301	35.01%

Ni 231.604†	-1.7	-0.2220	µg/L	0.57684	-0.2220	ppb	0.57684 259.88%
P 214.914†	5.9	32.745	µg/L	4.9309	32.745	ppb	4.9309 15.06%
Pb 220.353†	3.1	1.8241	µg/L	1.60038	1.8241	ppb	1.60038 87.73%
S 181.975 Axial†	-1.4	-14.577	µg/L	22.7702	-14.577	ppb	22.7702 156.20%
Sb 206.836†	3.2	6.1703	µg/L	3.15115	6.1703	ppb	3.15115 51.07%
Se 196.026†	-0.5	-1.4133	µg/L	7.65555	-1.4133	ppb	7.65555 541.68%
SiO2†	53.0	19.048	µg/L	4.0345	19.048	ppb	4.0345 21.18%
Si 251.611†	51.6	7.3040	µg/L	0.97953	7.3040	ppb	0.97953 13.41%
Sn 189.927†	1.5	1.8106	µg/L	2.00479	1.8106	ppb	2.00479 110.73%
Sr 421.552†	8.8	0.0980	µg/L	0.03012	0.0980	ppb	0.03012 30.73%
Ti 334.940†	43.1	0.1646	µg/L	0.03847	0.1646	ppb	0.03847 23.38%
Tl 190.801†	-1.1	-3.5196	µg/L	5.95719	-3.5196	ppb	5.95719 169.26%
U 409.014†	21.6	2.2900	µg/L	3.29156	2.2900	ppb	3.29156 143.74%
V 292.402†	10.4	0.2322	µg/L	0.19033	0.2322	ppb	0.19033 81.96%
Zn 213.857†	17.2	1.0699	µg/L	0.24236	1.0699	ppb	0.24236 22.65%

Sequence No.: 13
Sample ID: 1202003799|936494|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 309
Date Collected: 1/5/2010 13:34:35
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202003799|936494|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	49614.5	49614.5	98.9	%			13:35:08
1	Al 396.153Radial†	7067.2	7109.5	5129.8	µg/L	5129.8	ppb	13:35:08
1	Ca 317.933Radial†	3284.4	3139.4	5035.0	µg/L	5035.0	ppb	13:35:28
1	Fe 238.204 Radial†	272.2	267.5	5300.6	µg/L	5300.6	ppb	13:35:28
1	K 766.490 Radial†	7622.9	7480.6	5100.6	µg/L	5100.6	ppb	13:35:08
1	Mg 279.077 IEC†	507.4	504.7	5175.9	µg/L	5175.9	ppb	13:35:28
1	Na 589.592 Radial†	16223.0	16344.1	5207.7	µg/L	5207.7	ppb	13:35:08
1	Sr 421.552†	44706.1	45177.2	503.99	µg/L	503.99	ppb	13:35:08
1	Sc 361.383	1227283.7	1227283.7	100.02	%			13:36:31
1	Y 371.029	842595.1	842595.1	98.852	%			13:36:31
1	Ag 328.068†	37139.1	37104.5	491.38	µg/L	491.38	ppb	13:36:36
1	As 188.979†	105.2	105.5	511.48	µg/L	511.48	ppb	13:36:57
1	B 249.677†	6656.5	6442.8	494.65	µg/L	494.65	ppb	13:36:36
1	Ba 233.527†	8551.4	8594.9	511.07	µg/L	511.07	ppb	13:36:36
1	Be 313.107†	314554.3	313084.4	497.76	µg/L	497.76	ppb	13:36:31
1	Cd 226.502†	6651.3	6706.2	500.13	µg/L	500.13	ppb	13:36:36
1	Co 228.616†	4359.8	4372.8	503.78	µg/L	503.78	ppb	13:36:36
1	Cr 267.716†	10318.6	10350.0	506.56	µg/L	506.56	ppb	13:36:36
1	Cu 324.752†	63524.4	60972.7	502.71	µg/L	502.71	ppb	13:36:36
1	Mn 257.610†	72834.0	72719.1	509.59	µg/L	509.59	ppb	13:36:31
1	Mo 202.031†	2125.9	2126.4	496.39	µg/L	496.39	ppb	13:36:57
1	Ni 231.604†	3889.1	3764.4	506.23	µg/L	506.23	ppb	13:36:36
1	P 214.914†	233.3	115.0	589.19	µg/L	589.19	ppb	13:36:57
1	Pb 220.353†	889.7	864.1	518.10	µg/L	518.10	ppb	13:36:57
1	S 181.975 Axial†	510.5	501.6	5116.0	µg/L	5116.0	ppb	13:36:57
1	Sb 206.836†	273.2	268.6	519.20	µg/L	519.20	ppb	13:36:57
1	Se 196.026†	166.4	160.9	495.25	µg/L	495.25	ppb	13:36:57
1	SiO2†	30955.2	29522.3	10603	µg/L	10603	ppb	13:36:36
1	Si 251.611†	35076.8	34517.2	4893.6	µg/L	4893.6	ppb	13:36:36
1	Sn 189.927†	426.1	428.2	534.95	µg/L	534.95	ppb	13:36:57
1	Ti 334.940†	132511.8	132285.9	500.86	µg/L	500.86	ppb	13:36:31
1	Tl 190.801†	155.5	164.0	512.23	µg/L	512.23	ppb	13:36:57
1	U 409.014†	4857.8	4924.3	520.77	µg/L	520.77	ppb	13:36:36
1	V 292.402†	23196.2	23421.9	513.36	µg/L	513.36	ppb	13:36:36
1	Zn 213.857†	8194.7	7927.1	491.18	µg/L	491.18	ppb	13:36:36
2	Sc RADIAL	49554.1	49554.1	98.8	%			13:35:34
2	Al 396.153Radial†	7124.8	7176.5	5178.6	µg/L	5178.6	ppb	13:35:34
2	Ca 317.933Radial†	3279.3	3138.2	5033.1	µg/L	5033.1	ppb	13:35:54
2	Fe 238.204 Radial†	272.5	268.2	5313.0	µg/L	5313.0	ppb	13:35:54
2	K 766.490 Radial†	7701.6	7569.6	5161.3	µg/L	5161.3	ppb	13:35:34
2	Mg 279.077 IEC†	507.9	505.9	5187.8	µg/L	5187.8	ppb	13:35:54
2	Na 589.592 Radial†	16389.9	16533.0	5267.9	µg/L	5267.9	ppb	13:35:34
2	Sr 421.552†	45181.1	45713.0	509.97	µg/L	509.97	ppb	13:35:34
2	Sc 361.383	1240046.6	1240046.6	101.06	%			13:37:03
2	Y 371.029	853636.8	853636.8	100.15	%			13:37:03
2	Ag 328.068†	37367.1	36947.9	489.31	µg/L	489.31	ppb	13:37:08
2	As 188.979†	106.5	105.7	512.83	µg/L	512.83	ppb	13:37:29
2	B 249.677†	6712.4	6429.6	493.63	µg/L	493.63	ppb	13:37:08
2	Ba 233.527†	8641.5	8596.1	511.14	µg/L	511.14	ppb	13:37:08
2	Be 313.107†	317891.0	313149.2	497.86	µg/L	497.86	ppb	13:37:03
2	Cd 226.502†	6704.5	6690.4	498.95	µg/L	498.95	ppb	13:37:08
2	Co 228.616†	4364.1	4332.2	499.09	µg/L	499.09	ppb	13:37:08
2	Cr 267.716†	10425.7	10349.8	506.55	µg/L	506.55	ppb	13:37:08
2	Cu 324.752†	63813.7	60605.2	499.69	µg/L	499.69	ppb	13:37:08
2	Mn 257.610†	73455.9	72585.0	508.66	µg/L	508.66	ppb	13:37:03
2	Mo 202.031†	2122.3	2101.0	490.45	µg/L	490.45	ppb	13:37:29
2	Ni 231.604†	3966.8	3801.2	511.18	µg/L	511.18	ppb	13:37:08
2	P 214.914†	227.1	106.5	541.74	µg/L	541.74	ppb	13:37:29
2	Pb 220.353†	892.7	858.0	514.42	µg/L	514.42	ppb	13:37:29

2	S 181.975 Axial†	511.7	497.5	5074.0 µg/L	5074.0 ppb	13:37:29
2	Sb 206.836†	275.0	267.6	517.29 µg/L	517.29 ppb	13:37:29
2	Se 196.026†	163.9	156.7	482.56 µg/L	482.56 ppb	13:37:29
2	SiO2†	31052.5	29300.0	10523 µg/L	10523 ppb	13:37:08
2	Si 251.611†	35288.7	34366.0	4872.2 µg/L	4872.2 ppb	13:37:08
2	Sn 189.927†	426.7	424.4	530.16 µg/L	530.16 ppb	13:37:29
2	Ti 334.940†	133543.0	131942.7	499.56 µg/L	499.56 ppb	13:37:03
2	Tl 190.801†	157.5	164.5	513.70 µg/L	513.70 ppb	13:37:29
2	U 409.014†	4864.0	4880.4	516.12 µg/L	516.12 ppb	13:37:08
2	V 292.402†	23374.4	23359.5	511.96 µg/L	511.96 ppb	13:37:08
2	Zn 213.857†	8213.9	7861.8	487.07 µg/L	487.07 ppb	13:37:08
3	Sc RADIAL	50369.2	50369.2	100 %		13:36:00
3	Al 396.153Radial†	7126.6	7061.6	5096.6 µg/L	5096.6 ppb	13:36:00
3	Ca 317.933Radial†	3291.1	3096.3	4965.9 µg/L	4965.9 ppb	13:36:20
3	Fe 238.204 Radial†	272.3	263.5	5219.9 µg/L	5219.9 ppb	13:36:20
3	K 766.490 Radial†	7714.6	7456.5	5084.2 µg/L	5084.2 ppb	13:36:00
3	Mg 279.077 IEC†	506.8	496.4	5090.5 µg/L	5090.5 ppb	13:36:20
3	Na 589.592 Radial†	16362.3	16237.1	5173.6 µg/L	5173.6 ppb	13:36:00
3	Sr 421.552†	45233.5	45025.2	502.30 µg/L	502.30 ppb	13:36:00
3	Sc 361.383	1248181.8	1248181.8	101.72 %		13:37:35
3	Y 371.029	858563.1	858563.1	100.73 %		13:37:35
3	Ag 328.068†	36450.2	35805.6	474.15 µg/L	474.15 ppb	13:37:41
3	As 188.979†	97.2	95.9	464.97 µg/L	464.97 ppb	13:38:01
3	B 249.677†	6555.4	6232.0	478.44 µg/L	478.44 ppb	13:37:41
3	Ba 233.527†	8329.0	8233.2	489.56 µg/L	489.56 ppb	13:37:41
3	Be 313.107†	312991.2	306282.2	486.94 µg/L	486.94 ppb	13:37:35
3	Cd 226.502†	6436.7	6384.0	476.06 µg/L	476.06 ppb	13:37:41
3	Co 228.616†	4206.1	4148.7	477.90 µg/L	477.90 ppb	13:37:41
3	Cr 267.716†	9973.7	9838.2	481.51 µg/L	481.51 ppb	13:37:41
3	Cu 324.752†	61715.4	58130.9	479.30 µg/L	479.30 ppb	13:37:41
3	Mn 257.610†	72463.2	71135.2	498.50 µg/L	498.50 ppb	13:37:35
3	Mo 202.031†	1987.7	1955.0	456.39 µg/L	456.39 ppb	13:38:01
3	Ni 231.604†	3809.3	3620.8	486.92 µg/L	486.92 ppb	13:37:41
3	P 214.914†	221.3	99.3	503.24 µg/L	503.24 ppb	13:38:01
3	Pb 220.353†	841.6	801.9	480.77 µg/L	480.77 ppb	13:38:01
3	S 181.975 Axial†	486.3	469.2	4785.7 µg/L	4785.7 ppb	13:38:01
3	Sb 206.836†	260.7	251.7	486.61 µg/L	486.61 ppb	13:38:01
3	Se 196.026†	164.3	156.0	480.37 µg/L	480.37 ppb	13:38:01
3	SiO2†	30261.6	28322.3	10172 µg/L	10172 ppb	13:37:41
3	Si 251.611†	34306.7	33173.0	4704.3 µg/L	4704.3 ppb	13:37:41
3	Sn 189.927†	390.4	386.0	482.27 µg/L	482.27 ppb	13:38:01
3	Ti 334.940†	131637.8	129208.5	489.21 µg/L	489.21 ppb	13:37:35
3	Tl 190.801†	146.3	152.4	476.23 µg/L	476.23 ppb	13:38:01
3	U 409.014†	4743.0	4730.1	500.20 µg/L	500.20 ppb	13:37:41
3	V 292.402†	22485.7	22335.1	489.44 µg/L	489.44 ppb	13:37:41
3	Zn 213.857†	8003.7	7602.1	471.00 µg/L	471.00 ppb	13:37:41

Mean Data: 1202003799|936494|1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1238504.1	100.93	%	0.858				0.85%
Sc RADIAL	49845.9	99.4	%	0.91				0.91%
Y 371.029	851598.3	99.908	%	0.9593				0.96%
Ag 328.068†	36619.3	484.95	µg/L	9.410	484.95	ppb	9.410	1.94%
Al 396.153Radial†	7115.9	5135.0	µg/L	41.22	5135.0	ppb	41.22	0.80%
As 188.979†	102.4	496.43	µg/L	27.249	496.43	ppb	27.249	5.49%
B 249.677†	6368.1	488.91	µg/L	9.081	488.91	ppb	9.081	1.86%
Ba 233.527†	8474.7	503.92	µg/L	12.440	503.92	ppb	12.440	2.47%
Be 313.107†	310838.6	494.19	µg/L	6.274	494.19	ppb	6.274	1.27%
Ca 317.933Radial†	3124.7	5011.3	µg/L	39.37	5011.3	ppb	39.37	0.79%
Cd 226.502†	6593.5	491.72	µg/L	13.568	491.72	ppb	13.568	2.76%
Co 228.616†	4284.6	493.59	µg/L	13.788	493.59	ppb	13.788	2.79%
Cr 267.716†	10179.3	498.20	µg/L	14.457	498.20	ppb	14.457	2.90%
Cu 324.752†	59902.9	493.90	µg/L	12.736	493.90	ppb	12.736	2.58%
Fe 238.204 Radial†	266.4	5277.8	µg/L	50.53	5277.8	ppb	50.53	0.96%
K 766.490 Radial†	7502.2	5115.4	µg/L	40.63	5115.4	ppb	40.63	0.79%
Mg 279.077 IEC†	502.3	5151.4	µg/L	53.07	5151.4	ppb	53.07	1.03%
Mn 257.610†	72146.4	505.58	µg/L	6.153	505.58	ppb	6.153	1.22%
Mo 202.031†	2060.8	481.07	µg/L	21.584	481.07	ppb	21.584	4.49%
Na 589.592 Radial†	16371.4	5216.4	µg/L	47.74	5216.4	ppb	47.74	0.92%

Ni 231.604†	3728.8	501.44 µg/L	12.818	501.44 ppb	12.818	2.56%
P 214.914†	106.9	544.72 µg/L	43.052	544.72 ppb	43.052	7.90%
Pb 220.353†	841.4	504.43 µg/L	20.571	504.43 ppb	20.571	4.08%
S 181.975 Axial†	489.4	4991.9 µg/L	179.80	4991.9 ppb	179.80	3.60%
Sb 206.836†	262.6	507.70 µg/L	18.292	507.70 ppb	18.292	3.60%
Se 196.026†	157.9	486.06 µg/L	8.037	486.06 ppb	8.037	1.65%
SiO2†	29048.2	10433 µg/L	229.3	10433 ppb	229.3	2.20%
Si 251.611†	34018.7	4823.4 µg/L	103.70	4823.4 ppb	103.70	2.15%
Sn 189.927†	412.9	515.79 µg/L	29.130	515.79 ppb	29.130	5.65%
Sr 421.552†	45305.1	505.42 µg/L	4.030	505.42 ppb	4.030	0.80%
Ti 334.940†	131145.7	496.54 µg/L	6.387	496.54 ppb	6.387	1.29%
Tl 190.801†	160.3	500.72 µg/L	21.220	500.72 ppb	21.220	4.24%
U 409.014†	4844.9	512.36 µg/L	10.787	512.36 ppb	10.787	2.11%
V 292.402†	23038.8	504.92 µg/L	13.423	504.92 ppb	13.423	2.66%
Zn 213.857†	7797.0	483.08 µg/L	10.663	483.08 ppb	10.663	2.21%

Sequence No.: 14
Sample ID: 243386001|936494|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 310
Date Collected: 1/5/2010 13:38:10
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 243386001|936494|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	49689.8	49689.8	99.1	%			13:38:58
1	Al 396.153Radial†	36.8	3.8	2.7349	µg/L	2.7349	ppb	13:39:18
1	Ca 317.933Radial†	181.5	3.0	4.7740	µg/L	4.7740	ppb	13:39:18
1	Fe 238.204 Radial†	9.8	2.3	44.870	µg/L	44.870	ppb	13:39:18
1	K 766.490 Radial†	423.4	203.4	138.66	µg/L	138.66	ppb	13:38:58
1	Mg 279.077 IEC†	6.1	-2.0	-20.670	µg/L	-20.670	ppb	13:39:18
1	Na 589.592 Radial†	396.5	347.5	110.71	µg/L	110.71	ppb	13:38:58
1	Sr 421.552†	34.0	26.6	0.2969	µg/L	0.2969	ppb	13:39:18
1	Sc 361.383	1224017.8	1224017.8	99.752	%			13:40:50
1	Y 371.029	842553.4	842553.4	98.847	%			13:40:50
1	Ag 328.068†	62.9	35.3	0.4689	µg/L	0.4689	ppb	13:40:55
1	As 188.979†	0.2	0.6	2.6824	µg/L	2.6824	ppb	13:41:16
1	B 249.677†	488.1	276.8	21.307	µg/L	21.307	ppb	13:41:16
1	Ba 233.527†	-38.0	7.0	0.4167	µg/L	0.4167	ppb	13:41:16
1	Be 313.107†	1483.1	74.6	0.1183	µg/L	0.1183	ppb	13:40:55
1	Cd 226.502†	-49.9	6.2	0.4495	µg/L	0.4495	ppb	13:41:16
1	Co 228.616†	-11.6	2.2	0.2469	µg/L	0.2469	ppb	13:41:16
1	Cr 267.716†	-22.2	11.1	0.5426	µg/L	0.5426	ppb	13:41:16
1	Cu 324.752†	2983.1	450.4	3.7142	µg/L	3.7142	ppb	13:40:55
1	Mn 257.610†	188.6	87.5	0.6180	µg/L	0.6180	ppb	13:41:16
1	Mo 202.031†	-1.5	-0.6	-0.1398	µg/L	-0.1398	ppb	13:41:16
1	Ni 231.604†	124.3	0.6	0.0786	µg/L	0.0786	ppb	13:41:16
1	P 214.914†	126.7	8.8	48.699	µg/L	48.699	ppb	13:41:16
1	Pb 220.353†	31.8	6.4	3.8567	µg/L	3.8567	ppb	13:41:16
1	S 181.975 Axial†	12.7	3.9	39.390	µg/L	39.390	ppb	13:41:16
1	Sb 206.836†	6.9	2.4	4.6658	µg/L	4.6658	ppb	13:41:16
1	Se 196.026†	6.3	0.8	2.5513	µg/L	2.5513	ppb	13:41:16
1	SiO2†	9344.3	7940.3	2851.7	µg/L	2851.7	ppb	13:40:55
1	Si 251.611†	9771.0	9242.1	1323.3	µg/L	1323.3	ppb	13:40:55
1	Sn 189.927†	-2.0	0.2	0.1994	µg/L	0.1994	ppb	13:41:16
1	Ti 334.940†	402.3	201.8	0.7641	µg/L	0.7641	ppb	13:41:16
1	Tl 190.801†	-8.1	0.5	1.4683	µg/L	1.4683	ppb	13:41:16
1	U 409.014†	-55.9	11.3	1.1851	µg/L	1.1851	ppb	13:40:55
1	V 292.402†	-216.8	12.6	0.2778	µg/L	0.2778	ppb	13:41:16
1	Zn 213.857†	301.0	35.6	2.2100	µg/L	2.2100	ppb	13:41:16
2	Sc RADIAL	49296.8	49296.8	98.3	%			13:39:39
2	Al 396.153Radial†	32.0	-0.8	-0.5971	µg/L	-0.5971	ppb	13:39:59
2	Ca 317.933Radial†	184.5	7.5	12.033	µg/L	12.033	ppb	13:39:59
2	Fe 238.204 Radial†	8.0	0.6	11.303	µg/L	11.303	ppb	13:39:59
2	K 766.490 Radial†	418.4	201.6	137.47	µg/L	137.47	ppb	13:39:39
2	Mg 279.077 IEC†	8.2	0.2	2.2322	µg/L	2.2322	ppb	13:39:59
2	Na 589.592 Radial†	408.5	362.8	115.61	µg/L	115.61	ppb	13:39:39
2	Sr 421.552†	29.9	22.8	0.2540	µg/L	0.2540	ppb	13:39:59
2	Sc 361.383	1224302.5	1224302.5	99.775	%			13:41:21
2	Y 371.029	843135.5	843135.5	98.916	%			13:41:21
2	Ag 328.068†	47.7	20.0	0.2655	µg/L	0.2655	ppb	13:41:27
2	As 188.979†	2.3	2.6	12.663	µg/L	12.663	ppb	13:41:47
2	B 249.677†	476.8	265.4	20.440	µg/L	20.440	ppb	13:41:47
2	Ba 233.527†	-39.1	5.9	0.3512	µg/L	0.3512	ppb	13:41:47
2	Be 313.107†	1443.5	34.5	0.0547	µg/L	0.0547	ppb	13:41:27
2	Cd 226.502†	-49.2	6.9	0.5109	µg/L	0.5109	ppb	13:41:47
2	Co 228.616†	-14.1	-0.4	-0.0480	µg/L	-0.0480	ppb	13:41:47
2	Cr 267.716†	-21.5	11.8	0.5764	µg/L	0.5764	ppb	13:41:47
2	Cu 324.752†	2957.5	424.1	3.4941	µg/L	3.4941	ppb	13:41:27
2	Mn 257.610†	173.3	72.0	0.5057	µg/L	0.5057	ppb	13:41:47
2	Mo 202.031†	0.2	1.1	0.2531	µg/L	0.2531	ppb	13:41:47
2	Ni 231.604†	117.4	-6.4	-0.8562	µg/L	-0.8562	ppb	13:41:47
2	P 214.914†	125.3	7.4	40.777	µg/L	40.777	ppb	13:41:47
2	Pb 220.353†	24.6	-0.7	-0.4122	µg/L	-0.4122	ppb	13:41:47

2	S 181.975 Axial†	10.2	1.3	13.483 µg/L	13.483 ppb	13:41:47
2	Sb 206.836†	8.0	3.4	6.6463 µg/L	6.6463 ppb	13:41:47
2	Se 196.026†	8.6	3.1	9.6425 µg/L	9.6425 ppb	13:41:47
2	SiO2†	9027.5	7620.6	2736.9 µg/L	2736.9 ppb	13:41:27
2	Si 251.611†	9412.5	8880.6	1271.5 µg/L	1271.5 ppb	13:41:27
2	Sn 189.927†	-0.4	1.8	2.1908 µg/L	2.1908 ppb	13:41:47
2	Ti 334.940†	378.8	178.1	0.6741 µg/L	0.6741 ppb	13:41:47
2	Tl 190.801†	-8.9	-0.3	-1.0016 µg/L	-1.0016 ppb	13:41:47
2	U 409.014†	-44.2	23.1	2.4410 µg/L	2.4410 ppb	13:41:27
2	V 292.402†	-219.2	10.3	0.2295 µg/L	0.2295 ppb	13:41:47
2	Zn 213.857†	295.0	29.5	1.8426 µg/L	1.8426 ppb	13:41:47
3	Sc RADIAL	49502.8	49502.8	98.7 %		13:40:20
3	Al 396.153Radial†	43.5	10.6	7.7099 µg/L	7.7099 ppb	13:40:40
3	Ca 317.933Radial†	177.9	0.1	0.1028 µg/L	0.1028 ppb	13:40:40
3	Fe 238.204 Radial†	8.9	1.4	28.024 µg/L	28.024 ppb	13:40:40
3	K 766.490 Radial†	426.7	208.3	142.04 µg/L	142.04 ppb	13:40:20
3	Mg 279.077 IEC†	3.5	-4.6	-47.304 µg/L	-47.304 ppb	13:40:40
3	Na 589.592 Radial†	403.4	356.0	113.43 µg/L	113.43 ppb	13:40:20
3	Sr 421.552†	30.8	23.5	0.2625 µg/L	0.2625 ppb	13:40:40
3	Sc 361.383	1226730.2	1226730.2	99.973 %		13:41:53
3	Y 371.029	844903.9	844903.9	99.123 %		13:41:53
3	Ag 328.068†	52.8	25.0	0.3317 µg/L	0.3317 ppb	13:41:58
3	As 188.979†	-0.2	0.2	0.7636 µg/L	0.7636 ppb	13:42:19
3	B 249.677†	431.6	219.2	16.877 µg/L	16.877 ppb	13:42:19
3	Ba 233.527†	-44.0	1.2	0.0698 µg/L	0.0698 ppb	13:42:19
3	Be 313.107†	1490.4	78.6	0.1248 µg/L	0.1248 ppb	13:41:58
3	Cd 226.502†	-51.8	4.4	0.3222 µg/L	0.3222 ppb	13:42:19
3	Co 228.616†	-13.7	0.1	0.0087 µg/L	0.0087 ppb	13:42:19
3	Cr 267.716†	-32.0	1.3	0.0649 µg/L	0.0649 ppb	13:42:19
3	Cu 324.752†	2963.9	424.6	3.4999 µg/L	3.4999 ppb	13:41:58
3	Mn 257.610†	153.5	51.9	0.3671 µg/L	0.3671 ppb	13:42:19
3	Mo 202.031†	-1.0	-0.1	-0.0307 µg/L	-0.0307 ppb	13:42:19
3	Ni 231.604†	130.1	6.1	0.8249 µg/L	0.8249 ppb	13:42:19
3	P 214.914†	122.9	4.7	25.629 µg/L	25.629 ppb	13:42:19
3	Pb 220.353†	27.2	1.9	1.1074 µg/L	1.1074 ppb	13:42:19
3	S 181.975 Axial†	11.4	2.5	25.945 µg/L	25.945 ppb	13:42:19
3	Sb 206.836†	5.8	1.3	2.4686 µg/L	2.4686 ppb	13:42:19
3	Se 196.026†	6.8	1.4	4.2773 µg/L	4.2773 ppb	13:42:19
3	SiO2†	8284.1	6859.1	2463.4 µg/L	2463.4 ppb	13:41:58
3	Si 251.611†	8503.8	7953.0	1138.6 µg/L	1138.6 ppb	13:41:58
3	Sn 189.927†	-0.2	1.9	2.4114 µg/L	2.4114 ppb	13:42:19
3	Ti 334.940†	342.3	140.8	0.5334 µg/L	0.5334 ppb	13:42:19
3	Tl 190.801†	-7.0	1.6	5.0069 µg/L	5.0069 ppb	13:42:19
3	U 409.014†	-77.1	-9.8	-1.0399 µg/L	-1.0399 ppb	13:41:58
3	V 292.402†	-221.4	8.5	0.1842 µg/L	0.1842 ppb	13:42:19
3	Zn 213.857†	291.8	25.8	1.5957 µg/L	1.5957 ppb	13:42:19

Mean Data: 243386001|936494|1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1225016.8	99.834	%	0.1215				0.12%
Sc RADIAL	49496.5	98.7	%	0.39				0.40%
Y 371.029	843530.9	98.962	%	0.1436				0.15%
Ag 328.068†	26.8	0.3554	µg/L	0.10375	0.3554	ppb	0.10375	29.19%
Al 396.153Radial†	4.5	3.2826	µg/L	4.18050	3.2826	ppb	4.18050	127.35%
As 188.979†	1.1	5.3696	µg/L	6.38852	5.3696	ppb	6.38852	118.98%
B 249.677†	253.8	19.541	µg/L	2.3475	19.541	ppb	2.3475	12.01%
Ba 233.527†	4.7	0.2792	µg/L	0.18435	0.2792	ppb	0.18435	66.02%
Be 313.107†	62.6	0.0993	µg/L	0.03874	0.0993	ppb	0.03874	39.03%
Ca 317.933Radial†	3.5	5.6367	µg/L	6.01178	5.6367	ppb	6.01178	106.66%
Cd 226.502†	5.8	0.4275	µg/L	0.09626	0.4275	ppb	0.09626	22.52%
Co 228.616†	0.6	0.0692	µg/L	0.15650	0.0692	ppb	0.15650	226.27%
Cr 267.716†	8.1	0.3946	µg/L	0.28603	0.3946	ppb	0.28603	72.48%
Cu 324.752†	433.0	3.5694	µg/L	0.12543	3.5694	ppb	0.12543	3.51%
Fe 238.204 Radial†	1.4	28.066	µg/L	16.7832	28.066	ppb	16.7832	59.80%
K 766.490 Radial†	204.4	139.39	µg/L	2.370	139.39	ppb	2.370	1.70%
Mg 279.077 IEC†	-2.1	-21.914	µg/L	24.7917	-21.914	ppb	24.7917	113.13%
Mn 257.610†	70.5	0.4969	µg/L	0.12570	0.4969	ppb	0.12570	25.29%
Mo 202.031†	0.1	0.0275	µg/L	0.20281	0.0275	ppb	0.20281	736.42%
Na 589.592 Radial†	355.4	113.25	µg/L	2.457	113.25	ppb	2.457	2.17%

Ni 231.604†	0.1	0.0158 µg/L	0.84231	0.0158 ppb	0.84231	>999.9%
P 214.914†	6.9	38.368 µg/L	11.7224	38.368 ppb	11.7224	30.55%
Pb 220.353†	2.5	1.5173 µg/L	2.16381	1.5173 ppb	2.16381	142.61%
S 181.975 Axial†	2.6	26.273 µg/L	12.9569	26.273 ppb	12.9569	49.32%
Sb 206.836†	2.4	4.5936 µg/L	2.08979	4.5936 ppb	2.08979	45.49%
Se 196.026†	1.8	5.4904 µg/L	3.69797	5.4904 ppb	3.69797	67.35%
SiO2†	7473.3	2684.0 µg/L	199.48	2684.0 ppb	199.48	7.43%
Si 251.611†	8691.9	1244.5 µg/L	95.25	1244.5 ppb	95.25	7.65%
Sn 189.927†	1.3	1.6005 µg/L	1.21844	1.6005 ppb	1.21844	76.13%
Sr 421.552†	24.3	0.2711 µg/L	0.02274	0.2711 ppb	0.02274	8.39%
Ti 334.940†	173.6	0.6572 µg/L	0.11629	0.6572 ppb	0.11629	17.70%
Tl 190.801†	0.6	1.8245 µg/L	3.02009	1.8245 ppb	3.02009	165.53%
U 409.014†	8.2	0.8621 µg/L	1.76280	0.8621 ppb	1.76280	204.48%
V 292.402†	10.4	0.2305 µg/L	0.04681	0.2305 ppb	0.04681	20.31%
Zn 213.857†	30.3	1.8827 µg/L	0.30914	1.8827 ppb	0.30914	16.42%

Sequence No.: 15
Sample ID: 1202003800|936494|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 311
Date Collected: 1/5/2010 13:42:28
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202003800|936494|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	49059.3	49059.3	97.8	%			13:43:01
1	Al 396.153Radial†	40.2	7.7	5.5274	µg/L	5.5274	ppb	13:43:21
1	Ca 317.933Radial†	175.2	-1.1	-1.7076	µg/L	-1.7076	ppb	13:43:21
1	Fe 238.204 Radial†	7.8	0.4	7.4512	µg/L	7.4512	ppb	13:43:21
1	K 766.490 Radial†	366.3	150.5	102.62	µg/L	102.62	ppb	13:43:01
1	Mg 279.077 IEC†	5.3	-2.7	-27.974	µg/L	-27.974	ppb	13:43:21
1	Na 589.592 Radial†	400.9	357.1	113.78	µg/L	113.78	ppb	13:43:01
1	Sr 421.552†	24.8	17.7	0.1973	µg/L	0.1973	ppb	13:43:21
1	Sc 361.383	1236093.3	1236093.3	100.74	%			13:44:23
1	Y 371.029	849320.8	849320.8	99.641	%			13:44:23
1	Ag 328.068†	12.4	-15.5	-0.1995	µg/L	-0.1995	ppb	13:44:28
1	As 188.979†	0.9	1.2	5.6910	µg/L	5.6910	ppb	13:44:49
1	B 249.677†	483.9	267.9	20.634	µg/L	20.634	ppb	13:44:49
1	Ba 233.527†	-40.3	5.1	0.3026	µg/L	0.3026	ppb	13:44:49
1	Be 313.107†	1410.6	-12.0	-0.0192	µg/L	-0.0192	ppb	13:44:28
1	Cd 226.502†	-57.4	-0.8	-0.0594	µg/L	-0.0594	ppb	13:44:49
1	Co 228.616†	-15.9	-2.0	-0.2310	µg/L	-0.2310	ppb	13:44:49
1	Cr 267.716†	-20.0	13.5	0.6608	µg/L	0.6608	ppb	13:44:49
1	Cu 324.752†	2994.6	432.6	3.5644	µg/L	3.5644	ppb	13:44:28
1	Mn 257.610†	162.2	59.4	0.4165	µg/L	0.4165	ppb	13:44:49
1	Mo 202.031†	0.5	1.4	0.3366	µg/L	0.3366	ppb	13:44:49
1	Ni 231.604†	128.2	3.3	0.4371	µg/L	0.4371	ppb	13:44:49
1	P 214.914†	127.0	7.8	43.456	µg/L	43.456	ppb	13:44:49
1	Pb 220.353†	30.9	5.3	3.1553	µg/L	3.1553	ppb	13:44:49
1	S 181.975 Axial†	10.8	1.8	18.508	µg/L	18.508	ppb	13:44:49
1	Sb 206.836†	6.4	1.8	3.5241	µg/L	3.5241	ppb	13:44:49
1	Se 196.026†	8.0	2.5	7.6591	µg/L	7.6591	ppb	13:44:49
1	SiO2†	9424.8	7928.7	2847.6	µg/L	2847.6	ppb	13:44:28
1	Si 251.611†	9884.6	9259.2	1325.8	µg/L	1325.8	ppb	13:44:28
1	Sn 189.927†	-1.7	0.4	0.5442	µg/L	0.5442	ppb	13:44:49
1	Ti 334.940†	369.5	165.2	0.6261	µg/L	0.6261	ppb	13:44:49
1	Tl 190.801†	-9.3	-0.7	-2.0292	µg/L	-2.0292	ppb	13:44:49
1	U 409.014†	-70.8	-2.9	-0.3118	µg/L	-0.3118	ppb	13:44:28
1	V 292.402†	-209.3	22.2	0.4836	µg/L	0.4836	ppb	13:44:49
1	Zn 213.857†	286.8	18.6	1.1545	µg/L	1.1545	ppb	13:44:49
2	Sc RADIAL	49689.9	49689.9	99.1	%			13:43:27
2	Al 396.153Radial†	40.0	7.0	5.0422	µg/L	5.0422	ppb	13:43:47
2	Ca 317.933Radial†	177.0	-1.5	-2.4391	µg/L	-2.4391	ppb	13:43:47
2	Fe 238.204 Radial†	8.3	0.8	15.483	µg/L	15.483	ppb	13:43:47
2	K 766.490 Radial†	383.3	162.8	111.02	µg/L	111.02	ppb	13:43:27
2	Mg 279.077 IEC†	5.4	-2.7	-27.732	µg/L	-27.732	ppb	13:43:47
2	Na 589.592 Radial†	397.9	348.9	111.18	µg/L	111.18	ppb	13:43:27
2	Sr 421.552†	32.6	25.2	0.2814	µg/L	0.2814	ppb	13:43:47
2	Sc 361.383	1222866.7	1222866.7	99.658	%			13:44:55
2	Y 371.029	841705.4	841705.4	98.748	%			13:44:55
2	Ag 328.068†	44.7	17.0	0.2269	µg/L	0.2269	ppb	13:45:00
2	As 188.979†	2.9	3.2	15.595	µg/L	15.595	ppb	13:45:20
2	B 249.677†	477.2	266.3	20.509	µg/L	20.509	ppb	13:45:20
2	Ba 233.527†	-41.3	3.7	0.2214	µg/L	0.2214	ppb	13:45:20
2	Be 313.107†	1403.2	-4.2	-0.0070	µg/L	-0.0070	ppb	13:45:00
2	Cd 226.502†	-57.8	-1.8	-0.1361	µg/L	-0.1361	ppb	13:45:20
2	Co 228.616†	-12.5	1.2	0.1341	µg/L	0.1341	ppb	13:45:20
2	Cr 267.716†	-20.6	12.6	0.6177	µg/L	0.6177	ppb	13:45:20
2	Cu 324.752†	2942.1	412.0	3.3953	µg/L	3.3953	ppb	13:45:00
2	Mn 257.610†	167.0	66.0	0.4639	µg/L	0.4639	ppb	13:45:20
2	Mo 202.031†	-0.4	0.5	0.1075	µg/L	0.1075	ppb	13:45:20
2	Ni 231.604†	124.7	1.1	0.1480	µg/L	0.1480	ppb	13:45:20
2	P 214.914†	121.4	3.5	19.281	µg/L	19.281	ppb	13:45:20
2	Pb 220.353†	25.7	0.4	0.2514	µg/L	0.2514	ppb	13:45:20

2	S 181.975 Axial†	12.6	3.7	38.091 µg/L	38.091 ppb	13:45:20
2	Sb 206.836†	5.5	1.0	1.8627 µg/L	1.8627 ppb	13:45:20
2	Se 196.026†	3.6	-1.8	-5.4958 µg/L	-5.4958 ppb	13:45:20
2	SiO2†	9521.4	8126.8	2918.7 µg/L	2918.7 ppb	13:45:00
2	Si 251.611†	9984.3	9465.4	1355.2 µg/L	1355.2 ppb	13:45:00
2	Sn 189.927†	-0.2	2.0	2.5018 µg/L	2.5018 ppb	13:45:20
2	Ti 334.940†	383.1	182.9	0.6930 µg/L	0.6930 ppb	13:45:20
2	Tl 190.801†	-9.9	-1.4	-4.2619 µg/L	-4.2619 ppb	13:45:20
2	U 409.014†	-36.2	31.0	3.2850 µg/L	3.2850 ppb	13:45:00
2	V 292.402†	-216.4	12.8	0.2854 µg/L	0.2854 ppb	13:45:20
2	Zn 213.857†	284.7	19.5	1.2131 µg/L	1.2131 ppb	13:45:20
3	Sc RADIAL	49620.7	49620.7	99.0 %		13:43:53
3	Al 396.153Radial†	41.3	8.4	6.0735 µg/L	6.0735 ppb	13:44:13
3	Ca 317.933Radial†	176.4	-1.9	-3.0687 µg/L	-3.0687 ppb	13:44:13
3	Fe 238.204 Radial†	8.7	1.2	23.366 µg/L	23.366 ppb	13:44:13
3	K 766.490 Radial†	378.3	158.3	107.95 µg/L	107.95 ppb	13:43:53
3	Mg 279.077 IEC†	3.2	-4.9	-50.562 µg/L	-50.562 ppb	13:44:13
3	Na 589.592 Radial†	391.5	343.0	109.29 µg/L	109.29 ppb	13:43:53
3	Sr 421.552†	28.6	21.3	0.2374 µg/L	0.2374 ppb	13:44:13
3	Sc 361.383	1226389.0	1226389.0	99.945 %		13:45:26
3	Y 371.029	841858.9	841858.9	98.766 %		13:45:26
3	Ag 328.068†	49.0	21.3	0.2826 µg/L	0.2826 ppb	13:45:32
3	As 188.979†	3.0	3.3	16.165 µg/L	16.165 ppb	13:45:52
3	B 249.677†	474.1	261.8	20.163 µg/L	20.163 ppb	13:45:52
3	Ba 233.527†	-37.7	7.4	0.4387 µg/L	0.4387 ppb	13:45:52
3	Be 313.107†	1419.8	8.4	0.0131 µg/L	0.0131 ppb	13:45:32
3	Cd 226.502†	-53.5	2.7	0.1917 µg/L	0.1917 ppb	13:45:52
3	Co 228.616†	-17.5	-3.8	-0.4381 µg/L	-0.4381 ppb	13:45:52
3	Cr 267.716†	-27.2	6.1	0.2962 µg/L	0.2962 ppb	13:45:52
3	Cu 324.752†	2887.1	348.6	2.8735 µg/L	2.8735 ppb	13:45:32
3	Mn 257.610†	156.0	54.5	0.3841 µg/L	0.3841 ppb	13:45:52
3	Mo 202.031†	-1.4	-0.5	-0.1256 µg/L	-0.1256 ppb	13:45:52
3	Ni 231.604†	123.4	-0.6	-0.0783 µg/L	-0.0783 ppb	13:45:52
3	P 214.914†	126.2	8.0	44.538 µg/L	44.538 ppb	13:45:52
3	Pb 220.353†	25.8	0.4	0.2293 µg/L	0.2293 ppb	13:45:52
3	S 181.975 Axial†	9.6	0.7	7.4558 µg/L	7.4558 ppb	13:45:52
3	Sb 206.836†	6.2	1.7	3.2001 µg/L	3.2001 ppb	13:45:52
3	Se 196.026†	8.4	3.0	9.0754 µg/L	9.0754 ppb	13:45:52
3	SiO2†	9286.0	7863.9	2824.3 µg/L	2824.3 ppb	13:45:32
3	Si 251.611†	9735.7	9187.9	1315.6 µg/L	1315.6 ppb	13:45:32
3	Sn 189.927†	-1.4	0.7	0.8787 µg/L	0.8787 ppb	13:45:52
3	Ti 334.940†	378.6	177.2	0.6715 µg/L	0.6715 ppb	13:45:52
3	Tl 190.801†	-6.6	2.0	6.2210 µg/L	6.2210 ppb	13:45:52
3	U 409.014†	-90.9	-23.6	-2.5076 µg/L	-2.5076 ppb	13:45:32
3	V 292.402†	-221.5	8.3	0.1774 µg/L	0.1774 ppb	13:45:52
3	Zn 213.857†	287.6	21.6	1.3427 µg/L	1.3427 ppb	13:45:52

Mean Data: 1202003800|936494|1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1228449.6	100.11	%	0.558				0.56%
Sc RADIAL	49456.6	98.6	%	0.69				0.70%
Y 371.029	844295.1	99.052	%	0.5107				0.52%
Ag 328.068†	7.6	0.1033	µg/L	0.26374	0.1033	ppb	0.26374	255.23%
Al 396.153Radial†	7.7	5.5477	µg/L	0.51593	5.5477	ppb	0.51593	9.30%
As 188.979†	2.6	12.484	µg/L	5.8896	12.484	ppb	5.8896	47.18%
B 249.677†	265.3	20.436	µg/L	0.2444	20.436	ppb	0.2444	1.20%
Ba 233.527†	5.4	0.3209	µg/L	0.10981	0.3209	ppb	0.10981	34.22%
Be 313.107†	-2.6	-0.0044	µg/L	0.01631	-0.0044	ppb	0.01631	372.13%
Ca 317.933Radial†	-1.5	-2.4051	µg/L	0.68118	-2.4051	ppb	0.68118	28.32%
Cd 226.502†	0.0	-0.0013	µg/L	0.17146	-0.0013	ppb	0.17146	>999.9%
Co 228.616†	-1.5	-0.1783	µg/L	0.28969	-0.1783	ppb	0.28969	162.45%
Cr 267.716†	10.7	0.5249	µg/L	0.19927	0.5249	ppb	0.19927	37.96%
Cu 324.752†	397.8	3.2777	µg/L	0.36016	3.2777	ppb	0.36016	10.99%
Fe 238.204 Radial†	0.8	15.433	µg/L	7.9577	15.433	ppb	7.9577	51.56%
K 766.490 Radial†	157.2	107.19	µg/L	4.251	107.19	ppb	4.251	3.97%
Mg 279.077 IEC†	-3.5	-35.423	µg/L	13.1112	-35.423	ppb	13.1112	37.01%
Mn 257.610†	60.0	0.4215	µg/L	0.04014	0.4215	ppb	0.04014	9.52%
Mo 202.031†	0.5	0.1062	µg/L	0.23113	0.1062	ppb	0.23113	217.64%
Na 589.592 Radial†	349.7	111.42	µg/L	2.254	111.42	ppb	2.254	2.02%

Ni 231.604†	1.3	0.1689	µg/L	0.25833	0.1689	ppb	0.25833 152.93%
P 214.914†	6.5	35.758	µg/L	14.2800	35.758	ppb	14.2800 39.93%
Pb 220.353†	2.0	1.2120	µg/L	1.68300	1.2120	ppb	1.68300 138.86%
S 181.975 Axial†	2.1	21.352	µg/L	15.5145	21.352	ppb	15.5145 72.66%
Sb 206.836†	1.5	2.8623	µg/L	0.88071	2.8623	ppb	0.88071 30.77%
Se 196.026†	1.2	3.7462	µg/L	8.03510	3.7462	ppb	8.03510 214.49%
SiO2†	7973.1	2863.5	µg/L	49.20	2863.5	ppb	49.20 1.72%
Si 251.611†	9304.2	1332.2	µg/L	20.59	1332.2	ppb	20.59 1.55%
Sn 189.927†	1.1	1.3082	µg/L	1.04707	1.3082	ppb	1.04707 80.04%
Sr 421.552†	21.4	0.2387	µg/L	0.04209	0.2387	ppb	0.04209 17.63%
Ti 334.940†	175.1	0.6635	µg/L	0.03418	0.6635	ppb	0.03418 5.15%
Tl 190.801†	-0.0	-0.0234	µg/L	5.52183	-0.0234	ppb	5.52183 >999.9%
U 409.014†	1.5	0.1552	µg/L	2.92444	0.1552	ppb	2.92444 >999.9%
V 292.402†	14.4	0.3155	µg/L	0.15529	0.3155	ppb	0.15529 49.23%
Zn 213.857†	19.9	1.2368	µg/L	0.09631	1.2368	ppb	0.09631 7.79%

Sequence No.: 16
Sample ID: 1202003801|936494|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 312
Date Collected: 1/5/2010 13:46:01
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202003801|936494|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	49158.9	49158.9	98.0	%			13:46:34
1	Al 396.153Radial†	7084.0	7192.8	5190.2	µg/L	5190.2	ppb	13:46:34
1	Ca 317.933Radial†	3307.2	3193.4	5121.6	µg/L	5121.6	ppb	13:46:54
1	Fe 238.204 Radial†	267.9	265.7	5264.8	µg/L	5264.8	ppb	13:46:54
1	K 766.490 Radial†	7836.6	7770.0	5298.0	µg/L	5298.0	ppb	13:46:34
1	Mg 279.077 IEC†	513.1	515.3	5284.8	µg/L	5284.8	ppb	13:46:54
1	Na 589.592 Radial†	16387.5	16663.9	5309.6	µg/L	5309.6	ppb	13:46:34
1	Sr 421.552†	44611.0	45499.0	507.58	µg/L	507.58	ppb	13:46:34
1	Sc 361.383	1224925.6	1224925.6	99.826	%			13:47:56
1	Y 371.029	840107.6	840107.6	98.560	%			13:47:56
1	Ag 328.068†	37178.4	37215.3	492.82	µg/L	492.82	ppb	13:48:02
1	As 188.979†	105.9	106.4	515.80	µg/L	515.80	ppb	13:48:23
1	B 249.677†	6903.5	6703.1	514.71	µg/L	514.71	ppb	13:48:02
1	Ba 233.527†	8568.0	8628.1	513.03	µg/L	513.03	ppb	13:48:02
1	Be 313.107†	318833.7	317976.7	505.54	µg/L	505.54	ppb	13:47:56
1	Cd 226.502†	6613.6	6681.3	498.29	µg/L	498.29	ppb	13:48:02
1	Co 228.616†	4339.8	4361.1	502.42	µg/L	502.42	ppb	13:48:02
1	Cr 267.716†	10256.8	10308.0	504.50	µg/L	504.50	ppb	13:48:02
1	Cu 324.752†	63403.5	60973.8	502.72	µg/L	502.72	ppb	13:48:02
1	Mn 257.610†	73072.7	73098.4	512.24	µg/L	512.24	ppb	13:47:56
1	Mo 202.031†	2115.8	2120.4	494.98	µg/L	494.98	ppb	13:48:23
1	Ni 231.604†	3880.8	3763.5	506.11	µg/L	506.11	ppb	13:48:02
1	P 214.914†	236.8	118.9	611.25	µg/L	611.25	ppb	13:48:23
1	Pb 220.353†	894.1	870.3	521.77	µg/L	521.77	ppb	13:48:23
1	S 181.975 Axial†	511.8	503.9	5139.5	µg/L	5139.5	ppb	13:48:23
1	Sb 206.836†	271.6	267.6	517.24	µg/L	517.24	ppb	13:48:23
1	Se 196.026†	163.1	157.9	486.03	µg/L	486.03	ppb	13:48:23
1	SiO2†	38664.7	37304.8	13398	µg/L	13398	ppb	13:48:02
1	Si 251.611†	44191.9	43715.7	6210.8	µg/L	6210.8	ppb	13:48:02
1	Sn 189.927†	421.7	424.6	530.52	µg/L	530.52	ppb	13:48:23
1	Ti 334.940†	133115.1	133145.3	504.11	µg/L	504.11	ppb	13:47:56
1	Tl 190.801†	150.4	159.2	497.39	µg/L	497.39	ppb	13:48:23
1	U 409.014†	4909.7	4985.6	527.26	µg/L	527.26	ppb	13:48:02
1	V 292.402†	23062.0	23332.1	511.41	µg/L	511.41	ppb	13:48:02
1	Zn 213.857†	8104.0	7852.1	486.49	µg/L	486.49	ppb	13:48:02
2	Sc RADIAL	49798.1	49798.1	99.3	%			13:46:59
2	Al 396.153Radial†	7166.9	7183.5	5183.3	µg/L	5183.3	ppb	13:46:59
2	Ca 317.933Radial†	3315.3	3158.3	5065.2	µg/L	5065.2	ppb	13:47:20
2	Fe 238.204 Radial†	269.9	264.2	5235.0	µg/L	5235.0	ppb	13:47:20
2	K 766.490 Radial†	7913.6	7744.9	5280.9	µg/L	5280.9	ppb	13:46:59
2	Mg 279.077 IEC†	516.1	511.6	5247.0	µg/L	5247.0	ppb	13:47:20
2	Na 589.592 Radial†	16587.5	16650.6	5305.4	µg/L	5305.4	ppb	13:46:59
2	Sr 421.552†	45269.1	45577.6	508.46	µg/L	508.46	ppb	13:46:59
2	Sc 361.383	1211338.5	1211338.5	98.719	%			13:48:29
2	Y 371.029	833140.3	833140.3	97.743	%			13:48:29
2	Ag 328.068†	37206.5	37661.5	498.73	µg/L	498.73	ppb	13:48:34
2	As 188.979†	102.7	104.4	506.06	µg/L	506.06	ppb	13:48:55
2	B 249.677†	6957.9	6835.7	524.94	µg/L	524.94	ppb	13:48:34
2	Ba 233.527†	8595.6	8752.3	520.41	µg/L	520.41	ppb	13:48:34
2	Be 313.107†	315568.3	318251.3	505.97	µg/L	505.97	ppb	13:48:29
2	Cd 226.502†	6610.7	6752.6	503.62	µg/L	503.62	ppb	13:48:34
2	Co 228.616†	4337.7	4407.7	507.80	µg/L	507.80	ppb	13:48:34
2	Cr 267.716†	10272.2	10438.8	510.90	µg/L	510.90	ppb	13:48:34
2	Cu 324.752†	63550.3	61834.9	509.81	µg/L	509.81	ppb	13:48:34
2	Mn 257.610†	72407.3	73245.3	513.27	µg/L	513.27	ppb	13:48:29
2	Mo 202.031†	2111.5	2139.8	499.50	µg/L	499.50	ppb	13:48:55
2	Ni 231.604†	3875.8	3802.1	511.30	µg/L	511.30	ppb	13:48:34
2	P 214.914†	231.7	116.4	596.60	µg/L	596.60	ppb	13:48:55
2	Pb 220.353†	885.7	871.8	522.71	µg/L	522.71	ppb	13:48:55

2	S 181.975 Axial†	508.8	506.6	5167.0 µg/L	5167.0 ppb	13:48:55
2	Sb 206.836†	271.0	270.0	521.82 µg/L	521.82 ppb	13:48:55
2	Se 196.026†	169.7	166.4	512.13 µg/L	512.13 ppb	13:48:55
2	SiO2†	38617.3	37691.2	13537 µg/L	13537 ppb	13:48:34
2	Si 251.611†	44193.1	44213.5	6281.5 µg/L	6281.5 ppb	13:48:34
2	Sn 189.927†	425.8	433.5	541.58 µg/L	541.58 ppb	13:48:55
2	Ti 334.940†	131716.6	133224.3	504.41 µg/L	504.41 ppb	13:48:29
2	Tl 190.801†	156.9	167.5	523.21 µg/L	523.21 ppb	13:48:55
2	U 409.014†	4914.4	5045.5	533.63 µg/L	533.63 ppb	13:48:34
2	V 292.402†	23121.1	23651.1	518.38 µg/L	518.38 ppb	13:48:34
2	Zn 213.857†	8138.5	7978.0	494.35 µg/L	494.35 ppb	13:48:34
3	Sc RADIAL	49762.8	49762.8	99.2 %		13:47:25
3	Al 396.153Radial†	7195.5	7217.5	5208.9 µg/L	5208.9 ppb	13:47:25
3	Ca 317.933Radial†	3298.8	3144.0	5042.4 µg/L	5042.4 ppb	13:47:46
3	Fe 238.204 Radial†	267.1	261.6	5183.7 µg/L	5183.7 ppb	13:47:46
3	K 766.490 Radial†	7884.8	7721.5	5264.9 µg/L	5264.9 ppb	13:47:25
3	Mg 279.077 IEC†	513.3	509.2	5221.4 µg/L	5221.4 ppb	13:47:46
3	Na 589.592 Radial†	16618.8	16694.1	5319.2 µg/L	5319.2 ppb	13:47:25
3	Sr 421.552†	45425.7	45767.7	510.58 µg/L	510.58 ppb	13:47:25
3	Sc 361.383	1227481.9	1227481.9	100.03 %		13:49:01
3	Y 371.029	843609.7	843609.7	98.971 %		13:49:01
3	Ag 328.068†	36868.4	36827.9	487.65 µg/L	487.65 ppb	13:49:06
3	As 188.979†	99.6	99.9	484.22 µg/L	484.22 ppb	13:49:27
3	B 249.677†	6876.4	6661.5	511.54 µg/L	511.54 ppb	13:49:06
3	Ba 233.527†	8429.5	8471.7	503.73 µg/L	503.73 ppb	13:49:06
3	Be 313.107†	317980.4	316458.5	503.12 µg/L	503.12 ppb	13:49:01
3	Cd 226.502†	6524.9	6578.8	490.63 µg/L	490.63 ppb	13:49:06
3	Co 228.616†	4255.2	4267.5	491.60 µg/L	491.60 ppb	13:49:06
3	Cr 267.716†	10083.4	10113.3	494.97 µg/L	494.97 ppb	13:49:06
3	Cu 324.752†	62162.3	59600.8	491.40 µg/L	491.40 ppb	13:49:06
3	Mn 257.610†	72781.3	72654.6	509.13 µg/L	509.13 ppb	13:49:01
3	Mo 202.031†	2026.8	2027.0	473.17 µg/L	473.17 ppb	13:49:27
3	Ni 231.604†	3820.7	3695.4	496.95 µg/L	496.95 ppb	13:49:06
3	P 214.914†	231.9	113.6	582.35 µg/L	582.35 ppb	13:49:27
3	Pb 220.353†	863.6	837.9	502.35 µg/L	502.35 ppb	13:49:27
3	S 181.975 Axial†	496.9	487.8	4975.7 µg/L	4975.7 ppb	13:49:27
3	Sb 206.836†	261.9	257.3	497.31 µg/L	497.31 ppb	13:49:27
3	Se 196.026†	166.1	160.6	494.34 µg/L	494.34 ppb	13:49:27
3	SiO2†	38182.0	36741.6	13196 µg/L	13196 ppb	13:49:06
3	Si 251.611†	43601.7	43033.6	6114.3 µg/L	6114.3 ppb	13:49:06
3	Sn 189.927†	408.3	410.3	512.69 µg/L	512.69 ppb	13:49:27
3	Ti 334.940†	132394.2	132147.0	500.33 µg/L	500.33 ppb	13:49:01
3	Tl 190.801†	147.0	155.6	486.05 µg/L	486.05 ppb	13:49:27
3	U 409.014†	4718.2	4783.9	505.90 µg/L	505.90 ppb	13:49:06
3	V 292.402†	22592.6	22814.7	499.98 µg/L	499.98 ppb	13:49:06
3	Zn 213.857†	8022.1	7753.3	480.40 µg/L	480.40 ppb	13:49:06

Mean Data: 1202003801|936494|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1221248.7	99.527	%	0.7071				0.71%
Sc RADIAL	49573.2	98.9	%	0.72				0.72%
Y 371.029	838952.5	98.425	%	0.6252				0.64%
Ag 328.068†	37234.9	493.06	µg/L	5.544	493.06	ppb	5.544	1.12%
Al 396.153Radial†	7197.9	5194.1	µg/L	13.26	5194.1	ppb	13.26	0.26%
As 188.979†	103.5	502.03	µg/L	16.175	502.03	ppb	16.175	3.22%
B 249.677†	6733.4	517.06	µg/L	7.004	517.06	ppb	7.004	1.35%
Ba 233.527†	8617.4	512.39	µg/L	8.361	512.39	ppb	8.361	1.63%
Be 313.107†	317562.2	504.88	µg/L	1.535	504.88	ppb	1.535	0.30%
Ca 317.933Radial†	3165.2	5076.4	µg/L	40.76	5076.4	ppb	40.76	0.80%
Cd 226.502†	6670.9	497.51	µg/L	6.532	497.51	ppb	6.532	1.31%
Co 228.616†	4345.5	500.61	µg/L	8.252	500.61	ppb	8.252	1.65%
Cr 267.716†	10286.7	503.46	µg/L	8.019	503.46	ppb	8.019	1.59%
Cu 324.752†	60803.2	501.31	µg/L	9.284	501.31	ppb	9.284	1.85%
Fe 238.204 Radial†	263.8	5227.8	µg/L	41.05	5227.8	ppb	41.05	0.79%
K 766.490 Radial†	7745.5	5281.3	µg/L	16.52	5281.3	ppb	16.52	0.31%
Mg 279.077 IEC†	512.0	5251.1	µg/L	31.92	5251.1	ppb	31.92	0.61%
Mn 257.610†	72999.4	511.55	µg/L	2.157	511.55	ppb	2.157	0.42%
Mo 202.031†	2095.7	489.22	µg/L	14.076	489.22	ppb	14.076	2.88%
Na 589.592 Radial†	16669.5	5311.4	µg/L	7.09	5311.4	ppb	7.09	0.13%

Ni 231.604†	3753.7	504.79 µg/L	7.267	504.79 ppb	7.267	1.44%
P 214.914†	116.3	596.73 µg/L	14.450	596.73 ppb	14.450	2.42%
Pb 220.353†	860.0	515.61 µg/L	11.490	515.61 ppb	11.490	2.23%
S 181.975 Axial†	499.4	5094.0 µg/L	103.39	5094.0 ppb	103.39	2.03%
Sb 206.836†	264.9	512.12 µg/L	13.034	512.12 ppb	13.034	2.55%
Se 196.026†	161.6	497.50 µg/L	13.335	497.50 ppb	13.335	2.68%
SiO2†	37245.9	13377 µg/L	171.5	13377 ppb	171.5	1.28%
Si 251.611†	43654.3	6202.2 µg/L	83.95	6202.2 ppb	83.95	1.35%
Sn 189.927†	422.8	528.26 µg/L	14.579	528.26 ppb	14.579	2.76%
Sr 421.552†	45614.7	508.87 µg/L	1.541	508.87 ppb	1.541	0.30%
Ti 334.940†	132838.9	502.95 µg/L	2.273	502.95 ppb	2.273	0.45%
Tl 190.801†	160.8	502.22 µg/L	19.047	502.22 ppb	19.047	3.79%
U 409.014†	4938.3	522.27 µg/L	14.524	522.27 ppb	14.524	2.78%
V 292.402†	23266.0	509.92 µg/L	9.287	509.92 ppb	9.287	1.82%
Zn 213.857†	7861.1	487.08 µg/L	6.992	487.08 ppb	6.992	1.44%

Sequence No.: 17
Sample ID: 1202003802|936494|5
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 313
Date Collected: 1/5/2010 13:49:36
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202003802|936494|5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	49278.0	49278.0	98.3	%			13:50:09
1	Al 396.153Radial†	20.2	-12.9	-9.2822	µg/L	-9.2822	ppb	13:50:29
1	Ca 317.933Radial†	166.7	-10.6	-16.932	µg/L	-16.932	ppb	13:50:29
1	Fe 238.204 Radial†	8.5	1.1	21.999	µg/L	21.999	ppb	13:50:29
1	K 766.490 Radial†	241.2	21.5	14.633	µg/L	14.633	ppb	13:50:09
1	Mg 279.077 IEC†	8.6	0.7	6.6584	µg/L	6.6584	ppb	13:50:29
1	Na 589.592 Radial†	148.4	98.3	31.335	µg/L	31.335	ppb	13:50:09
1	Sr 421.552†	25.9	18.7	0.2089	µg/L	0.2089	ppb	13:50:29
1	Sc 361.383	1219526.4	1219526.4	99.386	%			13:51:31
1	Y 371.029	840782.8	840782.8	98.640	%			13:51:31
1	Ag 328.068†	48.0	20.5	0.2748	µg/L	0.2748	ppb	13:51:36
1	As 188.979†	2.0	2.4	11.501	µg/L	11.501	ppb	13:51:57
1	B 249.677†	295.1	84.4	6.4984	µg/L	6.4984	ppb	13:51:57
1	Ba 233.527†	-41.0	3.9	0.2334	µg/L	0.2334	ppb	13:51:57
1	Be 313.107†	1557.2	154.6	0.2457	µg/L	0.2457	ppb	13:51:36
1	Cd 226.502†	-49.4	6.5	0.4808	µg/L	0.4808	ppb	13:51:57
1	Co 228.616†	-14.1	-0.4	-0.0474	µg/L	-0.0474	ppb	13:51:57
1	Cr 267.716†	-21.1	12.1	0.5939	µg/L	0.5939	ppb	13:51:57
1	Cu 324.752†	2944.2	422.3	3.4806	µg/L	3.4806	ppb	13:51:36
1	Mn 257.610†	131.2	30.4	0.2158	µg/L	0.2158	ppb	13:51:57
1	Mo 202.031†	-5.5	-4.7	-1.0850	µg/L	-1.0850	ppb	13:51:57
1	Ni 231.604†	128.3	5.0	0.6775	µg/L	0.6775	ppb	13:51:57
1	P 214.914†	125.3	7.8	43.327	µg/L	43.327	ppb	13:51:57
1	Pb 220.353†	32.1	6.9	4.1272	µg/L	4.1272	ppb	13:51:57
1	S 181.975 Axial†	7.9	-0.9	-8.9540	µg/L	-8.9540	ppb	13:51:57
1	Sb 206.836†	6.8	2.3	4.3877	µg/L	4.3877	ppb	13:51:57
1	Se 196.026†	3.0	-2.4	-7.4800	µg/L	-7.4800	ppb	13:51:57
1	SiO2†	3064.5	1656.2	594.81	µg/L	594.81	ppb	13:51:36
1	Si 251.611†	2377.1	1838.7	263.10	µg/L	263.10	ppb	13:51:57
1	Sn 189.927†	1.7	3.9	4.8056	µg/L	4.8056	ppb	13:51:57
1	Ti 334.940†	322.4	122.8	0.4662	µg/L	0.4662	ppb	13:51:36
1	Tl 190.801†	-10.1	-1.6	-4.9761	µg/L	-4.9761	ppb	13:51:57
1	U 409.014†	-61.4	5.5	0.5851	µg/L	0.5851	ppb	13:51:36
1	V 292.402†	-204.3	24.3	0.5230	µg/L	0.5230	ppb	13:51:57
1	Zn 213.857†	280.8	16.4	1.0104	µg/L	1.0104	ppb	13:51:57
2	Sc RADIAL	49514.9	49514.9	98.7	%			13:50:35
2	Al 396.153Radial†	23.9	-9.2	-6.7178	µg/L	-6.7178	ppb	13:50:55
2	Ca 317.933Radial†	169.6	-8.5	-13.574	µg/L	-13.574	ppb	13:50:55
2	Fe 238.204 Radial†	8.3	0.9	17.004	µg/L	17.004	ppb	13:50:55
2	K 766.490 Radial†	254.5	33.8	23.054	µg/L	23.054	ppb	13:50:35
2	Mg 279.077 IEC†	1.8	-6.3	-64.605	µg/L	-64.605	ppb	13:50:55
2	Na 589.592 Radial†	179.6	129.3	41.192	µg/L	41.192	ppb	13:50:35
2	Sr 421.552†	29.1	21.8	0.2437	µg/L	0.2437	ppb	13:50:55
2	Sc 361.383	1223967.7	1223967.7	99.748	%			13:52:02
2	Y 371.029	841760.5	841760.5	98.754	%			13:52:02
2	Ag 328.068†	16.8	-11.0	-0.1412	µg/L	-0.1412	ppb	13:52:08
2	As 188.979†	4.0	4.3	21.163	µg/L	21.163	ppb	13:52:29
2	B 249.677†	294.4	82.7	6.3626	µg/L	6.3626	ppb	13:52:29
2	Ba 233.527†	-40.3	4.7	0.2822	µg/L	0.2822	ppb	13:52:29
2	Be 313.107†	1537.0	128.7	0.2046	µg/L	0.2046	ppb	13:52:08
2	Cd 226.502†	-51.3	4.8	0.3539	µg/L	0.3539	ppb	13:52:29
2	Co 228.616†	-16.8	-3.1	-0.3550	µg/L	-0.3550	ppb	13:52:29
2	Cr 267.716†	-18.2	15.0	0.7343	µg/L	0.7343	ppb	13:52:29
2	Cu 324.752†	2872.2	339.3	2.7964	µg/L	2.7964	ppb	13:52:08
2	Mn 257.610†	123.1	21.8	0.1549	µg/L	0.1549	ppb	13:52:29
2	Mo 202.031†	2.1	3.0	0.6985	µg/L	0.6985	ppb	13:52:29
2	Ni 231.604†	118.8	-5.0	-0.6684	µg/L	-0.6684	ppb	13:52:29
2	P 214.914†	124.5	6.6	36.599	µg/L	36.599	ppb	13:52:29
2	Pb 220.353†	27.7	2.4	1.4288	µg/L	1.4288	ppb	13:52:29

2	S 181.975 Axial†	7.4	-1.5	-14.789 µg/L	-14.789 ppb	13:52:29
2	Sb 206.836†	7.5	3.0	5.7345 µg/L	5.7345 ppb	13:52:29
2	Se 196.026†	7.3	1.8	5.5925 µg/L	5.5925 ppb	13:52:29
2	SiO2†	3043.0	1623.5	583.08 µg/L	583.08 ppb	13:52:08
2	Si 251.611†	2376.4	1829.3	261.91 µg/L	261.91 ppb	13:52:29
2	Sn 189.927†	-1.9	0.2	0.2722 µg/L	0.2722 ppb	13:52:29
2	Ti 334.940†	268.9	68.1	0.2586 µg/L	0.2586 ppb	13:52:08
2	Tl 190.801†	-8.9	-0.3	-1.0216 µg/L	-1.0216 ppb	13:52:29
2	U 409.014†	-56.6	10.6	1.1202 µg/L	1.1202 ppb	13:52:08
2	V 292.402†	-217.5	11.9	0.2659 µg/L	0.2659 ppb	13:52:29
2	Zn 213.857†	276.9	11.4	0.7109 µg/L	0.7109 ppb	13:52:29
3	Sc RADIAL	49602.8	49602.8	98.9 %		13:51:00
3	Al 396.153Radial†	20.9	-12.3	-8.9345 µg/L	-8.9345 ppb	13:51:21
3	Ca 317.933Radial†	175.1	-3.2	-5.0799 µg/L	-5.0799 ppb	13:51:21
3	Fe 238.204 Radial†	9.1	1.6	32.550 µg/L	32.550 ppb	13:51:21
3	K 766.490 Radial†	230.7	9.2	6.3001 µg/L	6.3001 ppb	13:51:00
3	Mg 279.077 IEC†	5.1	-3.0	-30.888 µg/L	-30.888 ppb	13:51:21
3	Na 589.592 Radial†	147.3	96.3	30.679 µg/L	30.679 ppb	13:51:00
3	Sr 421.552†	42.2	35.0	0.3910 µg/L	0.3910 ppb	13:51:21
3	Sc 361.383	1224926.4	1224926.4	99.826 %		13:52:34
3	Y 371.029	844332.6	844332.6	99.056 %		13:52:34
3	Ag 328.068†	63.3	35.6	0.4720 µg/L	0.4720 ppb	13:52:40
3	As 188.979†	1.2	1.5	7.3843 µg/L	7.3843 ppb	13:53:00
3	B 249.677†	287.2	75.2	5.7843 µg/L	5.7843 ppb	13:53:00
3	Ba 233.527†	-41.5	3.5	0.2108 µg/L	0.2108 ppb	13:53:00
3	Be 313.107†	1469.7	60.1	0.0955 µg/L	0.0955 ppb	13:52:40
3	Cd 226.502†	-53.2	2.9	0.2083 µg/L	0.2083 ppb	13:53:00
3	Co 228.616†	-14.5	-0.8	-0.0874 µg/L	-0.0874 ppb	13:53:00
3	Cr 267.716†	-30.3	3.0	0.1476 µg/L	0.1476 ppb	13:53:00
3	Cu 324.752†	2866.9	331.8	2.7358 µg/L	2.7358 ppb	13:52:40
3	Mn 257.610†	125.7	24.3	0.1743 µg/L	0.1743 ppb	13:53:00
3	Mo 202.031†	2.7	3.6	0.8458 µg/L	0.8458 ppb	13:53:00
3	Ni 231.604†	123.4	-0.4	-0.0538 µg/L	-0.0538 ppb	13:53:00
3	P 214.914†	122.3	4.3	23.520 µg/L	23.520 ppb	13:53:00
3	Pb 220.353†	26.3	1.0	0.5821 µg/L	0.5821 ppb	13:53:00
3	S 181.975 Axial†	9.4	0.6	5.8341 µg/L	5.8341 ppb	13:53:00
3	Sb 206.836†	5.1	0.5	1.0205 µg/L	1.0205 ppb	13:53:00
3	Se 196.026†	1.3	-4.2	-12.808 µg/L	-12.808 ppb	13:53:00
3	SiO2†	2967.1	1545.1	554.91 µg/L	554.91 ppb	13:52:40
3	Si 251.611†	2223.0	1673.7	239.62 µg/L	239.62 ppb	13:53:00
3	Sn 189.927†	-1.7	0.4	0.5059 µg/L	0.5059 ppb	13:53:00
3	Ti 334.940†	247.0	45.9	0.1741 µg/L	0.1741 ppb	13:52:40
3	Tl 190.801†	-8.7	-0.1	-0.2951 µg/L	-0.2951 ppb	13:53:00
3	U 409.014†	-41.1	26.2	2.7683 µg/L	2.7683 ppb	13:52:40
3	V 292.402†	-221.4	8.1	0.1893 µg/L	0.1893 ppb	13:53:00
3	Zn 213.857†	272.2	6.6	0.3979 µg/L	0.3979 ppb	13:53:00

Mean Data: 1202003802|936494|5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1222806.8	99.654	%	0.2348				0.24%
Sc RADIAL	49465.3	98.6	%	0.34				0.34%
Y 371.029	842292.0	98.817	%	0.2151				0.22%
Ag 328.068†	15.1	0.2019	µg/L	0.31302	0.2019	ppb	0.31302	155.05%
Al 396.153Radial†	-11.5	-8.3115	µg/L	1.39106	-8.3115	ppb	1.39106	16.74%
As 188.979†	2.7	13.350	µg/L	7.0728	13.350	ppb	7.0728	52.98%
B 249.677†	80.8	6.2151	µg/L	0.37918	6.2151	ppb	0.37918	6.10%
Ba 233.527†	4.1	0.2421	µg/L	0.03647	0.2421	ppb	0.03647	15.06%
Be 313.107†	114.5	0.1819	µg/L	0.07763	0.1819	ppb	0.07763	42.67%
Ca 317.933Radial†	-7.4	-11.862	µg/L	6.1088	-11.862	ppb	6.1088	51.50%
Cd 226.502†	4.7	0.3477	µg/L	0.13633	0.3477	ppb	0.13633	39.21%
Co 228.616†	-1.4	-0.1633	µg/L	0.16723	-0.1633	ppb	0.16723	102.42%
Cr 267.716†	10.1	0.4919	µg/L	0.30637	0.4919	ppb	0.30637	62.28%
Cu 324.752†	364.5	3.0043	µg/L	0.41363	3.0043	ppb	0.41363	13.77%
Fe 238.204 Radial†	1.2	23.851	µg/L	7.9369	23.851	ppb	7.9369	33.28%
K 766.490 Radial†	21.5	14.663	µg/L	8.3771	14.663	ppb	8.3771	57.13%
Mg 279.077 IEC†	-2.9	-29.612	µg/L	35.6490	-29.612	ppb	35.6490	120.39%
Mn 257.610†	25.5	0.1817	µg/L	0.03109	0.1817	ppb	0.03109	17.11%
Mo 202.031†	0.7	0.1531	µg/L	1.07476	0.1531	ppb	1.07476	702.13%
Na 589.592 Radial†	108.0	34.402	µg/L	5.8897	34.402	ppb	5.8897	17.12%

Ni 231.604†	-0.1	-0.0149 µg/L	0.67380	-0.0149 ppb	0.67380	>999.9%
P 214.914†	6.2	34.482 µg/L	10.0716	34.482 ppb	10.0716	29.21%
Pb 220.353†	3.4	2.0460 µg/L	1.85135	2.0460 ppb	1.85135	90.48%
S 181.975 Axial†	-0.6	-5.9695 µg/L	10.63033	-5.9695 ppb	10.63033	178.08%
Sb 206.836†	1.9	3.7142 µg/L	2.42807	3.7142 ppb	2.42807	65.37%
Se 196.026†	-1.6	-4.8984 µg/L	9.46788	-4.8984 ppb	9.46788	193.28%
SiO2†	1608.3	577.60 µg/L	20.507	577.60 ppb	20.507	3.55%
Si 251.611†	1780.6	254.88 µg/L	13.222	254.88 ppb	13.222	5.19%
Sn 189.927†	1.5	1.8612 µg/L	2.55259	1.8612 ppb	2.55259	137.15%
Sr 421.552†	25.2	0.2812 µg/L	0.09666	0.2812 ppb	0.09666	34.37%
Ti 334.940†	78.9	0.2997 µg/L	0.15031	0.2997 ppb	0.15031	50.16%
Tl 190.801†	-0.7	-2.0976 µg/L	2.51920	-2.0976 ppb	2.51920	120.10%
U 409.014†	14.1	1.4912 µg/L	1.13794	1.4912 ppb	1.13794	76.31%
V 292.402†	14.8	0.3261 µg/L	0.17476	0.3261 ppb	0.17476	53.60%
Zn 213.857†	11.5	0.7064 µg/L	0.30629	0.7064 ppb	0.30629	43.36%

Sequence No.: 18
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 1/5/2010 13:53:09
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	49292.2	49292.2	98.3	%			13:53:45
1	Al 396.153Radial†	6990.6	7078.3	5107.1	µg/L	5107.1	ppb	13:53:45
1	Ca 317.933Radial†	3256.5	3132.7	5024.2	µg/L	5024.2	ppb	13:54:06
1	Fe 238.204 Radial†	267.3	264.3	5237.7	µg/L	5237.7	ppb	13:54:06
1	K 766.490 Radial†	7570.5	7477.6	5098.6	µg/L	5098.6	ppb	13:53:45
1	Mg 279.077 IEC†	502.1	502.7	5155.7	µg/L	5155.7	ppb	13:54:06
1	Na 589.592 Radial†	31780.2	32277.8	10285	µg/L	10285	ppb	13:53:45
1	Sr 421.552†	44350.8	45111.1	503.25	µg/L	503.25	ppb	13:53:45
1	Sc 361.383	1223363.2	1223363.2	99.699	%			13:55:08
1	Y 371.029	841269.6	841269.6	98.697	%			13:55:08
1	Ag 328.068†	37395.5	37480.6	496.27	µg/L	496.27	ppb	13:55:14
1	As 188.979†	108.1	108.8	527.68	µg/L	527.68	ppb	13:55:34
1	B 249.677†	6617.4	6424.9	493.29	µg/L	493.29	ppb	13:55:14
1	Ba 233.527†	8346.1	8416.5	500.46	µg/L	500.46	ppb	13:55:14
1	Be 313.107†	314616.6	314154.7	499.46	µg/L	499.46	ppb	13:55:08
1	Cd 226.502†	6648.3	6724.5	501.50	µg/L	501.50	ppb	13:55:14
1	Co 228.616†	4345.2	4372.1	503.71	µg/L	503.71	ppb	13:55:14
1	Cr 267.716†	10240.3	10304.5	504.32	µg/L	504.32	ppb	13:55:14
1	Cu 324.752†	62151.4	59799.1	493.04	µg/L	493.04	ppb	13:55:14
1	Mn 257.610†	71722.1	71837.2	503.41	µg/L	503.41	ppb	13:55:08
1	Mo 202.031†	2126.8	2134.1	498.18	µg/L	498.18	ppb	13:55:34
1	Ni 231.604†	3855.5	3743.1	503.37	µg/L	503.37	ppb	13:55:14
1	P 214.914†	577.2	460.7	2525.1	µg/L	2525.1	ppb	13:55:34
1	Pb 220.353†	879.5	856.7	513.69	µg/L	513.69	ppb	13:55:34
1	S 181.975 Axial†	110.4	101.9	1037.9	µg/L	1037.9	ppb	13:55:34
1	Sb 206.836†	263.9	260.2	502.83	µg/L	502.83	ppb	13:55:34
1	Se 196.026†	169.7	164.8	507.12	µg/L	507.12	ppb	13:55:34
1	SiO2†	16308.4	14930.4	5362.2	µg/L	5362.2	ppb	13:55:14
1	Si 251.611†	17993.4	17494.6	2457.1	µg/L	2457.1	ppb	13:55:14
1	Sn 189.927†	404.5	407.9	509.63	µg/L	509.63	ppb	13:55:34
1	Ti 334.940†	131248.2	131443.0	497.67	µg/L	497.67	ppb	13:55:08
1	Tl 190.801†	153.0	162.0	506.08	µg/L	506.08	ppb	13:55:34
1	U 409.014†	4675.6	4757.0	503.05	µg/L	503.05	ppb	13:55:14
1	V 292.402†	22803.6	23102.4	506.40	µg/L	506.40	ppb	13:55:14
1	Zn 213.857†	8314.8	8073.8	500.40	µg/L	500.40	ppb	13:55:14
2	Sc RADIAL	49748.7	49748.7	99.2	%			13:54:11
2	Al 396.153Radial†	7002.8	7025.3	5068.7	µg/L	5068.7	ppb	13:54:11
2	Ca 317.933Radial†	3247.3	3093.0	4960.5	µg/L	4960.5	ppb	13:54:32
2	Fe 238.204 Radial†	266.7	261.3	5177.2	µg/L	5177.2	ppb	13:54:32
2	K 766.490 Radial†	7587.5	7424.1	5062.1	µg/L	5062.1	ppb	13:54:11
2	Mg 279.077 IEC†	503.3	499.2	5120.0	µg/L	5120.0	ppb	13:54:32
2	Na 589.592 Radial†	31667.9	31868.0	10154	µg/L	10154	ppb	13:54:11
2	Sr 421.552†	44283.7	44629.5	497.88	µg/L	497.88	ppb	13:54:11
2	Sc 361.383	1220612.9	1220612.9	99.475	%			13:55:41
2	Y 371.029	839931.6	839931.6	98.540	%			13:55:41
2	Ag 328.068†	37155.4	37323.8	494.19	µg/L	494.19	ppb	13:55:46
2	As 188.979†	102.9	103.8	503.37	µg/L	503.37	ppb	13:56:07
2	B 249.677†	6571.4	6393.6	490.90	µg/L	490.90	ppb	13:55:46
2	Ba 233.527†	8294.8	8383.7	498.52	µg/L	498.52	ppb	13:55:46
2	Be 313.107†	313333.2	313575.6	498.54	µg/L	498.54	ppb	13:55:41
2	Cd 226.502†	6636.2	6727.4	501.72	µg/L	501.72	ppb	13:55:46
2	Co 228.616†	4313.0	4349.5	501.12	µg/L	501.12	ppb	13:55:46
2	Cr 267.716†	10143.7	10230.6	500.70	µg/L	500.70	ppb	13:55:46
2	Cu 324.752†	61766.2	59552.3	491.00	µg/L	491.00	ppb	13:55:46
2	Mn 257.610†	71476.0	71751.8	502.81	µg/L	502.81	ppb	13:55:41
2	Mo 202.031†	2130.2	2142.4	500.11	µg/L	500.11	ppb	13:56:07
2	Ni 231.604†	3820.1	3716.2	499.75	µg/L	499.75	ppb	13:55:46
2	P 214.914†	572.7	457.4	2507.1	µg/L	2507.1	ppb	13:56:07
2	Pb 220.353†	872.2	851.5	510.56	µg/L	510.56	ppb	13:56:07

2	S 181.975 Axial†	106.7	98.4	1002.5 µg/L	1002.5 ppb	13:56:07
2	Sb 206.836†	265.9	262.8	507.94 µg/L	507.94 ppb	13:56:07
2	Se 196.026†	179.2	174.6	537.26 µg/L	537.26 ppb	13:56:07
2	SiO2†	16217.6	14876.0	5342.7 µg/L	5342.7 ppb	13:55:46
2	Si 251.611†	17920.3	17461.8	2452.4 µg/L	2452.4 ppb	13:55:46
2	Sn 189.927†	404.5	408.8	510.79 µg/L	510.79 ppb	13:56:07
2	Ti 334.940†	130927.7	131417.5	497.57 µg/L	497.57 ppb	13:55:41
2	Tl 190.801†	151.9	161.2	503.61 µg/L	503.61 ppb	13:56:07
2	U 409.014†	4631.4	4723.2	499.48 µg/L	499.48 ppb	13:55:46
2	V 292.402†	22650.7	23000.2	504.19 µg/L	504.19 ppb	13:55:46
2	Zn 213.857†	8252.8	8030.3	497.72 µg/L	497.72 ppb	13:55:46
3	Sc RADIAL	49670.4	49670.4	99.1 %		13:54:37
3	Al 396.153Radial†	7005.5	7039.2	5080.9 µg/L	5080.9 ppb	13:54:37
3	Ca 317.933Radial†	3248.2	3099.1	4970.3 µg/L	4970.3 ppb	13:54:58
3	Fe 238.204 Radial†	264.5	259.5	5141.4 µg/L	5141.4 ppb	13:54:58
3	K 766.490 Radial†	7612.1	7461.0	5087.3 µg/L	5087.3 ppb	13:54:37
3	Mg 279.077 IEC†	504.3	501.0	5136.9 µg/L	5136.9 ppb	13:54:58
3	Na 589.592 Radial†	31754.6	32005.8	10198 µg/L	10198 ppb	13:54:37
3	Sr 421.552†	44488.3	44906.4	500.97 µg/L	500.97 ppb	13:54:37
3	Sc 361.383	1221761.1	1221761.1	99.568 %		13:56:13
3	Y 371.029	840382.5	840382.5	98.593 %		13:56:13
3	Ag 328.068†	36379.3	36509.2	483.35 µg/L	483.35 ppb	13:56:18
3	As 188.979†	95.3	96.0	465.50 µg/L	465.50 ppb	13:56:39
3	B 249.677†	6447.2	6262.7	480.83 µg/L	480.83 ppb	13:56:18
3	Ba 233.527†	8041.0	8121.0	482.89 µg/L	482.89 ppb	13:56:18
3	Be 313.107†	307615.2	307536.8	488.94 µg/L	488.94 ppb	13:56:13
3	Cd 226.502†	6365.7	6449.5	480.95 µg/L	480.95 ppb	13:56:18
3	Co 228.616†	4158.0	4189.8	482.60 µg/L	482.60 ppb	13:56:18
3	Cr 267.716†	9685.4	9760.7	477.72 µg/L	477.72 ppb	13:56:18
3	Cu 324.752†	59806.1	57525.3	474.30 µg/L	474.30 ppb	13:56:18
3	Mn 257.610†	70190.4	70393.2	493.30 µg/L	493.30 ppb	13:56:13
3	Mo 202.031†	1886.4	1895.5	442.49 µg/L	442.49 ppb	13:56:39
3	Ni 231.604†	3697.3	3589.3	482.68 µg/L	482.68 ppb	13:56:18
3	P 214.914†	526.8	410.8	2246.9 µg/L	2246.9 ppb	13:56:39
3	Pb 220.353†	801.5	779.6	467.39 µg/L	467.39 ppb	13:56:39
3	S 181.975 Axial†	103.3	94.8	966.09 µg/L	966.09 ppb	13:56:39
3	Sb 206.836†	241.1	237.6	459.31 µg/L	459.31 ppb	13:56:39
3	Se 196.026†	164.3	159.6	491.11 µg/L	491.11 ppb	13:56:39
3	SiO2†	15865.2	14506.8	5210.1 µg/L	5210.1 ppb	13:56:18
3	Si 251.611†	17404.1	16926.5	2379.3 µg/L	2379.3 ppb	13:56:18
3	Sn 189.927†	359.8	363.6	454.43 µg/L	454.43 ppb	13:56:39
3	Ti 334.940†	128225.1	128579.5	486.82 µg/L	486.82 ppb	13:56:13
3	Tl 190.801†	142.2	151.4	473.11 µg/L	473.11 ppb	13:56:39
3	U 409.014†	4444.5	4531.1	479.11 µg/L	479.11 ppb	13:56:18
3	V 292.402†	21796.8	22121.2	484.66 µg/L	484.66 ppb	13:56:18
3	Zn 213.857†	7992.8	7761.3	481.01 µg/L	481.01 ppb	13:56:18

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1221912.4	99.581	%	0.1126				0.11%
Sc RADIAL	49570.4	98.9	%	0.49				0.49%
Y 371.029	840527.9	98.610	%	0.0799				0.08%
Ag 328.068†	37104.5	491.27	µg/L	6.935	491.27	ppb	6.935	1.41%
QC value within limits for Ag 328.068 Recovery = 98.25%								
Al 396.153Radial†	7047.6	5085.6	µg/L	19.64	5085.6	ppb	19.64	0.39%
QC value within limits for Al 396.153Radial Recovery = 101.71%								
As 188.979†	102.9	498.85	µg/L	31.335	498.85	ppb	31.335	6.28%
QC value within limits for As 188.979 Recovery = 99.77%								
B 249.677†	6360.4	488.34	µg/L	6.616	488.34	ppb	6.616	1.35%
QC value within limits for B 249.677 Recovery = 97.67%								
Ba 233.527†	8307.0	493.95	µg/L	9.636	493.95	ppb	9.636	1.95%
QC value within limits for Ba 233.527 Recovery = 98.79%								
Be 313.107†	311755.7	495.65	µg/L	5.827	495.65	ppb	5.827	1.18%
QC value within limits for Be 313.107 Recovery = 99.13%								
Ca 317.933Radial†	3108.3	4985.0	µg/L	34.27	4985.0	ppb	34.27	0.69%
QC value within limits for Ca 317.933Radial Recovery = 99.70%								
Cd 226.502†	6633.8	494.72	µg/L	11.926	494.72	ppb	11.926	2.41%
QC value within limits for Cd 226.502 Recovery = 98.94%								
Co 228.616†	4303.8	495.81	µg/L	11.510	495.81	ppb	11.510	2.32%

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   QC value within limits for Co 228.616  Recovery = 99.16%
Cr 267.716†          10098.6      494.25 µg/L       14.429      494.25 ppb        14.429   2.92%
   QC value within limits for Cr 267.716  Recovery = 98.85%
Cu 324.752†          58958.9      486.12 µg/L       10.281      486.12 ppb        10.281   2.11%
   QC value within limits for Cu 324.752  Recovery = 97.22%
Fe 238.204 Radial†     261.7      5185.5 µg/L        48.67      5185.5 ppb         48.67   0.94%
   QC value within limits for Fe 238.204 Radial  Recovery = 103.71%
K 766.490 Radial†     7454.2      5082.7 µg/L        18.67      5082.7 ppb         18.67   0.37%
   QC value within limits for K 766.490 Radial  Recovery = 101.65%
Mg 279.077 IEC†        501.0      5137.5 µg/L        17.85      5137.5 ppb         17.85   0.35%
   QC value within limits for Mg 279.077 IEC  Recovery = 102.75%
Mn 257.610†          71327.4      499.84 µg/L        5.675      499.84 ppb         5.675   1.14%
   QC value within limits for Mn 257.610  Recovery = 99.97%
Mo 202.031†           2057.3      480.26 µg/L       32.722      480.26 ppb        32.722   6.81%
   QC value within limits for Mo 202.031  Recovery = 96.05%
Na 589.592 Radial†   32050.5       10212 µg/L         66.5       10212 ppb          66.5   0.65%
   QC value within limits for Na 589.592 Radial  Recovery = 102.12%
Ni 231.604†           3682.9      495.27 µg/L       11.050      495.27 ppb        11.050   2.23%
   QC value within limits for Ni 231.604  Recovery = 99.05%
P 214.914†             443.0      2426.4 µg/L       155.68      2426.4 ppb       155.68   6.42%
   QC value within limits for P 214.914  Recovery = 97.06%
Pb 220.353†            829.3      497.21 µg/L       25.876      497.21 ppb        25.876   5.20%
   QC value within limits for Pb 220.353  Recovery = 99.44%
S 181.975 Axial†        98.4      1002.2 µg/L        35.89      1002.2 ppb         35.89   3.58%
   QC value within limits for S 181.975 Axial  Recovery = 100.22%
Sb 206.836†            253.5      490.03 µg/L       26.725      490.03 ppb        26.725   5.45%
   QC value within limits for Sb 206.836  Recovery = 98.01%
Se 196.026†            166.3      511.83 µg/L       23.435      511.83 ppb        23.435   4.58%
   QC value within limits for Se 196.026  Recovery = 102.37%
SiO2†                14771.1      5305.0 µg/L        82.78      5305.0 ppb         82.78   1.56%
   QC value within limits for SiO2  Recovery = 99.21%
Si 251.611†          17294.3      2429.6 µg/L        43.65      2429.6 ppb         43.65   1.80%
   QC value within limits for Si 251.611  Recovery = 97.18%
Sn 189.927†            393.4      491.62 µg/L       32.212      491.62 ppb        32.212   6.55%
   QC value within limits for Sn 189.927  Recovery = 98.32%
Sr 421.552†          44882.3      500.70 µg/L        2.697      500.70 ppb         2.697   0.54%
   QC value within limits for Sr 421.552  Recovery = 100.14%
Ti 334.940†         130480.0      494.02 µg/L        6.235      494.02 ppb         6.235   1.26%
   QC value within limits for Ti 334.940  Recovery = 98.80%
Tl 190.801†            158.2      494.27 µg/L       18.363      494.27 ppb        18.363   3.72%
   QC value within limits for Tl 190.801  Recovery = 98.85%
U 409.014†            4670.4      493.88 µg/L       12.910      493.88 ppb        12.910   2.61%
   QC value within limits for U 409.014  Recovery = 98.78%
V 292.402†           22741.3      498.42 µg/L       11.964      498.42 ppb        11.964   2.40%
   QC value within limits for V 292.402  Recovery = 99.68%
Zn 213.857†           7955.1      493.04 µg/L       10.506      493.04 ppb        10.506   2.13%
   QC value within limits for Zn 213.857  Recovery = 98.61%
All analyte(s) passed QC.
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Sequence No.: 19
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 1/5/2010 13:56:54
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	49034.0	49034.0	97.8	%			13:57:42
1	Al 396.153Radial†	19.5	-13.4	-9.7055	µg/L	-9.7055	ppb	13:58:03
1	Ca 317.933Radial†	160.0	-16.5	-26.525	µg/L	-26.525	ppb	13:58:03
1	Fe 238.204 Radial†	9.1	1.7	34.293	µg/L	34.293	ppb	13:58:03
1	K 766.490 Radial†	233.3	14.6	9.9604	µg/L	9.9604	ppb	13:57:42
1	Mg 279.077 IEC†	4.6	-3.5	-35.432	µg/L	-35.432	ppb	13:58:03
1	Na 589.592 Radial†	65.3	14.1	4.4936	µg/L	4.4936	ppb	13:57:42
1	Sr 421.552†	20.6	13.4	0.1493	µg/L	0.1493	ppb	13:58:03
1	Sc 361.383	1223403.2	1223403.2	99.702	%			13:59:34
1	Y 371.029	841402.3	841402.3	98.712	%			13:59:34
1	Ag 328.068†	29.8	2.1	0.0317	µg/L	0.0317	ppb	13:59:40
1	As 188.979†	2.8	3.1	15.135	µg/L	15.135	ppb	14:00:00
1	B 249.677†	246.2	34.4	2.6406	µg/L	2.6406	ppb	14:00:00
1	Ba 233.527†	-40.7	4.3	0.2581	µg/L	0.2581	ppb	14:00:00
1	Be 313.107†	1435.7	27.8	0.0442	µg/L	0.0442	ppb	13:59:40
1	Cd 226.502†	-52.5	3.5	0.2494	µg/L	0.2494	ppb	14:00:00
1	Co 228.616†	-16.2	-2.4	-0.2806	µg/L	-0.2806	ppb	14:00:00
1	Cr 267.716†	-34.5	-1.3	-0.0613	µg/L	-0.0613	ppb	14:00:00
1	Cu 324.752†	2813.9	282.2	2.3272	µg/L	2.3272	ppb	13:59:40
1	Mn 257.610†	95.6	-5.7	-0.0359	µg/L	-0.0359	ppb	14:00:00
1	Mo 202.031†	-1.7	-0.8	-0.1880	µg/L	-0.1880	ppb	14:00:00
1	Ni 231.604†	122.1	-1.6	-0.2122	µg/L	-0.2122	ppb	14:00:00
1	P 214.914†	124.0	6.1	33.747	µg/L	33.747	ppb	14:00:00
1	Pb 220.353†	27.5	2.2	1.3221	µg/L	1.3221	ppb	14:00:00
1	S 181.975 Axial†	6.7	-2.2	-22.299	µg/L	-22.299	ppb	14:00:00
1	Sb 206.836†	5.2	0.7	1.3814	µg/L	1.3814	ppb	14:00:00
1	Se 196.026†	8.3	2.8	8.7090	µg/L	8.7090	ppb	14:00:00
1	SiO2†	1404.4	-18.6	-6.6964	µg/L	-6.6964	ppb	14:00:00
1	Si 251.611†	536.4	-15.1	-2.3772	µg/L	-2.3772	ppb	14:00:00
1	Sn 189.927†	2.3	4.5	5.5534	µg/L	5.5534	ppb	14:00:00
1	Ti 334.940†	191.8	-9.2	-0.0332	µg/L	-0.0332	ppb	13:59:40
1	Tl 190.801†	-8.6	-0.0	-0.0114	µg/L	-0.0114	ppb	14:00:00
1	U 409.014†	-89.2	-22.1	-2.3503	µg/L	-2.3503	ppb	13:59:40
1	V 292.402†	-216.0	13.3	0.2867	µg/L	0.2867	ppb	14:00:00
1	Zn 213.857†	266.0	0.7	0.0336	µg/L	0.0336	ppb	14:00:00
2	Sc RADIAL	48910.5	48910.5	97.5	%			13:58:23
2	Al 396.153Radial†	5.3	-28.0	-20.269	µg/L	-20.269	ppb	13:58:43
2	Ca 317.933Radial†	163.6	-12.5	-19.976	µg/L	-19.976	ppb	13:58:43
2	Fe 238.204 Radial†	7.9	0.5	10.532	µg/L	10.532	ppb	13:58:43
2	K 766.490 Radial†	255.4	37.9	25.835	µg/L	25.835	ppb	13:58:23
2	Mg 279.077 IEC†	2.3	-5.7	-58.677	µg/L	-58.677	ppb	13:58:43
2	Na 589.592 Radial†	66.3	15.3	4.8904	µg/L	4.8904	ppb	13:58:23
2	Sr 421.552†	16.3	9.1	0.1013	µg/L	0.1013	ppb	13:58:43
2	Sc 361.383	1220472.9	1220472.9	99.463	%			14:00:06
2	Y 371.029	842938.5	842938.5	98.892	%			14:00:06
2	Ag 328.068†	42.3	14.8	0.1974	µg/L	0.1974	ppb	14:00:11
2	As 188.979†	2.5	2.8	13.847	µg/L	13.847	ppb	14:00:32
2	B 249.677†	242.6	31.4	2.4166	µg/L	2.4166	ppb	14:00:32
2	Ba 233.527†	-41.0	3.9	0.2332	µg/L	0.2332	ppb	14:00:32
2	Be 313.107†	1482.5	78.3	0.1246	µg/L	0.1246	ppb	14:00:11
2	Cd 226.502†	-50.7	5.3	0.3906	µg/L	0.3906	ppb	14:00:32
2	Co 228.616†	-12.9	0.8	0.0941	µg/L	0.0941	ppb	14:00:32
2	Cr 267.716†	-29.6	3.6	0.1750	µg/L	0.1750	ppb	14:00:32
2	Cu 324.752†	2799.3	274.3	2.2605	µg/L	2.2605	ppb	14:00:11
2	Mn 257.610†	97.8	-3.3	-0.0215	µg/L	-0.0215	ppb	14:00:32
2	Mo 202.031†	-1.9	-1.0	-0.2238	µg/L	-0.2238	ppb	14:00:32
2	Ni 231.604†	121.4	-2.0	-0.2673	µg/L	-0.2673	ppb	14:00:32
2	P 214.914†	123.1	5.5	30.277	µg/L	30.277	ppb	14:00:32
2	Pb 220.353†	29.7	4.5	2.6723	µg/L	2.6723	ppb	14:00:32

2	S 181.975 Axial†	3.7	-5.2	-52.668	µg/L	-52.668	ppb	14:00:32
2	Sb 206.836†	9.4	4.9	9.4872	µg/L	9.4872	ppb	14:00:32
2	Se 196.026†	5.6	0.2	0.6428	µg/L	0.6428	ppb	14:00:32
2	SiO2†	1407.0	-12.6	-4.5390	µg/L	-4.5390	ppb	14:00:32
2	Si 251.611†	528.4	-21.9	-3.1593	µg/L	-3.1593	ppb	14:00:32
2	Sn 189.927†	-1.6	0.5	0.6504	µg/L	0.6504	ppb	14:00:32
2	Ti 334.940†	183.9	-16.7	-0.0621	µg/L	-0.0621	ppb	14:00:11
2	Tl 190.801†	-7.8	0.7	2.3006	µg/L	2.3006	ppb	14:00:32
2	U 409.014†	-46.7	20.3	2.1566	µg/L	2.1566	ppb	14:00:11
2	V 292.402†	-212.1	16.7	0.3648	µg/L	0.3648	ppb	14:00:32
2	Zn 213.857†	272.8	8.2	0.5057	µg/L	0.5057	ppb	14:00:32
3	Sc RADIAL	49195.3	49195.3	98.1	%			13:59:04
3	Al 396.153Radial†	9.0	-24.2	-17.555	µg/L	-17.555	ppb	13:59:24
3	Ca 317.933Radial†	156.1	-21.1	-33.857	µg/L	-33.857	ppb	13:59:24
3	Fe 238.204 Radial†	7.5	0.0	0.6151	µg/L	0.6151	ppb	13:59:24
3	K 766.490 Radial†	230.2	10.6	7.2610	µg/L	7.2610	ppb	13:59:04
3	Mg 279.077 IEC†	2.9	-5.2	-53.468	µg/L	-53.468	ppb	13:59:24
3	Na 589.592 Radial†	59.4	7.9	2.5097	µg/L	2.5097	ppb	13:59:04
3	Sr 421.552†	25.4	18.2	0.2033	µg/L	0.2033	ppb	13:59:24
3	Sc 361.383	1219234.8	1219234.8	99.362	%			14:00:37
3	Y 371.029	842573.5	842573.5	98.850	%			14:00:37
3	Ag 328.068†	17.5	-10.2	-0.1327	µg/L	-0.1327	ppb	14:00:43
3	As 188.979†	-3.3	-3.0	-14.423	µg/L	-14.423	ppb	14:01:03
3	B 249.677†	242.8	31.9	2.4579	µg/L	2.4579	ppb	14:01:03
3	Ba 233.527†	-43.6	1.2	0.0724	µg/L	0.0724	ppb	14:01:03
3	Be 313.107†	1442.6	39.6	0.0630	µg/L	0.0630	ppb	14:00:43
3	Cd 226.502†	-49.9	5.9	0.4427	µg/L	0.4427	ppb	14:01:03
3	Co 228.616†	-12.5	1.2	0.1422	µg/L	0.1422	ppb	14:01:03
3	Cr 267.716†	-29.3	3.8	0.1876	µg/L	0.1876	ppb	14:01:03
3	Cu 324.752†	2839.1	317.3	2.6133	µg/L	2.6133	ppb	14:00:43
3	Mn 257.610†	98.4	-2.6	-0.0179	µg/L	-0.0179	ppb	14:01:03
3	Mo 202.031†	-0.1	0.8	0.1867	µg/L	0.1867	ppb	14:01:03
3	Ni 231.604†	122.7	-0.5	-0.0701	µg/L	-0.0701	ppb	14:01:03
3	P 214.914†	121.0	3.5	19.164	µg/L	19.164	ppb	14:01:03
3	Pb 220.353†	27.4	2.2	1.3340	µg/L	1.3340	ppb	14:01:03
3	S 181.975 Axial†	6.2	-2.6	-26.866	µg/L	-26.866	ppb	14:01:03
3	Sb 206.836†	6.0	1.5	2.8422	µg/L	2.8422	ppb	14:01:03
3	Se 196.026†	6.0	0.6	1.8544	µg/L	1.8544	ppb	14:01:03
3	SiO2†	1406.7	-11.5	-4.1358	µg/L	-4.1358	ppb	14:01:03
3	Si 251.611†	532.4	-17.2	-2.4789	µg/L	-2.4789	ppb	14:01:03
3	Sn 189.927†	-2.2	-0.0	-0.0646	µg/L	-0.0646	ppb	14:01:03
3	Ti 334.940†	235.4	35.3	0.1359	µg/L	0.1359	ppb	14:00:43
3	Tl 190.801†	-7.3	1.3	3.9278	µg/L	3.9278	ppb	14:01:03
3	U 409.014†	-60.2	6.7	0.7120	µg/L	0.7120	ppb	14:00:43
3	V 292.402†	-221.0	7.5	0.1659	µg/L	0.1659	ppb	14:01:03
3	Zn 213.857†	270.7	6.4	0.3954	µg/L	0.3954	ppb	14:01:03

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1221037.0	99.509	%	0.1745				0.18%
Sc RADIAL	49046.6	97.8	%	0.28				0.29%
Y 371.029	842304.8	98.818	%	0.0942				0.10%
Ag 328.068†	2.2	0.0321	µg/L	0.16505	0.0321	ppb	0.16505	513.40%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-21.9	-15.843	µg/L	5.4856	-15.843	ppb	5.4856	34.63%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	1.0	4.8529	µg/L	16.70599	4.8529	ppb	16.70599	344.25%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	32.6	2.5050	µg/L	0.11920	2.5050	ppb	0.11920	4.76%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	3.2	0.1879	µg/L	0.10078	0.1879	ppb	0.10078	53.63%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	48.6	0.0773	µg/L	0.04206	0.0773	ppb	0.04206	54.44%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-16.7	-26.786	µg/L	6.9441	-26.786	ppb	6.9441	25.92%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	4.9	0.3609	µg/L	0.10002	0.3609	ppb	0.10002	27.71%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	-0.1	-0.0148	µg/L	0.23149	-0.0148	ppb	0.23149	>999.9%

```
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                 2.0      0.1004 µg/L       0.14023      0.1004 ppb        0.14023 139.62%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†               291.2      2.4004 µg/L       0.18742      2.4004 ppb        0.18742   7.81%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          0.8      15.147 µg/L       17.3065      15.147 ppb        17.3065 114.26%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†          21.0      14.352 µg/L       10.0357      14.352 ppb        10.0357  69.92%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†            -4.8     -49.193 µg/L       12.1982     -49.193 ppb        12.1982  24.80%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†                -3.9      -0.0251 µg/L      0.00949      -0.0251 ppb        0.00949  37.82%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                -0.3      -0.0750 µg/L      0.22735      -0.0750 ppb        0.22735 303.05%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†         12.4       3.9646 µg/L       1.27548      3.9646 ppb        1.27548  32.17%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                -1.4      -0.1832 µg/L      0.10178      -0.1832 ppb        0.10178  55.55%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                  5.0      27.729 µg/L        7.6179      27.729 ppb         7.6179  27.47%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 3.0       1.7762 µg/L      0.77611       1.7762 ppb        0.77611  43.70%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†           -3.3     -33.944 µg/L       16.3751     -33.944 ppb        16.3751  48.24%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                 2.4       4.5703 µg/L      4.32037       4.5703 ppb        4.32037  94.53%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 1.2       3.7354 µg/L      4.34964       3.7354 ppb        4.34964 116.44%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                     -14.3      -5.1238 µg/L      1.37680      -5.1238 ppb        1.37680  26.87%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†               -18.1      -2.6718 µg/L      0.42524      -2.6718 ppb        0.42524  15.92%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 1.7       2.0464 µg/L      3.05811       2.0464 ppb        3.05811 149.44%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                13.6       0.1513 µg/L      0.05103       0.1513 ppb        0.05103  33.72%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†                 3.2       0.0135 µg/L      0.10694       0.0135 ppb        0.10694 790.73%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                 0.7       2.0723 µg/L      1.97951       2.0723 ppb        1.97951  95.52%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                  1.6       0.1728 µg/L      2.30133       0.1728 ppb        2.30133 >999.9%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                 12.5       0.2725 µg/L      0.10021       0.2725 ppb        0.10021  36.78%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†                 5.1       0.3116 µg/L      0.24693       0.3116 ppb        0.24693  79.26%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

ICPMS #5 Daily Performance Report

Sample ID: Sample
Sample Date/Time: Sunday, January 03, 2010 14:14:04
Sample Description:
Method File: c:\elandata\Method\Daily2.mth
Dataset File: c:\elandata\Dataset\default2\Sample.1646
Tuning File: c:\elandata\Tuning\default2.tun
Optimization File: c:\elandata\Optimize\default.dac
Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35
Current Dead Time (ns): 35

Number of Replicates: 5

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Be	9.0	4529.7	4529.718	79.085	1.7
	Mg	24.0	48383.4	48383.404	575.294	1.2
	Co	58.9	93399.2	93399.174	1332.998	1.4
	Rh	102.9	177381.9	177381.878	885.008	0.5
	In	114.9	233658.3	233658.280	2035.639	0.9
	Pb	208.0	265884.5	265884.502	3858.984	1.5
⌈>	Ba	137.9	237479.3	237479.332	1260.587	0.5
⌊	Ba++	69.0	5196.0	0.022	0.000	0.9
⌈>	Ce	139.9	293550.0	293549.998	3117.206	1.1
⌊	CeO	155.9	6435.4	0.022	0.000	1.2
	Bkgd	220.0	18.2	18.200	2.564	14.1

Current Optimization File Data

Current Value	Description
0.85	Nebulizer Gas Flow
7.00	Lens Voltage
1450.00	ICP RF Power
-1687.50	Analog Stage Voltage
1200.00	Pulse Stage Voltage
275.00	Discriminator Threshold
-6.00	AC Rod Offset

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	13	8.3	5205.6
Co	59	13	8.8	90127.4
In	115	13	10.3	227698.6

ICPMS #5 Instrument Tuning Report

File Name: default2.tun
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	595	2065	0.579
Be	9.0	9.0	2059	2070	0.620
Mg	24.0	24.0	5695	2070	0.648
Mg	25.0	25.0	5935	2070	0.610
Mg	26.0	25.9	6172	2070	0.628
Co	58.9	58.9	14188	2105	0.608
Rh	102.9	102.9	24884	2165	0.604
In	114.9	114.9	27798	2185	0.599
Ce	139.9	139.9	33870	2200	0.627
Pb	206.0	206.0	49948	2270	0.665
Pb	207.0	207.0	50171	2235	0.674
Pb	208.0	208.0	50451	2260	0.711
U	238.1	238.1	57736	2275	0.727

ICPMS#5 - Summary Report

Sample ID: Blank
Sample Date/Time: Sunday, January 03, 2010 18:25:58
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\Blank.081

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7		ug/L		74	
	Be	9		ug/L		16	
	B	11		ug/L		667	
	Na	23		ug/L		17679	
	Mg	24		ug/L		2000	
	Al	27		ug/L		4334	
	P	31		ug/L		7059	
	K	39		ug/L		629926	
	Ca	43		ug/L		259	
>	Sc	45		ug/L		1413157	
	Ti	47		ug/L		356	
	V	51		ug/L		11568	
	Cr	52		ug/L		-1762	
	Cr	53		ug/L		157290	
	Mn	55		ug/L		1160	
	Fe	57		ug/L		5195	
	Co	59		ug/L		93	
	Ni	60		ug/L		70	
	Cu	63		ug/L		290	
	Cu	65		ug/L		131	
	Zn	66		ug/L		253	
	Zn	67		ug/L		18419	
	Zn	68		ug/L		2081	
>	Ge	74		ug/L		469831	
	As	75		ug/L		-410	
	Se	77		ug/L		8356	
	Se	82		ug/L		-27	
	Kr	83		ug/L		124	
	Sr	88		ug/L		186	
	Y	89		ug/L		64	
	Mo	98		ug/L		95	
	Ag	107		ug/L		49	
	Cd	111		ug/L		29	
	Cd	114		ug/L		39	
>	In	115		ug/L		296035	
	Sn	120		ug/L		381	
	Sb	121		ug/L		423	
	Sb	123		ug/L		338	
	Ba	135		ug/L		36	
	Ba	137		ug/L		46	
	Ho	165		ug/L		24	
>	Lu	175		ug/L		600437	
	Tl	205		ug/L		4030	
	Pb	208		ug/L		399	
	Bi	209		ug/L		187	
	Th	232		ug/L		916	
	U	238		ug/L		379	

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45					
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175					
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Sunday, January 03, 2010 18:32:05
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\Standard 1.082

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	10.000	ug/L	1.896	20432	0.015
	Be	9	10.000	ug/L	3.466	4855	0.003
	B	11	20.000	ug/L	3.247	10642	0.007
	Na	23	1000.000	ug/L	2.255	4965016	3.533
	Mg	24	1000.000	ug/L	3.039	3242789	2.314
	Al	27	1000.000	ug/L	3.564	4817858	3.438
	P	31	1000.000	ug/L	1.596	286170	0.199
	K	39	1000.000	ug/L	8.140	6522832	4.215
	Ca	43	1000.000	ug/L	2.529	14765	0.010
>	Sc	45		ug/L		1400292	1400291.854
	Ti	47	10.000	ug/L	2.330	7747	0.005
	V	51	10.000	ug/L	0.826	95271	0.060
	Cr	52	10.000	ug/L	1.463	64949	0.048
	Cr	53		ug/L		151989	-0.003
	Mn	55	10.000	ug/L	0.577	108278	0.077
	Fe	57	1000.000	ug/L	2.137	218547	0.152
	Co	59	10.000	ug/L	1.525	81915	0.058
	Ni	60	10.000	ug/L	1.689	17834	0.013
	Cu	63		ug/L		43243	0.031
	Cu	65	10.000	ug/L	0.782	21060	0.015
	Zn	66	10.000	ug/L	2.101	14669	0.031
	Zn	67		ug/L		19901	0.004
	Zn	68		ug/L		12428	0.022
>	Ge	74		ug/L		463616	463616.444
	As	75	10.000	ug/L	4.450	14171	0.031
	Se	77		ug/L		8800	0.001
	Se	82	10.000	ug/L	3.250	1354	0.003
	Kr	83		ug/L		107	-0.000
	Sr	88	10.000	ug/L	0.972	171806	0.586
	Y	89		ug/L		79	0.000
	Mo	98	10.000	ug/L	1.970	41016	0.140
	Ag	107	10.000	ug/L	1.871	73385	0.250
	Cd	111	10.000	ug/L	2.753	17556	0.060
	Cd	114		ug/L		42197	0.144
>	In	115		ug/L		292880	292880.285
	Sn	120	10.000	ug/L	2.646	75463	0.256
	Sb	121	10.000	ug/L	2.759	66902	0.227
	Sb	123		ug/L		52496	0.178
	Ba	135		ug/L		19734	0.033
	Ba	137	10.000	ug/L	1.504	34947	0.058
	Ho	165		ug/L		36	0.000
>	Lu	175		ug/L		604378	604377.944
	Tl	205	10.000	ug/L	1.552	310706	0.507
	Pb	208	10.000	ug/L	2.216	481966	0.797
	Bi	209		ug/L		230	0.000
	Th	232	10.000	ug/L	1.153	598983	0.990
	U	238	10.000	ug/L	0.707	638638	1.056

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45					
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175					
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Sunday, January 03, 2010 18:38:09
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\Standard 2.083

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**100.020**	ug/L	0.385	201279	0.148
	Be	9	**99.990**	ug/L	1.523	46443	0.034
	B	11	**199.927**	ug/L	2.724	93898	0.069
	Na	23	**9994.494**	ug/L	6.989	45418461	33.472
	Mg	24	**10002.554**	ug/L	9.336	32229946	23.752
	Al	27	**9993.938**	ug/L	5.498	43937890	32.391
	P	31	**10003.816**	ug/L	2.345	2819521	2.074
	K	39	**9997.205**	ug/L	5.449	56196706	40.991
	Ca	43	**9997.865**	ug/L	1.905	137844	0.101
>	Sc	45		ug/L		1356427	1356427.282
	Ti	47	**99.998**	ug/L	2.602	71838	0.053
	V	51	**99.958**	ug/L	0.576	789498	0.574
	Cr	52	**99.939**	ug/L	0.121	606612	0.448
	Cr	53		ug/L		185910	0.026
	Mn	55	**99.927**	ug/L	3.206	967741	0.713
	Fe	57	**9985.553**	ug/L	1.433	1808682	1.330
	Co	59	**99.940**	ug/L	1.299	747640	0.551
	Ni	60	**99.967**	ug/L	1.884	166684	0.123
	Cu	63		ug/L		395778	0.292
	Cu	65	**99.955**	ug/L	2.588	194010	0.143
	Zn	66	**99.944**	ug/L	1.597	133003	0.294
	Zn	67		ug/L		37506	0.044
	Zn	68		ug/L		97947	0.213
>	Ge	74		ug/L		450891	450891.334
	As	75	**99.951**	ug/L	2.579	134595	0.299
	Se	77		ug/L		16067	0.018
	Se	82	**99.990**	ug/L	1.342	13258	0.029
	Kr	83		ug/L		123	0.000
	Sr	88	**99.878**	ug/L	1.553	1493282	5.218
	Y	89		ug/L		208	0.001
	Mo	98	**99.984**	ug/L	0.274	393804	1.376
	Ag	107	**99.919**	ug/L	2.746	662581	2.315
	Cd	111	**99.988**	ug/L	1.787	169374	0.592
	Cd	114		ug/L		397994	1.391
>	In	115		ug/L		286198	286197.846
	Sn	120	**99.957**	ug/L	1.463	704008	2.459
	Sb	121	**99.954**	ug/L	2.183	621244	2.170
	Sb	123		ug/L		490297	1.712
	Ba	135		ug/L		186331	0.321
	Ba	137	**99.973**	ug/L	1.919	326928	0.562
	Ho	165		ug/L		35	0.000
>	Lu	175		ug/L		581333	581332.669
	Tl	205	**99.879**	ug/L	4.100	2630572	4.520
	Pb	208	**99.867**	ug/L	1.890	4084454	7.027
	Bi	209		ug/L		543	0.001
	Th	232	**99.854**	ug/L	3.887	5013521	8.626
	U	238	**99.888**	ug/L	2.417	5512100	9.483

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
Lu	175					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Sunday, January 03, 2010 18:44:12
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 1.084

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**51.148**	**ug/L**	1.195	104865	0.076
	Be	9	**49.885**	**ug/L**	0.499	23608	0.017
	B	11	**101.099**	**ug/L**	1.884	48686	0.035
	Na	23	**4835.803**	**ug/L**	2.700	22393824	16.195
	Mg	24	**4951.492**	**ug/L**	3.957	16240143	11.758
	Al	27	**5094.158**	**ug/L**	3.313	22822550	16.511
	P	31	**4287.216**	**ug/L**	1.432	1234615	0.889
	K	39	**5321.226**	**ug/L**	6.371	30741752	21.818
	Ca	43	**4859.379**	**ug/L**	1.952	68365	0.049
>	Sc	45		**ug/L**		1381607	1381606.605
	Ti	47	**48.934**	**ug/L**	1.475	35986	0.026
	V	51	**49.529**	**ug/L**	2.378	404100	0.284
	Cr	52	**51.095**	**ug/L**	2.048	314990	0.229
	Cr	53		**ug/L**		149475	-0.003
	Mn	55	**51.162**	**ug/L**	2.809	505126	0.365
	Fe	57	**5250.154**	**ug/L**	2.916	970765	0.699
	Co	59	**50.830**	**ug/L**	1.659	387287	0.280
	Ni	60	**51.392**	**ug/L**	1.402	87302	0.063
	Cu	63		**ug/L**		205376	0.148
	Cu	65	**51.082**	**ug/L**	0.737	101054	0.073
	Zn	66	**51.152**	**ug/L**	1.366	70101	0.151
	Zn	67		**ug/L**		27260	0.020
	Zn	68		**ug/L**		52982	0.110
>	Ge	74		**ug/L**		463459	463458.993
	As	75	**48.148**	**ug/L**	0.191	66450	0.144
	Se	77		**ug/L**		10822	0.006
	Se	82	**48.607**	**ug/L**	1.261	6612	0.014
	Kr	83		**ug/L**		118	-0.000
	Sr	88	**51.907**	**ug/L**	3.989	799326	2.712
	Y	89		**ug/L**		102	0.000
	Mo	98	**49.560**	**ug/L**	2.751	201128	0.682
	Ag	107	**51.107**	**ug/L**	2.477	349174	1.184
	Cd	111	**49.212**	**ug/L**	4.260	85861	0.291
	Cd	114		**ug/L**		202172	0.686
>	In	115		**ug/L**		294959	294958.712
	Sn	120	**50.679**	**ug/L**	3.568	367798	1.247
	Sb	121	**49.705**	**ug/L**	2.468	318514	1.079
	Sb	123		**ug/L**		251681	0.853
	Ba	135		**ug/L**		94499	0.160
	Ba	137	**49.920**	**ug/L**	2.152	165928	0.281
	Ho	165		**ug/L**		59	0.000
>	Lu	175		**ug/L**		590805	590804.957
	Tl	205	**49.617**	**ug/L**	0.805	1330592	2.245
	Pb	208	**53.015**	**ug/L**	2.461	2203668	3.730
	Bi	209		**ug/L**		621	0.001
	Th	232	**50.186**	**ug/L**	0.861	2562252	4.336
	U	238	**51.848**	**ug/L**	3.353	2907723	4.922

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Li	7	102.297				
	Be	9	99.771				
	B	11	101.099				
	Na	23	96.716				
	Mg	24	99.030				
	Al	27	100.874				
	P	31	85.744				
	K	39	106.425				
	Ca	43	97.188				
>	Sc	45		97.8			
	Ti	47	97.869				
	V	51	99.058				
	Cr	52	102.189				
	Cr	53					
	Mn	55	102.323				
	Fe	57	105.003				
	Co	59	101.659				
	Ni	60	102.783				
	Cu	63					
	Cu	65	102.164				
	Zn	66	102.305				
	Zn	67					
	Zn	68					
>	Ge	74		98.6			
	As	75	96.297				
	Se	77					
	Se	82	97.214				
	Kr	83					
	Sr	88	103.814				
	Y	89					
	Mo	98	99.120				
	Ag	107	102.214				
	Cd	111	98.424				
	Cd	114					
>	In	115		99.6			
	Sn	120	101.358				
	Sb	121	99.409				
	Sb	123					
	Ba	135					
	Ba	137	99.841				
	Ho	165					
>	Lu	175		98.4			
	Tl	205	99.234				
	Pb	208	106.029				
	Bi	209					
	Th	232	100.372				
	U	238	103.696				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	P	31	ICV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Sunday, January 03, 2010 18:50:20
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 2.085

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.013**	**ug/L**	26.933	98	0.000
	Be	9	**0.003**	**ug/L**	283.538	17	0.000
	B	11	**2.633**	**ug/L**	20.710	1875	0.001
	Na	23	**-0.447**	**ug/L**	123.871	15008	-0.001
	Mg	24	**-0.082**	**ug/L**	573.538	1667	-0.000
	Al	27	**0.489**	**ug/L**	53.490	6335	0.002
	P	31	**-0.390**	**ug/L**	47.694	6692	-0.000
	K	39	**-8.651**	**ug/L**	40.516	558730	-0.035
	Ca	43	**2.224**	**ug/L**	32.792	280	0.000
>	Sc	45		**ug/L**		1361537	1361536.770
	Ti	47	**-0.022**	**ug/L**	49.515	327	-0.000
	V	51	**-0.262**	**ug/L**	71.685	9087	-0.002
	Cr	52	**0.303**	**ug/L**	6.697	154	0.001
	Cr	53		**ug/L**		117207	-0.025
	Mn	55	**-0.012**	**ug/L**	25.238	1002	-0.000
	Fe	57	**-0.731**	**ug/L**	71.825	4872	-0.000
	Co	59	**0.004**	**ug/L**	33.153	119	0.000
	Ni	60	**0.009**	**ug/L**	38.657	82	0.000
	Cu	63		**ug/L**		652	0.000
	Cu	65	**0.009**	**ug/L**	107.731	145	0.000
	Zn	66	**0.012**	**ug/L**	68.398	262	0.000
	Zn	67		**ug/L**		15962	-0.004
	Zn	68		**ug/L**		1695	-0.001
>	Ge	74		**ug/L**		457304	457304.486
	As	75	**0.304**	**ug/L**	27.825	18	0.001
	Se	77		**ug/L**		5886	-0.005
	Se	82	**0.199**	**ug/L**	49.862	1	0.000
	Kr	83		**ug/L**		111	-0.000
	Sr	88	**0.002**	**ug/L**	48.367	213	0.000
	Y	89		**ug/L**		59	-0.000
	Mo	98	**0.042**	**ug/L**	26.308	259	0.001
	Ag	107	**0.004**	**ug/L**	30.187	73	0.000
	Cd	111	**0.001**	**ug/L**	1142.711	30	0.000
	Cd	114		**ug/L**		52	0.000
>	In	115		**ug/L**		289411	289410.821
	Sn	120	**0.136**	**ug/L**	15.066	1338	0.003
	Sb	121	**0.296**	**ug/L**	16.351	2274	0.006
	Sb	123		**ug/L**		1759	0.005
	Ba	135		**ug/L**		46	0.000
	Ba	137	**0.001**	**ug/L**	44.013	50	0.000
	Ho	165		**ug/L**		28	0.000
>	Lu	175		**ug/L**		594485	594485.014
	Tl	205	**0.400**	**ug/L**	22.190	14739	0.018
	Pb	208	**0.004**	**ug/L**	41.827	558	0.000
	Bi	209		**ug/L**		189	0.000
	Th	232	**0.055**	**ug/L**	19.830	3708	0.005
	U	238	**0.007**	**ug/L**	20.413	778	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		96.3			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		97.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		97.8			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		99.0			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Sunday, January 03, 2010 18:56:27
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 3.086

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**10.840**	ug/L	1.509	22195	0.016
	Be	9	**0.526**	ug/L	9.828	263	0.000
	B	11	**16.608**	ug/L	2.712	8508	0.006
	Na	23	**264.355**	ug/L	10.565	1234775	0.885
	Mg	24	**18.299**	ug/L	22.480	61805	0.043
	Al	27	**33.901**	ug/L	15.240	155522	0.110
	P	31	**47.205**	ug/L	5.895	20335	0.010
	K	39	**298.570**	ug/L	8.943	2297677	1.224
	Ca	43	**216.427**	ug/L	1.619	3274	0.002
>	Sc	45		ug/L		1375985	1375985.006
	Ti	47	**8.508**	ug/L	2.292	6519	0.004
	V	51	**10.691**	ug/L	2.315	95712	0.061
	Cr	52	**11.034**	ug/L	1.900	66410	0.050
	Cr	53		ug/L		127372	-0.019
	Mn	55	**5.871**	ug/L	1.024	58748	0.042
	Fe	57	**120.409**	ug/L	2.346	27120	0.016
	Co	59	**1.126**	ug/L	1.233	8634	0.006
	Ni	60	**2.214**	ug/L	1.902	3812	0.003
	Cu	63		ug/L		4920	0.003
	Cu	65	**1.158**	ug/L	1.773	2406	0.002
	Zn	66	**11.127**	ug/L	0.907	15102	0.033
	Zn	67		ug/L		18849	0.002
	Zn	68		ug/L		12489	0.023
>	Ge	74		ug/L		453207	453206.512
	As	75	**5.737**	ug/L	4.338	7394	0.017
	Se	77		ug/L		6626	-0.003
	Se	82	**5.557**	ug/L	1.521	716	0.002
	Kr	83		ug/L		117	-0.000
	Sr	88	**11.754**	ug/L	0.934	180253	0.614
	Y	89		ug/L		54	-0.000
	Mo	98	**0.545**	ug/L	3.015	2293	0.008
	Ag	107	**1.059**	ug/L	0.682	7249	0.025
	Cd	111	**1.075**	ug/L	3.084	1894	0.006
	Cd	114		ug/L		4410	0.015
>	In	115		ug/L		293304	293303.702
	Sn	120	**5.424**	ug/L	3.048	39493	0.133
	Sb	121	**3.333**	ug/L	2.989	21627	0.072
	Sb	123		ug/L		17202	0.058
	Ba	135		ug/L		4010	0.007
	Ba	137	**2.128**	ug/L	2.005	7034	0.012
	Ho	165		ug/L		29	0.000
>	Lu	175		ug/L		583848	583848.263
	Tl	205	**1.270**	ug/L	3.770	37475	0.057
	Pb	208	**2.420**	ug/L	1.173	99786	0.170
	Bi	209		ug/L		194	0.000
	Th	232	**1.290**	ug/L	2.482	65932	0.111
	U	238	**0.262**	ug/L	2.088	14879	0.025

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7	108.403				
	Be	9	105.102				
	B	11	110.719				
	Na	23	105.742				
	Mg	24	121.992				
	Al	27	113.004				
	P	31	94.410				
	K	39	99.523				
	Ca	43	108.213				
>	Sc	45		97.4			
	Ti	47	85.084				
	V	51	106.906				
	Cr	52	110.342				
	Cr	53					
	Mn	55	117.429				
	Fe	57	120.409				
	Co	59	112.607				
	Ni	60	110.708				
	Cu	63					
	Cu	65	115.753				
	Zn	66	111.271				
	Zn	67					
	Zn	68					
>	Ge	74		96.5			
	As	75	114.749				
	Se	77					
	Se	82	111.147				
	Kr	83					
	Sr	88	117.539				
	Y	89					
	Mo	98	109.029				
	Ag	107	105.944				
	Cd	111	107.470				
	Cd	114					
>	In	115		99.1			
	Sn	120	108.471				
	Sb	121	111.088				
	Sb	123					
	Ba	135					
	Ba	137	106.413				
	Ho	165					
>	Lu	175		97.2			
	Tl	205	127.043				
	Pb	208	120.994				
	Bi	209					
	Th	232	128.983				
	U	238	130.921				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 3	U	238	CRDL is out of limits

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Sunday, January 03, 2010 19:02:33
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 4.087

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.136**	**ug/L**	8.560	307	0.000
	Be	9	**0.077**	**ug/L**	20.620	45	0.000
	B	11	**1.954**	**ug/L**	5.633	1377	0.001
	Na	23	**91668.464**	**ug/L**	3.169	369403480	307.003
	Mg	24	**95603.087**	**ug/L**	4.975	273302490	227.018
	Al	27	**100369.919**	**ug/L**	3.749	391552701	325.307
	P	31	**92583.900**	**ug/L**	1.452	23102005	19.193
	K	39	**99289.639**	**ug/L**	2.273	490497382	407.111
	Ca	43	**93306.584**	**ug/L**	0.739	1139680	0.947
>	Sc	45		**ug/L**		1203508	1203508.234
	Ti	47	**1380.818**	**ug/L**	2.287	876196	0.728
	V	51	**-0.253**	**ug/L**	68.295	8095	-0.001
	Cr	52	**3.013**	**ug/L**	2.924	14767	0.014
	Cr	53		**ug/L**		85333	-0.040
	Mn	55	**6.259**	**ug/L**	2.151	54710	0.045
	Fe	57	**102046.217**	**ug/L**	1.813	16357381	13.590
	Co	59	**0.350**	**ug/L**	7.101	2398	0.002
	Ni	60	**3.094**	**ug/L**	3.024	4634	0.004
	Cu	63		**ug/L**		7748	0.006
	Cu	65	**3.067**	**ug/L**	4.752	5390	0.004
	Zn	66	**3.672**	**ug/L**	2.078	4635	0.011
	Zn	67		**ug/L**		13818	-0.005
	Zn	68		**ug/L**		2264	0.001
>	Ge	74		**ug/L**		408162	408162.445
	As	75	**0.184**	**ug/L**	167.508	-131	0.001
	Se	77		**ug/L**		6659	-0.001
	Se	82	**-1.054**	**ug/L**	21.632	-150	-0.000
	Kr	83		**ug/L**		316	0.001
	Sr	88	**1.301**	**ug/L**	1.902	17622	0.068
	Y	89		**ug/L**		572	0.002
	Mo	98	**2023.875**	**ug/L**	0.314	7154333	27.847
	Ag	107	**0.088**	**ug/L**	13.790	569	0.002
	Cd	111	**0.395**	**ug/L**	23.127	626	0.002
	Cd	114		**ug/L**		11143	0.043
>	In	115		**ug/L**		256918	256917.835
	Sn	120	**0.155**	**ug/L**	4.670	1308	0.004
	Sb	121	**0.065**	**ug/L**	16.042	732	0.001
	Sb	123		**ug/L**		587	0.001
	Ba	135		**ug/L**		1202	0.002
	Ba	137	**0.685**	**ug/L**	1.698	2072	0.004
	Ho	165		**ug/L**		1306	0.002
>	Lu	175		**ug/L**		527394	527394.369
	Tl	205	**0.057**	**ug/L**	25.869	4890	0.003
	Pb	208	**0.194**	**ug/L**	0.472	7540	0.014
	Bi	209		**ug/L**		1664	0.003
	Th	232	**0.045**	**ug/L**	34.543	2860	0.004
	U	238	**-0.002**	**ug/L**	52.917	227	-0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23	91.668				
	Mg	24	95.603				
	Al	27	100.370				
	P	31	92.584				
	K	39	99.290				
	Ca	43	93.307				
>	Sc	45			85.2		
	Ti	47	69.041				
	V	51					
	Cr	52	81.433				
	Cr	53					
	Mn	55	107.919				
	Fe	57	102.046				
	Co	59	139.862				
	Ni	60	114.583				
	Cu	63					
	Cu	65	105.743				
	Zn	66	101.993				
	Zn	67					
	Zn	68					
>	Ge	74			86.9		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88	108.411				
	Y	89					
	Mo	98	101.194				
	Ag	107					
	Cd	111	98.688				
	Cd	114					
>	In	115			86.8		
	Sn	120					
	Sb	121	65.365				
	Sb	123					
	Ba	135					
	Ba	137	102.218				
	Ho	165					
>	Lu	175			87.8		
	Tl	205					
	Pb	208	96.871				
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Ti	47	ICSA is out of limits

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Sunday, January 03, 2010 19:08:39
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 5.088

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**21.479**	ug/L	2.050	37687	0.032
	Be	9	**19.207**	ug/L	2.295	7779	0.007
	B	11	**18.113**	ug/L	1.240	7917	0.006
	Na	23	**88023.919**	ug/L	4.504	348544631	294.798
	Mg	24	**89721.967**	ug/L	4.000	251691659	213.053
	Al	27	**96325.822**	ug/L	5.168	369000510	312.199
	P	31	**90999.014**	ug/L	3.574	22284335	18.864
	K	39	**104502.784**	ug/L	7.122	506161970	428.486
	Ca	43	**91704.387**	ug/L	1.901	1099335	0.930
>	Sc	45		ug/L		1181556	1181556.071
	Ti	47	**1348.092**	ug/L	1.535	839759	0.711
	V	51	**20.147**	ug/L	3.012	146269	0.116
	Cr	52	**23.181**	ug/L	2.737	121398	0.104
	Cr	53		ug/L		95673	-0.030
	Mn	55	**27.403**	ug/L	2.111	231825	0.195
	Fe	57	**100334.395**	ug/L	2.546	15784798	13.362
	Co	59	**20.800**	ug/L	2.232	135553	0.115
	Ni	60	**22.402**	ug/L	2.821	32566	0.028
	Cu	63		ug/L		73012	0.062
	Cu	65	**21.854**	ug/L	2.614	37021	0.031
	Zn	66	**21.332**	ug/L	0.930	25753	0.063
	Zn	67		ug/L		16735	0.002
	Zn	68		ug/L		17923	0.040
>	Ge	74		ug/L		406272	406271.840
	As	75	**20.445**	ug/L	1.205	24531	0.061
	Se	77		ug/L		8302	0.003
	Se	82	**19.154**	ug/L	2.552	2270	0.006
	Kr	83		ug/L		291	0.000
	Sr	88	**23.517**	ug/L	1.190	312500	1.229
	Y	89		ug/L		548	0.002
	Mo	98	**2009.080**	ug/L	2.999	7028378	27.643
	Ag	107	**19.927**	ug/L	1.351	117444	0.462
	Cd	111	**19.716**	ug/L	1.577	29694	0.117
	Cd	114		ug/L		79444	0.312
>	In	115		ug/L		254259	254258.924
	Sn	120	**20.993**	ug/L	0.964	131621	0.516
	Sb	121	**21.162**	ug/L	1.563	117153	0.459
	Sb	123		ug/L		92287	0.362
	Ba	135		ug/L		33964	0.065
	Ba	137	**20.343**	ug/L	1.618	60155	0.114
	Ho	165		ug/L		1298	0.002
>	Lu	175		ug/L		525340	525339.927
	Tl	205	**20.412**	ug/L	2.011	488823	0.924
	Pb	208	**21.152**	ug/L	0.727	782200	1.488
	Bi	209		ug/L		2083	0.004
	Th	232	**22.389**	ug/L	0.713	1016887	1.934
	U	238	**22.308**	ug/L	0.551	1112956	2.118

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Li	7	107.395				
	Be	9	96.036				
	B	11	90.566				
	Na	23	88.024				
	Mg	24	89.722				
	Al	27	96.326				
	P	31	90.999				
	K	39	104.503				
	Ca	43	91.704				
>	Sc	45		83.6			
	Ti	47	67.405				
	V	51	100.734				
	Cr	52	97.811				
	Cr	53					
	Mn	55	106.213				
	Fe	57	100.334				
	Co	59	102.718				
	Ni	60	98.687				
	Cu	63					
	Cu	65	95.431				
	Zn	66	90.390				
	Zn	67					
	Zn	68					
>	Ge	74		86.5			
	As	75	102.224				
	Se	77					
	Se	82	95.769				
	Kr	83					
	Sr	88	110.930				
	Y	89					
	Mo	98	100.454				
	Ag	107	99.637				
	Cd	111	96.647				
	Cd	114					
>	In	115		85.9			
	Sn	120	104.967				
	Sb	121	105.285				
	Sb	123					
	Ba	135					
	Ba	137	98.417				
	Ho	165					
>	Lu	175		87.5			
	Tl	205	102.058				
	Pb	208	104.715				
	Bi	209					
	Th	232	111.946				
	U	238	111.542				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Ti	47	ICSAB is out of limits

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, January 03, 2010 19:14:47
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 6.089

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**55.396**	ug/L	2.224	102800	0.082
	Be	9	**52.167**	ug/L	3.017	22341	0.018
	B	11	**96.376**	ug/L	5.072	42020	0.033
	Na	23	**4431.551**	ug/L	7.306	18561642	14.842
	Mg	24	**4706.139**	ug/L	3.697	13975431	11.175
	Al	27	**5104.433**	ug/L	3.298	20690056	16.544
	P	31	**4270.691**	ug/L	1.847	1113249	0.885
	K	39	**5122.515**	ug/L	1.805	26825605	21.004
	Ca	43	**4953.774**	ug/L	2.221	63074	0.050
>	Sc	45		ug/L		1250651	1250651.066
	Ti	47	**50.068**	ug/L	0.812	33321	0.026
	V	51	**50.358**	ug/L	4.240	371640	0.289
	Cr	52	**52.011**	ug/L	2.386	290252	0.233
	Cr	53		ug/L		136683	-0.002
	Mn	55	**53.706**	ug/L	1.310	480005	0.383
	Fe	57	**5493.888**	ug/L	2.459	919347	0.732
	Co	59	**53.053**	ug/L	0.613	365938	0.293
	Ni	60	**53.759**	ug/L	1.975	82658	0.066
	Cu	63		ug/L		190784	0.152
	Cu	65	**52.737**	ug/L	0.527	94447	0.075
	Zn	66	**51.496**	ug/L	1.766	65615	0.152
	Zn	67		ug/L		25140	0.019
	Zn	68		ug/L		48895	0.109
>	Ge	74		ug/L		430964	430964.419
	As	75	**49.965**	ug/L	0.335	64134	0.150
	Se	77		ug/L		9961	0.005
	Se	82	**50.021**	ug/L	1.034	6327	0.015
	Kr	83		ug/L		111	-0.000
	Sr	88	**53.339**	ug/L	1.468	772623	2.786
	Y	89		ug/L		97	0.000
	Mo	98	**50.171**	ug/L	0.906	191476	0.690
	Ag	107	**52.724**	ug/L	0.632	338752	1.222
	Cd	111	**50.515**	ug/L	0.909	82910	0.299
	Cd	114		ug/L		195464	0.705
>	In	115		ug/L		277241	277240.697
	Sn	120	**51.551**	ug/L	1.709	351886	1.268
	Sb	121	**50.958**	ug/L	2.396	307017	1.106
	Sb	123		ug/L		242424	0.873
	Ba	135		ug/L		89621	0.157
	Ba	137	**49.364**	ug/L	0.652	158304	0.278
	Ho	165		ug/L		55	0.000
>	Lu	175		ug/L		569921	569921.118
	Tl	205	**49.430**	ug/L	1.267	1278703	2.237
	Pb	208	**52.709**	ug/L	0.610	2114016	3.709
	Bi	209		ug/L		591	0.001
	Th	232	**50.212**	ug/L	0.532	2473075	4.338
	U	238	**51.949**	ug/L	1.436	2811095	4.932

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7	110.792				
	Be	9	104.334				
	B	11	96.376				
	Na	23	88.631				
	Mg	24	94.123				
	Al	27	101.078				
	P	31	85.414				
	K	39	102.450				
	Ca	43	99.075				
>	Sc	45		88.5			
	Ti	47	100.136				
	V	51	100.717				
	Cr	52	104.023				
	Cr	53					
	Mn	55	107.412				
	Fe	57	109.878				
	Co	59	106.106				
	Ni	60	107.518				
	Cu	63					
	Cu	65	105.473				
	Zn	66	102.992				
	Zn	67					
	Zn	68					
>	Ge	74		91.7			
	As	75	99.929				
	Se	77					
	Se	82	100.041				
	Kr	83					
	Sr	88	106.679				
	Y	89					
	Mo	98	100.341				
	Ag	107	105.448				
	Cd	111	101.030				
	Cd	114					
>	In	115		93.7			
	Sn	120	103.103				
	Sb	121	101.916				
	Sb	123					
	Ba	135					
	Ba	137	98.727				
	Ho	165					
>	Lu	175		94.9			
	Tl	205	98.860				
	Pb	208	105.418				
	Bi	209					
	Th	232	100.424				
	U	238	103.898				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Li	7	CCV is out of limits (+/- 10%)
QC Std 6	Na	23	CCV is out of limits (+/- 10%)
QC Std 6	P	31	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, January 03, 2010 19:20:55
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 7.090

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.006**	ug/L	66.051	81	0.000
	Be	9	**0.008**	ug/L	70.833	18	0.000
	B	11	**1.552**	ug/L	29.187	1312	0.001
	Na	23	**1.992**	ug/L	152.464	25026	0.007
	Mg	24	**0.803**	ug/L	92.991	4334	0.002
	Al	27	**1.104**	ug/L	54.128	8669	0.004
	P	31	**-2.600**	ug/L	21.882	5815	-0.001
	K	39	**-8.359**	ug/L	38.557	536910	-0.034
	Ca	43	**3.412**	ug/L	29.694	284	0.000
>	Sc	45		ug/L		1304807	1304807.014
	Ti	47	**0.183**	ug/L	36.811	455	0.000
	V	51	**-0.545**	ug/L	47.834	6600	-0.003
	Cr	52	**0.014**	ug/L	711.949	-1545	0.000
	Cr	53		ug/L		109543	-0.027
	Mn	55	**-0.014**	ug/L	32.547	945	-0.000
	Fe	57	**2.519**	ug/L	32.013	5234	0.000
	Co	59	**0.003**	ug/L	52.712	109	0.000
	Ni	60	**0.005**	ug/L	85.369	73	0.000
	Cu	63		ug/L		333	0.000
	Cu	65	**0.034**	ug/L	30.774	184	0.000
	Zn	66	**0.023**	ug/L	115.129	273	0.000
	Zn	67		ug/L		14764	-0.006
	Zn	68		ug/L		1487	-0.001
>	Ge	74		ug/L		449717	449716.711
	As	75	**0.178**	ug/L	96.277	-153	0.001
	Se	77		ug/L		5756	-0.005
	Se	82	**0.080**	ug/L	256.945	-15	0.000
	Kr	83		ug/L		116	-0.000
	Sr	88	**0.002**	ug/L	66.785	207	0.000
	Y	89		ug/L		56	-0.000
	Mo	98	**0.105**	ug/L	10.078	508	0.001
	Ag	107	**0.003**	ug/L	40.439	66	0.000
	Cd	111	**0.001**	ug/L	378.937	30	0.000
	Cd	114		ug/L		54	0.000
>	In	115		ug/L		287909	287909.480
	Sn	120	**0.103**	ug/L	12.941	1101	0.003
	Sb	121	**0.209**	ug/L	22.901	1719	0.005
	Sb	123		ug/L		1365	0.004
	Ba	135		ug/L		32	-0.000
	Ba	137	**0.001**	ug/L	312.535	48	0.000
	Ho	165		ug/L		29	0.000
>	Lu	175		ug/L		584730	584729.624
	Tl	205	**0.277**	ug/L	27.681	11264	0.013
	Pb	208	**0.002**	ug/L	44.343	488	0.000
	Bi	209		ug/L		159	-0.000
	Th	232	**0.061**	ug/L	24.946	3970	0.005
	U	238	**0.006**	ug/L	37.030	694	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		92.3			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		95.7			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		97.3			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		97.4			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 10
Sample Date/Time: Sunday, January 03, 2010 19:27:02
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 10.091

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**1008.878**	ug/L	1.946	1763818	1.496
	Be	9	**999.986**	ug/L	0.492	403593	0.342
	B	11	**2.965**	ug/L	5.180	1758	0.001
	Na	23	**46678.072**	ug/L	2.799	184365307	156.328
	Mg	24	**46500.492**	ug/L	5.839	130223886	110.420
	Al	27	**50879.841**	ug/L	10.844	194609858	164.905
	P	31	**23565.498**	ug/L	2.409	5765692	4.885
	K	39	**53994.367**	ug/L	2.934	261598604	221.390
	Ca	43	**48003.310**	ug/L	1.866	574376	0.487
>	Sc	45		ug/L		1178971	1178970.607
	Ti	47	**41.961**	ug/L	1.230	26378	0.022
	V	51	**918.855**	ug/L	1.950	6229724	5.275
	Cr	52	**920.759**	ug/L	1.378	4870295	4.132
	Cr	53		ug/L		691480	0.475
	Mn	55	**947.277**	ug/L	2.665	7968191	6.756
	Fe	57	**51182.266**	ug/L	0.915	8040690	6.816
	Co	59	**893.775**	ug/L	1.907	5811093	4.929
	Ni	60	**872.147**	ug/L	1.798	1263313	1.072
	Cu	63		ug/L		3066182	2.600
	Cu	65	**845.113**	ug/L	0.144	1425053	1.209
	Zn	66	**2371.550**	ug/L	2.599	2803780	6.988
	Zn	67		ug/L		437316	1.051
	Zn	68		ug/L		1757684	4.377
>	Ge	74		ug/L		401209	401208.508
	As	75	**871.916**	ug/L	1.668	1047719	2.612
	Se	77		ug/L		47549	0.101
	Se	82	**468.514**	ug/L	0.610	55366	0.138
	Kr	83		ug/L		173	0.000
	Sr	88	**1007.708**	ug/L	2.442	13172564	52.642
	Y	89		ug/L		523	0.002
	Mo	98	**1042.186**	ug/L	3.333	3588073	14.340
	Ag	107	**232.828**	ug/L	1.470	1350120	5.395
	Cd	111	**902.667**	ug/L	1.819	1336828	5.342
	Cd	114		ug/L		3440439	13.749
>	In	115		ug/L		250243	250243.237
	Sn	120	**1004.863**	ug/L	3.352	6185048	24.718
	Sb	121	**242.494**	ug/L	1.075	1317427	5.263
	Sb	123		ug/L		1069281	4.272
	Ba	135		ug/L		1457002	2.666
	Ba	137	**920.422**	ug/L	4.582	2828781	5.178
	Ho	165		ug/L		468	0.001
>	Lu	175		ug/L		546805	546805.380
	Tl	205	**472.269**	ug/L	5.164	11678358	21.373
	Pb	208	**4851.901**	ug/L	3.691	186539735	341.391
	Bi	209		ug/L		5282	0.009
	Th	232	**2507.477**	ug/L	5.055	118329973	216.621
	U	238	**5246.491**	ug/L	4.336	272126377	498.100

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7	100.888				
	Be	9	99.999				
	B	11					
	Na	23	93.356				
	Mg	24	93.001				
	Al	27	101.760				
	P	31	94.262				
	K	39	107.989				
	Ca	43	96.007				
>	Sc	45		83.4			
	Ti	47					
	V	51	91.886				
	Cr	52	92.076				
	Cr	53					
	Mn	55	94.728				
	Fe	57	102.365				
	Co	59	89.378				
	Ni	60	87.215				
	Cu	63					
	Cu	65	84.511				
	Zn	66	94.862				
	Zn	67					
	Zn	68					
>	Ge	74		85.4			
	As	75	87.192				
	Se	77					
	Se	82	93.703				
	Kr	83					
	Sr	88	100.771				
	Y	89					
	Mo	98	104.219				
	Ag	107	93.131				
	Cd	111	90.267				
	Cd	114					
>	In	115		84.5			
	Sn	120	100.486				
	Sb	121	96.998				
	Sb	123					
	Ba	135					
	Ba	137	92.042				
	Ho	165					
>	Lu	175		91.1			
	Tl	205	94.454				
	Pb	208	97.038				
	Bi	209					
	Th	232	100.299				
	U	238	104.930				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 10	Co	59	LRS is out of limits (+/- 10%)
QC Std 10	Ni	60	LRS is out of limits (+/- 10%)
QC Std 10	Cu	65	LRS is out of limits (+/- 10%)
QC Std 10	As	75	LRS is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 11
Sample Date/Time: Sunday, January 03, 2010 19:33:07
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 11.092

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**52.429**	**ug/L**	1.685	102753	0.078
	Be	9	**51.229**	**ug/L**	2.920	23171	0.018
	B	11	**95.771**	**ug/L**	3.007	44115	0.033
	Na	23	**5051.660**	**ug/L**	8.398	22372797	16.918
	Mg	24	**5061.080**	**ug/L**	5.453	15867543	12.018
	Al	27	**5075.141**	**ug/L**	11.970	21707699	16.449
	P	31	**4285.774**	**ug/L**	1.443	1179850	0.888
	K	39	**5098.055**	**ug/L**	3.404	28196257	20.903
	Ca	43	**4895.788**	**ug/L**	1.289	65849	0.050
>	Sc	45		**ug/L**		1320724	1320724.024
	Ti	47	**48.690**	**ug/L**	3.124	34224	0.026
	V	51	**49.840**	**ug/L**	2.578	388635	0.286
	Cr	52	**50.845**	**ug/L**	2.735	299628	0.228
	Cr	53		**ug/L**		140716	-0.005
	Mn	55	**52.478**	**ug/L**	2.726	495305	0.374
	Fe	57	**5390.262**	**ug/L**	1.552	952790	0.718
	Co	59	**51.854**	**ug/L**	1.390	377695	0.286
	Ni	60	**52.023**	**ug/L**	1.403	84481	0.064
	Cu	63		**ug/L**		198327	0.150
	Cu	65	**51.528**	**ug/L**	3.166	97426	0.074
	Zn	66	**51.797**	**ug/L**	1.830	68299	0.153
	Zn	67		**ug/L**		27032	0.021
	Zn	68		**ug/L**		51602	0.111
>	Ge	74		**ug/L**		446010	446009.871
	As	75	**49.551**	**ug/L**	2.610	65809	0.148
	Se	77		**ug/L**		9762	0.004
	Se	82	**49.148**	**ug/L**	1.481	6434	0.014
	Kr	83		**ug/L**		115	-0.000
	Sr	88	**53.505**	**ug/L**	3.063	792069	2.795
	Y	89		**ug/L**		100	0.000
	Mo	98	**50.517**	**ug/L**	3.359	197002	0.695
	Ag	107	**51.807**	**ug/L**	3.409	340138	1.200
	Cd	111	**50.879**	**ug/L**	2.461	85347	0.301
	Cd	114		**ug/L**		201679	0.712
>	In	115		**ug/L**		283445	283444.816
	Sn	120	**53.477**	**ug/L**	3.609	373009	1.315
	Sb	121	**51.910**	**ug/L**	2.742	319654	1.127
	Sb	123		**ug/L**		251869	0.888
	Ba	135		**ug/L**		91928	0.159
	Ba	137	**49.595**	**ug/L**	2.194	161755	0.279
	Ho	165		**ug/L**		67	0.000
>	Lu	175		**ug/L**		579745	579745.045
	Tl	205	**51.059**	**ug/L**	1.222	1343334	2.311
	Pb	208	**53.188**	**ug/L**	1.071	2169777	3.742
	Bi	209		**ug/L**		588	0.001
	Th	232	**51.502**	**ug/L**	1.659	2579873	4.449
	U	238	**53.261**	**ug/L**	2.037	2931595	5.057

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Li	7	104.857				
	Be	9	102.457				
	B	11	95.771				
	Na	23	101.033				
	Mg	24	101.222				
	Al	27	100.498				
	P	31	85.715				
	K	39	101.961				
	Ca	43	97.916				
>	Sc	45		93.5			
	Ti	47	97.380				
	V	51	99.679				
	Cr	52	101.691				
	Cr	53					
	Mn	55	104.956				
	Fe	57	107.805				
	Co	59	103.709				
	Ni	60	104.046				
	Cu	63					
	Cu	65	103.056				
	Zn	66	103.595				
	Zn	67					
	Zn	68					
>	Ge	74		94.9			
	As	75	99.102				
	Se	77					
	Se	82	98.295				
	Kr	83					
	Sr	88	107.010				
	Y	89					
	Mo	98	101.033				
	Ag	107	103.613				
	Cd	111	101.759				
	Cd	114					
>	In	115		95.7			
	Sn	120	106.953				
	Sb	121	103.820				
	Sb	123					
	Ba	135					
	Ba	137	99.190				
	Ho	165					
>	Lu	175		96.6			
	Tl	205	102.118				
	Pb	208	106.375				
	Bi	209					
	Th	232	103.004				
	U	238	106.523				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 11	P	31	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 12
Sample Date/Time: Sunday, January 03, 2010 19:39:14
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 12.093

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.070**	**ug/L**	6.993	208	0.000
	Be	9	**0.020**	**ug/L**	13.592	24	0.000
	B	11	**1.674**	**ug/L**	27.980	1394	0.001
	Na	23	**1.549**	**ug/L**	79.367	23687	0.005
	Mg	24	**-0.069**	**ug/L**	527.938	1667	-0.000
	Al	27	**0.362**	**ug/L**	94.181	5668	0.001
	P	31	**-2.503**	**ug/L**	86.431	5962	-0.001
	K	39	**-4.721**	**ug/L**	102.570	568431	-0.019
	Ca	43	**3.450**	**ug/L**	25.468	291	0.000
>	Sc	45		**ug/L**		1333740	1333740.396
	Ti	47	**-0.021**	**ug/L**	35.487	321	-0.000
	V	51	**-0.538**	**ug/L**	46.099	6824	-0.003
	Cr	52	**0.150**	**ug/L**	73.372	-758	0.001
	Cr	53		**ug/L**		109912	-0.029
	Mn	55	**-0.009**	**ug/L**	77.765	1012	-0.000
	Fe	57	**0.448**	**ug/L**	274.202	4980	0.000
	Co	59	**0.010**	**ug/L**	12.669	161	0.000
	Ni	60	**0.014**	**ug/L**	37.410	89	0.000
	Cu	63		**ug/L**		468	0.000
	Cu	65	**0.061**	**ug/L**	12.438	240	0.000
	Zn	66	**0.019**	**ug/L**	61.688	268	0.000
	Zn	67		**ug/L**		15454	-0.005
	Zn	68		**ug/L**		1619	-0.001
>	Ge	74		**ug/L**		451384	451383.714
	As	75	**0.336**	**ug/L**	118.470	60	0.001
	Se	77		**ug/L**		5436	-0.006
	Se	82	**0.194**	**ug/L**	44.783	0	0.000
	Kr	83		**ug/L**		102	-0.000
	Sr	88	**0.008**	**ug/L**	43.683	291	0.000
	Y	89		**ug/L**		58	-0.000
	Mo	98	**0.128**	**ug/L**	6.190	593	0.002
	Ag	107	**0.006**	**ug/L**	24.054	86	0.000
	Cd	111	**0.003**	**ug/L**	244.666	33	0.000
	Cd	114		**ug/L**		62	0.000
>	In	115		**ug/L**		285603	285602.840
	Sn	120	**0.588**	**ug/L**	8.555	4496	0.014
	Sb	121	**0.443**	**ug/L**	16.035	3147	0.010
	Sb	123		**ug/L**		2466	0.008
	Ba	135		**ug/L**		48	0.000
	Ba	137	**0.007**	**ug/L**	28.070	67	0.000
	Ho	165		**ug/L**		34	0.000
>	Lu	175		**ug/L**		578086	578085.887
	Tl	205	**0.768**	**ug/L**	13.189	23981	0.035
	Pb	208	**0.038**	**ug/L**	8.593	1946	0.003
	Bi	209		**ug/L**		167	-0.000
	Th	232	**0.124**	**ug/L**	10.019	7063	0.011
	U	238	**0.064**	**ug/L**	7.285	3906	0.006

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		94.4			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		96.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		96.5			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		96.3			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Sunday, January 03, 2010 20:28:23
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 8.101

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**52.670**	**ug/L**	0.737	101667	0.078
	Be	9	**50.250**	**ug/L**	3.242	22384	0.017
	B	11	**94.622**	**ug/L**	4.485	42932	0.033
	Na	23	**4427.060**	**ug/L**	12.804	19281819	14.826
	Mg	24	**4708.241**	**ug/L**	5.071	14540154	11.180
	Al	27	**4932.106**	**ug/L**	11.662	20784226	15.985
	P	31	**4238.786**	**ug/L**	2.140	1149492	0.879
	K	39	**5178.946**	**ug/L**	4.090	28196257	21.235
	Ca	43	**4822.867**	**ug/L**	0.541	63887	0.049
>	Sc	45		**ug/L**		1300735	1300735.320
	Ti	47	**48.148**	**ug/L**	2.935	33334	0.025
	V	51	**48.369**	**ug/L**	2.222	371788	0.278
	Cr	52	**49.853**	**ug/L**	1.582	289330	0.224
	Cr	53		**ug/L**		159996	0.012
	Mn	55	**51.506**	**ug/L**	3.250	478758	0.367
	Fe	57	**5292.430**	**ug/L**	2.742	921320	0.705
	Co	59	**51.108**	**ug/L**	1.529	366635	0.282
	Ni	60	**51.520**	**ug/L**	0.577	82404	0.063
	Cu	63		**ug/L**		194698	0.149
	Cu	65	**51.159**	**ug/L**	1.480	95280	0.073
	Zn	66	**50.544**	**ug/L**	0.662	65792	0.149
	Zn	67		**ug/L**		28696	0.026
	Zn	68		**ug/L**		50178	0.110
>	Ge	74		**ug/L**		440168	440168.049
	As	75	**49.090**	**ug/L**	1.826	64347	0.147
	Se	77		**ug/L**		11316	0.008
	Se	82	**49.719**	**ug/L**	1.214	6424	0.015
	Kr	83		**ug/L**		126	0.000
	Sr	88	**52.147**	**ug/L**	1.830	769974	2.724
	Y	89		**ug/L**		101	0.000
	Mo	98	**48.666**	**ug/L**	2.240	189289	0.670
	Ag	107	**50.876**	**ug/L**	1.477	333188	1.179
	Cd	111	**49.400**	**ug/L**	1.701	82643	0.292
	Cd	114		**ug/L**		196317	0.695
>	In	115		**ug/L**		282619	282618.804
	Sn	120	**50.832**	**ug/L**	2.231	353658	1.250
	Sb	121	**49.895**	**ug/L**	2.718	306388	1.083
	Sb	123		**ug/L**		240929	0.851
	Ba	135		**ug/L**		90765	0.158
	Ba	137	**49.355**	**ug/L**	0.700	159761	0.278
	Ho	165		**ug/L**		60	0.000
>	Lu	175		**ug/L**		575258	575258.206
	Tl	205	**47.160**	**ug/L**	2.325	1231526	2.134
	Pb	208	**52.532**	**ug/L**	0.244	2126706	3.696
	Bi	209		**ug/L**		588	0.001
	Th	232	**49.757**	**ug/L**	1.379	2473491	4.298
	U	238	**51.452**	**ug/L**	1.604	2810427	4.885

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7	105.341				
	Be	9	100.501				
	B	11	94.622				
	Na	23	88.541				
	Mg	24	94.165				
	Al	27	97.665				
	P	31	84.776				
	K	39	103.579				
	Ca	43	96.457				
>	Sc	45		92.0			
	Ti	47	96.296				
	V	51	96.738				
	Cr	52	99.706				
	Cr	53					
	Mn	55	103.011				
	Fe	57	105.849				
	Co	59	102.215				
	Ni	60	103.040				
	Cu	63					
	Cu	65	102.319				
	Zn	66	101.088				
	Zn	67					
	Zn	68					
>	Ge	74		93.7			
	As	75	98.180				
	Se	77					
	Se	82	99.437				
	Kr	83					
	Sr	88	104.295				
	Y	89					
	Mo	98	97.333				
	Ag	107	101.752				
	Cd	111	98.800				
	Cd	114					
>	In	115		95.5			
	Sn	120	101.664				
	Sb	121	99.789				
	Sb	123					
	Ba	135					
	Ba	137	98.710				
	Ho	165					
>	Lu	175		95.8			
	Tl	205	94.321				
	Pb	208	105.064				
	Bi	209					
	Th	232	99.514				
	U	238	102.905				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Na	23	CCV is out of limits (+/- 10%)
QC Std 8	P	31	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 9
Sample Date/Time: Sunday, January 03, 2010 20:34:31
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 9.102

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.010**	ug/L	21.744	88	0.000
	Be	9	**0.007**	ug/L	90.368	18	0.000
	B	11	**1.594**	ug/L	30.197	1344	0.001
	Na	23	**0.417**	ug/L	74.768	18345	0.001
	Mg	24	**0.041**	ug/L	761.733	2000	0.000
	Al	27	**-0.166**	ug/L	218.569	3334	-0.001
	P	31	**-0.922**	ug/L	41.387	6335	-0.000
	K	39	**3.770**	ug/L	157.760	608019	0.015
	Ca	43	**1.652**	ug/L	159.116	263	0.000
>	Sc	45		ug/L		1318709	1318709.122
	Ti	47	**0.000**	ug/L	12106.485	333	0.000
	V	51	**-0.478**	ug/L	128.807	7156	-0.003
	Cr	52	**0.079**	ug/L	81.426	-1176	0.000
	Cr	53		ug/L		122724	-0.018
	Mn	55	**-0.010**	ug/L	36.403	987	-0.000
	Fe	57	**0.232**	ug/L	215.254	4888	0.000
	Co	59	**0.004**	ug/L	75.910	118	0.000
	Ni	60	**0.009**	ug/L	34.619	81	0.000
	Cu	63		ug/L		307	0.000
	Cu	65	**0.019**	ug/L	29.039	158	0.000
	Zn	66	**0.005**	ug/L	228.469	247	0.000
	Zn	67		ug/L		16670	-0.002
	Zn	68		ug/L		1759	-0.000
>	Ge	74		ug/L		447928	447927.558
	As	75	**0.177**	ug/L	146.213	-149	0.001
	Se	77		ug/L		6302	-0.004
	Se	82	**0.089**	ug/L	24.311	-14	0.000
	Kr	83		ug/L		119	0.000
	Sr	88	**0.002**	ug/L	7.979	215	0.000
	Y	89		ug/L		59	-0.000
	Mo	98	**0.034**	ug/L	23.951	227	0.000
	Ag	107	**0.003**	ug/L	42.589	70	0.000
	Cd	111	**0.001**	ug/L	336.940	30	0.000
	Cd	114		ug/L		38	0.000
>	In	115		ug/L		288959	288958.682
	Sn	120	**0.095**	ug/L	27.461	1045	0.002
	Sb	121	**0.233**	ug/L	26.012	1868	0.005
	Sb	123		ug/L		1499	0.004
	Ba	135		ug/L		34	-0.000
	Ba	137	**0.004**	ug/L	54.356	56	0.000
	Ho	165		ug/L		29	0.000
>	Lu	175		ug/L		586067	586066.777
	Tl	205	**0.882**	ug/L	17.428	27328	0.040
	Pb	208	**0.006**	ug/L	25.653	619	0.000
	Bi	209		ug/L		163	-0.000
	Th	232	**0.058**	ug/L	20.216	3815	0.005
	U	238	**0.009**	ug/L	21.474	847	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		93.3			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		95.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		97.6			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		97.6			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Sunday, January 03, 2010 21:23:57
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 8.110

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**54.665**	ug/L	1.381	100954	0.081
	Be	9	**52.535**	ug/L	0.970	22396	0.018
	B	11	**94.494**	ug/L	1.624	41035	0.032
	Na	23	**4257.176**	ug/L	2.453	17765242	14.258
	Mg	24	**4503.960**	ug/L	2.983	13311736	10.695
	Al	27	**4558.806**	ug/L	3.094	18387448	14.775
	P	31	**4195.219**	ug/L	2.290	1088361	0.870
	K	39	**5304.701**	ug/L	9.661	27608835	21.751
	Ca	43	**4897.980**	ug/L	0.832	62082	0.050
>	Sc	45		ug/L		1244614	1244614.189
	Ti	47	**48.215**	ug/L	3.326	31939	0.025
	V	51	**49.408**	ug/L	3.595	363118	0.284
	Cr	52	**50.429**	ug/L	3.166	280002	0.226
	Cr	53		ug/L		153052	0.012
	Mn	55	**52.270**	ug/L	1.606	464939	0.373
	Fe	57	**5334.489**	ug/L	1.231	888640	0.710
	Co	59	**51.244**	ug/L	3.314	351653	0.283
	Ni	60	**51.724**	ug/L	1.370	79153	0.064
	Cu	63		ug/L		186718	0.150
	Cu	65	**50.776**	ug/L	1.495	90482	0.073
	Zn	66	**49.853**	ug/L	2.299	63023	0.147
	Zn	67		ug/L		26746	0.023
	Zn	68		ug/L		47839	0.107
>	Ge	74		ug/L		427627	427627.258
	As	75	**48.099**	ug/L	2.876	61227	0.144
	Se	77		ug/L		11011	0.008
	Se	82	**50.287**	ug/L	2.739	6310	0.015
	Kr	83		ug/L		115	0.000
	Sr	88	**50.957**	ug/L	2.579	736671	2.662
	Y	89		ug/L		102	0.000
	Mo	98	**48.727**	ug/L	2.482	185592	0.670
	Ag	107	**50.665**	ug/L	2.811	324867	1.174
	Cd	111	**49.460**	ug/L	1.444	81026	0.293
	Cd	114		ug/L		190133	0.687
>	In	115		ug/L		276732	276732.281
	Sn	120	**50.904**	ug/L	1.012	346837	1.252
	Sb	121	**50.169**	ug/L	1.654	301706	1.089
	Sb	123		ug/L		236649	0.854
	Ba	135		ug/L		87019	0.151
	Ba	137	**48.107**	ug/L	4.467	156099	0.271
	Ho	165		ug/L		55	0.000
>	Lu	175		ug/L		577038	577037.634
	Tl	205	**46.438**	ug/L	1.708	1216637	2.102
	Pb	208	**51.376**	ug/L	3.019	2085400	3.615
	Bi	209		ug/L		590	0.001
	Th	232	**47.973**	ug/L	1.204	2391951	4.144
	U	238	**49.553**	ug/L	2.259	2714178	4.705

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7	109.329				
	Be	9	105.069				
	B	11	94.494				
	Na	23	85.144				
	Mg	24	90.079				
	Al	27	90.273				
	P	31	83.904				
	K	39	106.094				
	Ca	43	97.960				
>	Sc	45		88.1			
	Ti	47	96.429				
	V	51	98.816				
	Cr	52	100.858				
	Cr	53					
	Mn	55	104.540				
	Fe	57	106.690				
	Co	59	102.487				
	Ni	60	103.449				
	Cu	63					
	Cu	65	101.553				
	Zn	66	99.705				
	Zn	67					
	Zn	68					
>	Ge	74		91.0			
	As	75	96.198				
	Se	77					
	Se	82	100.575				
	Kr	83					
	Sr	88	101.914				
	Y	89					
	Mo	98	97.453				
	Ag	107	101.331				
	Cd	111	98.920				
	Cd	114					
>	In	115		93.5			
	Sn	120	101.809				
	Sb	121	100.338				
	Sb	123					
	Ba	135					
	Ba	137	96.213				
	Ho	165					
>	Lu	175		96.1			
	Tl	205	92.875				
	Pb	208	102.752				
	Bi	209					
	Th	232	95.947				
	U	238	99.107				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Na	23	CCV is out of limits (+/- 10%)
QC Std 8	P	31	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 9
Sample Date/Time: Sunday, January 03, 2010 21:30:05
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 9.111

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.016**	ug/L	23.410	95	0.000
	Be	9	**0.014**	ug/L	52.113	20	0.000
	B	11	**1.768**	ug/L	28.999	1351	0.001
	Na	23	**-0.459**	ug/L	265.514	13674	-0.002
	Mg	24	**0.072**	ug/L	454.137	2000	0.000
	Al	27	**0.282**	ug/L	80.735	5001	0.001
	P	31	**-2.025**	ug/L	38.093	5734	-0.000
	K	39	**2.514**	ug/L	175.414	571551	0.010
	Ca	43	**5.940**	ug/L	34.093	305	0.000
>	Sc	45		ug/L		1253674	1253673.646
	Ti	47	**0.004**	ug/L	1299.825	318	0.000
	V	51	**-0.637**	ug/L	43.352	5681	-0.004
	Cr	52	**0.203**	ug/L	50.599	-414	0.001
	Cr	53		ug/L		118805	-0.016
	Mn	55	**-0.003**	ug/L	127.834	1000	-0.000
	Fe	57	**1.129**	ug/L	107.817	4797	0.000
	Co	59	**0.003**	ug/L	48.107	103	0.000
	Ni	60	**0.008**	ug/L	43.015	75	0.000
	Cu	63		ug/L		289	0.000
	Cu	65	**0.013**	ug/L	40.702	140	0.000
	Zn	66	**0.005**	ug/L	178.604	235	0.000
	Zn	67		ug/L		15712	-0.002
	Zn	68		ug/L		1678	-0.000
>	Ge	74		ug/L		424110	424109.894
	As	75	**0.430**	ug/L	54.783	176	0.001
	Se	77		ug/L		6302	-0.003
	Se	82	**0.159**	ug/L	63.663	-4	0.000
	Kr	83		ug/L		108	-0.000
	Sr	88	**0.003**	ug/L	41.577	224	0.000
	Y	89		ug/L		61	0.000
	Mo	98	**0.034**	ug/L	35.500	216	0.000
	Ag	107	**0.004**	ug/L	26.396	69	0.000
	Cd	111	**0.002**	ug/L	181.181	30	0.000
	Cd	114		ug/L		46	0.000
>	In	115		ug/L		275832	275831.809
	Sn	120	**0.099**	ug/L	22.306	1031	0.002
	Sb	121	**0.256**	ug/L	19.824	1927	0.006
	Sb	123		ug/L		1516	0.004
	Ba	135		ug/L		40	0.000
	Ba	137	**0.002**	ug/L	39.977	50	0.000
	Ho	165		ug/L		31	0.000
>	Lu	175		ug/L		569539	569539.123
	Tl	205	**1.475**	ug/L	13.084	41819	0.067
	Pb	208	**0.006**	ug/L	21.923	628	0.000
	Bi	209		ug/L		163	-0.000
	Th	232	**0.058**	ug/L	23.302	3724	0.005
	U	238	**0.009**	ug/L	17.821	860	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		88.7			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		90.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		93.2			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		94.9			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 9	Tl	205CCB is out of limits (+/- PQL)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Sunday, January 03, 2010 22:07:16
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 8.117

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**55.419**	**ug/L**	3.019	98446	0.082
	Be	9	**52.258**	**ug/L**	4.036	21427	0.018
	B	11	**95.508**	**ug/L**	1.997	39893	0.033
	Na	23	**4325.369**	**ug/L**	6.997	17342072	14.486
	Mg	24	**4923.343**	**ug/L**	7.803	13995807	11.691
	Al	27	**4724.130**	**ug/L**	5.708	18326693	15.311
	P	31	**4185.519**	**ug/L**	2.490	1044661	0.868
	K	39	**5087.719**	**ug/L**	4.500	25503906	20.861
	Ca	43	**4797.898**	**ug/L**	1.326	58508	0.049
>	Sc	45		**ug/L**		1197621	1197620.585
	Ti	47	**48.699**	**ug/L**	3.151	31031	0.026
	V	51	**48.760**	**ug/L**	2.593	344916	0.280
	Cr	52	**50.321**	**ug/L**	2.733	268808	0.226
	Cr	53		**ug/L**		157816	0.021
	Mn	55	**52.855**	**ug/L**	2.380	452311	0.377
	Fe	57	**5487.318**	**ug/L**	3.882	878973	0.731
	Co	59	**51.772**	**ug/L**	3.556	341767	0.285
	Ni	60	**52.052**	**ug/L**	3.068	76617	0.064
	Cu	63		**ug/L**		179746	0.150
	Cu	65	**51.784**	**ug/L**	3.321	88758	0.074
	Zn	66	**50.012**	**ug/L**	3.155	60993	0.147
	Zn	67		**ug/L**		26819	0.026
	Zn	68		**ug/L**		46184	0.108
>	Ge	74		**ug/L**		412649	412648.596
	As	75	**48.464**	**ug/L**	4.095	59535	0.145
	Se	77		**ug/L**		11238	0.009
	Se	82	**49.500**	**ug/L**	1.785	5994	0.015
	Kr	83		**ug/L**		113	0.000
	Sr	88	**51.570**	**ug/L**	0.825	714338	2.694
	Y	89		**ug/L**		91	0.000
	Mo	98	**49.347**	**ug/L**	1.084	180063	0.679
	Ag	107	**51.438**	**ug/L**	1.404	316002	1.192
	Cd	111	**50.116**	**ug/L**	2.015	78645	0.297
	Cd	114		**ug/L**		185052	0.698
>	In	115		**ug/L**		265094	265094.180
	Sn	120	**51.485**	**ug/L**	1.744	336028	1.266
	Sb	121	**50.694**	**ug/L**	0.278	292063	1.100
	Sb	123		**ug/L**		229292	0.864
	Ba	135		**ug/L**		86251	0.154
	Ba	137	**48.026**	**ug/L**	3.423	150998	0.270
	Ho	165		**ug/L**		53	0.000
>	Lu	175		**ug/L**		559101	559100.530
	Tl	205	**42.261**	**ug/L**	3.869	1073202	1.913
	Pb	208	**52.262**	**ug/L**	2.772	2055289	3.677
	Bi	209		**ug/L**		607	0.001
	Th	232	**49.361**	**ug/L**	2.558	2384101	4.264
	U	238	**50.312**	**ug/L**	3.414	2669300	4.777

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7	110.837				
	Be	9	104.517				
	B	11	95.508				
	Na	23	86.507				
	Mg	24	98.467				
	Al	27	93.547				
	P	31	83.710				
	K	39	101.754				
	Ca	43	95.958				
>	Sc	45		84.7			
	Ti	47	97.398				
	V	51	97.521				
	Cr	52	100.642				
	Cr	53					
	Mn	55	105.710				
	Fe	57	109.746				
	Co	59	103.543				
	Ni	60	104.104				
	Cu	63					
	Cu	65	103.567				
	Zn	66	100.023				
	Zn	67					
	Zn	68					
>	Ge	74		87.8			
	As	75	96.929				
	Se	77					
	Se	82	99.000				
	Kr	83					
	Sr	88	103.140				
	Y	89					
	Mo	98	98.694				
	Ag	107	102.876				
	Cd	111	100.232				
	Cd	114					
>	In	115		89.5			
	Sn	120	102.970				
	Sb	121	101.387				
	Sb	123					
	Ba	135					
	Ba	137	96.052				
	Ho	165					
>	Lu	175		93.1			
	Tl	205	84.522				
	Pb	208	104.524				
	Bi	209					
	Th	232	98.722				
	U	238	100.624				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Li	7	CCV is out of limits (+/- 10%)
QC Std 8	Na	23	CCV is out of limits (+/- 10%)
QC Std 8	P	31	CCV is out of limits (+/- 10%)
QC Std 8	Tl	205	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 9
Sample Date/Time: Sunday, January 03, 2010 22:13:23
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 9.118

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	0.004	ug/L	60.869	71	0.000
	Be	9	0.012	ug/L	52.297	19	0.000
	B	11	1.665	ug/L	29.590	1276	0.001
	Na	23	-0.812	ug/L	233.940	12007	-0.003
	Mg	24	-0.365	ug/L	54.985	667	-0.001
	Al	27	-0.022	ug/L	1251.087	3667	-0.000
	P	31	-0.759	ug/L	63.222	5911	-0.000
	K	39	4.000	ug/L	211.388	564290	0.016
	Ca	43	4.698	ug/L	26.950	282	0.000
>	Sc	45		ug/L		1221863	1221863.107
	Ti	47	-0.021	ug/L	209.606	294	-0.000
	V	51	-0.736	ug/L	108.870	4814	-0.004
	Cr	52	0.143	ug/L	34.461	-745	0.001
	Cr	53		ug/L		122610	-0.011
	Mn	55	0.000	ug/L	983.537	1005	0.000
	Fe	57	1.640	ug/L	105.980	4755	0.000
	Co	59	0.003	ug/L	45.784	103	0.000
	Ni	60	0.007	ug/L	137.160	71	0.000
	Cu	63		ug/L		287	0.000
	Cu	65	0.021	ug/L	54.090	150	0.000
	Zn	66	0.011	ug/L	295.187	239	0.000
	Zn	67		ug/L		15843	-0.001
	Zn	68		ug/L		1759	-0.000
>	Ge	74		ug/L		418641	418641.475
	As	75	0.640	ug/L	19.036	436	0.002
	Se	77		ug/L		6523	-0.002
	Se	82	0.193	ug/L	78.887	-0	0.000
	Kr	83		ug/L		104	-0.000
	Sr	88	0.002	ug/L	48.066	203	0.000
	Y	89		ug/L		54	-0.000
	Mo	98	0.037	ug/L	24.767	221	0.001
	Ag	107	0.004	ug/L	48.336	72	0.000
	Cd	111	0.003	ug/L	184.458	31	0.000
	Cd	114		ug/L		46	0.000
>	In	115		ug/L		268613	268613.106
	Sn	120	0.104	ug/L	15.704	1031	0.003
	Sb	121	0.215	ug/L	27.470	1634	0.005
	Sb	123		ug/L		1339	0.004
	Ba	135		ug/L		39	0.000
	Ba	137	0.001	ug/L	117.343	46	0.000
	Ho	165		ug/L		29	0.000
>	Lu	175		ug/L		562568	562568.061
	Tl	205	1.477	ug/L	15.538	41352	0.067
	Pb	208	0.006	ug/L	12.473	605	0.000
	Bi	209		ug/L		150	-0.000
	Th	232	0.056	ug/L	28.662	3557	0.005
	U	238	0.008	ug/L	19.780	804	0.001

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		86.5			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		89.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		90.7			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		93.7			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 9	Tl	205	CCB is out of limits (+/- PQL)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: 1202003863
Sample Date/Time: Sunday, January 03, 2010 22:19:33
Sample Type:
Sample Description: LANL 6020 MB
Number of Replicates: 3
Batch ID: 936526|1|baj
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\1202003863.119

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	0.024	ug/L	22.676	111	0.000
	Be	9	0.002	ug/L	355.716	15	0.000
	B	11	0.364	ug/L	13.452	747	0.000
	Na	23	4.473	ug/L	24.422	34375	0.015
	Mg	24	0.528	ug/L	74.259	3334	0.001
	Al	27	0.534	ug/L	45.443	6001	0.002
	P	31	-2.055	ug/L	25.564	5713	-0.000
	K	39	14.040	ug/L	34.146	629237	0.058
	Ca	43	19.120	ug/L	16.044	471	0.000
>	Sc	45		ug/L		1250259	1250259.110
	Ti	47	0.269	ug/L	14.539	493	0.000
	V	51	-2.643	ug/L	49.089	-8755	-0.015
	Cr	52	-0.351	ug/L	40.227	-3531	-0.002
	Cr	53		ug/L		304723	0.132
	Mn	55	0.175	ug/L	1.646	2591	0.001
	Fe	57	2.040	ug/L	63.814	4936	0.000
	Co	59	0.001	ug/L	251.200	86	0.000
	Ni	60	0.030	ug/L	45.362	108	0.000
	Cu	63		ug/L		465	0.000
	Cu	65	0.072	ug/L	3.516	246	0.000
	Zn	66	0.755	ug/L	3.949	1134	0.002
	Zn	67		ug/L		60674	0.109
	Zn	68		ug/L		4590	0.007
>	Ge	74		ug/L		410564	410564.392
	As	75	-0.768	ug/L	69.019	-1309	-0.002
	Se	77		ug/L		18789	0.028
	Se	82	0.157	ug/L	45.256	-4	0.000
	Kr	83		ug/L		108	-0.000
	Sr	88	0.024	ug/L	12.160	492	0.001
	Y	89		ug/L		70	0.000
	Mo	98	0.001	ug/L	164.661	88	0.000
	Ag	107	0.002	ug/L	79.707	57	0.000
	Cd	111	0.001	ug/L	688.392	27	0.000
	Cd	114		ug/L		29	-0.000
>	In	115		ug/L		263052	263052.222
	Sn	120	0.157	ug/L	24.759	1351	0.004
	Sb	121	0.058	ug/L	20.572	707	0.001
	Sb	123		ug/L		545	0.001
	Ba	135		ug/L		106	0.000
	Ba	137	0.034	ug/L	12.724	150	0.000
	Ho	165		ug/L		30	0.000
>	Lu	175		ug/L		555829	555828.616
	Tl	205	0.600	ug/L	3.837	18817	0.027
	Pb	208	0.001	ug/L	112.279	399	0.000
	Bi	209		ug/L		104	-0.000
	Th	232	0.026	ug/L	27.417	2106	0.002
	U	238	-0.003	ug/L	11.564	180	-0.000

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		88.5			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		87.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		88.9			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		92.6			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003864
Sample Date/Time: Sunday, January 03, 2010 22:25:44
Sample Type:
Sample Description: LANL 6020 LCS
Number of Replicates: 3
Batch ID: 936526|1|baj
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\1202003864.120

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**50.747**	ug/L	1.325	92462	0.075
	Be	9	**51.445**	ug/L	0.901	21632	0.018
	B	11	**92.475**	ug/L	2.071	39615	0.032
	Na	23	**1773.851**	ug/L	8.457	7301648	5.941
	Mg	24	**1744.064**	ug/L	0.801	5085415	4.141
	Al	27	**1810.909**	ug/L	4.271	7205522	5.869
	P	31	**1649.061**	ug/L	1.758	425708	0.342
	K	39	**1932.833**	ug/L	1.835	10273766	7.925
	Ca	43	**1931.927**	ug/L	0.234	24287	0.020
>	Sc	45		ug/L		1227547	1227546.604
	Ti	47	**40.834**	ug/L	2.578	26726	0.022
	V	51	**41.229**	ug/L	7.469	300380	0.237
	Cr	52	**45.797**	ug/L	3.665	250644	0.206
	Cr	53		ug/L		323070	0.152
	Mn	55	**48.483**	ug/L	2.557	425366	0.346
	Fe	57	**2123.527**	ug/L	1.721	351597	0.283
	Co	59	**48.474**	ug/L	1.286	328163	0.267
	Ni	60	**48.573**	ug/L	2.673	73305	0.060
	Cu	63		ug/L		174807	0.142
	Cu	65	**48.506**	ug/L	1.275	85260	0.069
	Zn	66	**48.450**	ug/L	1.889	58355	0.143
	Zn	67		ug/L		71204	0.136
	Zn	68		ug/L		45309	0.107
>	Ge	74		ug/L		407265	407265.500
	As	75	**47.075**	ug/L	1.289	57085	0.141
	Se	77		ug/L		21467	0.035
	Se	82	**49.077**	ug/L	2.517	5867	0.014
	Kr	83		ug/L		124	0.000
	Sr	88	**50.161**	ug/L	2.242	678102	2.620
	Y	89		ug/L		102	0.000
	Mo	98	**47.883**	ug/L	2.243	170540	0.659
	Ag	107	**50.167**	ug/L	3.689	300744	1.162
	Cd	111	**48.248**	ug/L	2.910	73901	0.286
	Cd	114		ug/L		174973	0.676
>	In	115		ug/L		258793	258793.426
	Sn	120	**49.900**	ug/L	2.877	317862	1.227
	Sb	121	**49.014**	ug/L	2.424	275604	1.064
	Sb	123		ug/L		219486	0.847
	Ba	135		ug/L		80999	0.145
	Ba	137	**46.211**	ug/L	0.679	145133	0.260
	Ho	165		ug/L		69	0.000
>	Lu	175		ug/L		558166	558165.978
	Tl	205	**39.569**	ug/L	6.542	1002957	1.791
	Pb	208	**50.443**	ug/L	0.907	1981293	3.549
	Bi	209		ug/L		1536703	2.753
	Th	232	**45.792**	ug/L	1.992	2208574	3.956
	U	238	**47.826**	ug/L	0.864	2534545	4.541

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			86.9		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			86.7		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			87.4		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			93.0		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 243386001
Sample Date/Time: Sunday, January 03, 2010 22:31:54
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936526|1|baj
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\243386001.121

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.121**	ug/L	2.931	284	0.000
	Be	9	**0.011**	ug/L	61.750	19	0.000
	B	11	**19.859**	ug/L	1.152	8940	0.007
	Na	23	**101.490**	ug/L	7.971	431441	0.340
	Mg	24	**5.718**	ug/L	24.857	18345	0.014
	Al	27	**19.084**	ug/L	15.047	79558	0.062
	P	31	**1.267**	ug/L	19.183	6438	0.000
	K	39	**133.087**	ug/L	2.956	1213799	0.546
	Ca	43	**39.290**	ug/L	7.736	712	0.000
>	Sc	45		ug/L		1224392	1224391.936
	Ti	47	**0.954**	ug/L	9.408	924	0.001
	V	51	**-4.412**	ug/L	23.933	-21035	-0.025
	Cr	52	**0.294**	ug/L	76.352	81	0.001
	Cr	53		ug/L		329787	0.158
	Mn	55	**0.642**	ug/L	1.221	6607	0.005
	Fe	57	**18.572**	ug/L	3.481	7529	0.002
	Co	59	**0.009**	ug/L	9.595	140	0.000
	Ni	60	**0.124**	ug/L	4.187	247	0.000
	Cu	63		ug/L		3576	0.003
	Cu	65	**0.941**	ug/L	4.023	1761	0.001
	Zn	66	**2.042**	ug/L	0.721	2671	0.006
	Zn	67		ug/L		66029	0.123
	Zn	68		ug/L		5987	0.010
>	Ge	74		ug/L		407389	407388.555
	As	75	**-0.462**	ug/L	183.635	-925	-0.001
	Se	77		ug/L		20456	0.032
	Se	82	**0.294**	ug/L	17.267	12	0.000
	Kr	83		ug/L		103	-0.000
	Sr	88	**0.182**	ug/L	0.649	2618	0.010
	Y	89		ug/L		301	0.001
	Mo	98	**0.019**	ug/L	21.929	150	0.000
	Ag	107	**0.005**	ug/L	13.803	72	0.000
	Cd	111	**0.009**	ug/L	19.100	40	0.000
	Cd	114		ug/L		46	0.000
>	In	115		ug/L		258081	258080.954
	Sn	120	**0.150**	ug/L	4.863	1282	0.004
	Sb	121	**0.099**	ug/L	19.119	923	0.002
	Sb	123		ug/L		724	0.002
	Ba	135		ug/L		519	0.001
	Ba	137	**0.273**	ug/L	4.762	887	0.002
	Ho	165		ug/L		45	0.000
>	Lu	175		ug/L		549846	549846.461
	Tl	205	**1.852**	ug/L	15.985	49861	0.084
	Pb	208	**0.065**	ug/L	2.581	2887	0.005
	Bi	209		ug/L		218	0.000
	Th	232	**0.053**	ug/L	35.300	3371	0.005
	U	238	**0.003**	ug/L	35.938	494	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			86.6		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			86.7		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			87.2		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			91.6		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003865
Sample Date/Time: Sunday, January 03, 2010 22:38:06
Sample Type:
Sample Description: LANL 6020 DUP
Number of Replicates: 3
Batch ID: 936526|1|baj
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\1202003865.122

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.107**	ug/L	16.004	259	0.000
	Be	9	**0.013**	ug/L	25.292	19	0.000
	B	11	**18.367**	ug/L	1.317	8297	0.006
	Na	23	**190.452**	ug/L	10.659	795380	0.638
	Mg	24	**4.804**	ug/L	7.808	15675	0.011
	Al	27	**21.243**	ug/L	4.814	87937	0.069
	P	31	**-0.269**	ug/L	479.720	6040	-0.000
	K	39	**125.553**	ug/L	2.877	1174003	0.515
	Ca	43	**38.087**	ug/L	5.121	696	0.000
>	Sc	45		ug/L		1222347	1222346.810
	Ti	47	**0.891**	ug/L	8.600	882	0.000
	V	51	**-4.762**	ug/L	28.256	-23480	-0.027
	Cr	52	**-0.011**	ug/L	2791.361	-1592	-0.000
	Cr	53		ug/L		326010	0.155
	Mn	55	**0.553**	ug/L	2.816	5826	0.004
	Fe	57	**13.204**	ug/L	12.764	6641	0.002
	Co	59	**0.007**	ug/L	15.811	129	0.000
	Ni	60	**0.134**	ug/L	9.495	262	0.000
	Cu	63		ug/L		3477	0.003
	Cu	65	**0.882**	ug/L	1.797	1656	0.001
	Zn	66	**1.431**	ug/L	4.428	1945	0.004
	Zn	67		ug/L		52257	0.089
	Zn	68		ug/L		4909	0.008
>	Ge	74		ug/L		409178	409178.315
	As	75	**-0.939**	ug/L	24.497	-1507	-0.003
	Se	77		ug/L		21826	0.036
	Se	82	**0.102**	ug/L	126.000	-11	0.000
	Kr	83		ug/L		108	-0.000
	Sr	88	**0.185**	ug/L	2.378	2688	0.010
	Y	89		ug/L		281	0.001
	Mo	98	**0.003**	ug/L	83.156	93	0.000
	Ag	107	**0.001**	ug/L	26.570	47	0.000
	Cd	111	**0.003**	ug/L	93.307	31	0.000
	Cd	114		ug/L		45	0.000
>	In	115		ug/L		261193	261192.516
	Sn	120	**0.117**	ug/L	2.280	1091	0.003
	Sb	121	**0.003**	ug/L	29.607	392	0.000
	Sb	123		ug/L		314	0.000
	Ba	135		ug/L		491	0.001
	Ba	137	**0.261**	ug/L	3.267	856	0.001
	Ho	165		ug/L		44	0.000
>	Lu	175		ug/L		554226	554226.370
	Tl	205	**0.756**	ug/L	3.862	22675	0.034
	Pb	208	**0.062**	ug/L	2.875	2776	0.004
	Bi	209		ug/L		183	0.000
	Th	232	**0.009**	ug/L	16.069	1260	0.001
	U	238	**0.003**	ug/L	1.691	522	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		86.5			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		87.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		88.2			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		92.3			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003866
Sample Date/Time: Sunday, January 03, 2010 22:44:17
Sample Type:
Sample Description: LANL 6020 MS
Number of Replicates: 3
Batch ID: 936526|1|ba|
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\1202003866.123

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**51.787**	ug/L	1.497	95446	0.077
	Be	9	**51.532**	ug/L	2.631	21920	0.018
	B	11	**108.445**	ug/L	1.450	46903	0.037
	Na	23	**1952.662**	ug/L	12.589	8134846	6.540
	Mg	24	**1842.840**	ug/L	7.175	5434728	4.376
	Al	27	**1896.108**	ug/L	8.557	7633844	6.145
	P	31	**1662.150**	ug/L	2.457	434092	0.345
	K	39	**2069.175**	ug/L	1.682	11090650	8.484
	Ca	43	**1974.488**	ug/L	1.247	25109	0.020
>	Sc	45		ug/L		1241936	1241935.992
	Ti	47	**42.817**	ug/L	1.943	28343	0.023
	V	51	**42.650**	ug/L	3.152	314226	0.245
	Cr	52	**49.745**	ug/L	1.407	275667	0.223
	Cr	53		ug/L		317955	0.145
	Mn	55	**49.638**	ug/L	1.371	440675	0.354
	Fe	57	**2166.873**	ug/L	0.797	362934	0.289
	Co	59	**49.373**	ug/L	1.965	338193	0.272
	Ni	60	**49.873**	ug/L	2.880	76163	0.061
	Cu	63		ug/L		184514	0.148
	Cu	65	**50.286**	ug/L	2.187	89421	0.072
	Zn	66	**49.842**	ug/L	0.329	60286	0.147
	Zn	67		ug/L		61479	0.111
	Zn	68		ug/L		47336	0.111
>	Ge	74		ug/L		409014	409013.634
	As	75	**75.028**	ug/L	1.909	91579	0.225
	Se	77		ug/L		20515	0.032
	Se	82	**20.317**	ug/L	2.554	2425	0.006
	Kr	83		ug/L		106	-0.000
	Sr	88	**51.459**	ug/L	2.553	702786	2.688
	Y	89		ug/L		351	0.001
	Mo	98	**48.745**	ug/L	0.802	175406	0.671
	Ag	107	**51.032**	ug/L	1.450	309142	1.183
	Cd	111	**10.292**	ug/L	1.073	15948	0.061
	Cd	114		ug/L		35812	0.137
>	In	115		ug/L		261401	261401.156
	Sn	120	**50.016**	ug/L	0.407	321943	1.230
	Sb	121	**188.734**	ug/L	0.264	1071222	4.097
	Sb	123		ug/L		864314	3.305
	Ba	135		ug/L		84658	0.153
	Ba	137	**48.383**	ug/L	3.387	150788	0.272
	Ho	165		ug/L		318	0.001
>	Lu	175		ug/L		553985	553984.537
	Tl	205	**73.143**	ug/L	5.429	1836922	3.310
	Pb	208	**42.227**	ug/L	0.829	1646251	2.971
	Bi	209		ug/L		624	0.001
	Th	232	**47.163**	ug/L	1.561	2257730	4.074
	U	238	**48.906**	ug/L	2.119	2572115	4.643

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		87.9			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		87.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		88.3			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		92.3			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003867
Sample Date/Time: Sunday, January 03, 2010 22:50:29
Sample Type:
Sample Description: LANL 6020 SDILT
Number of Replicates: 3
Batch ID: 936526|5|baj
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\1202003867.124

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.027**	ug/L	8.601	111	0.000
	Be	9	**0.014**	ug/L	117.094	19	0.000
	B	11	**5.173**	ug/L	8.666	2718	0.002
	Na	23	**21.607**	ug/L	26.164	102715	0.072
	Mg	24	**1.033**	ug/L	21.153	4667	0.002
	Al	27	**3.236**	ug/L	31.303	16343	0.010
	P	31	**2.147**	ug/L	27.888	6571	0.000
	K	39	**32.091**	ug/L	29.908	697698	0.132
	Ca	43	**13.574**	ug/L	20.758	387	0.000
>	Sc	45		ug/L		1207888	1207888.460
	Ti	47	**0.214**	ug/L	3.702	441	0.000
	V	51	**-1.390**	ug/L	15.764	245	-0.008
	Cr	52	**0.658**	ug/L	15.437	2059	0.003
	Cr	53		ug/L		196434	0.051
	Mn	55	**0.146**	ug/L	0.170	2246	0.001
	Fe	57	**4.144**	ug/L	25.266	5106	0.001
	Co	59	**0.003**	ug/L	52.356	98	0.000
	Ni	60	**0.039**	ug/L	30.399	117	0.000
	Cu	63		ug/L		943	0.001
	Cu	65	**0.208**	ug/L	3.241	471	0.000
	Zn	66	**0.460**	ug/L	5.078	771	0.001
	Zn	67		ug/L		24045	0.020
	Zn	68		ug/L		2638	0.002
>	Ge	74		ug/L		407653	407653.106
	As	75	**-0.089**	ug/L	332.338	-459	-0.000
	Se	77		ug/L		12607	0.013
	Se	82	**0.082**	ug/L	121.176	-13	0.000
	Kr	83		ug/L		103	-0.000
	Sr	88	**0.041**	ug/L	7.007	729	0.002
	Y	89		ug/L		108	0.000
	Mo	98	**0.015**	ug/L	56.551	137	0.000
	Ag	107	**0.006**	ug/L	140.946	78	0.000
	Cd	111	**-0.005**	ug/L	143.638	17	-0.000
	Cd	114		ug/L		42	0.000
>	In	115		ug/L		261965	261965.353
	Sn	120	**0.050**	ug/L	8.853	660	0.001
	Sb	121	**0.211**	ug/L	18.156	1573	0.005
	Sb	123		ug/L		1229	0.004
	Ba	135		ug/L		127	0.000
	Ba	137	**0.054**	ug/L	7.761	211	0.000
	Ho	165		ug/L		37	0.000
>	Lu	175		ug/L		560176	560176.251
	Tl	205	**3.687**	ug/L	17.728	97066	0.167
	Pb	208	**0.012**	ug/L	5.409	829	0.001
	Bi	209		ug/L		145	-0.000
	Th	232	**0.026**	ug/L	27.548	2121	0.002
	U	238	**0.000**	ug/L	185.588	372	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		85.5			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		86.8			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		88.5			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		93.3			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Sunday, January 03, 2010 22:56:39
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 6.125

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**55.997**	ug/L	0.668	97591	0.083
	Be	9	**52.868**	ug/L	1.488	21266	0.018
	B	11	**95.533**	ug/L	2.386	39145	0.033
	Na	23	**4201.101**	ug/L	7.443	16540415	14.070
	Mg	24	**4605.025**	ug/L	5.358	12843075	10.935
	Al	27	**4829.729**	ug/L	4.669	18381373	15.654
	P	31	**4203.797**	ug/L	0.838	1029291	0.871
	K	39	**5310.510**	ug/L	5.403	26091328	21.774
	Ca	43	**4874.406**	ug/L	2.027	58305	0.049
>	Sc	45		ug/L		1174428	1174428.121
	Ti	47	**48.143**	ug/L	3.131	30095	0.025
	V	51	**49.437**	ug/L	1.903	342917	0.284
	Cr	52	**51.076**	ug/L	2.450	267687	0.229
	Cr	53		ug/L		147969	0.015
	Mn	55	**52.540**	ug/L	1.309	441010	0.375
	Fe	57	**5510.219**	ug/L	0.984	866063	0.734
	Co	59	**52.883**	ug/L	0.617	342566	0.292
	Ni	60	**53.197**	ug/L	0.242	76826	0.065
	Cu	63		ug/L		178537	0.152
	Cu	65	**51.757**	ug/L	1.595	87032	0.074
	Zn	66	**50.812**	ug/L	3.003	61215	0.150
	Zn	67		ug/L		25298	0.023
	Zn	68		ug/L		45404	0.107
>	Ge	74		ug/L		407575	407575.481
	As	75	**49.166**	ug/L	2.082	59672	0.147
	Se	77		ug/L		11009	0.009
	Se	82	**49.335**	ug/L	2.509	5903	0.015
	Kr	83		ug/L		111	0.000
	Sr	88	**52.023**	ug/L	1.208	717317	2.718
	Y	89		ug/L		94	0.000
	Mo	98	**49.493**	ug/L	1.656	179788	0.681
	Ag	107	**51.573**	ug/L	1.099	315406	1.195
	Cd	111	**50.121**	ug/L	1.651	78305	0.297
	Cd	114		ug/L		183514	0.695
>	In	115		ug/L		263888	263888.151
	Sn	120	**51.937**	ug/L	2.742	337471	1.278
	Sb	121	**50.602**	ug/L	2.175	290217	1.098
	Sb	123		ug/L		231270	0.875
	Ba	135		ug/L		85103	0.152
	Ba	137	**47.808**	ug/L	2.842	150906	0.269
	Ho	165		ug/L		56	0.000
>	Lu	175		ug/L		561074	561073.511
	Tl	205	**45.009**	ug/L	1.765	1146613	2.037
	Pb	208	**52.213**	ug/L	2.548	2060978	3.674
	Bi	209		ug/L		587	0.001
	Th	232	**48.356**	ug/L	2.577	2343978	4.177
	U	238	**50.741**	ug/L	3.304	2702153	4.817

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	0.9999
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7	111.995				
	Be	9	105.736				
	B	11	95.533				
	Na	23	84.022				
	Mg	24	92.101				
	Al	27	95.638				
	P	31	84.076				
	K	39	106.210				
	Ca	43	97.488				
>	Sc	45		83.1			
	Ti	47	96.287				
	V	51	98.873				
	Cr	52	102.152				
	Cr	53					
	Mn	55	105.079				
	Fe	57	110.204				
	Co	59	105.767				
	Ni	60	106.394				
	Cu	63					
	Cu	65	103.515				
	Zn	66	101.624				
	Zn	67					
	Zn	68					
>	Ge	74		86.7			
	As	75	98.332				
	Se	77					
	Se	82	98.669				
	Kr	83					
	Sr	88	104.046				
	Y	89					
	Mo	98	98.987				
	Ag	107	103.146				
	Cd	111	100.242				
	Cd	114					
>	In	115		89.1			
	Sn	120	103.874				
	Sb	121	101.204				
	Sb	123					
	Ba	135					
	Ba	137	95.617				
	Ho	165					
>	Lu	175		93.4			
	Tl	205	90.018				
	Pb	208	104.426				
	Bi	209					
	Th	232	96.713				
	U	238	101.481				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Li	7	CCV is out of limits (+/- 10%)
QC Std 6	Na	23	CCV is out of limits (+/- 10%)
QC Std 6	P	31	CCV is out of limits (+/- 10%)
QC Std 6	Fe	57	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Sunday, January 03, 2010 23:02:47
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 2.mth
Dataset File: c:\elandata\Dataset\100103\QC Std 7.126

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.008**	ug/L	81.258	77	0.000
	Be	9	**0.016**	ug/L	42.667	20	0.000
	B	11	**1.739**	ug/L	27.975	1285	0.001
	Na	23	**-0.654**	ug/L	233.215	12339	-0.002
	Mg	24	**0.104**	ug/L	332.334	2000	0.000
	Al	27	**0.683**	ug/L	81.214	6335	0.002
	P	31	**-1.082**	ug/L	173.560	5739	-0.000
	K	39	**-1.403**	ug/L	221.643	529302	-0.006
	Ca	43	**4.955**	ug/L	19.505	281	0.000
>	Sc	45		ug/L		1202877	1202876.610
	Ti	47	**0.014**	ug/L	220.671	312	0.000
	V	51	**-0.502**	ug/L	177.187	6366	-0.003
	Cr	52	**0.274**	ug/L	22.540	-20	0.001
	Cr	53		ug/L		117573	-0.014
	Mn	55	**-0.001**	ug/L	221.400	974	-0.000
	Fe	57	**2.385**	ug/L	40.654	4802	0.000
	Co	59	**0.006**	ug/L	19.599	121	0.000
	Ni	60	**0.008**	ug/L	77.145	71	0.000
	Cu	63		ug/L		292	0.000
	Cu	65	**0.022**	ug/L	52.008	149	0.000
	Zn	66	**0.003**	ug/L	151.866	225	0.000
	Zn	67		ug/L		15329	-0.002
	Zn	68		ug/L		1600	-0.001
>	Ge	74		ug/L		412201	412201.413
	As	75	**0.267**	ug/L	78.588	-30	0.001
	Se	77		ug/L		6360	-0.002
	Se	82	**0.043**	ug/L	128.228	-18	0.000
	Kr	83		ug/L		110	0.000
	Sr	88	**0.002**	ug/L	119.352	200	0.000
	Y	89		ug/L		62	0.000
	Mo	98	**0.034**	ug/L	12.800	210	0.000
	Ag	107	**0.003**	ug/L	76.581	65	0.000
	Cd	111	**0.005**	ug/L	108.296	34	0.000
	Cd	114		ug/L		46	0.000
>	In	115		ug/L		266548	266548.289
	Sn	120	**0.099**	ug/L	22.258	988	0.002
	Sb	121	**0.256**	ug/L	22.399	1861	0.006
	Sb	123		ug/L		1441	0.004
	Ba	135		ug/L		36	0.000
	Ba	137	**0.002**	ug/L	106.169	50	0.000
	Ho	165		ug/L		28	0.000
>	Lu	175		ug/L		559224	559224.102
	Tl	205	**2.354**	ug/L	9.962	63313	0.107
	Pb	208	**0.006**	ug/L	19.902	620	0.000
	Bi	209		ug/L		167	-0.000
	Th	232	**0.060**	ug/L	22.872	3762	0.005
	U	238	**0.008**	ug/L	14.582	804	0.001

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	0.9999
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	0.9999
Y	89Linear Thru Zero	
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999
Pb	208Linear Thru Zero	0.9999
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	0.9999
U	238Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			85.1		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			87.7		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			90.0		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			93.1		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Tl	205	CCB is out of limits (+-/ PQL)

QC Action

QC Action Line: Continue

ICPMS #5 Daily Performance Report

Sample ID: Sample
Sample Date/Time: Monday, January 04, 2010 10:41:22
Sample Description:
Method File: c:\elandata\Method\Daily2.mth
Dataset File: c:\elandata\Dataset\default2\Sample.1649
Tuning File: c:\elandata\Tuning\default2.tun
Optimization File: c:\elandata\Optimize\default.dac
Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35
Current Dead Time (ns): 35

Number of Replicates: 5

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Be	9.0	3512.2	3512.232	128.283	3.7
	Mg	24.0	47233.8	47233.766	549.550	1.2
	Co	58.9	91025.3	91025.285	607.526	0.7
	Rh	102.9	159862.9	159862.908	854.487	0.5
	In	114.9	235956.6	235956.608	2146.407	0.9
	Pb	208.0	253887.3	253887.313	2157.230	0.8
>	Ba	137.9	224624.4	224624.356	2155.436	1.0
	Ba++	69.0	4388.7	0.020	0.000	1.4
>	Ce	139.9	272378.1	272378.061	2256.038	0.8
	CeO	155.9	6598.6	0.024	0.000	0.5
	Bkgd	220.0	17.5	17.500	4.373	25.0

Current Optimization File Data

Current Value	Description
0.85	Nebulizer Gas Flow
7.00	Lens Voltage
1450.00	ICP RF Power
-1687.50	Analog Stage Voltage
1200.00	Pulse Stage Voltage
275.00	Discriminator Threshold
-6.00	AC Rod Offset

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	17	7.3	4566.4
Co	59	17	8.3	89391.5
In	115	17	9.5	240006.3

ICPMS #5 Instrument Tuning Report

File Name: default2.tun
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	599	2065	0.576
Be	9.0	9.0	2054	2070	0.606
Mg	24.0	24.0	5691	2070	0.612
Mg	25.0	25.0	5943	2070	0.610
Mg	26.0	25.9	6158	2070	0.637
Co	58.9	58.9	14184	2105	0.603
Rh	102.9	102.9	24870	2165	0.605
In	114.9	114.9	27796	2185	0.592
Ce	139.9	139.9	33868	2200	0.621
Pb	206.0	206.0	49948	2270	0.640
Pb	207.0	207.0	50171	2235	0.676
Pb	208.0	208.0	50439	2260	0.704
U	238.1	238.0	57722	2275	0.705

ICPMS#5 - Summary Report

Sample ID: Blank
Sample Date/Time: Monday, January 04, 2010 10:56:16
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\Blank.001

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		620838	
⌊	Tl	205		ug/L		316	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Simple Linear	
Tl	205	Simple Linear	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175					
⌊	Tl	205					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Monday, January 04, 2010 11:00:45
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\Standard 1.002

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		618804	618804.488
⌊	Tl	205	10.000	ug/L	1.144	286837	0.463

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175					
⌊	Tl	205					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Monday, January 04, 2010 11:05:12
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\Standard 2.003

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		586038	586037.587
⌊	Tl	205	99.859	ug/L	1.382	2374361	4.051

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175					
⌊	Tl	205					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Monday, January 04, 2010 11:09:40
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 1.004

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		599894	599894.108
⌊	Tl	205	51.787	ug/L	2.457	1260366	2.101

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175		96.6			
⌊	Tl	205	103.573				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Monday, January 04, 2010 11:14:09
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 2.005

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		600442	600442.199
⌊	Tl	205	0.034	ug/L	2.628	1131	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175		96.7			
⌊	Tl	205					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Monday, January 04, 2010 11:18:40
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 3.006

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Lu	175		ug/L		613656	613656.438
Tl	205	1.217	ug/L	1.774	30610	0.049

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
Lu	175		98.8			
Tl	205	121.724				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Monday, January 04, 2010 11:23:08
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 4.007

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		532215	532215.067
⌊	Tl	205	0.026	ug/L	0.979	827	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175		85.7			
⌊	Tl	205					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Monday, January 04, 2010 11:27:37
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 5.008

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		547752	547752.377
⌊	Tl	205	20.418	ug/L	0.481	453985	0.828

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175		88.2			
⌊	Tl	205	102.092				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Monday, January 04, 2010 11:32:07
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 6.009

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		606158	606157.606
	Tl	205	50.457	ug/L	1.599	1240866	2.047

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175		97.6			
	Tl	205	100.915				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Monday, January 04, 2010 11:36:38
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 7.010

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		602466	602465.556
	Tl	205	0.040	ug/L	7.466	1275	0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175		97.0			
	Tl	205					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003863
Sample Date/Time: Monday, January 04, 2010 11:41:11
Sample Type:
Sample Description: LANL 6020 MB
Number of Replicates: 3
Batch ID: 936526|1|ba|
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\1202003863.011

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		607689	607688.788
⌊	Tl	205	0.011	ug/L	6.820	581	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175		97.9			
⌊	Tl	205					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003864
Sample Date/Time: Monday, January 04, 2010 11:45:44
Sample Type:
Sample Description: LANL 6020 LCS
Number of Replicates: 3
Batch ID: 936526|1|baj
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\1202003864.012

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		610587	610586.595
⌊	Tl	205	44.664	ug/L	1.448	1106542	1.812

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175		98.3			
⌊	Tl	205					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 243386001
Sample Date/Time: Monday, January 04, 2010 11:50:19
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936526|1|baj
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\243386001.013

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		612682	612682.141
⌊	Tl	205	0.190	ug/L	4.206	5038	0.008

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175		98.7			
⌊	Tl	205					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003865
Sample Date/Time: Monday, January 04, 2010 11:54:53
Sample Type:
Sample Description: LANL 6020 DUP
Number of Replicates: 3
Batch ID: 936526|1|baj
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\1202003865.014

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		613784	613784.025
⌊	Tl	205	0.061	ug/L	2.544	1826	0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175		98.9			
⌊	Tl	205					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003866
Sample Date/Time: Monday, January 04, 2010 11:59:29
Sample Type:
Sample Description: LANL 6020 MS
Number of Replicates: 3
Batch ID: 936526|1|baj
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\1202003866.015

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		619369	619369.100
	Tl	205	81.500	ug/L	1.689	2047876	3.306

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Lu	175		99.8			
	Tl	205					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003867
Sample Date/Time: Monday, January 04, 2010 12:04:05
Sample Type:
Sample Description: LANL 6020 SDILT
Number of Replicates: 3
Batch ID: 936526|5|ba|
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\1202003867.016

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		619698	619697.965
	Tl	205	0.621	ug/L	0.831	15935	0.025

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175		99.8			
	Tl	205					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Monday, January 04, 2010 12:08:38
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 6.017

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		619611	619610.879
⌊	Tl	205	50.212	ug/L	1.352	1262339	2.037

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175		99.8			
⌊	Tl	205	100.424				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Monday, January 04, 2010 12:13:09
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\tl only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 7.018

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		632069	632069.118
⌊	Tl	205	0.179	ug/L	1.180	4908	0.007

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175		101.8			
⌊	Tl	205					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: Blank
Sample Date/Time: Monday, January 04, 2010 16:23:17
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\Blank.114

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		586177	
⌊	U	238		ug/L		1220	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175					
⌊	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Monday, January 04, 2010 16:24:56
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\Standard 1.115

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		585004	585004.384
[	U	238	10.000	ug/L	1.183	562031	0.959

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[>	Lu	175					
[	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Monday, January 04, 2010 16:26:33
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\Standard 2.116

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		583259	583258.924
⌊	U	238	99.822	ug/L	0.380	4737625	8.121

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175					
⌊	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Monday, January 04, 2010 16:28:11
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 1.117

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Lu	175		ug/L		583537	583537.048
U	238	53.585	ug/L	2.136	2544741	4.359

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Lu	175		99.5			
U	238	107.171				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Monday, January 04, 2010 16:29:51
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 2.118

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		588345	588345.375
[	U	238	0.025	ug/L	0.731	2398	0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
[>	Lu	175		100.4			
[	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Monday, January 04, 2010 16:31:31
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 3.119

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		590298	590297.995
⌊	U	238	0.257	ug/L	1.625	13592	0.021

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175		100.7			
⌊	U	238	128.713				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Monday, January 04, 2010 16:33:09
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 4.120

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		522438	522438.443
⌊	U	238	-0.017	ug/L	0.827	345	-0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175		89.1			
⌊	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Monday, January 04, 2010 16:34:49
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 5.121

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		520311	520311.255
	U	238	23.875	ug/L	0.369	1011667	1.942

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Lu	175		88.8			
	U	238	119.374				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Monday, January 04, 2010 16:36:27
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 6.122

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		580507	580507.106
⌊	U	238	52.699	ug/L	0.348	2489978	4.287

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175		99.0			
⌊	U	238	105.397				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Monday, January 04, 2010 16:38:07
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 7.123

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		595661	595660.731
	U	238	0.018	ug/L	2.469	2134	0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
>	Lu	175		101.6			
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Monday, January 04, 2010 16:51:56
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 8.131

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		583515	583514.717
⌊	U	238	54.035	ug/L	0.152	2566294	4.396

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175		99.5			
⌊	U	238	108.069				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 9
Sample Date/Time: Monday, January 04, 2010 16:53:35
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 9.132

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		584261	584261.120
⌊	U	238	0.021	ug/L	3.611	2232	0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175		99.7			
⌊	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Monday, January 04, 2010 17:04:01
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 8.138

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[>	Lu	175		ug/L		583804	583803.943
[	U	238	53.852	ug/L	0.393	2558871	4.381

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
[>	Lu	175		99.6			
[	U	238	107.705				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 9
Sample Date/Time: Monday, January 04, 2010 17:05:41
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 9.139

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		586424	586424.060
⌊	U	238	0.019	ug/L	6.121	2127	0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
⌈>	Lu	175		100.0			
⌊	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003863
Sample Date/Time: Monday, January 04, 2010 17:07:23
Sample Type:
Sample Description: LANL 6020 MB
Number of Replicates: 3
Batch ID: 936526|1|baj
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\1202003863.140

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		570509	570508.927
⌊	U	238	-0.019	ug/L	2.796	309	-0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175		97.3			
⌊	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003864
Sample Date/Time: Monday, January 04, 2010 17:09:07
Sample Type:
Sample Description: LANL 6020 LCS
Number of Replicates: 3
Batch ID: 936526|1|baj
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\1202003864.141

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		565992	565992.212
⌊	U	238	52.253	ug/L	0.612	2407262	4.251

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175		96.6			
⌊	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 243386001
Sample Date/Time: Monday, January 04, 2010 17:10:51
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 936526|1|baj
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\243386001.142

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		579887	579886.623
⌊	U	238	-0.003	ug/L	77.232	1068	-0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175		98.9			
⌊	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003865
Sample Date/Time: Monday, January 04, 2010 17:12:36
Sample Type:
Sample Description: LANL 6020 DUP
Number of Replicates: 3
Batch ID: 936526|1|baj
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\1202003865.143

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		580821	580821.299
⌊	U	238	-0.012	ug/L	5.385	644	-0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175		99.1			
⌊	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003866
Sample Date/Time: Monday, January 04, 2010 17:14:21
Sample Type:
Sample Description: LANL 6020 MS
Number of Replicates: 3
Batch ID: 936526|1|baj
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\1202003866.144

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		585650	585650.270
⌊	U	238	53.131	ug/L	3.181	2531416	4.322

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175		99.9			
⌊	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202003867
Sample Date/Time: Monday, January 04, 2010 17:16:07
Sample Type:
Sample Description: LANL 6020 SDILT
Number of Replicates: 3
Batch ID: 936526|5|baj
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\1202003867.145

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
>	Lu	175		ug/L		592757	592757.396
	U	238	-0.002	ug/L	18.453	1120	-0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
>	Lu	175		101.1			
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Monday, January 04, 2010 17:17:49
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 6.146

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		585078	585077.595
⌊	U	238	53.041	ug/L	1.350	2525604	4.315

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
⌈>	Lu	175		99.8			
⌊	U	238	106.082				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Monday, January 04, 2010 17:19:29
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\u only.mth
Dataset File: C:\elandata\Dataset\100104\QC Std 7.147

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
⌈>	Lu	175		ug/L		585173	585173.030
⌊	U	238	0.020	ug/L	9.852	2183	0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Lu	175	Linear Thru Zero	
U	238	Linear Thru Zero	0.9998

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
⌈>	Lu	175		99.8			
⌊	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

==========

Analysis Begun

Logged In Analyst: Administrator **Technique: AA FIMS-MHS**
Spectrometer Model: FIMS-100, S/N B050-9550 **Autosampler Model: S10**

Sample Information File: C:\data-AA\Administrator\Sample Information\123009W1.SIF
Batch ID:
Results Data Set: 123009W1
Results Library: C:\data-AA\Administrator\Results\Results.mdb

==========

Method Loaded
Method Name: WATER **Method Last Saved: 12/28/2009 15:47:50**
Method Description: 7470A, 245.2, ILM04 ANALYST JXL

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: Calib Blank **Date Collected: 12/30/2009 08:59:21**
Analyst: **Data Type: Original**

Replicate Data: Calib Blank

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0002	0.0002	0.0002	09:00:23	Yes
2		[0.00]	0.0002	0.0004	0.0002	09:00:57	Yes
Mean:		[0.00]	0.0002				
SD:		0.00	0.0000				
%RSD:		0.00	10.27				

Auto-zero performed.

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: S0.2 **Date Collected: 12/30/2009 09:01:16**
Analyst: **Data Type: Original**

Replicate Data: S0.2

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.2]	0.0020	0.0094	0.0022	09:02:17	Yes
2		[0.2]	0.0020	0.0097	0.0022	09:02:52	Yes
Mean:		[0.2]	0.0020				
SD:		0.0	0.0000				
%RSD:		0.0	0.40				

Standard number 1 applied. [0.2]
Correlation Coef.: 1.000000 Slope: 0.01001 Intercept: 0.00000

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: S0.5 **Date Collected: 12/30/2009 09:03:11**
Analyst: **Data Type: Original**

Replicate Data: S0.5

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.5]	0.0051	0.0243	0.0053	09:04:12	Yes
2		[0.5]	0.0050	0.0230	0.0051	09:04:46	Yes
Mean:		[0.5]	0.0050				
SD:		0.0	0.0001				
%RSD:		0.0	1.95				

Standard number 2 applied. [0.5]
Correlation Coef.: 0.999992 Slope: 0.01010 Intercept: -0.00001

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: S2.0 **Date Collected: 12/30/2009 09:05:06**
Analyst: **Data Type: Original**

Replicate Data: S2.0

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.0]	0.0200	0.0958	0.0202	09:06:08	Yes
2		[2.0]	0.0198	0.0938	0.0199	09:06:42	Yes
Mean:		[2.0]	0.0199				
SD:		0.0	0.0002				
%RSD:		0.0	0.94				

Standard number 3 applied. [2.0]
Correlation Coef.: 0.999993 Slope: 0.00994 Intercept: 0.00003

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: S5.0 **Date Collected: 12/30/2009 09:07:02**
Analyst: **Data Type: Original**

Replicate Data: S5.0

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.0]	0.0491	0.2355	0.0493	09:08:04	Yes
2		[5.0]	0.0487	0.2330	0.0489	09:08:39	Yes
Mean:		[5.0]	0.0489				
SD:		0.0	0.0003				
%RSD:		0.0	0.61				

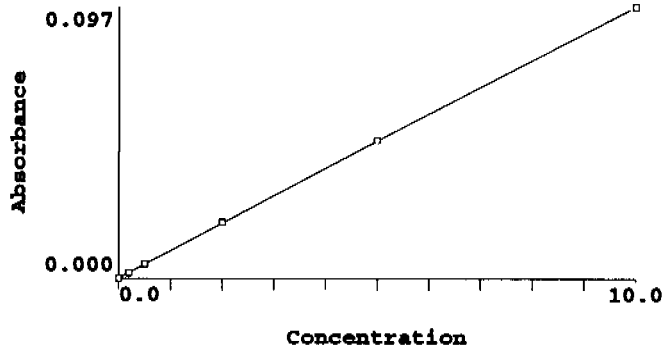
Standard number 4 applied. [5.0]
Correlation Coef.: 0.999975 Slope: 0.00978 Intercept: 0.00011

Sequence No.: 6 **Autosampler Location: 6**
Sample ID: S10.0 **Date Collected: 12/30/2009 09:08:59**
Analyst: **Data Type: Original**

Replicate Data: S10.0

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.0]	0.0974	0.4701	0.0976	09:09:59	Yes
2		[10.0]	0.0973	0.4658	0.0975	09:10:34	Yes
Mean:		[10.0]	0.0974				
SD:		0.0	0.0000				
%RSD:		0.0	0.04				

Standard number 5 applied. [10.0]
Correlation Coef.: 0.999991 Slope: 0.00973 Intercept: 0.00017



Calibration data for Hg 253.7 **Equation: Linear, Calculated Intercept**

ID	Mean Signal (Abs)	Entered Conc. ug/L	Calculated Conc. ug/L	Standard Deviation	%RSD
Calib Blank	0.0000	0	-0.017	0.00	10.3
S0.2	0.0020	0.2	0.189	0.00	0.4
S0.5	0.0050	0.5	0.502	0.00	2.0
S2.0	0.0199	2.0	2.028	0.00	0.9

S5.0	0.0489	5.0	5.009	0.00	0.6
S10.0	0.0974	10.0	9.990	0.00	0.0

Correlation Coef.: 0.999991 Slope: 0.00973 Intercept: 0.00017

Sequence No.: 7 **Autosampler Location: 9**
Sample ID: ICV **Date Collected: 12/30/2009 09:10:53**
Analyst: **Data Type: Original**

Replicate Data: ICV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.132	5.132	0.0501	0.2407	0.0503	09:11:54	Yes
2	5.105	5.105	0.0498	0.2390	0.0500	09:12:29	Yes
Mean:	5.119	5.119	0.0500				
SD:	0.019	0.019	0.0002				
%RSD:	0.373	0.373	0.37				

QC value within limits for Hg 253.7 Recovery = 102.37%
All analyte(s) passed QC.

Sequence No.: 8 **Autosampler Location: 10**
Sample ID: ICB **Date Collected: 12/30/2009 09:12:48**
Analyst: **Data Type: Original**

Replicate Data: ICB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.022	-0.022	-0.0000	-0.0008	0.0001	09:13:50	Yes
2	-0.022	-0.022	-0.0001	-0.0007	0.0001	09:14:25	Yes
Mean:	-0.022	-0.022	-0.0000				
SD:	0.000	0.000	0.0000				
%RSD:	1.575	1.575	6.92				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 9 **Autosampler Location: 11**
Sample ID: CRDL **Date Collected: 12/30/2009 09:14:45**
Analyst: **Data Type: Original**

Replicate Data: CRDL

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.184	0.184	0.0020	0.0087	0.0021	09:15:46	Yes
2	0.187	0.187	0.0020	0.0090	0.0021	09:16:21	Yes
Mean:	0.185	0.185	0.0020				
SD:	0.002	0.002	0.0000				
%RSD:	1.155	1.155	1.06				

QC value within limits for Hg 253.7 Recovery = 92.52%
All analyte(s) passed QC.

Sequence No.: 10 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 12/30/2009 09:16:41**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.114	5.114	0.0499	0.2387	0.0501	09:17:42	Yes
2	5.062	5.062	0.0494	0.2367	0.0496	09:18:16	Yes
Mean:	5.088	5.088	0.0497				
SD:	0.036	0.036	0.0004				
%RSD:	0.714	0.714	0.71				

QC value within limits for Hg 253.7 Recovery = 101.76%
All analyte(s) passed QC.

Sequence No.: 11
Sample ID: CCB
Analyst:
Autosampler Location: 8
Date Collected: 12/30/2009 09:18:35
Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.015	-0.015	0.0000	-0.0011	0.0002	09:19:36	Yes
2	-0.016	-0.016	0.0000	-0.0015	0.0002	09:20:11	Yes
Mean:	-0.016	-0.016	0.0000				
SD:	0.001	0.001	0.0000				
%RSD:	3.288	3.288	38.53				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 12
Sample ID: 1202005730|937320|1
Analyst: JXL
Autosampler Location: 12
Date Collected: 12/30/2009 09:20:30
Data Type: Original

Replicate Data: 1202005730|937320|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.021	-0.021	-0.0000	-0.0011	0.0001	09:21:32	Yes
2	-0.016	-0.016	0.0000	-0.0007	0.0002	09:22:07	Yes
Mean:	-0.019	-0.019	-0.0000				
SD:	0.004	0.004	0.0000				
%RSD:	20.00	20.00	235.16				

Sequence No.: 13
Sample ID: 1202005731|937320|1
Analyst: JXL
Autosampler Location: 13
Date Collected: 12/30/2009 09:22:27
Data Type: Original

Replicate Data: 1202005731|937320|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.068	2.068	0.0203	0.0977	0.0205	09:23:29	Yes
2	2.031	2.031	0.0199	0.0959	0.0201	09:24:04	Yes
Mean:	2.049	2.049	0.0201				
SD:	0.026	0.026	0.0003				
%RSD:	1.283	1.283	1.27				

Sequence No.: 14
Sample ID: 243459001|937320|1
Analyst: JXL
Autosampler Location: 14
Date Collected: 12/30/2009 09:24:24
Data Type: Original

Replicate Data: 243459001|937320|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.012	-0.012	0.0000	0.0008	0.0002	09:25:24	Yes
2	-0.025	-0.025	-0.0001	-0.0010	0.0001	09:25:59	Yes
Mean:	-0.019	-0.019	-0.0000				
SD:	0.009	0.009	0.0001				
%RSD:	48.28	48.28	508.61				

Sequence No.: 15
Sample ID: 243459002|937320|1
Analyst: JXL
Autosampler Location: 15
Date Collected: 12/30/2009 09:26:18
Data Type: Original

Replicate Data: 243459002|937320|1

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak

Replicate Data: 243466002|937320|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.020	-0.020	-0.0000	-0.0000	0.0001	09:36:53	Yes
2	-0.021	-0.021	-0.0000	-0.0003	0.0001	09:37:28	Yes
Mean:	-0.021	-0.021	-0.0000				
SD:	0.000	0.000	0.0000				
%RSD:	1.374	1.374	8.14				

Sequence No.: 21 Autosampler Location: 21
Sample ID: 1202005716|937315|1 Date Collected: 12/30/2009 09:37:47
Analyst: JXL Data Type: Original

Replicate Data: 1202005716|937315|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.018	-0.018	-0.0000	0.0007	0.0002	09:38:48	Yes
2	-0.018	-0.018	-0.0000	0.0000	0.0002	09:39:23	Yes
Mean:	-0.018	-0.018	-0.0000				
SD:	0.000	0.000	0.0000				
%RSD:	0.816	0.816	17.90				

Sequence No.: 22 Autosampler Location: 7
Sample ID: CCV Date Collected: 12/30/2009 09:39:42
Analyst: Data Type: Original

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.039	5.039	0.0492	0.2367	0.0494	09:40:43	Yes
2	5.031	5.031	0.0491	0.2344	0.0493	09:41:18	Yes
Mean:	5.035	5.035	0.0492				
SD:	0.006	0.006	0.0001				
%RSD:	0.111	0.111	0.11				

QC value within limits for Hg 253.7 Recovery = 100.70%
All analyte(s) passed QC.

Sequence No.: 23 Autosampler Location: 8
Sample ID: CCB Date Collected: 12/30/2009 09:41:37
Analyst: Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.018	-0.018	-0.0000	0.0004	0.0002	09:42:37	Yes
2	-0.011	-0.011	0.0001	0.0013	0.0002	09:43:12	Yes
Mean:	-0.014	-0.014	0.0000				
SD:	0.005	0.005	0.0001				
%RSD:	36.40	36.40	194.70				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 24 Autosampler Location: 22
Sample ID: 1202005717|937315|1 Date Collected: 12/30/2009 09:43:32
Analyst: JXL Data Type: Original

Replicate Data: 1202005717|937315|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.080	2.080	0.0204	0.0997	0.0206	09:44:33	Yes
2	2.076	2.076	0.0204	0.0990	0.0205	09:45:08	Yes

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.025	-0.025	-0.0001	-0.0000	0.0001	09:54:14	Yes
2	-0.024	-0.024	-0.0001	-0.0001	0.0001	09:54:49	Yes
Mean:	-0.024	-0.024	-0.0001				
SD:	0.000	0.000	0.0000				
%RSD:	0.911	0.911	3.05				

Sequence No.: 30 **Autosampler Location: 28**
Sample ID: 1202005718|937315|1 **Date Collected: 12/30/2009 09:55:08**
Analyst: JXL **Data Type: Original**

Replicate Data: 1202005718|937315|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.014	-0.014	0.0000	0.0013	0.0002	09:56:09	Yes
2	-0.020	-0.020	-0.0000	0.0006	0.0001	09:56:44	Yes
Mean:	-0.017	-0.017	0.0000				
SD:	0.004	0.004	0.0000				
%RSD:	22.80	22.80	>999.9%				

Sequence No.: 31 **Autosampler Location: 29**
Sample ID: 1202005719|937315|1 **Date Collected: 12/30/2009 09:57:03**
Analyst: JXL **Data Type: Original**

Replicate Data: 1202005719|937315|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.097	2.097	0.0206	0.0997	0.0207	09:58:04	Yes
2	2.098	2.098	0.0206	0.0989	0.0207	09:58:38	Yes
Mean:	2.098	2.098	0.0206				
SD:	0.001	0.001	0.0000				
%RSD:	0.029	0.029	0.03				

Sequence No.: 32 **Autosampler Location: 30**
Sample ID: 1202005720|937315|5 **Date Collected: 12/30/2009 09:58:58**
Analyst: JXL **Data Type: Original**

Replicate Data: 1202005720|937315|5

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.006	-0.006	0.0001	0.0023	0.0003	09:59:58	Yes
2	0.008	0.008	0.0002	0.0034	0.0004	10:00:33	Yes
Mean:	0.001	0.001	0.0002				
SD:	0.010	0.010	0.0001				
%RSD:	>999.9%	>999.9%	55.44				

Sequence No.: 33 **Autosampler Location: 31**
Sample ID: 243461002|937315|1 **Date Collected: 12/30/2009 10:00:52**
Analyst: JXL **Data Type: Original**

Replicate Data: 243461002|937315|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.007	-0.007	0.0001	0.0023	0.0003	10:01:53	Yes
2	-0.001	-0.001	0.0002	0.0028	0.0003	10:02:28	Yes
Mean:	-0.004	-0.004	0.0001				
SD:	0.004	0.004	0.0000				
%RSD:	109.1	109.1	33.85				

Sequence No.: 34 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 12/30/2009 10:02:47**

Analyst: Data Type: Original

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.155	5.155	0.0503	0.2426	0.0505	10:03:48	Yes
2	5.158	5.158	0.0504	0.2402	0.0505	10:04:23	Yes
Mean:	5.157	5.157	0.0503				
SD:	0.002	0.002	0.0000				
%RSD:	0.039	0.039	0.04				

QC value within limits for Hg 253.7 Recovery = 103.13%
All analyte(s) passed QC.

Sequence No.: 35 Autosampler Location: 8
Sample ID: CCB Date Collected: 12/30/2009 10:04:42
Analyst: Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.019	-0.019	-0.0000	0.0005	0.0001	10:05:42	Yes
2	-0.017	-0.017	0.0000	0.0006	0.0002	10:06:17	Yes
Mean:	-0.018	-0.018	-0.0000				
SD:	0.001	0.001	0.0000				
%RSD:	6.973	6.973	148.73				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 36 Autosampler Location: 32
Sample ID: 1202005700|937308|1 Date Collected: 12/30/2009 10:06:37
Analyst: JXL Data Type: Original

Replicate Data: 1202005700|937308|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.016	-0.016	0.0000	0.0011	0.0002	10:07:38	Yes
2	-0.014	-0.014	0.0000	0.0005	0.0002	10:08:12	Yes
Mean:	-0.015	-0.015	0.0000				
SD:	0.001	0.001	0.0000				
%RSD:	9.861	9.861	54.71				

Sequence No.: 37 Autosampler Location: 33
Sample ID: 1202005701|937308|1 Date Collected: 12/30/2009 10:08:32
Analyst: JXL Data Type: Original

Replicate Data: 1202005701|937308|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.150	2.150	0.0211	0.1010	0.0212	10:09:33	Yes
2	2.146	2.146	0.0210	0.1014	0.0212	10:10:08	Yes
Mean:	2.148	2.148	0.0211				
SD:	0.003	0.003	0.0000				
%RSD:	0.121	0.121	0.12				

Sequence No.: 38 Autosampler Location: 34
Sample ID: 243581001|937308|1 Date Collected: 12/30/2009 10:10:27
Analyst: JXL Data Type: Original

Replicate Data: 243581001|937308|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.004	-0.004	0.0001	0.0012	0.0003	10:11:29	Yes

Replicate Data: 243581005|937308|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.007	0.007	0.0002	0.0020	0.0004	10:21:11	Yes
2	0.010	0.010	0.0003	0.0022	0.0004	10:21:45	Yes
Mean:	0.009	0.009	0.0002				
SD:	0.003	0.003	0.0000				
%RSD:	30.73	30.73	10.21				

==========

Sequence No.: 44 Autosampler Location: 40
Sample ID: 1202005775|937342|1 Date Collected: 12/30/2009 10:22:05
Analyst: JXL Data Type: Original

Replicate Data: 1202005775|937342|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.018	-0.018	-0.0000	0.0007	0.0002	10:23:06	Yes
2	-0.014	-0.014	0.0000	0.0012	0.0002	10:23:41	Yes
Mean:	-0.016	-0.016	0.0000				
SD:	0.003	0.003	0.0000				
%RSD:	18.26	18.26	342.73				

==========

Sequence No.: 45 Autosampler Location: 41
Sample ID: 1202005776|937342|1 Date Collected: 12/30/2009 10:24:00
Analyst: JXL Data Type: Original

Replicate Data: 1202005776|937342|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.106	2.106	0.0207	0.1000	0.0208	10:25:01	Yes
2	2.103	2.103	0.0206	0.0997	0.0208	10:25:36	Yes
Mean:	2.104	2.104	0.0206				
SD:	0.002	0.002	0.0000				
%RSD:	0.096	0.096	0.09				

==========

Sequence No.: 46 Autosampler Location: 7
Sample ID: CCV Date Collected: 12/30/2009 10:25:55
Analyst: Data Type: Original

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.196	5.196	0.0507	0.2442	0.0509	10:26:56	Yes
2	5.193	5.193	0.0507	0.2433	0.0509	10:27:31	Yes
Mean:	5.194	5.194	0.0507				
SD:	0.002	0.002	0.0000				
%RSD:	0.033	0.033	0.03				

QC value within limits for Hg 253.7 Recovery = 103.89%
All analyte(s) passed QC.

==========

Sequence No.: 47 Autosampler Location: 8
Sample ID: CCB Date Collected: 12/30/2009 10:27:50
Analyst: Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.016	-0.016	0.0000	0.0006	0.0002	10:28:50	Yes
2	-0.012	-0.012	0.0000	0.0011	0.0002	10:29:25	Yes
Mean:	-0.014	-0.014	0.0000				
SD:	0.003	0.003	0.0000				
%RSD:	17.58	17.58	86.66				

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 48
Sample ID: 243386001|937342|1
Analyst: JXL
Autosampler Location: 42
Date Collected: 12/30/2009 10:29:45
Data Type: Original

Replicate Data: 243386001|937342|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.017	-0.017	0.0000	0.0008	0.0002	10:30:46	Yes
2	-0.015	-0.015	0.0000	0.0013	0.0002	10:31:21	Yes
Mean:	-0.016	-0.016	0.0000				
SD:	0.001	0.001	0.0000				
%RSD:	8.673	8.673	108.39				

Sequence No.: 49
Sample ID: 243396001|937342|1
Analyst: JXL
Autosampler Location: 43
Date Collected: 12/30/2009 10:31:40
Data Type: Original

Replicate Data: 243396001|937342|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.018	-0.018	-0.0000	0.0005	0.0002	10:32:41	Yes
2	-0.010	-0.010	0.0001	0.0014	0.0002	10:33:17	Yes
Mean:	-0.014	-0.014	0.0000				
SD:	0.006	0.006	0.0001				
%RSD:	43.23	43.23	204.01				

Sequence No.: 50
Sample ID: 243405001|937342|1
Analyst: JXL
Autosampler Location: 44
Date Collected: 12/30/2009 10:33:36
Data Type: Original

Replicate Data: 243405001|937342|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.014	-0.014	0.0000	0.0008	0.0002	10:34:38	Yes
2	-0.017	-0.017	0.0000	0.0006	0.0002	10:35:12	Yes
Mean:	-0.016	-0.016	0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	10.79	10.79	115.43				

Sequence No.: 51
Sample ID: 243493001|937342|1
Analyst: JXL
Autosampler Location: 45
Date Collected: 12/30/2009 10:35:32
Data Type: Original

Replicate Data: 243493001|937342|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.017	-0.017	0.0000	0.0008	0.0002	10:36:33	Yes
2	-0.027	-0.027	-0.0001	-0.0006	0.0001	10:37:08	Yes
Mean:	-0.022	-0.022	-0.0000				
SD:	0.007	0.007	0.0001				
%RSD:	31.95	31.95	148.80				

Sequence No.: 52
Sample ID: 243506001|937342|1
Analyst: JXL
Autosampler Location: 46
Date Collected: 12/30/2009 10:37:27
Data Type: Original

Replicate Data: 243506001|937342|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored

1	-0.018	-0.018	-0.0000	0.0009	0.0002	10:38:29	Yes
2	-0.018	-0.018	-0.0000	0.0005	0.0002	10:39:04	Yes
Mean:	-0.018	-0.018	-0.0000				
SD:	0.000	0.000	0.0000				
%RSD:	1.312	1.312	40.04				

Sequence No.: 53 **Autosampler Location: 47**
Sample ID: 243513001|937342|1 **Date Collected: 12/30/2009 10:39:23**
Analyst: JXL **Data Type: Original**

Replicate Data: 243513001|937342|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.016	-0.016	0.0000	0.0006	0.0002	10:40:25	Yes
2	-0.011	-0.011	0.0001	0.0014	0.0002	10:41:00	Yes
Mean:	-0.014	-0.014	0.0000				
SD:	0.004	0.004	0.0000				
%RSD:	27.32	27.32	110.75				

Sequence No.: 54 **Autosampler Location: 48**
Sample ID: 243513002|937342|1 **Date Collected: 12/30/2009 10:41:20**
Analyst: JXL **Data Type: Original**

Replicate Data: 243513002|937342|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.017	-0.017	0.0000	0.0006	0.0002	10:42:22	Yes
2	-0.017	-0.017	0.0000	0.0007	0.0002	10:42:56	Yes
Mean:	-0.017	-0.017	0.0000				
SD:	0.000	0.000	0.0000				
%RSD:	1.579	1.579	101.26				

Sequence No.: 55 **Autosampler Location: 49**
Sample ID: 243539001|937342|1 **Date Collected: 12/30/2009 10:43:16**
Analyst: JXL **Data Type: Original**

Replicate Data: 243539001|937342|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.023	-0.023	-0.0001	0.0001	0.0001	10:44:18	Yes
2	-0.017	-0.017	0.0000	0.0009	0.0002	10:44:53	Yes
Mean:	-0.020	-0.020	-0.0000				
SD:	0.004	0.004	0.0000				
%RSD:	22.24	22.24	146.97				

Sequence No.: 56 **Autosampler Location: 50**
Sample ID: 1202005777|937342|1 **Date Collected: 12/30/2009 10:45:13**
Analyst: JXL **Data Type: Original**

Replicate Data: 1202005777|937342|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.018	-0.018	-0.0000	0.0008	0.0002	10:46:14	Yes
2	-0.016	-0.016	0.0000	0.0008	0.0002	10:46:49	Yes
Mean:	-0.017	-0.017	0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	9.034	9.034	312.39				

Sequence No.: 57 **Autosampler Location: 51**
Sample ID: 1202005778|937342|1 **Date Collected: 12/30/2009 10:47:09**
Analyst: JXL **Data Type: Original**

Replicate Data: 1202005778|937342|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.104	2.104	0.0206	0.1005	0.0208	10:48:10	Yes
2	2.100	2.100	0.0206	0.1003	0.0208	10:48:45	Yes
Mean:	2.102	2.102	0.0206				
SD:	0.003	0.003	0.0000				
%RSD:	0.139	0.139	0.14				

==========

Sequence No.: 58 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 12/30/2009 10:49:04**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.206	5.206	0.0508	0.2443	0.0510	10:50:05	Yes
2	5.199	5.199	0.0508	0.2426	0.0509	10:50:39	Yes
Mean:	5.203	5.203	0.0508				
SD:	0.004	0.004	0.0000				
%RSD:	0.086	0.086	0.09				

QC value within limits for Hg 253.7 Recovery = 104.05%
All analyte(s) passed QC.

==========

Sequence No.: 59 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 12/30/2009 10:50:58**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.017	-0.017	-0.0000	0.0005	0.0002	10:51:59	Yes
2	-0.022	-0.022	-0.0000	0.0002	0.0001	10:52:35	Yes
Mean:	-0.019	-0.019	-0.0000				
SD:	0.003	0.003	0.0000				
%RSD:	16.14	16.14	138.23				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 60 **Autosampler Location: 52**
Sample ID: 1202005779|937342|5 **Date Collected: 12/30/2009 10:52:54**
Analyst: JXL **Data Type: Original**

Replicate Data: 1202005779|937342|5

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.017	-0.017	-0.0000	0.0001	0.0002	10:53:55	Yes
2	-0.013	-0.013	0.0000	0.0013	0.0002	10:54:30	Yes
Mean:	-0.015	-0.015	0.0000				
SD:	0.003	0.003	0.0000				
%RSD:	21.29	21.29	150.43				

==========

Sequence No.: 61 **Autosampler Location: 53**
Sample ID: 243539002|937342|1 **Date Collected: 12/30/2009 10:54:49**
Analyst: JXL **Data Type: Original**

Replicate Data: 243539002|937342|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.014	-0.014	0.0000	0.0010	0.0002	10:55:51	Yes
2	-0.026	-0.026	-0.0001	-0.0004	0.0001	10:56:25	Yes
Mean:	-0.020	-0.020	-0.0000				

#	ug/L	ug/L	Signal	Area	Height		Stored
1	1.865	1.865	0.0183	0.0929	0.0185	11:05:29	Yes
2	1.850	1.850	0.0182	0.0920	0.0183	11:06:04	Yes
Mean:	1.857	1.857	0.0182				
SD:	0.010	0.010	0.0001				
%RSD:	0.561	0.561	0.56				

==========

Sequence No.: 67 **Autosampler Location: 59**
Sample ID: 1202005774|937340|5 **Date Collected: 12/30/2009 11:06:24**
Analyst: JXL **Data Type: Original**

Replicate Data: 1202005774|937340|5

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.013	-0.013	0.0000	0.0014	0.0002	11:07:25	Yes
2	-0.023	-0.023	-0.0001	-0.0001	0.0001	11:08:00	Yes
Mean:	-0.018	-0.018	-0.0000				
SD:	0.007	0.007	0.0001				
%RSD:	39.20	39.20	856.25				

==========

Sequence No.: 68 **Autosampler Location: 60**
Sample ID: 243436003|937340|1 **Date Collected: 12/30/2009 11:08:20**
Analyst: JXL **Data Type: Original**

Replicate Data: 243436003|937340|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.018	-0.018	-0.0000	0.0007	0.0002	11:09:22	Yes
2	-0.021	-0.021	-0.0000	0.0005	0.0001	11:09:57	Yes
Mean:	-0.020	-0.020	-0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	7.739	7.739	64.17				

==========

Sequence No.: 69 **Autosampler Location: 61**
Sample ID: 243436004|937340|1 **Date Collected: 12/30/2009 11:10:17**
Analyst: JXL **Data Type: Original**

Replicate Data: 243436004|937340|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.021	-0.021	-0.0000	0.0003	0.0001	11:11:19	Yes
2	-0.021	-0.021	-0.0000	0.0005	0.0001	11:11:54	Yes
Mean:	-0.021	-0.021	-0.0000				
SD:	0.000	0.000	0.0000				
%RSD:	1.008	1.008	5.19				

==========

Sequence No.: 70 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 12/30/2009 11:12:14**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	4.989	4.989	0.0487	0.2352	0.0489	11:13:15	Yes
2	4.969	4.969	0.0485	0.2351	0.0487	11:13:49	Yes
Mean:	4.979	4.979	0.0486				
SD:	0.014	0.014	0.0001				
%RSD:	0.281	0.281	0.28				

QC value within limits for Hg 253.7 Recovery = 99.58%
All analyte(s) passed QC.

==========

Sequence No.: 71 **Autosampler Location: 8**

Sample ID: CCB
Analyst:
Date Collected: 12/30/2009 11:14:08
Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.023	-0.023	-0.0001	0.0001	0.0001	11:15:09	Yes
2	-0.011	-0.011	0.0001	0.0015	0.0002	11:15:44	Yes
Mean:	-0.017	-0.017	0.0000				
SD:	0.009	0.009	0.0001				
%RSD:	50.79	50.79	>999.9%				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 72
Sample ID: 243436005|937340|1
Analyst: JXL
Autosampler Location: 62
Date Collected: 12/30/2009 11:16:04
Data Type: Original

Replicate Data: 243436005|937340|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.009	-0.009	0.0001	0.0019	0.0002	11:17:05	Yes
2	-0.019	-0.019	-0.0000	0.0006	0.0001	11:17:40	Yes
Mean:	-0.014	-0.014	0.0000				
SD:	0.007	0.007	0.0001				
%RSD:	51.74	51.74	220.92				

Sequence No.: 73
Sample ID: 243436006|937340|1
Analyst: JXL
Autosampler Location: 63
Date Collected: 12/30/2009 11:17:59
Data Type: Original

Replicate Data: 243436006|937340|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.015	-0.015	0.0000	0.0010	0.0002	11:19:01	Yes
2	-0.013	-0.013	0.0000	0.0010	0.0002	11:19:35	Yes
Mean:	-0.014	-0.014	0.0000				
SD:	0.002	0.002	0.0000				
%RSD:	11.64	11.64	53.00				

Sequence No.: 74
Sample ID: 243436007|937340|1
Analyst: JXL
Autosampler Location: 64
Date Collected: 12/30/2009 11:19:55
Data Type: Original

Replicate Data: 243436007|937340|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.011	-0.011	0.0001	0.0013	0.0002	11:20:56	Yes
2	-0.011	-0.011	0.0001	0.0012	0.0002	11:21:31	Yes
Mean:	-0.011	-0.011	0.0001				
SD:	0.000	0.000	0.0000				
%RSD:	1.672	1.672	2.89				

Sequence No.: 75
Sample ID: 243436008|937340|1
Analyst: JXL
Autosampler Location: 65
Date Collected: 12/30/2009 11:21:51
Data Type: Original

Replicate Data: 243436008|937340|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.019	-0.019	-0.0000	0.0003	0.0001	11:22:52	Yes
2	-0.007	-0.007	0.0001	0.0017	0.0003	11:23:27	Yes

Miscellaneous

Prep LogBook

Analyst: AXG2 Verified by:_____

Batch: 936493

Lab SOP: GL-MA-E-006 REV# 9

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202003799	UI091124-01	.25	mL
LCS	1202003799	UI091124-06	.25	mL
MS	1202003801	UI091124-01	.25	mL
MS	1202003801	UI091124-06	.25	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202003798		SW846 3005A	29-DEC-2009 07:00	<2	50 mL	50 mL	1	WATER
LCS	1202003799		SW846 3005A	29-DEC-2009 07:00	<2	50 mL	50 mL	1	WATER
SAMPLE	243386001		SW846 3005A	29-DEC-2009 07:00	<2	50 mL	50 mL	1	WATER
DUP	1202003800	243386001	SW846 3005A	29-DEC-2009 07:00	<2	50 mL	50 mL	1	WATER
MS	1202003801	243386001	SW846 3005A	29-DEC-2009 07:00	<2	50 mL	50 mL	1	WATER
SDILT	1202003802	243386001	SW846 3005A	29-DEC-2009 07:00	<2	50 mL	50 mL	1	WATER

Reagent/Solvent Lot ID	Amount	Description
1244970	2.5 mL	HYDROCHLORIC ACID
1234886	1 mL	Nitric Acid CONC.

Comments

Prep LogBook

Analyst: AXG2 Verified by:_____

Batch: 936525

Lab SOP: GL-MA-E-006 REV# 9

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202003864	UI091124-A00	.5	mL
LCS	1202003864	UI091124-B	.5	mL
MS	1202003866	UI090828-A	.5	mL
MS	1202003866	UI090828-B	.5	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202003863		SW846 3005A	29-DEC-2009 07:00	<2	50 mL	50 mL	1	WATER
LCS	1202003864		SW846 3005A	29-DEC-2009 07:00	<2	50 mL	50 mL	1	WATER
SAMPLE	243386001		SW846 3005A	29-DEC-2009 07:00	<2	50 mL	50 mL	1	WATER
DUP	1202003865	243386001	SW846 3005A	29-DEC-2009 07:00	<2	50 mL	50 mL	1	WATER
MS	1202003866	243386001	SW846 3005A	29-DEC-2009 07:00	<2	50 mL	50 mL	1	WATER
SDILT	1202003867	243386001	SW846 3005A	29-DEC-2009 07:00	<2	50 mL	50 mL	1	WATER

Reagent/Solvent Lot ID	Amount	Description
1244970	2.5 mL	HYDROCHLORIC ACID
1234886	1 mL	Nitric Acid CONC.

Comments:

Prep LogBook

Analyst: BCD1 Verified by:_____

Batch: 937341

Lab SOP: GL-MA-E-010 REV# 23

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202005776	WHG1248082-13	.2	mL
MS	1202005778	WHG1248082-13	.2	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202005775		SW846 7470A Prep	29-DEC-2009 16:07	<2	20 mL	20 mL	1	WATER
LCS	1202005776		SW846 7470A Prep	29-DEC-2009 16:07	<2	20 mL	20 mL	1	WATER
SAMPLE	243386001		SW846 7470A Prep	29-DEC-2009 16:07	<2	20 mL	20 mL	1	WATER
SAMPLE	243396001		SW846 7470A Prep	29-DEC-2009 16:07	<2	20 mL	20 mL	1	WATER
SAMPLE	243405001		SW846 7470A Prep	29-DEC-2009 16:07	<2	20 mL	20 mL	1	WATER
SAMPLE	243493001		SW846 7470A Prep	29-DEC-2009 16:07	<2	20 mL	20 mL	1	WATER
SAMPLE	243506001		SW846 7470A Prep	29-DEC-2009 16:07	<2	20 mL	20 mL	1	WATER
SAMPLE	243513001		SW846 7470A Prep	29-DEC-2009 16:07	<2	20 mL	20 mL	1	WATER
SAMPLE	243513002		SW846 7470A Prep	29-DEC-2009 16:07	<2	20 mL	20 mL	1	WATER
SAMPLE	243539001		SW846 7470A Prep	29-DEC-2009 16:07	<2	20 mL	20 mL	1	WATER
DUP	1202005777	243539001	SW846 7470A Prep	29-DEC-2009 16:07	<2	20 mL	20 mL	1	WATER
MS	1202005778	243539001	SW846 7470A Prep	29-DEC-2009 16:07	<2	20 mL	20 mL	1	WATER
SDILT	1202005779	243539001	SW846 7470A Prep	29-DEC-2009 16:07	<2	20 mL	20 mL	1	WATER
SAMPLE	243539002		SW846 7470A Prep	29-DEC-2009 16:07	<2	20 mL	20 mL	1	WATER

Reagent/Solvent Lot ID	Amount	Description
1176183	1 mL	Sulfuric Acid, Concentrated
1240182-1	.5 mL	NITRIC ACID
1234385-C	1.5 mL	5% Potassium Persulfate
1244904-C	3 mL	5% KMnO4 solution
1206350-C	1 mL	Hg reducing agent
WHG1248086-06	500 uL	Mercury Working 2nd Source 5.0/ICV
WHG1248088-01	20 uL	Mercury Working 1st Source CAL 0.2/CRA
WHG1248090-02	50 uL	Mercury Working 1st Source CAL 0.5
WHG1248092-05	1 mL	Mercury Working 1st Source CAL 10.0
WHG1248094-03	200 uL	Mercury Working 1st Source CAL 2.0
WHG1248096-04	500 uL	Mercury Working 1st Source CAL 5.0/CCV

Comments

Standard Logbook

Serial ID: UHG1167639-01 **Opened:** 13-AUG-09 **Amount :** 125 mL
Name: MHGSTOCK1 **Received:** 13-AUG-09 **Catalog Number :** PLHG4-2Y
Type: Source Material **Expires:** 13-AUG-10 **Lot Number :** 15-37HG
Employee: Bryan Davis **Solvent :** 10% HNO3
Supplier: Spex
Description: Mercury Source Standard #1 1,000 mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	1000 mg/L		

Serial ID: UI090422-40 **Opened:** 04-MAY-09 **Amount :** 500 mL
Name: TRACE ICP ICSA SOLN A **Received:** 22-APR-09 **Catalog Number :** 160005-01-03
Type: Source Material **Expires:** 04-MAY-10 **Lot Number :** 1013357
Employee: Helen Camello **Solvent :** 5%HNO3
Supplier: o2si
Description: TRACE ICP ICSA SOLN A mg/L+/-0.5%IN5%HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Calcium	5000 mg/L
Iron	2000 mg/L	Magnesium	5000 mg/L

Serial ID: UI090610-03 **Opened:** 10-JUN-09 **Catalog Number :** 060074-06-01
Name: ICPMS Tungsten - 10mg/L S **Received:** 10-JUN-09 **Lot Number :** 1016338
Type: Source Material **Expires:** 10-JUN-10 **Solvent :** 2% HNO3
Employee: Paul Boyd
Supplier: O2SI
Description: ICPMS Tungsten standard SPIKE - 10mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Tungsten	10 mg/L		

Serial ID: UI090701-09 **Opened:** 01-JUL-09 **Amount :** 250 mL
Name: ICP-MS CRDL Master #1 **Received:** 01-JUL-09 **Catalog Number :** 160044-09-02
Type: Source Material **Expires:** 01-JUL-10 **Lot Number :** 1016477
Employee: Paul Boyd **Solvent :** +/- 0.5% IN 2% HNO3
Supplier: 02SI
Description: ICPMS CRDL Master Soln #1
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	15 mg/L	Arsenic	5 mg/L
Barium	2 mg/L	Beryllium	.5 mg/L
Boron	15 mg/L	Cadmium	1 mg/L

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Calcium	100 mg/L	Chromium	3 mg/L
Cobalt	1 mg/L	Copper	1 mg/L
Iron	25 mg/L	Lead	2 mg/L
Lithium	10 mg/L	Magnesium	15 mg/L
Manganese	5 mg/L	Nickel	2 mg/L
Phosphorous	50 mg/L	Potassium	300 mg/L
Selenium	5 mg/L	Sodium	250 mg/L
Strontium	10 mg/L	Thallium	1 mg/L
Thorium	1 mg/L	Uranium	.2 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

Serial ID: UI090701-10 **Opened:** 01-JUL-09 **Amount :** 250 mL
Name: ICP-MS CRDL Master #2 **Received:** 01-JUL-09 **Catalog Number :** 160044-08-02
Type: Source Material **Expires:** 01-JUL-10 **Lot Number :** 1016476
Employee: Paul Boyd **Solvent :** +/- 0.5% IN 2% HNO3
Supplier: 02SI
Description: ICPMS CRDL Soln #2
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Molybdenum	.5 mg/L
Silver	1 mg/L	Tin	2 mg/L
Titanium	10 mg/L	Tungsten	5 mg/L
Zirconium	2 mg/L		

Serial ID: UI090701-40 **Opened:** 01-JUL-09 **Amount :** 500 mL
Name: TRACE ICP Stock PQL St **Received:** 30-JUN-09 **Catalog Number :** 160543-01-03
Type: Source Material **Expires:** 01-JUL-10 **Lot Number :** 1016475
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3+TrHF
Supplier: 02si
Description: TRACE ICP Stock PQL Standard
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	100 mg/L	Antimony	5 mg/L
Arsenic	15 mg/L	Barium	2.5 mg/L
Beryllium	2.5 mg/L	Boron	25 mg/L
Cadmium	2.5 mg/L	Calcium	100 mg/L
Chromium	2.5 mg/L	Cobalt	2.5 mg/L
Copper	5 mg/L	Iron	50 mg/L
Lead	5 mg/L	Magnesium	150 mg/L
Manganese	5 mg/L	Molybdenum	5 mg/L
Nickel	2.5 mg/L	Phosphorous	75 mg/L
Potassium	75 mg/L	Selenium	15 mg/L
Silicon	50 mg/L	Silver	2.5 mg/L

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Sodium	150 mg/L	Strontium	2.5 mg/L
Sulfur	50 mg/L	Thallium	10 mg/L
Tin	5 mg/L	Titanium	2.5 mg/L
Uranium	25 mg/L	Vanadium	2.5 mg/L
Zinc	5 mg/L		

Serial ID: UI090828-42 **Opened:** 16-SEP-09 **Amount :** 500 mL
Name: TRACE ICP Na-1000SOUR **Received:** 27-AUG-09 **Catalog Number :** 060011-02-03
Type: Source Material **Expires:** 16-SEP-10 **Lot Number :** 1017098
Employee: Helen Camello **Solvent :** 1%HNO3
Supplier: 02SI
Description: Sodium 1000 +/- 3 ug/mL in 1% HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

Serial ID: UI090828-A **Opened:** 28-AUG-09 **Catalog Number :** 160067-02
Name: ICP-MS DOE Liquid SPIKE **Received:** 27-AUG-09 **Lot Number :** 1017141
Type: Source Material **Expires:** 28-AUG-10
Employee: Francena Armstrong **Verified:** 21-NOV-08
Supplier: O2Si
Description: ICP-MS DOE liquid Spike Solution A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	8 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Boron	10 mg/L	Cadmium	1 mg/L
Calcium	200 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	4 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L
Phosphorus, Total as P	200 mg/L	Potassium	200 mg/L
Selenium	2 mg/L	Silicon	200 mg/L
Sodium	200 mg/L	Strontium	5 mg/L
Thallium	10 mg/L	Thorium	5 mg/L
Total Uranium	5 mg/L	Uranium	5 mg/L
Uranium-235	.0364 mg/L	Uranium-238	4.96 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

Standard Logbook

Serial ID: UI090828-B **Opened:** 28-AUG-09 **Catalog Number :** 160067-02
Name: ICP-MS DOE Liquid SPIKE **Received:** 27-AUG-09 **Lot Number :** 1017141
Type: Source Material **Expires:** 28-AUG-10
Employee: Francena Armstrong **Verified:** 21-NOV-08
Supplier: O2Si
Description: ICP-MS DOE Liquid Spike Solution B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	5 mg/L
Silver	5 mg/L	Tin	5 mg/L
Titanium	5 mg/L	Zirconium	5 mg/L

Serial ID: UI090925-40 **Opened:** 23-OCT-09 **Amount :** 500 mL
Name: SECOND SOURCE STD -1 **Received:** 25-SEP-09 **Catalog Number :** SGELMX38-500N
Type: Source Material **Expires:** 30-SEP-10 **Lot Number :** 4909129
Employee: Helen Camello **Solvent :** 5%HNO3
Supplier: SPECTRO PURE
Description: SECOND SOURCE STD #1A 5%HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Arsenic	100 mg/L
Barium	100 mg/L	Boron	100 mg/L
Cadmium	100 mg/L	Calcium	1000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	1000 mg/L
Lead	100 mg/L	Phosphorous	500 mg/L
Potassium	500 mg/L	Selenium	500 mg/L
Sodium	500 mg/L	Strontium	100 mg/L

Serial ID: UI090925-41 **Opened:** 23-OCT-09 **Amount :** 500 mL
Name: SECOND SOURCE STD -1 **Received:** 25-SEP-09 **Catalog Number :** SGELMX39-500B
Type: Source Material **Expires:** 30-SEP-10 **Lot Number :** 4909130
Employee: Helen Camello **Solvent :** 5%HNO3,TR.HF
Supplier: SPECTRO PURE
Description: SECOND SOURCE STD #1B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 mg/L	Beryllium	50 mg/L
Magnesium	1000 mg/L	Manganese	100 mg/L
Molybdenum	100 mg/L	Nickel	100 mg/L
Silver	50 mg/L	Sulfur	500 mg/L
Thallium	100 mg/L	Tin	100 mg/L
Titanium	100 mg/L	Uranium	100 mg/L

Analyte	Concentration	Analyte	Concentration
Vanadium	100 mg/L	Zinc	100 mg/L

Serial ID: UI091015-42 **Opened:** 28-OCT-09 **Amount :** 500 mL
Name: SI 1000mg/L **Received:** 15-OCT-09 **Catalog Number :** 060014-02-03
Type: Source Material **Expires:** 28-OCT-10 **Lot Number :** 1017581
Employee: Helen Camello **Solvent :** 0.3%H2O(NH4)2SiF6
Supplier: o2si
Description: Silicon 1000mg/L+/-0.3%in H2O(NH4)2SiF6
Comments: None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

Serial ID: UI091102-40 **Opened:** 16-NOV-09 **Amount :** 500 mL
Name: TRACE CALSTD#1A SOUF **Received:** 02-NOV-09 **Catalog Number :** HP2270-1-500
Type: Source Material **Expires:** 31-OCT-10 **Lot Number :** 0930215
Employee: Helen Camello **Solvent :** HNO3
Supplier: Environmental Express
Description: Trace Calibration Std #1A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	2000 mg/L	Arsenic	200 mg/L
Barium	200 mg/L	Beryllium	200 mg/L
Boron	200 mg/L	Cadmium	200 mg/L
Calcium	2000 mg/L	Chromium	200 mg/L
Cobalt	200 mg/L	Copper	200 mg/L
Iron	2000 mg/L	Lead	200 mg/L
Magnesium	2000 mg/L	Manganese	200 mg/L
Nickel	200 mg/L	Phosphorous	1000 mg/L
Potassium	2000 mg/L	Selenium	200 mg/L
Sodium	2000 mg/L	Strontium	200 mg/L
Thallium	200 mg/L	Uranium	200 mg/L
Vanadium	200 mg/L	Zinc	200 mg/L

Serial ID: UI091102-41 **Opened:** 16-NOV-09 **Amount :** 500 mL
Name: TRACE CALSTD#1B SOUF **Received:** 02-NOV-09 **Catalog Number :** HP2270-2-500
Type: Source Material **Expires:** 31-OCT-10 **Lot Number :** 0930216
Employee: Helen Camello **Solvent :** HNO3
Supplier: Environmental Express
Description: Trace Calibration Standard #1B
Comments: None

Analyte	Concentration	Analyte	Concentration

Analyte	Concentration	Analyte	Concentration
Antimony	200 mg/L	Molybdenum	200 mg/L
Silver	200 mg/L	Sulfur	400 mg/L
Tin	200 mg/L	Titanium	200 mg/L

Serial ID: UI091102-42 **Opened:** 17-NOV-09 **Amount :** 200 mL
Name: SILICON **Received:** 02-NOV-09 **Catalog Number :** HP100050-4F
Type: Source Material **Expires:** 17-NOV-10 **Lot Number :** 0921924
Employee: Helen Camello **Solvent :** H20/tr HF
Supplier: ENVIRNMENTAL EXPRESS
Description: SILICON 1000mg/L H20/tr HF
Comments: None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

Serial ID: UI091124-01 **Opened:** 24-NOV-09 **Lot Number :** 1017642
Name: METALSPIKE-1 **Received:** 24-NOV-09
Type: Source Material **Expires:** 24-NOV-10
Employee: Francena Armstrong
Supplier: OS2I
Description: Metals Spike Mix I
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 ug/mL	Arsenic	100 ug/mL
Barium	100 ug/mL	Beryllium	100 ug/mL
Boron	100 ug/mL	Cadmium	100 ug/mL
Calcium	1000 ug/mL	Cobalt	100 ug/mL
Iron	1000 ug/mL	Lead	100 ug/mL
Magnesium	1000 ug/mL	Phosphorous	100 ug/mL
Potassium	1000 ug/mL	Silver	100 ug/mL
Sodium	1000 ug/mL	Strontium	100 ug/mL

Serial ID: UI091124-06 **Opened:** 24-NOV-09 **Lot Number :** 1017643
Name: METALSPIKE-2 **Received:** 24-NOV-09
Type: Source Material **Expires:** 24-NOV-10
Employee: Francena Armstrong
Supplier: OS2I
Description: Metals Spike Mix II
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 ug/mL	Chromium	100 ug/mL
Copper	100 ug/mL	Manganese	100 ug/mL

Analyte	Concentration	Analyte	Concentration
Molybdenum	100 ug/mL	Nickel	100 ug/mL
Selenium	100 ug/mL	Silica	2141 ug/mL
Silicon	1000 ug/mL	Sulfur	1000 ug/mL
Thallium	100 ug/mL	Tin	100 ug/mL
Titanium	100 ug/mL	Uranium	100 ug/mL
Vanadium	100 ug/mL	Zinc	100 ug/mL

Serial ID: UI091124-A00 **Opened:** 24-NOV-09 **Catalog Number :** 160067-05
Name: ICP-MS ALL OTHER SPIKE **Received:** 24-NOV-09 **Lot Number :** 1017644
Type: Source Material **Expires:** 24-NOV-10
Employee: Francena Armstrong
Supplier: O2si
Description: ICP-MS SPIKE FOR ALL CLIENTS EXCEPT DOE CLIENTS (Solution A).
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	5 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Bismuth	5 mg/L	Boron	10 mg/L
Cadmium	5 mg/L	Calcium	200 mg/L
Cesium	5 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	5 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L
Phosphorous	200 mg/L	Potassium	200 mg/L
Selenium	5 mg/L	Sodium	200 mg/L
Strontium	5 mg/L	Thallium	5 mg/L
Thorium	5 mg/L	Uranium	5 mg/L
Uranium-235	.036 mg/L	Uranium-238	4.964 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

Serial ID: UI091124-B **Opened:** 24-NOV-09 **Catalog Number :** 160067-05
Name: ICP-MS ALL OTHER SPIKE **Received:** 24-NOV-09 **Lot Number :** 1017644
Type: Source Material **Expires:** 24-NOV-10
Employee: Francena Armstrong
Supplier: O2si
Description: MS SPIKE FOR ALL CLIENTS EXCEPT DOE CLIENTS (Solution B).
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	5 mg/L	Molybdenum	5 mg/L
Silver	5 mg/L	Tin	5 mg/L
Titanium	5 mg/L	Zirconium	5 mg/L

Standard Logbook

Serial ID:	UI091212-11	**Opened:**	12-DEC-09	**Amount :**	1000 mL
Name:	ICP-MS ICSA Master A	**Received:**	12-DEC-09	**Catalog Number :**	160013-01-01L
Type:	Source Material	**Expires:**	12-DEC-10	**Lot Number :**	1015303
Employee:	Paul Boyd			**Solvent :**	2% HNO3
Supplier:	02SI				
Description:	ICP-MS ICSA Master A				
Comments:	None				

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

Serial ID:	UI091212-60	**Opened:**	12-DEC-09	**Amount :**	.5 mL
Name:	ICPMS High Range Standa	**Received:**	12-DEC-09	**Catalog Number :**	160212-02-01
Type:	Source Material	**Expires:**	12-DEC-10	**Lot Number :**	1018064
Employee:	Paul Boyd			**Solvent :**	2%HNO3 + Tr HF
Supplier:	O2SI				
Description:	Linear Range Standard A				
Comments:	None				

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Arsenic	100 mg/L
Barium	250 mg/L	Beryllium	100 mg/L
Cadmium	100 mg/L	Calcium	5000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	5000 mg/L
Lead	500 mg/L	Lithium	100 mg/L
Magnesium	5000 mg/L	Manganese	100 mg/L
Nickel	100 mg/L	Phosphorous	2500 mg/L
Potassium	5000 mg/L	Selenium	50 mg/L
Sodium	5000 mg/L	Strontium	100 mg/L
Thallium	50 mg/L	Thorium	250 mg/L
Uranium	500 mg/L	Vanadium	100 mg/L
Zinc	250 mg/L		

Serial ID:	UI091212-61	**Opened:**	12-DEC-09	**Amount :**	.5 mL
Name:	ICPMS High Range Standa	**Received:**	12-DEC-09	**Catalog Number :**	160212-02-01
Type:	Source Material	**Expires:**	12-DEC-10	**Lot Number :**	1018064
Employee:	Paul Boyd			**Solvent :**	2%HNO3 + Tr HF
Supplier:	O2SI				
Description:	Linear Range Standard B				
Comments:	None				

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Antimony	25 mg/L	Molybdenum	100 mg/L
Silver	25 mg/L	Tin	100 mg/L
Tungsten	100 mg/L	Zirconium	50 mg/L

Serial ID: UI091215-48 **Opened:** 04-JAN-10 **Amount :** 1000 mL
Name: Trace ICP ICSA **Received:** 18-DEC-09 **Catalog Number :** 160005-02
Type: Source Material **Expires:** 04-JAN-11 **Lot Number :** 1018219
Employee: Helen Camello **Solvent :** 3% HCl + 1% HNO3
Supplier: o2si
Description: Trace ICP Interferent Check Standard A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 UG/L	Calcium	500000 UG/L
Iron	200000 UG/L	Magnesium	500000 UG/L

Serial ID: UI091215-49.9 **Opened:** 05-JAN-10 **Amount :** 100 ml
Name: Trace ICP ICSAB **Received:** 18-DEC-09 **Catalog Number :** 160066-04
Type: Source Material **Expires:** 06-JAN-10 **Lot Number :** 1018220
Employee: Helen Camello **Solvent :** 3% HCl + 1% HNO3
Supplier: o2si
Description: Trace ICP Inteferent Check Standard AB
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 ug/L	Antimony	500 ug/L
Arsenic	500 ug/L	Barium	500 ug/L
Beryllium	250 ug/L	Boron	500 ug/L
Cadmium	500 ug/L	Calcium	500000 ug/L
Chromium	500 ug/L	Cobalt	500 ug/L
Copper	500 ug/L	Iron	200000 ug/L
Lead	500 ug/L	Magnesium	500000 ug/L
Manganese	500 ug/L	Molybdenum	500 ug/L
Nickel	500 ug/L	Phosphorous	2500 ug/L
Potassium	5000 ug/L	Selenium	2500 ug/L
Silica	10696.5 ug/L	Silicon	5000 ug/L
Silver	250 ug/L	Sodium	5000 ug/L
Strontium	500 ug/L	Sulfur	2500 ug/L
Thallium	500 ug/L	Tin	500 ug/L
Titanium	500 ug/L	Uranium	500 ug/L
Vanadium	500 ug/L	Zinc	500 ug/L

Standard Logbook

Serial ID: UI091217-06 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master A **Received:** 17-DEC-09 **Catalog Number :** 160055-01
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018209
Employee: Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV SOLN A - 10ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	2020 mg/L	Calcium	2000 mg/L
Iron	2000 mg/L	Magnesium	2000 mg/L
Phosphorous	2000 mg/L	Potassium	2000 mg/L
Sodium	2000 mg/L		

Serial ID: UI091217-07 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master B **Received:** 17-DEC-09 **Catalog Number :** 160054-02
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018210
Employee: Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV Soln B - 10ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	20 mg/L	Barium	20 mg/L
Beryllium	20 mg/L	Boron	40 mg/L
Cadmium	20 mg/L	Chromium	20 mg/L
Cobalt	20 mg/L	Copper	20 mg/L
Lead	20 mg/L	Lithium	20 mg/L
Manganese	20 mg/L	Nickel	20 mg/L
Selenium	20 mg/L	Strontium	20 mg/L
Thallium	20 mg/L	Thorium	20 mg/L
Uranium	20 mg/L	Vanadium	20 mg/L
Zinc	20 mg/L		

Serial ID: UI091217-08 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master C **Received:** 17-DEC-09 **Catalog Number :** 160054-03
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018211
Employee: Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV Soln C - 10ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	20 mg/L
Silver	20 mg/L	Tin	20 mg/L
Titanium	20 mg/L	Tungsten	20 mg/L

Analyte	Concentration	Analyte	Concentration
Zirconium	20 mg/L		

Serial ID: UI091217-12 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICSAB Master B **Received:** 17-DEC-09 **Catalog Number :** 160033-02
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018212
Employee: Paul Boyd **Solvent :** +/- 0.5% in 2% HNO3
Supplier: 02SI
Description: ICPMS ICSAB Master B
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	2 mg/L	Barium	2 mg/L
Beryllium	2 mg/L	Boron	2 mg/L
Cadmium	2 mg/L	Chromium	2 mg/L
Cobalt	2 mg/L	Copper	2 mg/L
Lead	2 mg/L	Lithium	2 mg/L
Manganese	2 mg/L	Nickel	2 mg/L
Selenium	2 mg/L	Strontium	2 mg/L
Thallium	2 mg/L	Thorium	2 mg/L
Uranium	2 mg/L	Vanadium	2 mg/L
Zinc	2 mg/L		

Serial ID: UI091217-13 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICSAB Master C **Received:** 17-DEC-09 **Catalog Number :** 160033-03
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1016926
Employee: Paul Boyd **Solvent :** +/- 0.5% in 2% HNO3
Supplier: 02SI
Description: ICPMS ICSAB Master C
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Silver	2 mg/L
Tin	2 mg/L	Tungsten	2 mg/L
Zirconium	2 mg/L		

Serial ID: UI091228-40 **Opened:** 28-DEC-09 **Amount :** 500 mL
Name: ICP HIGH RANGE STD-A **Received:** 21-DEC-09 **Catalog Number :** 160211-05-03
Type: Source Material **Expires:** 28-DEC-10 **Lot Number :** 1018160
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3
Supplier: 02SI
Description: ICP HIGH RANGE STD SOLUTION A
Comments: None

Analyte	Concentration	Analyte	Concentration

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Antimony	10000 ug/L	Arsenic	10000 ug/L
Barium	15000 ug/L	Beryllium	3000 ug/L
Boron	5000 ug/L	Cadmium	10000 ug/L
Chromium	25000 ug/L	Cobalt	10000 ug/L
Copper	20000 ug/L	Lead	25000 ug/L
Manganese	10000 ug/L	Molybdenum	10000 ug/L
Nickel	10000 ug/L	Phosphorous	15000 ug/L
Potassium	300000 ug/L	Selenium	10000 ug/L
Silica	107000 ug/L	Silicon	50000 ug/L
Silver	1000 ug/L	Strontium	10000 ug/L
Sulfur	50000 ug/L	Thallium	10000 ug/L
Tin	10000 ug/L	Titanium	10000 ug/L
Vanadium	10000 ug/L	Zinc	15000 ug/L

Serial ID: UI091228-41 **Opened:** 28-DEC-09 **Amount :** 500 mL
Name: ICP HIGH RANGE STD B **Received:** 21-DEC-09 **Catalog Number :** 160211-05-03
Type: Source Material **Expires:** 28-DEC-10 **Lot Number :** 1018160
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3
Supplier: 02SI
Description: ICP HIGH RANGE STD SOLUTION B
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 ug/L	Calcium	500000 ug/L
Iron	500000 ug/L	Magnesium	500000 ug/L
Sodium	500000 ug/L	Uranium	15000 ug/L

Serial ID: UMS090303-01 **Opened:** 03-MAR-09 **Amount :** 250 mL
Name: ICPMSCalSPIKEB **Received:** 03-MAR-09 **Catalog Number :** ZGEL-100-250
Type: Source Material **Expires:** 28-FEB-10 **Lot Number :** 14-81JB
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution B
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	10 mg/L	Barium	10 mg/L
Beryllium	10 mg/L	Boron	20 mg/L
Cadmium	10 mg/L	Chromium	10 mg/L
Cobalt	10 mg/L	Copper	10 mg/L
Lead	10 mg/L	Lithium	10 mg/L
Manganese	10 mg/L	Nickel	10 mg/L
Selenium	10 mg/L	Silver	10 mg/L
Strontium	10 mg/L	Thallium	10 mg/L
Thorium	10 mg/L	Uranium	10 mg/L

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Vanadium	10 mg/L	Zinc	10 mg/L

Serial ID: UMS090303-02 **Opened:** 03-MAR-09 **Catalog Number :** ZGEL-102-250
Name: ICPMSCalSPIKEA **Received:** 03-MAR-09 **Lot Number :** 14-83JB
Type: Source Material **Expires:** 28-FEB-10
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Phosphorous	1000 mg/L	Potassium	1000 mg/L
Sodium	1000 mg/L		

Serial ID: UMS090303-03 **Opened:** 03-MAR-09 **Amount :** 250 ml
Name: ICPMSCalSPIKEC **Received:** 03-MAR-09 **Catalog Number :** ZGEL-101-250
Type: Source Material **Expires:** 28-FEB-10 **Lot Number :** 15-199JB
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution C
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	10 mg/L	Molybdenum	10 mg/L
Tin	10 mg/L	Titanium	10 mg/L
Zirconium	10 mg/L		

Serial ID: WHG1248082-13 **Opened:** 29-DEC-09 **Pipet Id :** Hg1289245
Name: MHGLIQLCSMSSPIKE **Received:** 29-DEC-09 **Solvent :** 2% HNO3-1240182
Type: Working **Expires:** 30-DEC-09
Employee: Jason Loy **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury working intermediate standard for LCS/MS
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Standard Logbook

Serial ID: WHG1248086-06 **Opened:** 29-DEC-09 **Pipet Id :** Hg1289245
Name: MHGWORK5.0ICV **Received:** 29-DEC-09 **Solvent :** 2% HNO3-1240182
Type: Working **Expires:** 05-JAN-10
Employee: Jason Loy
Supplier: GEL
Description: Mercury Working 2nd Source 5.0/ICV
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	5 ug/L		

Serial ID: WHG1248088-01 **Opened:** 29-DEC-09 **Pipet Id :** Hg1289245
Name: MHGWORKCAL0.2CRA **Received:** 29-DEC-09 **Solvent :** 2% HNO3-1240182
Type: Working **Expires:** 05-JAN-10
Employee: Jason Loy
Supplier: GEL
Description: Mercury Working 1st Source CAL 0.2/CRA
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	.2 ug/L		

Serial ID: WHG1248090-02 **Opened:** 29-DEC-09 **Pipet Id :** Hg1289245
Name: MHGWORKCAL0.5 **Received:** 29-DEC-09 **Solvent :** 2% HNO3-1240182
Type: Working **Expires:** 05-JAN-10
Employee: Jason Loy
Supplier: GEL
Description: Mercury Working 1st Source CAL 0.5
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	.5 ug/L		

Serial ID: WHG1248092-05 **Opened:** 29-DEC-09 **Pipet Id :** Hg1289245
Name: MHGWORKCAL10.0 **Received:** 29-DEC-09 **Solvent :** 2% HNO3-1240182
Type: Working **Expires:** 05-JAN-10
Employee: Jason Loy **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working 1st Source CAL 10.0
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	10 ug/L		

Standard Logbook

Serial ID: WHG1248094-03 **Opened:** 29-DEC-09 **Pipet Id :** Hg1289245
Name: MHGWORKCAL2.0 **Received:** 29-DEC-09 **Solvent :** 2% HNO3-1240182
Type: Working **Expires:** 05-JAN-10
Employee: Jason Loy **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working 1st Source CAL 2.0
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	2 ug/L		

Serial ID: WHG1248096-04 **Opened:** 29-DEC-09 **Pipet Id :** Hg1289245
Name: MHGWORKCAL5.0CCV **Received:** 29-DEC-09 **Solvent :** 2% HNO3-1240182
Type: Working **Expires:** 05-JAN-10
Employee: Jason Loy **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working 1st Source CAL 5.0/CCV
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	5 ug/L		

Serial ID: WI100105-42 **Opened:** 05-JAN-10 **Balance Id :** 216
Name: TRACE ICP 0.1 PPM STD. **Received:** 02-NOV-09 **Pipet Id :** 1099667
Type: Working **Expires:** 06-JAN-10 **Solvent :** 3%HCL and 1%HNO3 -1249941
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP 0.1 PPM CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI100105-44	Aluminum	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100105-44	Antimony	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Arsenic	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Barium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Beryllium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Boron	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Cadmium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Calcium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100105-44	Chromium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Cobalt	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Copper	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Iron	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100105-44	Lead	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Magnesium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100105-44	Manganese	1000 ug/L	10 mL	100 mL	100 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI100105-44	Molybdenum	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Nickel	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Phosphorous	5000 ug/L	10 mL	100 mL	500 ug/L
WI100105-44	Potassium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100105-44	Selenium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Silica	10698 ug/L	10 mL	100 mL	1069 ug/L
WI100105-44	Silicon	5000 ug/L	10 mL	100 mL	500 ug/L
WI100105-44	Silver	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Sodium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100105-44	Strontium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Sulfur	2000 ug/L	10 mL	100 mL	200 ug/L
WI100105-44	Thallium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Tin	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Titanium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Uranium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Vanadium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100105-44	Zinc	1000 ug/L	10 mL	100 mL	100 ug/L

Serial ID: WI100105-43 **Opened:** 05-JAN-10 **Balance Id :** 216
Name: TRACE ICP 0.5/CCV STD. **Received:** 02-NOV-09 **Pipet Id :** 1099667
Type: Working **Expires:** 06-JAN-10 **Solvent :** 3%HCL and 1%HNO3 -1249941
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP 0.5/CCV CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090828-42	Sodium	1000 ug/mL	5 mL	1000 mL	5000 UG/L
UI091015-42	Silica	2139 mg/L	2.5 mL	1000 mL	5348.25 UG/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI091102-40	Aluminum	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Barium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Beryllium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Boron	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Chromium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Copper	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Iron	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Lead	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Manganese	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Nickel	200 mg/L	2.5 mL	1000 mL	500 UG/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Selenium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Strontium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Thallium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Uranium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Zinc	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Antimony	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Silver	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	1000 mL	1000 UG/L
UI091102-41	Tin	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Titanium	200 mg/L	2.5 mL	1000 mL	500 UG/L

Serial ID: WI100105-44 **Opened:** 05-JAN-10 **Balance Id :** 216
Name: TRACE ICP SCAL 1.0 **Received:** 02-NOV-09 **Pipet Id :** 1099667
Type: Working **Expires:** 06-JAN-10 **Solvent :** 3%HCL and 1 %HNO3-1249941
Employee: Helen Camello
Supplier: o2si
Description: Trace ICP Calibration Standard 1.0ppm
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091015-42	Silica	2139 mg/L	2.5 mL	500 mL	10698 ug/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Aluminum	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Barium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Beryllium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Boron	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Chromium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Copper	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Iron	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Lead	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Manganese	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Nickel	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Selenium	200 mg/L	2.5 mL	500 mL	1000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091102-40	Sodium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Strontium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Thallium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Uranium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Zinc	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Antimony	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Silver	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	500 mL	2000 ug/L
UI091102-41	Tin	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Titanium	200 mg/L	2.5 mL	500 mL	1000 ug/L

Serial ID: WI100105-45 **Opened:** 05-JAN-10 **Balance Id :** 216
Name: TRACE ICP S-10 STD **Received:** 22-APR-09 **Pipet Id :** 1099667
Type: Working **Expires:** 06-JAN-10 **Solvent :** 3%HCL and 1%HNO3 -1249941
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP S-10 CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090422-40	Aluminum	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Calcium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Iron	2000 mg/L	5 mL	500 mL	20000 UG/L
UI090422-40	Magnesium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090828-42	Sodium	1000 ug/mL	10 mL	500 mL	20000 UG/L

Serial ID: WI100105-46 **Opened:** 05-JAN-10 **Balance Id :** 216
Name: ICP TRACE ICV **Received:** 25-SEP-09 **Pipet Id :** 1099667
Type: Working **Expires:** 06-JAN-10 **Solvent :** 3%HCL AND 1%HNO3-1249941
Employee: Helen Camello
Supplier: GEL
Description: Initial Calibration Verification ICP Trace Metals
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090925-40	Aluminum	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Arsenic	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Barium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Boron	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cadmium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Calcium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Chromium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cobalt	100 mg/L	2.5 mL	500 mL	500 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090925-40	Copper	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Iron	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Lead	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Phosphorous	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Potassium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Selenium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Sodium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Strontium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Antimony	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Beryllium	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Magnesium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-41	Manganese	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Molybdenum	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Nickel	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Silver	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Sulfur	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-41	Thallium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Tin	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Titanium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Uranium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Vanadium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Zinc	100 mg/L	2.5 mL	500 mL	500 ug/L
UI091102-42	Silica	2139 mg/L	2.5 mL	500 mL	10695 ug/L
UI091102-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L

Serial ID: WI100105-47 **Opened:** 05-JAN-10 **Balance Id :** 216
Name: PQL Working Standard **Received:** 30-JUN-09 **Pipet Id :** 1099667
Type: Working **Expires:** 06-JAN-10 **Solvent :** 3%HCL &1%HNO3-1249941
Employee: Helen Camello
Supplier: 02si
Description: PQL Working Standard
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-40	Aluminum	100 mg/L	2 mL	1000 mL	200 ug/L
UI090701-40	Antimony	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Arsenic	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Barium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Beryllium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Boron	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Cadmium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Calcium	100 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Chromium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Cobalt	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Copper	5 mg/L	2 mL	1000 mL	10 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-40	Iron	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Lead	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Magnesium	150 mg/L	2 mL	1000 mL	300 ug/L
UI090701-40	Manganese	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Molybdenum	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Nickel	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Phosphorous	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Potassium	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Selenium	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Silicon	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Silver	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sodium	150 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Strontium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sulfur	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Thallium	10 mg/L	2 mL	1000 mL	20 ug/L
UI090701-40	Tin	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Titanium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Uranium	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Vanadium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Zinc	5 mg/L	2 mL	1000 mL	10 ug/L

Serial ID: WMS100103-04 **Opened:** 03-JAN-10 **Amount :** 50 mL
Name: ICPMS Cal Standard 100 **Received:** 03-JAN-10 **Balance Id :** 4025216
Type: Working **Expires:** 04-JAN-10 **Pipet Id :** 3541598
Employee: Elizabeth Janssen **Solvent :** 2%HNO3/1%HCl-1247304
Supplier: GEL
Description: ICPMS Calibration Standard (100 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

Serial ID: WMS100103-04A **Opened:** 03-JAN-10 **Balance Id :** 4025216
Name: ICPMS Cal Standard 10 **Received:** 03-JAN-10 **Pipet Id :** 3541598
Type: Working **Expires:** 04-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1247304
Employee: Elizabeth Janssen
Supplier: GEL
Description: ICPMS Calibration Standard (10 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100103-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100103-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100103-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100103-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100103-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100103-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100103-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100103-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100103-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100103-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100103-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100103-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

Serial ID: WMS100103-05 **Opened:** 03-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICV **Received:** 03-JAN-10 **Pipet Id :** 3541598
Type: Working **Expires:** 04-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1247304
Employee: Elizabeth Janssen
Supplier: GEL
Description: ICPMS ICV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

Serial ID: WMS100103-06 **Opened:** 03-JAN-10 **Balance Id :** 40245216
Name: ICPMS CRDL **Received:** 03-JAN-10 **Pipet Id :** 3820544
Type: Working **Expires:** 04-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1247304
Employee: Elizabeth Janssen
Supplier: GEL
Description: ICPMS CRDL
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

Serial ID: WMS100103-07 **Opened:** 03-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSA **Received:** 03-JAN-10 **Lot Number :** 1010773
Type: Working **Expires:** 04-JAN-10 **Pipet Id :** 3541598
Employee: Elizabeth Janssen **Solvent :** 2%HNO3/1%HCl - 1247304
Supplier: GEL
Description: ICPMS ICSA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Serial ID: WMS100103-08 **Opened:** 03-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSAB **Received:** 03-JAN-10 **Pipet Id :** 1758088
Type: Working **Expires:** 04-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1247304
Employee: Elizabeth Janssen
Supplier: GEL
Description: ICPMS ICSAB
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L

Serial ID: WMS100103-70 **Opened:** 03-JAN-10 **Balance Id :** 40245216
Name: ICPMS LINEAR RANGE ST **Received:** 03-JAN-10 **Pipet Id :** 1758088
Type: Working **Expires:** 04-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1247304
Employee: Elizabeth Janssen
Supplier: 02SI
Description: ICPMS LINEAR RANGE STANDARD
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-60	Aluminum	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Arsenic	100 mg/L	.5 mL	50 mL	1000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-60	Barium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Beryllium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cadmium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Calcium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Chromium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cobalt	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Copper	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Iron	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Lead	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Lithium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Magnesium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Manganese	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Nickel	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Phosphorous	2500 mg/L	.5 mL	50 mL	25000 ug/L
UI091212-60	Potassium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Selenium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Sodium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Strontium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Thallium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Thorium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Uranium	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Vanadium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Zinc	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-61	Antimony	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Molybdenum	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Silver	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Tin	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Tungsten	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Zirconium	50 mg/L	.5 mL	50 mL	500 ug/L

Serial ID: WMS100104-04 **Opened:** 04-JAN-10 **Amount :** 50 mL
Name: ICPMS Cal Standard 100 **Received:** 04-JAN-10 **Balance Id :** 4025216
Type: Working **Expires:** 05-JAN-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl-1249336
Supplier: GEL
Description: ICPMS Calibration Standard (100 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

Serial ID: WMS100104-04A **Opened:** 04-JAN-10 **Balance Id :** 4025216
Name: ICPMS Cal Standard 10 **Received:** 04-JAN-10 **Pipet Id :** 3541598
Type: Working **Expires:** 05-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1249336
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS Calibration Standard (10 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100104-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100104-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100104-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100104-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100104-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100104-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100104-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100104-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100104-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100104-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100104-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

Serial ID: WMS100104-05 **Opened:** 04-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICV **Received:** 04-JAN-10 **Pipet Id :** 3541598
Type: Working **Expires:** 05-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1249336
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

Serial ID: WMS100104-06 **Opened:** 04-JAN-10 **Balance Id :** 40245216
Name: ICPMS CRDL **Received:** 04-JAN-10 **Pipet Id :** 3820544
Type: Working **Expires:** 05-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1249336
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS CRDL
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

Serial ID: WMS100104-07 **Opened:** 04-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSA **Received:** 04-JAN-10 **Lot Number :** 1010773
Type: Working **Expires:** 05-JAN-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl - 1249336
Supplier: GEL
Description: ICPMS ICSA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Standard Logbook

Serial ID: WMS100104-08 **Opened:** 04-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSAB **Received:** 04-JAN-10 **Pipet Id :** 1758088
Type: Working **Expires:** 05-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1249336
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICSAB
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L

Standard Logbook

Serial ID: 1156689-A **Opened:** 20-JUL-09 **Lot Number :** 41226920
Name: B-KMnO4(VWR)-MER **Received:** 20-JUL-09
Type: Reagent/Solvent **Expires:** 20-JUL-10
Employee: Tara Griffin **Verified:** 07-AUG-07
Supplier: VWR
Description: Potassium Permanganate
Comments: None

Serial ID: 1164796-A **Opened:** 06-AUG-09 **Lot Number :** 49149927
Name: B-NH2OH.HCl-MER **Received:** 06-AUG-09
Type: Reagent/Solvent **Expires:** 06-AUG-10
Employee: Tara Griffin
Supplier: Fisher Scientific
Description: Hydroxlyamine Hydrochloride
Comments: None

Serial ID: 1176183 **Opened:** 24-AUG-09 **Lot Number :** H20001
Name: B-H2SO4-MER **Received:** 24-AUG-09
Type: Reagent/Solvent **Expires:** 24-AUG-10
Employee: Tara Griffin
Supplier: Mallinckrodt
Description: Sulfuric Acid, Concentrated
Comments: None

Serial ID: 1206350-C **Opened:** 22-OCT-09 **Balance Id :** BAL-002
Name: B-NaCl.NH2OH.HCl-MER **Received:** 22-OCT-09
Type: Reagent/Solvent **Expires:** 06-AUG-10
Employee: Tara Griffin
Supplier: GEL
Description: Hg reducing agent
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1164796-A	B-NH2OH.HCl-MER	N/A	120 g	1000 mL	N/A

Serial ID: 1215906 **Opened:** 06-NOV-09 **Lot Number :** H44465
Name: B-K2S2O8S-MER **Received:** 06-NOV-09
Type: Reagent/Solvent **Expires:** 06-NOV-10
Employee: Tara Griffin
Supplier: J.T BAKER
Description: Potassium Persulfate Concentrate.
Comments: None

Standard Logbook

Serial ID: 1234385-C **Opened:** 25-NOV-09 **Balance Id :** BAL-002
Name: B-K2S2O8-MER **Received:** 25-NOV-09
Type: Reagent/Solvent **Expires:** 25-MAY-10
Employee: Tara Griffin
Supplier: GEL
Description: 5% Potassium Persulfate
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1215906	B-K2S2O8S-MER	N/A	50 g	1000 mL	N/A

Serial ID: 1234886 **Opened:** 27-NOV-09 **Lot Number :** H20053 L
Name: I-HNO3 **Received:** 27-NOV-09
Type: Reagent/Solvent **Expires:** 27-NOV-10
Employee: Bryan Davis
Supplier: BAKER
Description: Nitric Acid CONC.
Comments: None

Serial ID: 1238345 **Opened:** 04-DEC-09 **Lot Number :** H20053 L
Name: I-HNO3 **Received:** 04-DEC-09
Type: Reagent/Solvent **Expires:** 04-DEC-10
Employee: Francena Armstrong
Supplier: BAKER
Description: Nitric Acid CONC.
Comments: None

Serial ID: 1240182-1 **Opened:** 09-DEC-09 **Instrument Id :** MERCURY
Name: B-HNO3-MER **Received:** 09-DEC-09 **Lot Number :** H34040
Type: Reagent/Solvent **Expires:** 09-DEC-10
Employee: Tara Griffin
Supplier: Mallinckrodt Chemicals
Description: NITRIC ACID
Comments: None

Serial ID: 1244904-C **Opened:** 18-DEC-09 **Balance Id :** BAL-002
Name: B-KMnO4-MER **Received:** 18-DEC-09
Type: Reagent/Solvent **Expires:** 18-JUN-10
Employee: Tara Griffin
Supplier: GEL
Description: 5% KMnO4 solution
Comments: None

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1156689-A	B-KMnO4(VWR)-MER	Crystals	50 g	1000 mL	3%

Serial ID: 1244970 **Opened:** 18-DEC-09 **Lot Number :** H41032
Name: I-HCL **Received:** 18-DEC-09 **Preservative_Id :** 5 none
Type: Reagent/Solvent **Expires:** 18-DEC-10
Employee: Francena Armstrong
Supplier: J.T. BAKER
Description: HYDROCHLORIC ACID
Comments: None

Serial ID: 1247304 **Opened:** 28-DEC-09 **Solvent :** Type I Water
Name: B-2%HNO3/1%HCl-ICPMS **Received:** 28-DEC-09
Type: Reagent/Solvent **Expires:** 04-JAN-10
Employee: Elizabeth Janssen
Supplier: GEL
Description: 2%HNO3/1%HCl Solution (Type I Water)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1238345	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1244970	I-HCL	36.5-38.0	90 mL	9 l	N/A

Serial ID: 1249336 **Opened:** 04-JAN-10 **Solvent :** Type I Water
Name: B-2%HNO3/1%HCl-ICPMS **Received:** 04-JAN-10
Type: Reagent/Solvent **Expires:** 11-JAN-10
Employee: Paul Boyd
Supplier: GEL
Description: 2%HNO3/1%HCl Solution (Type I Water)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1238345	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1244970	I-HCL	36.5-38.0	90 mL	9 l	N/A

Serial ID: 1249941 **Opened:** 04-JAN-10 **Amount :** 20 L
Name: B-ICP-RINSE SOLN **Received:** 15-DEC-10 **Lot Number :** H04040+G34050
Type: Reagent/Solvent **Expires:** 10-JAN-10 **Solvent :** 3%HCL+1%HNO3
Employee: Helen Camello
Supplier: GEL
Description: 3%HCL+1%HNO3 RINSE SOLN.
Comments: None

General Chemistry Analysis

Case Narrative

General Chemistry Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1032

Method/Analysis Information

Product:	**Cyanide, Total**		
Analytical Batch:	935222 and 936400	**Method:**	SW846 9012A
Prep Batch :	935221 and 936399	**Method:**	SW846 9010B Prep

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 9012A:

Sample ID	Client ID
243385001	RE12-10-7580
243385002	RE12-10-7590
243385003	RE12-10-7592
243385004	RE12-10-7591
243385005	RE12-10-7581
243385006	RE12-10-7586
243385007	RE12-10-7587
243385008	RE12-10-7585
243385009	RE12-10-7582
243385010	RE12-10-7584
243385011	RE12-10-7583
1202000973	Method Blank (MB)
1202000974	243270010(RE12-10-7364) Sample Duplicate (DUP)
1202000975	243270010(RE12-10-7364) Matrix Spike (MS)
1202000976	243270010(RE12-10-7364) Matrix Spike Duplicate (MSD)
1202000977	Laboratory Control Sample (LCS)
1202003559	243393002(WST12-10-8879) Sample Duplicate (DUP)
1202003560	243393002(WST12-10-8879) Matrix Spike (MS)
1202003561	243393002(WST12-10-8879) Matrix Spike Duplicate (MSD)
1202003577	Method Blank (MB)
1202003578	243385008(RE12-10-7585) Sample Duplicate (DUP)
1202003579	243385008(RE12-10-7585) Matrix Spike (MS)
1202003580	243385008(RE12-10-7585) Matrix Spike Duplicate (MSD)
1202003581	Laboratory Control Sample (LCS)
1202004486	243505001(RE16-10-2853) Sample Duplicate (DUP)
1202004487	243505001(RE16-10-2853) Matrix Spike (MS)
1202004488	243505001(RE16-10-2853) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-095 REV# 12.

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

Calibration Information
The Flow Injection analysis was performed on a Lachat QuickChem FIA+ 8000 Series.

Initial Calibration
All initial calibration requirements have been met for this SDG.

Continuing Calibration Blanks
All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

Calibration Verification Information (CCV)
All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

Y Intercept Rule
The absolute value of the intercept is less than 3 times the MDL.

Quality Control (QC) Information

Method Blank (MB) Statement
The MBs analyzed with this SDG met the acceptance criteria.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Quality Control (QC) Designation
The following samples were selected for QC analysis: 243270010 (RE12-10-7364), 243393002 (WST12-10-8879)- Batch 935222, 243385008 (RE12-10-7585) and 243505001 (RE16-10-2853)- Batch 936400.

Matrix Spike (MS)/Post Spike (PS) Recovery Statement
The MS/PS recoveries for this sample set were within the required acceptance limits.

Matrix Spike Duplicate (MSD) Recovery Statement
The MSD recoveries for this sample set were within the required acceptance limits.

MS/MSD Relative Percent Difference (RPD) Statement
The RPDs between the spike and spike duplicate met the acceptance limits.

Duplicate Relative Percent Difference (RPD) Statement

The values for the sample and duplicate are less than the Practical Quantitation Limit (PQL); therefore, the RPD is not applicable. 1202000974 (RE12-10-7364), 1202003559 (WST12-10-8879)- Batch 935222, 1202003578 (RE12-10-7585), 1202004486 (RE16-10-2853) and 243385008 (RE12-10-7585)- Batch 936400.

Technical Information

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

Holding Times
All samples in this SDG met the specified holding time.

Sample Preservation/Integrity
All the samples from this sample group met the preservation and integrity requirements of the method.

Sample Dilutions
The following samples in this sample group were diluted due to high concentration: 1202000977 (LCS)- Batch 935222 and 1202003581 (LCS)- Batch 936400.

Sample Re-analysis
The samples in this SDG did not require re-analysis.

Miscellaneous Information

Nonconformance (NCR) Documentation
An NCR was not required for this SDG.

Additional Comments
Additional comments were not required for this SDG.

Electronic Packaging Comment
This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:
Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Tom Lewis, Jr. **Date:** 15Jan10

Sample Data Summary

GEL LABORATORIES LLC

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Certificate of Analysis Report
for

LANL010 Los Alamos National Laboratory (72733-001-09)

Client SDG: 10-1032 GEL Work Order: 243385

The Qualifiers in this report are defined as follows:

* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.

** Indicates the analyte is a surrogate compound.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by _____

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7580	Project:	LANL01004
Sample ID:	243385001	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	14%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	J	97.5	73.3	269	ug/kg	1	AXH3 12/24/09	1352	935222	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/24/09	1301	935221

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7590	Project:	LANL01004
Sample ID:	243385002	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	9.42%		

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total Federal "Dry Weight Corrected"											
Cyanide, Total	U	ND	72.2	265	ug/kg	1	AXH3	12/24/09	1353	935222	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/24/09	1301	935221

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7592	Project:	LANL01004
Sample ID:	243385003	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	11.4%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	68.5	252	ug/kg	1	AXH3 12/24/09	1354	935222	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/24/09	1301	935221

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7591	Project:	LANL01004
Sample ID:	243385004	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	11.5%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	75.3	277	ug/kg	1	AXH3 12/24/09	1354	935222	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/24/09	1301	935221

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID: RE12-10-7581
Sample ID: 243385005
Matrix: S
Collect Date: 17-DEC-09 12:00
Receive Date: 22-DEC-09
Collector: Client
Moisture: 11.6%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	71.2	262	ug/kg	1	AXH3 12/24/09	1355	935222	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/24/09	1301	935221

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7586	Project:	LANL01004
Sample ID:	243385006	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	10.8%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	65.7	242	ug/kg	1	AXH3 12/24/09	1356	935222	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/24/09	1301	935221

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7587	Project:	LANL01004
Sample ID:	243385007	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	9.9%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	66.2	243	ug/kg	1	AXH3 12/24/09	1357	935222	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/24/09	1301	935221

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7585	Project:	LANL01004
Sample ID:	243385008	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	8.41%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	71.4	262	ug/kg	1	AXC2 12/31/09	1008	936400	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/30/09	1520	936399

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7582	Project:	LANL01004
Sample ID:	243385009	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	7.15%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	J	83.2	66.6	245	ug/kg	1	AXC2 12/31/09	1012	936400	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/30/09	1520	936399

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID: RE12-10-7584
Sample ID: 243385010
Matrix: S
Collect Date: 17-DEC-09 12:00
Receive Date: 22-DEC-09
Collector: Client
Moisture: 7.27%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	63.2	232	ug/kg	1	AXC2 12/31/09	1012	936400	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/30/09	1520	936399

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 5, 2010

Client SDG: 10-1032

Client Sample ID:	RE12-10-7583	Project:	LANL01004
Sample ID:	243385011	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09 12:00		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	6.73%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	J	73.4	64.0	235	ug/kg	1	AXC2 12/31/09	1013	936400	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/30/09	1520	936399

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

Quality Control Summary

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QC Summary

Report Date: January 5, 2010
Page 1 of 2

Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico

Contact: Ms. Joylene Valdez

Workorder: 243385

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Flow Injection Analysis										
Batch 935222										
QC1202000974 243270010 DUP										
Cyanide, Total	U	ND	U	ND	ug/kg	N/A			AXH3	12/24/09 13:49
QC1202003559 243393002 DUP										
Cyanide, Total	U	ND	U	ND	ug/kg	N/A				12/24/09 14:02
QC1202000977 LCS										
Cyanide, Total	34000			33100	ug/kg		97.6	(46%-145%)		12/24/09 13:30
QC1202000973 MB										
Cyanide, Total			U	250	ug/kg					12/24/09 13:30
QC1202000975 243270010 MS										
Cyanide, Total	5270 U	ND		4910	ug/kg		92.9	(50%-130%)		12/24/09 13:50
QC1202003560 243393002 MS										
Cyanide, Total	5470 U	ND		5750	ug/kg		105	(50%-130%)		12/24/09 14:03
QC1202000976 243270010 MSD										
Cyanide, Total	5170 U	ND		4870	ug/kg	0.767	93.9	(0%-30%)		12/24/09 13:51
QC1202003561 243393002 MSD										
Cyanide, Total	4990 U	ND		5040	ug/kg	13.0	101	(0%-30%)		12/24/09 14:04
Batch 936400										
QC1202003578 243385008 DUP										
Cyanide, Total	U	ND	U	ND	ug/kg	N/A			AXC2	12/31/09 10:09
QC1202004486 243505001 DUP										
Cyanide, Total	U	ND	U	ND	ug/kg	N/A				12/31/09 10:35
QC1202003581 LCS										
Cyanide, Total	67900			63300	ug/kg		93.2	(46%-145%)		12/31/09 10:07
QC1202003577 MB										
Cyanide, Total			U	250	ug/kg					12/31/09 10:06
QC1202003579 243385008 MS										
Cyanide, Total	4960 U	ND		4960	ug/kg		100	(50%-130%)		12/31/09 10:10
QC1202004487 243505001 MS										
Cyanide, Total	4890 U	ND		5380	ug/kg		109	(50%-130%)		12/31/09 10:36
QC1202003580 243385008 MSD										
Cyanide, Total	5250 U	ND		4890	ug/kg	1.43	93.2	(0%-30%)		12/31/09 10:11
QC1202004488 243505001 MSD										
Cyanide, Total	5560 U	ND		5950	ug/kg	10.1	106	(0%-30%)		12/31/09 10:36

Notes:
RER is calculated at the 95% confidence level (2-sigma).
The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product

QC Summary

Workorder: 243385

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

B	For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
E	Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E	Organics--Concentration of the target analyte exceeds the instrument calibration range
F	Estimated Value
H	Analytical holding time was exceeded
J	Value is estimated
M	M if above MDC and less than LLD
M	Matrix Related Failure
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	RPD or %Recovery limits do not apply.
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI	Gamma Spectroscopy--Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Instrument QC Data Summary

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 05-JAN-2010 17:36

GEL Laboratories LLC

Contract: **LANL01004**

SDG #: **10-1032**

Flow Injection Analysis

Method: SW846 9012A Concentration Units:ug/L

Instrument: Lachat QuickChem FIA+ 8000 Series

Parmname: Cyanide, Total

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**24-DEC-2009 13:19:16**	**OM_12-24-2009_13-08-41**	**149**	**150**	**99**	**(90%-110%)**	**Yes**
CCV	24-DEC-2009 13:33:34	OM_12-24-2009_13-08-41	105	100	105	(90%-110%)	Yes
CCV	24-DEC-2009 13:45:59	OM_12-24-2009_13-08-41	106	100	106	(90%-110%)	Yes
CCV	24-DEC-2009 13:58:23	OM_12-24-2009_13-08-41	106	100	106	(90%-110%)	Yes
CCV	24-DEC-2009 14:05:37	OM_12-24-2009_13-08-41	106	100	106	(90%-110%)	Yes
ICV	**31-DEC-2009 10:01:18**	**OM_12-31-2009_09-50-50**	**150**	**150**	**100**	**(90%-110%)**	**Yes**
CCV	31-DEC-2009 10:15:36	OM_12-31-2009_09-50-50	105	100	105	(90%-110%)	Yes
CCV	31-DEC-2009 10:28:01	OM_12-31-2009_09-50-50	106	100	106	(90%-110%)	Yes
CCV	31-DEC-2009 10:40:23	OM_12-31-2009_09-50-50	106	100	106	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**24-DEC-2009 13:21:06**	**OM_12-24-2009_13-08-41**	**-1.74**	**5**	**Yes**
CCB	24-DEC-2009 13:35:24	OM_12-24-2009_13-08-41	-1.78	5	Yes
CCB	24-DEC-2009 13:47:50	OM_12-24-2009_13-08-41	-2.07	5	Yes
CCB	24-DEC-2009 14:00:13	OM_12-24-2009_13-08-41	-1.66	5	Yes
CCB	24-DEC-2009 14:07:27	OM_12-24-2009_13-08-41	-2.74	5	Yes
ICB	**31-DEC-2009 10:03:08**	**OM_12-31-2009_09-50-50**	**-1.31**	**5**	**Yes**
CCB	31-DEC-2009 10:17:26	OM_12-31-2009_09-50-50	-1.68	5	Yes
CCB	31-DEC-2009 10:29:51	OM_12-31-2009_09-50-50	-1.39	5	Yes
CCB	31-DEC-2009 10:42:13	OM_12-31-2009_09-50-50	-1.45	5	Yes

Cyanide, Total

Prep LogBook

Analyst: AXS5 Verified by:_____

Batch: 935221

Lab SOP: GL-GC-E-067 REV# 13

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202000977	URF1200957-01	.25	g
MS	1202000975	URF1184831-02	.025	mL
MS	1202003560	URF1184831-02	.025	mL
MSD	1202000976	URF1184831-02	.025	mL
MSD	1202003561	URF1184831-02	.025	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202000973		SW846 9010B Prep	24-DEC-2009 13:00	>12	0.5 g	25 mL	50	SOIL
LCS	1202000977		SW846 9010B Prep	24-DEC-2009 13:00	>12	0.25 g	25 mL	100	SOIL
SAMPLE	243092002		SW846 9010B Prep	24-DEC-2009 13:00	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	243092003		SW846 9010B Prep	24-DEC-2009 13:00	>12	0.5 g	25 mL	50	SOIL
SAMPLE	243262001		SW846 9010B Prep	24-DEC-2009 13:00	>12	0.58 g	25 mL	43.10345	MISC SOLID
SAMPLE	243262002		SW846 9010B Prep	24-DEC-2009 13:01	>12	0.509 g	25 mL	49.11591	MISC SOLID
SAMPLE	243265001		SW846 9010C Distillation	24-DEC-2009 13:01	>12	0.58 g	25 mL	43.10345	SOIL
SAMPLE	243265002		SW846 9010C Distillation	24-DEC-2009 13:01	>12	0.56 g	25 mL	44.64286	SOIL
SAMPLE	243265003		SW846 9010C Distillation	24-DEC-2009 13:01	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	243265004		SW846 9010C Distillation	24-DEC-2009 13:01	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	243265005		SW846 9010C Distillation	24-DEC-2009 13:01	>12	0.5 g	25 mL	50	SOIL
SAMPLE	243265006		SW846 9010C Distillation	24-DEC-2009 13:01	>12	0.58 g	25 mL	43.10345	SOIL
SAMPLE	243265007		SW846 9010C Distillation	24-DEC-2009 13:01	>12	0.5 g	25 mL	50	SOIL
SAMPLE	243270010		SW846 9010B Prep	24-DEC-2009 13:01	>12	0.54 g	25 mL	46.2963	SOIL
DUP	1202000974	243270010	SW846 9010B Prep	24-DEC-2009 13:01	>12	0.52 g	25 mL	48.07692	SOIL
MS	1202000975	243270010	SW846 9010B Prep	24-DEC-2009 13:01	>12	0.54 g	25 mL	46.2963	SOIL
MSD	1202000976	243270010	SW846 9010B Prep	24-DEC-2009 13:01	>12	0.55 g	25 mL	45.45455	SOIL
SAMPLE	243385001		SW846 9010B Prep	24-DEC-2009 13:01	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	243385002		SW846 9010B Prep	24-DEC-2009 13:01	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	243385003		SW846 9010B Prep	24-DEC-2009 13:01	>12	0.56 g	25 mL	44.64286	SOIL
SAMPLE	243385004		SW846 9010B Prep	24-DEC-2009 13:01	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	243385005		SW846 9010B Prep	24-DEC-2009 13:01	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	243385006		SW846 9010B Prep	24-DEC-2009 13:01	>12	0.58 g	25 mL	43.10345	SOIL
SAMPLE	243385007		SW846 9010B Prep	24-DEC-2009 13:01	>12	0.57 g	25 mL	43.85965	SOIL
SAMPLE	243393002		SW846 9010B Prep	24-DEC-2009 13:01	>12	0.51 g	25 mL	49.01961	SOIL
DUP	1202003559	243393002	SW846 9010B Prep	24-DEC-2009 13:01	>12	0.53 g	25 mL	47.16981	SOIL
MS	1202003560	243393002	SW846 9010B Prep	24-DEC-2009 13:01	>12	0.52 g	25 mL	48.07692	SOIL
MSD	1202003561	243393002	SW846 9010B Prep	24-DEC-2009 13:01	>12	0.57 g	25 mL	43.85965	SOIL

Prep LogBook

Reagent/Solvent Lot ID	Amount	Description
091211-C	25 mL	0.25N Sodium Hydroxide Solution
WCN091224-07	.0375 mL	150 ppb CN Distilled ICV Standard
1176724-C	1.25 mL	0.8N H3NO3S
1238146-C	2.5 mL	50% H2SO4 CN Prep
1176778-C	1 mL	51% MgCl2 Soln
1238142-C	1.25 mL	Bismuth Nitrate Solution

Comments

Prep LogBook

Analyst: AXS5 Verified by:_____

Batch: 936399

Lab SOP: GL-GC-E-067 REV# 13

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202003581	URF1200957-01	.25	g
MS	1202003579	URF1184831-02	.025	mL
MS	1202004487	URF1184831-02	.025	mL
MSD	1202003580	URF1184831-02	.025	mL
MSD	1202004488	URF1184831-02	.025	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202003577		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.5 g	25 mL	50	SOIL
LCS	1202003581		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.25 g	25 mL	100	SOIL
SAMPLE	243385008		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.52 g	25 mL	48.07692	SOIL
DUP	1202003578	243385008	SW846 9010B Prep	30-DEC-2009 15:20	>12	0.57 g	25 mL	43.85965	SOIL
MS	1202003579	243385008	SW846 9010B Prep	30-DEC-2009 15:20	>12	0.55 g	25 mL	45.45455	SOIL
MSD	1202003580	243385008	SW846 9010B Prep	30-DEC-2009 15:20	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	243385009		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.55 g	25 mL	45.45455	SOIL
SAMPLE	243385010		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.58 g	25 mL	43.10345	SOIL
SAMPLE	243385011		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.57 g	25 mL	43.85965	SOIL
SAMPLE	243457001		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.57 g	25 mL	43.85965	SOIL
SAMPLE	243457002		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	243457003		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	243457004		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.5 g	25 mL	50	SOIL
SAMPLE	243472001		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.5 g	25 mL	50	SOIL
SAMPLE	243472002		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.53 g	25 mL	47.16981	SOIL
SAMPLE	243472003		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.5 g	25 mL	50	SOIL
SAMPLE	243492001		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	243492002		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	243492003		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.53 g	25 mL	47.16981	SOIL
SAMPLE	243492004		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	243492005		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	243492006		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	243492007		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.5 g	25 mL	50	SOIL
SAMPLE	243505001		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.51 g	25 mL	49.01961	SOIL
DUP	1202004486	243505001	SW846 9010B Prep	30-DEC-2009 15:20	>12	0.55 g	25 mL	45.45455	SOIL
MS	1202004487	243505001	SW846 9010B Prep	30-DEC-2009 15:20	>12	0.58 g	25 mL	43.10345	SOIL
MSD	1202004488	243505001	SW846 9010B Prep	30-DEC-2009 15:20	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	243505002		SW846 9010B Prep	30-DEC-2009 15:20	>12	0.54 g	25 mL	46.2963	SOIL

Prep LogBook

Reagent/Solvent Lot ID	Amount	Description
091211-C	25 mL	0.25N Sodium Hydroxide Solution
WCN091230-07	.0375 mL	150 ppb CN Distilled ICV Standard
1176724-C	1.25 mL	0.8N H3NO3S
1238146-C	2.5 mL	50% H2SO4 CN Prep
1176778-C	1 mL	51% MgCl2 Soln
1238142-C	1.25 mL	Bismuth Nitrate Solution

Comments:

This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axh3	12/24/2009 13:12:06	OM_12-24-2009_13-08-41
150 ppb		1	axh3	12/24/2009 13:12:58	OM_12-24-2009_13-08-41
100 ppb		1	axh3	12/24/2009 13:13:51	OM_12-24-2009_13-08-41
50 ppb		1	axh3	12/24/2009 13:14:44	OM_12-24-2009_13-08-41
10 ppb		1	axh3	12/24/2009 13:15:37	OM_12-24-2009_13-08-41
CRDL 5.0 ppb		1	axh3	12/24/2009 13:16:31	OM_12-24-2009_13-08-41
ICAL-00		1	axh3	12/24/2009 13:17:25	OM_12-24-2009_13-08-41
ICV		1	axh3	12/24/2009 13:19:16	OM_12-24-2009_13-08-41
ICB		1	axh3	12/24/2009 13:21:06	OM_12-24-2009_13-08-41
CRDL		1	axh3	12/24/2009 13:22:56	OM_12-24-2009_13-08-41
1202001100	935267	1	axh3	12/24/2009 13:24:45	OM_12-24-2009_13-08-41
1202001102	935267	1	axh3	12/24/2009 13:25:39	OM_12-24-2009_13-08-41
243194001	935267	1	axh3	12/24/2009 13:26:32	OM_12-24-2009_13-08-41
1202001101	935267	1	axh3	12/24/2009 13:27:26	OM_12-24-2009_13-08-41
243262001	935267	1	axh3	12/24/2009 13:28:18	OM_12-24-2009_13-08-41
243262002	935267	1	axh3	12/24/2009 13:29:11	OM_12-24-2009_13-08-41
1202000973	935222	1	axh3	12/24/2009 13:30:04	OM_12-24-2009_13-08-41
1202000977	935222	25	axh3	12/24/2009 13:30:56	OM_12-24-2009_13-08-41
243092002	935222	1	axh3	12/24/2009 13:31:49	OM_12-24-2009_13-08-41
243092003	935222	1	axh3	12/24/2009 13:32:41	OM_12-24-2009_13-08-41
CCV		1	axh3	12/24/2009 13:33:34	OM_12-24-2009_13-08-41
CCB		1	axh3	12/24/2009 13:35:24	OM_12-24-2009_13-08-41
243262001	935222	1	axh3	12/24/2009 13:37:12	OM_12-24-2009_13-08-41
243262002	935222	1	axh3	12/24/2009 13:38:05	OM_12-24-2009_13-08-41
243265001	935222	1	axh3	12/24/2009 13:38:56	OM_12-24-2009_13-08-41
243265002	935222	1	axh3	12/24/2009 13:39:48	OM_12-24-2009_13-08-41
243265003	935222	1	axh3	12/24/2009 13:40:39	OM_12-24-2009_13-08-41
243265004	935222	1	axh3	12/24/2009 13:41:33	OM_12-24-2009_13-08-41
243265005	935222	1	axh3	12/24/2009 13:42:27	OM_12-24-2009_13-08-41
243265006	935222	1	axh3	12/24/2009 13:43:20	OM_12-24-2009_13-08-41
243265007	935222	1	axh3	12/24/2009 13:44:14	OM_12-24-2009_13-08-41
243270010	935222	1	axh3	12/24/2009 13:45:07	OM_12-24-2009_13-08-41
CCV		1	axh3	12/24/2009 13:45:59	OM_12-24-2009_13-08-41
CCB		1	axh3	12/24/2009 13:47:50	OM_12-24-2009_13-08-41
1202000974	935222	1	axh3	12/24/2009 13:49:39	OM_12-24-2009_13-08-41
1202000975	935222	1	axh3	12/24/2009 13:50:32	OM_12-24-2009_13-08-41
1202000976	935222	1	axh3	12/24/2009 13:51:25	OM_12-24-2009_13-08-41
243385001	935222	1	axh3	12/24/2009 13:52:17	OM_12-24-2009_13-08-41
243385002	935222	1	axh3	12/24/2009 13:53:10	OM_12-24-2009_13-08-41
243385003	935222	1	axh3	12/24/2009 13:54:02	OM_12-24-2009_13-08-41
243385004	935222	1	axh3	12/24/2009 13:54:54	OM_12-24-2009_13-08-41
243385005	935222	1	axh3	12/24/2009 13:55:47	OM_12-24-2009_13-08-41
243385006	935222	1	axh3	12/24/2009 13:56:38	OM_12-24-2009_13-08-41
243385007	935222	1	axh3	12/24/2009 13:57:31	OM_12-24-2009_13-08-41
CCV		1	axh3	12/24/2009 13:58:23	OM_12-24-2009_13-08-41
CCB		1	axh3	12/24/2009 14:00:13	OM_12-24-2009_13-08-41
243393002	935222	1	axh3	12/24/2009 14:02:03	OM_12-24-2009_13-08-41
1202003559	935222	1	axh3	12/24/2009 14:02:57	OM_12-24-2009_13-08-41
1202003560	935222	1	axh3	12/24/2009 14:03:51	OM_12-24-2009_13-08-41
1202003561	935222	1	axh3	12/24/2009 14:04:44	OM_12-24-2009_13-08-41
CCV		1	axh3	12/24/2009 14:05:37	OM_12-24-2009_13-08-41
CCB		1	axh3	12/24/2009 14:07:27	OM_12-24-2009_13-08-41

Author: axc2 Date : 12/24/2009

Original Run Filename: OM_12-24-2009_13-08-41.OMN created 12/24/2009 13:08:41
Original Run Author's Signature: [axc2]
Current Run Filename: OM_12-24-2009_13-08-41.OMN last modified 12/24/2009 14:08:32
Current Run Author's Signature: [axc2]
Description: GL-GC-E-095 EPA 335.1, 335.3, 335.4, 9012A, CLP335.2-M
Liquid LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1 TCYANIDE Conc. (ug/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WCN091224-01	1	S1	200	7.70	12/24/2009@13:12:06			200 ppb
WCN091224-02	1	S2	150	5.82	12/24/2009@13:12:58			150 ppb
WCN091224-03	1	S3	100	3.92	12/24/2009@13:13:51			100 ppb
WCN091224-04	1	S4	50.0	2.05	12/24/2009@13:14:44			50 ppb
WCN091224-05	1	S5	10.0	0.500	12/24/2009@13:15:37			10 ppb
WCN091224-06	1	S6	5.00	0.322	12/24/2009@13:16:31			CRDL 5.0 ppb
WCN091224-08	1	S7	0.00	0.0356	12/24/2009@13:17:25			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
		Result:	0.99993 > 0.99500					
		Message	Pass					
		Action	Continue					
WCN091224-07	1	S8	149	5.78	12/24/2009@13:19:16			ICV
		Known Conc:	150					
DQM Test: > + Percent Relative Difference								
		Result:	-0.6 < 10.0					
		Message	ICV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-0.6 < 10.0					
		Message	ICV Passed					
		Action	Continue					
		Calibration:	Table/Fig. 1					
WCN091224-08	1	S7	-1.74	0.0392	12/24/2009@13:21:06			ICB/CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.74 < 5.01					
		Message	ICB/CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.74 > -5.01					
		Message	ICB/CCB Passed					
		Action	Continue					
WCN091224-06	1	S6	5.55	0.317	12/24/2009@13:22:56			CRDL
		Known Conc:	5.00					
DQM Test: > + Concentration Limit								
		Result:	5.55 < 7.50					
		Message	CRDL Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	5.55 > 2.50					
		Message	Pass					
		Action	None					
1202001100|935267|MB	1	1	-1.41	0.0520	12/24/2009@13:24:45			
1202001102||LCS	1	2	-1.37	0.0536	12/24/2009@13:25:39			
243194001	1	3	60.2	2.40	12/24/2009@13:26:32			
1202001101||DUP	1	4	57.8	2.30	12/24/2009@13:27:26			
243262001	1	5	-0.391	0.0907	12/24/2009@13:28:18			
243262002	1	6	20.9	0.900	12/24/2009@13:29:11			
1202000973|935222|MB	1	7	-2.01	0.0292	12/24/2009@13:30:04			
1202000977||LCS	1	8	26.5	1.11	12/24/2009@13:30:56		25.00	
243092002	1	9	-0.451	0.0884	12/24/2009@13:31:49			
243092003	1	10	5.11	0.300	12/24/2009@13:32:41			
WCN091224-03	1	S3	105	4.10	12/24/2009@13:33:34			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	4.9 < 10.0					

		Message	CCV Passed					
		Action	Continue					
			DQM Test: < - Percent Relative Difference					
		Result:	4.9 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN091224-08	1	S7	-1.78	0.0380	12/24/2009@13:35:24			CCB
		Known Conc:	0.00					
			DQM Test: > + Concentration Limit					
		Result:	-1.78 < 5.00					
		Message	CCB Passed					
		Action	Continue					
			DQM Test: < - Concentration Limit					
		Result:	-1.78 > -5.00					
		Message	CCB Passed					
		Action	Continue					
243262001	1	11	-1.33	0.0551	12/24/2009@13:37:12			
243262002	1	12	2.77	0.211	12/24/2009@13:38:05			
243265001	1	13	0.854	0.138	12/24/2009@13:38:56			
243265002	1	14	-0.296	0.0943	12/24/2009@13:39:48			
243265003	1	15	2.44	0.198	12/24/2009@13:40:39			
243265004	1	16	0.999	0.144	12/24/2009@13:41:33			
243265005	1	17	6.05	0.336	12/24/2009@13:42:27			
243265006	1	18	1.19	0.151	12/24/2009@13:43:20			
243265007	1	19	0.939	0.141	12/24/2009@13:44:14			
243270010	1	20	0.159	0.112	12/24/2009@13:45:07			
WCN091224-03	1	S3	106	4.12	12/24/2009@13:45:59			CCV
		Known Conc:	100					
			DQM Test: > + Percent Relative Difference					
		Result:	5.5 < 10.0					
		Message	CCV Passed					
		Action	Continue					
			DQM Test: < - Percent Relative Difference					
		Result:	5.5 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN091224-08	1	S7	-2.07	0.0269	12/24/2009@13:47:50			CCB
		Known Conc:	0.00					
			DQM Test: > + Concentration Limit					
		Result:	-2.07 < 5.00					
		Message	CCB Passed					
		Action	Continue					
			DQM Test: < - Concentration Limit					
		Result:	-2.07 > -5.00					
		Message	CCB Passed					
		Action	Continue					
1202000974||DUP	1	21	-0.201	0.0979	12/24/2009@13:49:39			
1202000975||MS	1	22	93.1	3.65	12/24/2009@13:50:32			
1202000976||MSD	1	23	94.1	3.69	12/24/2009@13:51:25			
243385001	1	24	1.81	0.174	12/24/2009@13:52:17			
243385002	1	25	0.109	0.110	12/24/2009@13:53:10			
243385003	1	26	-1.70	0.0410	12/24/2009@13:54:02			
243385004	1	27	-1.25	0.0581	12/24/2009@13:54:54			
243385005	1	28	-0.711	0.0785	12/24/2009@13:55:47			
243385006	1	29	-0.415	0.0898	12/24/2009@13:56:38			
243385007	1	30	-1.20	0.0600	12/24/2009@13:57:31			
WCN091224-03	1	S3	106	4.14	12/24/2009@13:58:23			CCV
		Known Conc:	100					
			DQM Test: > + Percent Relative Difference					
		Result:	6.0 < 10.0					
		Message	CCV Passed					
		Action	Continue					
			DQM Test: < - Percent Relative Difference					
		Result:	6.0 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN091224-08	1	S7	-1.66	0.0423	12/24/2009@14:00:13			CCB
		Known Conc:	0.00					

DQM Test: > + Concentration Limit								
		Result:	-1.66 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.66 > -5.00					
		Message	CCB Passed					
		Action	Continue					
243393002	1	31	0.121	0.110	12/24/2009@14:02:03			
1202003559||DUP	1	32	-0.326	0.0932	12/24/2009@14:02:57			
1202003560||MS	1	33	105	4.09	12/24/2009@14:03:51			
1202003561||MSD	1	34	101	3.95	12/24/2009@14:04:44			
WCN091224-03	1	S3	106	4.13	12/24/2009@14:05:37			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	5.8 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	5.8 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN091224-08	1	S7	-2.74	0.00129	12/24/2009@14:07:27			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-2.74 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-2.74 > -5.00					
		Message	CCB Passed					
		Action	Continue					

Analyte Properties Table for OM_12-24-2009_13-08-41.OMN

Property	Channel 1
	TCYANIDE
Concentration Units	ug/L
Callibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39

Author: axc2 Date : 12/24/2009

Channel 1: Current View

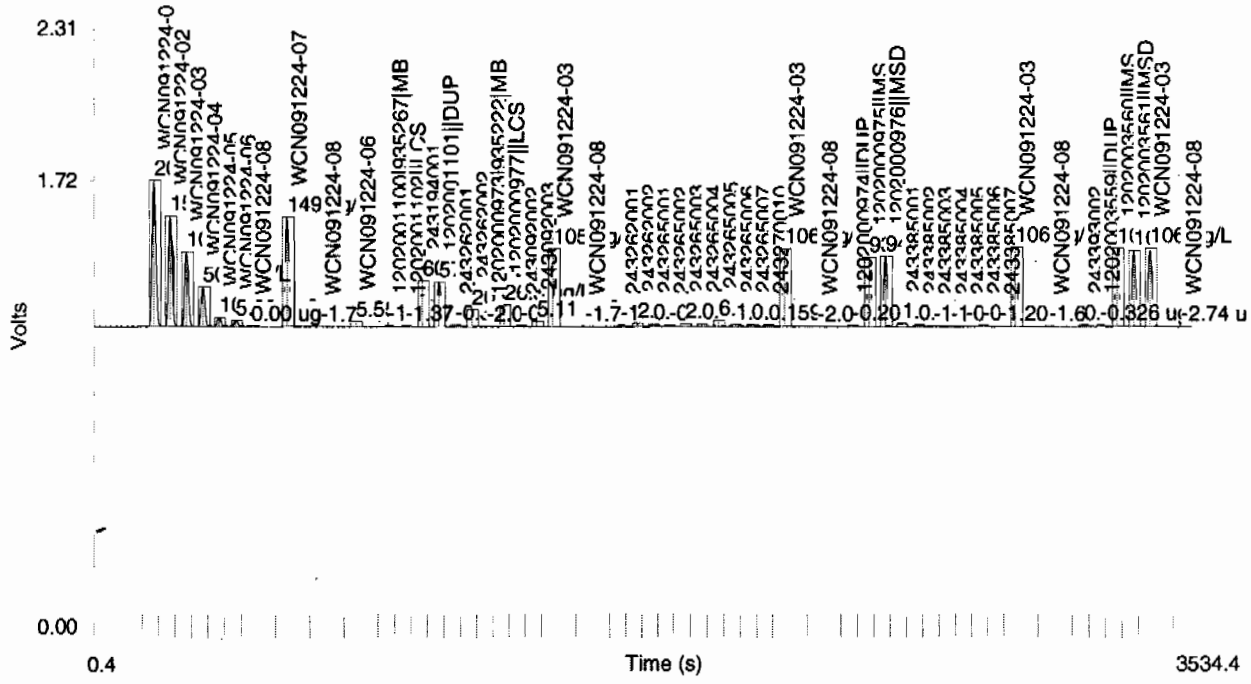
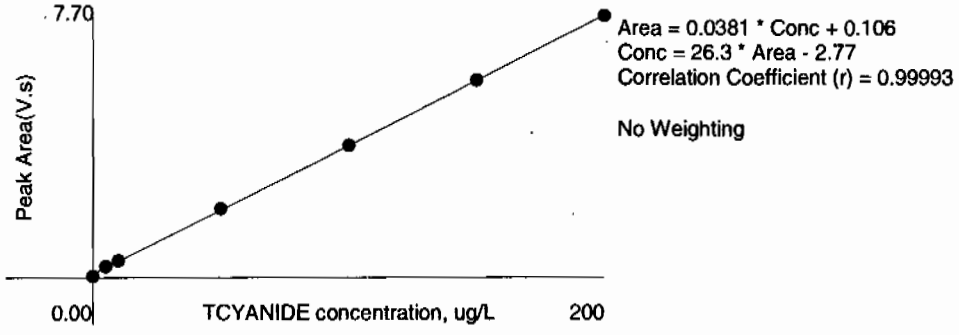


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	7.70	0.567	0.2	12/24/2009	13:13:09
2	150	1	5.82	0.428	-0.1	12/24/2009	13:14:01
3	100	1	3.92	0.287	-0.1	12/24/2009	13:14:54
4	50.0	1	2.05	0.152	-1.9	12/24/2009	13:15:47
5	10.0	1	0.500	0.0358	-2.7	12/24/2009	13:16:40
6	5.00	1	0.322	0.0246	-8.6	12/24/2009	13:17:34
7	0.00	1	0.0356	0.00146		12/24/2009	13:18:28

Figure 1: TCYANIDE



This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axc2	12/31/2009 9:54:09	OM_12-31-2009_09-50-50
150 ppb		1	axc2	12/31/2009 9:55:01	OM_12-31-2009_09-50-50
100 ppb		1	axc2	12/31/2009 9:55:53	OM_12-31-2009_09-50-50
50 ppb		1	axc2	12/31/2009 9:56:46	OM_12-31-2009_09-50-50
10 ppb		1	axc2	12/31/2009 9:57:39	OM_12-31-2009_09-50-50
CRDL 5.0 ppb		1	axc2	12/31/2009 9:58:33	OM_12-31-2009_09-50-50
ICAL-00		1	axc2	12/31/2009 9:59:28	OM_12-31-2009_09-50-50
ICV		1	axc2	12/31/2009 10:01:18	OM_12-31-2009_09-50-50
ICB		1	axc2	12/31/2009 10:03:08	OM_12-31-2009_09-50-50
CRDL		1	axc2	12/31/2009 10:04:58	OM_12-31-2009_09-50-50
1202003577	936400	1	axc2	12/31/2009 10:06:47	OM_12-31-2009_09-50-50
1202003581	936400	25	axc2	12/31/2009 10:07:41	OM_12-31-2009_09-50-50
243385008	936400	1	axc2	12/31/2009 10:08:34	OM_12-31-2009_09-50-50
1202003578	936400	1	axc2	12/31/2009 10:09:27	OM_12-31-2009_09-50-50
1202003579	936400	1	axc2	12/31/2009 10:10:20	OM_12-31-2009_09-50-50
1202003580	936400	1	axc2	12/31/2009 10:11:13	OM_12-31-2009_09-50-50
243385009	936400	1	axc2	12/31/2009 10:12:05	OM_12-31-2009_09-50-50
243385010	936400	1	axc2	12/31/2009 10:12:58	OM_12-31-2009_09-50-50
243385011	936400	1	axc2	12/31/2009 10:13:51	OM_12-31-2009_09-50-50
243457001	936400	1	axc2	12/31/2009 10:14:43	OM_12-31-2009_09-50-50
CCV		1	axc2	12/31/2009 10:15:36	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009 10:17:26	OM_12-31-2009_09-50-50
243457002	936400	1	axc2	12/31/2009 10:19:14	OM_12-31-2009_09-50-50
243457003	936400	1	axc2	12/31/2009 10:20:06	OM_12-31-2009_09-50-50
243457004	936400	1	axc2	12/31/2009 10:20:58	OM_12-31-2009_09-50-50
243472001	936400	1	axc2	12/31/2009 10:21:50	OM_12-31-2009_09-50-50
243472002	936400	1	axc2	12/31/2009 10:22:41	OM_12-31-2009_09-50-50
243472003	936400	1	axc2	12/31/2009 10:23:35	OM_12-31-2009_09-50-50
243492001	936400	1	axc2	12/31/2009 10:24:29	OM_12-31-2009_09-50-50
243492002	936400	1	axc2	12/31/2009 10:25:22	OM_12-31-2009_09-50-50
243492003	936400	1	axc2	12/31/2009 10:26:15	OM_12-31-2009_09-50-50
243492004	936400	1	axc2	12/31/2009 10:27:09	OM_12-31-2009_09-50-50
CCV		1	axc2	12/31/2009 10:28:01	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009 10:29:51	OM_12-31-2009_09-50-50
243492005	936400	1	axc2	12/31/2009 10:31:40	OM_12-31-2009_09-50-50
243492006	936400	1	axc2	12/31/2009 10:32:33	OM_12-31-2009_09-50-50
243492007	936400	1	axc2	12/31/2009 10:33:26	OM_12-31-2009_09-50-50
243505001	936400	1	axc2	12/31/2009 10:34:18	OM_12-31-2009_09-50-50
1202004486	936400	1	axc2	12/31/2009 10:35:11	OM_12-31-2009_09-50-50
1202004487	936400	1	axc2	12/31/2009 10:36:03	OM_12-31-2009_09-50-50
1202004488	936400	1	axc2	12/31/2009 10:36:55	OM_12-31-2009_09-50-50
243505002	936400	1	axc2	12/31/2009 10:37:48	OM_12-31-2009_09-50-50
1202004505	936845	1	axc2	12/31/2009 10:38:39	OM_12-31-2009_09-50-50
1202004509	936845	25	axc2	12/31/2009 10:39:31	OM_12-31-2009_09-50-50
CCV		1	axc2	12/31/2009 10:40:23	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009 10:42:13	OM_12-31-2009_09-50-50
243358001	936845	1	axc2	12/31/2009 10:44:04	OM_12-31-2009_09-50-50
243550005	936845	1	axc2	12/31/2009 10:44:58	OM_12-31-2009_09-50-50
1202004506	936845	1	axc2	12/31/2009 10:45:52	OM_12-31-2009_09-50-50
1202004507	936845	1	axc2	12/31/2009 10:46:44	OM_12-31-2009_09-50-50
1202004508	936845	1	axc2	12/31/2009 10:47:38	OM_12-31-2009_09-50-50
243550006	936845	1	axc2	12/31/2009 10:48:31	OM_12-31-2009_09-50-50
243550007	936845	1	axc2	12/31/2009 10:49:24	OM_12-31-2009_09-50-50
243550008	936845	1	axc2	12/31/2009 10:50:17	OM_12-31-2009_09-50-50
243550009	936845	1	axc2	12/31/2009 10:51:10	OM_12-31-2009_09-50-50
243550010	936845	1	axc2	12/31/2009 10:52:02	OM_12-31-2009_09-50-50
CCV		1	axc2	12/31/2009 10:52:55	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009 10:54:45	OM_12-31-2009_09-50-50

243550011	936845	1	axc2	12/31/2009	10:56:33	OM_12-31-2009_09-50-50
243550012	936845	1	axc2	12/31/2009	10:57:27	OM_12-31-2009_09-50-50
243550013	936845	1	axc2	12/31/2009	10:58:18	OM_12-31-2009_09-50-50
243602001	936845	1	axc2	12/31/2009	10:59:11	OM_12-31-2009_09-50-50
1202006206	936845	1	axc2	12/31/2009	11:00:03	OM_12-31-2009_09-50-50
1202006207	936845	1	axc2	12/31/2009	11:00:56	OM_12-31-2009_09-50-50
1202006208	936845	1	axc2	12/31/2009	11:01:51	OM_12-31-2009_09-50-50
243602002	936845	1	axc2	12/31/2009	11:02:44	OM_12-31-2009_09-50-50
243602003	936845	1	axc2	12/31/2009	11:03:37	OM_12-31-2009_09-50-50
243602004	936845	1	axc2	12/31/2009	11:04:31	OM_12-31-2009_09-50-50
CCV		1	axc2	12/31/2009	11:05:24	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009	11:07:15	OM_12-31-2009_09-50-50
243602005	936845	1	axc2	12/31/2009	11:09:04	OM_12-31-2009_09-50-50
243611001	936845	1	axc2	12/31/2009	11:09:58	OM_12-31-2009_09-50-50
243611002	936845	1	axc2	12/31/2009	11:10:50	OM_12-31-2009_09-50-50
243611003	936845	1	axc2	12/31/2009	11:11:43	OM_12-31-2009_09-50-50
CCV		1	axc2	12/31/2009	11:12:35	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009	11:14:26	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009	11:14:26	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009	11:14:26	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009	11:14:26	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009	11:14:26	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009	11:14:26	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009	11:14:26	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009	11:14:26	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009	11:14:26	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009	11:14:26	OM_12-31-2009_09-50-50
CCB		1	axc2	12/31/2009	11:14:26	OM_12-31-2009_09-50-50

Author: axc2 Date : 12/31/2009

Original Run Filename: OM_12-31-2009_09-50-50.OMN created 12/31/2009 09:50:50
Original Run Author's Signature: [axc2]
Current Run Filename: OM_12-31-2009_09-50-50.OMN last modified 12/31/2009 11:15:32
Current Run Author's Signature: [axc2]
Description: GL-GC-E-095 EPA 335.1, 335.3, 335.4, 9012A, CLP335.2-M
Liquid LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1 TCYANIDE Conc. (ug/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WCN091231-01	1	S1	200	7.27	12/31/2009@09:54:09			200 ppb
WCN091231-02	1	S2	150	5.46	12/31/2009@09:55:01			150 ppb
WCN091231-03	1	S3	100	3.56	12/31/2009@09:55:53			100 ppb
WCN091231-04	1	S4	50.0	1.96	12/31/2009@09:56:46			50 ppb
WCN091231-05	1	S5	10.0	0.454	12/31/2009@09:57:39			10 ppb
WCN091231-06	1	S6	5.00	0.263	12/31/2009@09:58:33			CRDL 5.0 ppb
WCN091231-08	1	S7	0.00	0.0241	12/31/2009@09:59:28			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
		Result:	0.99975 > 0.99500					
		Message	Pass					
		Action	Continue					
WCN091231-07	1	S8	150	5.44	12/31/2009@10:01:18			ICV
		Known Conc:	150					
DQM Test: > + Percent Relative Difference								
		Result:	-0.2 < 10.0					
		Message	ICV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-0.2 < 10.0					
		Message	ICV Passed					
		Action	Continue					
		Calibration:	Table/Fig. 1					
WCN091231-08	1	S7	-1.31	0.0268	12/31/2009@10:03:08			ICB/CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.31 < 5.01					
		Message	ICB/CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.31 > -5.01					
		Message	ICB/CCB Passed					
		Action	Continue					
WCN091231-06	1	S6	5.65	0.276	12/31/2009@10:04:58			CRDL
		Known Conc:	5.00					
DQM Test: > + Concentration Limit								
		Result:	5.65 < 7.50					
		Message	CRDL Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	5.65 > 2.50					
		Message	Pass					
		Action	None					
1202003577|936400|MB	1	1	-2.06	-1.84e-4	12/31/2009@10:06:47			
1202003581||LCS	1	2	25.3	0.980	12/31/2009@10:07:41		25.00	
243385008	1	3	-0.828	0.0442	12/31/2009@10:08:34			
1202003578||DUP	1	4	-0.559	0.0538	12/31/2009@10:09:27			
1202003579||MS	1	5	100	3.68	12/31/2009@10:10:20			
1202003580||MSD	1	6	93.2	3.42	12/31/2009@10:11:13			
243385009	1	7	1.70	0.135	12/31/2009@10:12:05			
243385010	1	8	-0.0222	0.0731	12/31/2009@10:12:58			
243385011	1	9	1.56	0.130	12/31/2009@10:13:51			
243457001	1	10	0.0568	0.0759	12/31/2009@10:14:43			
WCN091231-03	1	S3	105	3.84	12/31/2009@10:15:36			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	5.0 < 10.0					

		Message	CCV Passed					
		Action	Continue					
			DQM Test: < - Percent Relative Difference					
		Result:	5.0 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN091231-08	1	S7	-1.68	0.0135	12/31/2009@10:17:26			CCB
		Known Conc:	0.00					
			DQM Test: > + Concentration Limit					
		Result:	-1.68 < 5.00					
		Message	CCB Passed					
		Action	Continue					
			DQM Test: < - Concentration Limit					
		Result:	-1.68 > -5.00					
		Message	CCB Passed					
		Action	Continue					
243457002	1	11	-2.06	-1.40e-4	12/31/2009@10:19:14			
243457003	1	12	-0.480	0.0566	12/31/2009@10:20:06			
243457004	1	13	-0.817	0.0445	12/31/2009@10:20:58			
243472001	1	14	-1.24	0.0295	12/31/2009@10:21:50			
243472002	1	15	-1.53	0.0189	12/31/2009@10:22:41			
243472003	1	16	-0.958	0.0395	12/31/2009@10:23:35			
243492001	1	17	-0.475	0.0568	12/31/2009@10:24:29			
243492002	1	18	-2.06	-1.97e-4	12/31/2009@10:25:22			
243492003	1	19	-0.650	0.0505	12/31/2009@10:26:15			
243492004	1	20	0.203	0.0811	12/31/2009@10:27:09			
WCN091231-03	1	S3	106	3.86	12/31/2009@10:28:01			CCV
		Known Conc:	100					
			DQM Test: > + Percent Relative Difference					
		Result:	5.6 < 10.0					
		Message	CCV Passed					
		Action	Continue					
			DQM Test: < - Percent Relative Difference					
		Result:	5.6 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN091231-08	1	S7	-1.39	0.0240	12/31/2009@10:29:51			CCB
		Known Conc:	0.00					
			DQM Test: > + Concentration Limit					
		Result:	-1.39 < 5.00					
		Message	CCB Passed					
		Action	Continue					
			DQM Test: < - Concentration Limit					
		Result:	-1.39 > -5.00					
		Message	CCB Passed					
		Action	Continue					
243492005	1	21	-0.535	0.0547	12/31/2009@10:31:40			
243492006	1	22	-0.999	0.0380	12/31/2009@10:32:33			
243492007	1	23	0.130	0.0785	12/31/2009@10:33:26			
243505001	1	24	0.927	0.107	12/31/2009@10:34:18			
1202004486||DUP	1	25	0.725	0.0998	12/31/2009@10:35:11			
1202004487||MS	1	26	110	4.01	12/31/2009@10:36:03			
1202004488||MSD	1	27	107	3.91	12/31/2009@10:36:55			
243505002	1	28	-0.444	0.0579	12/31/2009@10:37:48			
1202004505|936845|MB	1	29	-1.09	0.0347	12/31/2009@10:38:39			
1202004509||LCS	1	30	33.1	1.26	12/31/2009@10:39:31		25.00	
WCN091231-03	1	S3	106	3.88	12/31/2009@10:40:23			CCV
		Known Conc:	100					
			DQM Test: > + Percent Relative Difference					
		Result:	6.1 < 10.0					
		Message	CCV Passed					
		Action	Continue					
			DQM Test: < - Percent Relative Difference					
		Result:	6.1 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN091231-08	1	S7	-1.45	0.0217	12/31/2009@10:42:13			CCB
		Known Conc:	0.00					

DQM Test: > + Concentration Limit								
		Result:	-1.45 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.45 > -5.00					
		Message	CCB Passed					
		Action	Continue					
243358001	1	31	14.1	0.579	12/31/2009@10:44:04			
243550005	1	32	-1.04	0.0364	12/31/2009@10:44:58			
1202004506||DUP	1	33	-2.16	-0.00355	12/31/2009@10:45:52			
1202004507||MS	1	34	107	3.91	12/31/2009@10:46:44			
1202004508||MSD	1	35	111	4.04	12/31/2009@10:47:38			
243550006	1	36	-1.12	0.0337	12/31/2009@10:48:31			
243550007	1	37	-2.06	-1.33e-4	12/31/2009@10:49:24			
243550008	1	38	-2.06	-1.26e-4	12/31/2009@10:50:17			
243550009	1	39	-0.957	0.0395	12/31/2009@10:51:10			
243550010	1	40	-0.882	0.0422	12/31/2009@10:52:02			
WCN091231-03	1	S3	106	3.86	12/31/2009@10:52:55			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	5.7 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	5.7 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN091231-08	1	S7	-2.16	-0.00350	12/31/2009@10:54:45			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-2.16 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-2.16 > -5.00					
		Message	CCB Passed					
		Action	Continue					
243550011	1	41	0.158	0.0795	12/31/2009@10:56:33			
243550012	1	42	-1.24	0.0294	12/31/2009@10:57:27			
243550013	1	43	6.74	0.316	12/31/2009@10:58:18			
243602001	1	44	-0.152	0.0684	12/31/2009@10:59:11			
1202006206||DUP	1	45	1.40	0.124	12/31/2009@11:00:03			
1202006207||MS	1	46	104	3.80	12/31/2009@11:00:56			
1202006208||MSD	1	47	105	3.84	12/31/2009@11:01:51			
243602002	1	48	0.279	0.0839	12/31/2009@11:02:44			
243602003	1	49	-1.02	0.0371	12/31/2009@11:03:37			
243602004	1	50	-0.548	0.0542	12/31/2009@11:04:31			
WCN091231-03	1	S3	106	3.88	12/31/2009@11:05:24			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	6.0 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	6.0 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN091231-08	1	S7	-1.35	0.0255	12/31/2009@11:07:15			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.35 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.35 > -5.00					
		Message	CCB Passed					
		Action	Continue					

243602005	1	51	-1.28	0.0280	12/31/2009@11:09:04			
243611001	1	52	4.33	0.229	12/31/2009@11:09:58			
243611002	1	53	2.36	0.158	12/31/2009@11:10:50			
243611003	1	54	1.05	0.112	12/31/2009@11:11:43			
WCN091231-03	1	S3	106	3.87	12/31/2009@11:12:35			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	6.0 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	6.0 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN091231-08	1	S7	-1.37	0.0246	12/31/2009@11:14:26			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.37 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.37 > -5.00					
		Message	CCB Passed					
		Action	Continue					

Analyte Properties Table for OM_12-31-2009_09-50-50.OMN

Property	Channel 1
	TCYANIDE
Concentration Units	ug/L
Callibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39

Author: axc2 Date : 12/31/2009

Channel 1: Current View

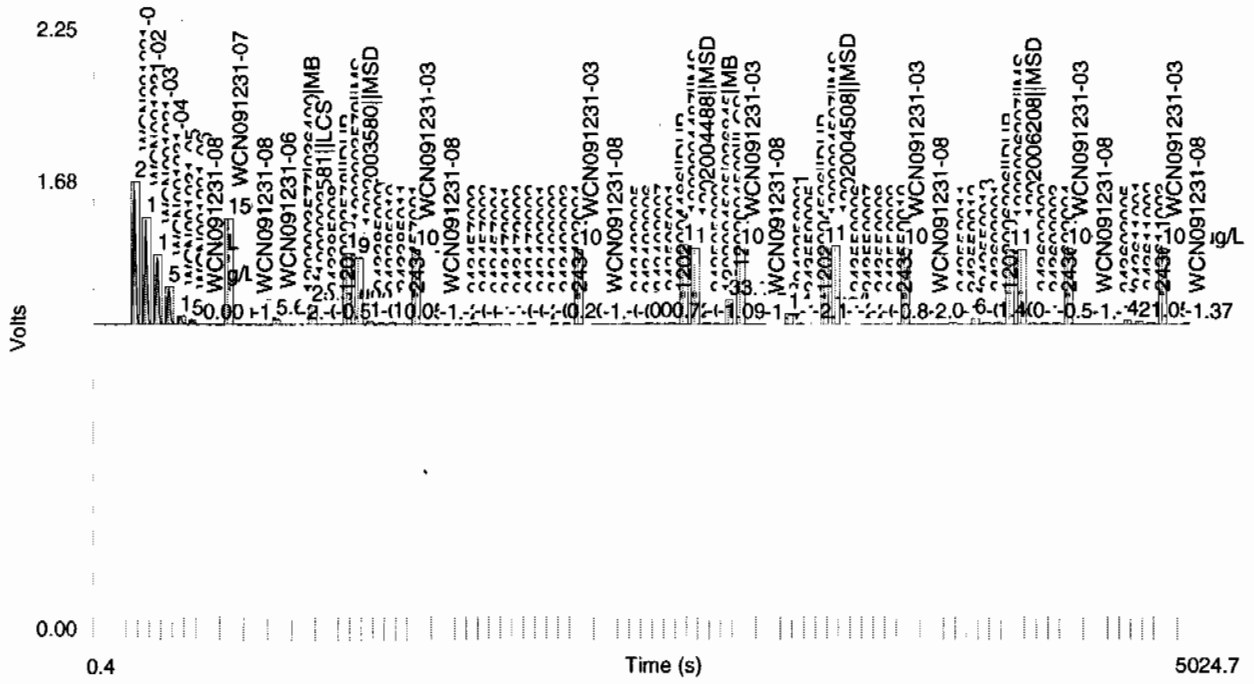
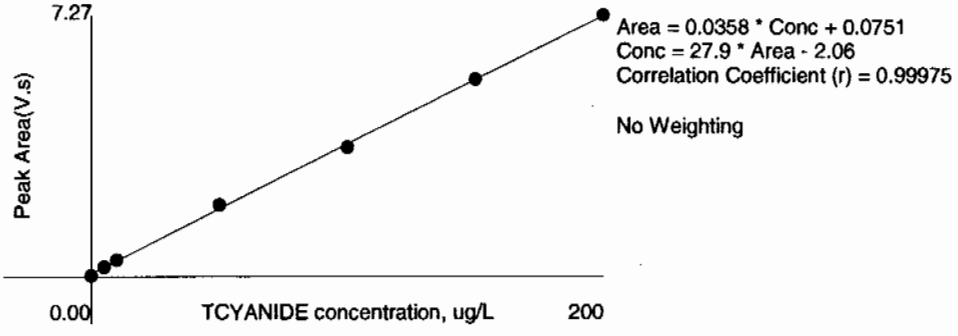


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	7.27	0.534	-0.3	12/31/2009	09:55:12
2	150	1	5.46	0.402	-0.1	12/31/2009	09:56:04
3	100	1	3.56	0.263	2.8	12/31/2009	09:56:56
4	50.0	1	1.96	0.143	-5.2	12/31/2009	09:57:49
5	10.0	1	0.454	0.0322	-4.7	12/31/2009	09:58:42
6	5.00	1	0.263	0.0177	-3.4	12/31/2009	09:59:36
7	0.00	1	0.0241	0.00158		12/31/2009	10:00:30

Figure 1: TCYANIDE



General Chemistry Analysis

Case Narrative

General Chemistry Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1032-1

Method/Analysis Information

Product:	**Cyanide, Total**		
Analytical Batch:	936398	**Method:**	SW846 9012A
Prep Batch :	936396	**Method:**	SW846 9010B Prep

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 9012A:

Sample ID	Client ID
243386001	RE12-10-7595
1202003566	Method Blank (MB)
1202003567	243396001(RE16-10-2848) Sample Duplicate (DUP)
1202003568	243400002(CAPA-10-6823) Sample Duplicate (DUP)
1202003570	243396001(RE16-10-2848) Matrix Spike (MS)
1202003571	243400002(CAPA-10-6823) Matrix Spike (MS)
1202003573	243396001(RE16-10-2848) Matrix Spike Duplicate (MSD)
1202003574	243400002(CAPA-10-6823) Matrix Spike Duplicate (MSD)
1202003576	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-095 REV# 12.

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

Calibration Information

The Flow Injection analysis was performed on a Lachat QuickChem FIA+ 8000 Series.

Initial Calibration

All initial calibration requirements have been met for this SDG.

Continuing Calibration Blanks

All continuing calibration blanks (CCBs) associated with reported data from this batch were within

acceptance limits.

Calibration Verification Information (CCV)
All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

Y Intercept Rule
The absolute value of the intercept is less than 3 times the MDL.

Quality Control (QC) Information

Method Blank (MB) Statement
The MB analyzed with this SDG met the acceptance criteria.

Laboratory Control Sample (LCS) Recovery
The LCS spike recovery met the acceptance limits.

Quality Control (QC) Designation
The following samples were selected for QC analysis: 243396001 (RE16-10-2848) and 243400002 (CAPA-10-6823).

Matrix Spike (MS)/Post Spike (PS) Recovery Statement
The MS/PS recoveries for this sample set were within the required acceptance limits.

Matrix Spike Duplicate (MSD) Recovery Statement
The MSD recoveries for this sample set were within the required acceptance limits.

MS/MSD Relative Percent Difference (RPD) Statement
The RPDs between the spike and spike duplicate met the acceptance limits.

Duplicate Relative Percent Difference (RPD) Statement
The values for the sample and duplicate are less than the Practical Quantitation Limit (PQL); therefore, the RPD is not applicable. 1202003567 (RE16-10-2848).

Technical Information

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

Holding Times
All samples in this SDG met the specified holding time.

Sample Preservation/Integrity
All the samples from this sample group met the preservation and integrity requirements of the method.

Sample Dilutions
The samples in this SDG did not require dilutions.

Sample Re-analysis

The samples in this SDG did not require re-analysis.

Miscellaneous Information

Nonconformance (NCR) Documentation
An NCR was not required for this SDG.

Additional Comments
Additional comments were not required for this SDG.

Electronic Packaging Comment
This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:
Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Tom Lewis, Jr. **Date:** 15Jan10

Sample Data Summary

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report
for

LANL010 Los Alamos National Laboratory (72733-001-09)

Client SDG: 10-1032-1 GEL Work Order: 243386

The Qualifiers in this report are defined as follows:

* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.

** Indicates the analyte is a surrogate compound.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by _____

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 4, 2010

Client SDG: 10-1032-1

Client Sample ID: RE12-10-7595
Sample ID: 243386001
Matrix: W
Collect Date: 17-DEC-09 12:00
Receive Date: 22-DEC-09
Collector: Client

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total "As Received"											
Cyanide, Total	U	ND	1.66	5.00	ug/L	1	AXC2	12/30/09	1014	936398	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	12/29/09	1423	936396

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

Quality Control Summary

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: January 4, 2010
Page 1 of 2

Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico

Contact: Ms. Joylene Valdez

Workorder: 243386

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Flow Injection Analysis										
Batch 936398										
QC1202003567 243396001 DUP										
Cyanide, Total	U	ND	U	ND	ug/L	N/A			AXC2	12/30/09 10:16
QC1202003568 243400002 DUP										
Cyanide, Total	U	ND	U	ND	ug/L	N/A				12/30/09 10:19
QC1202003576 LCS										
Cyanide, Total	50.0			49.9	ug/L		99.8	(90%-110%)		12/30/09 10:13
QC1202003566 MB										
Cyanide, Total			U	5.00	ug/L					12/30/09 10:12
QC1202003570 243396001 MS										
Cyanide, Total	100 U	ND		104	ug/L		104	(60%-127%)		12/30/09 10:17
QC1202003571 243400002 MS										
Cyanide, Total	100 U	ND		105	ug/L		105	(60%-127%)		12/30/09 10:20
QC1202003573 243396001 MSD										
Cyanide, Total	100 U	ND		103	ug/L	0.966	103	(0%-20%)		12/30/09 10:17
QC1202003574 243400002 MSD										
Cyanide, Total	100 U	ND		107	ug/L	1.89	107	(0%-20%)		12/30/09 10:25

Notes:
RER is calculated at the 95% confidence level (2-sigma).
The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded
- J Value is estimated
- M Matrix Related Failure
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit

QC Summary

Workorder: 243386

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Instrument QC Data Summary

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 04-JAN-2010 15:24

GEL Laboratories LLC
Contract: LANL01004
SDG #: 10-1032-1

Flow Injection Analysis
Method: SW846 9012A Concentration Units:ug/L
Instrument: Lachat QuickChem FIA+ 8000 Series

Parmname: Cyanide, Total

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**30-DEC-2009 10:07:08**	**OM_12-30-2009_09-56-39**	**149**	**150**	**99**	**(90%-110%)**	**Yes**
CCV	30-DEC-2009 10:21:26	OM_12-30-2009_09-56-39	104	100	104	(90%-110%)	Yes
CCV	30-DEC-2009 10:33:51	OM_12-30-2009_09-56-39	104	100	104	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**30-DEC-2009 10:08:58**	**OM_12-30-2009_09-56-39**	**-2.07**	**5**	**Yes**
CCB	30-DEC-2009 10:23:16	OM_12-30-2009_09-56-39	-1.51	5	Yes
CCB	30-DEC-2009 10:35:41	OM_12-30-2009_09-56-39	-2.04	5	Yes

Cyanide, Total

Prep LogBook

Analyst: AXS5 Verified by:_____

Batch: 936396

Lab SOP: GL-GC-E-067 REV# 13

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202003576	URF1184831-02	.0125	mL
MS	1202003570	URF1184831-02	.025	mL
MS	1202003571	URF1184831-02	.025	mL
MS	1202003572	URF1184831-02	.025	mL
MSD	1202003573	URF1184831-02	.025	mL
MSD	1202003574	URF1184831-02	.025	mL
MSD	1202003575	URF1184831-02	.025	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202003566		SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
LCS	1202003576		SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
SAMPLE	243386001		SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
SAMPLE	243396001		SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
DUP	1202003567	243396001	SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
MS	1202003570	243396001	SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
MSD	1202003573	243396001	SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
SAMPLE	243400002		EPA 335.4	29-DEC-2009 14:23	>12	25 mL	25 mL	1	GROUND WATER
DUP	1202003568	243400002	EPA 335.4	29-DEC-2009 14:23	>12	25 mL	25 mL	1	GROUND WATER
MS	1202003571	243400002	EPA 335.4	29-DEC-2009 14:23	>12	25 mL	25 mL	1	GROUND WATER
MSD	1202003574	243400002	EPA 335.4	29-DEC-2009 14:23	>12	25 mL	25 mL	1	GROUND WATER
SAMPLE	243400003		EPA 335.4	29-DEC-2009 14:23	>12	25 mL	25 mL	1	GROUND WATER
SAMPLE	243443003		SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WASTE WATER
DUP	1202003569	243443003	SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WASTE WATER
MS	1202003572	243443003	SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WASTE WATER
MSD	1202003575	243443003	SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WASTE WATER
SAMPLE	243443014		SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WASTE WATER
SAMPLE	243443025		SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WASTE WATER
SAMPLE	243459001		EPA 335.4	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
SAMPLE	243459002		EPA 335.4	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
SAMPLE	243461001		EPA 335.4	29-DEC-2009 14:23	>12	25 mL	25 mL	1	GROUND WATER
SAMPLE	243466001		EPA 335.4	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
SAMPLE	243466002		EPA 335.4	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
SAMPLE	243469007		EPA 335.4	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
SAMPLE	243493001		SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
SAMPLE	243506001		SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER

Prep LogBook

Analyst: AXS5 Verified by:_____

Batch: 936396

Lab SOP: GL-GC-E-067 REV# 13

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202003576	URF1184831-02	.0125	mL
MS	1202003570	URF1184831-02	.025	mL
MS	1202003571	URF1184831-02	.025	mL
MS	1202003572	URF1184831-02	.025	mL
MSD	1202003573	URF1184831-02	.025	mL
MSD	1202003574	URF1184831-02	.025	mL
MSD	1202003575	URF1184831-02	.025	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
SAMPLE	243554001		SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
SAMPLE	243554002		SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
SAMPLE	243554003		SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER
SAMPLE	243554004		SW846 9010B Prep	29-DEC-2009 14:23	>12	25 mL	25 mL	1	WATER

Reagent/Solvent Lot ID	Amount	Description
091211-C	25 mL	0.25N Sodium Hydroxide Solution
WCN091229-07	.0375 mL	150 ppb CN Distilled ICV Standard
1176724-C	1.25 mL	0.8N H3NO3S
1238146-C	2.5 mL	50% H2SO4 CN Prep
1176778-C	1 mL	51% MgCl2 Soln
1238142-C	1.25 mL	Bismuth Nitrate Solution

Comments:

This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axc2	12/30/2009 9:59:59	OM_12-30-2009_09-56-39
150 ppb		1	axc2	12/30/2009 10:00:51	OM_12-30-2009_09-56-39
100 ppb		1	axc2	12/30/2009 10:01:44	OM_12-30-2009_09-56-39
50 ppb		1	axc2	12/30/2009 10:02:37	OM_12-30-2009_09-56-39
10 ppb		1	axc2	12/30/2009 10:03:30	OM_12-30-2009_09-56-39
CRDL 5.0 ppb		1	axc2	12/30/2009 10:04:23	OM_12-30-2009_09-56-39
ICAL-00		1	axc2	12/30/2009 10:05:17	OM_12-30-2009_09-56-39
ICV		1	axc2	12/30/2009 10:07:08	OM_12-30-2009_09-56-39
ICB		1	axc2	12/30/2009 10:08:58	OM_12-30-2009_09-56-39
CRDL		1	axc2	12/30/2009 10:10:49	OM_12-30-2009_09-56-39
1202003566	936398	1	axc2	12/30/2009 10:12:38	OM_12-30-2009_09-56-39
1202003576	936398	1	axc2	12/30/2009 10:13:31	OM_12-30-2009_09-56-39
243386001	936398	1	axc2	12/30/2009 10:14:24	OM_12-30-2009_09-56-39
243396001	936398	1	axc2	12/30/2009 10:15:18	OM_12-30-2009_09-56-39
1202003567	936398	1	axc2	12/30/2009 10:16:11	OM_12-30-2009_09-56-39
1202003570	936398	1	axc2	12/30/2009 10:17:03	OM_12-30-2009_09-56-39
1202003573	936398	1	axc2	12/30/2009 10:17:56	OM_12-30-2009_09-56-39
243400002	936398	1	axc2	12/30/2009 10:18:48	OM_12-30-2009_09-56-39
1202003568	936398	1	axc2	12/30/2009 10:19:41	OM_12-30-2009_09-56-39
1202003571	936398	1	axc2	12/30/2009 10:20:33	OM_12-30-2009_09-56-39
CCV		1	axc2	12/30/2009 10:21:26	OM_12-30-2009_09-56-39
CCB		1	axc2	12/30/2009 10:23:16	OM_12-30-2009_09-56-39
1202003574	936398	1	axc2	12/30/2009 10:25:04	OM_12-30-2009_09-56-39
243400003	936398	1	axc2	12/30/2009 10:25:56	OM_12-30-2009_09-56-39
243443003	936398	1	axc2	12/30/2009 10:26:48	OM_12-30-2009_09-56-39
1202003569	936398	1	axc2	12/30/2009 10:27:40	OM_12-30-2009_09-56-39
1202003572	936398	1	axc2	12/30/2009 10:28:31	OM_12-30-2009_09-56-39
1202003575	936398	1	axc2	12/30/2009 10:29:24	OM_12-30-2009_09-56-39
243443014	936398	1	axc2	12/30/2009 10:30:19	OM_12-30-2009_09-56-39
243443025	936398	1	axc2	12/30/2009 10:31:12	OM_12-30-2009_09-56-39
243459001	936398	1	axc2	12/30/2009 10:32:05	OM_12-30-2009_09-56-39
243459002	936398	1	axc2	12/30/2009 10:32:58	OM_12-30-2009_09-56-39
CCV		1	axc2	12/30/2009 10:33:51	OM_12-30-2009_09-56-39
CCB		1	axc2	12/30/2009 10:35:41	OM_12-30-2009_09-56-39
243461001	936398	1	axc2	12/30/2009 10:37:31	OM_12-30-2009_09-56-39
243466001	936398	1	axc2	12/30/2009 10:38:24	OM_12-30-2009_09-56-39
243466002	936398	1	axc2	12/30/2009 10:39:17	OM_12-30-2009_09-56-39
243469007	936398	1	axc2	12/30/2009 10:40:10	OM_12-30-2009_09-56-39
243493001	936398	1	axc2	12/30/2009 10:41:03	OM_12-30-2009_09-56-39
243506001	936398	1	axc2	12/30/2009 10:41:55	OM_12-30-2009_09-56-39
243554001	936398	1	axc2	12/30/2009 10:42:47	OM_12-30-2009_09-56-39
243554002	936398	1	axc2	12/30/2009 10:43:39	OM_12-30-2009_09-56-39
243554003	936398	1	axc2	12/30/2009 10:44:30	OM_12-30-2009_09-56-39
243554004	936398	1	axc2	12/30/2009 10:45:23	OM_12-30-2009_09-56-39
CCV		1	axc2	12/30/2009 10:46:16	OM_12-30-2009_09-56-39
CCB		1	axc2	12/30/2009 10:48:05	OM_12-30-2009_09-56-39

Author: axc2 Date : 12/30/2009

Original Run Filename: OM_12-30-2009_09-56-39.OMN created 12/30/2009 09:56:39
Original Run Author's Signature: [axc2]
Current Run Filename: OM_12-30-2009_09-56-39.OMN last modified 12/30/2009 10:49:10
Current Run Author's Signature: [axc2]
Description: GL-GC-E-095 EPA 335.1, 335.3, 335.4, 9012A, CLP335.2-M
Liquid LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1 TCYANIDE Conc. (ug/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WCN091230-01	1	S1	200	7.43	12/30/2009@09:59:59			200 ppb
WCN091230-02	1	S2	150	5.62	12/30/2009@10:00:51			150 ppb
WCN091230-03	1	S3	100	3.68	12/30/2009@10:01:44			100 ppb
WCN091230-04	1	S4	50.0	2.05	12/30/2009@10:02:37			50 ppb
WCN091230-05	1	S5	10.0	0.476	12/30/2009@10:03:30			10 ppb
WCN091230-06	1	S6	5.00	0.292	12/30/2009@10:04:23			CRDL 5.0 ppb
WCN091230-08	1	S7	0.00	0.0301	12/30/2009@10:05:17			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
		Result:	0.99974 > 0.99500					
		Message	Pass					
		Action	Continue					
WCN091230-07	1	S8	149	5.57	12/30/2009@10:07:08			ICV
		Known Conc:	150					
DQM Test: > + Percent Relative Difference								
		Result:	-0.6 < 10.0					
		Message	ICV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-0.6 < 10.0					
		Message	ICV Passed					
		Action	Continue					
		Calibration:	Table/Fig. 1					
WCN091230-08	1	S7	-2.07	0.0199	12/30/2009@10:08:58			ICB/CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-2.07 < 5.01					
		Message	ICB/CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-2.07 > -5.01					
		Message	ICB/CCB Passed					
		Action	Continue					
WCN091230-06	1	S6	5.28	0.290	12/30/2009@10:10:49			CRDL
		Known Conc:	5.00					
DQM Test: > + Concentration Limit								
		Result:	5.28 < 7.50					
		Message	CRDL Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	5.28 > 2.50					
		Message	Pass					
		Action	None					
1202003566|936398|MB	1	1	-2.01	0.0223	12/30/2009@10:12:38			
1202003576||LCS	1	2	49.9	1.93	12/30/2009@10:13:31			
243386001	1	3	-1.49	0.0413	12/30/2009@10:14:24			
243396001	1	4	-1.66	0.0352	12/30/2009@10:15:18			
1202003567||DUP	1	5	-2.07	0.0202	12/30/2009@10:16:11			
1202003570||MS	1	6	104	3.92	12/30/2009@10:17:03			
1202003573||MSD	1	7	103	3.89	12/30/2009@10:17:56			
243400002	1	8	-1.93	0.0251	12/30/2009@10:18:48			
1202003568||DUP	1	9	-1.78	0.0307	12/30/2009@10:19:41			
1202003571||MS	1	10	105	3.95	12/30/2009@10:20:33			
WCN091230-03	1	S3	104	3.91	12/30/2009@10:21:26			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	4.0 < 10.0					

		Message	CCV Passed					
		Action	Continue					
		DQM Test: < - Percent Relative Difference						
		Result:	4.0 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN091230-08	1	S7	-1.51	0.0405	12/30/2009@10:23:16			CCB
		Known Conc:	0.00					
		DQM Test: > + Concentration Limit						
		Result:	-1.51 < 5.00					
		Message	CCB Passed					
		Action	Continue					
		DQM Test: < - Concentration Limit						
		Result:	-1.51 > -5.00					
		Message	CCB Passed					
		Action	Continue					
1202003574||MSD	1	11	107	4.03	12/30/2009@10:25:04			
243400003	1	12	-1.77	0.0311	12/30/2009@10:25:56			
243443003	1	13	-1.58	0.0380	12/30/2009@10:26:48			
1202003569||DUP	1	14	-1.62	0.0366	12/30/2009@10:27:40			
1202003572||MS	1	15	106	4.00	12/30/2009@10:28:31			
1202003575||MSD	1	16	100	3.77	12/30/2009@10:29:24			
243443014	1	17	-0.592	0.0743	12/30/2009@10:30:19			
243443025	1	18	-1.33	0.0471	12/30/2009@10:31:12			
243459001	1	19	-1.92	0.0256	12/30/2009@10:32:05			
243459002	1	20	-1.95	0.0243	12/30/2009@10:32:58			
WCN091230-03	1	S3	104	3.92	12/30/2009@10:33:51			CCV
		Known Conc:	100					
		DQM Test: > + Percent Relative Difference						
		Result:	4.3 < 10.0					
		Message	CCV Passed					
		Action	Continue					
		DQM Test: < - Percent Relative Difference						
		Result:	4.3 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN091230-08	1	S7	-2.04	0.0211	12/30/2009@10:35:41			CCB
		Known Conc:	0.00					
		DQM Test: > + Concentration Limit						
		Result:	-2.04 < 5.00					
		Message	CCB Passed					
		Action	Continue					
		DQM Test: < - Concentration Limit						
		Result:	-2.04 > -5.00					
		Message	CCB Passed					
		Action	Continue					
243461001	1	21	-1.77	0.0312	12/30/2009@10:37:31			
243466001	1	22	0.116	0.100	12/30/2009@10:38:24			
243466002	1	23	1.14	0.138	12/30/2009@10:39:17			
243469007	1	24	-2.42	0.00705	12/30/2009@10:40:10			
243493001	1	25	-2.82	-0.00760	12/30/2009@10:41:03			
243506001	1	26	-1.91	0.0261	12/30/2009@10:41:55			
243554001	1	27	-2.61	3.12e-4	12/30/2009@10:42:47			
243554002	1	28	-2.42	0.00720	12/30/2009@10:43:39			
243554003	1	29	-1.78	0.0307	12/30/2009@10:44:30			
243554004	1	30	-2.05	0.0207	12/30/2009@10:45:23			
WCN091230-03	1	S3	105	3.94	12/30/2009@10:46:16			CCV
		Known Conc:	100					
		DQM Test: > + Percent Relative Difference						
		Result:	4.7 < 10.0					
		Message	CCV Passed					
		Action	Continue					
		DQM Test: < - Percent Relative Difference						
		Result:	4.7 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN091230-08	1	S7	-2.04	0.0213	12/30/2009@10:48:05			CCB
		Known Conc:	0.00					

Author: axc2

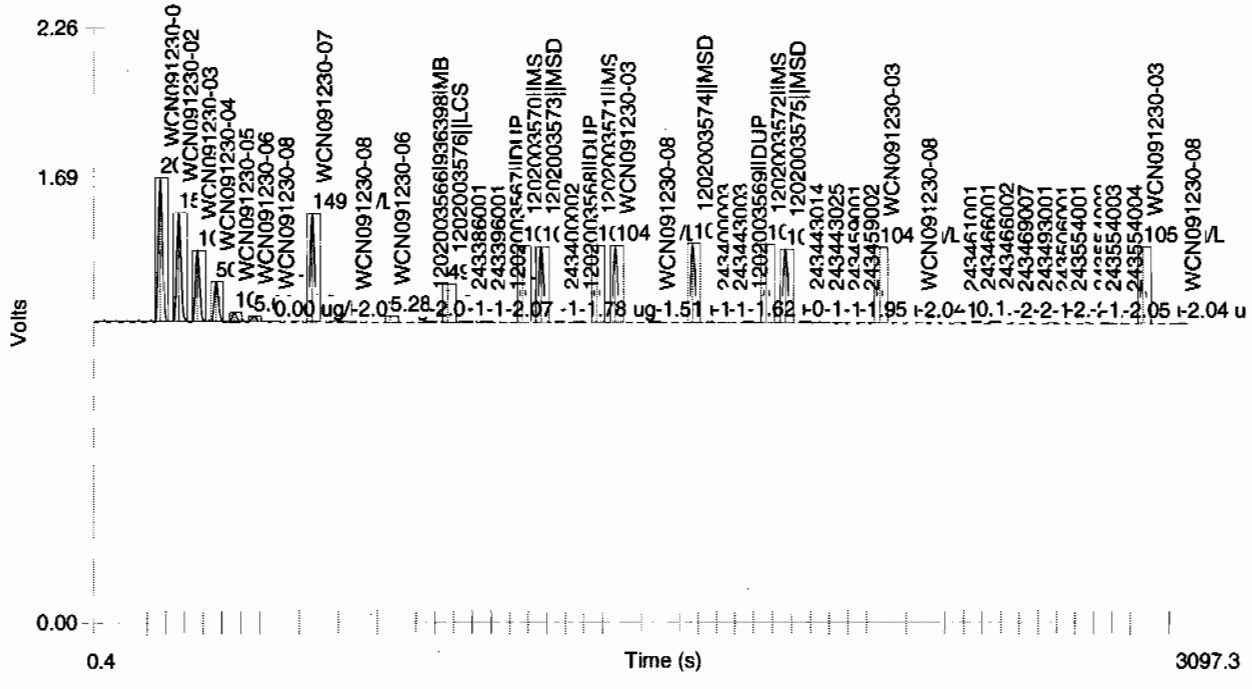
Date : 12/30/2009

DQM Test: > + Concentration Limit						
Result:	-2.04 < 5.00					
Message	CCB Passed					
Action	Continue					
DQM Test: < - Concentration Limit						
Result:	-2.04 > -5.00					
Message	CCB Passed					
Action	Continue					

Analyte Properties Table for OM_12-30-2009_09-56-39.OMN

Property	Channel 1
	TCYANIDE
Concentration Units	ug/L
Callibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39

Channel 1: Current View

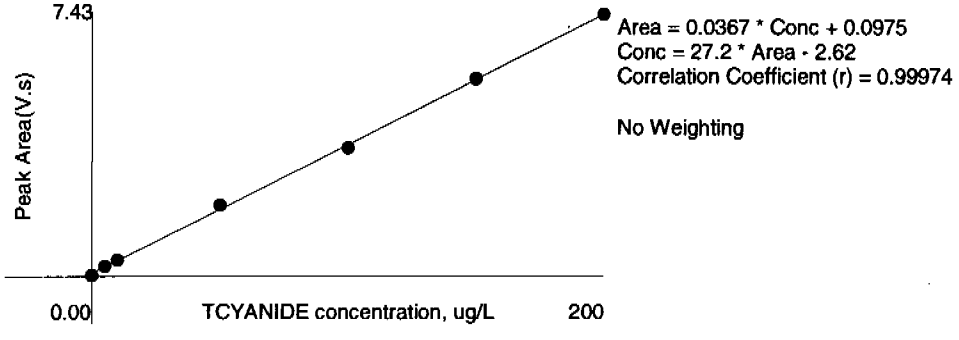


Author: axc2 Date : 12/30/2009

Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	7.43	0.547	0.0	12/30/2009	10:01:02
2	150	1	5.62	0.411	-0.4	12/30/2009	10:01:54
3	100	1	3.68	0.269	2.4	12/30/2009	10:02:46
4	50.0	1	2.05	0.150	-5.9	12/30/2009	10:03:39
5	10.0	1	0.476	0.0340	-2.4	12/30/2009	10:04:33
6	5.00	1	0.292	0.0197	-3.8	12/30/2009	10:05:26
7	0.00	1	0.0301	0.00127		12/30/2009	10:06:21

Figure 1: TCYANIDE



RADIOLOGICAL ANALYSIS

Radiochemistry Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1032

Method/Analysis Information

Procedure: **Dry Weight-Percent Moisture**

Analytical Method:

Analytical Batch Number: 936239

Sample ID	Client ID
243385001	RE12-10-7580
243385002	RE12-10-7590
243385003	RE12-10-7592
243385004	RE12-10-7591
243385005	RE12-10-7581
243385006	RE12-10-7586
243385007	RE12-10-7587
243385008	RE12-10-7585
243385009	RE12-10-7582
243385010	RE12-10-7584
243385011	RE12-10-7583
1202003273	243385001(RE12-10-7580) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-020 REV# 9.

Calibration Information:

Quality Control (QC) Information:

Designated QC
The following sample was used for QC: 243385001 (RE12-10-7580). The QC was from LANL work order 243385.

QC Information
All of the QC samples met the required acceptance limits.

CSU
The blank result is less than 1.65 times the CSU. Not Applicable.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments
Additional comments were not required for this sample set.

Blank Decision Level
Not Applicable. The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	**AM241**
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	937596
Prep Batch Number:	936244

Sample ID	Client ID
243385001	RE12-10-7580
243385002	RE12-10-7590
243385003	RE12-10-7592
243385004	RE12-10-7591
243385005	RE12-10-7581
243385006	RE12-10-7586
243385007	RE12-10-7587
243385008	RE12-10-7585
243385009	RE12-10-7582
243385010	RE12-10-7584
243385011	RE12-10-7583
1202006343	Method Blank (MB)
1202006344	243492007(RE12-10-7296) Sample Duplicate (DUP)
1202006345	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
Aliquot for sample 1202006343 (MB) was changed to 1.0 per client request.

Designated QC
The following sample was used for QC: 243492007 (RE12-10-7296). The QC was from LANL work order 243492.

QC Information
All of the QC samples met the required acceptance limits.

CSU
The blank result is less than 1.65 times the CSU.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration
No manual integrations were performed on data in this batch.

Additional Comments
The MDCs are calculated using a blank population.

Blank Decision Level
The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	**ISOPU**
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	937598
Prep Batch Number:	936244

Sample ID	Client ID
243385001	RE12-10-7580
243385002	RE12-10-7590
243385003	RE12-10-7592
243385004	RE12-10-7591
243385005	RE12-10-7581
243385006	RE12-10-7586
243385007	RE12-10-7587
243385008	RE12-10-7585
243385009	RE12-10-7582
243385010	RE12-10-7584
243385011	RE12-10-7583
1202006346	Method Blank (MB)
1202006347	243492007(RE12-10-7296) Sample Duplicate (DUP)
1202006348	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
Aliquot for sample 1202006346 (MB) was changed to 1.0 per client request.

Designated QC
The following sample was used for QC: 243492007 (RE12-10-7296). The QC was from LANL work order 243492.

QC Information
All of the QC samples met the required acceptance limits.

CSU
The blank result is less than 1.65 times the CSU.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration
No manual integrations were performed on data in this batch.

Additional Comments
The MDCs are calculated using a blank population.

Blank Decision Level
The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	**ISOU**
Analytical Method:	DOE EML HASL-300, U-02-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	937600
Prep Batch Number:	936244

Sample ID	Client ID
243385001	RE12-10-7580
243385002	RE12-10-7590
243385003	RE12-10-7592
243385004	RE12-10-7591
243385005	RE12-10-7581
243385006	RE12-10-7586
243385007	RE12-10-7587
243385008	RE12-10-7585
243385009	RE12-10-7582
243385010	RE12-10-7584
243385011	RE12-10-7583
1202006349	Method Blank (MB)
1202006350	243492007(RE12-10-7296) Sample Duplicate (DUP)
1202006351	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
Aliquot for sample 1202006349 (MB) was changed to 1.0 per client request.

Designated QC
The following sample was used for QC: 243492007 (RE12-10-7296). The QC was from LANL work order 243492.

QC Information
All of the QC samples met the required acceptance limits.

CSU
The blank result for U-233/234 is greater than 1.65 times the CSU but less than the MDC.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis
Samples 243385002 (RE12-10-7590) and 243385010 (RE12-10-7584) were recounted to verify activity.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration
No manual integrations were performed on data in this batch.

Additional Comments
The MDCs are calculated using a blank population.

Blank Decision Level
The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	**GAMMA SPEC**
Analytical Method:	DOE HASL 300, 4.5.2.3/Ga-01-R
Prep Method:	Dry Soil Prep
Analytical Batch Number:	936285
Prep Batch Number:	936244

Sample ID	Client ID
243385001	RE12-10-7580
243385002	RE12-10-7590
243385003	RE12-10-7592
243385004	RE12-10-7591
243385005	RE12-10-7581
243385006	RE12-10-7586
243385007	RE12-10-7587
243385008	RE12-10-7585
243385009	RE12-10-7582
243385010	RE12-10-7584
243385011	RE12-10-7583
1202003352	Method Blank (MB)
1202003353	243385001(RE12-10-7580) Sample Duplicate (DUP)
1202003354	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 18.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met. The initial Calibrations were performed in January 2009, February 2009, March 2009, April 2009, May 2009, June 2009, July 2009, August 2009, October 2009, November 2009 and December 2009.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 243385001 (RE12-10-7580). The QC was from LANL work order 243385.

QC Information
All of the QC samples met the required acceptance limits.

CSU

The blank, 1202003352 (MB), result is greater than 1.65 times the CSU but less than the MDC for Ra-223 and Th-231.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments
Additional comments were not required for this sample set.

Blank Decision Level
The blank, 1202003352 (MB), result is greater than the Decision Level, but less than the MDC for Ra-223 and Th-231.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to high counting uncertainty.	Mercury-203	243385009	RE12-10-7582
UI	Data rejected due to interference.	Bismuth-211	243385001	RE12-10-7580
			243385002	RE12-10-7590
			243385003	RE12-10-7592
			243385004	RE12-10-7591
			243385005	RE12-10-7581
			243385006	RE12-10-7586
			243385007	RE12-10-7587
			243385008	RE12-10-7585
			243385009	RE12-10-7582

			243385010	RE12-10-7584
			243385011	RE12-10-7583
			1202003353	RE12-10-7580(243385001DUP)
		Cadmium-109	243385001	RE12-10-7580
			243385002	RE12-10-7590
			243385004	RE12-10-7591
			243385005	RE12-10-7581
			243385006	RE12-10-7586
			243385007	RE12-10-7587
			243385008	RE12-10-7585
			243385009	RE12-10-7582
			243385010	RE12-10-7584
			243385011	RE12-10-7583
			1202003353	RE12-10-7580(243385001DUP)
		Mercury-203	243385004	RE12-10-7591
		Radium-224	243385001	RE12-10-7580
			243385002	RE12-10-7590
			243385003	RE12-10-7592
			243385004	RE12-10-7591
			243385005	RE12-10-7581
			243385006	RE12-10-7586
			243385007	RE12-10-7587
			243385009	RE12-10-7582
			243385010	RE12-10-7584
			243385011	RE12-10-7583
			1202003353	RE12-10-7580(243385001DUP)
UI	Data rejected due to low abundance.	Cesium-134	243385002	RE12-10-7590
			243385004	RE12-10-7591
			243385005	RE12-10-7581

	243385006	RE12-10-7586
	243385010	RE12-10-7584
	1202003353	RE12-10-7580(243385001DUP)
Radium-224	243385008	RE12-10-7585
Strontium-85	243385002	RE12-10-7590
	243385004	RE12-10-7591
	243385006	RE12-10-7586
	243385011	RE12-10-7583

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer/Date: 1/8/10

SAMPLE DATA SUMMARY

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report
for

LANL010 Los Alamos National Laboratory (72733-001-09)

Client SDG: 10-1032 GEL Work Order: 243385

The Qualifiers in this report are defined as follows:

* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.

** Indicates the analyte is a surrogate compound.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by _____ 1/8/10

GEL LABORATORIES LLC

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7580
Sample ID: 243385001
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 14%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.00594	0.022	+/-0.00693	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	0.0134	0.0218	+/-0.00662	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.0175	0.0246	+/-0.00561	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.43	0.134	+/-0.130	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.0751	0.0834	+/-0.0208	0.100	pCi/g						
Uranium-238		1.76	0.078	+/-0.154	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	0.042	0.098	+/-0.0306	0.200	pCi/g		MJH1	12/31/09	0916	936285	5
Bismuth-211	UI	3.84	0.332	+/-0.273		pCi/g						
Bismuth-214		1.23	0.134	+/-0.108	0.200	pCi/g						
Cadmium-109	UI	2.55	0.908	+/-0.427		pCi/g						
Cerium-139	U	-0.00088	0.0459	+/-0.0132	0.050	pCi/g						
Cesium-134	U	0.0639	0.0991	+/-0.0264	0.100	pCi/g						
Cesium-137		0.312	0.0691	+/-0.0401	0.100	pCi/g						
Cobalt-60	U	-0.000364	0.0605	+/-0.0187	0.100	pCi/g						
Europium-152	U	0.00766	0.164	+/-0.0465	0.200	pCi/g						
Lanthanum-140	U	-0.106	0.152	+/-0.0537		pCi/g						
Lead-212		1.58	0.0899	+/-0.0896	0.100	pCi/g						
Lead-214		1.34	0.116	+/-0.101	0.100	pCi/g						
Mercury-203	U	-0.0541	0.0612	+/-0.0203	0.100	pCi/g						
Potassium-40		19.7	0.435	+/-0.983	1.00	pCi/g						
Radium-223	U	-0.935	1.07	+/-0.339		pCi/g						
Radium-224	UI	3.86	1.02	+/-0.637		pCi/g						
Radium-226		1.23	0.134	+/-0.108		pCi/g						
Radium-228		1.66	0.238	+/-0.175	0.500	pCi/g						
Ruthenium-106	U	-0.0244	0.546	+/-0.166	0.800	pCi/g						

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7580
Sample ID: 243385001
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Sodium-22	U	-0.0259	0.0772	+/-0.0253	0.080	pCi/g						
Strontium-85	U	0.0422	0.0636	+/-0.019		pCi/g						
Thallium-208		0.472	0.0657	+/-0.0425	0.080	pCi/g						
Thorium-227	U	0.105	0.613	+/-0.180		pCi/g						
Thorium-231	U	-0.935	1.07	+/-0.339		pCi/g						
Thorium-234		2.48	0.888	+/-0.572	2.00	pCi/g						
Tin-113	U	-0.00368	0.0766	+/-0.0222	0.100	pCi/g						
Uranium-235	U	0.181	0.345	+/-0.0972	0.500	pCi/g						
Yttrium-88	U	0.0324	0.0625	+/-0.0149	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	80.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	76.5	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range

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Certificate of Analysis

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7580 Project: LANL01004
Sample ID: 243385001 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7590
Sample ID: 243385002
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 9.42%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.00965	0.0195	+/-0.00714	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	0.0042	0.0227	+/-0.00243	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.00979	0.0256	+/-0.00373	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.10	0.0859	+/-0.0938	0.100	pCi/g		JXD2	01/07/10	1116	937600	4
Uranium-235/236		0.0685	0.0533	+/-0.0167	0.100	pCi/g						
Uranium-238		1.17	0.0498	+/-0.0987	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	0.0116	0.168	+/-0.0523	0.200	pCi/g		MJH1	12/31/09	0920	936285	6
Bismuth-211	UI	4.01	0.279	+/-0.282		pCi/g						
Bismuth-214		1.25	0.087	+/-0.0924	0.200	pCi/g						
Cadmium-109	UI	2.80	1.01	+/-0.413		pCi/g						
Cerium-139	U	0.014	0.0425	+/-0.0123	0.050	pCi/g						
Cesium-134	UI	0.179	0.080	+/-0.0296	0.100	pCi/g						
Cesium-137		0.127	0.0492	+/-0.0347	0.100	pCi/g						
Cobalt-60	U	0.00866	0.049	+/-0.0145	0.100	pCi/g						
Europium-152	U	-0.0164	0.129	+/-0.0466	0.200	pCi/g						
Lanthanum-140	U	-0.0527	0.0863	+/-0.0303		pCi/g						
Lead-212		1.62	0.0807	+/-0.0989	0.100	pCi/g						
Lead-214		1.39	0.0972	+/-0.105	0.100	pCi/g						
Mercury-203	U	0.00616	0.0568	+/-0.0161	0.100	pCi/g						
Potassium-40		21.0	0.418	+/-1.13	1.00	pCi/g						
Radium-223	U	-0.708	0.879	+/-0.282		pCi/g						
Radium-224	UI	4.41	0.918	+/-0.627		pCi/g						
Radium-226		1.25	0.087	+/-0.0924		pCi/g						
Radium-228		1.56	0.175	+/-0.142	0.500	pCi/g						
Ruthenium-106	U	-0.0243	0.407	+/-0.125	0.800	pCi/g						
Sodium-22	U	0.0188	0.0614	+/-0.0179	0.080	pCi/g						

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Certificate of Analysis

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7590 Project: LANL01004
Sample ID: 243385002 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	UI	0.0725	0.0573	+/-0.0166		pCi/g						
Thallium-208		0.502	0.049	+/-0.0438	0.080	pCi/g						
Thorium-227	U	-0.00851	0.532	+/-0.152		pCi/g						
Thorium-231	U	-0.708	0.879	+/-0.282		pCi/g						
Thorium-234		1.46	1.45	+/-0.687	2.00	pCi/g						
Tin-113	U	0.0138	0.0635	+/-0.0182	0.100	pCi/g						
Uranium-235	U	0.00474	0.297	+/-0.087	0.500	pCi/g						
Yttrium-88	U	-0.00743	0.0402	+/-0.013	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	97.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	76.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	86.2	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range

GEL LABORATORIES LLC

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7590
Sample ID: 243385002

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7592
Sample ID: 243385003
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 11.4%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.00196	0.0214	+/-0.00238	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	0.00274	0.0223	+/-0.00275	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.00274	0.0251	+/-0.00275	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		0.730	0.138	+/-0.0777	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.0605	0.0855	+/-0.0187	0.100	pCi/g						
Uranium-238		0.725	0.0799	+/-0.077	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	-0.102	0.291	+/-0.092	0.200	pCi/g		MJH1	12/31/09	0930	936285	5
Bismuth-211	UI	3.72	0.358	+/-0.309		pCi/g						
Bismuth-214		1.17	0.114	+/-0.102	0.200	pCi/g						
Cadmium-109	U	1.13	1.19	+/-0.435		pCi/g						
Cerium-139	U	-0.0107	0.0488	+/-0.0147	0.050	pCi/g						
Cesium-134	U	0.0856	0.0907	+/-0.0312	0.100	pCi/g						
Cesium-137	U	-0.00229	0.0634	+/-0.0188	0.100	pCi/g						
Cobalt-60	U	-0.0176	0.0641	+/-0.0209	0.100	pCi/g						
Europium-152	U	-0.0268	0.172	+/-0.0554	0.200	pCi/g						
Lanthanum-140	U	0.0157	0.104	+/-0.034		pCi/g						
Lead-212		1.35	0.119	+/-0.110	0.100	pCi/g						
Lead-214		1.30	0.122	+/-0.113	0.100	pCi/g						
Mercury-203	U	-0.0258	0.064	+/-0.0192	0.100	pCi/g						
Potassium-40		23.5	0.315	+/-1.38	1.00	pCi/g						
Radium-223	U	-0.185	1.11	+/-0.377		pCi/g						
Radium-224	UI	3.28	1.36	+/-0.497		pCi/g						
Radium-226		1.17	0.114	+/-0.102		pCi/g						
Radium-228		1.64	0.207	+/-0.171	0.500	pCi/g						
Ruthenium-106	U	0.0184	0.539	+/-0.158	0.800	pCi/g						
Sodium-22	U	0.0227	0.0777	+/-0.0223	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7592 Project: LANL01004
Sample ID: 243385003 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0288	0.0664	+/-0.0218		pCi/g						
Thallium-208		0.403	0.0643	+/-0.0479	0.080	pCi/g						
Thorium-227	U	-0.0791	0.624	+/-0.181		pCi/g						
Thorium-231	U	-0.185	1.11	+/-0.377		pCi/g						
Thorium-234	U	0.450	2.31	+/-1.10	2.00	pCi/g						
Tin-113	U	-0.0187	0.071	+/-0.0218	0.100	pCi/g						
Uranium-235	U	-0.0162	0.374	+/-0.110	0.500	pCi/g						
Yttrium-88	U	0.034	0.0655	+/-0.0168	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	85.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	80.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	81.7	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7592 Project: LANL01004
Sample ID: 243385003 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7591
Sample ID: 243385004
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 11.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.00337	0.0221	+/-0.00279	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	0.00141	0.0229	+/-0.00423	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.00705	0.0258	+/-0.00425	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		0.864	0.145	+/-0.0896	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.0348	0.0903	+/-0.0144	0.100	pCi/g						
Uranium-238		0.925	0.0844	+/-0.0942	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	0.00883	0.263	+/-0.0815	0.200	pCi/g		MJH1	12/31/09	0931	936285	5
Bismuth-211	UI	3.56	0.241	+/-0.199		pCi/g						
Bismuth-214		1.04	0.0868	+/-0.0728	0.200	pCi/g						
Cadmium-109	UI	2.71	1.31	+/-0.514		pCi/g						
Cerium-139	U	0.0131	0.0397	+/-0.011	0.050	pCi/g						
Cesium-134	UI	0.119	0.0706	+/-0.0277	0.100	pCi/g						
Cesium-137	U	0.0153	0.0518	+/-0.0147	0.100	pCi/g						
Cobalt-60	U	-0.0023	0.0445	+/-0.0137	0.100	pCi/g						
Europium-152	U	-0.0589	0.109	+/-0.038	0.200	pCi/g						
Lanthanum-140	U	-0.0344	0.0918	+/-0.0295		pCi/g						
Lead-212		1.40	0.0716	+/-0.0659	0.100	pCi/g						
Lead-214		1.24	0.0838	+/-0.0764	0.100	pCi/g						
Mercury-203	UI	0.0571	0.0442	+/-0.0178	0.100	pCi/g						
Potassium-40		23.6	0.413	+/-1.07	1.00	pCi/g						
Radium-223	U	0.210	0.796	+/-0.266		pCi/g						
Radium-224	UI	3.14	0.813	+/-0.477		pCi/g						
Radium-226		1.04	0.0868	+/-0.0728		pCi/g						
Radium-228		1.43	0.146	+/-0.139	0.500	pCi/g						
Ruthenium-106	U	0.034	0.389	+/-0.117	0.800	pCi/g						
Sodium-22	U	-0.0119	0.054	+/-0.0168	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7591
Sample ID: 243385004
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	UI	0.111	0.0553	+/-0.0154		pCi/g						
Thallium-208		0.447	0.0422	+/-0.033	0.080	pCi/g						
Thorium-227	U	-0.0323	0.484	+/-0.143		pCi/g						
Thorium-231	U	0.210	0.796	+/-0.266		pCi/g						
Thorium-234	U	1.67	2.07	+/-0.856	2.00	pCi/g						
Tin-113	U	-0.00651	0.0519	+/-0.0152	0.100	pCi/g						
Uranium-235	U	-0.0195	0.281	+/-0.0855	0.500	pCi/g						
Yttrium-88	U	-0.0161	0.0352	+/-0.012	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	87.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	73.2	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7591
Sample ID: 243385004
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID:	RE12-10-7581	Project:	LANL01004
Sample ID:	243385005	Client ID:	LANL010
Matrix:	S		
Collect Date:	17-DEC-09		
Receive Date:	22-DEC-09		
Collector:	Client		
Moisture:	11.6%		

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	-0.00179	0.0235	+/-0.00408	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	0.00	0.0219	+/-0.00426	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.00269	0.0246	+/-0.00426	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		0.847	0.144	+/-0.0879	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.0345	0.0894	+/-0.0143	0.100	pCi/g						
Uranium-238		0.865	0.0836	+/-0.0892	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	0.0804	0.213	+/-0.0682	0.200	pCi/g		MJH1	12/31/09	0939	936285	5
Bismuth-211	UI	3.47	0.283	+/-0.280		pCi/g						
Bismuth-214		1.15	0.0991	+/-0.0943	0.200	pCi/g						
Cadmium-109	UI	3.21	1.06	+/-0.513		pCi/g						
Cerium-139	U	-0.0142	0.0417	+/-0.0126	0.050	pCi/g						
Cesium-134	UI	0.111	0.0862	+/-0.0374	0.100	pCi/g						
Cesium-137	U	0.0394	0.0665	+/-0.0188	0.100	pCi/g						
Cobalt-60	U	-0.0136	0.0501	+/-0.0165	0.100	pCi/g						
Europium-152	U	-0.0388	0.132	+/-0.0409	0.200	pCi/g						
Lanthanum-140	U	-0.0378	0.120	+/-0.0388		pCi/g						
Lead-212		1.64	0.0823	+/-0.110	0.100	pCi/g						
Lead-214		1.21	0.0986	+/-0.102	0.100	pCi/g						
Mercury-203	U	-0.00637	0.0581	+/-0.0179	0.100	pCi/g						
Potassium-40		22.9	0.416	+/-1.31	1.00	pCi/g						
Radium-223	U	0.268	0.990	+/-0.298		pCi/g						
Radium-224	UI	4.14	0.937	+/-0.642		pCi/g						
Radium-226		1.15	0.0991	+/-0.0943		pCi/g						
Radium-228		1.29	0.182	+/-0.155	0.500	pCi/g						
Ruthenium-106	U	-0.00189	0.450	+/-0.137	0.800	pCi/g						
Sodium-22	U	0.0139	0.0643	+/-0.019	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7581 Project: LANL01004
Sample ID: 243385005 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0334	0.0534	+/-0.0164		pCi/g						
Thallium-208		0.519	0.0515	+/-0.0442	0.080	pCi/g						
Thorium-227	U	-0.207	0.536	+/-0.170		pCi/g						
Thorium-231	U	0.268	0.990	+/-0.298		pCi/g						
Thorium-234	U	0.904	1.71	+/-0.827	2.00	pCi/g						
Tin-113	U	-0.000589	0.0662	+/-0.0193	0.100	pCi/g						
Uranium-235	U	0.0396	0.311	+/-0.0909	0.500	pCi/g						
Yttrium-88	U	0.00934	0.052	+/-0.0149	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	85.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	82.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	73.4	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7581
Sample ID: 243385005
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7586
Sample ID: 243385006
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 10.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.00442	0.0212	+/-0.00424	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	0.0189	0.0279	+/-0.00795	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.0103	0.0315	+/-0.0049	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.50	0.130	+/-0.134	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.0776	0.0806	+/-0.0208	0.100	pCi/g						
Uranium-238		1.65	0.0753	+/-0.144	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	0.0785	0.181	+/-0.0535	0.200	pCi/g		MJH1	12/31/09	0940	936285	5
Bismuth-211	UI	2.88	0.247	+/-0.230		pCi/g						
Bismuth-214		0.757	0.0846	+/-0.0676	0.200	pCi/g						
Cadmium-109	UI	2.06	0.976	+/-0.372		pCi/g						
Cerium-139	U	-0.00833	0.0393	+/-0.0112	0.050	pCi/g						
Cesium-134	UI	0.112	0.0632	+/-0.0241	0.100	pCi/g						
Cesium-137		0.239	0.0437	+/-0.0333	0.100	pCi/g						
Cobalt-60	U	0.00525	0.0415	+/-0.0122	0.100	pCi/g						
Europium-152	U	-0.015	0.124	+/-0.0473	0.200	pCi/g						
Lanthanum-140	U	-0.061	0.0836	+/-0.0282		pCi/g						
Lead-212		1.12	0.0892	+/-0.0856	0.100	pCi/g						
Lead-214		1.00	0.086	+/-0.0842	0.100	pCi/g						
Mercury-203	U	0.0287	0.0534	+/-0.0173	0.100	pCi/g						
Potassium-40		19.8	0.337	+/-1.06	1.00	pCi/g						
Radium-223	U	-0.246	0.804	+/-0.271		pCi/g						
Radium-224	UI	2.35	1.08	+/-0.375		pCi/g						
Radium-226		0.757	0.0846	+/-0.0676		pCi/g						
Radium-228		1.20	0.153	+/-0.136	0.500	pCi/g						
Ruthenium-106	U	0.120	0.392	+/-0.112	0.800	pCi/g						
Sodium-22	U	-0.00949	0.0471	+/-0.0144	0.080	pCi/g						

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7586 Project: LANL01004
Sample ID: 243385006 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	UI	0.123	0.0569	+/-0.0169		pCi/g						
Thallium-208		0.401	0.0428	+/-0.0357	0.080	pCi/g						
Thorium-227	U	0.161	0.514	+/-0.148		pCi/g						
Thorium-231	U	-0.246	0.804	+/-0.271		pCi/g						
Thorium-234	U	0.991	1.51	+/-0.576	2.00	pCi/g						
Tin-113	U	-0.0181	0.0544	+/-0.0166	0.100	pCi/g						
Uranium-235	U	0.0507	0.287	+/-0.080	0.500	pCi/g						
Yttrium-88	U	-0.0204	0.033	+/-0.0115	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	68.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.5	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7586 Project: LANL01004
Sample ID: 243385006 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7587
Sample ID: 243385007
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 9.9%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.00173	0.0201	+/-0.00643	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	0.00148	0.0241	+/-0.00149	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	-3.54E-10	0.0271	+/-0.00297	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		0.643	0.150	+/-0.0728	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.0298	0.0929	+/-0.0135	0.100	pCi/g						
Uranium-238		0.797	0.0868	+/-0.0852	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	-0.11	0.346	+/-0.102	0.200	pCi/g		MJH1	12/31/09	0954	936285	5
Bismuth-211	UI	3.36	0.342	+/-0.255		pCi/g						
Bismuth-214		0.986	0.122	+/-0.0848	0.200	pCi/g						
Cadmium-109	UI	2.47	1.65	+/-0.550		pCi/g						
Cerium-139	U	-0.00804	0.0521	+/-0.0158	0.050	pCi/g						
Cesium-134	U	0.0649	0.100	+/-0.0273	0.100	pCi/g						
Cesium-137	U	0.0173	0.0764	+/-0.0227	0.100	pCi/g						
Cobalt-60	U	0.00209	0.077	+/-0.0236	0.100	pCi/g						
Europium-152	U	0.0462	0.170	+/-0.0696	0.200	pCi/g						
Lanthanum-140	U	-0.0344	0.127	+/-0.0412		pCi/g						
Lead-212		1.49	0.0966	+/-0.0773	0.100	pCi/g						
Lead-214		1.17	0.127	+/-0.0939	0.100	pCi/g						
Mercury-203	U	0.0174	0.0789	+/-0.0258	0.100	pCi/g						
Potassium-40		26.0	0.617	+/-1.37	1.00	pCi/g						
Radium-223	U	-1.4	1.08	+/-0.378		pCi/g						
Radium-224	UI	4.49	1.10	+/-0.712		pCi/g						
Radium-226		0.986	0.122	+/-0.0848		pCi/g						
Radium-228		1.38	0.254	+/-0.178	0.500	pCi/g						
Ruthenium-106	U	-0.0837	0.560	+/-0.175	0.800	pCi/g						
Sodium-22	U	0.0193	0.0922	+/-0.0273	0.080	pCi/g						

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Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7587 Project: LANL01004
Sample ID: 243385007 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0369	0.0676	+/-0.0191		pCi/g						
Thallium-208		0.554	0.0628	+/-0.0517	0.080	pCi/g						
Thorium-227	U	0.196	0.703	+/-0.211		pCi/g						
Thorium-231	U	-1.4	1.08	+/-0.378		pCi/g						
Thorium-234	U	0.395	2.89	+/-0.836	2.00	pCi/g						
Tin-113	U	0.00162	0.0852	+/-0.0253	0.100	pCi/g						
Uranium-235	U	-0.0161	0.388	+/-0.119	0.500	pCi/g						
Yttrium-88	U	0.00238	0.0601	+/-0.018	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	84.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	82.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	73.6	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7587 Project: LANL01004
Sample ID: 243385007 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7585
Sample ID: 243385008
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 8.41%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.00714	0.0217	+/-0.00537	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	0.00367	0.0199	+/-0.00213	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.00734	0.0224	+/-0.00302	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		0.710	0.141	+/-0.0766	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.045	0.0875	+/-0.0181	0.100	pCi/g						
Uranium-238		0.837	0.0817	+/-0.0869	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	-0.365	0.528	+/-0.164	0.200	pCi/g		MJH1	12/31/09	1018	936285	5
Bismuth-211	UI	3.22	0.383	+/-0.306		pCi/g						
Bismuth-214		0.914	0.124	+/-0.0861	0.200	pCi/g						
Cadmium-109	UI	1.79	1.72	+/-0.652		pCi/g						
Cerium-139	U	-0.0262	0.0631	+/-0.0198	0.050	pCi/g						
Cesium-134	U	0.0898	0.106	+/-0.0285	0.100	pCi/g						
Cesium-137	U	0.0341	0.0834	+/-0.0245	0.100	pCi/g						
Cobalt-60	U	0.0568	0.0926	+/-0.0254	0.100	pCi/g						
Europium-152	U	-0.0214	0.186	+/-0.0976	0.200	pCi/g						
Lanthanum-140	U	-0.0546	0.131	+/-0.0535		pCi/g						
Lead-212		1.73	0.121	+/-0.124	0.100	pCi/g						
Lead-214		1.12	0.133	+/-0.110	0.100	pCi/g						
Mercury-203	U	-0.00351	0.0882	+/-0.0261	0.100	pCi/g						
Potassium-40		31.5	0.574	+/-1.60	1.00	pCi/g						
Radium-223	U	-0.102	1.45	+/-0.433		pCi/g						
Radium-224	UI	5.78	2.11	+/-0.610		pCi/g						
Radium-226		0.914	0.124	+/-0.0861		pCi/g						
Radium-228		1.52	0.223	+/-0.215	0.500	pCi/g						
Ruthenium-106	U	0.00824	0.606	+/-0.187	0.800	pCi/g						
Sodium-22	U	-0.0158	0.0839	+/-0.0269	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7585 Project: LANL01004
Sample ID: 243385008 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.055	0.0841	+/-0.0272		pCi/g						
Thallium-208		0.560	0.0663	+/-0.0585	0.080	pCi/g						
Thorium-227	U	-0.07	0.822	+/-0.243		pCi/g						
Thorium-231	U	-0.102	1.45	+/-0.433		pCi/g						
Thorium-234	U	-0.688	4.17	+/-1.24	2.00	pCi/g						
Tin-113	U	-0.0188	0.0907	+/-0.0279	0.100	pCi/g						
Uranium-235	U	0.147	0.448	+/-0.133	0.500	pCi/g						
Yttrium-88	U	-0.00426	0.0604	+/-0.019	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	82.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	79.7	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7585
Sample ID: 243385008
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7582
Sample ID: 243385009
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 7.15%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.00569	0.0182	+/-0.00581	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	-0.00133	0.0215	+/-0.00188	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	-3.16E-10	0.0243	+/-0.00265	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.22	0.143	+/-0.117	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.057	0.0888	+/-0.0217	0.100	pCi/g						
Uranium-238		1.11	0.0829	+/-0.108	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	0.0256	0.287	+/-0.0809	0.200	pCi/g		MJH1	12/31/09	1054	936285	5
Bismuth-211	UI	4.05	0.326	+/-0.260		pCi/g						
Bismuth-214		1.00	0.107	+/-0.0841	0.200	pCi/g						
Cadmium-109	UI	1.46	1.43	+/-0.708		pCi/g						
Cerium-139	U	-0.00526	0.0503	+/-0.0142	0.050	pCi/g						
Cesium-134	U	0.0893	0.0909	+/-0.0318	0.100	pCi/g						
Cesium-137	U	-0.000825	0.0641	+/-0.0188	0.100	pCi/g						
Cobalt-60	U	0.0317	0.0685	+/-0.0185	0.100	pCi/g						
Europium-152	U	-0.0788	0.155	+/-0.0499	0.200	pCi/g						
Lanthanum-140	U	-0.134	0.109	+/-0.0443		pCi/g						
Lead-212		1.38	0.103	+/-0.0735	0.100	pCi/g						
Lead-214		1.41	0.114	+/-0.0977	0.100	pCi/g						
Mercury-203	UI	0.0635	0.0576	+/-0.0331	0.100	pCi/g						
Potassium-40		20.6	0.394	+/-1.06	1.00	pCi/g						
Radium-223	U	-1.08	1.03	+/-0.345		pCi/g						
Radium-224	UI	3.15	1.17	+/-0.533		pCi/g						
Radium-226		1.00	0.107	+/-0.0841		pCi/g						
Radium-228		1.60	0.215	+/-0.162	0.500	pCi/g						
Ruthenium-106	U	0.157	0.528	+/-0.147	0.800	pCi/g						
Sodium-22	U	-0.0163	0.0668	+/-0.0207	0.080	pCi/g						

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7582
Sample ID: 243385009
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0412	0.0651	+/-0.0206		pCi/g						
Thallium-208		0.492	0.058	+/-0.0472	0.080	pCi/g						
Thorium-227	U	-0.442	0.581	+/-0.183		pCi/g						
Thorium-231	U	-1.08	1.03	+/-0.345		pCi/g						
Thorium-234	U	1.40	2.58	+/-0.717	2.00	pCi/g						
Tin-113	U	0.0103	0.0796	+/-0.0233	0.100	pCi/g						
Uranium-235	U	-0.0352	0.360	+/-0.102	0.500	pCi/g						
Yttrium-88	U	0.00591	0.0505	+/-0.0148	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	92.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	77.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	75.4	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7582 Project: LANL01004
Sample ID: 243385009 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7584
Sample ID: 243385010
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 7.27%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.0148	0.0202	+/-0.00428	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	-0.00139	0.0225	+/-0.00197	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	0.0167	0.0254	+/-0.00489	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.51	0.0952	+/-0.125	0.100	pCi/g		JXD2	01/07/10	1116	937600	4
Uranium-235/236		0.0874	0.0591	+/-0.0192	0.100	pCi/g						
Uranium-238		1.67	0.0552	+/-0.136	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	0.0303	0.323	+/-0.0961	0.200	pCi/g		MJH1	12/31/09	1054	936285	6
Bismuth-211	UI	2.55	0.275	+/-0.233		pCi/g						
Bismuth-214		0.837	0.0958	+/-0.0724	0.200	pCi/g						
Cadmium-109	UI	2.45	1.11	+/-0.425		pCi/g						
Cerium-139	U	-0.0196	0.0383	+/-0.0116	0.050	pCi/g						
Cesium-134	UI	0.113	0.0719	+/-0.0262	0.100	pCi/g						
Cesium-137		0.232	0.0539	+/-0.0299	0.100	pCi/g						
Cobalt-60	U	-0.0129	0.0477	+/-0.0151	0.100	pCi/g						
Europium-152	U	-0.00977	0.131	+/-0.0392	0.200	pCi/g						
Lanthanum-140	U	0.0334	0.111	+/-0.0307		pCi/g						
Lead-212		1.11	0.0911	+/-0.0755	0.100	pCi/g						
Lead-214		0.886	0.0958	+/-0.0844	0.100	pCi/g						
Mercury-203	U	-0.00816	0.0532	+/-0.0152	0.100	pCi/g						
Potassium-40		19.4	0.405	+/-0.964	1.00	pCi/g						
Radium-223	U	0.680	0.979	+/-0.295		pCi/g						
Radium-224	UI	2.00	1.35	+/-0.392		pCi/g						
Radium-226		0.837	0.0958	+/-0.0724		pCi/g						
Radium-228		1.24	0.136	+/-0.137	0.500	pCi/g						
Ruthenium-106	U	0.000846	0.419	+/-0.127	0.800	pCi/g						
Sodium-22	U	-0.0223	0.0558	+/-0.0177	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7584 Project: LANL01004
Sample ID: 243385010 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0232	0.0525	+/-0.0167		pCi/g						
Thallium-208		0.400	0.0418	+/-0.0328	0.080	pCi/g						
Thorium-227	U	-0.185	0.486	+/-0.142		pCi/g						
Thorium-231	U	0.680	0.979	+/-0.295		pCi/g						
Thorium-234	U	2.05	2.41	+/-0.821	2.00	pCi/g						
Tin-113	U	-0.0232	0.0573	+/-0.0174	0.100	pCi/g						
Uranium-235	U	0.0544	0.291	+/-0.0823	0.500	pCi/g						
Yttrium-88	U	0.00683	0.0369	+/-0.0104	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	94.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	78.3	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7584 Project: LANL01004
Sample ID: 243385010 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7583
Sample ID: 243385011
Matrix: S
Collect Date: 17-DEC-09
Receive Date: 22-DEC-09
Collector: Client
Moisture: 6.73%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.0032	0.0214	+/-0.00368	0.050	pCi/g		JXD2	01/05/10	1509	937596	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	0.00413	0.0223	+/-0.00239	0.050	pCi/g		JXD2	01/04/10	1814	937598	3
Plutonium-239/240	U	-1.64E-10	0.0252	+/-0.00195	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.08	0.137	+/-0.104	0.100	pCi/g		JXD2	01/05/10	2020	937600	4
Uranium-235/236	U	0.0819	0.085	+/-0.022	0.100	pCi/g						
Uranium-238		1.19	0.0794	+/-0.113	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	0.0381	0.115	+/-0.0365	0.200	pCi/g		MJH1	12/31/09	1055	936285	5
Bismuth-211	UI	4.31	0.340	+/-0.319		pCi/g						
Bismuth-214		1.41	0.126	+/-0.111	0.200	pCi/g						
Cadmium-109	UI	3.64	1.09	+/-0.464		pCi/g						
Cerium-139	U	0.00122	0.0531	+/-0.0158	0.050	pCi/g						
Cesium-134	U	0.0986	0.103	+/-0.0367	0.100	pCi/g						
Cesium-137	U	0.00448	0.0726	+/-0.0221	0.100	pCi/g						
Cobalt-60	U	-4.82E-05	0.0654	+/-0.0202	0.100	pCi/g						
Europium-152	U	0.0841	0.186	+/-0.0677	0.200	pCi/g						
Lanthanum-140	U	-0.0277	0.150	+/-0.0471		pCi/g						
Lead-212		1.77	0.103	+/-0.111	0.100	pCi/g						
Lead-214		1.50	0.119	+/-0.118	0.100	pCi/g						
Mercury-203	U	0.0478	0.0775	+/-0.0245	0.100	pCi/g						
Potassium-40		19.0	0.567	+/-1.00	1.00	pCi/g						
Radium-223	U	0.0908	1.23	+/-0.411		pCi/g						
Radium-224	UI	6.15	1.18	+/-0.818		pCi/g						
Radium-226		1.41	0.126	+/-0.111		pCi/g						
Radium-228		1.90	0.260	+/-0.194	0.500	pCi/g						
Ruthenium-106	U	-0.00446	0.589	+/-0.180	0.800	pCi/g						
Sodium-22	U	-0.0347	0.0745	+/-0.0249	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7583
Sample ID: 243385011
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	UI	0.100	0.0773	+/-0.0226		pCi/g						
Thallium-208		0.617	0.0705	+/-0.0542	0.080	pCi/g						
Thorium-227	U	0.268	0.743	+/-0.211		pCi/g						
Thorium-231	U	0.0908	1.23	+/-0.411		pCi/g						
Thorium-234		1.72	1.12	+/-0.440	2.00	pCi/g						
Tin-113	U	-0.0377	0.0796	+/-0.0248	0.100	pCi/g						
Uranium-235	U	0.00979	0.384	+/-0.114	0.500	pCi/g						
Yttrium-88	U	0.0177	0.0573	+/-0.0155	0.100	pCi/g						

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	87.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	82.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	76.2	(50%-105%)

Notes:
TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
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- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 8, 2010

Client Sample ID: RE12-10-7583
Sample ID: 243385011
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

QUALITY CONTROL DATA

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QC Summary

Report Date: January 8, 2010
Page 1 of 6

Client : Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico

Contact: Ms. Joylene Valdez

Workorder: 243385

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 937596										
QC1202006344 243492007 DUP										
Americium-241	U	0.0103	U	0.00063	pCi/g	0.435		(0-1)	JXD2	01/05/1014:30
	TPU:	+/-0.00914		+/-0.00193						
	Yield:	66.4		82.3						
QC1202006345 LCS										
Americium-241	33.2			32.2	pCi/g		97.2	(75%-125%)		
	TPU:			+/-2.23						
	Yield:			96.1						
QC1202006343 MB										
Americium-241			U	0.00543	pCi/g					
	TPU:			+/-0.00867						
	Yield:			91.1						
Batch 937598										
QC1202006347 243492007 DUP										
Plutonium-238	U	0.00733	U	0.00	pCi/g	0.643		(0-1)	JXD2	01/04/1011:23
	TPU:	+/-0.00302		+/-0.00268						
	Yield:	76.9		71.1						
Plutonium-239/240	U	0.00733	U	0.00402	pCi/g	0.285		(0-1)		
	TPU:	+/-0.00347		+/-0.00233						
	Yield:	76.9		71.1						
QC1202006348 LCS										
Plutonium-238				6.74	pCi/g			(75%-125%)		01/04/1010:37
	TPU:			+/-0.468						
	Yield:			95.2						
Plutonium-239/240	41.8			33.8	pCi/g		81	(75%-125%)		
	TPU:			+/-2.01						
	Yield:			95.2						
QC1202006346 MB										
Plutonium-238			U	-0.00141	pCi/g					01/04/1011:23
	TPU:			+/-0.00244						
	Yield:			85.5						
Plutonium-239/240			U	0.00	pCi/g					
	TPU:			+/-0.00199						
	Yield:			85.5						
Batch 937600										
QC1202006350 243492007 DUP										
Uranium-233/234		0.937		1.07	pCi/g	0.374		(0-1)	JXD2	01/05/1020:21
	TPU:	+/-0.0873		+/-0.0956						
	Yield:	69.1		72.3						
Uranium-235/236	U	0.0564	U	0.0523	pCi/g	0.0659		(0-1)		
	TPU:	+/-0.0161		+/-0.015						
	Yield:	69.1		72.3						
Uranium-238		1.17		1.05	pCi/g	0.314		(0-1)		
	TPU:	+/-0.104		+/-0.0936						

QC Summary

Workorder: 243385

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 937600										
	Yield:	69.1		72.3						
QC1202006351 LCS										
Uranium-233/234				5.81	pCi/g			(75%-125%)		01/05/1020:21
	TPU:			+/-0.509						
	Yield:			96.0						
Uranium-235/236				0.400	pCi/g			(75%-125%)		
	TPU:			+/-0.0852						
	Yield:			96.0						
Uranium-238	5.75			5.32	pCi/g		92.6	(75%-125%)		
	TPU:			+/-0.472						
	Yield:			96.0						
QC1202006349 MB										
Uranium-233/234			U	0.0126	pCi/g					01/05/1020:21
	TPU:			+/-0.00401						
	Yield:			97.8						
Uranium-235/236			U	0.00151	pCi/g					
	TPU:			+/-0.00151						
	Yield:			97.8						
Uranium-238			U	0.00366	pCi/g					
	TPU:			+/-0.00274						
	Yield:			97.8						
Rad Gamma Spec										
Batch 936285										
QC1202003353 243385001 DUP										
Americium-241	U	0.042	U	0.0785	pCi/g	0.218		(0-1)	MJH1	12/31/0913:18
	TPU:	+/-0.0306		+/-0.0529						
Bismuth-211	UI	3.84	UI	3.85	pCi/g	0.00447		(0-1)		
	TPU:	+/-0.273		+/-0.286						
Bismuth-214		1.23		1.25	pCi/g	0.0596		(0-1)		
	TPU:	+/-0.108		+/-0.102						
Cadmium-109	UI	2.55	UI	3.24	pCi/g	0.399		(0-1)		
	TPU:	+/-0.427		+/-0.435						
Cerium-139	U	-0.00088	U	0.0159	pCi/g	0.310		(0-1)		
	TPU:	+/-0.0132		+/-0.0139						
Cesium-134	U	0.0639	UI	0.0949	pCi/g	0.259		(0-1)		
	TPU:	+/-0.0264		+/-0.0333						
Cesium-137		0.312		0.280	pCi/g	0.227		(0-1)		
	TPU:	+/-0.0401		+/-0.031						
Cobalt-60	U	-0.000364	U	0.00854	pCi/g	0.123		(0-1)		
	TPU:	+/-0.0187		+/-0.0176						
Europium-152	U	0.00766	U	-0.0108	pCi/g	0.0981		(0-1)		
	TPU:	+/-0.0465		+/-0.0476						
Lanthanum-140	U	-0.106	U	0.00256	pCi/g	0.601		(0-1)		
	TPU:	+/-0.0537		+/-0.0368						
Lead-212		1.58		1.70	pCi/g	0.326		(0-1)		
	TPU:	+/-0.0896		+/-0.0975						
Lead-214		1.34		1.34	pCi/g	0.00484		(0-1)		
	TPU:	+/-0.101		+/-0.106						
Mercury-203	U	-0.0541	U	0.0325	pCi/g	1.12		(0-1)		
	TPU:	+/-0.0203		+/-0.0184						

QC Summary

Workorder: 243385

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 936285										
Potassium-40		19.7		20.5	pCi/g	0.199		(0-1)		
	TPU:	+/-0.983		+/-1.15						
Radium-223	U	-0.935	U	-0.386	pCi/g	0.422		(0-1)		
	TPU:	+/-0.339		+/-0.312						
Radium-224	UI	3.86	UI	4.43	pCi/g	0.234		(0-1)		
	TPU:	+/-0.637		+/-0.579						
Radium-226		1.23		1.25	pCi/g	0.0596		(0-1)		
	TPU:	+/-0.108		+/-0.102						
Radium-228		1.66		1.72	pCi/g	0.0843		(0-1)		
	TPU:	+/-0.175		+/-0.181						
Ruthenium-106	U	-0.0244	U	-0.326	pCi/g	0.495		(0-1)		
	TPU:	+/-0.166		+/-0.138						
Sodium-22	U	-0.0259	U	-0.0347	pCi/g	0.101		(0-1)		
	TPU:	+/-0.0253		+/-0.0182						
Strontium-85	U	0.0422	U	0.0232	pCi/g	0.250		(0-1)		
	TPU:	+/-0.019		+/-0.019						
Thallium-208		0.472		0.596	pCi/g	0.675		(0-1)		
	TPU:	+/-0.0425		+/-0.0493						
Thorium-227	U	0.105	U	0.107	pCi/g	0.00157		(0-1)		
	TPU:	+/-0.180		+/-0.171						
Thorium-231	U	-0.935	U	-0.386	pCi/g	0.422		(0-1)		
	TPU:	+/-0.339		+/-0.312						
Thorium-234		2.48		2.14	pCi/g	0.140		(0-1)		
	TPU:	+/-0.572		+/-0.634						
Tin-113	U	-0.00368	U	-0.0168	pCi/g	0.149		(0-1)		
	TPU:	+/-0.0222		+/-0.0216						
Uranium-235	U	0.181	U	0.0204	pCi/g	0.410		(0-1)		
	TPU:	+/-0.0972		+/-0.0988						
Yttrium-88	U	0.0324	U	0.00522	pCi/g	0.462		(0-1)		
	TPU:	+/-0.0149		+/-0.0146						
QC1202003354 LCS										
Americium-241	15.9			12.6	pCi/g		79.1	(75%-125%)		12/31/0913:19
	TPU:			+/-0.566						
Bismuth-211				2.29	pCi/g					
	TPU:			+/-0.313						
Bismuth-214				0.623	pCi/g					
	TPU:			+/-0.130						
Cadmium-109				33.6	pCi/g					
	TPU:			+/-1.93						
Cerium-139			U	0.0591	pCi/g					
	TPU:			+/-0.0212						
Cesium-134			U	0.0142	pCi/g					
	TPU:			+/-0.0439						
Cesium-137	5.58			5.73	pCi/g		103	(75%-125%)		
	TPU:			+/-0.214						
Cobalt-60	6.50			6.51	pCi/g		100	(75%-125%)		
	TPU:			+/-0.285						
Europium-152			U	-0.0243	pCi/g					
	TPU:			+/-0.111						
Lanthanum-140			U	0.0516	pCi/g					
	TPU:			+/-0.038						

QC Summary

Workorder: 243385

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 936285											
Lead-212				1.10	pCi/g						
	TPU:			+/-0.082							
Lead-214				0.797	pCi/g						
	TPU:			+/-0.111							
Mercury-203			U	-0.0117	pCi/g						
	TPU:			+/-0.0288							
Potassium-40				1.43	pCi/g						
	TPU:			+/-0.258							
Radium-223			U	-0.969	pCi/g						
	TPU:			+/-0.565							
Radium-224				2.65	pCi/g						
	TPU:			+/-0.773							
Radium-226				0.623	pCi/g						
	TPU:			+/-0.130							
Radium-228				0.712	pCi/g						
	TPU:			+/-0.220							
Ruthenium-106			U	-0.0782	pCi/g						
	TPU:			+/-0.274							
Sodium-22			U	-0.0276	pCi/g						
	TPU:			+/-0.0289							
Strontium-85			U	0.079	pCi/g						
	TPU:			+/-0.0306							
Thallium-208				0.333	pCi/g						
	TPU:			+/-0.056							
Thorium-227			U	-0.264	pCi/g						
	TPU:			+/-0.313							
Thorium-231			U	-0.969	pCi/g						
	TPU:			+/-0.565							
Thorium-234			U	-1.34	pCi/g						
	TPU:			+/-0.948							
Tin-113			U	-0.00129	pCi/g						
	TPU:			+/-0.0361							
Uranium-235			U	0.240	pCi/g						
	TPU:			+/-0.155							
Yttrium-88			U	0.00394	pCi/g						
	TPU:			+/-0.0236							
QC1202003352 MB											
Americium-241			U	-0.0238	pCi/g					12/31/09	13:18
	TPU:			+/-0.0373							
Bismuth-211			U	-0.0457	pCi/g						
	TPU:			+/-0.0628							
Bismuth-214			U	-0.0335	pCi/g						
	TPU:			+/-0.0234							
Cadmium-109			U	-0.149	pCi/g						
	TPU:			+/-0.179							
Cerium-139			U	-0.00412	pCi/g						
	TPU:			+/-0.00749							
Cesium-134			U	-0.00639	pCi/g						
	TPU:			+/-0.0115							
Cesium-137			U	-0.0203	pCi/g						
	TPU:			+/-0.00944							

QC Summary

Workorder: 243385

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 936285										
Cobalt-60			U	0.00796	pCi/g					
	TPU:			+/-0.00985						
Europium-152			U	-0.0353	pCi/g					
	TPU:			+/-0.0271						
Lanthanum-140			U	-0.0126	pCi/g					
	TPU:			+/-0.0173						
Lead-212			U	-0.0252	pCi/g					
	TPU:			+/-0.0192						
Lead-214			U	-0.00155	pCi/g					
	TPU:			+/-0.0219						
Mercury-203			U	-0.00353	pCi/g					
	TPU:			+/-0.00982						
Potassium-40			U	0.0952	pCi/g					
	TPU:			+/-0.114						
Radium-223			U	0.472	pCi/g					
	TPU:			+/-0.185						
Radium-224			U	-0.098	pCi/g					
	TPU:			+/-0.200						
Radium-226			U	-0.0335	pCi/g					
	TPU:			+/-0.0234						
Radium-228			U	0.00384	pCi/g					
	TPU:			+/-0.0348						
Ruthenium-106			U	-0.0409	pCi/g					
	TPU:			+/-0.0888						
Sodium-22			U	0.00403	pCi/g					
	TPU:			+/-0.00778						
Strontium-85			U	-0.0467	pCi/g					
	TPU:			+/-0.0153						
Thallium-208			U	-0.0119	pCi/g					
	TPU:			+/-0.0112						
Thorium-227			U	-0.0915	pCi/g					
	TPU:			+/-0.106						
Thorium-231			U	0.472	pCi/g					
	TPU:			+/-0.185						
Thorium-234			U	-0.266	pCi/g					
	TPU:			+/-0.320						
Tin-113			U	-0.0236	pCi/g					
	TPU:			+/-0.0113						
Uranium-235			U	-0.0043	pCi/g					
	TPU:			+/-0.0543						
Yttrium-88			U	-0.0117	pCi/g					
	TPU:			+/-0.0105						

Notes:
The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported

QC Summary

Workorder: 243385

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time

A	The TIC is a suspected aldol-condensation product
B	For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
E	Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E	Organics--Concentration of the target analyte exceeds the instrument calibration range
F	Estimated Value
H	Analytical holding time was exceeded
J	Value is estimated
M	M if above MDC and less than LLD
M	Matrix Related Failure
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	RPD or %Recovery limits do not apply.
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI	Gamma Spectroscopy--Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
** Indicates analyte is a surrogate compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

RAW DATA

Radiochemistry Batch Checklist, Rev 9

Batch# 937596 Product: Am Date: 1/6/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 mg for GAB.			N/A
Samples have been blank corrected (if required)	✓		
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits. Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%. Or meets the client's required RER acceptance criteria.	✓		
Tracer yield is 15-125% . Carrier yield 25-125%. Or meets the client's contract acceptance criteria.	✓		
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms. All line outs initialed and dated. No transcription errors are apparent.	✓		
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch non-conformances completed. If applicable.			N/A
Batch non-conformances second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By: Denise Green 1/6/10

Secondary Review Performed By: [illegible] 1/6/10

1/19

✓P

Am/Cm Que Sheet

30-DEC-09

Batch #: 937596 | Analyst: JXD2 | First Client Due Date: 19-JAN-10 | Internal Due Date08-JAN-10 | Comments:

Tracer(s): Am243/Cm244 | Tracer Code: 445-96-2-35 | Expiration Date: 05/11/10 | Vol: 0.1

LCS Isotope(s): ~~Am241~~/Cm244 12/30/09 | LCS Code(s): — | Expiration Date: — | Vol(s): —

Spike Isotope(s): Am241/Cm244 | Spike Code(s): — | Expiration Date: — | Vol(s): —

Prep Date: 12/30/09 | Initials: JMO | Pipet ID: 2571058 | Balance ID: 50410272 | Witness: 12/30/9

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (B/1/D)	Am/Cm Det #
243385001-1	RE12-10-7580	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	1	1	1.251	29
243385002-1	RE12-10-7590	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	2	2	1.252	30
243385003-1	RE12-10-7592	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	3	3	1.255	31
243385004-1	RE12-10-7591	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	4	4	1.254	33
243385005-1	RE12-10-7581	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	5	5	1.278	35
243385006-1	RE12-10-7586	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	6	6	1.261	36
243385007-1	RE12-10-7587	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	7	7	1.255	37
243385008-1	RE12-10-7585	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	8	8	1.268	38
243385009-1	RE12-10-7582	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	9	9	1.263	39
243385010-1	RE12-10-7584	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	10	10	1.254	40
243385011-1	RE12-10-7583	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	11	11	1.251	41
243492001-1	RE12-10-7288	SAMPLE		.05 pCi/g	SOIL	LANL010	18-DEC-09	12	12	1.252	42
243492002-1	RE12-10-7290	SAMPLE		.05 pCi/g	SOIL	LANL010	18-DEC-09	13	13	1.250	43
243492003-1	RE12-10-7289	SAMPLE		.05 pCi/g	SOIL	LANL010	18-DEC-09	14	14	1.255	44
243492004-1	RE12-10-7291	SAMPLE		.05 pCi/g	SOIL	LANL010	18-DEC-09	15	15	1.261	45
243492005-1	RE12-10-7292	SAMPLE		.05 pCi/g	SOIL	LANL010	18-DEC-09	16	16	1.254	46
243492006-1	RE12-10-7293	SAMPLE		.05 pCi/g	SOIL	LANL010	18-DEC-09	17	17	1.260	47
* 243492007-1	RE12-10-7296	SAMPLE		.05 pCi/g	SOIL	LANL010	18-DEC-09	18	18	1.259	48
1202006343-1	MB for batch 937596	MB		.05 pCi/g	SOIL	QC ACCOUNT		19	19	/	110
1202006344-1	RE12-10-7296(243492007DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	18-DEC-09	20	20	1.270	111
1202006345-1	LCS for batch 937596	LCS		.05 pCi/g	SOIL	QC ACCOUNT		21	21	0.113	112

* SRM 0244-B exp. 04/30/20

Choose SOP Used: GL-RAD-A-011 / GL-RAD-A-036

Solid Sample Dissolution by: LEACH or DIGESTION (Circle One)

Data Reviewed By: 1/6/10

GEL Laboratories LLC, Radiochemistry Division

1/6/10

Blank Correction Report

Batch ID 937596

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202006344	DUP	Americium-241	1.27 g	0.00063	0.00193	0.0206	.004275591	pCi/g	YES
1202006345	LCS	Americium-241	0.113 g	32.2	2.23	0.223	.048053097	pCi/g	NO
1202006343	MB	Americium-241	1.00 g	0.00543	0.00867	0.0262	.00543	pCi/g	YES
243385001	RE12-10-7580	Americium-241	1.25 g	0.00594	0.00693	0.022	.004344	pCi/g	YES
243385002	RE12-10-7590	Americium-241	1.25 g	0.00965	0.00714	0.0195	.004344	pCi/g	YES
243385003	RE12-10-7592	Americium-241	1.26 g	0.00196	0.00238	0.0214	.004309524	pCi/g	YES
243385004	RE12-10-7591	Americium-241	1.25 g	0.00337	0.00279	0.0221	.004344	pCi/g	YES
243385005	RE12-10-7581	Americium-241	1.28 g	-0.00179	0.00408	0.0235	.004242188	pCi/g	YES
243385006	RE12-10-7586	Americium-241	1.26 g	0.00442	0.00424	0.0212	.004309524	pCi/g	YES
243385007	RE12-10-7587	Americium-241	1.26 g	0.00173	0.00643	0.0201	.004309524	pCi/g	YES
243385008	RE12-10-7585	Americium-241	1.27 g	0.00714	0.00537	0.0217	.004275591	pCi/g	YES
243385009	RE12-10-7582	Americium-241	1.26 g	0.00569	0.00581	0.0182	.004309524	pCi/g	YES
243385010	RE12-10-7584	Americium-241	1.25 g	0.0148	0.00428	0.0202	.004344	pCi/g	YES
243385011	RE12-10-7583	Americium-241	1.25 g	0.0032	0.00368	0.0214	.004344	pCi/g	YES
243492001	RE12-10-7288	Americium-241	1.25 g	-0.00415	0.00337	0.0197	.004344	pCi/g	YES
243492002	RE12-10-7290	Americium-241	1.25 g	0.00182	0.00228	0.0207	.004344	pCi/g	YES
243492003	RE12-10-7289	Americium-241	1.26 g	0.0042	0.00283	0.0205	.004309524	pCi/g	YES
243492004	RE12-10-7291	Americium-241	1.26 g	-0.00181	0.00176	0.0211	.004309524	pCi/g	YES
243492005	RE12-10-7292	Americium-241	1.25 g	0.00053	0.00342	0.020	.004344	pCi/g	YES
243492006	RE12-10-7293	Americium-241	1.26 g	-0.00181	0.00442	0.0198	.004309524	pCi/g	YES
243492007	RE12-10-7296	Americium-241	1.26 g	0.0103	0.00914	0.0293	.004309524	pCi/g	YES

Dm 1/6/10

Alpha Spectroscopy Software Version 2.0
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GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

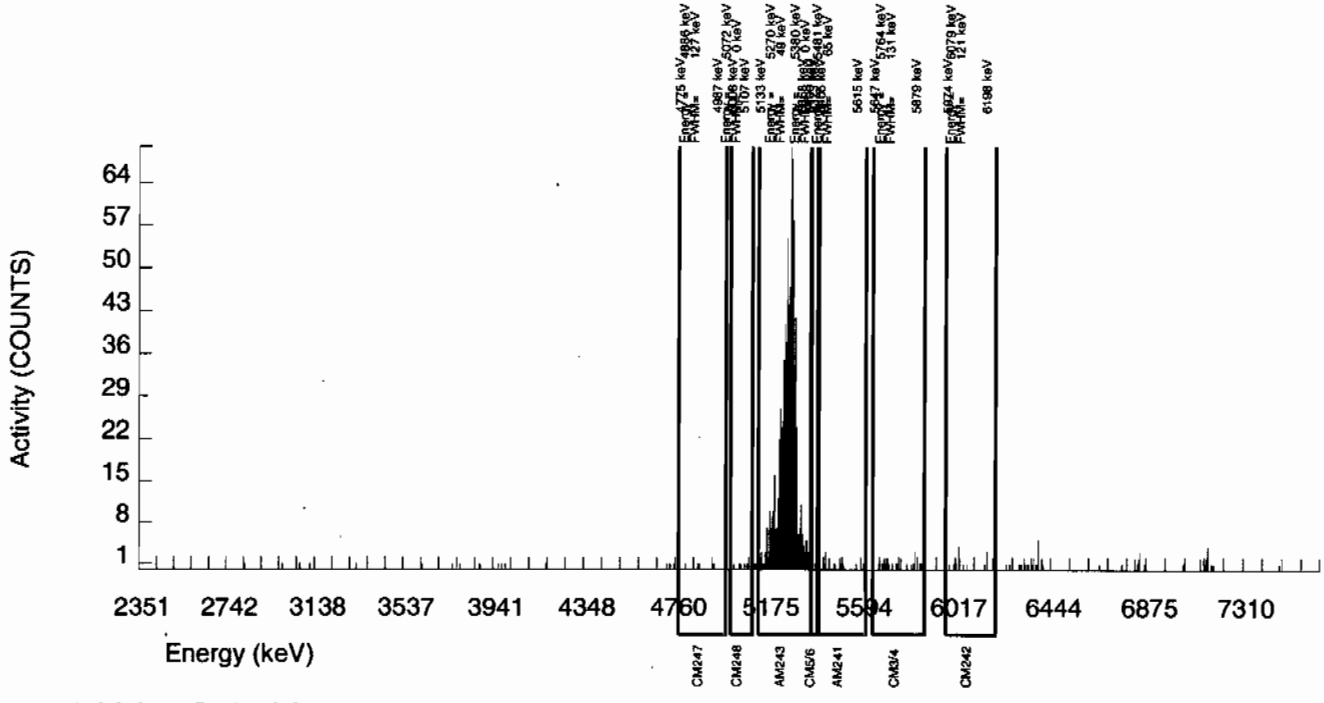
BATCH NUMBER: 937596 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385001_AM SAMPLE QTY: 1.251 G
DETECTOR NUMBER :33454 AVERAGE %EFFICIENCY :31.1998 % YIELD : 89.210	COUNT DATE: 5-JAN-2010 15:09:32 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.60191 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B029.CNF;1102 BKG DATE : 3-JAN-2010 EFF FILE : W029.CNF;318 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	26.000	1.000	25.000	5.2338	100.0000	1.30E-03	9.26E-03	1.58E-02	3.50E-02	9.26E-03
CM-5/6	5386.000	4.000	3.000	1.000	19.8463	86.09000	4.51E-03	3.37E-03	6.94E-02	1.43E-01	3.36E-03
AM-241	5479.150	18.000	4.590	12.000	3.0704	99.94000	5.94E-03	6.93E-03	9.25E-03	2.20E-02	6.92E-03
CM-242	6102.000	16.000	11.000	5.000	4.3186	100.0000	1.55E-02	6.53E-03	1.30E-02	2.95E-02	6.45E-03
AM243	5270.000	817.000	810.000	7.000	2.6458	99.78000	1.05E+00	7.53E-02	7.98E-03	1.95E-02	3.72E-02
CM-247	4946.000	5.000	4.000	1.000	15.3366	79.30000	6.53E-03	4.02E-03	5.82E-02	1.21E-01	4.00E-03
CM-248	5078.600	7.000	5.000	2.000	22.1555	91.00000	7.11E-03	4.29E-03	7.33E-02	1.50E-01	4.26E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

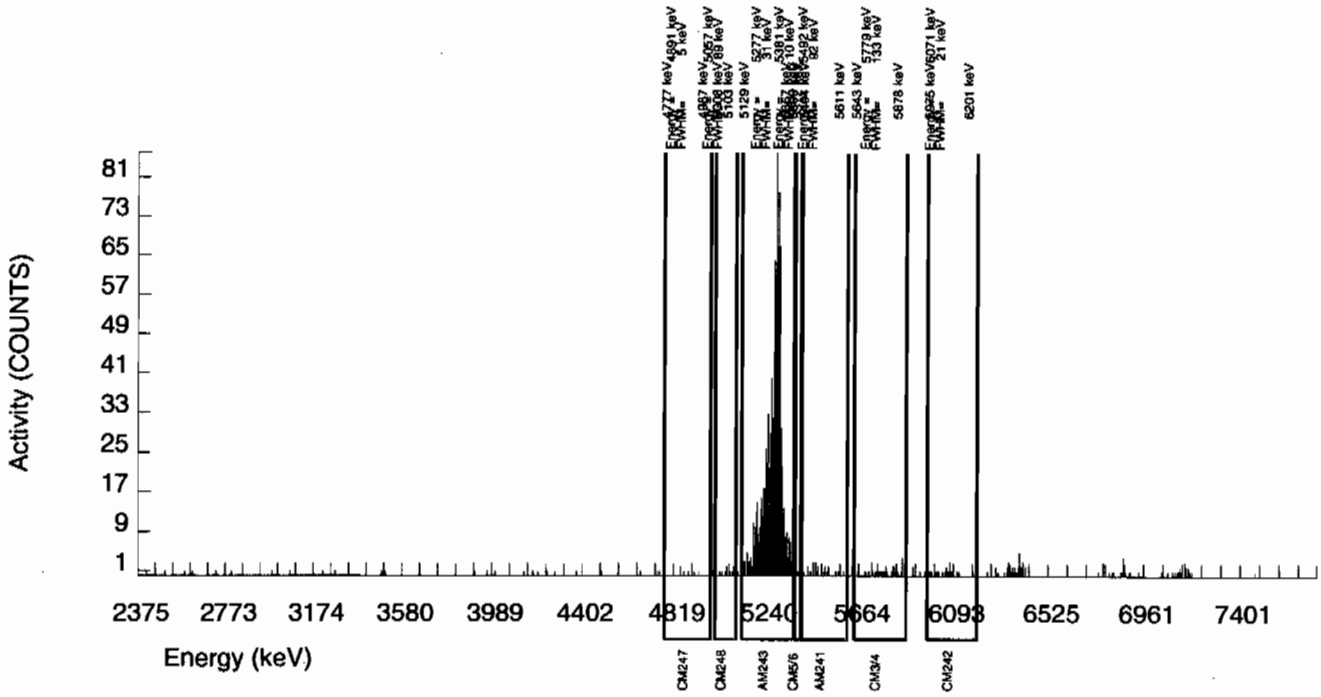
BATCH NUMBER: 937596 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385002_AM SAMPLE QTY: 1.252 G
DETECTOR NUMBER :33447 AVERAGE %EFFICIENCY :32.1103 % YIELD : 97.703	COUNT DATE: 5-JAN-2010 15:09:32 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.84961 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B030.CNF;1099 BKG DATE : 3-JAN-2010 EFF FILE : W030.CNF;303 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	33.000	6.000	27.000	5.2338	100.0000	6.90E-03	8.91E-03	1.40E-02	3.10E-02	8.90E-03
CM-5/6	5386.000	11.000	8.000	3.000	19.8463	86.09000	1.07E-02	5.03E-03	6.15E-02	1.27E-01	4.98E-03
AM-241	5479.150	25.000	8.411	15.000	3.0704	99.94000	9.65E-03	7.14E-03	8.20E-03	1.95E-02	7.11E-03
CM-242	6102.000	24.000	13.000	11.000	4.3186	100.0000	1.62E-02	7.45E-03	1.15E-02	2.62E-02	7.39E-03
AM243	5270.000	916.000	913.000	3.000	1.7321	99.78000	1.05E+00	7.30E-02	4.63E-03	1.24E-02	3.48E-02
CM-247	4946.000	9.000	6.000	3.000	15.3366	79.30000	8.68E-03	5.04E-03	5.16E-02	1.07E-01	5.01E-03
CM-248	5078.600	14.000	13.000	1.000	22.1555	91.00000	1.64E-02	4.98E-03	6.50E-02	1.33E-01	4.88E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



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effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

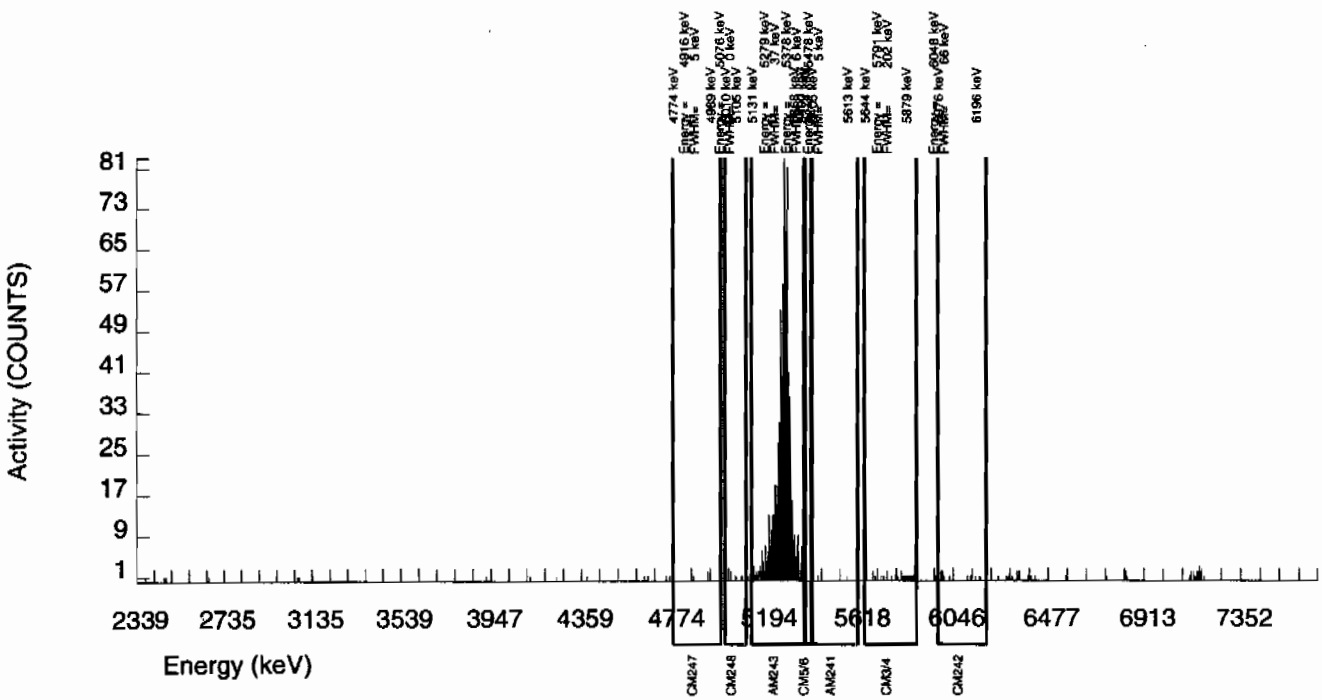
BATCH NUMBER: 937596 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385003_AM SAMPLE QTY: 1.255 G
DETECTOR NUMBER :79988 AVERAGE %EFFICIENCY :33.5512 % YIELD : 85.007	COUNT DATE: 5-JAN-2010 15:09:33 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.47930 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B031.CNF;1097 BKG DATE : 3-JAN-2010 EFF FILE : W031.CNF;343 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	29.000	3.000	26.000	5.2338	100.0000	3.78E-03	9.36E-03	1.53E-02	3.41E-02	9.35E-03
CM-5/6	5386.000	6.000	6.000	0.000	19.8463	86.09000	8.77E-03	3.62E-03	6.75E-02	1.39E-01	3.58E-03
AM-241	5479.150	4.000	1.555	1.000	3.0704	99.94000	1.96E-03	2.38E-03	8.99E-03	2.14E-02	2.37E-03
CM-242	6102.000	17.000	13.000	4.000	4.3186	100.0000	1.78E-02	6.37E-03	1.26E-02	2.87E-02	6.28E-03
AM243	5270.000	836.000	830.000	6.000	2.4495	99.78000	1.05E+00	7.31E-02	7.19E-03	1.78E-02	3.66E-02
CM-247	4946.000	3.000	-1.000	4.000	15.3366	79.30000	-1.59E-03	4.20E-03	5.66E-02	1.18E-01	4.20E-03
CM-248	5078.600	8.000	1.000	7.000	22.1555	91.00000	1.38E-03	5.36E-03	7.13E-02	1.46E-01	5.36E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

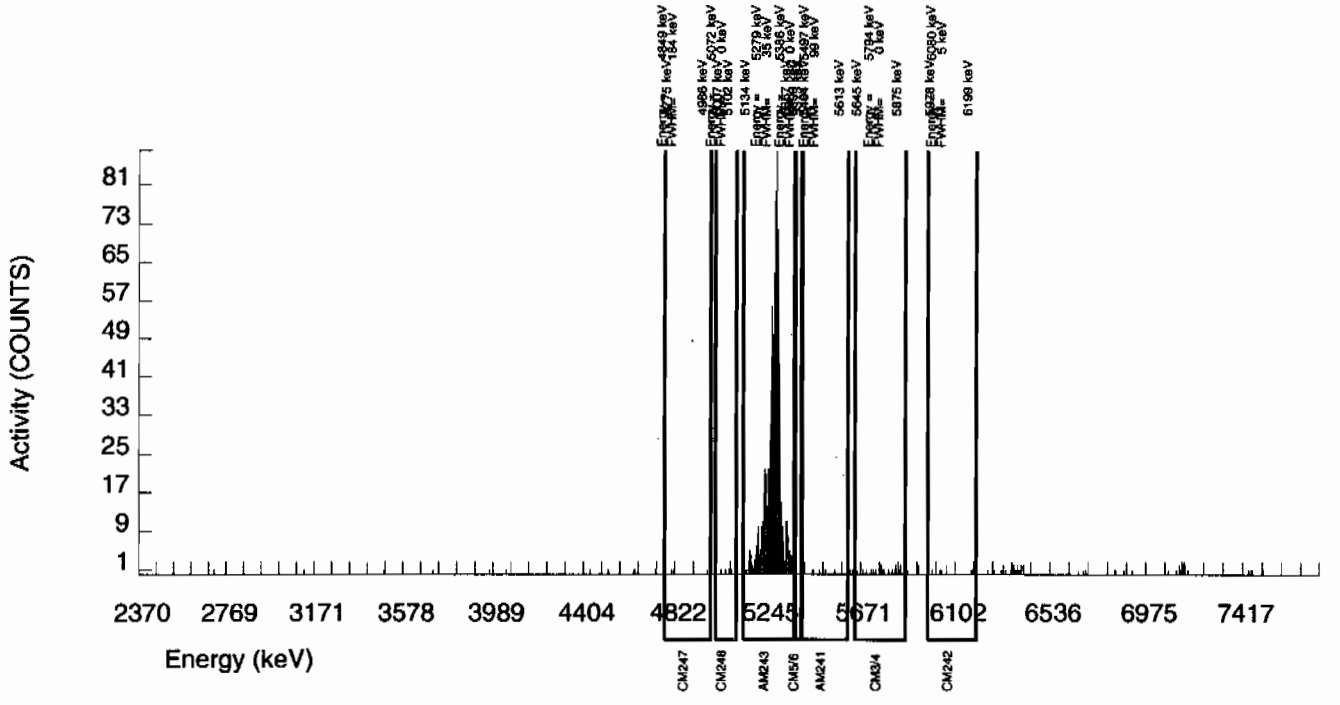
BATCH NUMBER: 937596 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385004_AM SAMPLE QTY: 1.254 G
DETECTOR NUMBER :78785 AVERAGE %EFFICIENCY :31.8010 % YIELD : 87.092	COUNT DATE: 5-JAN-2010 15:09:33 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	LIB FILE : ENV_ALPHA_AM.N
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG FILE : B033.CNF;1096
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91660 dpm	BKG DATE : 3-JAN-2010
		RESULTS : 2.54011 dpm	EFF FILE : W033.CNF;328
			CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	27.000	11.000	16.000	5.2338	100.0000	1.43E-02	8.57E-03	1.58E-02	3.51E-02	8.52E-03
CM-5/6	5386.000	1.000	1.000	0.000	19.8463	86.09000	1.51E-03	1.51E-03	6.96E-02	1.43E-01	1.51E-03
AM-241	5479.150	5.000	2.597	1.000	3.0704	99.94000	3.37E-03	2.79E-03	9.27E-03	2.21E-02	2.78E-03
CM-242	6102.000	8.000	4.000	4.000	4.3186	100.0000	5.65E-03	4.90E-03	1.30E-02	2.96E-02	4.89E-03
AM243	5270.000	807.000	806.000	1.000	1.0000	99.78000	1.05E+00	7.35E-02	3.02E-03	9.57E-03	3.69E-02
CM-247	4946.000	4.000	2.000	2.000	15.3366	79.30000	3.27E-03	4.01E-03	5.84E-02	1.21E-01	4.01E-03
CM-248	5078.600	5.000	4.000	1.000	22.1555	91.00000	5.70E-03	3.51E-03	7.35E-02	1.51E-01	3.49E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

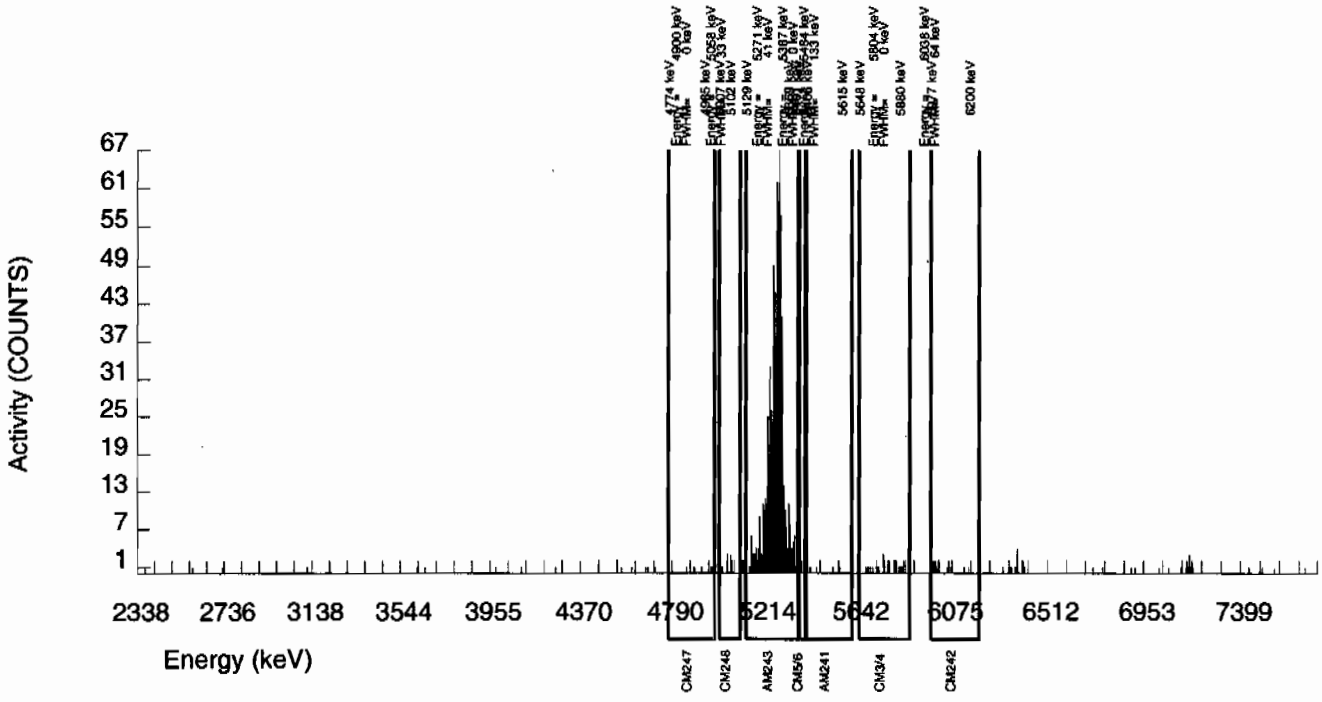
BATCH NUMBER: 937596 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385005_AM SAMPLE QTY: 1.278 G
DETECTOR NUMBER :78202 AVERAGE %EFFICIENCY :29.7838 % YIELD : 85.722	COUNT DATE: 5-JAN-2010 15:09:33 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.50015 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B035.CNF;1094 BKG DATE : 3-JAN-2010 EFF FILE : W035.CNF;317 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	31.000	12.000	19.000	5.2338	100.0000	1.66E-02	9.84E-03	1.68E-02	3.74E-02	9.78E-03
CM-5/6	5386.000	1.000	0.000	1.000	19.8463	86.09000	9.56E-11	2.27E-03	7.40E-02	1.52E-01	2.27E-03
AM-241	5479.150	5.000	-1.293	5.000	3.0704	99.94000	-1.79E-03	4.08E-03	9.87E-03	2.35E-02	4.08E-03
CM-242	6102.000	18.000	12.000	6.000	4.3186	100.0000	1.80E-02	7.45E-03	1.39E-02	3.15E-02	7.36E-03
AM243	5270.000	745.000	743.000	2.000	1.4142	99.78000	1.03E+00	7.37E-02	4.55E-03	1.29E-02	3.78E-02
CM-247	4946.000	9.000	1.000	8.000	15.3366	79.30000	1.74E-03	7.18E-03	6.21E-02	1.29E-01	7.18E-03
CM-248	5078.600	14.000	7.000	7.000	22.1555	91.00000	1.06E-02	6.98E-03	7.82E-02	1.60E-01	6.95E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



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effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

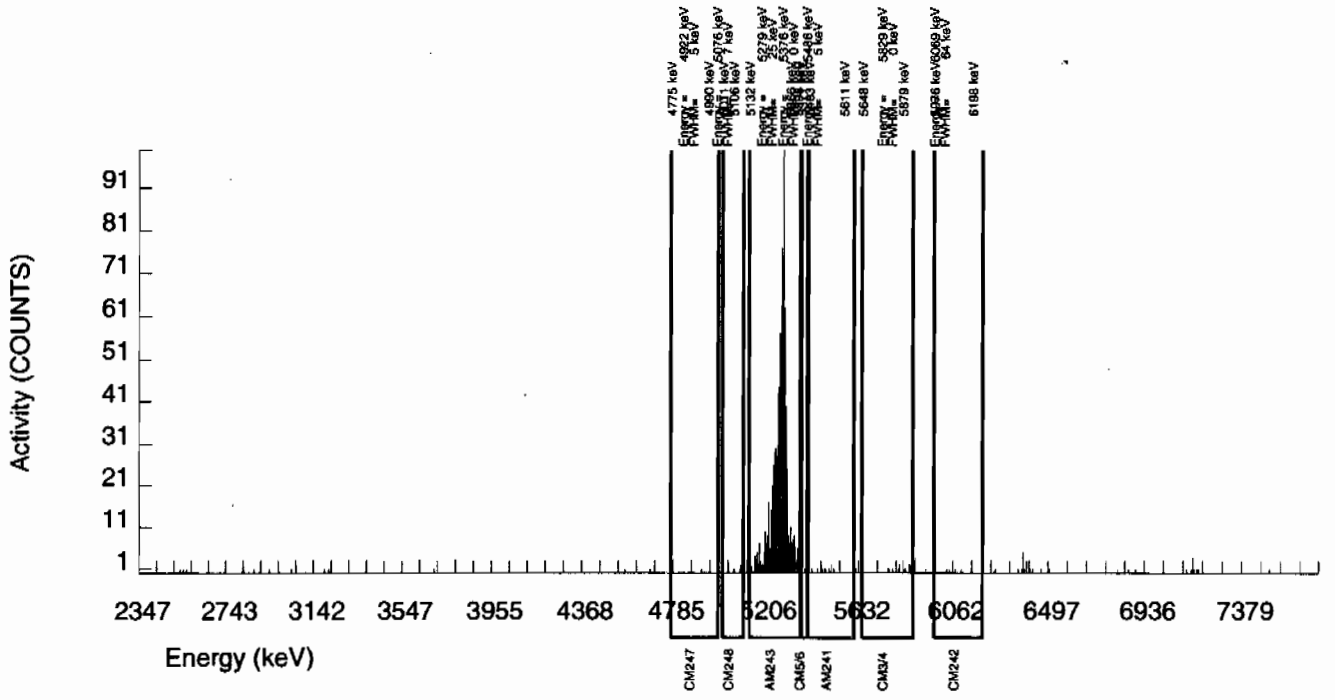
BATCH NUMBER: 937596 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385006_AM SAMPLE QTY: 1.261 G
DETECTOR NUMBER :78203 AVERAGE %EFFICIENCY :32.3142 % YIELD : 88.792	COUNT DATE: 5-JAN-2010 15:09:33 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.58971 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B036.CNF;1092 BKG DATE : 3-JAN-2010 EFF FILE : W036.CNF;329 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	18.000	-5.000	23.000	5.2338	100.0000	-6.24E-03	7.99E-03	1.52E-02	3.37E-02	7.99E-03
CM-5/6	5386.000	5.000	5.000	0.000	19.8463	86.09000	7.23E-03	3.26E-03	6.68E-02	1.37E-01	3.23E-03
AM-241	5479.150	9.000	3.547	4.000	3.0704	99.94000	4.42E-03	4.24E-03	8.90E-03	2.12E-02	4.23E-03
CM-242	6102.000	4.000	2.000	2.000	4.3186	100.0000	2.71E-03	3.32E-03	1.25E-02	2.84E-02	3.32E-03
AM243	5270.000	837.000	835.000	2.000	1.4142	99.78000	1.04E+00	7.25E-02	4.11E-03	1.16E-02	3.61E-02
CM-247	4946.000	1.000	1.000	0.000	15.3366	79.30000	1.57E-03	1.57E-03	5.60E-02	1.16E-01	1.57E-03
CM-248	5078.600	5.000	4.000	1.000	22.1555	91.00000	5.47E-03	3.37E-03	7.05E-02	1.45E-01	3.35E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



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effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

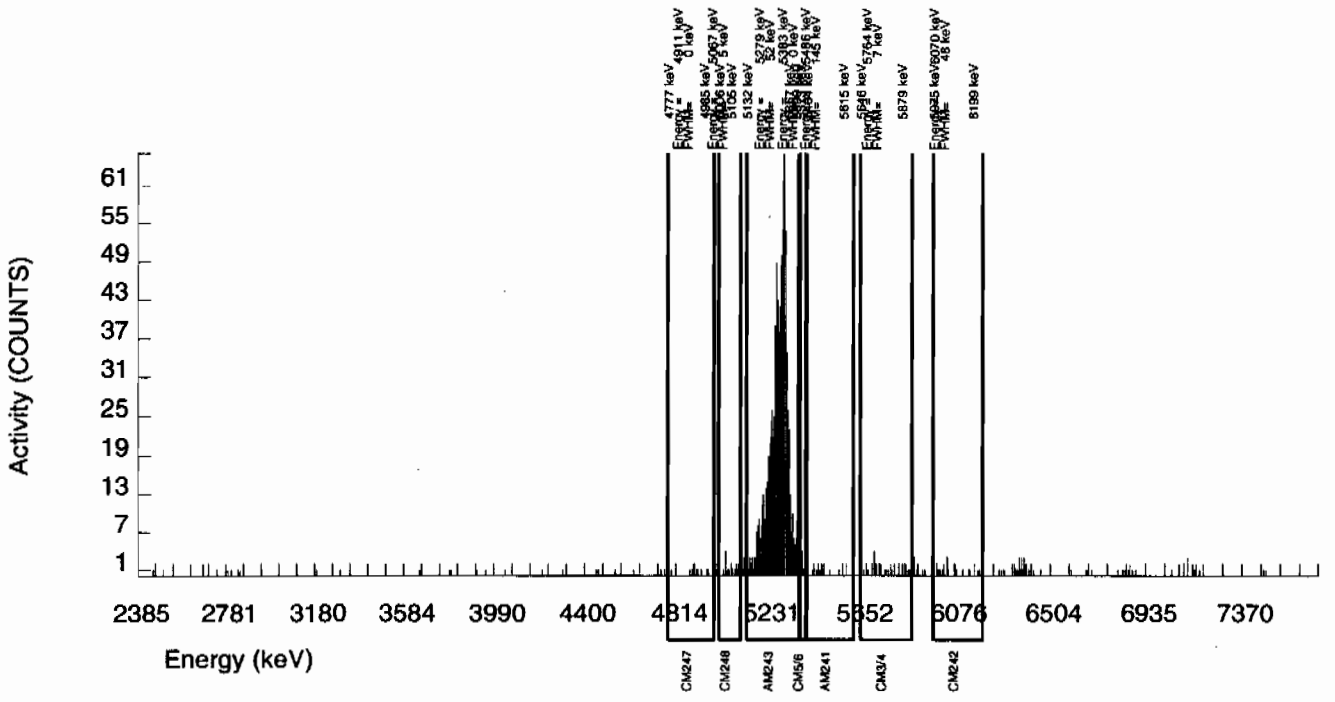
BATCH NUMBER: 937596 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385007_AM SAMPLE QTY: 1.255 G
DETECTOR NUMBER :45-149BB5 AVERAGE %EFFICIENCY :35.8566 % YIELD : 84.620	COUNT DATE: 5-JAN-2010 15:09:34 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.46803 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B037.CNF;1104 BKG DATE : 3-JAN-2010 EFF FILE : W037.CNF;305 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	37.000	12.000	25.000	5.2338	100.0000	1.42E-02	9.37E-03	1.44E-02	3.20E-02	9.33E-03
CM-5/6	5386.000	13.000	10.000	3.000	19.8463	86.09000	1.37E-02	5.56E-03	6.34E-02	1.31E-01	5.50E-03
AM-241	5479.150	17.000	1.463	14.000	3.0704	99.94000	1.73E-03	6.43E-03	8.45E-03	2.01E-02	6.43E-03
CM-242	6102.000	21.000	18.000	3.000	4.3186	100.0000	2.32E-02	6.46E-03	1.19E-02	2.70E-02	6.31E-03
AM243	5270.000	884.000	883.000	1.000	1.0000	99.78000	1.05E+00	7.18E-02	2.76E-03	8.73E-03	3.53E-02
CM-247	4946.000	13.000	10.000	3.000	15.3366	79.30000	1.49E-02	6.03E-03	5.32E-02	1.10E-01	5.97E-03
CM-248	5078.600	18.000	16.000	2.000	22.1555	91.00000	2.08E-02	5.94E-03	6.70E-02	1.38E-01	5.81E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

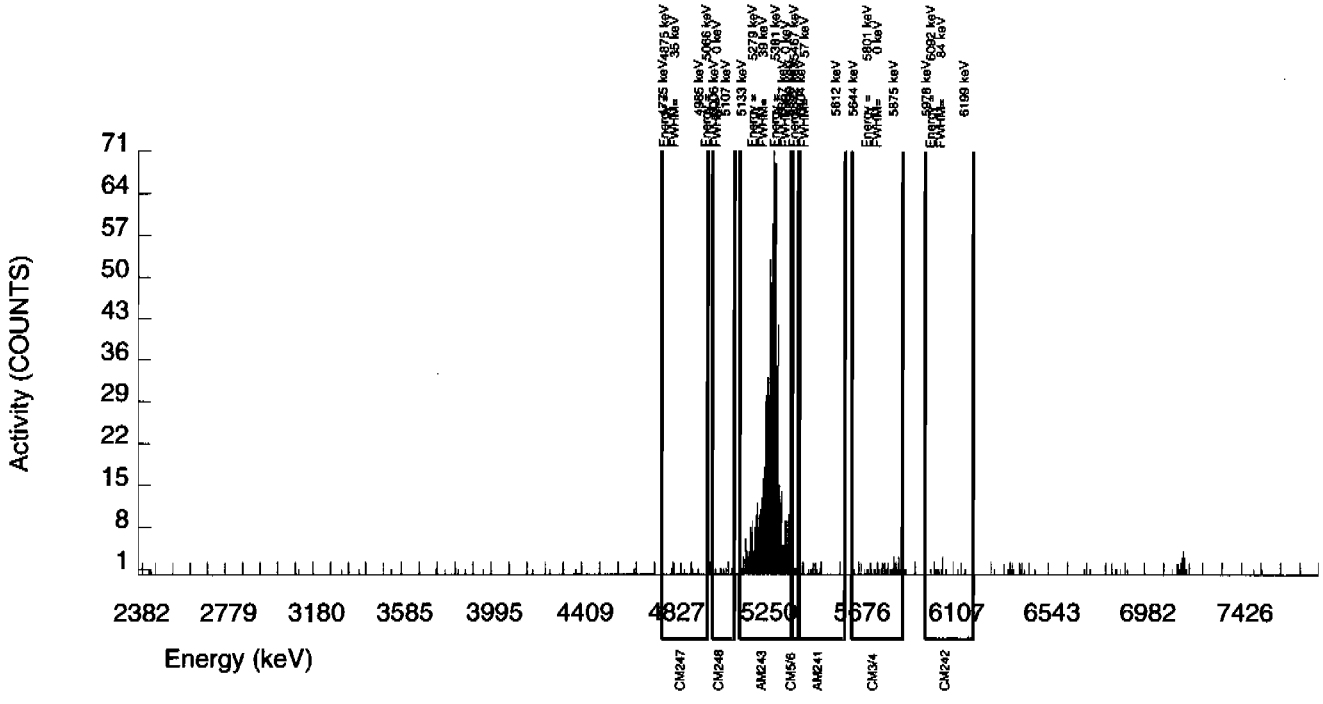
BATCH NUMBER: 937596 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385008_AM SAMPLE QTY: 1.268 G
DETECTOR NUMBER :72532 AVERAGE %EFFICIENCY :33.8964 % YIELD : 82.113	COUNT DATE: 5-JAN-2010 15:09:34 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.39492 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B038.CNF;1101 BKG DATE : 3-JAN-2010 EFF FILE : W038.CNF;319 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	38.000	16.000	22.000	5.2338	100.0000	2.05E-02	9.98E-03	1.55E-02	3.45E-02	9.91E-03
CM-5/6	5386.000	6.000	6.000	0.000	19.8463	86.09000	8.90E-03	3.67E-03	6.84E-02	1.41E-01	3.63E-03
AM-241	5479.150	13.000	5.590	6.000	3.0704	99.94000	7.14E-03	5.37E-03	9.12E-03	2.17E-02	5.36E-03
CM-242	6102.000	16.000	11.000	5.000	4.3186	100.0000	1.53E-02	6.43E-03	1.28E-02	2.91E-02	6.37E-03
AM243	5270.000	818.000	810.000	8.000	2.8284	99.78000	1.04E+00	7.29E-02	8.42E-03	2.03E-02	3.68E-02
CM-247	4946.000	8.000	5.000	3.000	15.3366	79.30000	8.05E-03	5.36E-03	5.74E-02	1.19E-01	5.34E-03
CM-248	5078.600	9.000	9.000	0.000	22.1555	91.00000	1.26E-02	4.28E-03	7.23E-02	1.48E-01	4.21E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

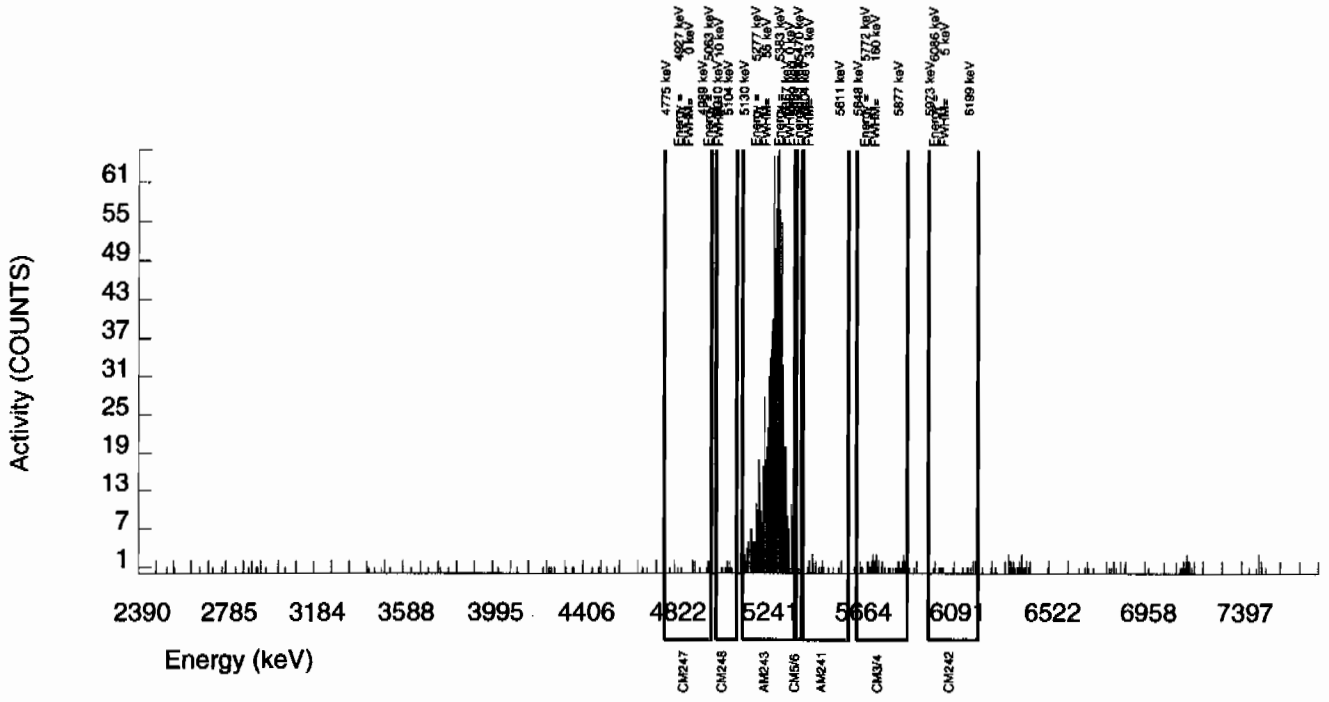
BATCH NUMBER: 937596 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385009_AM SAMPLE QTY: 1.263 G
DETECTOR NUMBER :45-149BB2 AVERAGE %EFFICIENCY :35.9356 % YIELD : 92.753	COUNT DATE: 5-JAN-2010 15:09:34 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.70524 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B039.CNF;1101 BKG DATE : 3-JAN-2010 EFF FILE : W039.CNF;296 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	44.000	15.000	29.000	5.2338	100.0000	1.61E-02	9.21E-03	1.30E-02	2.90E-02	9.16E-03
CM-5/6	5386.000	15.000	14.000	1.000	19.8463	86.09000	1.74E-02	5.08E-03	5.74E-02	1.18E-01	4.97E-03
AM-241	5479.150	19.000	5.312	12.000	3.0704	99.94000	5.69E-03	5.81E-03	7.65E-03	1.82E-02	5.80E-03
CM-242	6102.000	16.000	7.000	9.000	4.3186	100.0000	8.15E-03	5.84E-03	1.08E-02	2.44E-02	5.82E-03
AM243	5270.000	973.000	970.000	3.000	1.7321	99.78000	1.04E+00	6.98E-02	4.32E-03	1.15E-02	3.35E-02
CM-247	4946.000	15.000	13.000	2.000	15.3366	79.30000	1.75E-02	5.66E-03	4.81E-02	9.99E-02	5.56E-03
CM-248	5078.600	11.000	10.000	1.000	22.1555	91.00000	1.18E-02	4.13E-03	6.06E-02	1.24E-01	4.07E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

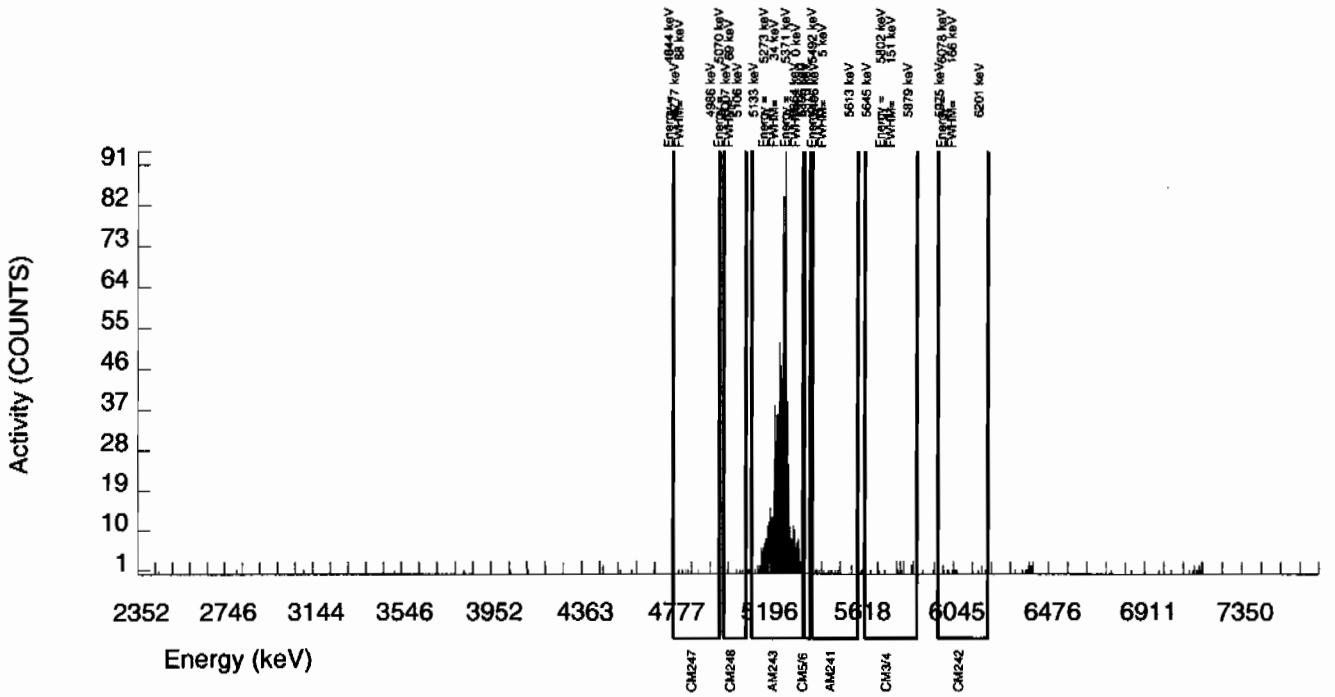
BATCH NUMBER: 937596 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385010_AM SAMPLE QTY: 1.254 G
DETECTOR NUMBER :78773 AVERAGE %EFFICIENCY :32.1969 % YIELD : 94.025	COUNT DATE: 5-JAN-2010 15:09:34 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.74234 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B040.CNF;1104 BKG DATE : 3-JAN-2010 EFF FILE : W040.CNF;315 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	22.000	-5.000	27.000	5.2338	100.0000	-5.95E-03	8.32E-03	1.44E-02	3.21E-02	8.32E-03
CM-5/6	5386.000	5.000	5.000	0.000	19.8463	86.09000	6.89E-03	3.11E-03	6.36E-02	1.31E-01	3.08E-03
AM-241	5479.150	14.000	12.467	0.000	3.0704	99.94000	1.48E-02	4.28E-03	8.48E-03	2.02E-02	4.19E-03
CM-242	6102.000	13.000	11.000	2.000	4.3186	100.0000	1.42E-02	5.07E-03	1.19E-02	2.71E-02	5.00E-03
AM243	5270.000	885.000	881.000	4.000	2.0000	99.78000	1.05E+00	7.20E-02	5.53E-03	1.43E-02	3.55E-02
CM-247	4946.000	5.000	3.000	2.000	15.3366	79.30000	4.49E-03	3.97E-03	5.34E-02	1.11E-01	3.96E-03
CM-248	5078.600	4.000	4.000	0.000	22.1555	91.00000	5.22E-03	2.63E-03	6.72E-02	1.38E-01	2.61E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

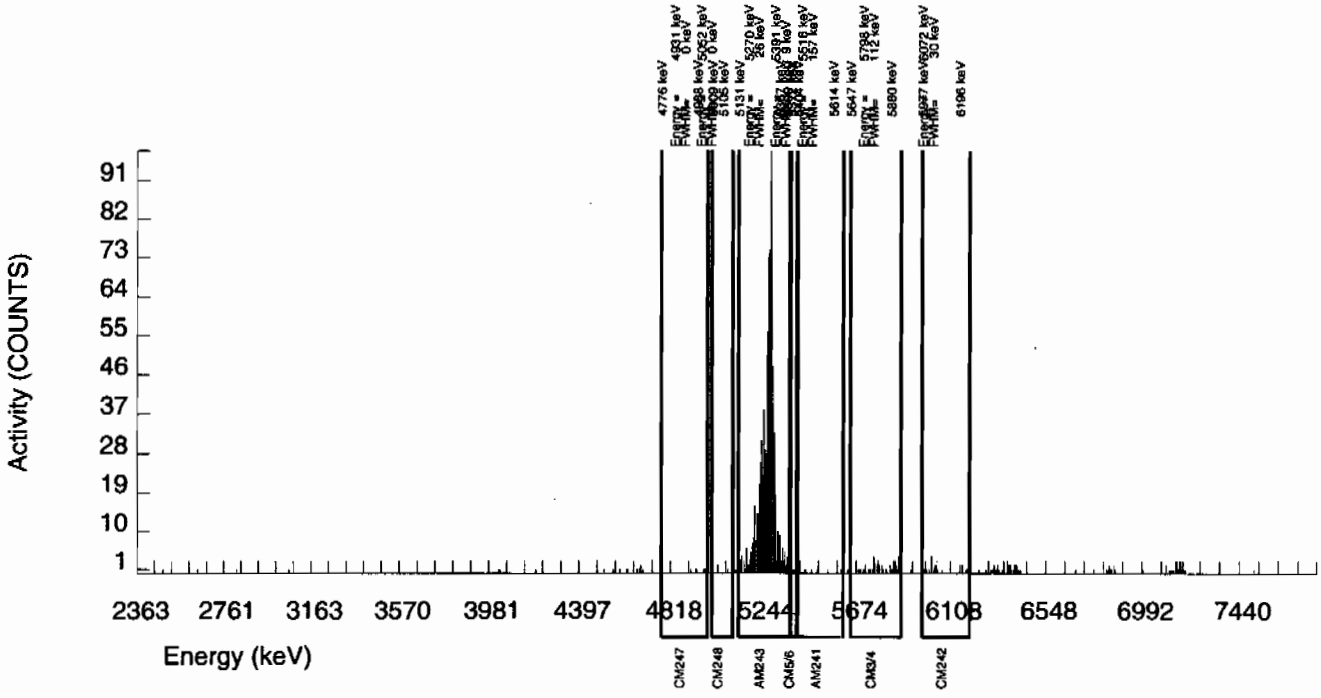
BATCH NUMBER: 937596 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385011_AM SAMPLE QTY: 1.251 G
DETECTOR NUMBER :78205 AVERAGE %EFFICIENCY :32.6825 % YIELD : 87.686	COUNT DATE: 5-JAN-2010 15:09:34 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.55746 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B041.CNF;1097 BKG DATE : 3-JAN-2010 EFF FILE : W041.CNF;319 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	43.000	15.000	28.000	5.2338	100.0000	1.89E-02	1.07E-02	1.53E-02	3.40E-02	1.06E-02
CM-5/6	5386.000	2.000	2.000	0.000	19.8463	86.09000	2.92E-03	2.07E-03	6.74E-02	1.39E-01	2.06E-03
AM-241	5479.150	7.000	2.548	3.000	3.0704	99.94000	3.20E-03	3.68E-03	8.98E-03	2.14E-02	3.68E-03
CM-242	6102.000	25.000	16.000	9.000	4.3186	100.0000	2.19E-02	8.08E-03	1.26E-02	2.87E-02	7.98E-03
AM243	5270.000	835.000	834.000	1.000	1.0000	99.78000	1.05E+00	7.30E-02	2.93E-03	9.27E-03	3.64E-02
CM-247	4946.000	8.000	7.000	1.000	15.3366	79.30000	1.11E-02	4.80E-03	5.65E-02	1.17E-01	4.75E-03
CM-248	5078.600	8.000	8.000	0.000	22.1555	91.00000	1.10E-02	3.96E-03	7.12E-02	1.46E-01	3.91E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

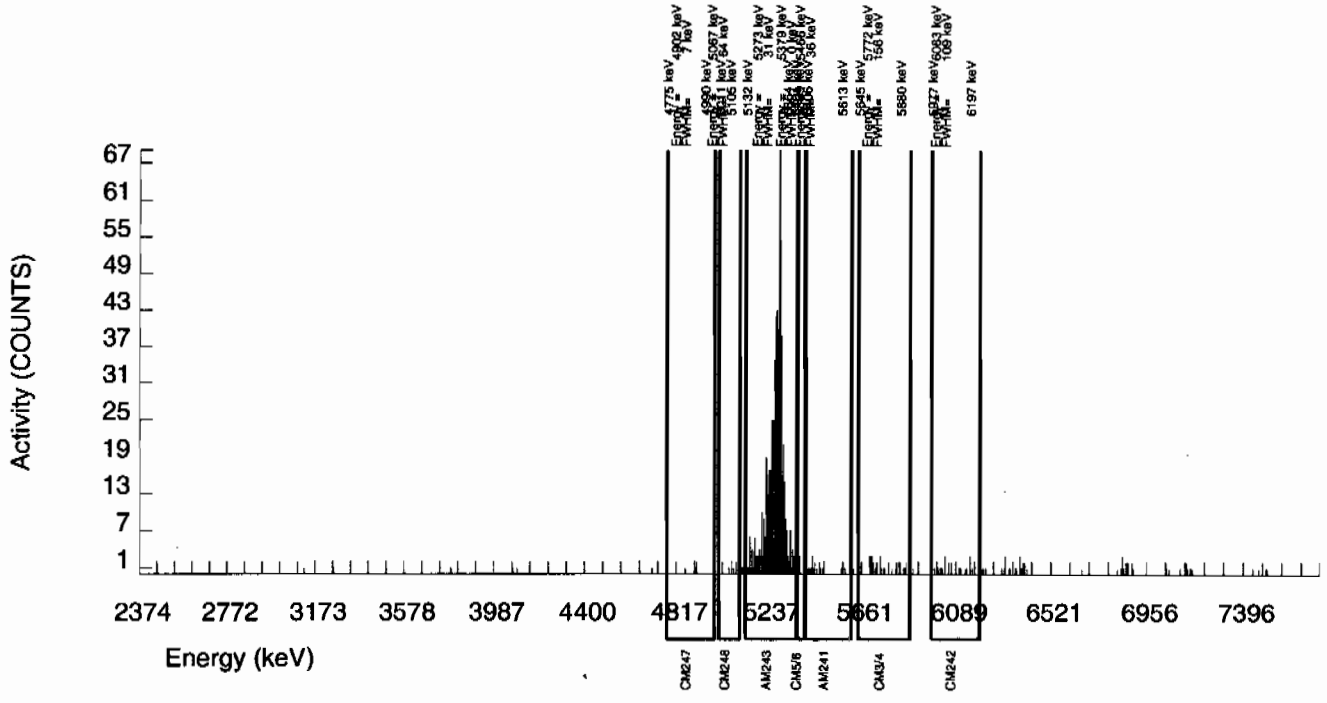
BATCH NUMBER: 937596 SAMPLE DATE : 18-DEC-2009 00:00:00	SAMPLE ID : S0243492007_AM SAMPLE QTY: 1.259 G
DETECTOR NUMBER :42483 AVERAGE %EFFICIENCY :31.2622 % YIELD : 66.389	COUNT DATE: 5-JAN-2010 15:09:34 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 1.93631 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B048.CNF;1100 BKG DATE : 3-JAN-2010 EFF FILE : W048.CNF;314 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	34.000	14.000	20.000	5.2338	100.0000	2.42E-02	1.28E-02	2.10E-02	4.67E-02	1.27E-02
CM-5/6	5386.000	11.000	9.000	2.000	19.8463	86.09000	1.80E-02	7.31E-03	9.25E-02	1.90E-01	7.22E-03
AM-241	5479.150	18.000	5.949	11.000	3.0704	99.94000	1.03E-02	9.14E-03	1.23E-02	2.93E-02	9.12E-03
CM-242	6102.000	20.000	19.000	1.000	4.3186	100.0000	3.55E-02	8.86E-03	1.73E-02	3.93E-02	8.56E-03
AM243	5270.000	609.000	604.000	5.000	2.2361	99.78000	1.04E+00	7.95E-02	8.99E-03	2.27E-02	4.28E-02
CM-247	4946.000	4.000	2.000	2.000	15.3366	79.30000	4.35E-03	5.33E-03	7.76E-02	1.61E-01	5.32E-03
CM-248	5078.600	6.000	6.000	0.000	22.1555	91.00000	1.14E-02	4.70E-03	9.76E-02	2.00E-01	4.64E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

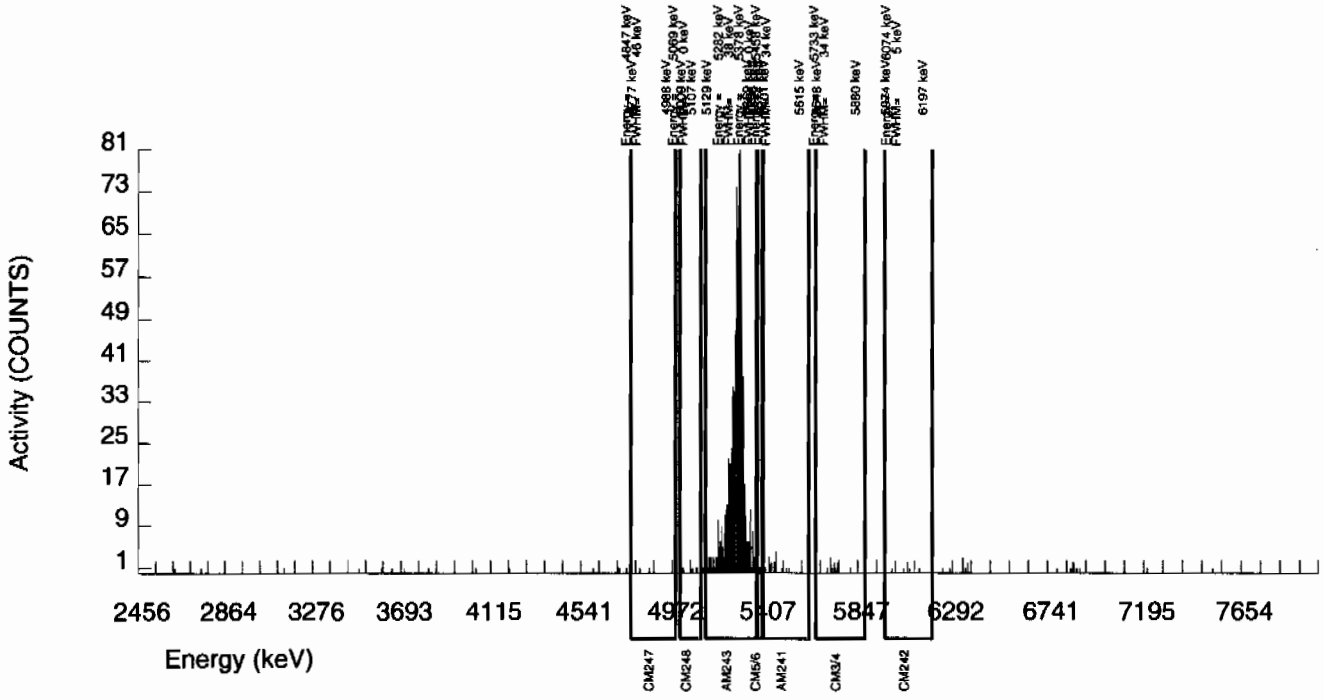
BATCH NUMBER: 937596 SAMPLE DATE : 30-DEC-2009 00:00:00	SAMPLE ID : S1202006343_AM SAMPLE QTY: 1.000 G
DETECTOR NUMBER :67602 AVERAGE %EFFICIENCY :32.0568 % YIELD : 91.113	COUNT DATE: 5-JAN-2010 14:30:18 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91659 dpm RESULTS : 2.65739 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B110.CNF;670 BKG DATE : 3-JAN-2010 EFF FILE : W110.CNF;209 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	14.000	3.000	11.000	5.2338	100.0000	4.63E-03	7.72E-03	1.88E-02	4.17E-02	7.72E-03
CM-5/6	5386.000	6.000	4.000	2.000	19.8463	86.09000	7.17E-03	5.09E-03	8.27E-02	1.70E-01	5.07E-03
AM-241	5479.150	19.000	3.521	14.000	3.0704	99.94000	5.43E-03	8.67E-03	1.10E-02	2.62E-02	8.66E-03
CM-242	6102.000	7.000	4.000	3.000	4.3186	100.0000	6.35E-03	5.04E-03	1.55E-02	3.52E-02	5.02E-03
AM243	5270.000	856.000	850.000	6.000	2.4495	99.78000	1.31E+00	9.12E-02	8.81E-03	2.18E-02	4.54E-02
CM-247	4946.000	2.000	1.000	1.000	15.3366	79.30000	1.94E-03	3.37E-03	6.94E-02	1.44E-01	3.37E-03
CM-248	5078.600	8.000	7.000	1.000	22.1555	91.00000	1.19E-02	5.13E-03	8.74E-02	1.79E-01	5.08E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

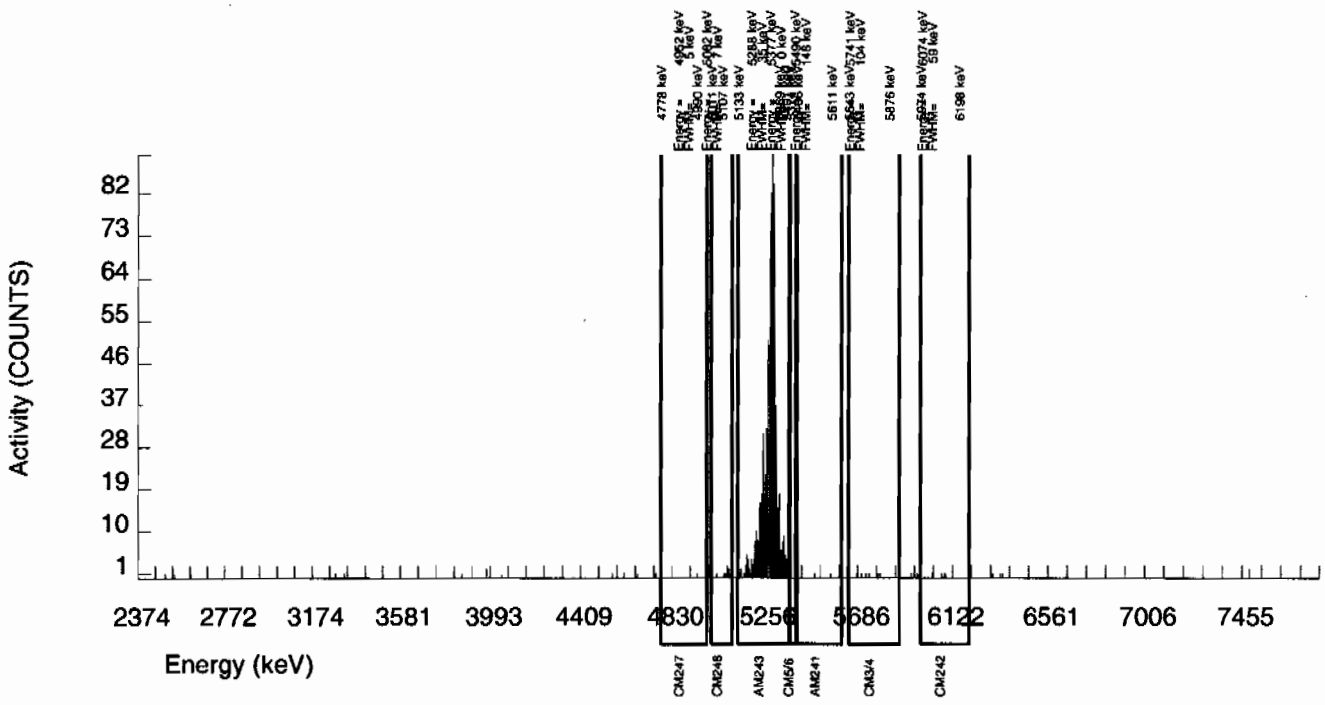
BATCH NUMBER: 937596 SAMPLE DATE : 18-DEC-2009 00:00:00	SAMPLE ID : S1202006344_AM SAMPLE QTY: 1.270 G
DETECTOR NUMBER :79462 AVERAGE %EFFICIENCY :35.5462 % YIELD : 82.266	COUNT DATE: 5-JAN-2010 14:30:18 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91660 dpm RESULTS : 2.39936 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B111.CNF;665 BKG DATE : 3-JAN-2010 EFF FILE : W111.CNF;205 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	7.000	7.000	0.000	5.2338	100.0000	8.51E-03	3.26E-03	1.48E-02	3.28E-02	3.22E-03
CM-5/6	5386.000	7.000	7.000	0.000	19.8463	86.09000	9.86E-03	3.77E-03	6.50E-02	1.34E-01	3.73E-03
AM-241	5479.150	3.000	0.519	1.000	3.0704	99.94000	6.30E-04	1.93E-03	8.67E-03	2.06E-02	1.93E-03
CM-242	6102.000	4.000	2.000	2.000	4.3186	100.0000	2.63E-03	3.22E-03	1.22E-02	2.77E-02	3.22E-03
AM243	5270.000	855.000	851.000	4.000	2.0000	99.78000	1.03E+00	7.17E-02	5.66E-03	1.46E-02	3.56E-02
CM-247	4946.000	1.000	-2.000	3.000	15.3366	79.30000	-3.06E-03	3.06E-03	5.46E-02	1.13E-01	3.06E-03
CM-248	5078.600	7.000	5.000	2.000	22.1555	91.00000	6.66E-03	4.02E-03	6.87E-02	1.41E-01	4.00E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

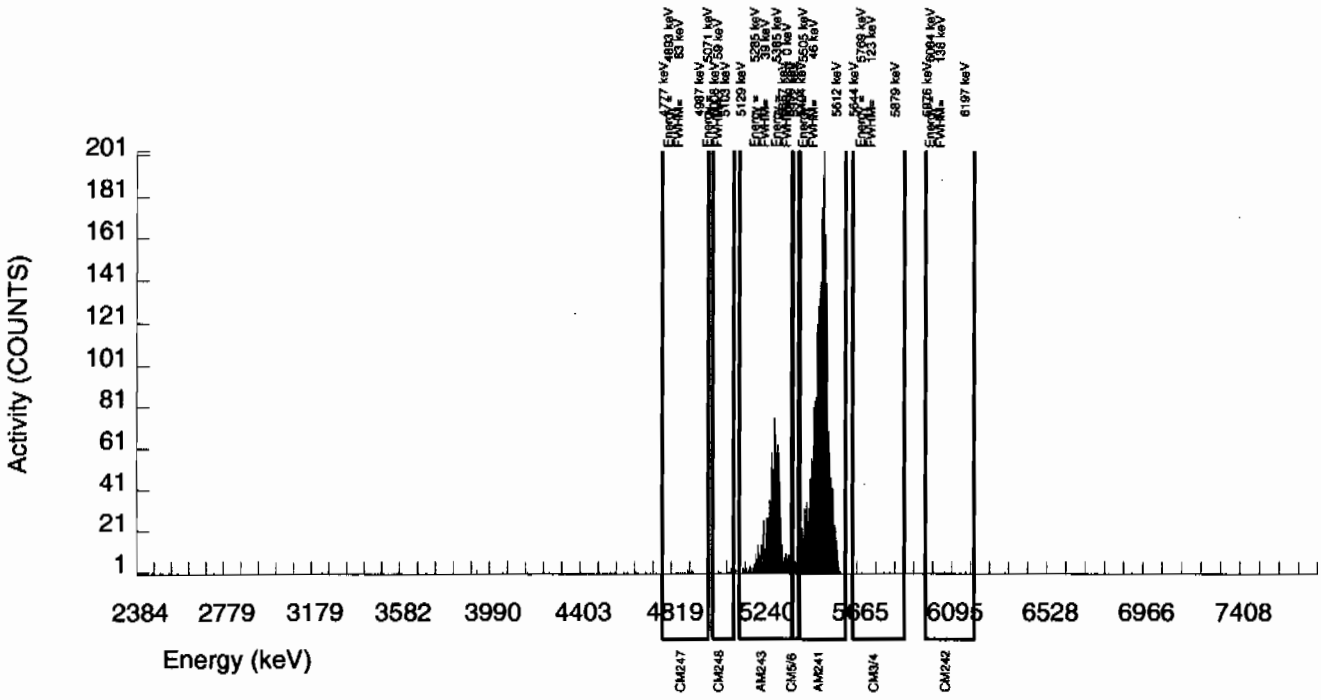
BATCH NUMBER: 937596 SAMPLE DATE : 30-DEC-2009 00:00:00	SAMPLE ID : S1202006345_AM SAMPLE QTY: 0.113 G
DETECTOR NUMBER :78261 AVERAGE %EFFICIENCY :31.5612 % YIELD : 96.137	COUNT DATE: 5-JAN-2010 14:30:18 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91659 dpm RESULTS : 2.80391 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B112.CNF;673 BKG DATE : 3-JAN-2010 EFF FILE : W112.CNF;216 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	3.000	2.000	1.000	5.2338	100.0000	2.63E-02	2.64E-02	1.60E-01	3.56E-01	2.63E-02
CM-5/6	5386.000	57.000	57.000	0.000	19.8463	86.09000	8.70E-01	1.29E-01	7.05E-01	1.45E+00	1.15E-01
AM-241	5479.150	2454.000	2452.463	0.000	3.0704	99.94000	3.22E+01	2.23E+00	9.39E-02	2.23E-01	6.51E-01
CM-242	6102.000	3.000	2.000	1.000	4.3186	100.0000	2.71E-02	2.71E-02	1.32E-01	3.00E-01	2.71E-02
AM243	5270.000	888.000	883.000	5.000	2.2361	99.78000	1.16E+01	8.65E-01	6.85E-02	1.73E-01	3.93E-01
CM-247	4946.000	15.000	9.000	6.000	15.3366	79.30000	1.49E-01	7.66E-02	5.91E-01	1.23E+00	7.59E-02
CM-248	5078.600	15.000	15.000	0.000	22.1555	91.00000	2.17E-01	5.77E-02	7.44E-01	1.53E+00	5.59E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Radiochemistry Batch Checklist, Rev 9

Batch# 937598 Product: PU Date: 1/5/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 mg for GAB.			MA
Samples have been blank corrected (if required)	✓		
If activity less 10° MDA/ MDC, error is 150% or less of sample activity. If greater 10° MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits. Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5° MDA/ MDC, then RPD is 100% or less. If greater 5° MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%. Or meets the client's required RER acceptance criteria.	✓		
Tracer yield is 15-125% . Carrier yield 25-125%. Or meets the client's contract acceptance criteria.	✓		
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			MA
Smears Taken for Radioactive batches.			MA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms. All line outs initialed and dated. No transcription errors are apparent.	✓		
Aux data is correct.			MA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			MA
Batch entered into Case Narrative.	✓		
Batch non-conformances completed, if applicable.			MA
Batch non-conformances second reviewed and disposition verified to be completed.			MA
Aliquot Correction completed if required.			MA
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By: Denise Green 1/5/10

Secondary Review Performed By: Joph M[illegible] 1/5/10

1/19

PJ

Plutonium Que Sheet

30-DEC-09

Batch #: 937598 **Analyst:** JXD2 **First Client Due Date:** 19-JAN-10 **Internal Due Date:** 08-JAN-10

Tracer Isotope(s): Pu-242/Pu-238 **Tracer Code:** 1374-A **Expiration Date:** 12/08/10 **Vol:** 0.1

LCS Isotope(s): Pu-239/Pu-238 **LCS Code:** — **Expiration Date:** — **Vol:** —

Spike Isotope(s): Pu-239/Pu-238 **Spike Code:** — **Expiration Date:** — **Vol:** —

Prep Date: 12/30/09 **Initials:** JXD **Pipet ID:** 2576058 **Balance ID:** 50410272 **Witness:** 12/30/9

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (Wt / f)	Pu Det #
243385001-1	RE12-10-7580	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	1	1	1.251	83
243385002-1	RE12-10-7590	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	2	2	1.252	84
243385003-1	RE12-10-7592	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	3	3	1.255	85
243385004-1	RE12-10-7591	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	4	4	1.254	86
243385005-1	RE12-10-7581	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	5	5	1.278	87
243385006-1	RE12-10-7586	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	6	6	1.261	88
243385007-1	RE12-10-7587	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	7	7	1.255	89
243385008-1	RE12-10-7585	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	8	8	1.268	90
243385009-1	RE12-10-7582	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	9	9	1.263	91
243385010-1	RE12-10-7584	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	10	10	1.254	92
243385011-1	RE12-10-7583	SAMPLE		.05 pCi/g	SOIL	LANL010	17-DEC-09	11	11	1.251	93
243492001-1	RE12-10-7288	SAMPLE		.05 pCi/g	SOIL	LANL010	18-DEC-09	12	12	1.252	94
243492002-1	RE12-10-7290	SAMPLE		.05 pCi/g	SOIL	LANL010	18-DEC-09	13	13	1.250	246
243492003-1	RE12-10-7289	SAMPLE		.05 pCi/g	SOIL	LANL010	18-DEC-09	14	14	1.255	252
243492004-1	RE12-10-7291	SAMPLE		.05 pCi/g	SOIL	LANL010	18-DEC-09	15	15	1.261	253
243492005-1	RE12-10-7292	SAMPLE		.05 pCi/g	SOIL	LANL010	18-DEC-09	16	16	1.254	216
243492006-1	RE12-10-7293	SAMPLE		.05 pCi/g	SOIL	LANL010	18-DEC-09	17	17	1.260	236
243492007-1	RE12-10-7296	SAMPLE		.05 pCi/g	SOIL	LANL010	18-DEC-09	18	18	1.259	242
1202006346-1	MB for batch 937598	MB		.05 pCi/g	SOIL	QC ACCOUNT		19	19	1	218
1202006347-1	RE12-10-7296(243492007DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	18-DEC-09	20	20	1.270	221
1202006348-1	LCS for batch 937598	LCS		.05 pCi/g	SOIL	QC ACCOUNT		21	21	0.113	234

* SRM 0244-B exp. 04/30/20 0.113g

Choose SOP Used: GL-RAD-A-011, GL-RAD-A-036, GL-RAD-A-045, GL-RAD-A-043

Solid Sample Dissolution by: LEACH or DIGESTION (Circle One)

Data Reviewed By: 1/5/10

1/5/10

Blank Correction Report

Batch ID 937598

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202006347	DUP	Plutonium-238	1.27 g	0.00	0.00268	0.0218	-.00111024	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00402	0.00233	0.0245	0	pCi/g	NO
1202006348	LCS	Plutonium-238	0.113 g	6.74	0.468	0.178	-.01247788	pCi/g	NO
		Plutonium-239/240	0.113 g	33.8	2.01	0.200	0	pCi/g	NO
1202006346	MB	Plutonium-238	1.00 g	-0.00141	0.00244	0.0229	-.00141	pCi/g	NO
		Plutonium-239/240	1.00 g	0.00	0.00199	0.0257	0	pCi/g	NO
243385001	RE12-10-7580	Plutonium-238	1.25 g	0.0134	0.00662	0.0218	-.001128	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0175	0.00561	0.0246	0	pCi/g	NO
243385002	RE12-10-7590	Plutonium-238	1.25 g	0.0042	0.00243	0.0227	-.001128	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00979	0.00373	0.0256	0	pCi/g	NO
243385003	RE12-10-7592	Plutonium-238	1.26 g	0.00274	0.00275	0.0223	-.00111905	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00274	0.00275	0.0251	0	pCi/g	NO
243385004	RE12-10-7591	Plutonium-238	1.25 g	0.00141	0.00423	0.0229	-.001128	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00705	0.00425	0.0258	0	pCi/g	NO
243385005	RE12-10-7581	Plutonium-238	1.28 g	0.00	0.00426	0.0219	-.00110156	pCi/g	NO
		Plutonium-239/240	1.28 g	0.00269	0.00426	0.0246	0	pCi/g	NO
243385006	RE12-10-7586	Plutonium-238	1.26 g	0.0189	0.00795	0.0279	-.00111905	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0103	0.0049	0.0315	0	pCi/g	NO
243385007	RE12-10-7587	Plutonium-238	1.26 g	0.00148	0.00149	0.0241	-.00111905	pCi/g	NO
		Plutonium-239/240	1.26 g	-3.54E-10	0.00297	0.0271	0	pCi/g	YES
243385008	RE12-10-7585	Plutonium-238	1.27 g	0.00367	0.00213	0.0199	-.00111024	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00734	0.00302	0.0224	0	pCi/g	NO
243385009	RE12-10-7582	Plutonium-238	1.26 g	-0.00133	0.00188	0.0215	-.00111905	pCi/g	NO
		Plutonium-239/240	1.26 g	-3.16E-10	0.00265	0.0243	0	pCi/g	YES
243385010	RE12-10-7584	Plutonium-238	1.25 g	-0.00139	0.00197	0.0225	-.001128	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0167	0.00489	0.0254	0	pCi/g	NO
243385011	RE12-10-7583	Plutonium-238	1.25 g	0.00413	0.00239	0.0223	-.001128	pCi/g	NO
		Plutonium-239/240	1.25 g	-1.64E-10	0.00195	0.0252	0	pCi/g	YES
243492001	RE12-10-7288	Plutonium-238	1.25 g	0.00279	0.00198	0.0227	-.001128	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0209	0.00587	0.0255	0	pCi/g	NO
243492002	RE12-10-7290	Plutonium-238	1.25 g	0.00244	0.00244	0.0198	-.001128	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00488	0.003	0.0223	0	pCi/g	NO
243492003	RE12-10-7289	Plutonium-238	1.26 g	0.00	0.00166	0.0191	-.00111905	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00705	0.0029	0.0215	0	pCi/g	NO
243492004	RE12-10-7291	Plutonium-238	1.26 g	0.00359	0.00397	0.0194	-.00111905	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00359	0.00317	0.0219	0	pCi/g	NO
243492005	RE12-10-7292	Plutonium-238	1.25 g	-0.00124	0.00216	0.0202	-.001128	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00373	0.00216	0.0227	0	pCi/g	NO
243492006	RE12-10-7293	Plutonium-238	1.26 g	0.00	0.00106	0.0172	-.00111905	pCi/g	NO

1/5/10

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
243492006	RE12-10-7293	Plutonium-239/240	1.26 g	0.00	0.0015	0.0194	0	pCi/g	NO
243492007	RE12-10-7296	Plutonium-238	1.26 g	0.00733	0.00302	0.0198	-.00111905	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00733	0.00347	0.0223	0	pCi/g	NO

Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

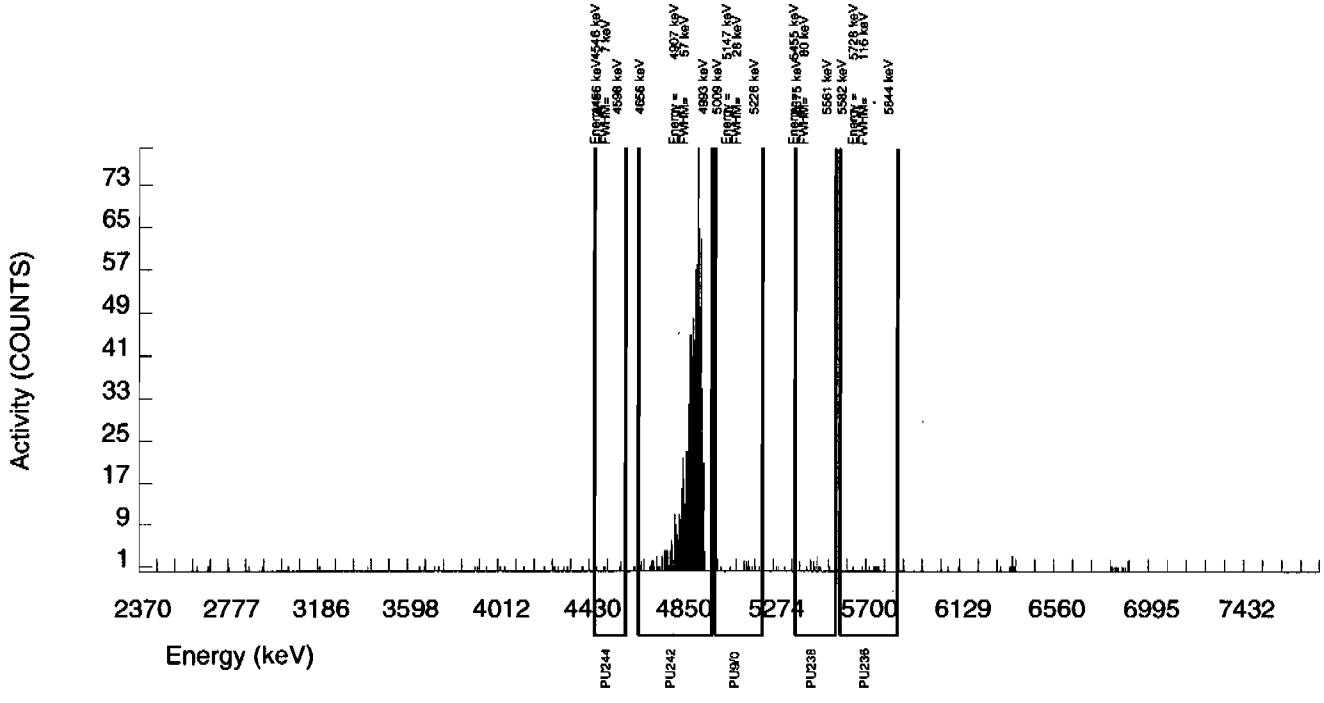
BATCH NUMBER: 937598 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385001_PU SAMPLE QTY: 1.251 G
DETECTOR NUMBER :64278 AVERAGE %EFFICIENCY :33.5347 % YIELD : 79.979	COUNT DATE: 4-JAN-2010 18:14:56 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.70764 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B083.CNF;1007 BKG DATE : 3-JAN-2010 EFF FILE : W083.CNF;288 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	15.000	13.000	2.000	3.3488	99.90000	1.75E-02	5.61E-03	1.05E-02	2.46E-02	5.54E-03
PU-236	5749.000	8.000	2.000	6.000	2.0294	100.0000	2.72E-03	5.09E-03	6.34E-03	1.63E-02	5.09E-03
PU-238	5499.000	17.000	10.000	7.000	2.9082	99.90000	1.34E-02	6.62E-03	9.09E-03	2.18E-02	6.59E-03
PU242	4890.000	912.000	908.000	4.000	2.0000	100.0000	1.22E+00	7.51E-02	6.25E-03	1.61E-02	4.06E-02
PU-244	4589.000	7.000	6.000	1.000	6.8218	99.90000	8.06E-03	3.82E-03	2.13E-02	4.63E-02	3.80E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

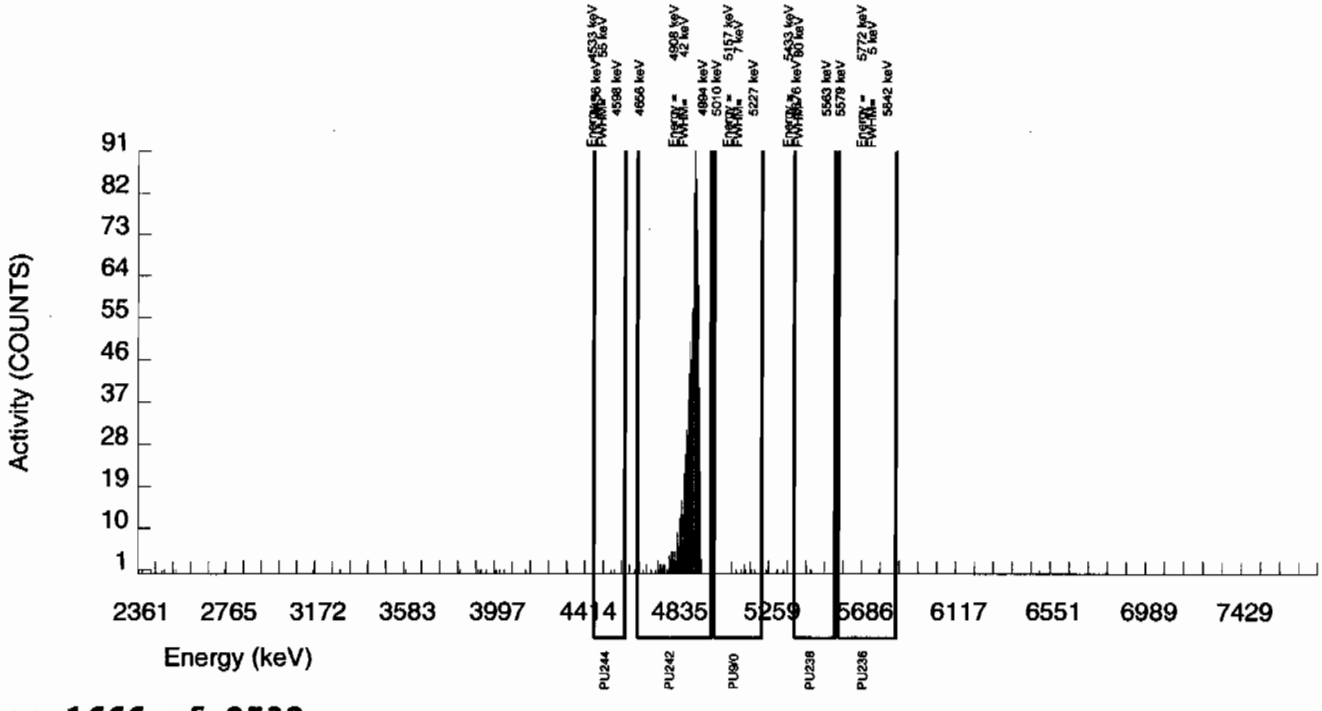
BATCH NUMBER: 937598 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385002_PU SAMPLE QTY: 1.252 G
DETECTOR NUMBER :78265 AVERAGE %EFFICIENCY :33.9057 % YIELD : 75.968	COUNT DATE: 4-JAN-2010 18:14:56 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.57183 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B084.CNF;1007 BKG DATE : 3-JAN-2010 EFF FILE : W084.CNF;291 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	7.000	7.000	0.000	3.3488	99.90000	9.79E-03	3.73E-03	1.09E-02	2.56E-02	3.70E-03
PU-236	5749.000	1.000	1.000	0.000	2.0294	100.0000	1.41E-03	1.42E-03	6.59E-03	1.70E-02	1.41E-03
PU-238	5499.000	3.000	3.000	0.000	2.9082	99.90000	4.20E-03	2.43E-03	9.46E-03	2.27E-02	2.42E-03
PU242	4890.000	876.000	872.000	4.000	2.0000	100.0000	1.22E+00	7.60E-02	6.50E-03	1.68E-02	4.14E-02
PU-244	4589.000	3.000	3.000	0.000	6.8218	99.90000	4.19E-03	2.43E-03	2.22E-02	4.82E-02	2.42E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

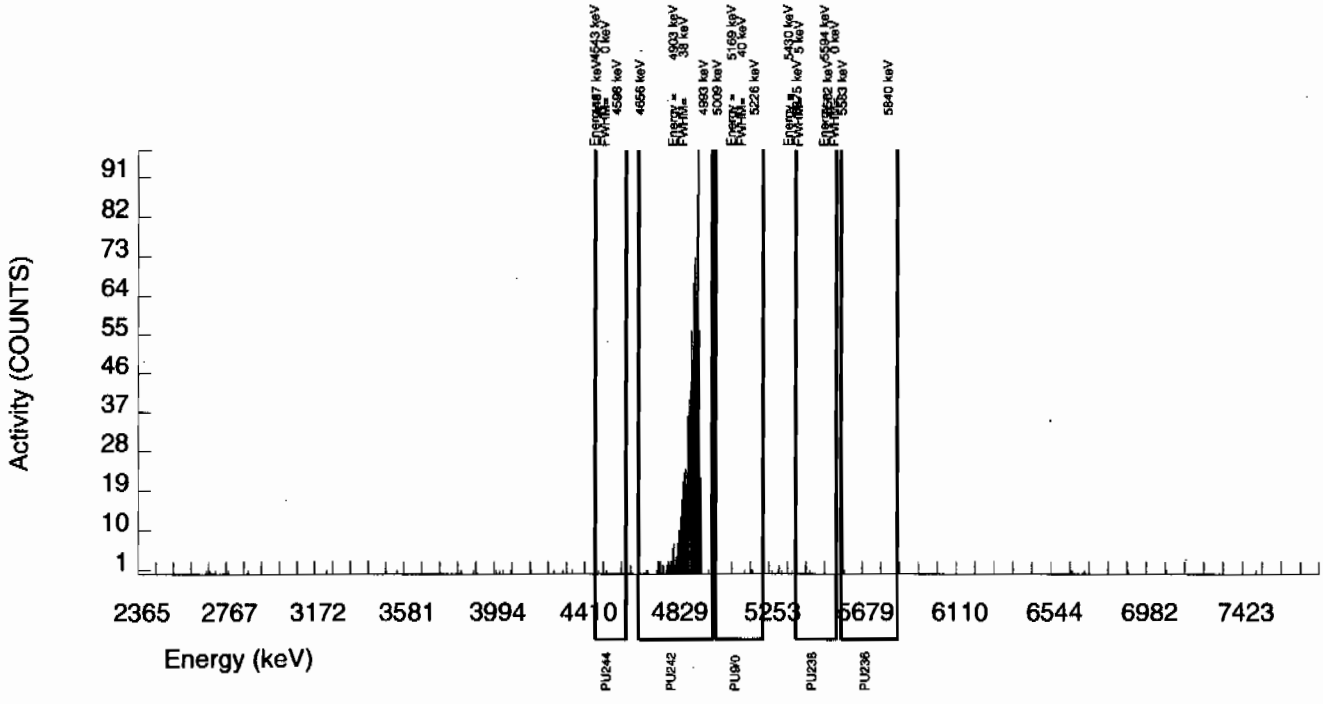
BATCH NUMBER: 937598 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385003_PU SAMPLE QTY: 1.255 G
DETECTOR NUMBER :78776 AVERAGE %EFFICIENCY :32.7690 % YIELD : 79.955	COUNT DATE: 4-JAN-2010 18:14:56 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.70683 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B085.CNF;1008 BKG DATE : 3-JAN-2010 EFF FILE : W085.CNF;298 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	3.000	2.000	1.000	3.3488	99.90000	2.74E-03	2.75E-03	1.07E-02	2.51E-02	2.74E-03
PU-236	5749.000	2.000	0.000	2.000	2.0294	100.0000	0.00E+00	2.78E-03	6.47E-03	1.66E-02	2.77E-03
PU-238	5499.000	3.000	2.000	1.000	2.9082	99.90000	2.74E-03	2.75E-03	9.28E-03	2.23E-02	2.74E-03
PU242	4890.000	889.000	887.000	2.000	1.4142	100.0000	1.22E+00	7.53E-02	4.51E-03	1.27E-02	4.09E-02
PU-244	4589.000	4.000	4.000	0.000	6.8218	99.90000	5.49E-03	2.76E-03	2.18E-02	4.72E-02	2.74E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

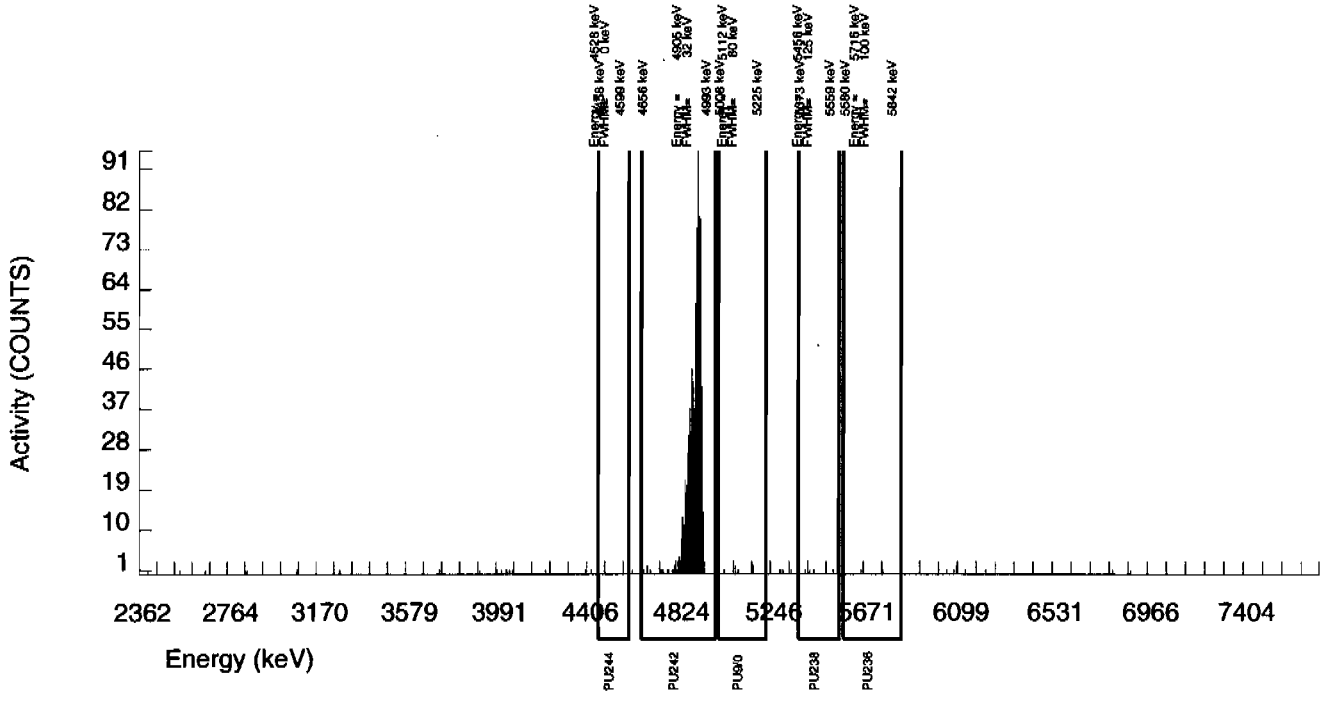
BATCH NUMBER: 937598 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385004_PU SAMPLE QTY: 1.254 G
DETECTOR NUMBER :78198 AVERAGE %EFFICIENCY :29.5330 % YIELD : 86.315	COUNT DATE: 4-JAN-2010 18:14:56 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.92215 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B086.CNF;1009 BKG DATE : 3-JAN-2010 EFF FILE : W086.CNF;279 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	7.000	5.000	2.000	3.3488	99.90000	7.05E-03	4.25E-03	1.10E-02	2.58E-02	4.23E-03
PU-236	5749.000	2.000	1.000	1.000	2.0294	100.0000	1.43E-03	2.47E-03	6.65E-03	1.71E-02	2.47E-03
PU-238	5499.000	5.000	1.000	4.000	2.9082	99.90000	1.41E-03	4.23E-03	9.54E-03	2.29E-02	4.23E-03
PU242	4890.000	866.000	863.000	3.000	1.7321	100.0000	1.22E+00	7.61E-02	5.68E-03	1.52E-02	4.15E-02
PU-244	4589.000	0.000	-2.000	2.000	6.8218	99.90000	-2.82E-03	2.44E-03	2.24E-02	4.86E-02	2.44E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

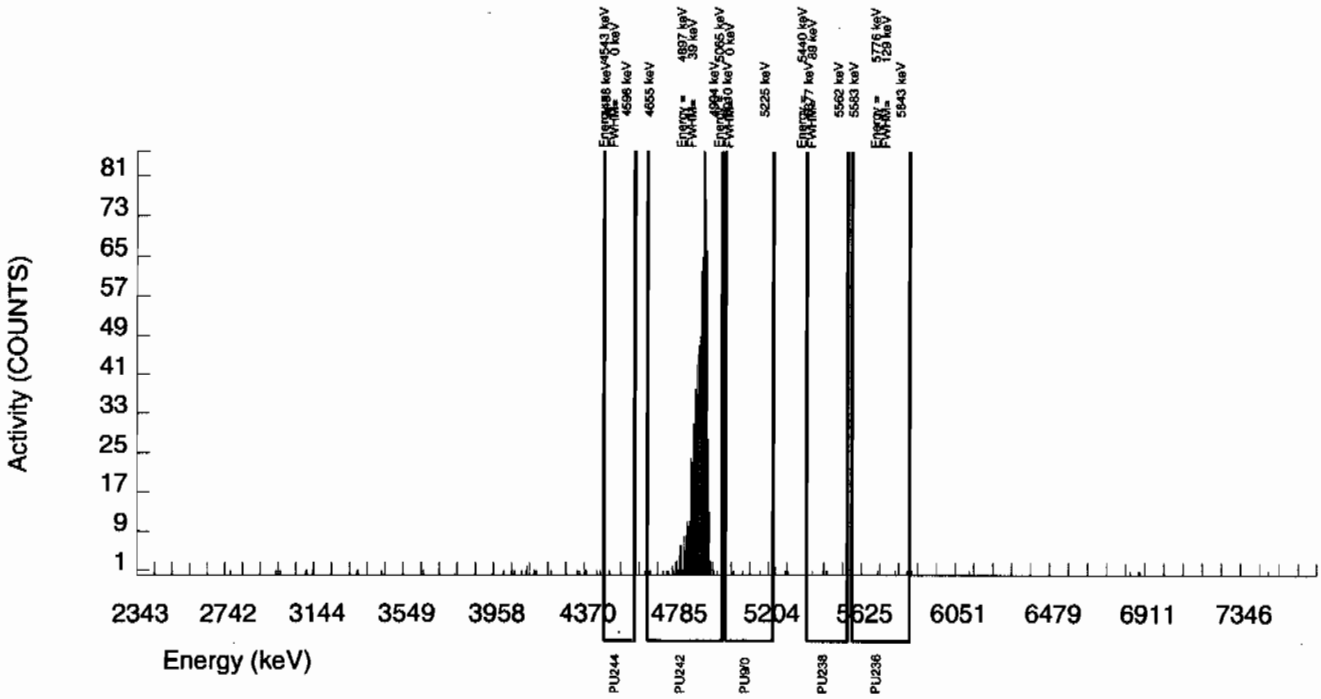
BATCH NUMBER: 937598 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385005_PU SAMPLE QTY: 1.278 G
DETECTOR NUMBER :78199 AVERAGE %EFFICIENCY :31.9208 % YIELD : 82.080	COUNT DATE: 4-JAN-2010 18:14:56 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.77875 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B087.CNF;1016 BKG DATE : 3-JAN-2010 EFF FILE : W087.CNF;272 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	6.000	2.000	4.000	3.3488	99.90000	2.69E-03	4.26E-03	1.05E-02	2.46E-02	4.26E-03
PU-236	5749.000	3.000	0.000	3.000	2.0294	100.0000	0.00E+00	3.34E-03	6.35E-03	1.63E-02	3.34E-03
PU-238	5499.000	5.000	0.000	5.000	2.9082	99.90000	0.00E+00	4.26E-03	9.11E-03	2.19E-02	4.26E-03
PU242	4890.000	895.000	887.000	8.000	2.8284	100.0000	1.19E+00	7.43E-02	8.85E-03	2.13E-02	4.04E-02
PU-244	4589.000	2.000	2.000	0.000	6.8218	99.90000	2.69E-03	1.91E-03	2.14E-02	4.64E-02	1.90E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

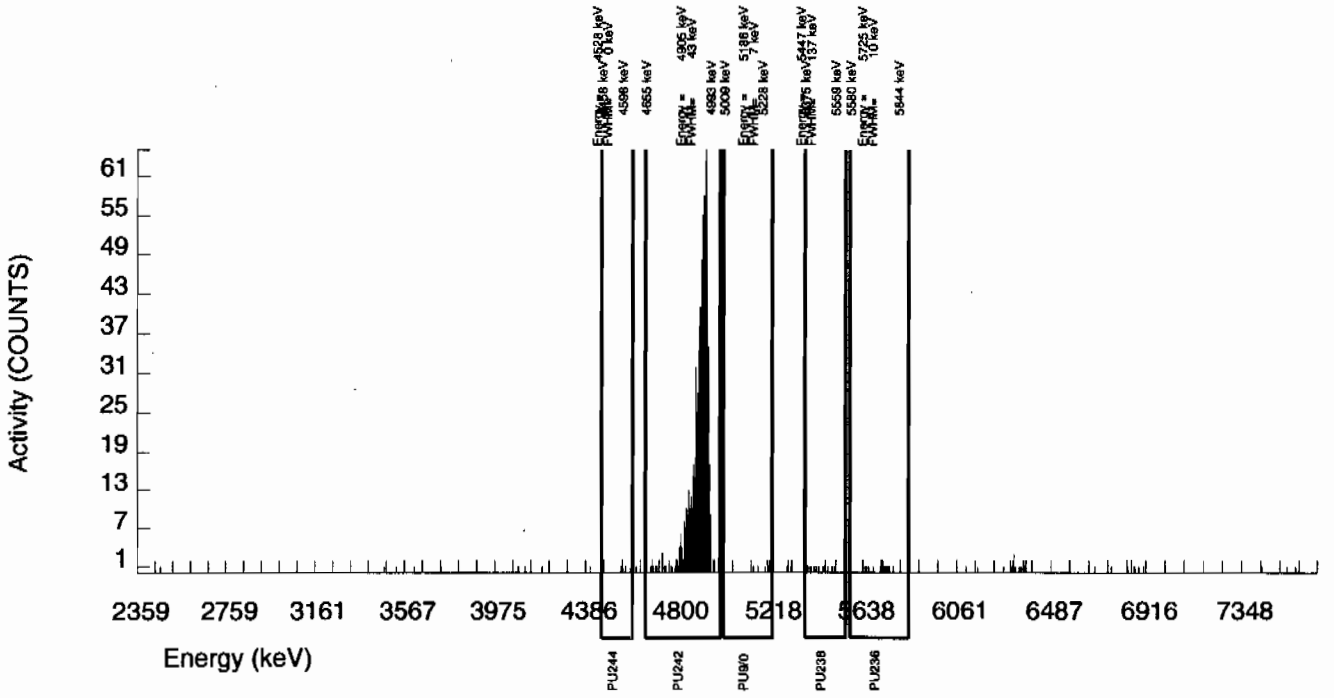
BATCH NUMBER: 937598 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385006_PU SAMPLE QTY: 1.261 G
DETECTOR NUMBER :33452 AVERAGE %EFFICIENCY :30.2890 % YIELD : 68.655	COUNT DATE: 4-JAN-2010 18:14:56 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.32428 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B088.CNF;1004 BKG DATE : 3-JAN-2010 EFF FILE : W088.CNF;282 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	7.000	6.000	1.000	3.3488	99.90000	1.03E-02	4.90E-03	1.34E-02	3.15E-02	4.86E-03
PU-236	5749.000	15.000	6.000	9.000	2.0294	100.0000	1.04E-02	8.54E-03	8.11E-03	2.09E-02	8.52E-03
PU-238	5499.000	16.000	11.000	5.000	2.9082	99.90000	1.89E-02	7.95E-03	1.16E-02	2.79E-02	7.88E-03
PU242	4890.000	707.000	704.000	3.000	1.7321	100.0000	1.21E+00	8.06E-02	6.92E-03	1.85E-02	4.58E-02
PU-244	4589.000	5.000	3.000	2.000	6.8218	99.90000	5.16E-03	4.56E-03	2.73E-02	5.92E-02	4.55E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

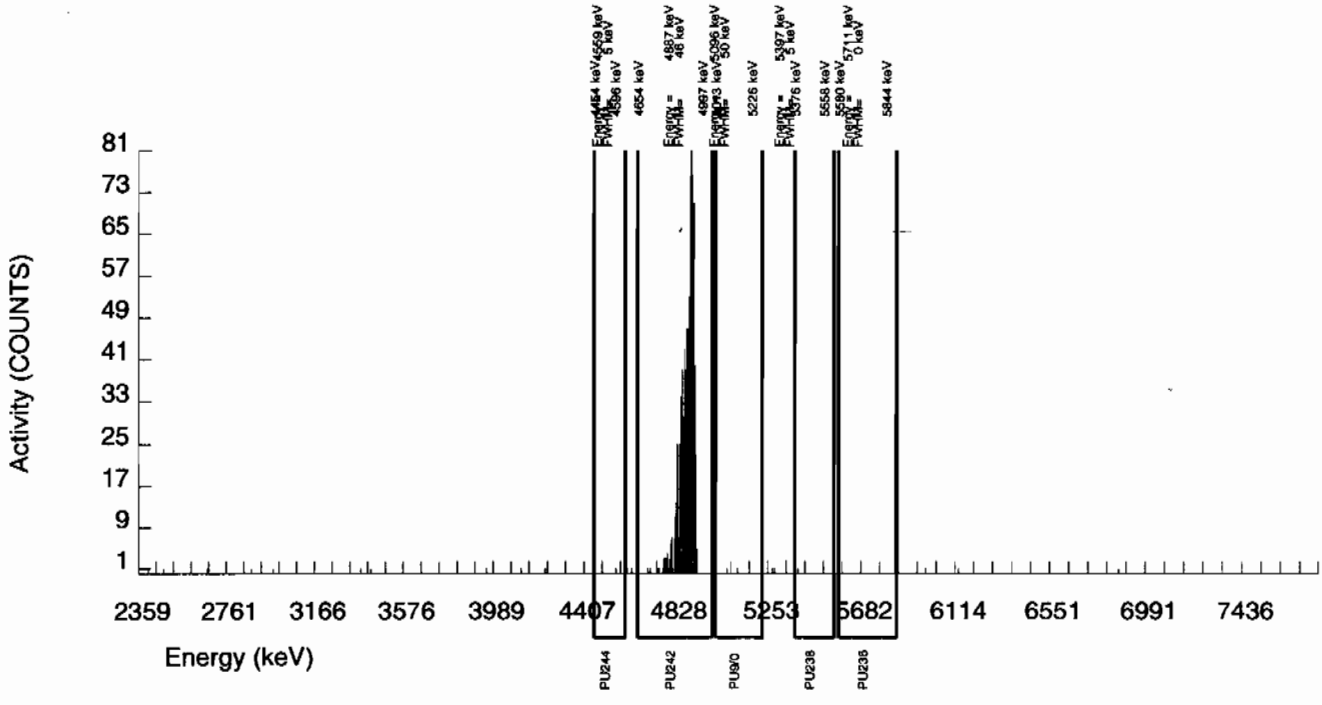
BATCH NUMBER: 937598 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385007_PU SAMPLE QTY: 1.255 G
DETECTOR NUMBER :78262 AVERAGE %EFFICIENCY :29.3731 % YIELD : 82.461	COUNT DATE: 4-JAN-2010 18:14:57 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.79167 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B089.CNF;701 BKG DATE : 3-JAN-2010 EFF FILE : W089.CNF;191 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	2.000	0.000	2.000	3.3488	99.90000	-3.54E-10	2.97E-03	1.16E-02	2.71E-02	2.97E-03
PU-236	5749.000	0.000	0.000	0.000	2.0294	100.0000	0.00E+00	1.50E-03	7.00E-03	1.80E-02	1.50E-03
PU-238	5499.000	1.000	1.000	0.000	2.9082	99.90000	1.48E-03	1.49E-03	1.00E-02	2.41E-02	1.48E-03
PU242	4890.000	822.000	820.000	2.000	1.4142	100.0000	1.22E+00	7.72E-02	4.88E-03	1.38E-02	4.25E-02
PU-244	4589.000	1.000	0.000	1.000	6.8218	99.90000	-1.77E-10	2.10E-03	2.35E-02	5.11E-02	2.10E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

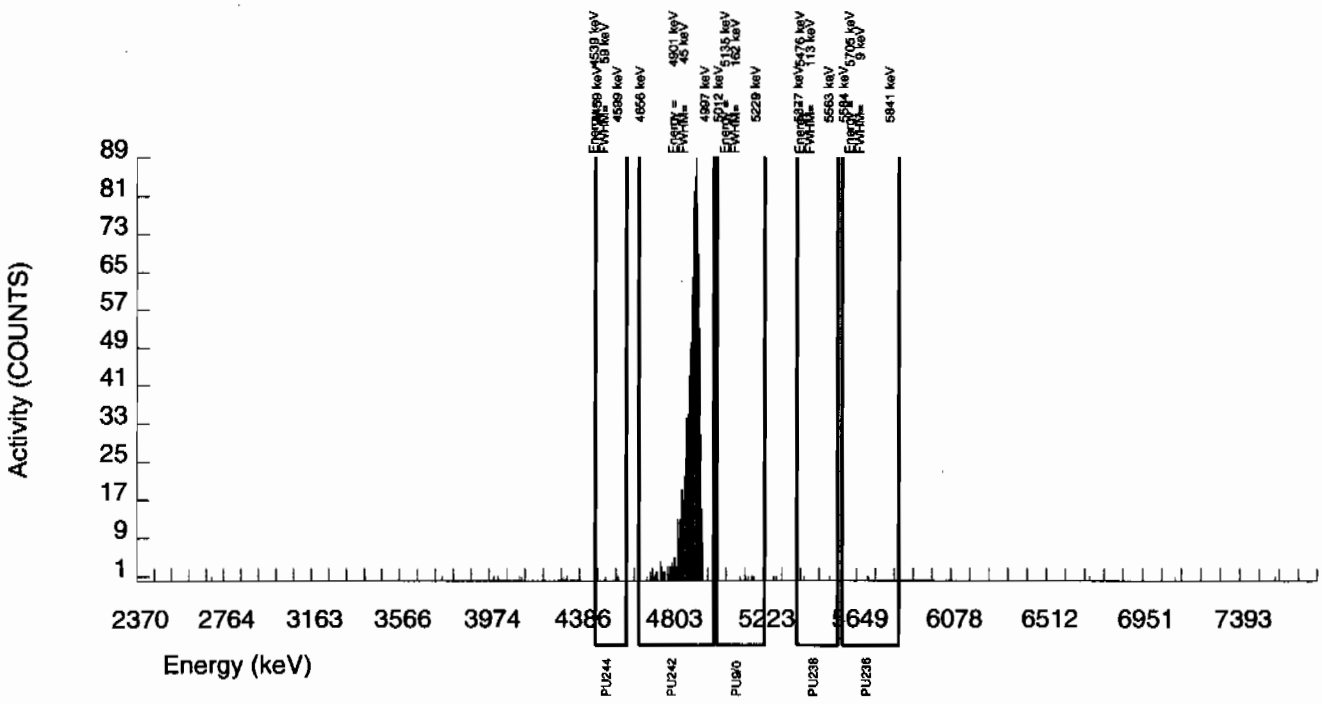
BATCH NUMBER: 937598 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385008_PU SAMPLE QTY: 1.268 G
DETECTOR NUMBER :78263 AVERAGE %EFFICIENCY :32.7658 % YIELD : 88.707	COUNT DATE: 4-JAN-2010 18:14:57 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 3.00313 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B090.CNF;711 BKG DATE : 3-JAN-2010 EFF FILE : W090.CNF;197 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	6.000	6.000	0.000	3.3488	99.90000	7.34E-03	3.02E-03	9.53E-03	2.24E-02	3.00E-03
PU-236	5749.000	2.000	2.000	0.000	2.0294	100.0000	2.48E-03	1.76E-03	5.77E-03	1.49E-02	1.75E-03
PU-238	5499.000	3.000	3.000	0.000	2.9082	99.90000	3.67E-03	2.13E-03	8.28E-03	1.99E-02	2.12E-03
PU242	4890.000	987.000	984.000	3.000	1.7321	100.0000	1.20E+00	7.44E-02	4.92E-03	1.32E-02	3.85E-02
PU-244	4589.000	2.000	2.000	0.000	6.8218	99.90000	2.45E-03	1.74E-03	1.94E-02	4.21E-02	1.73E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

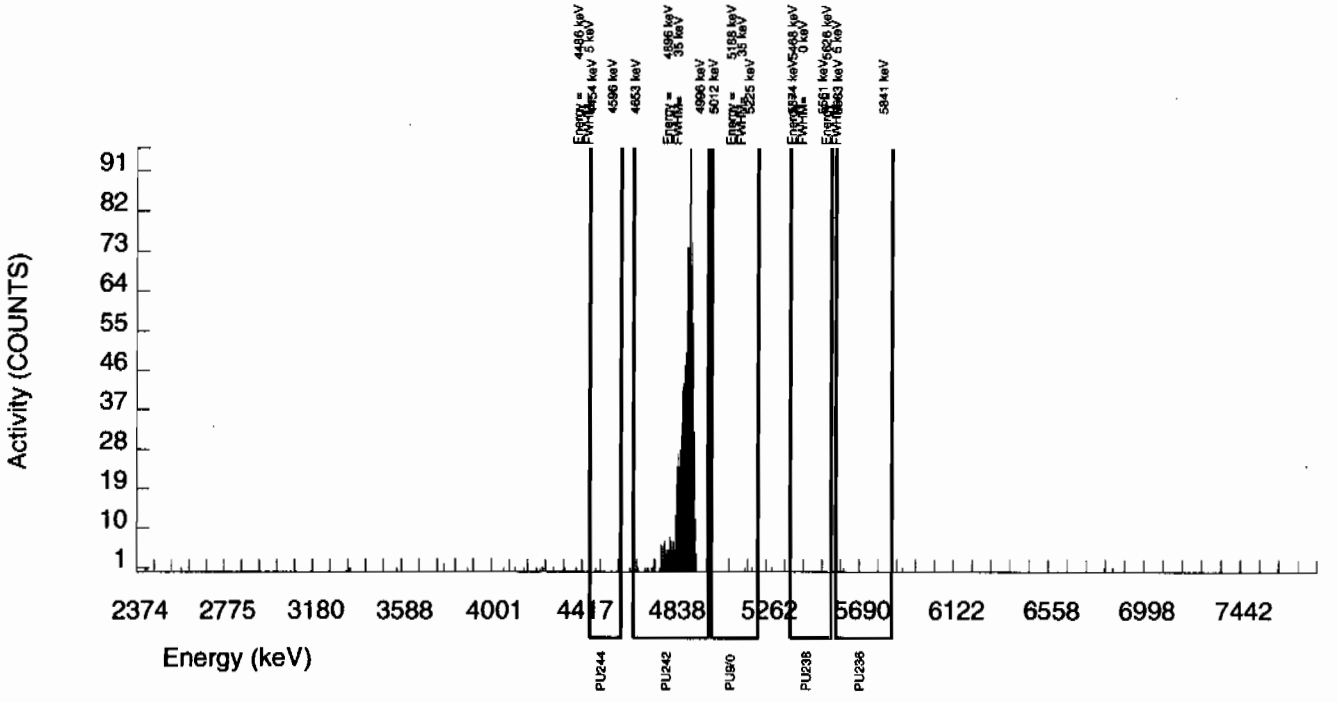
BATCH NUMBER: 937598 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385009_PU SAMPLE QTY: 1.263 G
DETECTOR NUMBER :78259 AVERAGE %EFFICIENCY :34.6765 % YIELD : 77.601	COUNT DATE: 4-JAN-2010 18:14:57 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.62713 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B091.CNF;709 BKG DATE : 3-JAN-2010 EFF FILE : W091.CNF;188 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	2.000	0.000	2.000	3.3488	99.90000	-3.16E-10	2.65E-03	1.03E-02	2.43E-02	2.65E-03
PU-236	5749.000	1.000	0.000	1.000	2.0294	100.0000	-1.60E-10	1.90E-03	6.26E-03	1.61E-02	1.90E-03
PU-238	5499.000	0.000	-1.000	1.000	2.9082	99.90000	-1.33E-03	1.88E-03	8.98E-03	2.15E-02	1.88E-03
PU242	4890.000	914.000	911.000	3.000	1.7321	100.0000	1.21E+00	7.63E-02	5.34E-03	1.43E-02	4.01E-02
PU-244	4589.000	1.000	0.000	1.000	6.8218	99.90000	-1.58E-10	1.88E-03	2.11E-02	4.57E-02	1.88E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

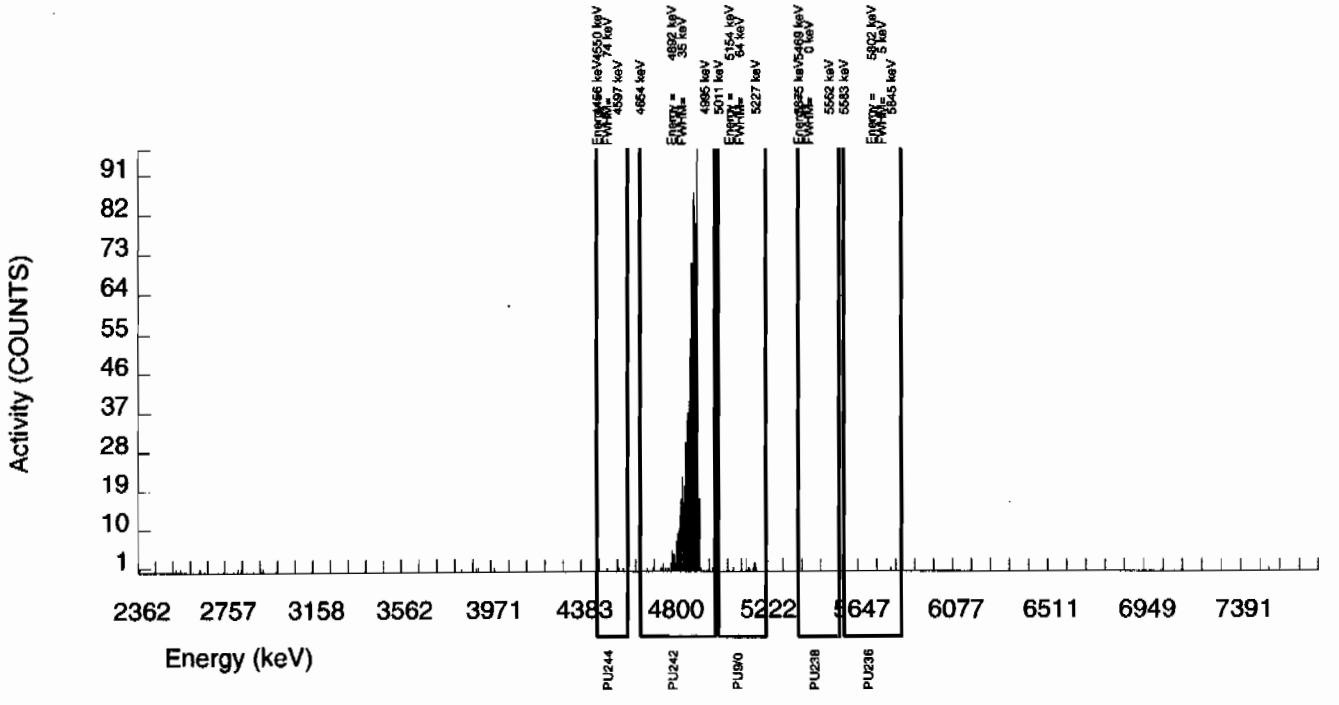
BATCH NUMBER: 937598 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385010_PU SAMPLE QTY: 1.254 G
DETECTOR NUMBER :79457 AVERAGE %EFFICIENCY :31.2136 % YIELD : 82.993	COUNT DATE: 4-JAN-2010 18:14:57 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.80967 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B092.CNF;712 BKG DATE : 3-JAN-2010 EFF FILE : W092.CNF;231 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	12.000	12.000	0.000	3.3488	99.90000	1.67E-02	4.89E-03	1.08E-02	2.54E-02	4.81E-03
PU-236	5749.000	1.000	-2.000	3.000	2.0294	100.0000	-2.81E-03	2.81E-03	6.55E-03	1.69E-02	2.81E-03
PU-238	5499.000	0.000	-1.000	1.000	2.9082	99.90000	-1.39E-03	1.97E-03	9.39E-03	2.25E-02	1.96E-03
PU242	4890.000	882.000	877.000	5.000	2.2361	100.0000	1.22E+00	7.78E-02	7.21E-03	1.82E-02	4.13E-02
PU-244	4589.000	3.000	1.000	2.000	6.8218	99.90000	1.39E-03	3.10E-03	2.20E-02	4.78E-02	3.10E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

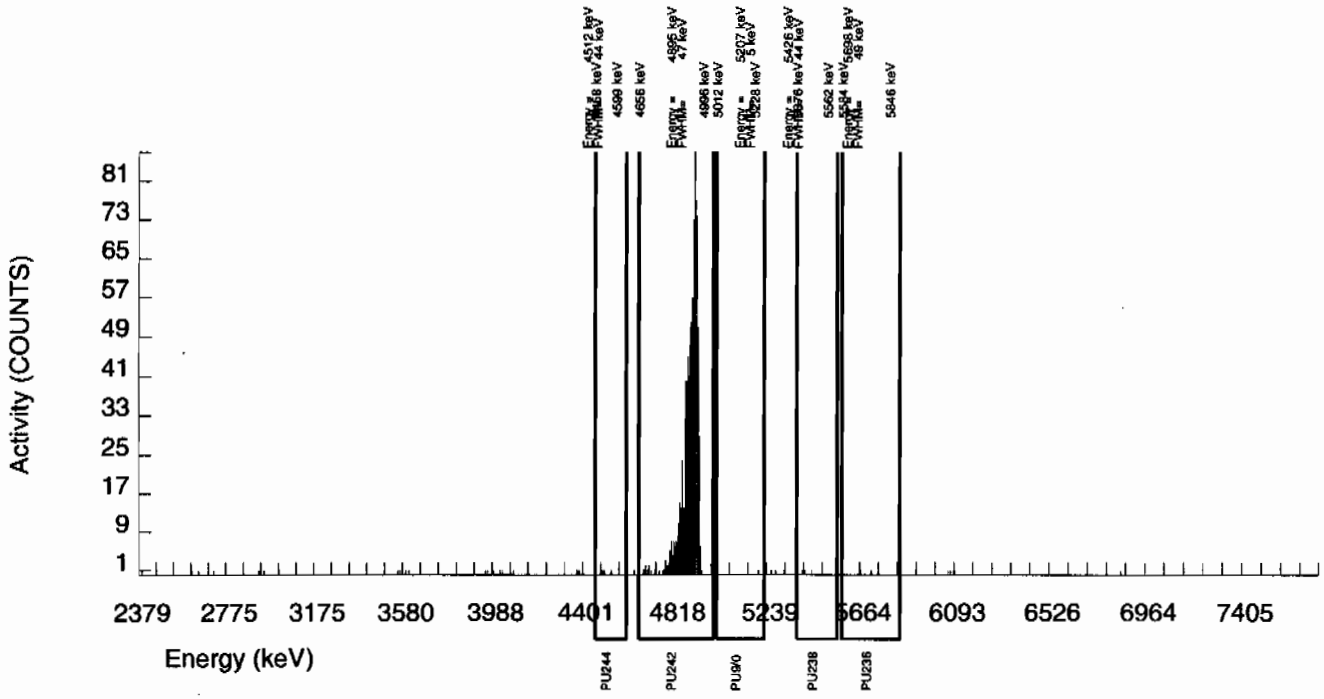
BATCH NUMBER: 937598 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385011_PU SAMPLE QTY: 1.251 G
DETECTOR NUMBER :33206 AVERAGE %EFFICIENCY :31.6591 % YIELD : 82.758	COUNT DATE: 4-JAN-2010 18:14:57 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.80172 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B093.CNF;700 BKG DATE : 3-JAN-2010 EFF FILE : W093.CNF;197 CAL DATE : 10-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	1.000	0.000	1.000	3.3488	99.90000	-1.64E-10	1.95E-03	1.07E-02	2.52E-02	1.95E-03
PU-236	5749.000	2.000	2.000	0.000	2.0294	100.0000	2.78E-03	1.97E-03	6.49E-03	1.67E-02	1.97E-03
PU-238	5499.000	3.000	3.000	0.000	2.9082	99.90000	4.13E-03	2.39E-03	9.31E-03	2.23E-02	2.38E-03
PU242	4890.000	891.000	887.000	4.000	2.0000	100.0000	1.22E+00	7.76E-02	6.39E-03	1.65E-02	4.11E-02
PU-244	4589.000	3.000	3.000	0.000	6.8218	99.90000	4.13E-03	2.39E-03	2.18E-02	4.74E-02	2.38E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

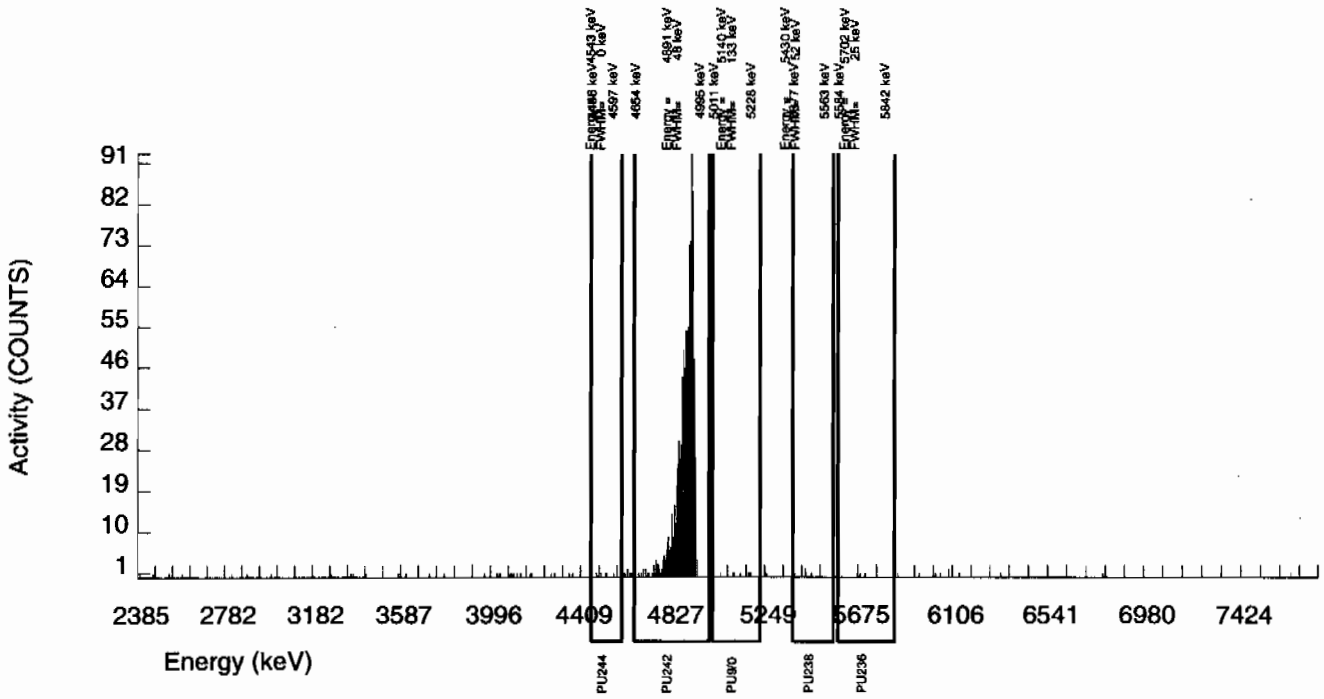
BATCH NUMBER: 937598 SAMPLE DATE : 18-DEC-2009 00:00:00	SAMPLE ID : S0243492007_PU SAMPLE QTY: 1.259 G
DETECTOR NUMBER :79435 AVERAGE %EFFICIENCY :38.1437 % YIELD : 76.897	COUNT DATE: 4-JAN-2010 11:24:28 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.60331 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B242.CNF;66 BKG DATE : 3-JAN-2010 EFF FILE : W242.CNF;24 CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	7.000	6.000	1.000	3.3488	99.90000	7.33E-03	3.47E-03	9.51E-03	2.23E-02	3.45E-03
PU-236	5749.000	2.000	1.000	1.000	2.0294	100.0000	1.23E-03	2.14E-03	5.76E-03	1.48E-02	2.14E-03
PU-238	5499.000	6.000	6.000	0.000	2.9082	99.90000	7.33E-03	3.02E-03	8.26E-03	1.98E-02	2.99E-03
PU242	4890.000	993.000	993.000	0.000	0.0000	100.0000	1.21E+00	7.25E-02	0.00E+00	3.31E-03	3.84E-02
PU-244	4589.000	7.000	7.000	0.000	6.8218	99.90000	8.55E-03	3.26E-03	1.94E-02	4.21E-02	3.23E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

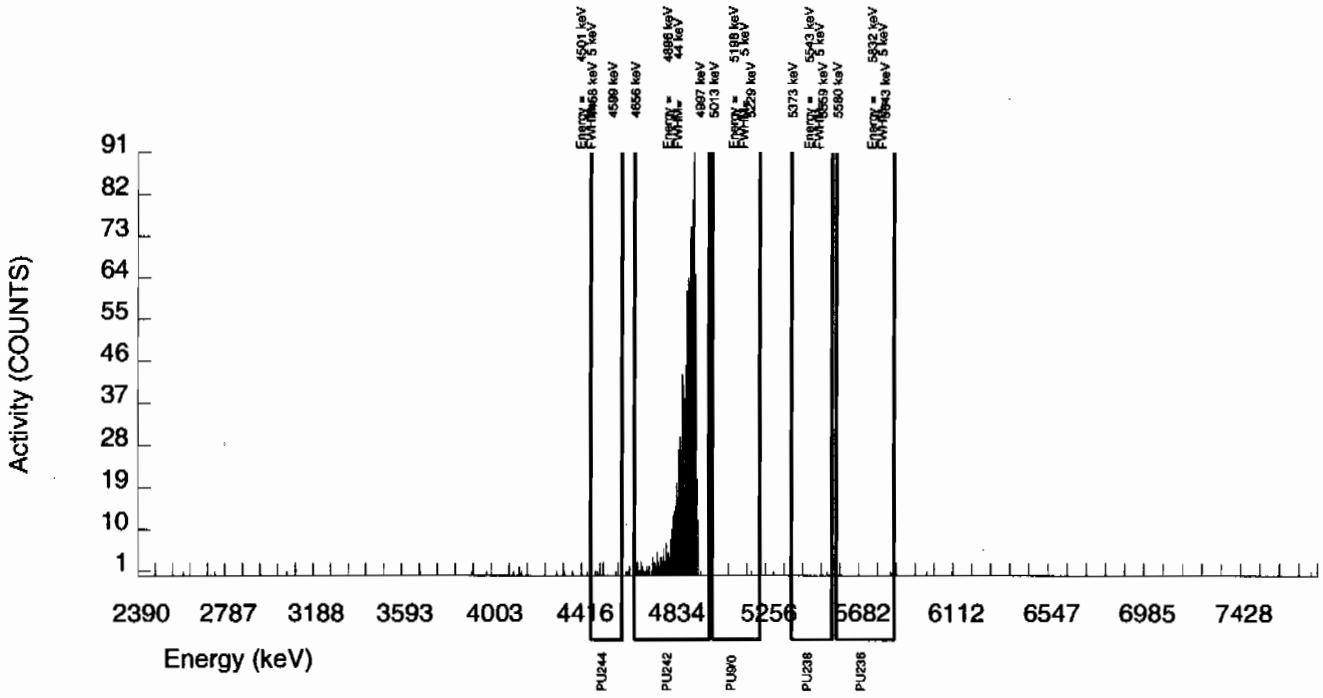
BATCH NUMBER: 937598 SAMPLE DATE : 30-DEC-2009 00:00:00	SAMPLE ID : S1202006346_PU SAMPLE QTY: 1.000 G
DETECTOR NUMBER :79411 AVERAGE %EFFICIENCY :37.5005 % YIELD : 85.463	COUNT DATE: 4-JAN-2010 11:23:20 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.89330 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B218.CNF;66 BKG DATE : 3-JAN-2010 EFF FILE : W218.CNF;24 CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	1.000	0.000	1.000	3.3488	99.90000	0.00E+00	1.99E-03	1.10E-02	2.57E-02	1.99E-03
PU-236	5749.000	1.000	0.000	1.000	2.0294	100.0000	0.00E+00	2.00E-03	6.64E-03	1.71E-02	2.00E-03
PU-238	5499.000	1.000	-1.000	2.000	2.9082	99.90000	-1.41E-03	2.44E-03	9.52E-03	2.28E-02	2.44E-03
PU242	4890.000	1089.000	1085.000	4.000	2.0000	100.0000	1.52E+00	8.92E-02	6.54E-03	1.69E-02	4.65E-02
PU-244	4589.000	9.000	9.000	0.000	6.8218	99.90000	1.27E-02	4.27E-03	2.23E-02	4.85E-02	4.22E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

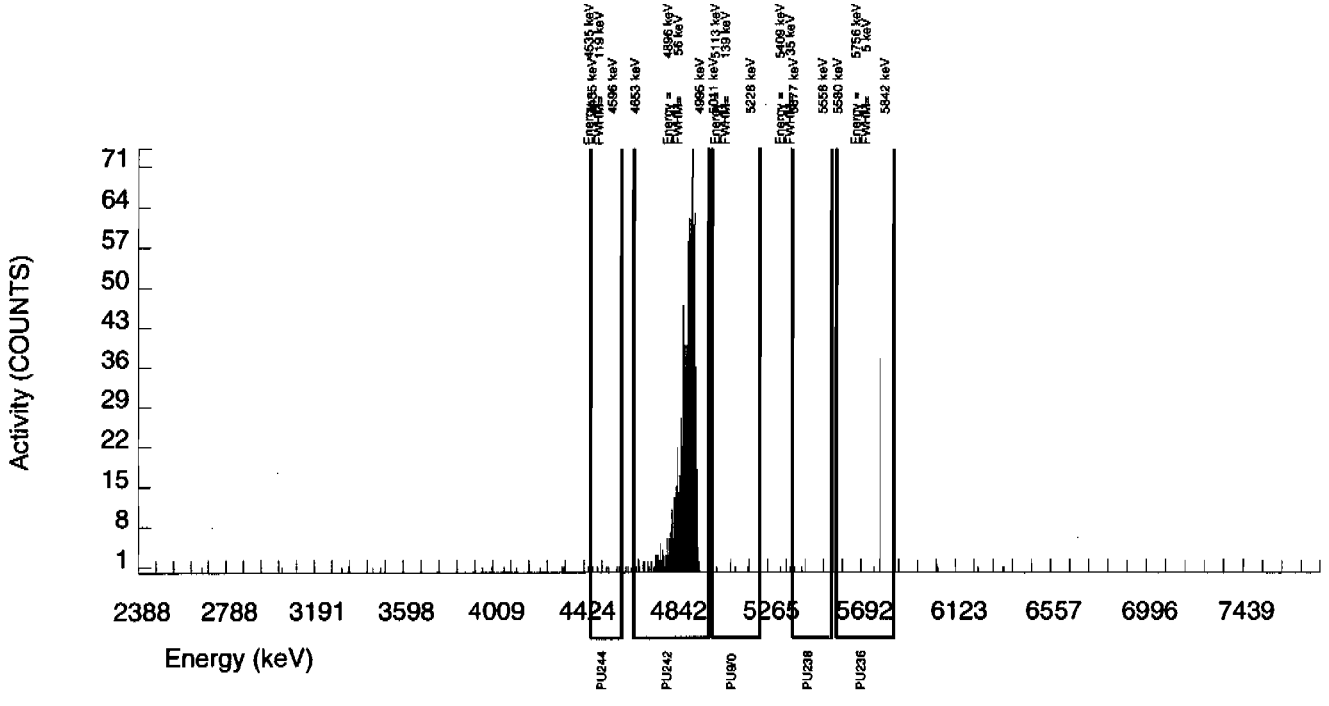
BATCH NUMBER: 937598 SAMPLE DATE : 18-DEC-2009 00:00:00	SAMPLE ID : S1202006347_PU SAMPLE QTY: 1.270 G
DETECTOR NUMBER :79414 AVERAGE %EFFICIENCY :37.2887 % YIELD : 71.056	COUNT DATE: 4-JAN-2010 11:23:29 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.40555 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B221.CNF;66 BKG DATE : 3-JAN-2010 EFF FILE : W221.CNF;24 CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	3.000	3.000	0.000	3.3488	99.90000	4.02E-03	2.33E-03	1.04E-02	2.45E-02	2.32E-03
PU-236	5749.000	1.000	1.000	0.000	2.0294	100.0000	1.35E-03	1.36E-03	6.32E-03	1.63E-02	1.35E-03
PU-238	5499.000	2.000	0.000	2.000	2.9082	99.90000	0.00E+00	2.68E-03	9.07E-03	2.18E-02	2.68E-03
PU242	4890.000	898.000	897.000	1.000	1.0000	100.0000	1.20E+00	7.40E-02	3.11E-03	9.86E-03	4.01E-02
PU-244	4589.000	6.000	5.000	1.000	6.8218	99.90000	6.70E-03	3.56E-03	2.13E-02	4.62E-02	3.55E-03

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

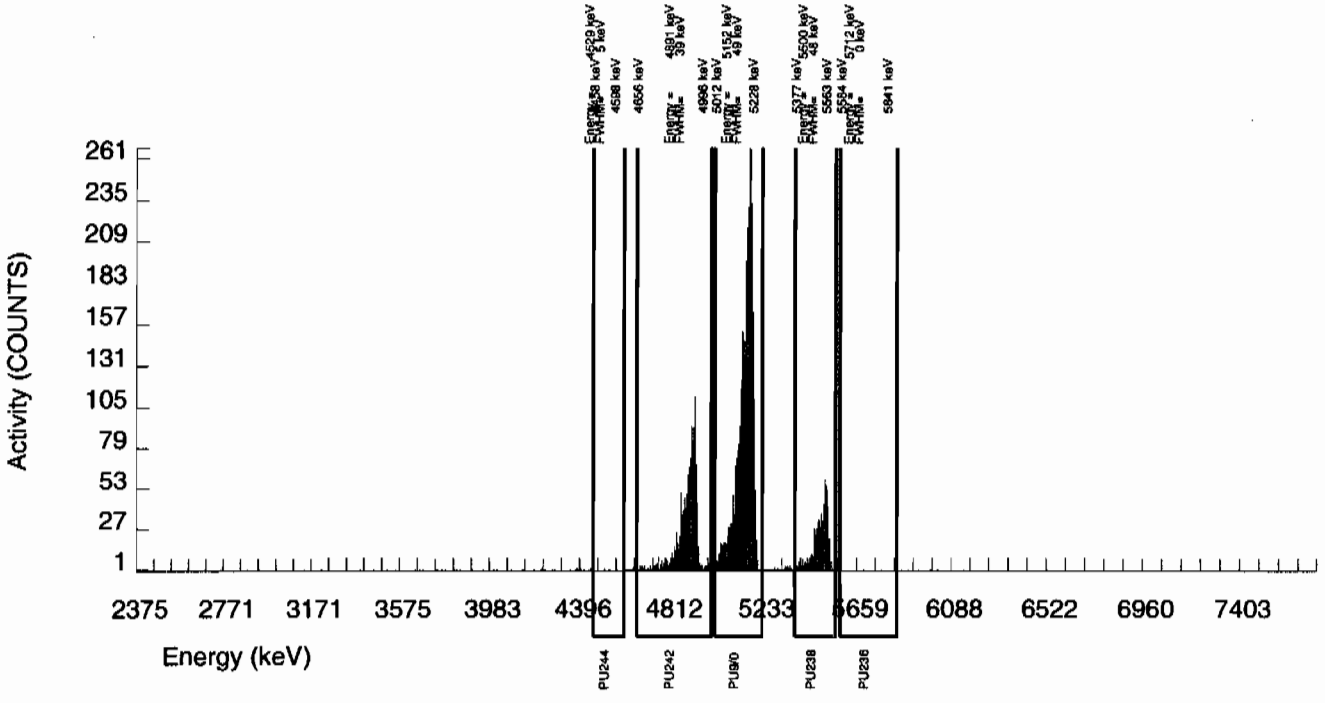
BATCH NUMBER: 937598 SAMPLE DATE : 30-DEC-2009 00:00:00	SAMPLE ID : S1202006348_PU SAMPLE QTY: 0.113 G
DETECTOR NUMBER :79427 AVERAGE %EFFICIENCY :38.3332 % YIELD : 95.242	COUNT DATE: 4-JAN-2010 10:37:35 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 3.22436 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B234.CNF;66 BKG DATE : 3-JAN-2010 EFF FILE : W234.CNF;24 CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	3097.000	3097.000	0.000	3.3488	99.90000	3.38E+01	2.01E+00	8.51E-02	2.00E-01	6.08E-01
PU-236	5749.000	0.000	0.000	0.000	2.0294	100.0000	0.00E+00	1.10E-02	5.15E-02	1.33E-01	1.10E-02
PU-238	5499.000	617.000	617.000	0.000	2.9082	99.90000	6.74E+00	4.68E-01	7.39E-02	1.78E-01	2.72E-01
PU242	4890.000	1238.000	1236.000	2.000	1.4142	100.0000	1.35E+01	8.54E-01	3.59E-02	1.01E-01	3.84E-01
PU-244	4589.000	6.000	6.000	0.000	6.8218	99.90000	6.56E-02	2.70E-02	1.73E-01	3.77E-01	2.68E-02

NOTE: Sg calculated via blank population (updated 1-DEC-2009)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Radiochemistry Batch Checklist, Rev 9

Batch# 937600 Product: U Date: 1/8/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 mg for GAB.			N/A
Samples have been blank corrected (if required)	✓		
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits. Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%. Or meets the client's required RER acceptance criteria.	✓		
Tracer yield is 15-125% . Carrier yield 25-125%. Or meets the client's contract acceptance criteria.	✓		
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms. All line outs initialed and dated. No transcription errors are apparent.	✓		
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch non-conformances completed. If applicable.			N/A
Batch non-conformances second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analyse.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By: Denise Green 1/8/10

Secondary Review Performed By: Jack M... 1/8/10

1/19

P ✓

Uranium Que Sheet

30-DEC-09

Batch #: 937600 **Analyst:** JXD2 **First Client Due Date:** 19-JAN-10 **Internal Due Date:** 08-JAN-10

Tracer Isotope: U-232/U-236 **Tracer Code:** 1283-H **Expiration Date:** 12/08/10 **Vol:** 0.1
LCS Isotope: U-238 **LCS Code:** — **Expiration Date:** — **Vol:** —
Spike Isotope: U-238 **Spike Code:** — **Expiration Date:** — **Vol:** —
Prep Date: 12/30/09 **Initials:** JXD **Pipet ID:** 2976058 **Balance ID:** 50410272 **Witness:** Mel 12/30/9

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g/l/f)	U Det #
243385001-1	RE12-10-7580	SAMPLE		.1 pCi/g	SOIL	LANL010	17-DEC-09	1	1	0.525	125
243385002-1	RE12-10-7590	SAMPLE		.1 pCi/g	SOIL	LANL010	17-DEC-09	2	2	0.515	161 ~~126~~ DS 1/12/10
243385003-1	RE12-10-7592	SAMPLE		.1 pCi/g	SOIL	LANL010	17-DEC-09	3	3	0.502	127
243385004-1	RE12-10-7591	SAMPLE		.1 pCi/g	SOIL	LANL010	17-DEC-09	4	4	0.509	128
243385005-1	RE12-10-7581	SAMPLE		.1 pCi/g	SOIL	LANL010	17-DEC-09	5	5	0.501	129
243385006-1	RE12-10-7586	SAMPLE		.1 pCi/g	SOIL	LANL010	17-DEC-09	6	6	0.510	130
243385007-1	RE12-10-7587	SAMPLE		.1 pCi/g	SOIL	LANL010	17-DEC-09	7	7	0.520	133
243385008-1	RE12-10-7585	SAMPLE		.1 pCi/g	SOIL	LANL010	17-DEC-09	8	8	0.511	134
243385009-1	RE12-10-7582	SAMPLE		.1 pCi/g	SOIL	LANL010	17-DEC-09	9	9	0.509	153
243385010-1	RE12-10-7584	SAMPLE		.1 pCi/g	SOIL	LANL010	17-DEC-09	10	10	0.506	162 ~~154~~ DS 1/12/10
243385011-1	RE12-10-7583	SAMPLE		.1 pCi/g	SOIL	LANL010	17-DEC-09	11	11	0.504	155
243492001-1	RE12-10-7288	SAMPLE		.1 pCi/g	SOIL	LANL010	18-DEC-09	12	12	0.512	156
243492002-1	RE12-10-7290	SAMPLE		.1 pCi/g	SOIL	LANL010	18-DEC-09	13	13	0.514	157
243492003-1	RE12-10-7289	SAMPLE		.1 pCi/g	SOIL	LANL010	18-DEC-09	14	14	0.505	158
243492004-1	RE12-10-7291	SAMPLE		.1 pCi/g	SOIL	LANL010	18-DEC-09	15	15	0.501	159
243492005-1	RE12-10-7292	SAMPLE		.1 pCi/g	SOIL	LANL010	18-DEC-09	16	16	0.518	160
243492006-1	RE12-10-7293	SAMPLE		.1 pCi/g	SOIL	LANL010	18-DEC-09	17	17	0.515	161
• 243492007-1	RE12-10-7296	SAMPLE		.1 pCi/g	SOIL	LANL010	18-DEC-09	18	18	0.502	162
1202806349-1	MB for batch 937600	MB		.1 pCi/g	SOIL	QC ACCOUNT		19	19	/	163
1202806350-1	RE12-10-7296(243492007DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	18-DEC-09	20	20	0.507	164
1202806351-1	LCS for batch 937600	LCS		.1 pCi/g	SOIL	QC ACCOUNT		21	21	0.103	165

* SRM 0244-A 10/31/20 exp. 0.103g

Choose SOP used: GL-RAD-A-011 **Solid Sample Dissolution by:** LEACH or DIGESTION (Circle One) **Data Reviewed By:** DS 1/8/10

Blank Correction Report

Batch ID 937600

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202006350	DUP	Uranium-233/234	0.507 g	1.07	0.0956	0.101	.024852071	pCi/g	NO
		Uranium-235/236	0.507 g	0.0523	0.015	0.0627	.002978304	pCi/g	NO
		Uranium-238	0.507 g	1.05	0.0936	0.0585	.007218935	pCi/g	NO
1202006351	LCS	Uranium-233/234	0.103 g	5.81	0.509	0.371	.122330097	pCi/g	NO
		Uranium-235/236	0.103 g	0.400	0.0852	0.231	.014660194	pCi/g	NO
		Uranium-238	0.103 g	5.32	0.472	0.215	.035533981	pCi/g	NO
1202006349	MB	Uranium-233/234	1.00 g	0.0126	0.00401	0.0378	.0126	pCi/g	YES
		Uranium-235/236	1.00 g	0.00151	0.00151	0.0235	.00151	pCi/g	YES
		Uranium-238	1.00 g	0.00366	0.00274	0.0219	.00366	pCi/g	YES
243385001	RE12-10-7580	Uranium-233/234	0.525 g	1.43	0.130	0.134	.024	pCi/g	NO
		Uranium-235/236	0.525 g	0.0751	0.0208	0.0834	.002876190	pCi/g	NO
		Uranium-238	0.525 g	1.76	0.154	0.078	.006971429	pCi/g	NO
243385002	RE12-10-7590	Uranium-233/234	0.515 g	1.10	0.0938	0.0859	.024466019	pCi/g	NO
		Uranium-235/236	0.515 g	0.0685	0.0167	0.0533	.002932039	pCi/g	NO
		Uranium-238	0.515 g	1.17	0.0987	0.0498	.007106796	pCi/g	NO
243385003	RE12-10-7592	Uranium-233/234	0.502 g	0.730	0.0777	0.138	.025099602	pCi/g	NO
		Uranium-235/236	0.502 g	0.0605	0.0187	0.0855	.003007968	pCi/g	NO
		Uranium-238	0.502 g	0.725	0.077	0.0799	.007290837	pCi/g	NO
243385004	RE12-10-7591	Uranium-233/234	0.509 g	0.864	0.0896	0.145	.024754420	pCi/g	NO
		Uranium-235/236	0.509 g	0.0348	0.0144	0.0903	.002966601	pCi/g	NO
		Uranium-238	0.509 g	0.925	0.0942	0.0844	.007190570	pCi/g	NO
243385005	RE12-10-7581	Uranium-233/234	0.501 g	0.847	0.0879	0.144	.025149701	pCi/g	NO
		Uranium-235/236	0.501 g	0.0345	0.0143	0.0894	.003013972	pCi/g	NO
		Uranium-238	0.501 g	0.865	0.0892	0.0836	.007305389	pCi/g	NO
243385006	RE12-10-7586	Uranium-233/234	0.510 g	1.50	0.134	0.130	.024705882	pCi/g	NO
		Uranium-235/236	0.510 g	0.0776	0.0208	0.0806	.002960784	pCi/g	NO
		Uranium-238	0.510 g	1.65	0.144	0.0753	.007176471	pCi/g	NO
243385007	RE12-10-7587	Uranium-233/234	0.520 g	0.643	0.0728	0.150	.024230769	pCi/g	NO
		Uranium-235/236	0.520 g	0.0298	0.0135	0.0929	.002903846	pCi/g	NO
		Uranium-238	0.520 g	0.797	0.0852	0.0868	.007038462	pCi/g	NO
243385008	RE12-10-7585	Uranium-233/234	0.511 g	0.710	0.0766	0.141	.024657534	pCi/g	NO
		Uranium-235/236	0.511 g	0.045	0.0181	0.0875	.002954990	pCi/g	NO
		Uranium-238	0.511 g	0.837	0.0869	0.0817	.007162427	pCi/g	NO
243385009	RE12-10-7582	Uranium-233/234	0.509 g	1.22	0.117	0.143	.024754420	pCi/g	NO
		Uranium-235/236	0.509 g	0.057	0.0217	0.0888	.002966601	pCi/g	NO
		Uranium-238	0.509 g	1.11	0.108	0.0829	.007190570	pCi/g	NO
243385010	RE12-10-7584	Uranium-233/234	0.506 g	1.51	0.125	0.0952	.024901186	pCi/g	NO
		Uranium-235/236	0.506 g	0.0874	0.0192	0.0591	.002984190	pCi/g	NO
		Uranium-238	0.506 g	1.67	0.136	0.0552	.007233202	pCi/g	NO
243385011	RE12-10-7583	Uranium-233/234	0.504 g	1.08	0.104	0.137	.025	pCi/g	NO
		Uranium-235/236	0.504 g	0.0819	0.022	0.085	.002996032	pCi/g	NO

1/8/10

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
243385011	RE12-10-7583	Uranium-238	0.504 g	1.19	0.113	0.0794	.007261905	pCi/g	NO
243492001	RE12-10-7288	Uranium-233/234	0.512 g	1.22	0.118	0.153	.024609375	pCi/g	NO
		Uranium-235/236	0.512 g	0.0426	0.0185	0.0947	.002949219	pCi/g	NO
		Uranium-238	0.512 g	1.59	0.146	0.0885	.007148438	pCi/g	NO
243492002	RE12-10-7290	Uranium-233/234	0.514 g	0.802	0.0862	0.154	.024513619	pCi/g	NO
		Uranium-235/236	0.514 g	0.0554	0.0189	0.0957	.002937743	pCi/g	NO
		Uranium-238	0.514 g	0.856	0.0904	0.0895	.007120623	pCi/g	NO
243492003	RE12-10-7289	Uranium-233/234	0.505 g	0.913	0.0907	0.133	.024950495	pCi/g	NO
		Uranium-235/236	0.505 g	0.0585	0.0181	0.0828	.002990099	pCi/g	NO
		Uranium-238	0.505 g	0.788	0.0812	0.0774	.007247525	pCi/g	NO
243492004	RE12-10-7291	Uranium-233/234	0.501 g	1.17	0.114	0.150	.025149701	pCi/g	NO
		Uranium-235/236	0.501 g	0.0597	0.0194	0.093	.003013972	pCi/g	NO
		Uranium-238	0.501 g	1.14	0.111	0.0869	.007305389	pCi/g	NO
243492005	RE12-10-7292	Uranium-233/234	0.518 g	0.694	0.073	0.128	.024324324	pCi/g	NO
		Uranium-235/236	0.518 g	0.0357	0.0137	0.0794	.002915058	pCi/g	NO
		Uranium-238	0.518 g	0.755	0.0777	0.0742	.007065637	pCi/g	NO
243492006	RE12-10-7293	Uranium-233/234	0.515 g	0.768	0.0714	0.0913	.024466019	pCi/g	NO
		Uranium-235/236	0.515 g	0.040	0.0134	0.0567	.002932039	pCi/g	NO
		Uranium-238	0.515 g	0.836	0.0763	0.0529	.007106796	pCi/g	NO
243492007	RE12-10-7296	Uranium-233/234	0.502 g	0.937	0.0873	0.109	.025099602	pCi/g	NO
		Uranium-235/236	0.502 g	0.0564	0.0161	0.0676	.003007968	pCi/g	NO
		Uranium-238	0.502 g	1.17	0.104	0.0631	.007290837	pCi/g	NO

Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

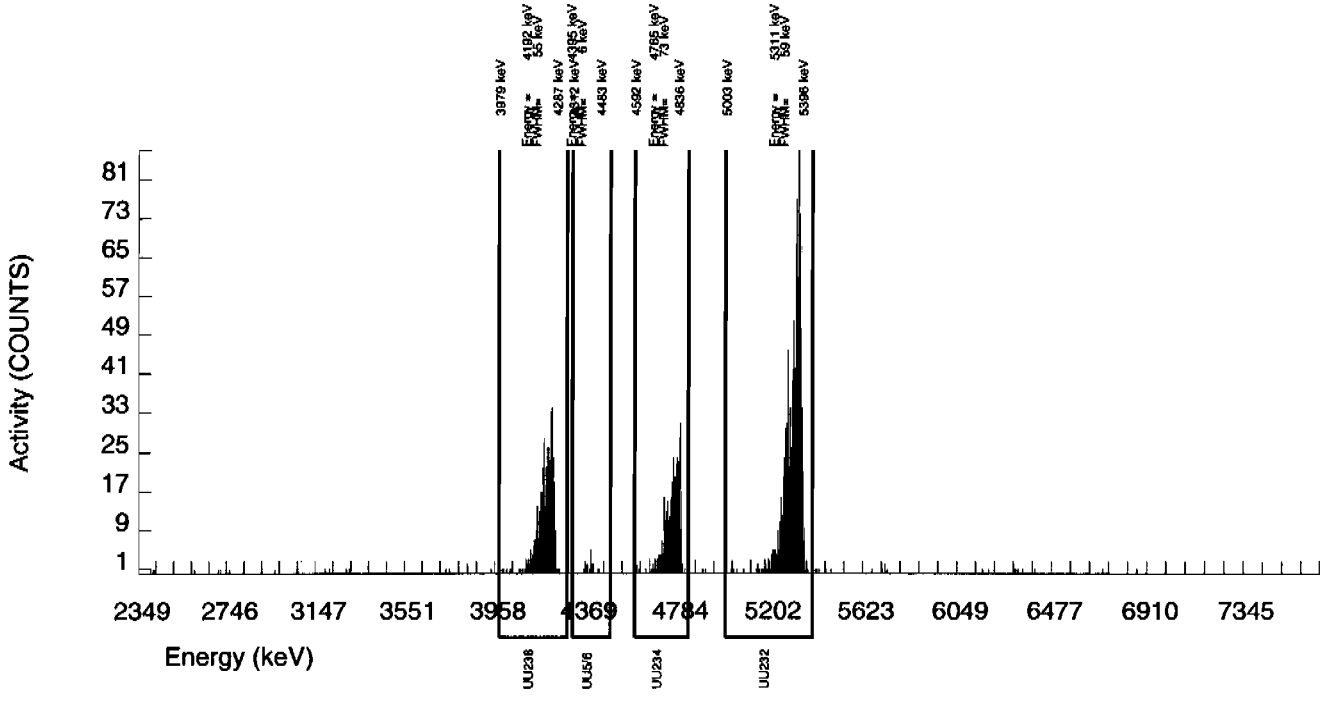
BATCH NUMBER: 937600 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385001_UU SAMPLE QTY: 0.525 G
DETECTOR NUMBER :75547 AVERAGE %EFFICIENCY :25.8475 % YIELD : 76.538	COUNT DATE: 5-JAN-2010 20:20:16 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51139 dpm RESULTS : 3.45293 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B125.CNF;433 BKG DATE : 3-JAN-2010 EFF FILE : W125.CNF;128 CAL DATE : 15-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	333.000	330.098	2.000	6.0782	100.0000	1.43E+00	1.30E-01	6.13E-02	1.34E-01	7.93E-02
U232	5302.100	896.000	892.000	4.000	2.0000	100.0000	3.87E+00	3.08E-01	2.02E-02	5.21E-02	1.30E-01
U-235	4391.000	14.000	14.000	0.000	2.7628	80.90000	7.51E-02	2.08E-02	3.45E-02	8.34E-02	2.01E-02
U-238	4184.730	406.000	405.000	1.000	3.2810	100.0000	1.76E+00	1.54E-01	3.31E-02	7.80E-02	8.75E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

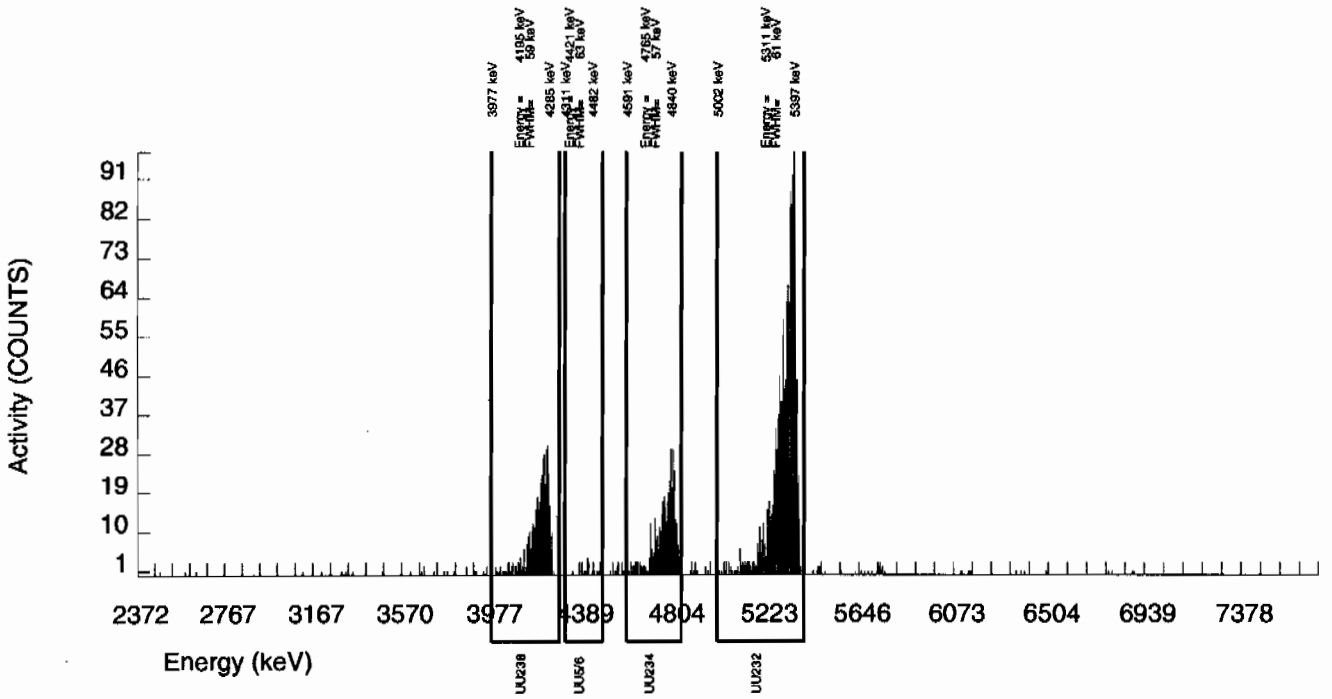
BATCH NUMBER: 937600 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385002_UU SAMPLE QTY: 0.515 G
DETECTOR NUMBER :SAMPLE AVERAGE %EFFICIENCY :36.6119 % YIELD : 86.205	COUNT DATE: 7-JAN-2010 11:16:04 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51139 dpm RESULTS : 3.88905 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B161.CNF;158 BKG DATE : 3-JAN-2010 EFF FILE : W161.CNF;56 CAL DATE : 23-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	398.000	396.561	0.000	6.0782	100.0000	1.10E+00	9.38E-02	3.92E-02	8.59E-02	5.52E-02
U232	5302.100	1430.000	1423.000	7.000	2.6458	100.0000	3.95E+00	2.92E-01	1.71E-02	4.16E-02	1.05E-01
U-235	4391.000	21.000	20.000	1.000	2.7628	80.90000	6.85E-02	1.67E-02	2.20E-02	5.33E-02	1.61E-02
U-238	4184.730	422.000	422.000	0.000	3.2810	100.0000	1.17E+00	9.87E-02	2.12E-02	4.98E-02	5.69E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

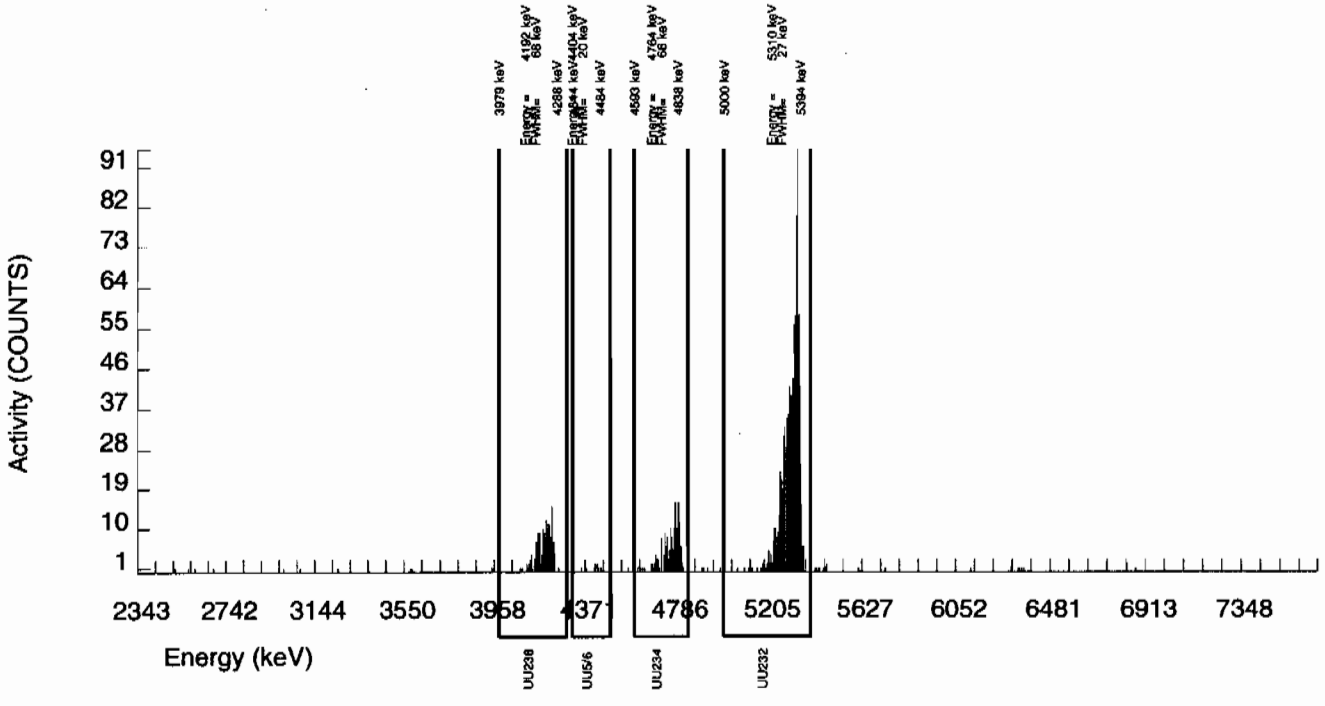
BATCH NUMBER: 937600 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385003_UU SAMPLE QTY: 0.502 G
DETECTOR NUMBER :78770 AVERAGE %EFFICIENCY :24.6888 % YIELD : 81.747	COUNT DATE: 5-JAN-2010 20:20:21 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51139 dpm RESULTS : 3.68793 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B127.CNF;436 BKG DATE : 3-JAN-2010 EFF FILE : W127.CNF;121 CAL DATE : 15-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	166.000	164.080	1.000	6.0782	100.0000	7.30E-01	7.77E-02	6.29E-02	1.38E-01	5.73E-02
U232	5302.100	911.000	910.000	1.000	1.0000	100.0000	4.05E+00	3.20E-01	1.03E-02	3.27E-02	1.34E-01
U-235	4391.000	11.000	11.000	0.000	2.7628	80.90000	6.05E-02	1.87E-02	3.53E-02	8.55E-02	1.82E-02
U-238	4184.730	163.000	163.000	0.000	3.2810	100.0000	7.25E-01	7.70E-02	3.39E-02	7.99E-02	5.68E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

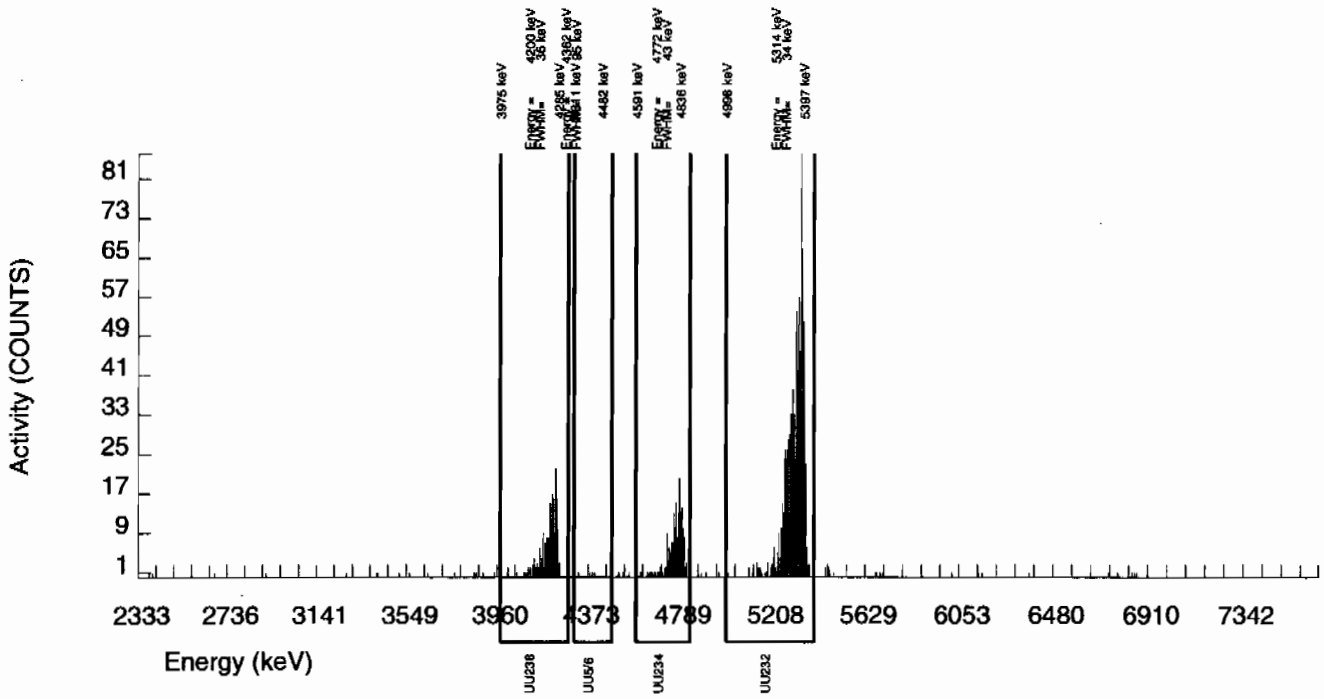
BATCH NUMBER: 937600 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385004_UU SAMPLE QTY: 0.509 G
DETECTOR NUMBER :75549 AVERAGE %EFFICIENCY :25.7685 % YIELD : 73.158	COUNT DATE: 5-JAN-2010 20:20:23 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51139 dpm RESULTS : 3.30043 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B128.CNF;442 BKG DATE : 3-JAN-2010 EFF FILE : W128.CNF;131 CAL DATE : 15-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	186.000	184.141	1.000	6.0782	100.0000	8.64E-01	8.96E-02	6.64E-02	1.45E-01	6.40E-02
U232	5302.100	853.000	850.000	3.000	1.7321	100.0000	3.99E+00	3.20E-01	1.89E-02	5.06E-02	1.37E-01
U-235	4391.000	6.000	6.000	0.000	2.7628	80.90000	3.48E-02	1.44E-02	3.73E-02	9.03E-02	1.42E-02
U-238	4184.730	198.000	197.000	1.000	3.2810	100.0000	9.25E-01	9.42E-02	3.58E-02	8.44E-02	6.62E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

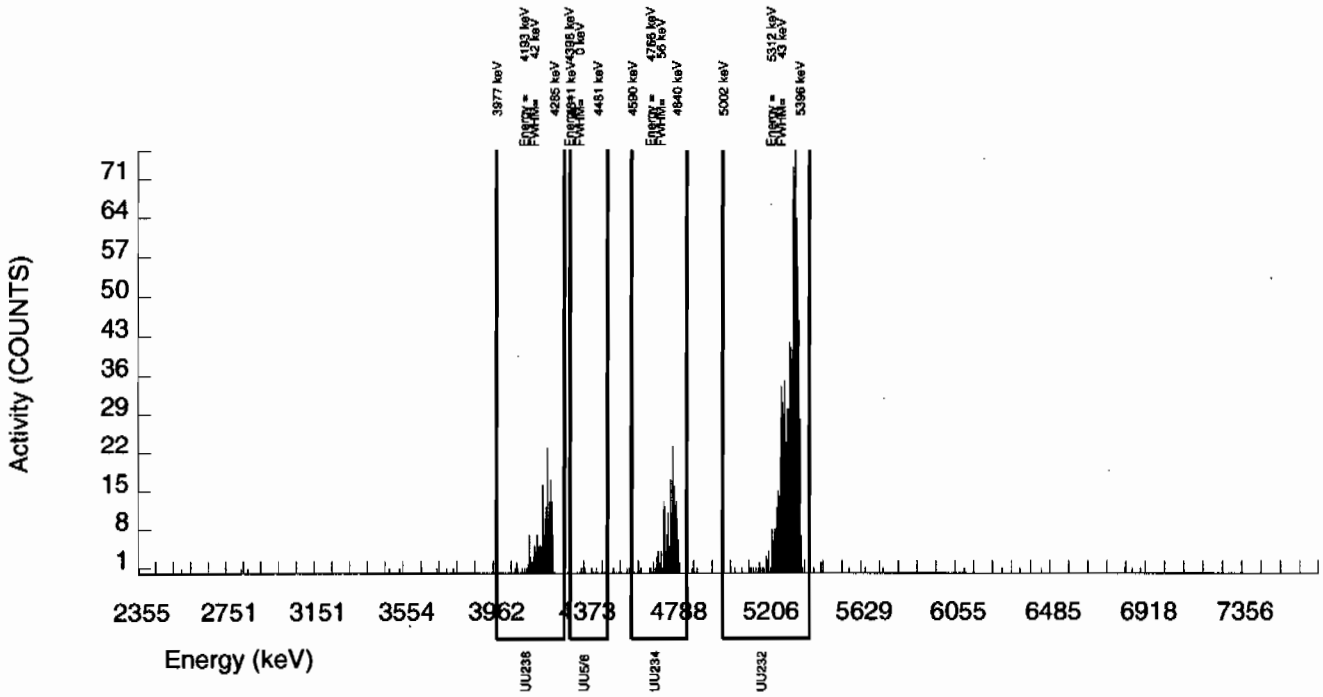
BATCH NUMBER: 937600 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385005_UU SAMPLE QTY: 0.501 G
DETECTOR NUMBER :76227 AVERAGE %EFFICIENCY :26.3585 % YIELD : 73.371	COUNT DATE: 5-JAN-2010 20:20:26 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51139 dpm RESULTS : 3.31006 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B129.CNF;431 BKG DATE : 3-JAN-2010 EFF FILE : W129.CNF;126 CAL DATE : 15-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	184.000	182.119	1.000	6.0782	100.0000	8.47E-01	8.79E-02	6.57E-02	1.44E-01	6.31E-02
U232	5302.100	876.000	872.000	4.000	2.0000	100.0000	4.06E+00	3.24E-01	2.16E-02	5.59E-02	1.38E-01
U-235	4391.000	6.000	6.000	0.000	2.7628	80.90000	3.45E-02	1.43E-02	3.69E-02	8.94E-02	1.41E-02
U-238	4184.730	187.000	186.000	1.000	3.2810	100.0000	8.65E-01	8.92E-02	3.55E-02	8.36E-02	6.37E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

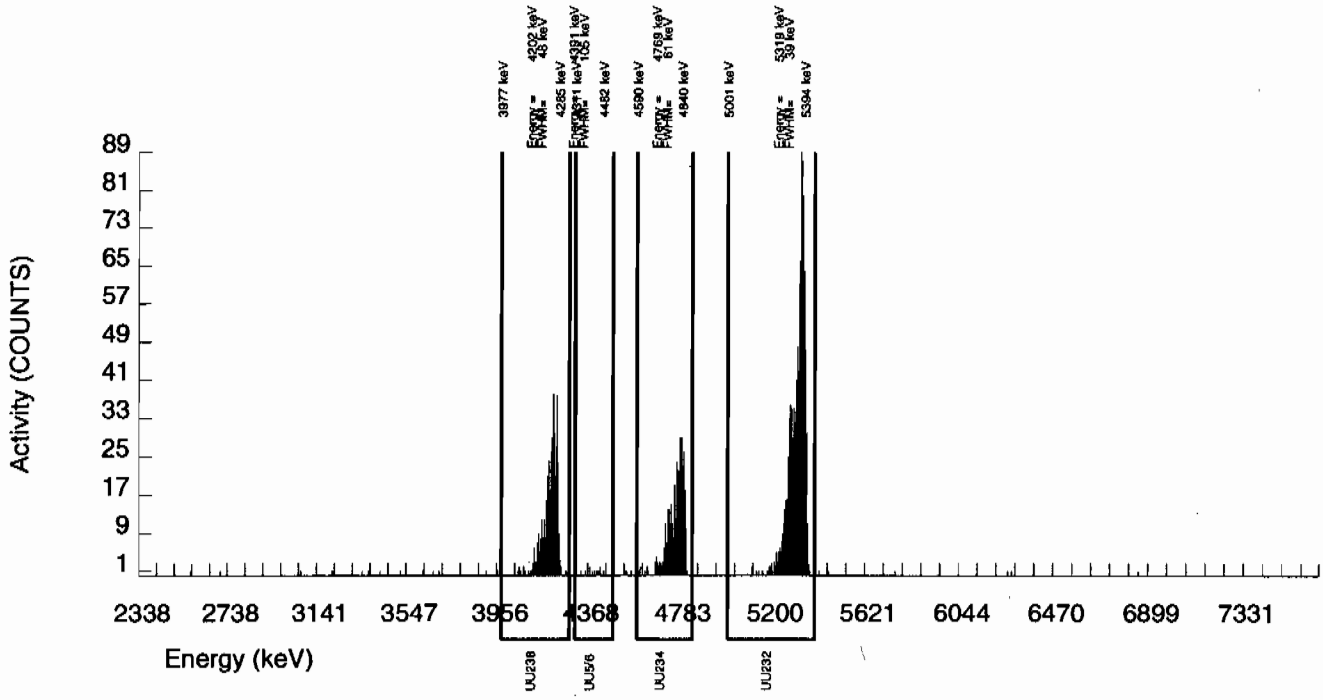
BATCH NUMBER: 937600 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385006_UU SAMPLE QTY: 0.510 G
DETECTOR NUMBER :76228 AVERAGE %EFFICIENCY :24.6671 % YIELD : 85.505	COUNT DATE: 5-JAN-2010 20:20:28 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51139 dpm RESULTS : 3.85748 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B130.CNF;431 BKG DATE : 3-JAN-2010 EFF FILE : W130.CNF;128 CAL DATE : 15-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	360.000	359.039	0.000	6.0782	100.0000	1.50E+00	1.34E-01	5.92E-02	1.30E-01	7.93E-02
U232	5302.100	953.000	951.000	2.000	1.4142	100.0000	3.98E+00	3.13E-01	1.38E-02	3.89E-02	1.29E-01
U-235	4391.000	15.000	15.000	0.000	2.7628	80.90000	7.76E-02	2.08E-02	3.33E-02	8.06E-02	2.00E-02
U-238	4184.730	395.000	394.000	1.000	3.2810	100.0000	1.65E+00	1.44E-01	3.20E-02	7.53E-02	8.33E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

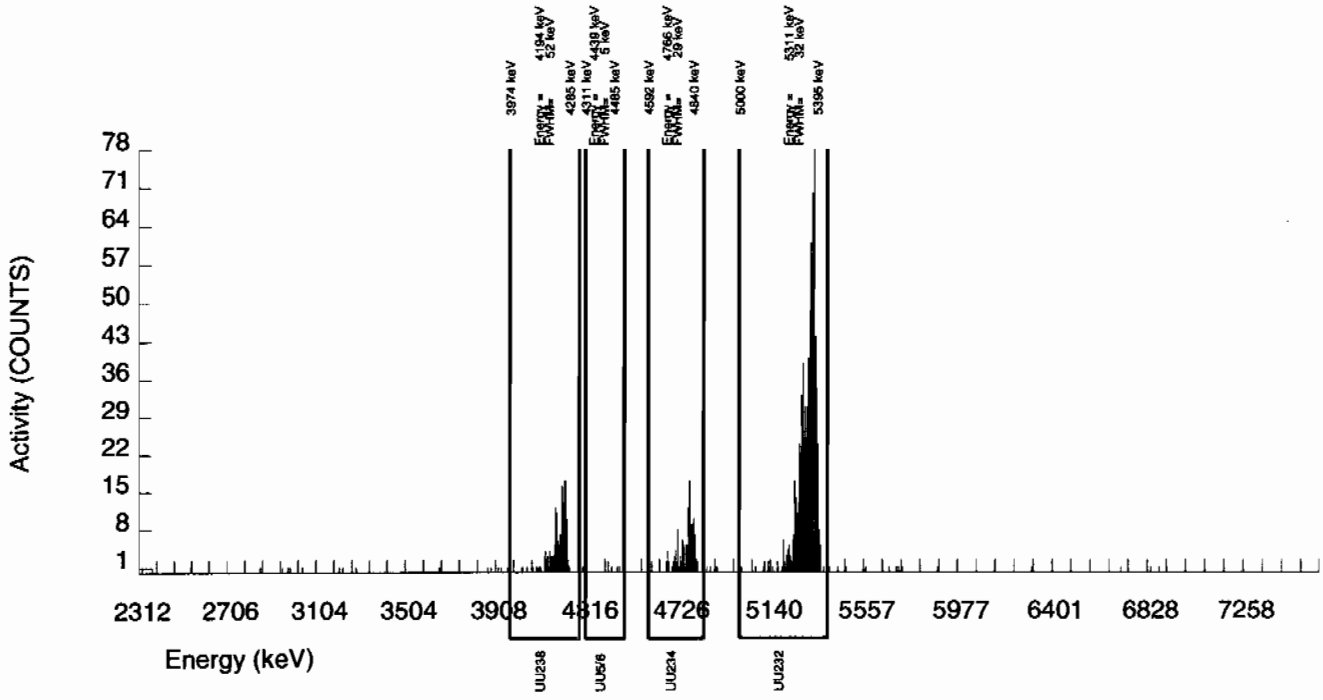
BATCH NUMBER: 937600 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385007_UU SAMPLE QTY: 0.520 G
DETECTOR NUMBER :76229 AVERAGE %EFFICIENCY :24.3666 % YIELD : 73.635	COUNT DATE: 5-JAN-2010 20:20:30 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51139 dpm RESULTS : 3.32196 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B133.CNF;415 BKG DATE : 3-JAN-2010 EFF FILE : W133.CNF;119 CAL DATE : 15-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	134.000	133.182	0.000	6.0782	100.0000	6.43E-01	7.28E-02	6.83E-02	1.50E-01	5.57E-02
U232	5302.100	813.000	809.000	4.000	2.0000	100.0000	3.91E+00	3.16E-01	2.25E-02	5.80E-02	1.38E-01
U-235	4391.000	5.000	5.000	0.000	2.7628	80.90000	2.98E-02	1.35E-02	3.84E-02	9.29E-02	1.33E-02
U-238	4184.730	166.000	165.000	1.000	3.2810	100.0000	7.97E-01	8.52E-02	3.69E-02	8.68E-02	6.24E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

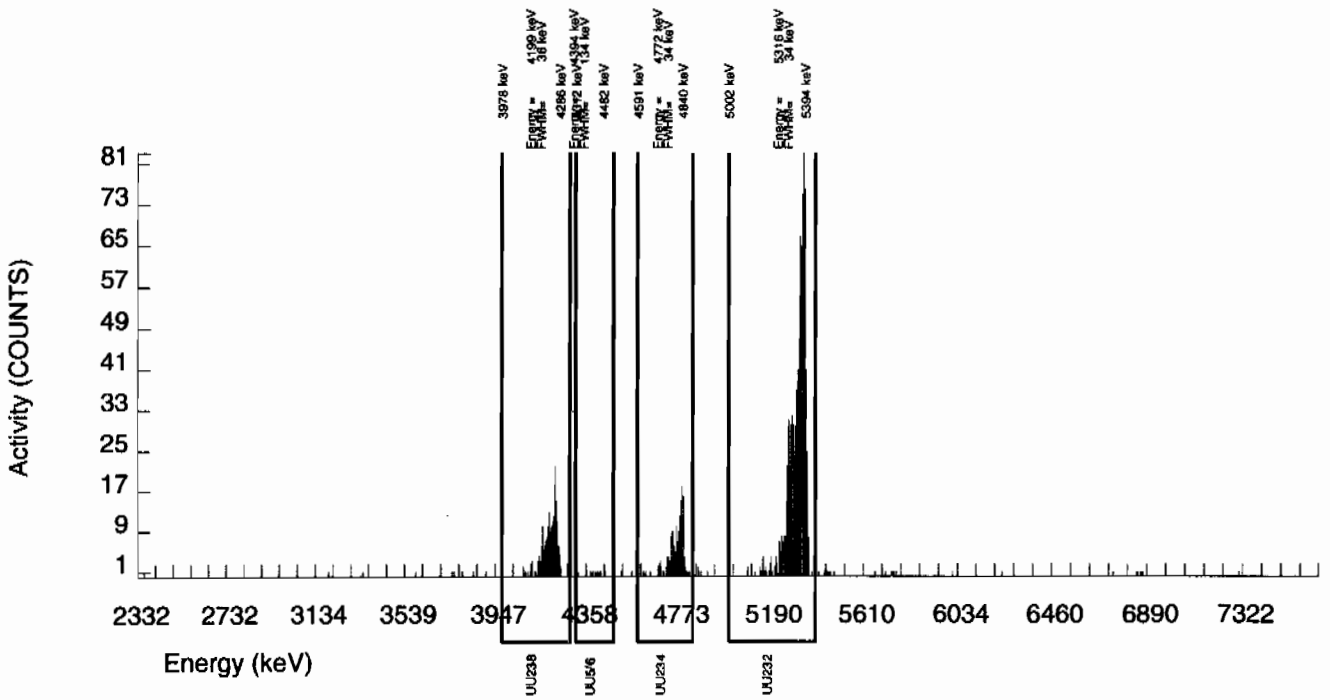
BATCH NUMBER: 937600 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385008_UU SAMPLE QTY: 0.511 G
DETECTOR NUMBER :76230 AVERAGE %EFFICIENCY :24.3110 % YIELD : 79.733	COUNT DATE: 5-JAN-2010 20:20:33 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51139 dpm RESULTS : 3.59708 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B134.CNF;414 BKG DATE : 3-JAN-2010 EFF FILE : W134.CNF;123 CAL DATE : 15-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	157.000	156.116	0.000	6.0782	100.0000	7.10E-01	7.66E-02	6.43E-02	1.41E-01	5.68E-02
U232	5302.100	881.000	874.000	7.000	2.6458	100.0000	3.98E+00	3.18E-01	2.80E-02	6.83E-02	1.36E-01
U-235	4391.000	9.000	8.000	1.000	2.7628	80.90000	4.50E-02	1.81E-02	3.61E-02	8.75E-02	1.78E-02
U-238	4184.730	186.000	184.000	2.000	3.2810	100.0000	8.37E-01	8.69E-02	3.47E-02	8.17E-02	6.24E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

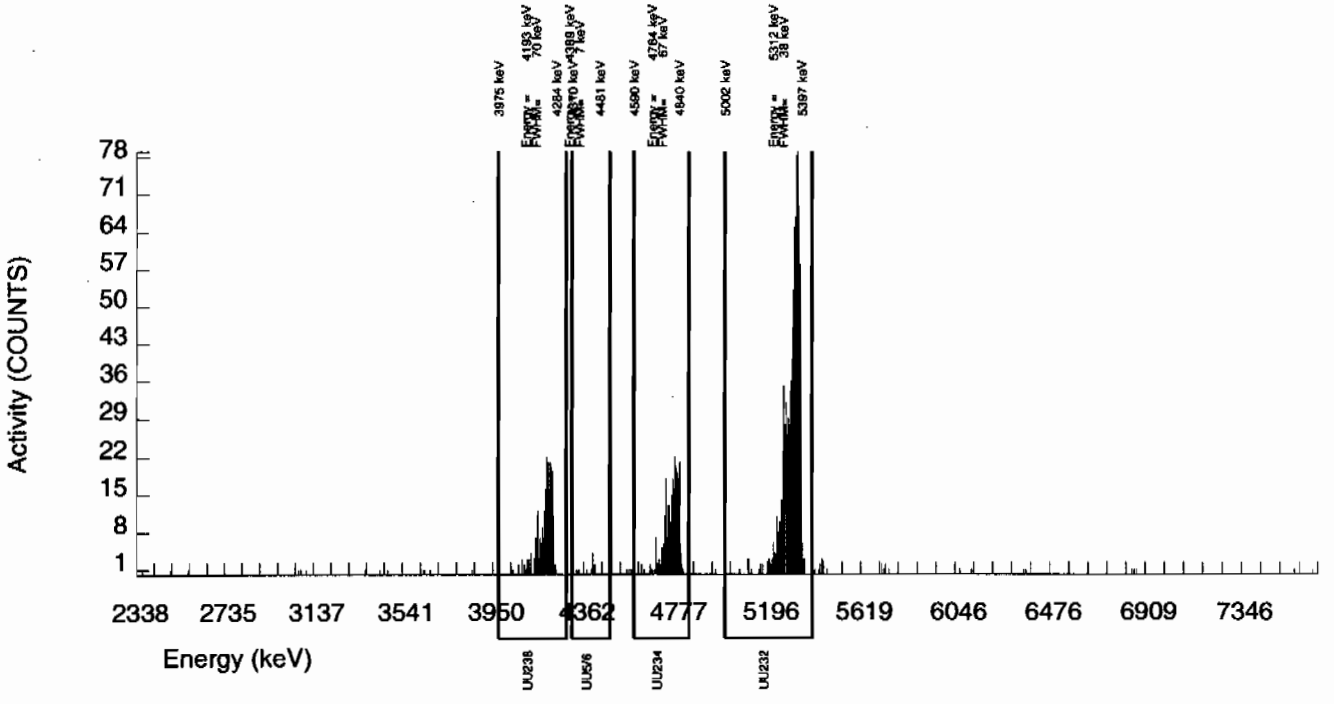
BATCH NUMBER: 937600 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385009_UU SAMPLE QTY: 0.509 G
DETECTOR NUMBER :76223 AVERAGE %EFFICIENCY :25.4309 % YIELD : 75.437	COUNT DATE: 5-JAN-2010 20:20:35 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51139 dpm RESULTS : 3.40326 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B153.CNF;375 BKG DATE : 3-JAN-2010 EFF FILE : W153.CNF;106 CAL DATE : 15-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	269.000	265.126	3.000	6.0782	100.0000	1.22E+00	1.17E-01	6.52E-02	1.43E-01	7.60E-02
U232	5302.100	874.000	865.000	9.000	3.0000	100.0000	3.99E+00	3.20E-01	3.22E-02	7.69E-02	1.37E-01
U-235	4391.000	12.000	10.000	2.000	2.7628	80.90000	5.70E-02	2.17E-02	3.66E-02	8.88E-02	2.13E-02
U-238	4184.730	241.000	241.000	0.000	3.2810	100.0000	1.11E+00	1.08E-01	3.52E-02	8.29E-02	7.16E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

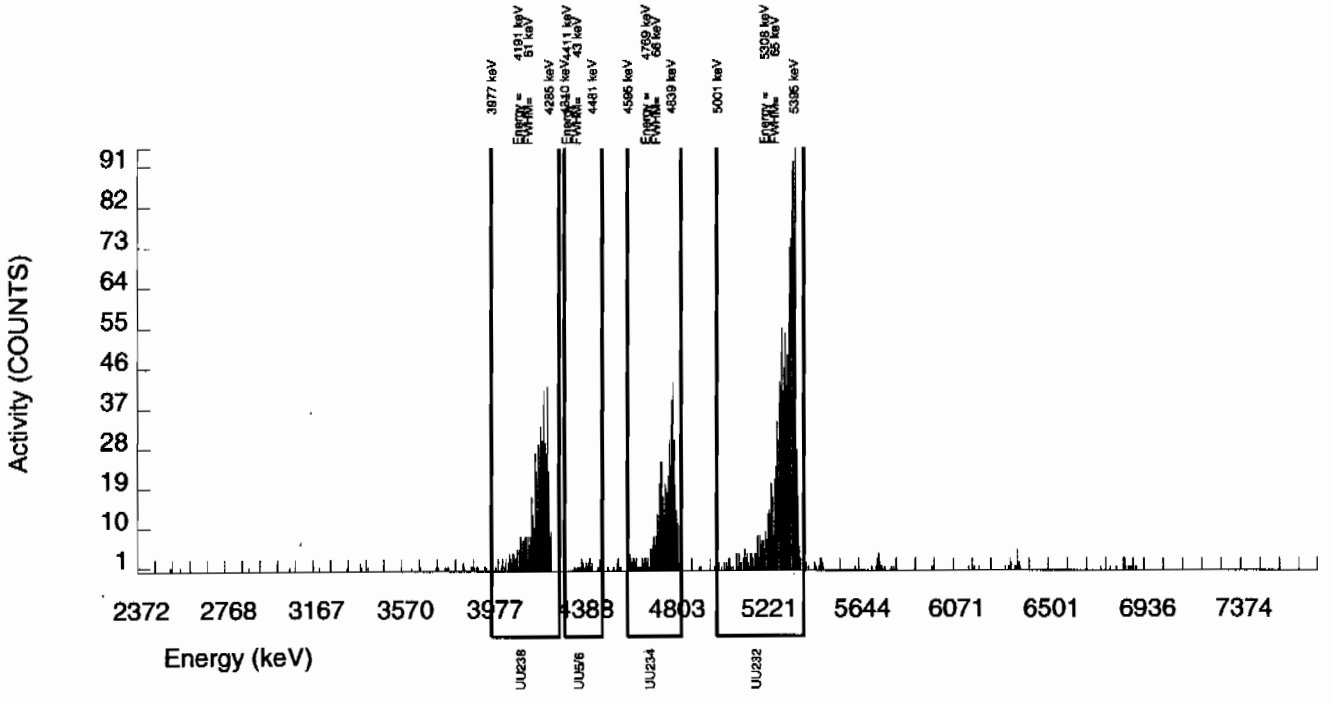
BATCH NUMBER: 937600 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385010_UU SAMPLE QTY: 0.506 G
DETECTOR NUMBER :70323 AVERAGE %EFFICIENCY :36.9748 % YIELD : 78.341	COUNT DATE: 7-JAN-2010 11:16:06 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51139 dpm RESULTS : 3.53425 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B162.CNF;158 BKG DATE : 3-JAN-2010 EFF FILE : W162.CNF;63 CAL DATE : 22-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	493.000	491.680	0.000	6.0782	100.0000	1.51E+00	1.25E-01	4.35E-02	9.52E-02	6.81E-02
U232	5302.100	1311.000	1306.000	5.000	2.2361	100.0000	4.02E+00	3.00E-01	1.60E-02	4.03E-02	1.12E-01
U-235	4391.000	23.000	23.000	0.000	2.7628	80.90000	8.74E-02	1.92E-02	2.44E-02	5.91E-02	1.82E-02
U-238	4184.730	544.000	544.000	0.000	3.2810	100.0000	1.67E+00	1.36E-01	2.35E-02	5.52E-02	7.17E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

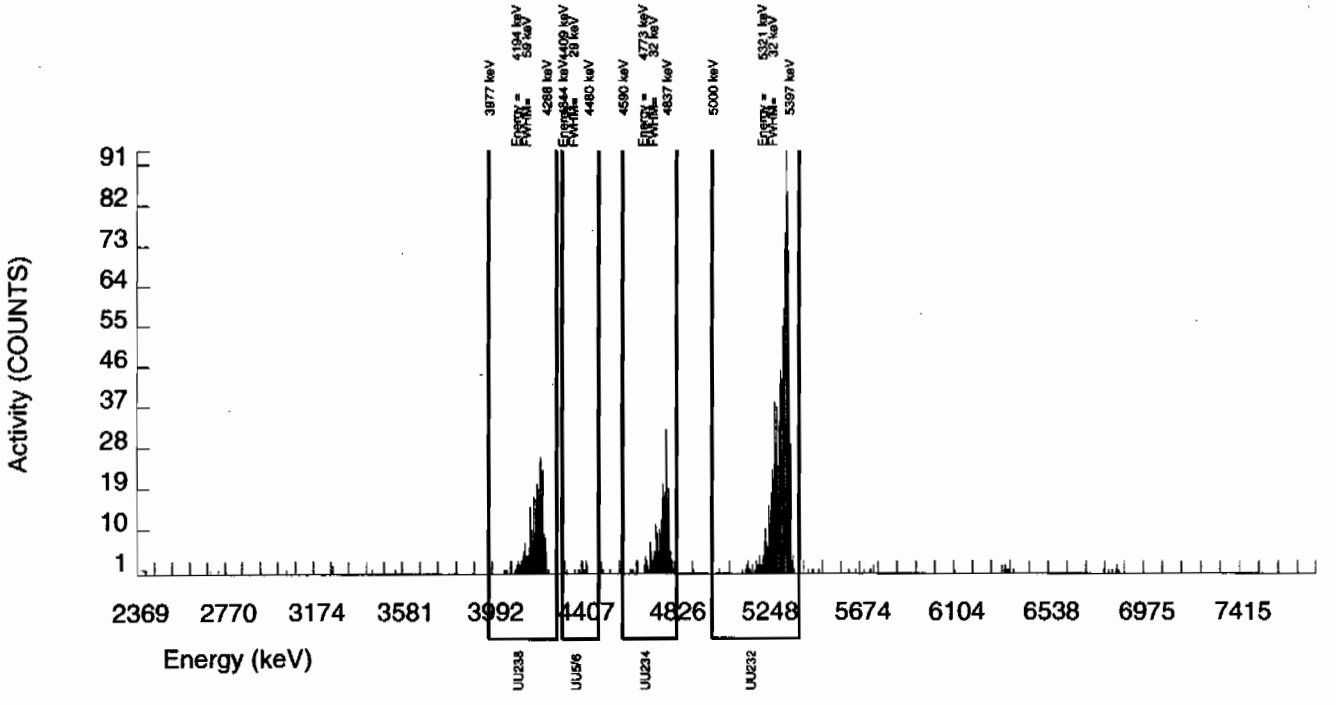
BATCH NUMBER: 937600 SAMPLE DATE : 17-DEC-2009 00:00:00	SAMPLE ID : S0243385011_UU SAMPLE QTY: 0.504 G
DETECTOR NUMBER :75553 AVERAGE %EFFICIENCY :26.5355 % YIELD : 76.225	COUNT DATE: 5-JAN-2010 20:20:40 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51139 dpm RESULTS : 3.43882 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B155.CNF;384 BKG DATE : 3-JAN-2010 EFF FILE : W155.CNF;113 CAL DATE : 15-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	246.000	245.078	0.000	6.0782	100.0000	1.08E+00	1.04E-01	6.25E-02	1.37E-01	6.92E-02
U232	5302.100	916.000	912.000	4.000	2.0000	100.0000	4.03E+00	3.19E-01	2.06E-02	5.31E-02	1.34E-01
U-235	4391.000	15.000	15.000	0.000	2.7628	80.90000	8.19E-02	2.20E-02	3.51E-02	8.50E-02	2.12E-02
U-238	4184.730	271.000	270.000	1.000	3.2810	100.0000	1.19E+00	1.13E-01	3.37E-02	7.94E-02	7.29E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

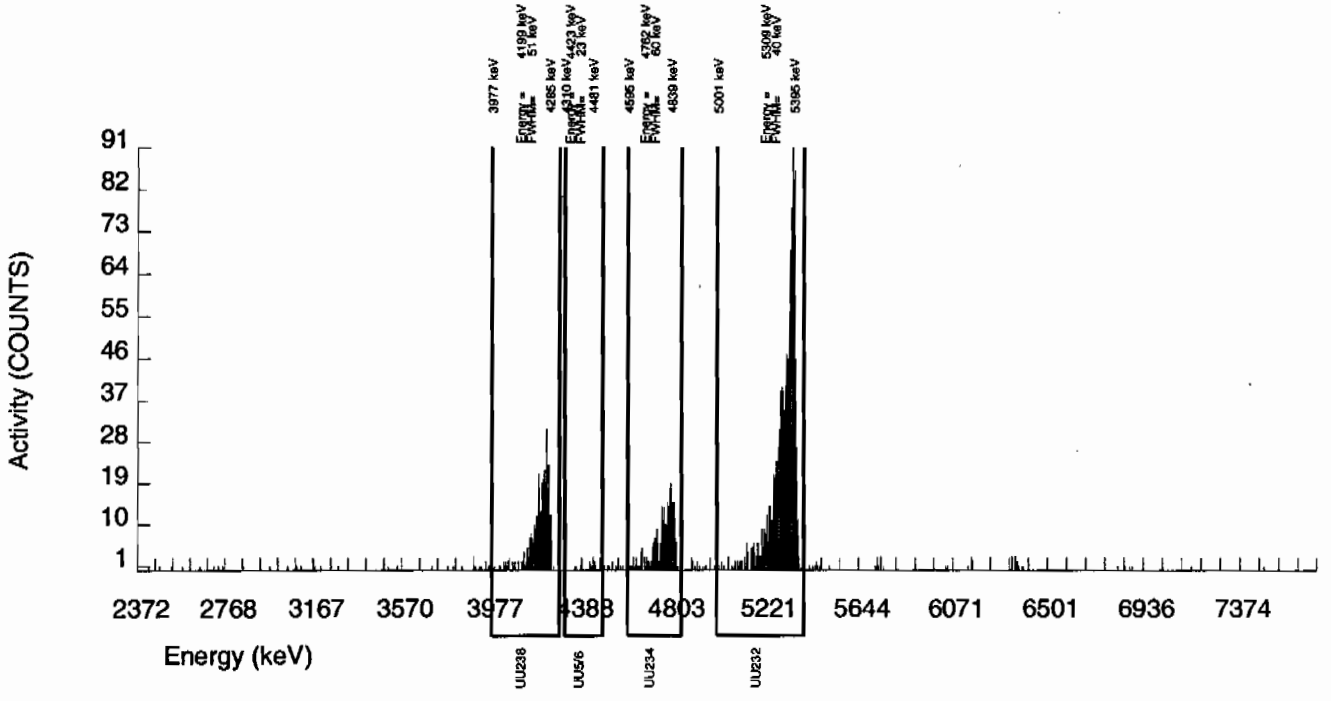
BATCH NUMBER: 937600 SAMPLE DATE : 18-DEC-2009 00:00:00	SAMPLE ID : S0243492007_UU SAMPLE QTY: 0.502 G
DETECTOR NUMBER :70323 AVERAGE %EFFICIENCY :36.9748 % YIELD : 69.100	COUNT DATE: 5-JAN-2010 20:20:57 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51126 dpm RESULTS : 3.11728 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B162.CNF;158 BKG DATE : 3-JAN-2010 EFF FILE : W162.CNF;63 CAL DATE : 22-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	268.000	266.835	0.000	6.0782	100.0000	9.37E-01	8.73E-02	4.97E-02	1.09E-01	5.74E-02
U232	5302.100	1157.000	1152.000	5.000	2.2361	100.0000	4.05E+00	3.08E-01	1.83E-02	4.61E-02	1.20E-01
U-235	4391.000	13.000	13.000	0.000	2.7628	80.90000	5.64E-02	1.61E-02	2.79E-02	6.76E-02	1.57E-02
U-238	4184.730	334.000	334.000	0.000	3.2810	100.0000	1.17E+00	1.04E-01	2.68E-02	6.31E-02	6.42E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

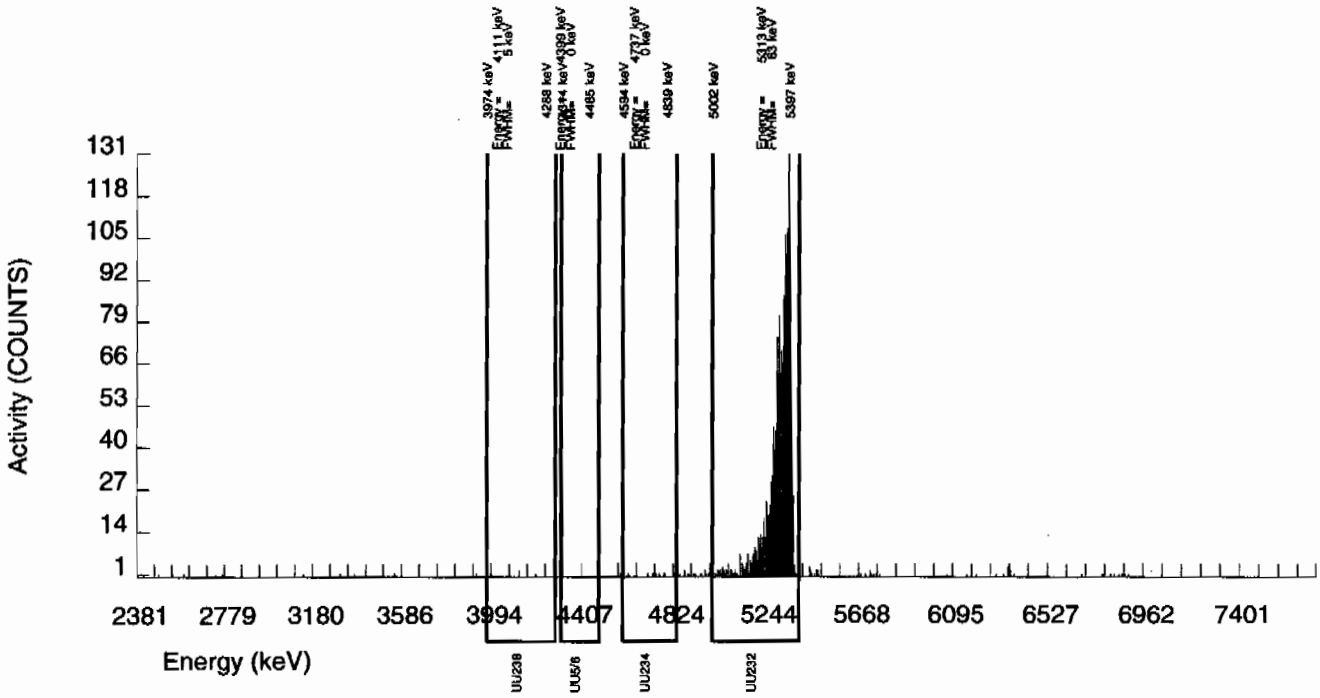
BATCH NUMBER: 937600 SAMPLE DATE : 30-DEC-2009 00:00:00	SAMPLE ID : S1202006349_UU SAMPLE QTY: 1.000 G
DETECTOR NUMBER :70324 AVERAGE %EFFICIENCY :37.7750 % YIELD : 97.755	COUNT DATE: 5-JAN-2010 20:21:00 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A	ID : 0244-A	ID : 1283-H	LIB FILE : ENV_ALPHA_UU.N
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG FILE : B163.CNF;159
PCI/G : 5.750E+00	PCI/G : 5.750E+00	NOMINAL : 4.50977 dpm	BKG DATE : 3-JAN-2010
		RESULTS : 4.40855 dpm	EFF FILE : W163.CNF;52
			CAL DATE : 21-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	12.000	10.317	0.000	6.0782	100.0000	1.26E-02	4.01E-03	1.72E-02	3.78E-02	3.92E-03
U232	5302.100	1674.000	1665.000	9.000	3.0000	100.0000	2.03E+00	1.47E-01	8.51E-03	2.03E-02	5.01E-02
U-235	4391.000	1.000	1.000	0.000	2.7628	80.90000	1.51E-03	1.51E-03	9.69E-03	2.35E-02	1.51E-03
U-238	4184.730	4.000	3.000	1.000	3.2810	100.0000	3.66E-03	2.74E-03	9.31E-03	2.19E-02	2.73E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

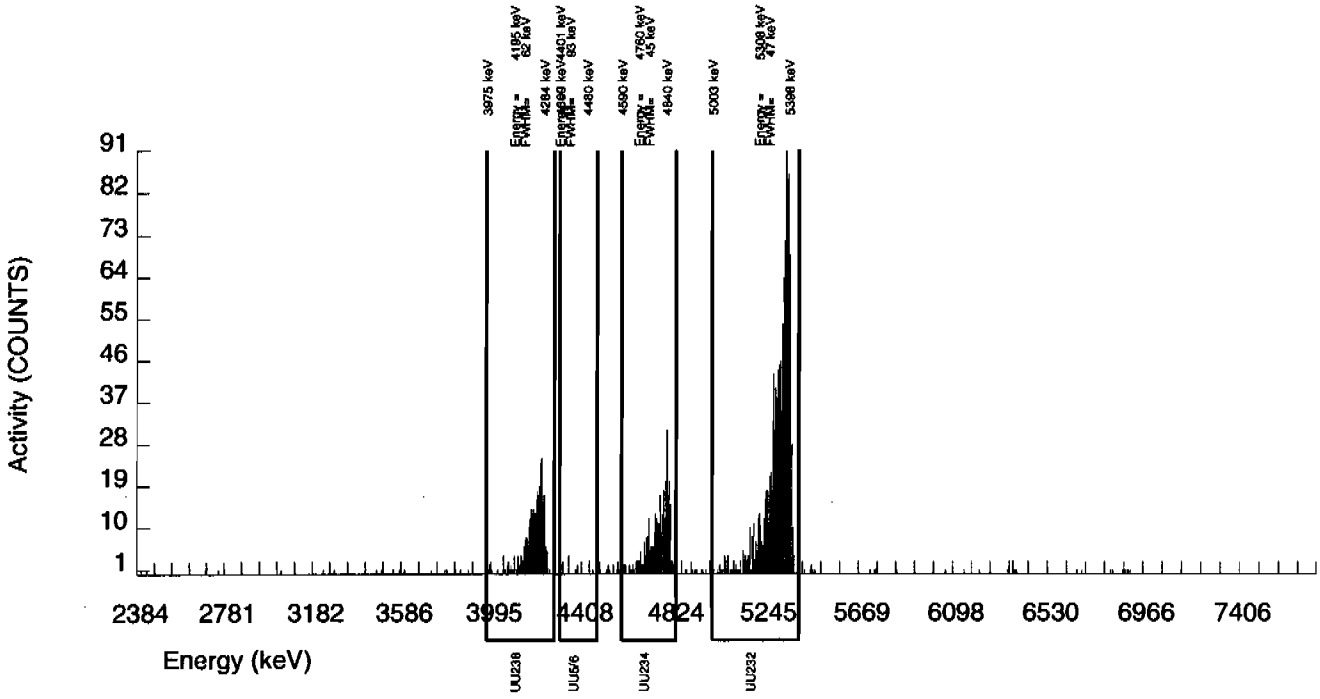
BATCH NUMBER: 937600 SAMPLE DATE : 18-DEC-2009 00:00:00	SAMPLE ID : S1202006350_UU SAMPLE QTY: 0.507 G
DETECTOR NUMBER :70325 AVERAGE %EFFICIENCY :37.7257 % YIELD : 72.310	COUNT DATE: 5-JAN-2010 20:21:02 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.51126 dpm RESULTS : 3.26210 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B164.CNF;156 BKG DATE : 3-JAN-2010 EFF FILE : W164.CNF;52 CAL DATE : 21-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	332.000	329.757	1.000	6.0782	100.0000	1.07E+00	9.56E-02	4.61E-02	1.01E-01	5.93E-02
U232	5302.100	1237.000	1230.000	7.000	2.6458	100.0000	4.01E+00	3.02E-01	2.00E-02	4.89E-02	1.15E-01
U-235	4391.000	13.000	13.000	0.000	2.7628	80.90000	5.23E-02	1.50E-02	2.59E-02	6.27E-02	1.45E-02
U-238	4184.730	322.000	322.000	0.000	3.2810	100.0000	1.05E+00	9.36E-02	2.49E-02	5.85E-02	5.84E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

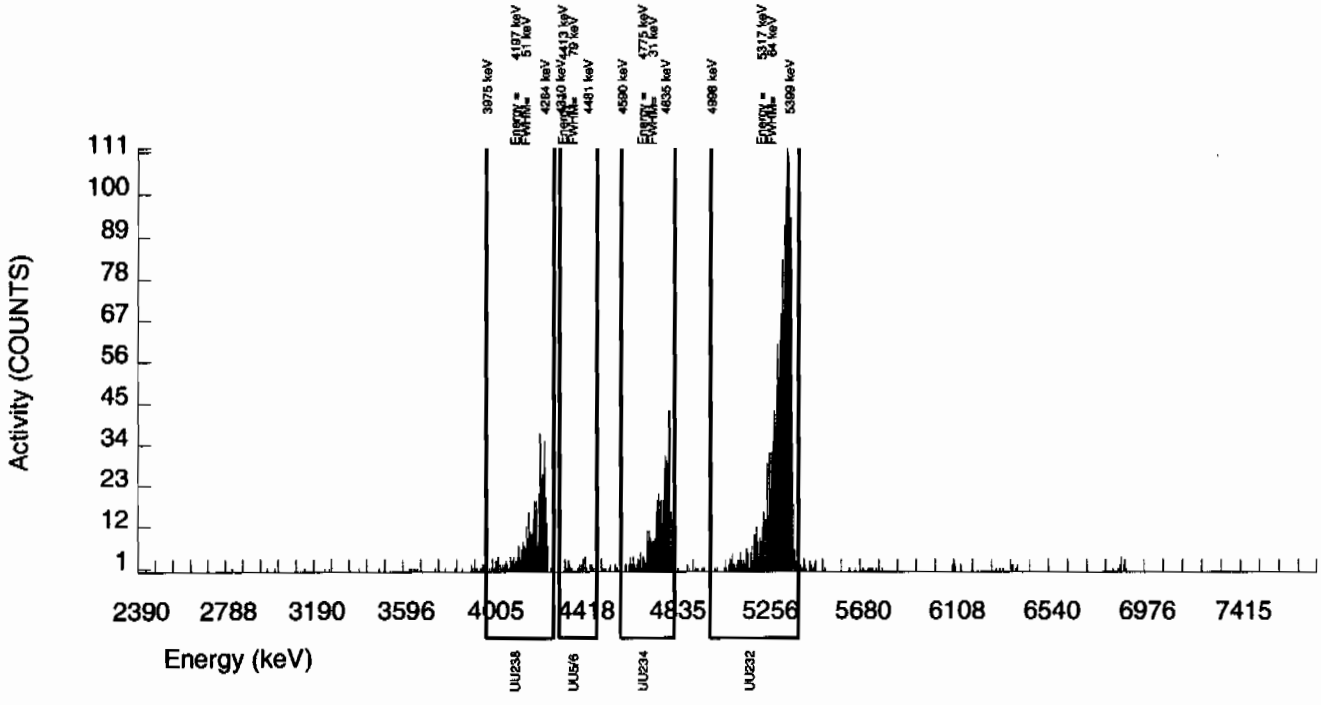
BATCH NUMBER: 937600 SAMPLE DATE : 30-DEC-2009 00:00:00	SAMPLE ID : S1202006351_UU SAMPLE QTY: 0.103 G
DETECTOR NUMBER :72544 AVERAGE %EFFICIENCY :37.9939 % YIELD : 96.025	COUNT DATE: 5-JAN-2010 20:21:04 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A	ID : 0244-A	ID : 1283-H	LIB FILE : ENV_ALPHA_UU.N
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG FILE : B165.CNF;156
PCI/G : 5.750E+00	PCI/G : 5.750E+00	NOMINAL : 4.50977 dpm	BKG DATE : 3-JAN-2010
		RESULTS : 4.33049 dpm	EFF FILE : W165.CNF;52
			CAL DATE : 21-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	487.000	484.337	1.000	6.0782	100.0000	5.81E+00	5.08E-01	1.69E-01	3.71E-01	2.64E-01
U232	5302.100	1648.000	1645.000	3.000	1.7321	100.0000	1.97E+01	1.55E+00	4.83E-02	1.29E-01	4.87E-01
U-235	4391.000	28.000	27.000	1.000	2.7628	80.90000	4.00E-01	8.52E-02	9.52E-02	2.31E-01	7.98E-02
U-238	4184.730	444.000	444.000	0.000	3.2810	100.0000	5.32E+00	4.72E-01	9.15E-02	2.15E-01	2.53E-01

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Radiochemistry Batch Checklist, Rev 9

Batch# 936285 Product: 85 Date: 1/4/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 mg for GAB.			NA
Samples have been blank corrected (if required)			NA
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits. Instrument bkg check is within limits.			
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%. Or meets the client's required RER acceptance criteria.	✓		~~Narrative comment~~
Tracer yield is 15-125% . Carrier yield 25-125%. Or meets the client's contract acceptance criteria.			NA
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			NA
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms. All line outs initialed and dated. No transcription errors are apparent.	✓		
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			NA
Batch entered into Case Narrative.	✓		
Batch non-conformances completed, if applicable.			NA
Batch non-conformances second reviewed and disposition verified to be completed.			NA
Aliquot Correction completed if required.			NA
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By: [signature] 1/4/10

Secondary Review Performed By: [signature] 1/5/10

Gamma Spec Que Sheet 12/31/09 = I.G.

12/23/2009

Batch #:936285 Analyst: MJH1 First Client DueDate01/12/2010 Internal Due Date: 01/02/2010

Gamma Spike Isotope: Mixed Gamma Spike Code: N/a Expiration Date: N/a Vol: N/a Nominal Concentration: N/a

Gamma LCS Isotope: Mixed Gamma LCS Code: 1032-A Expiration Date: 12/2/10 Vol: 1.0mL Nominal Concentration: Am-241 15.91; Cs-137 5.576; Co-60 6.504

Initials: MS Prep Date: 12/24/09 Library: SOLID Witness: N/a

Sample ID	Client Description / Container ID	Type	Hazard Code	Client	Matrix	Collect Date		Geometry	Wet/Dry Aliquot (I/g/F)	Detector	Sealing Date/Time (if Applicable)
243385001-1	RE12-10-7580	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF	can	144.81	17	12/24/09
243385002-1	RE12-10-7590	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		149.00	20	
243385003-1	RE12-10-7592	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		136.02	2	
243385004-1	RE12-10-7591	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		140.26	18	
243385005-1	RE12-10-7581	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		128.85	16	
243385006-1	RE12-10-7586	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		158.18	22	
243385007-1	RE12-10-7587	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		119.94	23	
243385008-1	RE12-10-7585	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		115.51	15	
243385009-1	RE12-10-7582	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		148.42	1	
243385010-1	RE12-10-7584	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		154.32	4	
243385011-1	RE12-10-7583	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		131.24	5	
243403001-1	RE16-10-2971	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		140.82	6	
243403002-1	RE16-10-2973	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		121.43	7	
243403003-1	RE16-10-2993	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		138.78	14	
243403004-1	RE16-10-2974	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		132.17	10 ~~19~~	RF 12/31/09
243403005-1	RE16-10-2977	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		129.18	23	
243403006-1	RE16-10-2975	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		141.39	15	
243403007-1	RE16-10-2970	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		151.29	22	
243403008-1	RE16-10-2972	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		131.96	25	
243403009-1	RE16-10-2976	SAMPLE		LANL010	SOIL	17-DEC-09 12:00:00	RF		127.76	5	
1202003352-1	MB	MB		QC ACCOUNT	SOIL	12/24/09	RF		158.18	6	
1202003353-1	DUP RE12-10-7580(243385001)	DUP		QC ACCOUNT	SOIL	17-DEC-09 12:00:00	RF		144.81	7	
1202003354-1	LCS	LCS		QC ACCOUNT	SOIL	12/24/09	RF		155.44	14	

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: [signature] 1/4/10

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
936285	243385001	SAMPLE	31-DEC-09					
936285	243385002	SAMPLE	31-DEC-09					
936285	243385003	SAMPLE	31-DEC-09		Americium-241	-0.1021	0.2914	0.200
					Thorium-234	0.4498	2.305	2.00
936285	243385004	SAMPLE	31-DEC-09		Americium-241	0.00883	0.2626	0.200
					Thorium-234	1.669	2.074	2.00
936285	243385005	SAMPLE	31-DEC-09		Americium-241	0.08038	0.2132	0.200
936285	243385006	SAMPLE	31-DEC-09					
936285	243385007	SAMPLE	31-DEC-09		Americium-241	-0.11	0.3455	0.200
					Cerium-139	-0.00804	0.05207	0.050
					Cesium-134	0.06491	0.1002	0.100
					Sodium-22	0.01929	0.09224	0.080
					Thorium-234	0.3952	2.889	2.00
936285	243385008	SAMPLE	31-DEC-09		Americium-241	-0.3647	0.528	0.200
					Cerium-139	-0.0262	0.06306	0.050
					Cesium-134	0.08984	0.1063	0.100
					Sodium-22	-0.01577	0.08391	0.080
					Thorium-234	-0.6882	4.168	2.00
936285	243385009	SAMPLE	31-DEC-09		Americium-241	0.02558	0.2867	0.200
					Cerium-139	-0.00526	0.05026	0.050
					Thorium-234	1.404	2.58	2.00
936285	243385010	SAMPLE	31-DEC-09		Americium-241	0.03032	0.3234	0.200
					Thorium-234	2.046	2.411	2.00
936285	243385011	SAMPLE	31-DEC-09		Cerium-139	0.00122	0.05306	0.050
					Cesium-134	0.09861	0.1025	0.100
936285	243403001	SAMPLE	31-DEC-09		Americium-241	0.04406	0.2933	0.200
					Cerium-139	0.01309	0.0538	0.050
					Thorium-234	1.494	2.392	2.00
936285	243403002	SAMPLE	31-DEC-09					
936285	243403003	SAMPLE	31-DEC-09					
936285	243403004	SAMPLE	31-DEC-09		Americium-241	-0.02021	0.3739	0.200
					Thorium-234	1.286	2.951	2.00
936285	243403005	SAMPLE	31-DEC-09		Americium-241	0.1751	0.3291	0.200
					Cesium-134	0.08311	0.1003	0.100
					Thorium-234	2.197	2.624	2.00
936285	243403006	SAMPLE	31-DEC-09		Americium-241	-0.1898	0.4789	0.200
					Cerium-139	-0.03684	0.05286	0.050
					Sodium-22	0.00853	0.08113	0.080
					Thorium-234	-0.03156	3.701	2.00
936285	243403007	SAMPLE	31-DEC-09					
936285	243403008	SAMPLE	31-DEC-09					
936285	243403009	SAMPLE	31-DEC-09		Cesium-134	0.07132	0.1055	0.100
					Sodium-22	-0.02123	0.08549	0.080

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
936285	1202003352	MB	31-DEC-09					
936285	1202003353	DUP	31-DEC-09					
936285	1202003354	LCS	31-DEC-09		Cerium-139	0.0591	0.0777	0.050
					Cesium-134	0.01416	0.1466	0.100
					Europium-152	-0.02428	0.2936	0.200
					Mercury-203	-0.01174	0.1012	0.100
					Ruthenium-106	-0.07815	0.9109	0.800
					Sodium-22	-0.0276	0.09011	0.080
					Thorium-234	-1.336	2.931	2.00
					Tin-113	-0.00129	0.1254	0.100
					Uranium-235	0.24	0.553	0.500

Gamma Review Report based on Result > MDA for Batch:936285

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243385001	17-DEC-09 12:00	31-DEC-09 09:16	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.66	0.1749	pCi/g	0.2382	N	910.8	3	1.871	IDENTIFIED	9.212	☐	
Americium-243	INT	0.3719	0.03132	pCi/g	0.05769	N	73.96	1	1.094	IDENTIFIED	7.267	☐	
Annihilation Rad.	HE	0.07004	0.03199	pCi/g	0.05244	N	510.1	1	1.255	IDENTIFIED	45.55	☐	
Barium-137m	NR	0.2952	0.0379	pCi/g	0.04537	N	660.9	2	1.832	IDENTIFIED	12.27	☐	
Bismuth-210	NR	1.641	0.3412	pCi/g	0.8592	N	45.55	3	0.8013	IDENTIFIED	20.4	☐	
Bismuth-211	INT	3.842	0.2727	pCi/g	0.3317	Y	351.3	4	1.097	IDENTIFIED	6.124	☑ VF	
Bismuth-212	HE	0.8708	0.2376	pCi/g	0.7324	N	0	7	0	FAIL_ABUND	0	☐	
Bismuth-214	NR ✓	1.226	0.1077	pCi/g	0.1338	0.200	608.9	4	1.307	IDENTIFIED	7.552	☐	
Cadmium-109	INT	2.554	0.427	pCi/g	0.9077	Y	89.1	1	1.257	IDENTIFIED	16.21	☑ VF	
Cerium-143		587.4	92.93	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Cesium-135	HE	0.454	0.1148	pCi/g	0.2249	N	269.3	1	1.849	IDENTIFIED	24.88	☐	
Cesium-137	✓	0.3121	0.04007	pCi/g	0.06911	0.100	660.9	2	1.832	IDENTIFIED	12.27	☐	
Gross Gamma		8.173	1.051	pCi/g	2.909	N		0				☐	
Lead-210	NR	1.641	0.3412	pCi/g	0.8592	N	45.55	3	0.8013	IDENTIFIED	20.4	☐	
Lead-212	✓	1.578	0.08956	pCi/g	0.08985	0.100	237.9	4	0.9662	IDENTIFIED	3.599	☐	
Lead-214	✓	1.336	0.1011	pCi/g	0.1157	0.100	351.3	4	1.097	IDENTIFIED	6.124	☐	
Lutetium-177	HE	3.074	0.7118	pCi/g	1.725	N	0	7	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	1.02	0.1683	pCi/g	0.2616	N	86.38	2	1.277	IDENTIFIED	12.21	☐	
Niobium-95m	HE	0.365	0.07295	pCi/g	0.2475	N	0	7	0	NOT_IDENTI	0	☐	
Polonium-210	NR	1.641	0.3396	pCi/g	0.8592	N	45.55	3	0.8013	IDENTIFIED	20.4	☐	
Polonium-212	NR	1.578	0.08956	pCi/g	0.08985	N	237.9	4	0.9662	IDENTIFIED	3.599	☐	
Polonium-214	NR	1.336	0.1011	pCi/g	0.1157	N	351.3	4	1.097	IDENTIFIED	6.124	☐	
Polonium-216	NR	1.578	0.08956	pCi/g	0.08985	N	237.9	4	0.9662	IDENTIFIED	3.599	☐	
Polonium-218	NR	1.336	0.1011	pCi/g	0.1157	N	351.3	4	1.097	IDENTIFIED	6.124	☐	
Potassium-40	✓	19.69	0.9828	pCi/g	0.435	1.00	1461	1	2.171	IDENTIFIED	3.931	☐	
Radium-224	INT	3.857	0.6365	pCi/g	1.023	Y	240.8	1	1.589	IDENTIFIED	16.07	☑ VF	
Radium-226	✓	1.226	0.1077	pCi/g	0.1338	Y	608.9	4	1.307	IDENTIFIED	7.552	☐	
Radium-228	✓	1.66	0.1749	pCi/g	0.2382	0.500	910.8	3	1.871	IDENTIFIED	9.212	☐	
Sodium-24	HE	56840	1.03E+05	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Thallium-200	HE	0.4925	101.8	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.4722	0.04245	pCi/g	0.06566	0.080	582.7	1	1.278	IDENTIFIED	8.07	☐	
Thorium-228	NR	1.6	0.09081	pCi/g	0.0911	N	237.9	4	0.9662	IDENTIFIED	3.599	☐	
Thorium-230	NR	1.226	0.1077	pCi/g	0.1338	N	608.9	4	1.307	IDENTIFIED	7.552	☐	
Thorium-232	NR	1.66	0.1749	pCi/g	0.2382	N	910.8	3	1.871	IDENTIFIED	9.212	☐	
Thorium-234	✓	2.475	0.572	pCi/g	0.8884	2.00	62.31	2	0.9869	IDENTIFIED	21.26	☐	
Tin-126	INT	0.3474	0.0447	pCi/g	0.08929	N	86.38	2	1.277	IDENTIFIED	12.21	☐	
Total Uranium		7.446	1.70E-06	ug/g	1.3247	N		0				☐	
Uranium-234	NR	1.226	0.1077	pCi/g	0.1338	N	608.9	4	1.307	IDENTIFIED	7.552	☐	
Uranium-238	NR	2.475	0.572	pCi/g	0.8884	N	62.31	2	0.9869	IDENTIFIED	21.26	☐	
Zirconium-97		1.28E+06	3.17E+05	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243385002	17-DEC-09 12:00	31-DEC-09 09:20	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.564	0.142	pCi/g	0.1751	N	911.2	3	1.534	IDENTIFIED	6.704	☐	
Americium-243	INT	0.4001	0.03274	pCi/g	0.07054	N	74.88	1	1.243	IDENTIFIED	7.119	☐	
Annihilation Rad.		0.1426	0.0288	pCi/g	0.03968	N	510.9	1	1.856	IDENTIFIED	19.64	☐	
Barium-137m	NR	0.12	0.0328	pCi/g	0.04656	N	662.8	2	1.469	IDENTIFIED	26.87	☐	
Bismuth-211	INT	4.006	0.2817	pCi/g	0.2789	Y	351.7	4	1.282	IDENTIFIED	5.153	☑ VF	
Bismuth-212	NR	1.078	0.1957	pCi/g	0.6096	N	0	12	0	FAIL_ABUND	0	☐	

Bismuth-214	✓	1.251	0.09236	pCi/g	0.08703	0.200	609.3	4	1.36	IDENTIFIED	4.849	☐		
Cadmium-109	INT	2.802	0.4127	pCi/g	1.006	Y	87.33	3	1.1	IDENTIFIED	13.96	☑	VI	
Cerium-143		336	54.22	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐		
Cesium-134	LA	0.179	0.02957	pCi/g	0.07999	0.100	0	12	0	FAIL_ABUND	0	☑	UI	Data rejected due to low abundance.
Cesium-137	✓	0.1269	0.03468	pCi/g	0.04922	0.100	662.8	2	1.469	IDENTIFIED	26.87	☐		
Gross Gamma		8.655	1.206	pCi/g	3.113	N		0				☐		
Iodine-135	HE	2.64E+13	1.02E+14	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐		
Krypton-85	HE	14.33	3.271	pCi/g	11.31	N	0	12	0	NOT_IDENTI	0	☐		
Lead-212	✓	1.619	0.09885	pCi/g	0.08073	0.100	238.6	4	1.066	IDENTIFIED	3.005	☐		
Lead-214	✓	1.394	0.1045	pCi/g	0.09719	0.100	351.7	4	1.282	IDENTIFIED	5.153	☐		
Lutetium-177	LA	3.049	0.6177	pCi/g	1.626	N	0	12	0	FAIL_ABUND	0	☐		
Neptunium-237	INT	0.8102	0.1457	pCi/g	0.3102	N	87.33	3	1.1	IDENTIFIED	13.96	☐		
Niobium-97	HE	76.65	12930	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐		
Polonium-212	NR	1.619	0.09885	pCi/g	0.08073	N	238.6	4	1.066	IDENTIFIED	3.005	☐		
Polonium-214	NR	1.394	0.1045	pCi/g	0.09719	N	351.7	4	1.282	IDENTIFIED	5.153	☐		
Polonium-216	NR	1.619	0.09885	pCi/g	0.08073	N	238.6	4	1.066	IDENTIFIED	3.005	☐		
Polonium-218	NR	1.394	0.1045	pCi/g	0.09719	N	351.7	4	1.282	IDENTIFIED	5.153	☐		
Potassium-40	✓	21.03	1.13	pCi/g	0.4183	1.00	1461	1	1.936	IDENTIFIED	3.137	☐		
Radium-224	INT	4.411	0.6269	pCi/g	0.9184	Y	241.6	1	1.717	IDENTIFIED	13.37	☑	VF	
Radium-226	✓	1.251	0.09236	pCi/g	0.08703	Y	609.3	4	1.36	IDENTIFIED	4.849	☐		
Radium-228	✓	1.564	0.142	pCi/g	0.1751	0.500	911.2	3	1.534	IDENTIFIED	6.704	☐		
Sodium-24	HE	1.31E+05	68780	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐		
Strontium-85	LA	0.07251	0.01656	pCi/g	0.05725	Y	0	12	0	NOT_IDENTI	0	☑	UI	Data rejected due to low abundance.
Thallium-200	HE	86.68	83.78	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐		
Thallium-208	✓	0.5022	0.0438	pCi/g	0.04896	0.080	583	1	1.272	IDENTIFIED	7.045	☐		
Thorium-228	NR	1.641	0.1002	pCi/g	0.08186	N	238.6	4	1.066	IDENTIFIED	3.005	☐		
Thorium-230	NR	1.251	0.09236	pCi/g	0.08703	N	609.3	4	1.36	IDENTIFIED	4.849	☐		
Thorium-232	NR	1.564	0.142	pCi/g	0.1751	N	911.2	3	1.534	IDENTIFIED	6.704	☐		
Thorium-234	✓	1.455	0.6872	pCi/g	1.445	2.00	62.99	2	1.155	IDENTIFIED	46.41	☐		
Tin-126	INT	0.2759	0.04064	pCi/g	0.09933	N	87.33	3	1.1	IDENTIFIED	13.96	☐		
Titanium-44	LA	0.3392	0.02339	pCi/g	0.06772	N	0	12	0	FAIL_ABUND	0	☐		
Total Uranium		4.3321	2.04E-06	ug/g	2.1524	N		0				☐		
Uranium-234	NR	1.251	0.09236	pCi/g	0.08703	N	609.3	4	1.36	IDENTIFIED	4.849	☐		
Uranium-238	HE	1.455	0.6872	pCi/g	1.445	N	62.99	2	1.155	IDENTIFIED	46.41	☐		
Zirconium-97		6.75E+05	2.36E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐		

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243385003	17-DEC-09 12:00	31-DEC-09 09:30	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.635	0.1709	pCi/g	0.2067	N	910.7	3	1.739	IDENTIFIED	8.391	☐	
Americium-243	INT	0.337	0.03866	pCi/g	0.09071	N	74.59	1	1.072	IDENTIFIED	10.61	☐	
Annihilation Rad.	HE	0.08281	0.03655	pCi/g	0.04693	N	510.4	1	1.843	IDENTIFIED	43.86	☐	
Bismuth-211	INT	3.723	0.3089	pCi/g	0.3576	Y	351.7	4	1.23	IDENTIFIED	5.973	☑	VI
Bismuth-212	HE	1.08	0.2773	pCi/g	0.7003	N	0	7	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.166	0.1018	pCi/g	0.1142	0.200	609	4	1.472	IDENTIFIED	6.943	☐	
Cerium-143		420.4	68.85	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Gross Gamma		8.201	1.676	pCi/g	3.364	N		0				☐	
Iodine-123	HE	3.77E+05	5.99E+05	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Lead-212	✓	1.354	0.1097	pCi/g	0.1193	0.100	238.3	4	0.9331	IDENTIFIED	5.109	☐	
Lead-214	✓	1.295	0.1127	pCi/g	0.1221	0.100	351.7	4	1.23	IDENTIFIED	5.973	☐	
Lutetium-177	HE	2.117	0.6497	pCi/g	1.87	N	0	7	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	0.8037	0.1771	pCi/g	0.4109	N	86.74	2	1.296	IDENTIFIED	18.83	☐	
Polonium-212	NR	1.354	0.1097	pCi/g	0.1193	N	238.3	4	0.9331	IDENTIFIED	5.109	☐	
Polonium-214	NR	1.295	0.1127	pCi/g	0.1221	N	351.7	4	1.23	IDENTIFIED	5.973	☐	
Polonium-216	NR	1.354	0.1097	pCi/g	0.1193	N	238.3	4	0.9331	IDENTIFIED	5.109	☐	
Polonium-218	NR	1.295	0.1127	pCi/g	0.1221	N	351.7	4	1.23	IDENTIFIED	5.973	☐	
Potassium-40	✓	23.47	1.383	pCi/g	0.3147	1.00	1460	1	2.205	IDENTIFIED	3.488	☐	

Radium-224	INT	3.283	0.4971	pCi/g	1.358	Y	241.4	1	1.517	IDENTIFIED	13.94	☑	VL
Radium-226	✓	1.166	0.1018	pCi/g	0.1142	Y	609	4	1.472	IDENTIFIED	6.943	☐	
Radium-228	✓	1.635	0.1709	pCi/g	0.2067	0.500	910.7	3	1.739	IDENTIFIED	8.391	☐	
Sodium-24	HE	20860	84980	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.4031	0.04792	pCi/g	0.06431	0.080	583.1	1	1.447	IDENTIFIED	10.78	☐	
Thorium-228	NR	1.373	0.1112	pCi/g	0.1209	N	238.3	4	0.9331	IDENTIFIED	5.109	☐	
Thorium-230	NR	1.166	0.1018	pCi/g	0.1142	N	609	4	1.472	IDENTIFIED	6.943	☐	
Thorium-232	NR	1.635	0.1709	pCi/g	0.2067	N	910.7	3	1.739	IDENTIFIED	8.391	☐	
Tin-126	INT	0.2737	0.05329	pCi/g	0.1181	N	86.74	2	1.296	IDENTIFIED	18.83	☐	
Titanium-44	HE	0.07975	0.01897	pCi/g	0.06532	N	0	7	0	NOT_IDENTI	0	☐	
Uranium-234	NR	1.166	0.1018	pCi/g	0.1142	N	609	4	1.472	IDENTIFIED	6.943	☐	
Zirconium-97		1.35E+06	3.07E+05	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243385004	17-DEC-09 12:00	31-DEC-09 09:31	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.433	0.1389	pCi/g	0.1462	N	911.3	3	1.651	IDENTIFIED	7.077	☐	
Americium-243	INT	0.366	0.03452	pCi/g	0.07916	N	75.14	1	1.055	IDENTIFIED	8.452	☐	
Annihilation Rad.		0.1218	0.02511	pCi/g	0.03124	N	511.2	1	2.025	IDENTIFIED	20.35	☐	
Bismuth-211	INT	3.556	0.1989	pCi/g	0.241	Y	352.1	4	1.296	IDENTIFIED	4.582	☑	VL
Bismuth-212	LA	1.026	0.1799	pCi/g	0.5011	N	0	10	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.043	0.07281	pCi/g	0.08677	0.200	609.4	4	1.724	IDENTIFIED	5.368	☐	
Cadmium-109	INT	2.709	0.514	pCi/g	1.309	Y	87.31	3	1.449	IDENTIFIED	18.4	☑	VL
Cerium-143		211.6	39.6	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1194	0.02765	pCi/g	0.07062	0.100	0	10	0	FAIL_ABUND	0	☑	UI Data rejected due to low abundance.
Gross Gamma		7.976	0.9864	pCi/g	1.872	N		0				☐	
Iodine-123	HE	4.71E+05	4.48E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Krypton-85	LA	21.82	3.05	pCi/g	10.92	N	0	10	0	NOT_IDENTI	0	☐	
Lead-212	✓	1.398	0.0659	pCi/g	0.07156	0.100	238.9	4	1.141	IDENTIFIED	3.077	☐	
Lead-214	✓	1.237	0.07636	pCi/g	0.08376	0.100	352.1	4	1.296	IDENTIFIED	4.582	☐	
Mercury-203	INT	0.05714	0.01776	pCi/g	0.04422	0.100	277.8	1	1.031	IDENTIFIED	30.93	☑	VL
Neptunium-237	INT	0.7834	0.1692	pCi/g	0.3599	N	87.31	3	1.449	IDENTIFIED	18.4	☐	
Niobium-97	HE	1049	11070	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Polonium-212	NR	1.398	0.0659	pCi/g	0.07156	N	238.9	4	1.141	IDENTIFIED	3.077	☐	
Polonium-214	NR	1.237	0.07636	pCi/g	0.08376	N	352.1	4	1.296	IDENTIFIED	4.582	☐	
Polonium-216	NR	1.398	0.0659	pCi/g	0.07156	N	238.9	4	1.141	IDENTIFIED	3.077	☐	
Polonium-218	NR	1.237	0.07636	pCi/g	0.08376	N	352.1	4	1.296	IDENTIFIED	4.582	☐	
Potassium-40	✓	23.55	1.069	pCi/g	0.4126	1.00	1461	1	2.226	IDENTIFIED	2.488	☐	
Radium-224	INT	3.141	0.4768	pCi/g	0.8132	Y	241.9	1	1.767	IDENTIFIED	14.92	☑	VL
Radium-226	✓	1.043	0.07281	pCi/g	0.08677	Y	609.4	4	1.724	IDENTIFIED	5.368	☐	
Radium-228	✓	1.433	0.1389	pCi/g	0.1462	0.500	911.3	3	1.651	IDENTIFIED	7.077	☐	
Strontium-85	LA	0.1105	0.01544	pCi/g	0.0553	Y	0	10	0	NOT_IDENTI	0	☑	UI Data rejected due to low abundance.
Technetium-99m	HE	2.77E+14	5.24E+14	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.4466	0.03298	pCi/g	0.0422	0.080	583.3	1	1.618	IDENTIFIED	6.259	☐	
Thorium-228	NR	1.417	0.06682	pCi/g	0.07256	N	238.9	4	1.141	IDENTIFIED	3.077	☐	
Thorium-230	NR	1.043	0.07281	pCi/g	0.08677	N	609.4	4	1.724	IDENTIFIED	5.368	☐	
Thorium-232	NR	1.433	0.1389	pCi/g	0.1462	N	911.3	3	1.651	IDENTIFIED	7.077	☐	
Tin-126	INT	0.2668	0.05061	pCi/g	0.1288	N	87.31	3	1.449	IDENTIFIED	18.4	☐	
Titanium-44	LA	0.3397	0.02535	pCi/g	0.07629	N	0	10	0	FAIL_ABUND	0	☐	
Total Uranium		4.9569	2.55E-06	ug/g	3.0883	N		0				☐	
Uranium-234	NR	1.043	0.07281	pCi/g	0.08677	N	609.4	4	1.724	IDENTIFIED	5.368	☐	
Zirconium-97		7.98E+05	2.14E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243385005	17-DEC-09 12:00	31-DEC-09 09:39	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.292	0.1553	pCi/g	0.1819	N	910.8	3	1.665	IDENTIFIED	10.45	☐	
Americium-243	INT	0.2918	0.03029	pCi/g	0.07471	N	74.89	1	0.8307	IDENTIFIED	9.514	☐	
Annihilation Rad.		0.1127	0.03317	pCi/g	0.03811	N	510.9	1	1.765	IDENTIFIED	29.04	☐	
Bismuth-211	INT	3.467	0.2795	pCi/g	0.2828	Y	351.7	4	1.187	IDENTIFIED	5.932	☑ VI	
Bismuth-212	LA	1.537	0.2373	pCi/g	0.6951	N	0	7	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.154	0.0943	pCi/g	0.0991	0.200	609	4	1.235	IDENTIFIED	6.235	☐	
Cadmium-109	INT	3.211	0.5129	pCi/g	1.056	Y	87.3	3	1.272	IDENTIFIED	15.24	☑ VF	
Cerium-143		212.7	48.32	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1106	0.03738	pCi/g	0.08619	0.100	0	7	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Gross Gamma		8.172	1.256	pCi/g	2.907	N		0				☐	
Iodine-123	HE	2.10E+05	5.44E+05	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Lead-212	✓	1.641	0.1104	pCi/g	0.08232	0.100	238.5	4	0.9941	IDENTIFIED	3.194	☐	
Lead-214	✓	1.206	0.1022	pCi/g	0.09857	0.100	351.7	4	1.187	IDENTIFIED	5.932	☐	
Lutetium-177	HE	2.263	0.6456	pCi/g	1.651	N	0	7	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	0.9283	0.1765	pCi/g	0.3101	N	87.3	3	1.272	IDENTIFIED	15.24	☐	
Polonium-212	NR	1.641	0.1104	pCi/g	0.08232	N	238.5	4	0.9941	IDENTIFIED	3.194	☐	
Polonium-214	NR	1.206	0.1022	pCi/g	0.09857	N	351.7	4	1.187	IDENTIFIED	5.932	☐	
Polonium-216	NR	1.641	0.1104	pCi/g	0.08232	N	238.5	4	0.9941	IDENTIFIED	3.194	☐	
Polonium-218	NR	1.206	0.1022	pCi/g	0.09857	N	351.7	4	1.187	IDENTIFIED	5.932	☐	
Potassium-40	✓	22.93	1.307	pCi/g	0.4164	1.00	1460	1	1.914	IDENTIFIED	3.627	☐	
Radium-224	INT	4.138	0.6424	pCi/g	0.9368	Y	241.5	1	1.802	IDENTIFIED	14.51	☑ VI	
Radium-226	✓	1.154	0.0943	pCi/g	0.0991	Y	609	4	1.235	IDENTIFIED	6.235	☐	
Radium-228	✓	1.292	0.1553	pCi/g	0.1819	0.500	910.8	3	1.665	IDENTIFIED	10.45	☐	
Thallium-208	✓	0.5186	0.04421	pCi/g	0.05153	0.080	583	1	1.333	IDENTIFIED	6.937	☐	
Thorium-228	NR	1.664	0.1119	pCi/g	0.08347	N	238.5	4	0.9941	IDENTIFIED	3.194	☐	
Thorium-230	NR	1.154	0.0943	pCi/g	0.0991	N	609	4	1.235	IDENTIFIED	6.235	☐	
Thorium-232	NR	1.292	0.1553	pCi/g	0.1819	N	910.8	3	1.665	IDENTIFIED	10.45	☐	
Tin-126	INT	0.3161	0.0505	pCi/g	0.1044	N	87.3	3	1.272	IDENTIFIED	15.24	☐	
Titanium-44	LA	0.3714	0.0259	pCi/g	0.06514	N	0	7	0	FAIL_ABUND	0	☐	
Total Uranium		2.7076	2.46E-06	ug/g	2.5464	N		0				☐	
Uranium-234	NR	1.154	0.0943	pCi/g	0.0991	N	609	4	1.235	IDENTIFIED	6.235	☐	
Zirconium-97		5.28E+05	2.36E+05	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243385006	17-DEC-09 12:00	31-DEC-09 09:40	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.2	0.136	pCi/g	0.1527	N	911.2	3	2.176	IDENTIFIED	9.189	☐	
Americium-243	INT	0.2596	0.03021	pCi/g	0.06534	N	74.85	1	1.336	IDENTIFIED	10.9	☐	
Annihilation Rad.		0.09206	0.02621	pCi/g	0.03505	N	510.5	1	2.057	IDENTIFIED	28.03	☐	
Barium-137m	NR	0.2265	0.03152	pCi/g	0.04129	N	661.6	2	1.784	IDENTIFIED	12.88	☐	
Bismuth-211	INT	2.877	0.2302	pCi/g	0.2469	Y	352	4	1.378	IDENTIFIED	5.499	☑ VI	
Bismuth-212	LA	0.8803	0.1732	pCi/g	0.4534	N	0	14	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	0.7573	0.0676	pCi/g	0.08456	0.200	609.3	4	1.799	IDENTIFIED	6.773	☐	
Cadmium-109	INT	2.06	0.3721	pCi/g	0.9758	Y	87.09	3	1.158	IDENTIFIED	17.44	☑ VF	
Cerium-143		317.8	51.18	pCi/g	0	N	0	14	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1124	0.02405	pCi/g	0.06323	0.100	0	14	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Cesium-137	✓	0.2394	0.03332	pCi/g	0.04365	0.100	661.6	2	1.784	IDENTIFIED	12.88	☐	
Gross Gamma		6.772	0.9772	pCi/g	1.873	N		0				☐	
Iodine-123	HE	50640	4.65E+05	pCi/g	0	N	0	14	0	SHORT_HLIF	0	☐	
Iodine-133	HE	944.9	772	pCi/g	0	N	0	14	0	SHORT_HLIF	0	☐	
Iodine-135	HE	1.31E+13	8.79E+13	pCi/g	0	N	0	14	0	SHORT_HLIF	0	☐	
Krypton-85	LA	24.36	3.328	pCi/g	11.24	N	0	14	0	NOT_IDENTI	0	☐	
Lead-212	✓	1.115	0.08561	pCi/g	0.08921	0.100	238.6	4	1.246	IDENTIFIED	3.906	☐	
Lead-214	✓	1.001	0.08424	pCi/g	0.08603	0.100	352	4	1.378	IDENTIFIED	5.499	☐	
Neptunium-237	INT	0.5956	0.1239	pCi/g	0.2862	N	87.09	3	1.158	IDENTIFIED	17.44	☐	
Niobium-95	HE	0.05978	0.01499	pCi/g	0.05459	N	0	14	0	NOT_IDENTI	0	☐	

Niobium-95m	HE	0.1946	0.05613	pCi/g	0.1789	N	0	14	0	NOT_IDENTI	0	☐	
Niobium-97		41360	12670	pCi/g	0	N	0	14	0	SHORT_HLIF	0	☐	
Polonium-212	NR	1.115	0.08561	pCi/g	0.08921	N	238.6	4	1.246	IDENTIFIED	3.906	☐	
Polonium-214	NR	1.001	0.08424	pCi/g	0.08603	N	352	4	1.378	IDENTIFIED	5.499	☐	
Polonium-216	NR	1.115	0.08561	pCi/g	0.08921	N	238.6	4	1.246	IDENTIFIED	3.906	☐	
Polonium-218	NR	1.001	0.08424	pCi/g	0.08603	N	352	4	1.378	IDENTIFIED	5.499	☐	
Potassium-40	✓	19.77	1.055	pCi/g	0.3374	1.00	1461	1	2.601	IDENTIFIED	2.732	☐	
Radium-224	INT	2.35	0.375	pCi/g	1.083	Y	241.9	1	1.597	IDENTIFIED	14.67	☑ VI	
Radium-226	✓	0.7573	0.0676	pCi/g	0.08456	Y	609.3	4	1.799	IDENTIFIED	6.773	☐	
Radium-228	✓	1.2	0.136	pCi/g	0.1527	0.500	911.2	3	2.176	IDENTIFIED	9.189	☐	
Sodium-24	HE	21030	65850	pCi/g	0	N	0	14	0	SHORT_HLIF	0	☐	
Strontium-85	LA	0.1233	0.01685	pCi/g	0.05689	Y	0	14	0	NOT_IDENTI	0	☑ UI	Data rejected due to low abundance.
Thallium-208	✓	0.401	0.03572	pCi/g	0.04281	0.080	583.2	1	1.71	IDENTIFIED	7.068	☐	
Thorium-228	NR	1.131	0.0868	pCi/g	0.09045	N	238.6	4	1.246	IDENTIFIED	3.906	☐	
Thorium-230	NR	0.7573	0.0676	pCi/g	0.08456	N	609.3	4	1.799	IDENTIFIED	6.773	☐	
Thorium-232	NR	1.2	0.136	pCi/g	0.1527	N	911.2	3	2.176	IDENTIFIED	9.189	☐	
Tin-126	INT	0.2028	0.03664	pCi/g	0.09648	N	87.09	3	1.158	IDENTIFIED	17.44	☐	
Titanium-44	LA	0.2556	0.01998	pCi/g	0.05772	N	0	14	0	FAIL_ABUND	0	☐	
Total Uranium		2.9725	1.71E-06	ug/g	2.244	N		0				☐	
Uranium-234	NR	0.7573	0.0676	pCi/g	0.08456	N	609.3	4	1.799	IDENTIFIED	6.773	☐	
Zirconium-97		1.60E+06	2.43E+05	pCi/g	0	N	0	14	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243385007	17-DEC-09 12:00	31-DEC-09 09:54	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.381	0.1782	pCi/g	0.2536	N	910.5	3	1.807	IDENTIFIED	11.54	☐	
Americium-243	INT	0.368	0.04707	pCi/g	0.1093	N	74.69	1	1.368	IDENTIFIED	11.99	☐	
Annihilation Rad.	HE	0.1234	0.04333	pCi/g	0.04955	N	510.4	1	2.333	IDENTIFIED	34.99	☐	
Bismuth-211	INT	3.36	0.2554	pCi/g	0.3424	Y	351.6	4	1.381	IDENTIFIED	6.868	☑ VI	
Bismuth-214	✓	0.9863	0.08476	pCi/g	0.1221	0.200	608.6	4	1.38	IDENTIFIED	7.728	☐	
Cadmium-109	INT	2.47	0.5504	pCi/g	1.645	Y	87.12	3	1.204	IDENTIFIED	21.75	☑ VI	
Cerium-143		460.2	71.73	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Gross Gamma		7.879	1.257	pCi/g	2.768	N		0				☐	
Iodine-123	HE	95970	7.16E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Lead-212	✓	1.485	0.07732	pCi/g	0.09657	0.100	238.4	4	1.172	IDENTIFIED	3.769	☑ Exceed 1+1110	
Lead-214	✓	1.169	0.09394	pCi/g	0.1266	0.100	351.6	4	1.381	IDENTIFIED	6.868	☐	
Lutetium-177	HE	2.512	0.5952	pCi/g	1.938	N	0	9	0	FAIL_ABUND	0	☐	
Neptunium-237	HE	0.7143	0.1754	pCi/g	0.4883	N	87.12	3	1.204	IDENTIFIED	21.75	☐	
Niobium-95m	LA	0.4518	0.08405	pCi/g	0.2748	N	0	9	0	NOT_IDENTI	0	☐	
Niobium-97	HE	16450	17570	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Polonium-212	NR	1.485	0.07732	pCi/g	0.09657	N	238.4	4	1.172	IDENTIFIED	3.769	☐	
Polonium-214	NR	1.169	0.09394	pCi/g	0.1266	N	351.6	4	1.381	IDENTIFIED	6.868	☐	
Polonium-216	NR	1.485	0.07732	pCi/g	0.09657	N	238.4	4	1.172	IDENTIFIED	3.769	☐	
Polonium-218	NR	1.169	0.09394	pCi/g	0.1266	N	351.6	4	1.381	IDENTIFIED	6.868	☐	
Potassium-40	✓	26.04	1.371	pCi/g	0.6165	1.00	1460	1	2.235	IDENTIFIED	3.704	☐	
Radium-224	INT	4.489	0.7124	pCi/g	1.099	Y	241.3	1	1.765	IDENTIFIED	15.62	☑ VI	
Radium-226	✓	0.9863	0.08476	pCi/g	0.1221	Y	608.6	4	1.38	IDENTIFIED	7.728	☐	
Radium-228	✓	1.381	0.1782	pCi/g	0.2536	0.500	910.5	3	1.807	IDENTIFIED	11.54	☐	
Sodium-24	HE	60700	1.21E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Thallium-200		240.8	115.5	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.5535	0.05171	pCi/g	0.06281	0.080	582.9	1	1.854	IDENTIFIED	8.76	☐	
Thorium-228	NR	1.505	0.0784	pCi/g	0.09792	N	238.4	4	1.172	IDENTIFIED	3.769	☐	
Thorium-230	NR	0.9863	0.08476	pCi/g	0.1221	N	608.6	4	1.38	IDENTIFIED	7.728	☐	
Thorium-232	NR	1.381	0.1782	pCi/g	0.2536	N	910.5	3	1.807	IDENTIFIED	11.54	☐	
Tin-126	HE	0.2433	0.05419	pCi/g	0.163	N	87.12	3	1.204	IDENTIFIED	21.75	☐	
Titanium-44	LA	0.3703	0.03306	pCi/g	0.09331	N	0	9	0	FAIL_ABUND	0	☐	
Uranium-234	NR	0.9863	0.08476	pCi/g	0.1221	N	608.6	4	1.38	IDENTIFIED	7.728	☐	

Zirconium-97		1.72E+06	3.73E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243385008	17-DEC-09 12:00	31-DEC-09 10:18	13.9	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.517	0.2153	pCi/g	0.2231	N	911.1	3	1.899	IDENTIFIED	13.06	☐	
Americium-243	INT	0.3585	0.06494	pCi/g	0.1344	N	74.03	1	1.581	IDENTIFIED	17.24	☐	
Annihilation Rad.	HE	0.1204	0.04372	pCi/g	0.06009	N	510.5	1	2.31	IDENTIFIED	36.21	☐	
Bismuth-211	INT	3.224	0.3059	pCi/g	0.3828	Y	351.4	4	1.325	IDENTIFIED	8.845	☑ UI	
Bismuth-212	HE	0.982	0.2863	pCi/g	0.7846	N	0	8	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	0.9141	0.08605	pCi/g	0.1239	0.200	609	4	1.668	IDENTIFIED	8.651	☐	
Cadmium-109	INT	1.789	0.6518	pCi/g	1.715	Y	86.84	3	1.243	IDENTIFIED	35.97	☑ UI	
Cerium-143		510.8	82.94	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Gross Gamma		8.613	1.455	pCi/g	3.504	N		0				☐	
Iodine-123	HE	1.57E+05	8.27E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Iodine-133	HE	1361	1446	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Lead-212	✓	1.73	0.1239	pCi/g	0.1206	0.100	238.3	4	1.373	IDENTIFIED	5.847	☐	
Lead-214	✓	1.122	0.1104	pCi/g	0.1334	0.100	351.4	4	1.325	IDENTIFIED	8.845	☐	
Neptunium-237	HE	0.5173	0.1959	pCi/g	0.5095	N	86.84	3	1.243	IDENTIFIED	35.97	☐	
Niobium-95m	LA	1.392	0.1263	pCi/g	0.4205	N	0	8	0	NOT_IDENTI	0	☐	
Polonium-212	NR	1.73	0.1239	pCi/g	0.1206	N	238.3	4	1.373	IDENTIFIED	5.847	☐	
Polonium-214	NR	1.122	0.1104	pCi/g	0.1334	N	351.4	4	1.325	IDENTIFIED	8.845	☐	
Polonium-216	NR	1.73	0.1239	pCi/g	0.1206	N	238.3	4	1.373	IDENTIFIED	5.847	☐	
Polonium-218	NR	1.122	0.1104	pCi/g	0.1334	N	351.4	4	1.325	IDENTIFIED	8.845	☐	
Potassium-40	✓	31.48	1.6	pCi/g	0.5738	1.00	1461	1	2.213	IDENTIFIED	3.351	☐	
Radium-224	LA	5.778	0.61	pCi/g	2.11	Y	0	8	0	NOT_IDENTI	0	☑ UI	Data rejected due to low abundance.
Radium-226	✓	0.9141	0.08605	pCi/g	0.1239	Y	609	4	1.668	IDENTIFIED	8.651	☐	
Radium-228	✓	1.517	0.2153	pCi/g	0.2231	0.500	911.1	3	1.899	IDENTIFIED	13.06	☐	
Thallium-208	✓	0.5602	0.05848	pCi/g	0.06632	0.080	583	1	1.725	IDENTIFIED	9.94	☐	
Thorium-228	NR	1.754	0.1257	pCi/g	0.1223	N	238.3	4	1.373	IDENTIFIED	5.847	☐	
Thorium-230	NR	0.9141	0.08605	pCi/g	0.1239	N	609	4	1.668	IDENTIFIED	8.651	☐	
Thorium-232	NR	1.517	0.2153	pCi/g	0.2231	N	911.1	3	1.899	IDENTIFIED	13.06	☐	
Tin-126	HE	0.1762	0.06417	pCi/g	0.1702	N	86.84	3	1.243	IDENTIFIED	35.97	☐	
Titanium-44	HE	0.1571	0.03038	pCi/g	0.09732	N	0	8	0	NOT_IDENTI	0	☐	
Uranium-234	NR	0.9141	0.08605	pCi/g	0.1239	N	609	4	1.668	IDENTIFIED	8.651	☐	
Zirconium-97		2.19E+06	4.27E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243385009	17-DEC-09 12:00	31-DEC-09 10:54	14	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.595	0.1622	pCi/g	0.2148	N	910.7	3	1.751	IDENTIFIED	8.825	☐	
Americium-243	INT	0.3519	0.03978	pCi/g	0.09426	N	74.9	1	1.179	IDENTIFIED	10.49	☐	
Annihilation Rad.	HE	0.05076	0.03423	pCi/g	0.04831	N	511.3	1	1.709	IDENTIFIED	67.38	☐	
Bismuth-211	INT	4.053	0.26	pCi/g	0.3258	Y	352.1	4	1.316	IDENTIFIED	5.582	☑ UI	
Bismuth-212	HE	1.362	0.3217	pCi/g	0.7475	N	0	7	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	0.9999	0.0841	pCi/g	0.1066	0.200	609.3	4	1.492	IDENTIFIED	7.55	☐	
Cadmium-109	INT	1.458	0.708	pCi/g	1.432	Y	87.31	2	1.222	IDENTIFIED	48.33	☑ UF	
Cerium-143		301.1	54.5	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Gross Gamma		7.664	1.301	pCi/g	3.201	N		0				☐	
Iodine-123	HE	2.89E+05	6.48E+05	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Iodine-133	HE	952.2	1140	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Lead-212	✓	1.379	0.07345	pCi/g	0.1027	0.100	238.9	4	1.183	IDENTIFIED	3.884	☐	
Lead-214	✓	1.41	0.09765	pCi/g	0.1136	0.100	352.1	4	1.316	IDENTIFIED	5.582	☐	
Mercury-203	INT/Pouc	0.06351	0.03307	pCi/g	0.05755	0.100	278.1	1	1.343	IDENTIFIED	51.98	☑ UI	
Niobium-97	HE	10300	14890	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	

Polonium-212	NR	1.379	0.07345	pCi/g	0.1027	N	238.9	4	1.183	IDENTIFIED	3.884	☐	
Polonium-214	NR	1.41	0.09765	pCi/g	0.1136	N	352.1	4	1.316	IDENTIFIED	5.582	☐	
Polonium-216	NR	1.379	0.07345	pCi/g	0.1027	N	238.9	4	1.183	IDENTIFIED	3.884	☐	
Polonium-218	NR	1.41	0.09765	pCi/g	0.1136	N	352.1	4	1.316	IDENTIFIED	5.582	☐	
Potassium-40	✓	20.62	1.057	pCi/g	0.394	1.00	1460	1	1.688	IDENTIFIED	3.694	☐	
Radium-224	INT	3.148	0.533	pCi/g	1.169	Y	241.9	1	1.528	IDENTIFIED	16.69	☑	VI
Radium-226	✓	0.9999	0.0841	pCi/g	0.1066	Y	609.3	4	1.492	IDENTIFIED	7.55	☐	
Radium-228	✓	1.595	0.1622	pCi/g	0.2148	0.500	910.7	3	1.751	IDENTIFIED	8.825	☐	
Sodium-24	HE	1285	98860	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.4916	0.04719	pCi/g	0.058	0.080	583.2	1	1.39	IDENTIFIED	9.061	☐	
Thorium-228	NR	1.399	0.07448	pCi/g	0.1042	N	238.9	4	1.183	IDENTIFIED	3.884	☐	
Thorium-230	NR	0.9998	0.0841	pCi/g	0.1066	N	609.3	4	1.492	IDENTIFIED	7.55	☐	
Thorium-232	NR	1.595	0.1622	pCi/g	0.2148	N	910.7	3	1.751	IDENTIFIED	8.825	☐	
Tin-126	HE	0.1436	0.06971	pCi/g	0.1417	N	87.31	2	1.222	IDENTIFIED	48.33	☐	
Titanium-44	LA	0.3442	0.02789	pCi/g	0.08423	N	0	7	0	FAIL_ABUND	0	☐	
Total Uranium		4.1612	2.13E-06	ug/g	3.8484	N		0				☐	
Uranium-234	NR	0.9998	0.0841	pCi/g	0.1066	N	609.3	4	1.492	IDENTIFIED	7.55	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243385010	17-DEC-09 12:00	31-DEC-09 10:54	14	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NL	1.244	0.1373	pCi/g	0.136	N	911.2	3	1.666	IDENTIFIED	9.6	☐	
Americium-243	INT	0.282	0.03842	pCi/g	0.0856	N	74.82	1	1.194	IDENTIFIED	12.36	☐	
Annihilation Rad.		0.1042	0.02197	pCi/g	0.03819	N	510.9	1	2.679	IDENTIFIED	20.9	☐	
Barium-137m	NR	0.219	0.02831	pCi/g	0.05095	N	661.8	2	1.53	IDENTIFIED	12.69	☐	
Bismuth-211	INT	2.546	0.2333	pCi/g	0.2749	Y	351.9	4	1.393	IDENTIFIED	8.523	☑	VI
Bismuth-212	HE	0.7767	0.1764	pCi/g	0.5441	N	0	9	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	0.8365	0.07235	pCi/g	0.0958	0.200	609.3	4	1.222	IDENTIFIED	7.83	☐	
Cadmium-109	INT	2.451	0.4253	pCi/g	1.107	Y	87.21	3	1.5	IDENTIFIED	16.29	☑	VI
Cerium-143		205.3	41.08	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1134	0.02622	pCi/g	0.07193	0.100	0	9	0	FAIL_ABUND	0	☑	UI Data rejected due to low abundance.
Cesium-137	✓	0.2315	0.02993	pCi/g	0.05386	0.100	661.8	2	1.53	IDENTIFIED	12.69	☐	
Gross Gamma		6.56	1.155	pCi/g	2.289	N		0				☐	
Iodine-135	HE	9.64E+13	1.10E+14	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Lead-212	✓	1.106	0.07549	pCi/g	0.09108	0.100	238.5	4	1.117	IDENTIFIED	5.518	☐	
Lead-214	✓	0.8855	0.08439	pCi/g	0.09583	0.100	351.9	4	1.393	IDENTIFIED	8.523	☐	
Lutetium-177	HE	2.249	0.6355	pCi/g	1.481	N	0	9	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	0.7087	0.1431	pCi/g	0.3664	N	87.21	3	1.5	IDENTIFIED	16.29	☐	
Niobium-97	HE	3373	13860	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Polonium-212	NL	1.106	0.07549	pCi/g	0.09108	N	238.5	4	1.117	IDENTIFIED	5.518	☐	
Polonium-214	NR	0.8855	0.08439	pCi/g	0.09583	N	351.9	4	1.393	IDENTIFIED	8.523	☐	
Polonium-216	NR	1.106	0.07549	pCi/g	0.09108	N	238.5	4	1.117	IDENTIFIED	5.518	☐	
Polonium-218	NR	0.8855	0.08439	pCi/g	0.09583	N	351.9	4	1.393	IDENTIFIED	8.523	☐	
Potassium-40	✓	19.38	0.9642	pCi/g	0.4048	1.00	1461	1	2.12	IDENTIFIED	3.482	☐	
Radium-224	INT	2	0.3916	pCi/g	1.353	Y	241.9	1	1.487	IDENTIFIED	19.29	☑	VI
Radium-226	✓	0.8365	0.07235	pCi/g	0.0958	Y	609.3	4	1.222	IDENTIFIED	7.83	☐	
Radium-228	✓	1.244	0.1373	pCi/g	0.136	0.500	911.2	3	1.666	IDENTIFIED	9.6	☐	
Sodium-24	HE	25520	79340	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.3997	0.03277	pCi/g	0.04182	0.080	583.2	1	1.45	IDENTIFIED	7.571	☐	
Thorium-228	NR	1.122	0.07655	pCi/g	0.09235	N	238.5	4	1.117	IDENTIFIED	5.518	☐	
Thorium-230	NR	0.8365	0.07235	pCi/g	0.09579	N	609.3	4	1.222	IDENTIFIED	7.83	☐	
Thorium-232	NR	1.244	0.1373	pCi/g	0.136	N	911.2	3	1.666	IDENTIFIED	9.6	☐	
Tin-126	INT	0.2413	0.04187	pCi/g	0.1189	N	87.21	3	1.5	IDENTIFIED	16.29	☐	
Titanium-44	LA	0.2687	0.02658	pCi/g	0.06733	N	0	9	0	FAIL_ABUND	0	☐	
Total Uranium		6.1106	2.44E-06	ug/g	3.5892	N		0				☐	
Uranium-234	NR	0.8365	0.07235	pCi/g	0.09579	N	609.3	4	1.222	IDENTIFIED	7.83	☐	
Zirconium-97	HE	1.87E+05	2.50E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243385011	17-DEC-09 12:00	31-DEC-09 10:55	14	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.9	0.1942	pCi/g	0.2601	N	911	3	1.656	IDENTIFIED	8.138		
Americium-243	INT	0.4831	0.03605	pCi/g	0.06656	N	74.72	1	1.451	IDENTIFIED	6.352		
Annihilation Rad.		0.1613	0.03666	pCi/g	0.05189	N	510.5	1	1.68	IDENTIFIED	22.51		
Bismuth-211	INT	4.312	0.3186	pCi/g	0.3403	Y	351.8	4	1.305	IDENTIFIED	6.243	☑ UI	
Bismuth-212	HE	1.009	0.3058	pCi/g	0.7729	N	0	12	0	FAIL_ABUND	0		
Bismuth-214	✓	1.414	0.1111	pCi/g	0.1257	0.200	609.1	4	1.592	IDENTIFIED	6.648		
Cadmium-109	INT	3.64	0.4638	pCi/g	1.085	Y	87.11	3	1.268	IDENTIFIED	12.16	☑ UI	
Cerium-143		536.3	82.4	pCi/g	0	N	0	12	0	SHORT_HLIF	0		
Gross Gamma		9.575	1.326	pCi/g	4.657	N		0					
Iodine-123		1.56E+06	7.38E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0		
Iodine-133	HE	1635	1393	pCi/g	0	N	0	12	0	SHORT_HLIF	0		
Iodine-135	HE	1.00E+14	1.61E+14	pCi/g	0	N	0	12	0	SHORT_HLIF	0		
Krypton-85	HE	19.78	4.455	pCi/g	15.27	N	0	12	0	NOT_IDENTI	0		
Lead-212	✓	1.767	0.1114	pCi/g	0.1033	0.100	238.6	4	1.217	IDENTIFIED	3.265		
Lead-214	✓	1.5	0.1175	pCi/g	0.1186	0.100	351.8	4	1.305	IDENTIFIED	6.243		
Lutetium-177	HE	3.303	0.7946	pCi/g	2.063	N	0	12	0	FAIL_ABUND	0		
Neptunium-237	INT	1.052	0.1725	pCi/g	0.3123	N	87.11	3	1.268	IDENTIFIED	12.16		
Niobium-95m	LA	0.5314	0.08641	pCi/g	0.2845	N	0	12	0	NOT_IDENTI	0		
Niobium-97	HE	5513	18160	pCi/g	0	N	0	12	0	SHORT_HLIF	0		
Polonium-212	NR	1.767	0.1114	pCi/g	0.1033	N	238.6	4	1.217	IDENTIFIED	3.265		
Polonium-214	NR	1.5	0.1175	pCi/g	0.1186	N	351.8	4	1.305	IDENTIFIED	6.243		
Polonium-216	NR	1.767	0.1114	pCi/g	0.1033	N	238.6	4	1.217	IDENTIFIED	3.265		
Polonium-218	NR	1.5	0.1175	pCi/g	0.1186	N	351.8	4	1.305	IDENTIFIED	6.243		
Potassium-40	✓	19	1.002	pCi/g	0.5667	1.00	1460	1	1.879	IDENTIFIED	4.257		
Radium-224	INT	6.151	0.8183	pCi/g	1.176	Y	241.5	1	2.014	IDENTIFIED	12.37	☑ UI	
Radium-226	✓	1.414	0.1111	pCi/g	0.1257	Y	609.1	4	1.592	IDENTIFIED	6.648		
Radium-228	✓	1.9	0.1942	pCi/g	0.2601	0.500	911	3	1.656	IDENTIFIED	8.138		
Strontium-85	LA	0.1002	0.02256	pCi/g	0.07732	Y	0	12	0	NOT_IDENTI	0	☑ UI	Data rejected due to low abundance.
Thallium-208	✓	0.6169	0.05422	pCi/g	0.07052	0.080	583	1	1.597	IDENTIFIED	7.981		
Thorium-228	NR	1.792	0.1129	pCi/g	0.1048	N	238.6	4	1.217	IDENTIFIED	3.265		
Thorium-230	NR	1.414	0.1111	pCi/g	0.1257	N	609.1	4	1.592	IDENTIFIED	6.648		
Thorium-232	NR	1.9	0.1942	pCi/g	0.2601	N	911	3	1.656	IDENTIFIED	8.138		
Thorium-234	✓	1.717	0.4401	pCi/g	1.117	2.00	63.22	2	1.31	IDENTIFIED	24.04		
Tin-126	INT	0.3584	0.04567	pCi/g	0.1067	N	87.11	3	1.268	IDENTIFIED	12.16		
Titanium-44	LA	0.4572	0.02666	pCi/g	0.07319	N	0	12	0	FAIL_ABUND	0		
Total Uranium		5.1126	1.31E-06	ug/g	1.6652	N		0					
Uranium-234	NR	1.414	0.1111	pCi/g	0.1257	N	609.1	4	1.592	IDENTIFIED	6.648		
Uranium-238	HE	1.717	0.4401	pCi/g	1.117	N	63.22	2	1.31	IDENTIFIED	24.04		
Zirconium-97		1.85E+06	3.88E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0		

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243403001	17-DEC-09 12:00	31-DEC-09 10:55	14	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	LA	1.22	0.1598	pCi/g	0.4773	N	0	10	0	FAIL_ABUND	0		
Americium-243	INT	0.6358	0.06512	pCi/g	0.0979	N	75.9	1	2.989	IDENTIFIED	9.181		
Annihilation Rad.	HE	0.09994	0.03254	pCi/g	0.04777	N	510.7	1	1.711	IDENTIFIED	32.44		
Bismuth-211	INT	2.471	0.2134	pCi/g	0.3237	Y	351.6	4	1.404	IDENTIFIED	8.011	☑ UI	
Bismuth-212	HE	0.6992	0.2107	pCi/g	0.6218	N	0	10	0	FAIL_ABUND	0		
Bismuth-214	✓	0.6891	0.07897	pCi/g	0.09829	0.200	609.1	4	1.057	IDENTIFIED	10.85		
Cadmium-109	INT	2.091	0.5685	pCi/g	1.487	Y	87.06	3	1.456	IDENTIFIED	26.75	☑ UI	
Cerium-143		422.6	70.43	pCi/g	0	N	0	10	0	SHORT_HLIF	0		
Gross Gamma		7.285	1.256	pCi/g	2.681	N		0					

Iodine-123	HE	3.22E+05	6.82E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐		
Lead-212	✓	1.137	0.0649	pCi/g	0.0964	0.100	238.4	4	1.161	IDENTIFIED	4.356	☐		
Lead-214	✓	0.8596	0.07755	pCi/g	0.1179	0.100	351.6	4	1.404	IDENTIFIED	8.011	☐		
Neptunium-237	HE	0.6044	0.1758	pCi/g	0.4304	N	87.06	3	1.456	IDENTIFIED	26.75	☐		
Niobium-95m	HE	0.3486	0.07709	pCi/g	0.253	N	0	10	0	NOT_IDENTI	0	☐		
Polonium-212	NR	1.137	0.0649	pCi/g	0.0964	N	238.4	4	1.161	IDENTIFIED	4.356	☐		
Polonium-214	NR	0.8596	0.07755	pCi/g	0.1179	N	351.6	4	1.404	IDENTIFIED	8.011	☐		
Polonium-216	NR	1.137	0.0649	pCi/g	0.0964	N	238.4	4	1.161	IDENTIFIED	4.356	☐		
Polonium-218	NR	0.8596	0.07755	pCi/g	0.1179	N	351.6	4	1.404	IDENTIFIED	8.011	☐		
Potassium-40	✓	30.01	1.368	pCi/g	0.4698	1.00	1460	1	2.088	IDENTIFIED	3.137	☐		
Radium-224	INT	3.552	0.6425	pCi/g	1.097	Y	241.2	1	1.911	IDENTIFIED	17.85	☑ UI		
Radium-226	✓	0.6891	0.07897	pCi/g	0.09829	Y	609.1	4	1.057	IDENTIFIED	10.85	☐		
Radium-228	LA	1.22	0.1598	pCi/g	0.4773	0.500	0	10	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.	
Thallium-200	HE	145.9	111.7	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐		
Thallium-208	✓	0.4116	0.03736	pCi/g	0.06113	0.080	583	1	1.484	IDENTIFIED	8.508	☐		
Thorium-228	NR	1.153	0.06581	pCi/g	0.09775	N	238.4	4	1.161	IDENTIFIED	4.356	☐		
Thorium-230	NR	0.6891	0.07897	pCi/g	0.09828	N	609.1	4	1.057	IDENTIFIED	10.85	☐		
Thorium-232	NR	1.22	0.1598	pCi/g	0.4773	N	0	10	0	FAIL_ABUND	0	☐		
Tin-126	HE	0.2058	0.05598	pCi/g	0.1472	N	87.06	3	1.456	IDENTIFIED	26.75	☐		
Titanium-44	LA	0.2164	0.0237	pCi/g	0.08046	N	0	10	0	NOT_IDENTI	0	☐		
Total Uranium		4.4899	2.12E-06	ug/g	3.5619	N		0				☐		
Uranium-234	NR	0.6891	0.07897	pCi/g	0.09828	N	609.1	4	1.057	IDENTIFIED	10.85	☐		
Zirconium-97		1.25E+06	3.61E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐		

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243403002	17-DEC-09 12:00	31-DEC-09 10:56	14	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.597	0.1831	pCi/g	0.219	N	911.4	3	1.608	IDENTIFIED	9.881	☐	
Americium-243	INT	0.3937	0.03624	pCi/g	0.07272	N	74.74	1	1.217	IDENTIFIED	8.278	☐	
Barium-137m	HE	0.124	0.03276	pCi/g	0.06344	N	661.5	2	1.327	IDENTIFIED	26.04	☐	
Bismuth-211	INT	3.37	0.2685	pCi/g	0.3633	Y	351.9	4	1.219	IDENTIFIED	6.585	☑ UI	
Bismuth-212	HE	1.022	0.2756	pCi/g	0.7305	N	0	13	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	0.8982	0.1033	pCi/g	0.1187	0.200	609.6	4	1.513	IDENTIFIED	10.27	☐	
Cadmium-109	INT	2.655	0.5257	pCi/g	0.9224	Y	87.03	3	1.435	IDENTIFIED	19.25	☑ UI	
Cerium-143		347.7	59.89	pCi/g	0	N	0	13	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1557	0.03231	pCi/g	0.09459	0.100	0	13	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Cesium-137	✓	0.1311	0.03464	pCi/g	0.06706	0.100	661.5	2	1.327	IDENTIFIED	26.04	☐	
Gold-195	HE	0.371	0.1035	pCi/g	0.3551	N	0	13	0	FAIL_ABUND	0	☐	
Gross Gamma		9.245	1.632	pCi/g	3.463	N		0				☐	
Iodine-123	HE	1.07E+06	6.65E+05	pCi/g	0	N	0	13	0	SHORT_HLIF	0	☐	
Iodine-135	HE	1.76E+14	1.58E+14	pCi/g	0	N	0	13	0	SHORT_HLIF	0	☐	
Krypton-85	HE	18.39	4.203	pCi/g	14.62	N	0	13	0	NOT_IDENTI	0	☐	
Lead-212	✓	1.63	0.09739	pCi/g	0.09605	0.100	238.7	4	1.072	IDENTIFIED	3.581	☐	
Lead-214	✓	1.172	0.09827	pCi/g	0.1266	0.100	351.9	4	1.219	IDENTIFIED	6.585	☐	
Lutetium-177	LA	3.733	0.8664	pCi/g	1.914	N	0	13	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	0.7677	0.1714	pCi/g	0.3844	N	87.03	3	1.435	IDENTIFIED	19.25	☐	
Niobium-97	HE	18870	18240	pCi/g	0	N	0	13	0	SHORT_HLIF	0	☐	
Polonium-212	NR	1.63	0.09739	pCi/g	0.09605	N	238.7	4	1.072	IDENTIFIED	3.581	☐	
Polonium-214	NR	1.172	0.09827	pCi/g	0.1266	N	351.9	4	1.219	IDENTIFIED	6.585	☐	
Polonium-216	NR	1.63	0.09739	pCi/g	0.09605	N	238.7	4	1.072	IDENTIFIED	3.581	☐	
Polonium-218	NR	1.172	0.09827	pCi/g	0.1266	N	351.9	4	1.219	IDENTIFIED	6.585	☐	
Potassium-40	✓	30.54	1.612	pCi/g	0.552	1.00	1461	1	1.798	IDENTIFIED	3.07	☐	
Radium-224	INT	3.432	0.7843	pCi/g	1.093	Y	241.5	1	1.765	IDENTIFIED	22.46	☑ UI	
Radium-226	✓	0.8982	0.1033	pCi/g	0.1187	Y	609.6	4	1.513	IDENTIFIED	10.27	☐	
Radium-228	✓	1.597	0.1831	pCi/g	0.219	0.500	911.4	3	1.608	IDENTIFIED	9.881	☐	
Strontium-85	LA	0.09315	0.02129	pCi/g	0.07407	Y	0	13	0	NOT_IDENTI	0	☑ UI	Data rejected due to low abundance.
Technetium-99m	HE	1.48E+14	7.64E+14	pCi/g	0	N	0	13	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.5225	0.04709	pCi/g	0.05969	0.080	583.2	1	1.544	IDENTIFIED	7.638	☐	

Thorium-228	NR	1.653	0.09876	pCi/g	0.0974	N	238.7	4	1.072	IDENTIFIED	3.581	☐
Thorium-230	NR	0.8982	0.1033	pCi/g	0.1187	N	609.6	4	1.513	IDENTIFIED	10.27	☐
Thorium-232	NR ✓	1.597	0.1831	pCi/g	0.219	N	911.4	3	1.608	IDENTIFIED	9.881	☐
Thorium-234		2.23	0.7641	pCi/g	1.565	2.00	62.81	2	0.9084	IDENTIFIED	33.14	☐
Tin-126	INT	0.2614	0.05176	pCi/g	0.09102	N	87.03	3	1.435	IDENTIFIED	19.25	☐
Titanium-44	LA	0.3958	0.0287	pCi/g	0.07	N	0	13	0	FAIL_ABUND	0	☐
Total Uranium		6.566	2.27E-06	ug/g	2.3305	N		0				☐
Uranium-234	NR	0.8982	0.1033	pCi/g	0.1187	N	609.6	4	1.513	IDENTIFIED	10.27	☐
Uranium-238	HE	2.23	0.7641	pCi/g	1.565	N	62.81	2	0.9084	IDENTIFIED	33.14	☐
Zirconium-97	HE	1.32E+05	3.47E+05	pCi/g	0	N	0	13	0	SHORT_HLIF	0	☐

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243403003 -	17-DEC-09 12:00	31-DEC-09 10:56	14	SAMPLE	LOAD	1	LANL	LANL01004|GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.473	0.1538	pCi/g	0.1854	N	910.4	3	1.303	IDENTIFIED	8.635	☐	
Americium-243	INT	0.29	0.03147	pCi/g	0.0798	N	74.75	1	1.249	IDENTIFIED	10.18	☐	
Annihilation Rad.	HE	0.09838	0.02867	pCi/g	0.04163	N	510.2	1	2.012	IDENTIFIED	28.99	☐	
Antimony-122	HE	4.196	0.982	pCi/g	3.298	N	0	11	0	NOT_IDENTI	0	☐	
Barium-137m	HE	0.05779	0.02184	pCi/g	0.05249	N	661	2	1.136	IDENTIFIED	37.67	☐	
Bismuth-211	INT	2.831	0.2224	pCi/g	0.3177	Y	351.2	4	1.497	IDENTIFIED	7.186	☑ VF	
Bismuth-212	HE	0.8914	0.2425	pCi/g	0.6212	N	0	11	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	0.9158	0.08228	pCi/g	0.09755	0.200	608.6	4	1.641	IDENTIFIED	8.066	☐	
Cadmium-109	INT	2.288	0.4521	pCi/g	1.04	Y	86.97	3	1.58	IDENTIFIED	19.28	☑ VF	
Cerium-143		511.4	84.77	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.08698	0.02645	pCi/g	0.08248	0.100	0	11	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Cesium-135	HE	0.4383	0.1189	pCi/g	0.2387	N	269.3	1	1.39	IDENTIFIED	26.84	☐	
Cesium-137	✓	0.06109	0.02309	pCi/g	0.05549	0.100	661	2	1.136	IDENTIFIED	37.67	☐	
Gross Gamma		7.569	1.251	pCi/g	3.447	N		0				☐	
Iodine-123	HE	3.36E+05	6.85E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Iodine-133	HE	129.5	964	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Lead-212	✓	1.517	0.07465	pCi/g	0.08082	0.100	238.1	4	1.354	IDENTIFIED	3.309	☐	
Lead-214	✓	0.9849	0.08151	pCi/g	0.1107	0.100	351.2	4	1.497	IDENTIFIED	7.186	☐	
Lutetium-177	HE	2.891	0.6377	pCi/g	1.708	N	0	11	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	0.6615	0.1474	pCi/g	0.3644	N	86.97	3	1.58	IDENTIFIED	19.28	☐	
Niobium-95m	LA	1.214	0.0909	pCi/g	0.3051	N	0	11	0	NOT_IDENTI	0	☐	
Niobium-97	HE	11270	16670	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Polonium-212	NR	1.517	0.07465	pCi/g	0.08082	N	238.1	4	1.354	IDENTIFIED	3.309	☐	
Polonium-214	NR	0.9849	0.08151	pCi/g	0.1107	N	351.2	4	1.497	IDENTIFIED	7.186	☐	
Polonium-216	NR	1.517	0.07465	pCi/g	0.08082	N	238.1	4	1.354	IDENTIFIED	3.309	☐	
Polonium-218	NR ✓	0.9849	0.08151	pCi/g	0.1107	N	351.2	4	1.497	IDENTIFIED	7.186	☐	
Potassium-40	✓	19.74	0.9867	pCi/g	0.5054	1.00	1459	1	2.033	IDENTIFIED	3.436	☐	
Radium-224	INT	4.545	0.6705	pCi/g	0.9192	Y	240.9	1	2.181	IDENTIFIED	14.47	☑ VF	
Radium-226	✓	0.9158	0.08228	pCi/g	0.09755	Y	608.6	4	1.641	IDENTIFIED	8.066	☐	
Radium-228	✓	1.473	0.1538	pCi/g	0.1854	0.500	910.4	3	1.303	IDENTIFIED	8.635	☐	
Thallium-208	✓	0.4906	0.0409	pCi/g	0.04991	0.080	582.4	1	1.834	IDENTIFIED	7.604	☐	
Thorium-228	NR	1.538	0.07569	pCi/g	0.08195	N	238.1	4	1.354	IDENTIFIED	3.309	☐	
Thorium-230	NR	0.9158	0.08228	pCi/g	0.09755	N	608.6	4	1.641	IDENTIFIED	8.066	☐	
Thorium-232	NR	1.473	0.1538	pCi/g	0.1854	N	910.4	3	1.303	IDENTIFIED	8.635	☐	
Tin-126	INT	0.2253	0.04451	pCi/g	0.1027	N	86.97	3	1.58	IDENTIFIED	19.28	☐	
Titanium-44	LA	0.3413	0.0262	pCi/g	0.07284	N	0	11	0	FAIL_ABUND	0	☐	
Total Uranium		2.9948	1.46E-06	ug/g	2.6306	N		0				☐	
Uranium-234	NR	0.9158	0.08228	pCi/g	0.09755	N	608.6	4	1.641	IDENTIFIED	8.066	☐	
Zirconium-97		2.05E+06	3.45E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243403004	17-DEC-09 12:00	31-DEC-09 12:01	14	SAMPLE	LOAD	1	LANL	LANL01004|GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.771	0.1658	pCi/g	0.1538	N	911.6	3	2.043	IDENTIFIED	7.044	☐	
Americium-243	INT	0.3628	0.04695	pCi/g	0.09939	N	74.59	1	1.182	IDENTIFIED	11.72	☐	
Annihilation Rad.		0.1372	0.02528	pCi/g	0.03904	N	511	1	2.337	IDENTIFIED	18.14	☐	
Barium-137m	NR	0.1127	0.02576	pCi/g	0.05787	N	661.9	2	1.096	IDENTIFIED	22.71	☐	
Bismuth-211	INT	3.068	0.236	pCi/g	0.2896	Y	352	4	1.292	IDENTIFIED	6.773	☑ UF	
Bismuth-212	LA	1.051	0.1979	pCi/g	0.625	N	0	8	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	0.9052	0.08246	pCi/g	0.09179	0.200	609.6	4	1.483	IDENTIFIED	8.277	☐	
Cadmium-109	INT	2.82	0.4966	pCi/g	1.087	Y	87.06	3	1.211	IDENTIFIED	16.68	☑ UC	
Cerium-143		204.1	49.65	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.1325	0.03765	pCi/g	0.09101	0.100	0	8	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Cesium-137	✓	0.1192	0.02723	pCi/g	0.06117	0.100	661.9	2	1.096	IDENTIFIED	22.71	☐	
Gross Gamma		7.995	1.084	pCi/g	3.026	N		0				☐	
Iodine-123	HE	3.94E+05	6.27E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Lead-212	✓	1.615	0.08154	pCi/g	0.08828	0.100	238.6	4	1.101	IDENTIFIED	3.335	☐	
Lead-214	✓	1.067	0.08669	pCi/g	0.1002	0.100	352	4	1.292	IDENTIFIED	6.773	☐	
Lutetium-177	HE	1.915	0.6432	pCi/g	1.73	N	0	8	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	0.8153	0.1664	pCi/g	0.3472	N	87.06	3	1.211	IDENTIFIED	16.68	☐	
Polonium-212	NR	1.615	0.08154	pCi/g	0.08828	N	238.6	4	1.101	IDENTIFIED	3.335	☐	
Polonium-214	NR	1.067	0.08669	pCi/g	0.1002	N	352	4	1.292	IDENTIFIED	6.773	☐	
Polonium-216	NR	1.615	0.08154	pCi/g	0.08828	N	238.6	4	1.101	IDENTIFIED	3.335	☐	
Polonium-218	NR	1.067	0.08669	pCi/g	0.1002	N	352	4	1.292	IDENTIFIED	6.773	☐	
Potassium-40	✓	21.34	1.194	pCi/g	0.5121	1.00	1461	1	2.016	IDENTIFIED	3.577	☐	
Radium-224	INT	3.661	0.57	pCi/g	1.004	Y	241.5	1	1.718	IDENTIFIED	15.26	☑ UF	
Radium-226	✓	0.9052	0.08246	pCi/g	0.09179	Y	609.6	4	1.483	IDENTIFIED	8.277	☐	
Radium-228	✓	1.771	0.1658	pCi/g	0.1538	0.500	911.6	3	2.043	IDENTIFIED	7.044	☐	
Technetium-99m	HE	5.00E+14	8.13E+14	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.5814	0.04089	pCi/g	0.0517	0.080	583.5	1	1.418	IDENTIFIED	6.179	☐	
Thorium-228	NR	1.637	0.08269	pCi/g	0.08952	N	238.6	4	1.101	IDENTIFIED	3.335	☐	
Thorium-230	NR	0.9052	0.08246	pCi/g	0.09178	N	609.6	4	1.483	IDENTIFIED	8.277	☐	
Thorium-232	NR	1.771	0.1658	pCi/g	0.1538	N	911.6	3	2.043	IDENTIFIED	7.044	☐	
Tin-126	INT	0.2776	0.0489	pCi/g	0.1078	N	87.06	3	1.211	IDENTIFIED	16.68	☐	
Titanium-44	LA	0.1574	0.02341	pCi/g	0.07803	N	0	8	0	NOT_IDENTI	0	☐	
Uranium-234	NR	0.9052	0.08246	pCi/g	0.09178	N	609.6	4	1.483	IDENTIFIED	8.277	☐	
Zirconium-97		6.85E+05	3.00E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243403005	17-DEC-09 12:00	31-DEC-09 12:01	14	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.225	0.1519	pCi/g	0.2437	N	910.6	3	1.519	IDENTIFIED	10.98	☐	
Americium-243	INT	0.3051	0.04376	pCi/g	0.1039	N	74.57	1	1.385	IDENTIFIED	13.64	☐	
Annihilation Rad.	HE	0.07438	0.03236	pCi/g	0.05193	N	510.4	1	2.436	IDENTIFIED	43.4	☐	
Bismuth-211	INT	2.593	0.2359	pCi/g	0.3438	Y	351.4	4	1.36	IDENTIFIED	8.493	☑ UF	
Bismuth-212	HE	0.752	0.1985	pCi/g	0.6526	N	0	6	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	0.7439	0.08761	pCi/g	0.1302	0.200	608.9	4	1.47	IDENTIFIED	11.16	☐	
Cadmium-109	INT	2.354	0.4661	pCi/g	1.433	Y	87.11	3	1.255	IDENTIFIED	19.2	☑ UI	
Cerium-143		373.2	64.2	pCi/g	0	N	0	6	0	SHORT_HLIF	0	☐	
Gross Gamma		7.788	1.736	pCi/g	2.713	N		0				☐	
Lead-212	✓	1.297	0.07012	pCi/g	0.09195	0.100	238.4	4	1.087	IDENTIFIED	4.037	☐	
Lead-214	✓	0.9021	0.08537	pCi/g	0.1163	0.100	351.4	4	1.36	IDENTIFIED	8.493	☐	
Neptunium-237	HE	0.6806	0.152	pCi/g	0.4487	N	87.11	3	1.255	IDENTIFIED	19.2	☐	
Niobium-95m	LA	0.4981	0.08166	pCi/g	0.2716	N	0	6	0	NOT_IDENTI	0	☐	
Polonium-212	NR	1.297	0.07012	pCi/g	0.09195	N	238.4	4	1.087	IDENTIFIED	4.037	☐	
Polonium-214	NR	0.9021	0.08537	pCi/g	0.1163	N	351.4	4	1.36	IDENTIFIED	8.493	☐	
Polonium-216	NR	1.297	0.07012	pCi/g	0.09195	N	238.4	4	1.087	IDENTIFIED	4.037	☐	
Polonium-218	NR	0.9021	0.08537	pCi/g	0.1163	N	351.4	4	1.36	IDENTIFIED	8.493	☐	
Potassium-40	✓	31.8	1.573	pCi/g	0.6715	1.00	1460	1	2.339	IDENTIFIED	3.238	☐	

Radium-224	INT	3.552	0.6622	pCi/g	1.046	Y	241.3	1	1.762	IDENTIFIED	18.42	☑	UF
Radium-226	✓	0.7439	0.08761	pCi/g	0.1302	Y	608.9	4	1.47	IDENTIFIED	11.16	☐	
Radium-228	✓	1.225	0.1519	pCi/g	0.2437	0.500	910.6	3	1.519	IDENTIFIED	10.98	☐	
Technetium-99m	HE	6.25E+14	1.01E+15	pCi/g	0	N	0	6	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.3813	0.04175	pCi/g	0.06594	0.080	582.8	1	1.365	IDENTIFIED	10.46	☐	
Thorium-228	NR	1.315	0.0711	pCi/g	0.09324	N	238.4	4	1.087	IDENTIFIED	4.037	☐	
Thorium-230	NR	0.7438	0.08761	pCi/g	0.1302	N	608.9	4	1.47	IDENTIFIED	11.16	☐	
Thorium-232	NR	1.225	0.1519	pCi/g	0.2437	N	910.6	3	1.519	IDENTIFIED	10.98	☐	
Tin-126	HE	0.2318	0.04589	pCi/g	0.142	N	87.11	3	1.255	IDENTIFIED	19.2	☐	
Titanium-44	LA	0.2992	0.02911	pCi/g	0.08855	N	0	6	0	FAIL_ABUND	0	☐	
Total Uranium		6.6132	2.68E-06	ug/g	3.9059	N		0				☐	
Uranium-234	NR	0.7438	0.08761	pCi/g	0.1302	N	608.9	4	1.47	IDENTIFIED	11.16	☐	
Zirconium-97		1.60E+06	4.13E+05	pCi/g	0	N	0	6	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243403006	17-DEC-09 12:00	31-DEC-09 12:29	14	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.61	0.1751	pCi/g	0.2066	N	910.6	3	1.736	IDENTIFIED	9.342	☐	
Americium-243	INT	0.2904	0.05523	pCi/g	0.1228	N	74.1	1	1.572	IDENTIFIED	18.19	☑	
Annihilation Rad.		0.1291	0.03582	pCi/g	0.04898	N	510.1	1	1.835	IDENTIFIED	27.6	☐	
Bismuth-211	INT	2.892	0.2478	pCi/g	0.3671	Y	351.4	4	1.732	IDENTIFIED	7.848	☑	UF
Bismuth-212	HE	0.9516	0.248	pCi/g	0.6707	N	0	7	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	0.7525	0.08349	pCi/g	0.1203	0.200	608.9	4	1.886	IDENTIFIED	10.45	☐	
Cadmium-109	INT	2.445	0.6489	pCi/g	1.481	Y	89.29	1	1.613	IDENTIFIED	25.94	☑	UF
Cerium-143		378.2	75.35	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.09528	0.02733	pCi/g	0.09458	0.100	0	7	0	NOT_IDENTI	0	☑	UI Data rejected due to low abundance.
Cesium-135	NR	0.5996	0.1351	pCi/g	0.2634	N	269.4	1	1.038	IDENTIFIED	22.13	☐	
Gross Gamma		7.631	1.209	pCi/g	2.627	N		0				☐	
Lead-212	✓	1.666	0.09263	pCi/g	0.09753	0.100	238.1	4	1.455	IDENTIFIED	3.714	☐	
Lead-214	✓	1.006	0.09009	pCi/g	0.1279	0.100	351.4	4	1.732	IDENTIFIED	7.848	☐	
Lutetium-177	HE	2.406	0.7468	pCi/g	2.054	N	0	7	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	0.9601	0.224	pCi/g	0.4399	N	86.66	2	1.608	IDENTIFIED	20.12	☐	
Niobium-95m	LA	1.34	0.1125	pCi/g	0.3793	N	0	7	0	NOT_IDENTI	0	☐	
Polonium-212	NR	1.666	0.09263	pCi/g	0.09753	N	238.1	4	1.455	IDENTIFIED	3.714	☐	
Polonium-214	NR	1.006	0.09009	pCi/g	0.1279	N	351.4	4	1.732	IDENTIFIED	7.848	☐	
Polonium-216	NR	1.666	0.09263	pCi/g	0.09753	N	238.1	4	1.455	IDENTIFIED	3.714	☐	
Polonium-218	NR	1.006	0.09009	pCi/g	0.1279	N	351.4	4	1.732	IDENTIFIED	7.848	☐	
Potassium-40	✓	23.64	1.207	pCi/g	0.5648	1.00	1461	1	2.186	IDENTIFIED	3.386	☐	
Radium-224	INT	3.835	0.7619	pCi/g	1.109	Y	240.9	1	2.019	IDENTIFIED	19.56	☑	UF
Radium-226	✓	0.7525	0.08349	pCi/g	0.1203	Y	608.9	4	1.886	IDENTIFIED	10.45	☐	
Radium-228	✓	1.61	0.1751	pCi/g	0.2066	0.500	910.6	3	1.736	IDENTIFIED	9.342	☐	
Thallium-208	✓	0.5509	0.04244	pCi/g	0.06349	0.080	582.7	1	1.519	IDENTIFIED	7.015	☐	
Thorium-228	NR	1.689	0.09393	pCi/g	0.09891	N	238.1	4	1.455	IDENTIFIED	3.714	☐	
Thorium-230	NR	0.7525	0.08349	pCi/g	0.1203	N	608.9	4	1.886	IDENTIFIED	10.45	☐	
Thorium-232	NR	1.61	0.1751	pCi/g	0.2066	N	910.6	3	1.736	IDENTIFIED	9.342	☐	
Tin-126	INT	0.327	0.06841	pCi/g	0.1469	N	86.66	2	1.608	IDENTIFIED	20.12	☐	
Titanium-44	LA	0.1671	0.02854	pCi/g	0.08989	N	0	7	0	NOT_IDENTI	0	☐	
Uranium-234	NR	0.7525	0.08349	pCi/g	0.1203	N	608.9	4	1.886	IDENTIFIED	10.45	☐	
Zirconium-97		2.41E+06	4.21E+05	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243403007	17-DEC-09 12:00	31-DEC-09 13:06	14	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	0.8657	0.109	pCi/g	0.1473	N	911.3	3	2.023	IDENTIFIED	10.71	☐	
Americium-243	INT	0.2153	0.02942	pCi/g	0.06448	N	74.8	1	1.338	IDENTIFIED	13.04	☐	

Annihilation Rad.	HE	0.06861	0.02485	pCi/g	0.03381	N	510.8	1	1.761	IDENTIFIED	35.87	☐		
Barium-137m	NR	0.2297	0.02843	pCi/g	0.04376	N	661.7	2	1.577	IDENTIFIED	11.2	☐		
Bismuth-211	INT	2.462	0.2136	pCi/g	0.2587	Y	352	4	1.385	IDENTIFIED	6.443	☑ VF		
Bismuth-212	HE	0.6189	0.1837	pCi/g	0.4348	N	0	9	0	FAIL_ABUND	0	☐		
Bismuth-214	✓	0.6918	0.06907	pCi/g	0.0844	0.200	609.1	4	1.586	IDENTIFIED	8.117	☐		
Cadmium-109	INT	1.321	0.3503	pCi/g	1.145	Y	86.96	3	1.097	IDENTIFIED	26.09	☑ VF		
Cerium-143		296.7	50.28	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐		
Cesium-134	LA	0.05889	0.0213	pCi/g	0.05596	0.100	0	9	0	FAIL_ABUND	0	☑	UI	Data rejected due to low abundance.
Cesium-137	✓	0.2428	0.03006	pCi/g	0.04626	0.100	661.7	2	1.577	IDENTIFIED	11.2	☐		
Gross Gamma		6.121	1.054	pCi/g	1.834	N		0				☐		
Iodine-123	HE	3.52E+05	5.53E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐		
Krypton-85	HE	17.22	3.282	pCi/g	10.79	N	0	9	0	NOT_IDENTI	0	☐		
Lead-212	✓	0.9653	0.07368	pCi/g	0.07041	0.100	238.7	4	1.226	IDENTIFIED	3.822	☐		
Lead-214	✓	0.8563	0.07759	pCi/g	0.08543	0.100	352	4	1.385	IDENTIFIED	6.443	☐		
Neptunium-237	HE	0.3819	0.1087	pCi/g	0.2363	N	86.96	3	1.097	IDENTIFIED	26.09	☐		
Niobium-97		46000	15040	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐		
Polonium-212	NR	0.9653	0.07368	pCi/g	0.07041	N	238.7	4	1.226	IDENTIFIED	3.822	☐		
Polonium-214	NR	0.8563	0.07759	pCi/g	0.08543	N	352	4	1.385	IDENTIFIED	6.443	☐		
Polonium-216	NR	0.9653	0.07368	pCi/g	0.07041	N	238.7	4	1.226	IDENTIFIED	3.822	☐		
Polonium-218	NR	0.8563	0.07759	pCi/g	0.08543	N	352	4	1.385	IDENTIFIED	6.443	☐		
Potassium-40	✓	21.52	1.145	pCi/g	0.3705	1.00	1461	1	2.667	IDENTIFIED	2.706	☐		
Radium-224	INT	2.865	0.5192	pCi/g	0.8003	Y	241.6	1	1.886	IDENTIFIED	17	☑ VF		
Radium-226	✓	0.6918	0.06907	pCi/g	0.0844	Y	609.1	4	1.586	IDENTIFIED	8.117	☐		
Radium-228	✓	0.8657	0.109	pCi/g	0.1473	0.500	911.3	3	2.023	IDENTIFIED	10.71	☐		
Strontium-85	LA	0.08731	0.01664	pCi/g	0.05471	Y	0	9	0	NOT_IDENTI	0	☑	UI	Data rejected due to low abundance.
Thallium-208	✓	0.3012	0.02928	pCi/g	0.04482	0.080	583.2	1	1.629	IDENTIFIED	8.069	☐		
Thorium-228	NR	0.9789	0.07472	pCi/g	0.07141	N	238.7	4	1.226	IDENTIFIED	3.822	☐		
Thorium-230	NR	0.6918	0.06907	pCi/g	0.0844	N	609.1	4	1.586	IDENTIFIED	8.117	☐		
Thorium-232	NR	0.8657	0.109	pCi/g	0.1473	N	911.3	3	2.023	IDENTIFIED	10.71	☐		
Thorium-234	✓	1.61	0.664	pCi/g	1.449	2.00	63.37	2	1.315	IDENTIFIED	40.3	☐		
Tin-126	HE	0.1301	0.03448	pCi/g	0.1061	N	86.96	3	1.097	IDENTIFIED	26.09	☐		
Titanium-44	LA	0.1998	0.01837	pCi/g	0.05438	N	0	9	0	FAIL_ABUND	0	☐		
Total Uranium		4.8151	1.98E-06	ug/g	2.1577	N		0				☐		
Uranium-234	NR	0.6918	0.06907	pCi/g	0.0844	N	609.1	4	1.586	IDENTIFIED	8.117	☐		
Uranium-238	HE	1.61	0.664	pCi/g	1.449	N	63.37	2	1.315	IDENTIFIED	40.3	☐		
Zirconium-97		8.48E+05	2.88E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐		

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243403008	17-DEC-09 12:00	31-DEC-09 13:06	14	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NR	1.377	0.166	pCi/g	0.194	N	911	3	1.831	IDENTIFIED	10.48	☐	
Americium-243	INT	0.302	0.02307	pCi/g	0.04142	N	74.84	1	0.86	IDENTIFIED	5.708	☐	
Annihilation Rad.		0.1166	0.03293	pCi/g	0.04229	N	510.8	1	1.693	IDENTIFIED	27.77	☐	
Barium-137m	NR	0.7742	0.06277	pCi/g	0.05891	N	661.5	2	1.268	IDENTIFIED	5.921	☐	
Bismuth-210	NR	4.131	0.4148	pCi/g	0.5672	N	46.44	3	0.8898	IDENTIFIED	8.614	☐	
Bismuth-211	INT	3.179	0.2598	pCi/g	0.301	Y	351.9	4	1.002	IDENTIFIED	6.254	☑ VF	
Bismuth-212	HE	0.8519	0.2333	pCi/g	0.6243	N	0	9	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.068	0.09456	pCi/g	0.1081	0.200	609.2	4	1.55	IDENTIFIED	6.485	☐	
Cadmium-109	INT	2.719	0.3215	pCi/g	0.6391	Y	87.2	3	1.082	IDENTIFIED	10.54	☑ VF	
Cerium-143		270.2	50.22	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Cesium-137	✓	0.8184	0.06639	pCi/g	0.06227	0.100	661.5	2	1.268	IDENTIFIED	5.921	☐	
Gross Gamma		8.322	1.171	pCi/g	2.71	N		0				☐	
Iodine-123	HE	3.81E+05	5.46E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Iodine-124	HE	0.9341	0.2581	pCi/g	0.9315	N	0	9	0	NOT_IDENTI	0	☐	
Iodine-133	HE	239.6	1220	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Iodine-135	HE	3.23E+13	1.90E+14	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Lead-210	NR	4.131	0.4148	pCi/g	0.5672	N	46.44	3	0.8898	IDENTIFIED	8.614	☐	

Lead-212	✓	1.44	0.0954	pCi/g	0.07524	0.100	238.6	4	0.9715	IDENTIFIED	3.392	☐	
Lead-214	✓	1.106	0.09485	pCi/g	0.105	0.100	351.9	4	1.002	IDENTIFIED	6.254	☐	
Lutetium-177	HE	1.579	0.5315	pCi/g	1.468	N	0	9	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	0.7861	0.1233	pCi/g	0.1836	N	87.2	3	1.082	IDENTIFIED	10.54	☐	
Niobium-97		47160	18710	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Polonium-210	NL	4.131	0.4066	pCi/g	0.5672	N	46.44	3	0.8898	IDENTIFIED	8.614	☐	
Polonium-212	NL	1.44	0.0954	pCi/g	0.07524	N	238.6	4	0.9715	IDENTIFIED	3.392	☐	
Polonium-214	NL	1.106	0.09485	pCi/g	0.105	N	351.9	4	1.002	IDENTIFIED	6.254	☐	
Polonium-216	NL	1.44	0.0954	pCi/g	0.07524	N	238.6	4	0.9715	IDENTIFIED	3.392	☐	
Polonium-218	NL	1.106	0.09485	pCi/g	0.105	N	351.9	4	1.002	IDENTIFIED	6.254	☐	
Potassium-40	✓	22.63	1.236	pCi/g	0.4306	1.00	1461	1	2.092	IDENTIFIED	3.421	☐	
Radium-224	INT	4.185	0.6886	pCi/g	0.8572	Y	241.6	1	1.95	IDENTIFIED	15.59	☑ VE	
Radium-226	✓	1.068	0.09456	pCi/g	0.1081	Y	609.2	4	1.55	IDENTIFIED	6.485	☐	
Radium-228	✓	1.377	0.166	pCi/g	0.194	0.500	911	3	1.831	IDENTIFIED	10.48	☐	
Thallium-208	✓	0.4021	0.04908	pCi/g	0.05099	0.080	583.2	1	1.451	IDENTIFIED	10.82	☐	
Thorium-228	NL	1.46	0.09675	pCi/g	0.0763	N	238.6	4	0.9715	IDENTIFIED	3.392	☐	
Thorium-230	NL	1.068	0.09456	pCi/g	0.1081	N	609.2	4	1.55	IDENTIFIED	6.485	☐	
Thorium-232	NL	1.377	0.166	pCi/g	0.194	N	911	3	1.831	IDENTIFIED	10.48	☐	
Thorium-234	✓	0.88	0.3884	pCi/g	0.6595	2.00	63.17	2	0.8225	IDENTIFIED	43.15	☐	
Tin-126	INT	0.2677	0.03165	pCi/g	0.06279	N	87.2	3	1.082	IDENTIFIED	10.54	☐	
Titanium-44	LA	0.3033	0.02028	pCi/g	0.0412	N	0	9	0	FAIL_ABUND	0	☐	
Total Uranium		2.6555	1.16E-06	ug/g	0.98383	N		0				☐	
Uranium-234	NL	1.068	0.09456	pCi/g	0.1081	N	609.2	4	1.55	IDENTIFIED	6.485	☐	
Uranium-238	HE	0.88	0.3884	pCi/g	0.6595	N	63.17	2	0.8225	IDENTIFIED	43.15	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
243403009	17-DEC-09 12:00	31-DEC-09 13:17	14.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	NL	1.556	0.1715	pCi/g	0.2133	N	910.8	3	1.723	IDENTIFIED	9.124	☐	
Americium-243	INT	0.3049	0.02959	pCi/g	0.05852	N	74.79	1	1.451	IDENTIFIED	8.883	☐	
Annihilation Rad.	HE	0.1134	0.03582	pCi/g	0.05545	N	511	1	2.194	IDENTIFIED	31.42	☐	
Bismuth-211	INT	2.678	0.2293	pCi/g	0.3432	Y	351.8	4	1.289	IDENTIFIED	7.596	☑ VE	
Bismuth-212	LA	1.352	0.2802	pCi/g	0.7273	N	0	10	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	0.6804	0.08285	pCi/g	0.1357	0.200	609.1	4	1.371	IDENTIFIED	11.43	☐	
Cadmium-109	INT	2.594	0.3553	pCi/g	0.9282	Y	87.14	3	1.188	IDENTIFIED	13.15	☑ VE	
Cerium-143		314.8	60.18	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Gross Gamma		6.821	1.491	pCi/g	2.446	N		0				☐	
Iodine-123	HE	6.73E+05	7.74E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Iodine-135	HE	1.14E+14	2.19E+14	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Krypton-85	HE	25.26	4.707	pCi/g	16.47	N	0	10	0	NOT_IDENTI	0	☐	
Lead-212	✓	1.322	0.08924	pCi/g	0.09419	0.100	238.6	4	1.202	IDENTIFIED	4.063	☐	
Lead-214	✓	0.9316	0.08339	pCi/g	0.1196	0.100	351.8	4	1.289	IDENTIFIED	7.596	☐	
Lutetium-177	LA	3.303	0.7156	pCi/g	1.814	N	0	10	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	0.75	0.1286	pCi/g	0.2672	N	87.14	3	1.188	IDENTIFIED	13.15	☐	
Niobium-95m	HE	0.3911	0.07744	pCi/g	0.2561	N	0	10	0	NOT_IDENTI	0	☐	
Polonium-212	NL	1.322	0.08924	pCi/g	0.09419	N	238.6	4	1.202	IDENTIFIED	4.063	☐	
Polonium-214	NL	0.9316	0.08339	pCi/g	0.1196	N	351.8	4	1.289	IDENTIFIED	7.596	☐	
Polonium-216	NL	1.322	0.08924	pCi/g	0.09419	N	238.6	4	1.202	IDENTIFIED	4.063	☐	
Polonium-218	NL	0.9316	0.08339	pCi/g	0.1196	N	351.8	4	1.289	IDENTIFIED	7.596	☐	
Potassium-40	✓	22.49	1.119	pCi/g	0.6676	1.00	1460	1	2.105	IDENTIFIED	3.884	☐	
Radium-224	INT	3.135	0.7369	pCi/g	1.072	Y	241.4	1	2.031	IDENTIFIED	22.99	☑ VE	
Radium-226	✓	0.6804	0.08285	pCi/g	0.1357	Y	609.1	4	1.371	IDENTIFIED	11.43	☐	
Radium-228	✓	1.556	0.1715	pCi/g	0.2133	0.500	910.8	3	1.723	IDENTIFIED	9.124	☐	
Strontium-85	LA	0.1281	0.02387	pCi/g	0.08353	Y	0	10	0	NOT_IDENTI	0	☑ UI	Data rejected due to low abundance.
Thallium-208	✓	0.4894	0.04738	pCi/g	0.05688	0.080	583.1	1	1.61	IDENTIFIED	8.956	☐	
Thorium-228	NL	1.341	0.0905	pCi/g	0.09552	N	238.6	4	1.202	IDENTIFIED	4.063	☐	
Thorium-230	NL	0.6804	0.08285	pCi/g	0.1357	N	609.1	4	1.371	IDENTIFIED	11.43	☐	

Thorium-232	NR	1.556	0.1715	pCi/g	0.2133	N	910.8	3	1.723	IDENTIFIED	9.124	☐
Thorium-234	✓	1.251	0.4777	pCi/g	0.999	2.00	63.07	2	1.086	IDENTIFIED	37.15	☐
Tin-126	INT	0.2554	0.03498	pCi/g	0.09126	N	87.14	3	1.188	IDENTIFIED	13.15	☐
Titanium-44	LA	0.3024	0.02042	pCi/g	0.06233	N	0	10	0	FAIL_ABUND	0	☐
Total Uranium		3.751	1.42E-06	ug/g	1.489	N		0				☐
Uranium-234	NR	0.6804	0.08285	pCi/g	0.1357	N	609.1	4	1.371	IDENTIFIED	11.43	☐
Uranium-238	HE	1.251	0.4777	pCi/g	0.999	N	63.07	2	1.086	IDENTIFIED	37.15	☐
Zirconium-97		1.57E+06	4.35E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202003352		31-DEC-09 13:18	0	MB	LOAD	1		GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Iodine-123	HE	144.1	112.6	pCi/g	0	N	0	5	0	SHORT_HLIF	0	☐	
Iodine-133	HE	4.782	3.482	pCi/g	0	N	0	5	0	SHORT_HLIF	0	☐	
Niobium-97	HE	7.964	13.64	pCi/g	0	N	0	5	0	SHORT_HLIF	0	☐	
Sodium-24		89.83	44.17	pCi/g	0	N	0	5	0	SHORT_HLIF	0	☐	
Technetium-99m	HE	1.55E+07	8.41E+06	pCi/g	0	N	0	5	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202003353	17-DEC-09 12:00	31-DEC-09 13:18	14.1	DUP	LOAD	1		LANL01004|GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.72	0.1811	pCi/g	0.1697	N	911.2	3	1.502	IDENTIFIED	8.766	☐	
Americium-243	INT	0.4128	0.03429	pCi/g	0.06933	N	74.7	1	1.217	IDENTIFIED	7.268	☐	
Annihilation Rad.	HE	0.05088	0.02971	pCi/g	0.04403	N	510.7	1	2.131	IDENTIFIED	58.23	☐	
Barium-137m	NR	0.2647	0.02934	pCi/g	0.05667	N	661.6	2	1.1	IDENTIFIED	10.16	☐	
Bismuth-211	INT	3.847	0.2864	pCi/g	0.3246	Y	352	4	1.252	IDENTIFIED	5.944	☑ VE	
Bismuth-212	NR	1.257	0.2687	pCi/g	0.3564	N	727.8	1	1.871	IDENTIFIED	20.74	☐	
Bismuth-214	✓	1.251	0.1019	pCi/g	0.09705	0.200	609.4	4	1.625	IDENTIFIED	6.297	☐	
Cadmium-109	INT	3.241	0.4345	pCi/g	1.027	Y	87	3	1.122	IDENTIFIED	12.57	☑ VE	
Cerium-143		353.4	59.14	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.09487	0.03334	pCi/g	0.09088	0.100	0	8	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Cesium-137	✓	0.2798	0.03102	pCi/g	0.0599	0.100	661.6	2	1.1	IDENTIFIED	10.16	☐	
Gross Gamma		8.954	1.254	pCi/g	3.36	N		0				☐	
Iodine-133	HE	1544	1214	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Iodine-135		3.40E+14	1.70E+14	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Lead-212	✓	1.7	0.09745	pCi/g	0.0863	0.100	238.7	4	1.131	IDENTIFIED	3.162	☐	
Lead-214	✓	1.338	0.1056	pCi/g	0.1131	0.100	352	4	1.252	IDENTIFIED	5.944	☐	
Lutetium-177	HE	2.47	0.5298	pCi/g	1.791	N	0	8	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	0.937	0.1585	pCi/g	0.2993	N	87	3	1.122	IDENTIFIED	12.57	☐	
Polonium-212	NR	1.7	0.09745	pCi/g	0.0863	N	238.7	4	1.131	IDENTIFIED	3.162	☐	
Polonium-214	NR	1.338	0.1056	pCi/g	0.1131	N	352	4	1.252	IDENTIFIED	5.944	☐	
Polonium-216	NR	1.7	0.09745	pCi/g	0.0863	N	238.7	4	1.131	IDENTIFIED	3.162	☐	
Polonium-218	NR	1.338	0.1056	pCi/g	0.1131	N	352	4	1.252	IDENTIFIED	5.944	☐	
Potassium-40	✓	20.54	1.152	pCi/g	0.4772	1.00	1461	1	2.056	IDENTIFIED	3.611	☐	
Radium-224	INT	4.426	0.579	pCi/g	0.9821	Y	241.5	1	1.692	IDENTIFIED	12.38	☑ VI	
Radium-226	✓	1.251	0.1019	pCi/g	0.09705	Y	609.4	4	1.625	IDENTIFIED	6.297	☐	
Radium-228	✓	1.72	0.1811	pCi/g	0.1697	0.500	911.2	3	1.502	IDENTIFIED	8.766	☐	
Thallium-200	HE	3.057	99.43	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Thallium-208	✓	0.5962	0.04934	pCi/g	0.05311	0.080	583.2	1	1.537	IDENTIFIED	6.754	☐	
Thorium-228	NR	1.724	0.09882	pCi/g	0.08752	N	238.7	4	1.131	IDENTIFIED	3.162	☐	
Thorium-230	NR	1.251	0.1019	pCi/g	0.09705	N	609.4	4	1.625	IDENTIFIED	6.297	☐	
Thorium-232	NR	1.72	0.1811	pCi/g	0.1697	N	911.2	3	1.502	IDENTIFIED	8.766	☐	
Thorium-234	✓	2.137	0.6341	pCi/g	1.454	2.00	63.31	2	0.9321	IDENTIFIED	28.38	☐	
Tin-126	INT	0.3191	0.04277	pCi/g	0.1014	N	87	3	1.122	IDENTIFIED	12.57	☐	
Titanium-44	LA	0.3811	0.025	pCi/g	0.067	N	0	8	0	FAIL_ABUND	0	☐	
Total Uranium		6.3657	1.89E-06	ug/g	2.1659	N		0				☐	

Uranium-234	Nl	1.251	0.1019	pCi/g	0.09705	N	609.4	4	1.625	IDENTIFIED	6.297	☐
Uranium-238	HE	2.137	0.6341	pCi/g	1.454	N	63.31	2	0.9321	IDENTIFIED	28.38	☐
Zirconium-97		1.04E+06	3.34E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202003354		31-DEC-09 13:19	0	LCS	LOAD	1		GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	HE	0.7118	0.2203	pCi/g	0.5915	N	0	10	0	FAIL_ABUND	0	☐	
Americium-241	✓	12.59	0.5661	pCi/g	0.4832	0.200	59.47	1	1.309	IDENTIFIED	2.538	☐	
Americium-243		0.2439	0.05235	pCi/g	0.1343	N	74.73	1	1.583	IDENTIFIED	21.14	☐	
Barium-137m		5.416	0.2023	pCi/g	0.1059	N	660.9	2	1.628	IDENTIFIED	2.259	☐	
Bismuth-211		2.291	0.3126	pCi/g	0.6017	Y	351.2	4	1.121	IDENTIFIED	13.27	☐	
Bismuth-214		0.6232	0.1296	pCi/g	0.2025	0.200	608.5	4	1.022	IDENTIFIED	20.41	☐	
Cadmium-109		33.61	1.932	pCi/g	2.17	Y	87.87	3	1.319	IDENTIFIED	3.737	☐	
Cerium-143		16.21	3.152	pCi/g	9.867	N	0	10	0	FAIL_ABUND	0	☐	
Cesium-137	✓	5.726	0.2143	pCi/g	0.112	0.100	660.9	2	1.628	IDENTIFIED	2.259	☐	
Cobalt-57		0.1886	0.03047	pCi/g	0.06636	N	121.7	1	1.162	IDENTIFIED	15.76	☐	
Cobalt-60	✓	6.509	0.2854	pCi/g	0.09475	0.100	1331	1	2.001	IDENTIFIED	2.564	☐	
Gross Gamma		25.95	2.912	pCi/g	5.17	N		0				☐	
Iodine-123	HE	79.05	279.2	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Lead-212		1.095	0.08196	pCi/g	0.1496	0.100	238.2	4	1.522	IDENTIFIED	6.543	☐	
Lead-214		0.7969	0.1107	pCi/g	0.2125	0.100	351.2	4	1.121	IDENTIFIED	13.27	☐	
Neptunium-237		9.811	1.159	pCi/g	0.6905	N	87.87	3	1.319	IDENTIFIED	3.737	☐	
Niobium-95m		0.7439	0.1153	pCi/g	0.3903	N	0	10	0	NOT_IDENTI	0	☐	
Niobium-97		2640	138.1	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Polonium-212		1.095	0.08196	pCi/g	0.1496	N	238.2	4	1.522	IDENTIFIED	6.543	☐	
Polonium-214		0.7969	0.1107	pCi/g	0.2125	N	351.2	4	1.121	IDENTIFIED	13.27	☐	
Polonium-216		1.095	0.08196	pCi/g	0.1496	N	238.2	4	1.522	IDENTIFIED	6.543	☐	
Polonium-218		0.7969	0.1107	pCi/g	0.2125	N	351.2	4	1.121	IDENTIFIED	13.27	☐	
Potassium-40		1.432	0.2579	pCi/g	0.6197	1.00	1460	1	0.8545	IDENTIFIED	17.64	☐	
Radium-224		2.648	0.7733	pCi/g	1.702	Y	241.1	1	1.639	IDENTIFIED	29.07	☐	
Radium-226		0.6232	0.1296	pCi/g	0.2025	Y	608.5	4	1.022	IDENTIFIED	20.41	☐	
Radium-228		0.7118	0.2203	pCi/g	0.5915	0.500	0	10	0	FAIL_ABUND	0	☐	
Silver-110m		1.204	0.07387	pCi/g	0.2657	N	0	10	0	NOT_IDENTI	0	☐	
Thallium-208		0.3332	0.05598	pCi/g	0.09801	0.080	582.5	1	1.381	IDENTIFIED	16.45	☐	
Thorium-228		1.103	0.08258	pCi/g	0.1508	N	238.2	4	1.522	IDENTIFIED	6.543	☐	
Thorium-230		0.6232	0.1296	pCi/g	0.2025	N	608.5	4	1.022	IDENTIFIED	20.41	☐	
Thorium-232	HE	0.7118	0.2203	pCi/g	0.5915	N	0	10	0	FAIL_ABUND	0	☐	
Tin-126		3.341	0.192	pCi/g	0.2165	N	87.87	3	1.319	IDENTIFIED	3.737	☐	
Titanium-44		0.2362	0.03343	pCi/g	0.1046	N	0	10	0	FAIL_ABUND	0	☐	
Uranium-234		0.6232	0.1296	pCi/g	0.2025	N	608.5	4	1.022	IDENTIFIED	20.41	☐	
Zirconium-97	HE	1376	1118	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

GEL QUALS

Batch ID: 936285

Report run on: January 4, 2010 4:59 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
243385001-1 31-DEC-2009 09:16	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.842			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.554			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.857			
243385002-1 31-DEC-2009 09:20	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.006			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.802			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.179		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.411			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.07251			
243385003-1 31-DEC-2009 09:30	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.723			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.283			
243385004-1 31-DEC-2009 09:31	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.556			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.709			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1194		.1	.1
	Mercury-203	UI	UI	UI	Data rejected due to interference.		.05714		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.141			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1105			
243385005-1 31-DEC-2009 09:39	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.467			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.211			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1106		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.138			

GEL QUALS

Batch ID: 936285

Report run on: January 4, 2010 4:59 PM

Samp id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
243385006-1 31-DEC-2009 09:40	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.877			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.06			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1124		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		2.35			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1233			
243385007-1 31-DEC-2009 09:54	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.36			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.47			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.489			
243385008-1 31-DEC-2009 10:18	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.224			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		1.789			
	Radium-224	UI	UI	UI	Data rejected due to low abundance.		5.778			
243385009-1 31-DEC-2009 10:54	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.053			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		1.458			
	Mercury-203	UI	UI	UI	Data rejected due to high counting uncertainty.		.06351		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.148			
243385010-1 31-DEC-2009 10:54	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.546			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.451			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1134		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		2			

GEL QUALS

Batch ID: 936285

Report run on: January 4, 2010 4:59 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
243385011-1 31-DEC-2009 10:55	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.312			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.64			
	Radium-224	UI	UI	UI	Data rejected due to interference.		6.151			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1002			
243403001-1 31-DEC-2009 10:55	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.471			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.091			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.552			
	Radium-228	UI	UI	UI	Data rejected due to low abundance.		1.22		.5	.5
243403002-1 31-DEC-2009 10:56	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.37			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.655			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1557		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.432			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.09315			
243403003-1 31-DEC-2009 10:56	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.831			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.288			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.08698		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.545			
243403004-1 31-DEC-2009 12:01	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.068			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.82			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1325		.1	.1

GEL QUALS

Batch ID: 936285

Report run on: January 4, 2010 4:59 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
243403004-1 31-DEC-2009 12:01	Radium-224	UI	UI	UI	Data rejected due to interference.		3.661			
243403005-1 31-DEC-2009 12:01	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.593			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.354			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.552			
243403006-1 31-DEC-2009 12:29	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.892			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.445			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.09528		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.835			
243403007-1 31-DEC-2009 13:06	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.462			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		1.321			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.05889		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		2.865			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08731			
243403008-1 31-DEC-2009 13:06	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.179			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.719			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.185			
243403009-1 31-DEC-2009 13:17	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.678			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.594			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.135			

GEL QUALS

Batch ID: 936285

Report run on: January 4, 2010 4:59 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
243403009-1 31-DEC-2009 13:17	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1281			
1202003353-1 DUP 31-DEC-2009 13:18	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.847			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.241			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.09487		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.426			

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:17:25.45

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385001.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:16:57
Sample ID         : G243385001           Sample quantity  : 1.44810E+02 GRAM
Detector name     : GAM17                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:08.97  0.1%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 936285                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	45.55*	168	317	0.80	92.55	89	7	2.33E-02	20.4	
2	0	62.31*	241	656	0.99	126.06	122	10	3.35E-02	21.3	
3	3	73.96*	630	500	1.09	149.34	143	15	8.75E-02	7.3	1.71E+00
4	3	76.28*	945	333	0.89	153.99	143	15	1.31E-01	4.5	
5	5	86.38*	326	422	1.28	174.18	164	27	4.53E-02	12.2	3.34E+00
6	5	89.10	235	391	1.26	179.62	164	27	3.27E-02	16.2	
7	5	91.93*	400	361	1.28	185.27	164	27	5.56E-02	10.4	
8	0	185.20*	294	353	1.30	371.70	365	14	4.08E-02	15.1	
9	0	208.79	141	236	1.13	418.87	414	11	1.96E-02	22.8	
10	4	237.91*	1125	177	0.97	477.07	472	16	1.56E-01	3.6	3.15E+00
11	4	240.84	241	223	1.59	482.92	472	16	3.35E-02	16.1	
12	0	269.26	105	165	1.85	539.75	535	10	1.46E-02	24.9	
13	0	294.53*	295	198	1.06	590.26	584	12	4.09E-02	11.3	
14	0	299.37	85	175	1.04	599.94	596	10	1.18E-02	31.1	
15	0	337.62*	193	140	1.19	676.40	671	10	2.69E-02	13.7	
16	0	351.30*	568	158	1.10	703.75	699	11	7.89E-02	6.1	
17	0	462.66	56	65	0.79	926.37	924	7	7.71E-03	27.9	
18	0	510.14*	56	118	1.25	1021.29	1016	10	7.79E-03	45.6	
19	0	582.65*	280	55	1.28	1166.27	1161	10	3.89E-02	8.1	
20	0	608.86*	383	93	1.31	1218.68	1213	14	5.32E-02	7.6	
21	0	660.85	166	51	1.83	1322.62	1315	15	2.30E-02	12.3	
22	0	727.57*	59	50	0.89	1456.02	1451	10	8.14E-03	26.9	
23	0	767.72	37	58	0.82	1536.30	1530	10	5.21E-03	41.2	
24	0	910.83*	214	35	1.87	1822.45	1815	14	2.97E-02	9.2	
25	0	968.73*	111	50	1.54	1938.23	1932	14	1.55E-02	17.1	
26	0	1120.18	74	47	1.47	2241.09	2235	12	1.03E-02	22.0	
27	0	1239.27	58	58	1.58	2479.26	2472	17	8.04E-03	33.2	
28	0	1460.74	647	0	2.17	2922.21	2912	21	8.99E-02	3.9	
29	0	1764.96*	54	8	2.15	3530.72	3525	11	7.44E-03	18.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 11:17:27

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385001.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MJH1
Sample date : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:16:57
Sample ID : G243385001 Sample quantity : 144.81 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA17 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:08.97 0.1%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.969E+01	1.966E+00	4.327E-01	2.660E-02	45.509
CD-109	+	88.03	*	2.554E+00	8.540E-01	8.487E-01	6.836E-02	3.010
SN-126		64.28		2.868E-02	2.495E-01	3.581E-01	5.493E-02	0.080
	+	86.94		1.444E+00	6.924E-01	3.465E-01	1.429E-01	4.168
	+	87.57	*	3.474E-01	8.940E-02	8.348E-02	6.732E-03	4.162
CS-135	+	268.24	*	4.540E-01	2.296E-01	2.153E-01	1.938E-02	2.109
BA-137M	+	661.65	*	2.952E-01	7.580E-02	6.385E-02	4.809E-03	4.624
CS-137	+	661.65	*	3.121E-01	8.015E-02	6.750E-02	5.096E-03	4.624
TL-208		277.35		5.906E-01	3.693E-01	6.369E-01	7.352E-02	0.927
	+	510.84		3.243E-01	2.975E-01	2.357E-01	2.529E-02	1.376
	+	583.14	*	4.722E-01	8.490E-02	6.395E-02	5.070E-03	7.383
		860.37		6.686E-01	3.339E-01	6.462E-01	5.273E-02	1.035
BI-210	+	46.50	*	1.641E+00	6.824E-01	7.928E-01	6.345E-02	2.070
PB-210	+	46.50	*	1.641E+00	6.824E-01	7.928E-01	6.345E-02	2.070
PO-210	+	46.50	*	1.641E+00	6.793E-01	7.928E-01	5.518E-02	2.070
BI-211	+	72.87		1.933E+01	3.255E+00	2.786E+00	2.382E-01	6.939
	+	351.07	*	3.842E+00	5.455E-01	3.194E-01	2.294E-02	12.028
PB-212	+	74.81		2.294E+00	4.419E-01	3.316E-01	4.185E-02	6.917
	+	77.11		2.049E+00	2.525E-01	1.904E-01	1.599E-02	10.758
	+	87.30		1.607E+00	4.436E-01	3.858E-01	4.959E-02	4.165
	+	238.63	*	1.578E+00	1.791E-01	8.580E-02	7.530E-03	18.392
	+	300.09		1.889E+00	1.187E+00	1.104E+00	1.032E-01	1.711
PO-212	+	74.81		2.294E+00	4.419E-01	3.316E-01	4.185E-02	6.917
	+	77.11		2.049E+00	2.525E-01	1.904E-01	1.599E-02	10.758
	+	87.30		1.607E+00	4.436E-01	3.858E-01	4.959E-02	4.165
		115.19		-4.428E-01	2.801E+00	4.665E+00	4.853E-01	-0.095
	+	238.63	*	1.578E+00	1.791E-01	8.580E-02	7.530E-03	18.392
	+	300.09		1.889E+00	1.187E+00	1.104E+00	1.032E-01	1.711
BI-214	+	609.31	*	1.226E+00	2.154E-01	1.304E-01	1.170E-02	9.401
	+	1120.29		1.266E+00	5.686E-01	5.217E-01	4.658E-02	2.427
	+	1764.49		1.300E+00	4.774E-01	3.742E-01	2.151E-02	3.473
PB-214	+	74.81		3.953E+00	7.273E-01	5.715E-01	6.434E-02	6.917
	+	77.11		3.512E+00	5.090E-01	3.265E-01	3.702E-02	10.758
	+	87.30		2.753E+00	7.394E-01	6.610E-01	7.378E-02	4.165

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	241.98		2.034E+00	6.809E-01	4.661E-01	4.381E-02	4.364
	+	295.21		1.147E+00	2.821E-01	2.014E-01	1.939E-02	5.695
	+	351.92	*	1.336E+00	2.022E-01	1.114E-01	9.878E-03	11.998
PO-214	+	74.81		3.953E+00	7.273E-01	5.715E-01	6.434E-02	6.917
	+	77.11		3.512E+00	5.090E-01	3.265E-01	3.702E-02	10.758
	+	87.30		2.753E+00	7.394E-01	6.610E-01	7.378E-02	4.165
	+	241.98		2.034E+00	6.809E-01	4.661E-01	4.381E-02	4.364
	+	295.21		1.147E+00	2.821E-01	2.014E-01	1.939E-02	5.695
	+	351.92	*	1.336E+00	2.022E-01	1.114E-01	9.878E-03	11.998
PO-216	+	74.81		2.294E+00	4.419E-01	3.316E-01	4.185E-02	6.917
	+	77.11		2.049E+00	2.525E-01	1.904E-01	1.599E-02	10.758
	+	87.30		1.607E+00	4.436E-01	3.858E-01	4.959E-02	4.165
	+	238.63	*	1.578E+00	1.791E-01	8.580E-02	7.530E-03	18.392
	+	300.09		1.889E+00	1.187E+00	1.104E+00	1.032E-01	1.711
PO-218	+	74.81		3.953E+00	7.273E-01	5.715E-01	6.434E-02	6.917
	+	77.11		3.512E+00	5.090E-01	3.265E-01	3.702E-02	10.758
	+	87.30		2.753E+00	7.394E-01	6.610E-01	7.378E-02	4.165
	+	241.98		2.034E+00	6.809E-01	4.661E-01	4.381E-02	4.364
	+	295.21		1.147E+00	2.821E-01	2.014E-01	1.939E-02	5.695
	+	351.92	*	1.336E+00	2.022E-01	1.114E-01	9.878E-03	11.998
RA-224	+	240.98	*	3.857E+00	1.273E+00	9.775E-01	7.373E-02	3.945
RA-226	+	609.31	*	1.226E+00	2.154E-01	1.304E-01	1.170E-02	9.401
	+	1120.29		1.266E+00	5.686E-01	5.217E-01	4.658E-02	2.427
	+	1764.49		1.300E+00	4.774E-01	3.742E-01	2.151E-02	3.473
AC-228	+	338.32		1.432E+00	7.059E-01	3.678E-01	1.505E-01	3.893
	+	911.07	*	1.660E+00	3.498E-01	2.344E-01	2.398E-02	7.082
	+	969.11		1.525E+00	6.276E-01	4.956E-01	1.129E-01	3.078
RA-228	+	338.32		1.432E+00	7.059E-01	3.678E-01	1.505E-01	3.893
	+	911.07	*	1.660E+00	3.498E-01	2.344E-01	2.398E-02	7.082
	+	969.11		1.525E+00	6.276E-01	4.956E-01	1.129E-01	3.078
TH-228	+	74.81		2.326E+00	3.926E-01	3.363E-01	2.876E-02	6.917
	+	77.11		2.077E+00	2.561E-01	1.931E-01	1.622E-02	10.758
	+	87.30		1.629E+00	4.192E-01	3.912E-01	3.158E-02	4.165
	+	238.63	*	1.600E+00	1.816E-01	8.700E-02	7.635E-03	18.392
	+	300.09		1.915E+00	1.642E+00	1.119E+00	6.613E-01	1.711
TH-230	+	609.31	*	1.226E+00	2.154E-01	1.304E-01	1.170E-02	9.401
	+	1120.29		1.266E+00	5.686E-01	5.217E-01	4.658E-02	2.427
	+	1764.49		1.300E+00	4.774E-01	3.742E-01	2.151E-02	3.473
TH-232	+	338.32		1.432E+00	4.055E-01	3.678E-01	2.512E-02	3.893
	+	911.07	*	1.660E+00	3.498E-01	2.344E-01	2.398E-02	7.082
	+	969.11		1.525E+00	6.276E-01	4.956E-01	1.129E-01	3.078
TH-234	+	63.29	*	2.475E+00	1.144E+00	8.250E-01	1.497E-01	3.000
	+	92.38		2.939E+00	8.092E-01	5.780E-01	1.039E-01	5.085
U-234	+	609.31	*	1.226E+00	2.154E-01	1.304E-01	1.170E-02	9.401
	+	1120.29		1.266E+00	5.686E-01	5.217E-01	4.658E-02	2.427
	+	1764.49		1.300E+00	4.774E-01	3.742E-01	2.151E-02	3.473
NP-237	+	86.50	*	1.020E+00	3.365E-01	2.445E-01	5.420E-02	4.173
		95.87		-8.474E-01	7.815E-01	1.074E+00	2.649E-01	-0.789
U-238	+	63.29	*	2.475E+00	1.144E+00	8.250E-01	1.497E-01	3.000

Sample ID : G243385001 Acquisition date : 31-DEC-2009 09:16:57

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	92.38		2.939E+00	6.607E-01	5.780E-01	4.852E-02	5.085
AM-243	+	74.67	*	3.719E-01	6.264E-02	5.376E-02	4.560E-03	6.919
	+	86.72		3.826E+01	9.845E+00	9.174E+00	7.421E-01	4.170
		117.66		2.774E+00	2.973E+00	5.175E+00	5.509E-01	0.536
		142.18		9.425E+00	1.582E+01	2.644E+01	2.507E+00	0.356
ANH-511	+	511.00	*	7.004E-02	6.398E-02	5.093E-02	3.442E-03	1.375

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	1.642E-01	3.168E-01	5.455E-01	4.022E-02	0.301
NA-22		1274.54	*	-2.587E-02	5.067E-02	7.654E-02	4.338E-03	-0.338
NA-24		1368.53	*	5.684E-02	5.067E-02	Half-Life too short		
AL-26		1129.67		-9.437E-01	1.962E+00	3.030E+00	1.791E-01	-0.311
		1808.65	*	5.422E-03	3.102E-02	5.310E-02	3.036E-03	0.102
TI-44		67.85		4.693E-03	2.312E-02	3.827E-02	3.347E-03	0.123
		78.38	*	5.693E-03	2.415E-02	3.455E-02	2.886E-03	0.165
SC-46		889.25	*	2.277E-02	4.228E-02	7.429E-02	5.445E-03	0.307
	+	1120.51		2.145E-01	9.529E-02	1.444E-01	8.647E-03	1.485
V-48		944.10		-5.661E-01	8.960E-01	1.374E+00	9.774E-02	-0.412
		983.50	*	-7.653E-03	6.445E-02	1.049E-01	7.260E-03	-0.073
		1312.09		-4.923E-02	8.181E-02	1.196E-01	6.806E-03	-0.412
CR-51		320.08	*	4.746E-02	3.261E-01	5.586E-01	4.260E-02	0.085
MN-52		744.21		-6.749E-02	2.191E-01	3.373E-01	2.570E-02	-0.200
		848.13		-5.038E+00	5.809E+00	8.716E+00	6.508E-01	-0.578
		935.52		1.989E-01	2.479E-01	4.431E-01	3.169E-02	0.449
		1246.25		6.536E+00	6.818E+00	1.117E+01	6.275E-01	0.585
		1333.61		1.848E+00	4.428E+00	7.500E+00	4.283E-01	0.246
		1434.06	*	-1.348E-01	1.853E-01	2.662E-01	1.538E-02	-0.506
MN-54		834.83	*	5.155E-03	4.443E-02	7.513E-02	5.636E-03	0.069
CO-56		846.75	*	-2.412E-02	3.977E-02	6.198E-02	4.631E-03	-0.389
		977.42		2.731E+00	3.245E+00	5.833E+00	4.057E-01	0.468
		1037.82		-1.684E-02	3.587E-01	5.871E-01	4.222E-02	-0.029
		1175.09		-8.341E-01	2.553E+00	4.005E+00	2.212E-01	-0.208
	+	1238.25		2.753E-01	1.835E-01	2.042E-01	1.223E-02	1.348
		1360.21		1.458E-02	1.007E+00	1.622E+00	9.298E-02	0.009
		1771.40		-7.583E-01	3.350E-01	2.608E-01	1.498E-02	-2.908
CO-57		122.06	*	8.551E-03	2.037E-02	3.471E-02	3.851E-03	0.246
		136.48		3.909E-02	1.802E-01	3.027E-01	3.184E-02	0.129
CO-58		810.76	*	-9.281E-03	4.099E-02	6.719E-02	5.092E-03	-0.138
FE-59		142.65		2.501E+00	2.422E+00	4.110E+00	3.881E-01	0.608
		192.34		4.628E-01	8.166E-01	1.370E+00	1.739E-01	0.338
		1099.22	*	1.847E-02	9.812E-02	1.641E-01	1.166E-02	0.113
		1291.56		-9.400E-02	1.463E-01	2.164E-01	1.584E-02	-0.434
CO-60		1173.22		1.156E-02	5.103E-02	8.512E-02	4.698E-03	0.136
		1332.49	*	-3.644E-04	3.738E-02	6.007E-02	3.430E-03	-0.006
ZN-65		1115.52	*	3.033E-03	1.016E-01	1.444E-01	8.725E-03	0.021
GE-68		1077.35	*	-2.348E-01	1.370E+00	2.202E+00	1.393E-01	-0.107

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AS-73		53.44	*	-7.018E-02	2.202E-01	3.372E-01	2.736E-02	-0.208
AS-74		595.88	*	-8.582E-02	9.164E-02	1.323E-01	9.608E-03	-0.649
		634.78		2.811E-01	3.487E-01	6.093E-01	4.529E-02	0.461
SE-75		66.05		-2.500E+00	2.651E+00	3.568E+00	3.783E-01	-0.701
		96.73		-6.667E-01	6.360E-01	8.935E-01	1.225E-01	-0.746
		121.11		-2.538E-02	1.085E-01	1.795E-01	2.357E-02	-0.141
		136.00		-5.991E-03	3.347E-02	5.523E-02	5.548E-03	-0.108
		198.60		-1.947E-01	1.679E+00	2.696E+00	2.300E-01	-0.072
		264.65	*	-2.516E-02	4.500E-02	6.063E-02	4.574E-03	-0.415
		279.53		-1.260E-01	1.088E-01	1.594E-01	1.244E-02	-0.790
		303.91		-1.122E+00	2.196E+00	2.927E+00	3.068E-01	-0.384
		400.65		1.762E-01	2.621E-01	4.571E-01	4.179E-02	0.386
BR-77	+	87.88		3.862E+02	1.291E+02	1.711E+02	1.378E+01	2.258
		200.40		2.879E+00	1.041E+02	1.698E+02	1.268E+01	0.017
	+	239.00		1.770E+02	1.846E+01	2.637E+01	1.989E+00	6.714
		249.79		1.055E+01	4.425E+01	7.212E+01	5.434E+00	0.146
		281.68		2.497E+01	5.897E+01	9.667E+01	7.170E+00	0.258
		297.23		2.372E+01	4.960E+01	5.842E+01	4.269E+00	0.406
		303.76		-8.977E+01	1.354E+02	1.777E+02	1.288E+01	-0.505
		439.47		-1.454E+01	9.915E+01	1.630E+02	1.011E+01	-0.089
		484.57		-1.131E+02	1.621E+02	2.513E+02	1.650E+01	-0.450
		520.65	*	6.261E+00	7.761E+00	1.358E+01	9.269E-01	0.461
		574.64		4.689E+00	1.565E+02	2.559E+02	1.830E+01	0.018
		578.91		6.761E+00	7.400E+01	1.068E+02	7.659E+00	0.063
		585.48		2.132E+02	1.344E+02	2.267E+02	1.634E+01	0.941
		755.35		1.077E+02	1.284E+02	2.227E+02	1.696E+01	0.484
		817.79		6.209E+00	1.036E+02	1.723E+02	1.300E+01	0.036
SR-82		698.33		-1.901E+01	4.048E+01	6.216E+01	4.719E+00	-0.306
		776.49	*	-1.965E-01	4.117E-01	6.625E-01	5.036E-02	-0.297
		1395.20		-1.280E+01	1.149E+01	1.584E+01	9.118E-01	-0.808
RB-83		520.41	*	4.974E-02	7.193E-02	1.249E-01	8.521E-03	0.398
		529.64		1.310E-02	1.108E-01	1.837E-01	1.265E-02	0.071
		552.65		-5.615E-02	2.116E-01	3.378E-01	2.374E-02	-0.166
RB-84		881.50	*	-9.248E-03	6.903E-02	1.133E-01	8.338E-03	-0.082
KR-85		513.99	*	8.345E+00	7.507E+00	1.220E+01	8.270E-01	0.684
SR-85		513.99	*	4.224E-02	3.800E-02	6.174E-02	4.186E-03	0.684
RB-86		1076.63	*	-2.390E-01	8.436E-01	1.338E+00	8.471E-02	-0.179
Y-88		898.02		-1.937E-02	4.231E-02	6.668E-02	4.897E-03	-0.290
		1836.01	*	3.241E-02	2.974E-02	6.252E-02	3.570E-03	0.518
ZR-88		392.90	*	1.953E-03	3.009E-02	5.064E-02	2.931E-03	0.039
Y-91		1204.90	*	6.262E+00	2.237E+01	3.734E+01	2.079E+00	0.168
NB-94		702.63	*	2.497E-02	4.074E-02	6.888E-02	5.233E-03	0.362
		871.10		-5.984E-03	3.511E-02	5.747E-02	4.250E-03	-0.104
NB-95		765.79	*	4.988E-03	5.791E-02	8.664E-02	6.594E-03	0.058
NB-95M		235.69	*	3.650E-01	1.459E-01	2.363E-01	2.113E-02	1.545
ZR-95		724.18		4.865E-02	1.132E-01	1.675E-01	1.415E-02	0.290
		756.15	*	6.253E-02	7.838E-02	1.353E-01	1.162E-02	0.462
NB-97		657.90	*	-1.737E-02	7.838E-02	Half-Life too short		
		1024.50		9.754E-01	7.838E-02	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97		254.15		-3.717E-01	7.838E-02	Half-Life too short		
		355.39		-2.803E-01	7.838E-02	Half-Life too short		
		507.63	*	1.281E+00	7.838E-02	Half-Life too short		
		602.52		-1.118E+00	7.838E-02	Half-Life too short		
		1021.30		1.914E-01	7.838E-02	Half-Life too short		
		1147.95		7.659E-01	7.838E-02	Half-Life too short		
		1362.66		-5.318E-01	7.838E-02	Half-Life too short		
		1750.46		-5.097E-01	7.838E-02	Half-Life too short		
MO-99		140.51		-1.462E+01	1.736E+01	2.691E+01	7.540E+00	-0.543
		181.06		1.233E+01	1.177E+01	1.821E+01	3.230E+00	0.677
		366.43		6.820E+00	5.987E+01	1.015E+02	6.436E+00	0.067
		739.58	*	-1.010E+00	1.001E+01	1.584E+01	2.318E+00	-0.064
		778.00		-4.481E+00	2.757E+01	4.572E+01	3.475E+00	-0.098
TC-99M		140.51	*	-9.677E+08	2.757E+01	Half-Life too short		
RH-101		127.23		3.169E-02	2.788E-02	4.845E-02	5.181E-03	0.654
		198.01	*	4.969E-03	3.065E-02	4.993E-02	3.725E-03	0.100
		325.23		2.592E-01	2.146E-01	3.871E-01	2.714E-02	0.669
RH-102		418.52		4.891E-03	2.880E-01	4.810E-01	2.897E-02	0.010
		475.06	*	-7.599E-03	2.750E-02	4.436E-02	2.881E-03	-0.171
		631.29		-1.344E-02	5.656E-02	8.926E-02	6.623E-03	-0.151
		697.49		-2.779E-02	9.291E-02	1.450E-01	1.101E-02	-0.192
	+	766.84		2.050E-01	1.697E-01	2.418E-01	1.840E-02	0.848
		1046.59		-3.511E-02	1.334E-01	2.130E-01	1.394E-02	-0.165
		1112.84		-3.498E-01	2.736E-01	3.200E-01	1.936E-02	-1.093
RU-103		497.08	*	3.661E-03	3.930E-02	6.530E-02	8.530E-03	0.056
	+	610.33		1.296E+01	2.856E+00	3.125E+00	5.017E-01	4.146
RH-106		511.85		9.947E-01	2.378E-01	4.369E-01	2.955E-02	2.277
		621.84	*	-2.442E-02	3.313E-01	5.329E-01	6.711E-02	-0.046
		1050.47		-4.355E-01	2.645E+00	4.267E+00	2.781E-01	-0.102
RU-106		511.85		9.947E-01	2.378E-01	4.369E-01	2.955E-02	2.277
		621.84	*	-2.442E-02	3.313E-01	5.329E-01	3.933E-02	-0.046
		1050.47		-4.355E-01	2.645E+00	4.267E+00	2.780E-01	-0.102
AG-108M		433.93	*	-1.523E-02	3.291E-02	5.279E-02	3.499E-03	-0.289
		614.37		8.325E-03	4.968E-02	7.192E-02	5.568E-03	0.116
		722.95		-1.334E-02	5.222E-02	7.015E-02	5.607E-03	-0.190
AG-110M		657.75	*	-2.242E-02	4.453E-02	5.825E-02	4.550E-03	-0.385
		677.61		1.038E-01	3.325E-01	5.522E-01	4.328E-02	0.188
		706.67		-2.216E-01	2.571E-01	3.777E-01	2.972E-02	-0.587
		763.93		6.154E-02	2.072E-01	3.154E-01	2.488E-02	0.195
		884.67		3.416E-03	5.320E-02	8.927E-02	6.847E-03	0.038
		937.48		-1.226E-01	1.289E-01	1.916E-01	1.441E-02	-0.640
		1384.27		-2.775E-02	1.646E-01	2.693E-01	1.645E-02	-0.103
IN-111		171.28		1.245E-01	6.659E-01	1.105E+00	8.102E-02	0.113
		245.39	*	-2.303E-01	7.936E-01	1.108E+00	8.353E-02	-0.208
IN-113M		391.69	*	-3.680E-03	4.435E-02	7.391E-02	4.558E-03	-0.050
SN-113		391.69	*	-3.680E-03	4.435E-02	7.391E-02	4.558E-03	-0.050
IN-114M		190.27	*	-6.166E-02	1.697E-01	2.408E-01	1.789E-02	-0.256
CD-115		260.90		3.413E+01	8.417E+01	1.383E+02	1.038E+01	0.247
		492.35		1.349E+01	2.669E+01	4.575E+01	3.031E+00	0.295

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		527.90	*	5.593E-01	7.866E+00	1.299E+01	8.925E-01	0.043
SN-117M		156.02		-1.828E+00	1.866E+00	2.923E+00	2.413E-01	-0.625
		158.56	*	-2.342E-02	4.364E-02	6.998E-02	5.610E-03	-0.335
SB-122		563.90	*	5.371E-01	1.579E+00	2.655E+00	1.883E-01	0.202
		692.80		1.426E+01	3.456E+01	5.780E+01	4.384E+00	0.247
I-123		159.00	*	-8.176E-01	3.456E+01	Half-Life too short		
		528.96		3.044E+01	3.456E+01	Half-Life too short		
TE-123M		159.00	*	-1.906E-02	2.415E-02	3.815E-02	3.065E-03	-0.499
I-124		602.71	*	-2.743E-01	6.923E-01	9.350E-01	6.820E-02	-0.293
		722.78		-1.136E+00	4.448E+00	5.975E+00	4.549E-01	-0.190
		1325.50		6.152E+00	3.049E+01	5.059E+01	2.886E+00	0.122
		1376.25		4.980E+01	3.164E+01	6.032E+01	3.465E+00	0.826
		1509.49		-3.586E+00	1.379E+01	2.201E+01	1.278E+00	-0.163
		1691.02		-1.026E+00	3.649E+00	5.676E+00	3.285E-01	-0.181
SB-124		602.71		-1.928E-02	4.865E-02	6.570E-02	4.793E-03	-0.293
		645.85		3.881E-02	5.042E-01	8.215E-01	6.626E-02	0.047
		709.31		8.502E-01	3.183E+00	5.236E+00	3.981E-01	0.162
		713.82		-7.069E-01	1.876E+00	2.889E+00	3.275E-01	-0.245
		722.78		-1.157E-01	4.531E-01	6.086E-01	4.762E-02	-0.190
	+	968.20		1.548E+01	5.414E+00	7.899E+00	5.531E-01	1.960
		1045.16		-1.319E+00	2.838E+00	4.423E+00	2.898E-01	-0.298
		1325.50		6.692E-01	3.317E+00	5.504E+00	3.140E-01	0.122
		1368.21		2.444E-01	1.834E+00	3.011E+00	3.566E-01	0.081
		1436.60		-1.202E+00	3.416E+00	5.344E+00	3.089E-01	-0.225
		1691.02	*	-2.464E-02	8.768E-02	1.364E-01	8.570E-03	-0.181
SB-125		427.89	*	2.691E-02	9.464E-02	1.609E-01	1.020E-02	0.167
	+	463.38		6.155E-01	3.468E-01	5.890E-01	4.292E-02	1.045
		600.56		7.451E-02	1.884E-01	3.170E-01	2.544E-02	0.235
		635.90		1.862E-01	2.779E-01	4.797E-01	3.950E-02	0.388
TE-125M		109.28	*	7.213E-01	7.054E+00	1.192E+01	1.355E+00	0.061
I-126		388.63		2.078E-03	1.869E-01	3.137E-01	1.835E-02	0.007
		666.33	*	4.607E-02	2.021E-01	2.936E-01	2.214E-02	0.157
		753.82		4.485E-01	1.579E+00	2.594E+00	1.976E-01	0.173
SB-126		223.80		3.624E-01	3.522E+00	5.729E+00	4.316E-01	0.063
		278.60		-2.469E+00	2.322E+00	3.435E+00	2.554E-01	-0.719
		296.50		3.773E+00	1.855E+00	2.530E+00	1.850E-01	1.491
		414.70		7.277E-03	6.836E-02	1.150E-01	6.887E-03	0.063
		415.30		5.399E-01	5.730E+00	9.631E+00	5.773E-01	0.056
		555.20		1.750E+00	3.824E+00	6.510E+00	4.584E-01	0.269
		573.80		-8.866E-02	1.063E+00	1.721E+00	1.230E-01	-0.052
		593.00		1.387E-02	8.408E-01	1.370E+00	9.929E-02	0.010
		656.30		3.700E+00	3.435E+00	5.594E+00	4.203E-01	0.661
		666.33		1.920E-02	8.421E-02	1.224E-01	9.227E-03	0.157
		675.00		6.849E-01	1.966E+00	3.280E+00	2.479E-01	0.209
		695.00		2.237E-02	8.301E-02	1.368E-01	1.038E-02	0.164
		697.00		-6.586E-02	3.037E-01	4.779E-01	3.628E-02	-0.138
		720.50	*	-2.192E-02	1.436E-01	2.261E-01	1.721E-02	-0.097
		856.80		-4.943E-01	5.104E-01	7.702E-01	5.731E-02	-0.642
		989.30		-6.906E-02	1.234E+00	2.025E+00	1.396E-01	-0.034

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1034.80		-5.466E+00	8.868E+00	1.348E+01	8.923E-01	-0.406
		1213.00		-1.420E+00	5.261E+00	8.304E+00	4.631E-01	-0.171
SB-127	+	61.10		8.130E+01	3.572E+01	3.310E+01	3.687E+00	2.456
		252.40		-1.047E-01	3.416E+00	5.473E+00	2.284E+00	-0.019
		290.80		-1.261E+00	1.861E+01	2.613E+01	2.568E+00	-0.048
		411.60		-8.527E+00	9.735E+00	1.510E+01	2.139E+00	-0.565
		444.90		-1.462E+00	7.803E+00	1.277E+01	1.363E+00	-0.114
		473.00		-1.263E+00	1.299E+00	1.947E+00	2.180E-01	-0.649
		543.00		-3.199E+00	1.418E+01	2.275E+01	2.997E+00	-0.141
		603.60		6.800E+00	1.075E+01	1.647E+01	1.860E+00	0.413
		685.20	*	-3.369E-01	1.159E+00	1.805E+00	1.848E-01	-0.187
		698.50		-3.689E+00	1.476E+01	2.314E+01	3.477E+00	-0.159
		722.20		-3.976E+00	2.832E+01	3.867E+01	3.875E+00	-0.103
		783.80		1.514E+00	3.222E+00	5.635E+00	6.418E-01	0.269
XE-127		57.60		7.451E-01	1.979E+00	3.144E+00	2.766E-01	0.237
		145.22		-5.663E-01	6.180E-01	9.789E-01	9.027E-02	-0.578
		172.10		1.050E-01	1.045E-01	1.797E-01	1.319E-02	0.584
		202.84	*	-9.602E-06	4.036E-02	6.567E-02	4.912E-03	0.000
		374.96		-1.017E-01	1.878E-01	3.036E-01	1.870E-02	-0.335
I-131		80.18		1.186E+00	3.336E+00	4.210E+00	3.512E-01	0.282
		284.30		-2.460E-01	1.323E+00	2.052E+00	1.623E-01	-0.120
		364.48	*	4.011E-02	9.909E-02	1.713E-01	1.197E-02	0.234
		636.97		4.936E-01	1.458E+00	2.439E+00	1.948E-01	0.202
		722.89		-2.020E+00	7.909E+00	1.063E+01	8.145E-01	-0.190
TE-132		49.72		-3.421E-01	2.793E+00	4.362E+00	4.206E-01	-0.078
		111.76		-5.740E+00	1.808E+01	2.994E+01	3.521E+00	-0.192
		116.30		-7.018E+00	1.655E+01	2.717E+01	3.297E+00	-0.258
		228.16	*	-5.559E-01	4.983E-01	7.397E-01	1.104E-01	-0.751
BA-133		53.15		1.680E-01	9.315E-01	1.461E+00	1.179E-01	0.115
		79.62		5.174E-01	1.048E+00	1.332E+00	2.006E-01	0.388
		81.00		-7.714E-03	6.528E-02	9.971E-02	1.564E-02	-0.077
		276.40		2.178E-01	3.726E-01	6.137E-01	8.457E-02	0.355
		302.84		1.033E-01	1.431E-01	2.154E-01	2.681E-02	0.480
		356.01	*	5.889E-03	4.344E-02	6.549E-02	7.824E-03	0.090
		383.85		7.540E-02	2.808E-01	4.800E-01	5.261E-02	0.157
I-133	+	510.53		2.664E-01	2.808E-01	Half-Life too short		
		529.87	*	-2.514E-04	2.808E-01	Half-Life too short		
		706.58		-1.622E-01	2.808E-01	Half-Life too short		
		856.28		-2.832E-01	2.808E-01	Half-Life too short		
		875.33		3.494E-02	2.808E-01	Half-Life too short		
		1236.41		6.847E-01	2.808E-01	Half-Life too short		
		1298.22		-1.566E-02	2.808E-01	Half-Life too short		
CS-134		475.35		2.323E-01	1.778E+00	2.975E+00	1.933E-01	0.078
		563.23		2.504E-01	3.755E-01	6.487E-01	4.663E-02	0.386
		569.32		6.952E-02	2.087E-01	3.506E-01	2.547E-02	0.198
		604.70		-1.312E-03	4.085E-02	5.781E-02	4.237E-03	-0.023
		795.84	*	6.393E-02	5.276E-02	9.721E-02	7.436E-03	0.658
		801.93		-1.501E-01	4.737E-01	7.795E-01	5.943E-02	-0.193
		1038.57		1.761E+00	4.569E+00	7.819E+00	5.157E-01	0.225

---- Non-Identified Nuclides ----

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		1167.94		6.460E-01	2.740E+00	4.581E+00	2.551E-01	0.141
		1365.15		-9.129E-01	1.243E+00	1.709E+00	1.079E-01	-0.534
I-135		288.45		-4.788E+08	1.243E+00	Half-Life too short		
		417.63		3.677E+08	1.243E+00	Half-Life too short		
		546.56		3.828E+08	1.243E+00	Half-Life too short		
		836.80		7.898E+08	1.243E+00	Half-Life too short		
		1038.76		4.261E+08	1.243E+00	Half-Life too short		
		1124.00		1.331E+09	1.243E+00	Half-Life too short		
		1131.51		1.198E+08	1.243E+00	Half-Life too short		
		1260.41	*	-6.081E+06	1.243E+00	Half-Life too short		
		1457.56		1.340E+10	1.243E+00	Half-Life too short		
		1678.03		1.533E+08	1.243E+00	Half-Life too short		
		1706.46		2.731E+08	1.243E+00	Half-Life too short		
		1791.20		-2.586E+08	1.243E+00	Half-Life too short		
CS-136		66.91		2.746E-03	4.052E-01	5.774E-01	8.966E-02	0.005
	+	86.29		4.249E+00	1.166E+00	1.463E+00	1.830E-01	2.905
		153.22		2.580E-01	5.510E-01	9.232E-01	8.805E-02	0.279
		163.89		-1.141E-01	9.015E-01	1.460E+00	1.266E-01	-0.078
		176.55		1.283E-02	2.986E-01	4.911E-01	3.898E-02	0.026
		273.65		-5.808E-01	4.842E-01	6.144E-01	4.982E-02	-0.945
		340.57		-1.599E-02	1.174E-01	1.731E-01	1.231E-02	-0.092
		818.51		1.876E-02	7.595E-02	1.287E-01	9.710E-03	0.146
		1048.07	*	3.294E-02	1.150E-01	1.950E-01	1.366E-02	0.169
		1235.34		5.025E-01	6.896E-01	1.064E+00	1.050E-01	0.472
CE-139		165.85	*	-8.800E-04	2.645E-02	4.348E-02	3.180E-03	-0.020
BA-140		162.64		7.626E-02	6.303E-01	1.034E+00	8.466E-02	0.074
		304.84		-7.969E-01	1.297E+00	1.685E+00	4.655E-01	-0.473
		423.70		-1.275E+00	1.890E+00	2.921E+00	9.300E-01	-0.436
		537.32	*	-2.094E-02	2.594E-01	4.221E-01	1.382E-01	-0.050
LA-140		328.77		1.143E-01	2.654E-01	4.605E-01	3.479E-02	0.248
		432.53		-4.484E-02	1.955E+00	3.249E+00	2.184E-01	-0.014
		487.03		-6.238E-02	1.327E-01	2.103E-01	1.528E-02	-0.297
		751.79		-1.115E+00	1.844E+00	2.743E+00	2.372E-01	-0.407
		815.85		2.899E-02	3.116E-01	5.307E-01	4.597E-02	0.055
		867.82		5.929E-01	1.249E+00	2.196E+00	1.742E-01	0.270
		919.63		1.010E+00	2.793E+00	4.820E+00	4.601E-01	0.210
		925.24		-7.482E-01	1.151E+00	1.769E+00	1.386E-01	-0.423
		1596.49	*	-1.062E-01	1.074E-01	1.511E-01	8.781E-03	-0.703
CE-141		145.44	*	-5.964E-02	5.564E-02	8.730E-02	8.162E-03	-0.683
CE-143		57.37		1.295E-05	5.564E-02	Half-Life too short		
		231.56		2.771E-04	5.564E-02	Half-Life too short		
	+	293.26	*	5.874E-04	5.564E-02	Half-Life too short		
	+	350.59		1.638E-02	5.564E-02	Half-Life too short		
		490.36		1.346E-03	5.564E-02	Half-Life too short		
		664.57		1.756E-04	5.564E-02	Half-Life too short		
		721.93		-8.250E-04	5.564E-02	Half-Life too short		
CE-144		80.11		6.506E-01	1.702E+00	2.152E+00	1.785E-01	0.302
		133.54	*	3.722E-02	1.736E-01	2.919E-01	4.814E-02	0.128
PM-144		476.78		1.667E-02	6.612E-02	1.116E-01	8.419E-03	0.149

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		618.01		4.094E-03	3.752E-02	6.142E-02	4.693E-03	0.067
		696.49	*	1.215E-02	3.976E-02	6.569E-02	4.988E-03	0.185
		778.57		-6.501E-01	2.457E+00	4.031E+00	3.065E-01	-0.161
PR-144		696.49	*	8.227E-01	2.693E+00	4.448E+00	3.377E-01	0.185
		1489.15		4.491E+00	1.312E+01	2.308E+01	1.339E+00	0.195
PM-146		453.90	*	-9.679E-03	4.323E-02	7.042E-02	6.327E-03	-0.137
		633.02		-1.102E+00	1.496E+00	2.136E+00	7.927E-01	-0.516
		735.90		2.151E-02	1.760E-01	2.848E-01	8.063E-02	0.076
		747.13		-2.300E-02	9.760E-02	1.515E-01	2.037E-02	-0.152
ND-147	+	91.11		1.368E+00	3.114E-01	4.062E-01	3.669E-02	3.368
		319.41		1.753E+00	2.912E+00	4.810E+00	3.408E-01	0.364
		439.89		-2.072E+00	5.412E+00	8.728E+00	5.421E-01	-0.237
		531.02	*	-9.564E-02	5.891E-01	9.532E-01	1.337E-01	-0.100
PM-149		285.90	*	-4.052E+00	6.058E+01	9.470E+01	1.410E+01	-0.043
EU-152		121.78		3.638E-03	5.890E-02	9.886E-02	1.197E-02	0.037
		244.69		-1.234E-01	3.307E-01	4.584E-01	3.456E-02	-0.269
		344.27	*	7.655E-03	9.306E-02	1.581E-01	1.167E-02	0.048
		443.98		-2.763E-01	9.377E-01	1.521E+00	9.496E-02	-0.182
		778.89		-9.315E-02	2.877E-01	4.693E-01	3.567E-02	-0.198
		867.32		1.930E-01	8.057E-01	1.382E+00	1.023E-01	0.140
		964.01		4.263E-01	3.594E-01	5.953E-01	4.180E-02	0.716
		1085.78		3.935E-02	4.180E-01	6.930E-01	4.340E-02	0.057
		1112.02		-3.231E-01	3.416E-01	4.719E-01	2.858E-02	-0.685
		1407.95		-2.911E-02	2.066E-01	3.396E-01	1.958E-02	-0.086
GD-153		69.67		1.814E-01	9.334E-01	1.456E+00	1.263E-01	0.125
		83.37		1.890E+01	9.769E+00	1.720E+01	1.409E+00	1.099
		97.43	*	1.548E-02	5.840E-02	9.837E-02	8.663E-03	0.157
		103.18		1.913E-02	7.961E-02	1.356E-01	1.261E-02	0.141
EU-154		123.07		2.889E-02	4.287E-02	7.361E-02	9.772E-03	0.393
		247.94		1.484E-01	3.361E-01	5.546E-01	5.927E-02	0.268
		591.81		3.711E-01	5.860E-01	1.014E+00	1.084E-01	0.366
		723.30		-1.076E-02	2.148E-01	2.976E-01	2.568E-02	-0.036
		756.87		6.754E-02	9.086E-01	1.460E+00	1.646E-01	0.046
		873.19		2.786E-01	3.087E-01	5.615E-01	6.408E-02	0.496
		996.32		-1.172E-01	4.086E-01	6.521E-01	1.107E-01	-0.180
		1004.76		4.282E-02	2.563E-01	4.343E-01	4.503E-02	0.099
		1274.45	*	-7.232E-02	1.417E-01	2.139E-01	1.979E-02	-0.338
EU-155		48.70		3.883E-01	4.233E-01	6.466E-01	4.739E-02	0.601
		60.01		1.703E+00	1.981E+00	2.969E+00	2.698E-01	0.573
	+	86.54		4.182E-01	1.077E-01	1.447E-01	1.185E-02	2.889
		105.31	*	3.237E-02	8.342E-02	1.428E-01	1.368E-02	0.227
TB-160	+	86.79		1.105E+00	2.842E-01	3.845E-01	3.110E-02	2.873
		197.04		1.478E-01	5.149E-01	8.441E-01	6.294E-02	0.175
		215.65		1.070E-01	6.834E-01	1.117E+00	8.400E-02	0.096
	+	298.57		2.716E-01	1.699E-01	2.120E-01	1.547E-02	1.281
		879.36	*	-6.498E-02	1.412E-01	2.229E-01	1.642E-02	-0.292
		962.29		3.993E-02	6.731E-01	9.746E-01	6.852E-02	0.041
		966.15		7.696E-01	3.044E-01	5.434E-01	3.810E-02	1.416
		1177.93		5.340E-02	3.908E-01	6.459E-01	3.570E-02	0.083

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		1271.85		1.503E-01	7.334E-01	1.218E+00	6.884E-02	0.123
HO-166M		80.57		-4.970E-02	1.983E-01	2.755E-01	2.282E-02	-0.180
	+	184.41		2.138E-01	6.664E-02	7.089E-02	5.247E-03	3.015
		280.46		1.517E-02	8.018E-02	1.294E-01	9.610E-03	0.117
		410.95		-2.225E-01	2.451E-01	3.821E-01	2.275E-02	-0.582
		711.68	*	4.247E-02	6.964E-02	1.182E-01	8.989E-03	0.359
		752.31		-3.131E-01	3.179E-01	4.499E-01	3.427E-02	-0.696
		810.29		-6.072E-02	6.711E-02	1.014E-01	7.663E-03	-0.599
TM-171		51.35		1.070E+00	6.829E+00	1.072E+01	8.324E-01	0.100
		52.39		1.026E+00	3.839E+00	6.050E+00	4.804E-01	0.170
		59.40		6.233E+00	1.040E+01	1.540E+01	1.401E+00	0.405
		66.72	*	-7.018E+00	1.587E+01	2.205E+01	1.938E+00	-0.318
LU-176	+	88.36		5.966E-01	1.995E-01	2.599E-01	2.100E-02	2.295
		201.83		-5.367E-03	2.595E-02	4.177E-02	3.122E-03	-0.128
		306.84	*	-1.889E-03	2.355E-02	3.708E-02	2.677E-03	-0.051
		401.10		7.369E+00	6.841E+00	1.223E+01	7.171E-01	0.603
LU-177		112.95		4.097E-01	1.121E+00	1.912E+00	1.948E-01	0.214
	+	208.36	*	3.074E+00	1.424E+00	1.642E+00	1.231E-01	1.872
LU-177M		52.97		8.360E-02	4.144E-01	6.509E-01	5.231E-02	0.128
		54.07		-6.268E-02	2.295E-01	3.545E-01	2.913E-02	-0.177
	+	61.30		2.629E+00	1.142E+00	1.140E+00	1.029E-01	2.306
		121.62		-1.621E-01	3.057E-01	4.978E-01	5.497E-02	-0.326
		147.16		3.878E-01	5.695E-01	9.713E-01	8.792E-02	0.399
		171.86		4.377E-01	4.246E-01	7.316E-01	5.369E-02	0.598
		218.09		5.447E-01	7.881E-01	1.324E+00	9.956E-02	0.412
	+	268.79		2.269E+00	1.142E+00	1.438E+00	1.076E-01	1.578
		319.02		6.296E-02	2.381E-01	3.840E-01	2.721E-02	0.164
		367.43		-1.934E-01	8.869E-01	1.471E+00	9.291E-02	-0.132
		413.65	*	3.231E-02	1.661E-01	2.814E-01	1.682E-02	0.115
HF-181		56.28		1.224E-02	2.828E-01	4.430E-01	3.801E-02	0.028
		57.53		4.753E-02	1.658E-01	2.624E-01	2.306E-02	0.181
		65.20		-1.269E-01	4.767E-01	6.696E-01	5.930E-02	-0.190
		133.02		1.844E-02	5.503E-02	9.302E-02	9.521E-03	0.198
		136.25		3.256E-02	3.854E-01	6.438E-01	6.421E-02	0.051
		345.85		-1.259E-02	1.924E-01	3.006E-01	2.017E-02	-0.042
		482.03	*	1.308E-02	4.177E-02	7.078E-02	4.635E-03	0.185
W-181		56.28		4.951E-03	1.122E-01	1.757E-01	1.508E-02	0.028
		57.53		1.868E-02	6.581E-02	1.041E-01	9.149E-03	0.179
		65.20	*	-4.997E-02	1.877E-01	2.636E-01	2.335E-02	-0.190
TA-182		67.75		9.968E-04	5.488E-02	9.028E-02	7.900E-03	0.011
		100.10		-1.976E-02	1.322E-01	2.218E-01	2.003E-02	-0.089
		152.43		3.475E-01	2.919E-01	5.033E-01	4.320E-02	0.690
		222.10		-3.033E-01	3.241E-01	4.950E-01	3.727E-02	-0.613
		1001.68		-8.189E-01	2.403E+00	3.826E+00	2.611E-01	-0.214
	+	1121.28		5.942E-01	2.639E-01	3.945E-01	2.359E-02	1.506
		1189.05		2.955E-01	3.548E-01	6.257E-01	3.468E-02	0.472
		1221.42	*	-3.572E-03	2.128E-01	3.446E-01	1.926E-02	-0.010
		1230.97		4.239E-02	5.045E-01	7.790E-01	4.363E-02	0.054
RE-183		57.98		7.243E-02	7.179E-02	1.086E-01	9.626E-03	0.667

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		59.32		2.309E-02	4.208E-02	6.215E-02	5.644E-03	0.371
		67.20		1.301E-02	1.108E-01	1.588E-01	1.393E-02	0.082
		162.32	*	2.823E-02	9.578E-02	1.584E-01	1.213E-02	0.178
	+	208.81		3.100E+00	1.436E+00	1.652E+00	1.239E-01	1.876
		291.72		-2.125E-02	9.984E-01	1.408E+00	1.035E-01	-0.015
RE-184		57.98		2.688E-01	2.664E-01	4.032E-01	3.572E-02	0.667
		59.32		8.561E-02	1.560E-01	2.305E-01	2.093E-02	0.371
		67.20		4.826E-02	4.111E-01	5.891E-01	5.167E-02	0.082
		161.27		1.359E-01	3.026E-01	5.041E-01	3.912E-02	0.270
		216.55		-6.015E-02	2.449E-01	3.914E-01	2.943E-02	-0.154
		252.85	*	7.579E-02	2.219E-01	3.637E-01	2.738E-02	0.208
		318.01		-1.645E-01	4.215E-01	6.448E-01	4.577E-02	-0.255
		792.07		7.696E-02	1.023E+00	1.732E+00	1.314E-01	0.044
		903.28		4.911E-01	1.175E+00	1.876E+00	1.365E-01	0.262
		920.93		3.086E-01	4.748E-01	8.435E-01	6.083E-02	0.366
OS-185		59.72		9.293E-02	1.164E-01	1.740E-01	1.583E-02	0.534
	+	61.14		2.864E-01	1.244E-01	1.182E-01	1.068E-02	2.423
		69.30		2.998E-02	1.647E-01	2.569E-01	2.232E-02	0.117
		592.07		9.233E-01	2.387E+00	4.037E+00	2.924E-01	0.229
		646.12	*	-1.315E-02	4.293E-02	6.701E-02	5.010E-03	-0.196
		717.42		-1.835E-01	9.974E-01	1.567E+00	1.192E-01	-0.117
		874.81		1.997E-01	6.109E-01	1.054E+00	7.784E-02	0.189
		880.27		-2.236E-02	7.683E-01	1.277E+00	9.401E-02	-0.018
RE-188		155.03	*	3.696E-02	1.433E-01	2.398E-01	2.002E-02	0.154
		477.96		7.774E-01	3.042E+00	5.133E+00	3.345E-01	0.151
		633.10		-2.179E+00	2.881E+00	4.274E+00	3.174E-01	-0.510
W-188	+	63.58		9.825E+01	4.269E+01	4.280E+01	3.820E+00	2.296
		227.08		3.715E+00	1.192E+01	1.960E+01	1.477E+00	0.190
		290.67	*	-1.039E+00	7.917E+00	1.105E+01	8.131E-01	-0.094
IR-192	+	295.96		8.645E-01	2.059E-01	2.578E-01	1.905E-02	3.354
		308.46		2.253E-02	8.997E-02	1.452E-01	1.053E-02	0.155
		316.51	*	-2.045E-02	3.328E-02	5.002E-02	3.571E-03	-0.409
		468.07		2.571E-02	7.170E-02	1.138E-01	8.248E-03	0.226
		604.41		-3.133E-02	5.456E-01	7.695E-01	9.378E-02	-0.041
		612.46		-3.723E-02	8.628E-01	1.218E+00	1.073E-01	-0.031
AU-195		65.12		-2.292E-02	8.694E-02	1.221E-01	1.082E-02	-0.188
		66.83		-1.232E-03	5.153E-02	7.331E-02	6.442E-03	-0.017
	+	75.70		1.800E+00	2.219E-01	3.291E-01	2.780E-02	5.469
		98.88	*	1.675E-01	1.727E-01	2.979E-01	2.660E-02	0.562
		129.76		1.199E+00	2.432E+00	4.138E+00	4.342E-01	0.290
TL-200		367.94	*	4.925E-07	2.432E+00	Half-Life too short		
		579.30		5.185E-04	2.432E+00	Half-Life too short		
		828.27		-2.722E-03	2.432E+00	Half-Life too short		
		1205.75		-4.384E-04	2.432E+00	Half-Life too short		
TL-201		68.90		1.497E+00	1.986E+00	3.166E+00	2.756E-01	0.473
		70.82		6.206E-01	1.197E+00	1.889E+00	1.630E-01	0.329
		80.30		9.080E-01	3.054E+00	3.838E+00	3.182E-01	0.237
		135.34		-1.176E+01	1.659E+01	2.663E+01	2.675E+00	-0.442
		167.43	*	5.990E-01	4.584E+00	7.593E+00	5.553E-01	0.079

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		1.661E-01	2.204E-01	3.514E-01	3.059E-02	0.473
		70.82		6.870E-02	1.325E-01	2.091E-01	1.804E-02	0.329
		80.30		1.005E-01	3.382E-01	4.250E-01	3.523E-02	0.237
		439.56	*	-1.033E-02	6.401E-02	1.051E-01	6.522E-03	-0.098
HG-203		70.83		3.171E-01	6.056E-01	9.546E-01	1.299E-01	0.332
	+	72.87		3.775E+00	7.394E-01	8.039E-01	1.058E-01	4.696
		82.60		1.225E+00	7.184E-01	1.240E+00	1.673E-01	0.988
		279.20	*	-5.412E-02	4.060E-02	5.867E-02	4.526E-03	-0.923
BI-207	+	72.80		1.127E+00	1.898E-01	2.357E-01	2.016E-02	4.781
	+	74.97		6.676E-01	1.124E-01	1.749E-01	1.482E-02	3.816
	+	84.90		7.893E-01	2.031E-01	2.350E-01	1.914E-02	3.358
		569.67		1.580E-02	3.303E-02	5.611E-02	3.997E-03	0.282
		1063.62	*	-1.658E-02	5.179E-02	8.144E-02	5.232E-03	-0.204
		1770.23		-2.981E-01	5.361E-01	5.850E-01	3.361E-02	-0.510
TL-207		81.07		-2.182E-02	1.440E-01	2.197E-01	1.816E-02	-0.099
		83.78		1.613E-01	8.366E-02	1.473E-01	1.204E-02	1.095
		94.90		-7.807E-03	1.669E-01	2.536E-01	2.181E-02	-0.031
		122.32		9.335E-01	1.401E+00	2.410E+00	2.789E-01	0.387
		144.24		3.252E-01	6.247E-01	1.040E+00	1.067E-01	0.313
		154.21		2.125E-01	3.409E-01	5.793E-01	5.387E-02	0.367
	+	269.46		5.341E-01	2.689E-01	3.453E-01	2.654E-02	1.547
		323.87	*	-9.351E-01	6.777E-01	1.025E+00	1.742E-01	-0.912
	+	338.28		5.980E+00	1.773E+00	2.472E+00	2.752E-01	2.419
		445.03		-3.035E-01	2.278E+00	3.745E+00	3.944E-01	-0.081
PO-209		260.50		1.101E+00	9.185E+00	1.483E+01	1.114E+00	0.074
		262.80		-1.635E+01	2.504E+01	3.824E+01	2.870E+00	-0.428
		896.60	*	-3.906E+00	7.000E+00	1.082E+01	7.897E-01	-0.361
PB-211		404.84	*	-1.247E+00	1.278E+00	1.559E+00	9.721E-01	-0.800
		427.08		2.523E+00	2.586E+00	3.735E+00	2.310E+00	0.675
		831.96		4.751E-01	1.411E+00	2.382E+00	1.490E+00	0.199
BI-212	+	727.18	*	8.708E-01	4.751E-01	7.169E-01	6.564E-02	1.215
		785.46		-2.777E-01	1.874E+00	3.109E+00	2.360E-01	-0.089
		1620.62		1.038E+00	1.483E+00	2.731E+00	1.586E-01	0.380
PO-215		81.07		-2.182E-02	1.440E-01	2.197E-01	1.816E-02	-0.099
		83.78		1.613E-01	8.366E-02	1.473E-01	1.204E-02	1.095
		94.90		-7.807E-03	1.669E-01	2.536E-01	2.181E-02	-0.031
		122.32		9.335E-01	1.401E+00	2.410E+00	2.789E-01	0.387
		144.24		3.252E-01	6.247E-01	1.040E+00	1.067E-01	0.313
		154.21		2.125E-01	3.409E-01	5.793E-01	5.387E-02	0.367
	+	269.46		5.341E-01	2.689E-01	3.453E-01	2.654E-02	1.547
		323.87	*	-9.351E-01	6.777E-01	1.025E+00	1.742E-01	-0.912
	+	338.28		5.980E+00	1.773E+00	2.472E+00	2.752E-01	2.419
		445.03		-3.035E-01	2.278E+00	3.745E+00	3.944E-01	-0.081
RN-219		271.23		-1.981E-02	2.688E-01	3.797E-01	3.559E-02	-0.052
		401.81	*	4.176E-01	4.281E-01	7.553E-01	1.030E-01	0.553
RN-220		549.76	*	5.720E+00	2.894E+01	4.815E+01	3.375E+00	0.119
RA-223		81.07		-2.182E-02	1.440E-01	2.197E-01	1.816E-02	-0.099
		83.78		1.613E-01	8.366E-02	1.473E-01	1.204E-02	1.095
		94.90		-7.807E-03	1.669E-01	2.536E-01	2.181E-02	-0.031

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		122.32		9.335E-01	1.401E+00	2.410E+00	2.789E-01	0.387
		144.24		3.252E-01	6.247E-01	1.040E+00	1.067E-01	0.313
		154.21		2.125E-01	3.409E-01	5.793E-01	5.387E-02	0.367
	+	269.46		5.341E-01	2.689E-01	3.453E-01	2.654E-02	1.547
		323.87	*	-9.351E-01	6.777E-01	1.025E+00	1.742E-01	-0.912
	+	338.28		5.980E+00	1.773E+00	2.472E+00	2.752E-01	2.419
		445.03		-3.035E-01	2.278E+00	3.745E+00	3.944E-01	-0.081
AC-227		79.80		1.404E+00	1.295E+00	1.681E+00	3.595E-01	0.835
		236.00		1.508E+00	3.447E-01	5.404E-01	6.221E-02	2.791
		256.20	*	1.054E-01	3.594E-01	5.867E-01	8.659E-02	0.180
		286.10		-6.834E-02	1.488E+00	2.330E+00	2.897E-01	-0.029
	+	299.80		3.500E+00	2.254E+00	2.753E+00	4.645E-01	1.271
		304.40		-1.244E+00	1.981E+00	2.590E+00	4.619E-01	-0.480
		334.20		7.913E-01	2.384E+00	3.660E+00	6.846E-01	0.216
TH-227		79.80		1.404E+00	1.296E+00	1.681E+00	3.641E-01	0.835
		94.00		2.569E+00	1.498E+00	2.322E+00	5.047E-01	1.106
		236.00		1.508E+00	3.356E-01	5.404E-01	5.545E-02	2.791
		256.20	*	1.054E-01	3.596E-01	5.867E-01	1.031E-01	0.180
		286.10		-6.834E-02	1.490E+00	2.330E+00	2.336E+00	-0.029
	+	299.80		3.500E+00	2.254E+00	2.753E+00	4.645E-01	1.271
		304.40		-1.244E+00	1.981E+00	2.590E+00	4.619E-01	-0.480
		334.20		7.913E-01	2.384E+00	3.660E+00	6.846E-01	0.216
TH-229	+	85.43		7.791E-01	2.005E-01	2.533E-01	2.059E-02	3.076
	+	88.47		3.434E-01	1.148E-01	1.496E-01	1.210E-02	2.296
		100.00		-1.753E-03	1.390E-01	2.346E-01	2.117E-02	-0.007
		193.63	*	4.345E-02	4.628E-01	7.588E-01	5.648E-02	0.057
		210.97		-2.156E-01	6.991E-01	9.874E-01	7.410E-02	-0.218
PA-231		283.67	*	-3.640E-01	1.464E+00	2.289E+00	3.325E-01	-0.159
		301.29		5.335E-01	6.321E-01	9.522E-01	1.079E-01	0.560
TH-231		81.07		-2.182E-02	1.440E-01	2.197E-01	1.816E-02	-0.099
		83.78		1.613E-01	8.366E-02	1.473E-01	1.204E-02	1.095
		94.90		-7.807E-03	1.669E-01	2.536E-01	2.181E-02	-0.031
		122.32		9.335E-01	1.401E+00	2.410E+00	2.789E-01	0.387
		144.24		3.252E-01	6.247E-01	1.040E+00	1.067E-01	0.313
		154.21		2.125E-01	3.409E-01	5.793E-01	5.387E-02	0.367
	+	269.46		5.341E-01	2.689E-01	3.453E-01	2.654E-02	1.547
		323.87	*	-9.351E-01	6.777E-01	1.025E+00	1.742E-01	-0.912
	+	338.28		5.980E+00	1.773E+00	2.472E+00	2.752E-01	2.419
		445.03		-3.035E-01	2.278E+00	3.745E+00	3.944E-01	-0.081
U-231		84.21		4.280E+00	2.874E+00	5.015E+00	4.095E-01	0.853
	+	92.29		9.156E+00	2.058E+00	2.893E+00	2.426E-01	3.165
		95.87	*	-7.838E-01	6.999E-01	9.937E-01	8.623E-02	-0.789
		108.00		1.300E-01	1.295E+00	2.189E+00	2.129E-01	0.059
PA-233	+	75.28		2.927E+01	5.180E+00	5.382E+00	8.212E-01	5.439
	+	86.59		6.801E+00	2.459E+00	2.357E+00	6.282E-01	2.886
	+	300.12		9.758E-01	6.219E-01	7.638E-01	1.080E-01	1.278
		311.98	*	2.575E-02	6.117E-02	9.983E-02	7.448E-03	0.258
		340.50		-7.741E-02	6.078E-01	8.970E-01	2.084E-01	-0.086
		398.62		-1.960E+00	2.178E+00	3.315E+00	8.575E-01	-0.591

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.76		-8.759E-01	1.646E+00	2.622E+00	5.412E-01	-0.334
PA-234	+	63.00		2.885E+00	1.307E+00	1.365E+00	2.142E-01	2.113
		94.67		3.692E-02	1.189E-01	1.842E-01	2.279E-02	0.200
		98.44		9.640E-02	8.800E-02	1.225E-01	6.840E-02	0.787
		99.86		1.485E-01	3.505E-01	6.021E-01	5.425E-02	0.247
		111.00		5.819E-02	1.438E-01	2.457E-01	3.222E-02	0.237
		131.20		-8.235E-02	9.415E-02	1.503E-01	1.560E-02	-0.548
		152.70		2.955E-01	2.906E-01	4.922E-01	8.376E-02	0.600
	+	186.00		7.696E+00	3.329E+00	2.535E+00	7.832E-01	3.036
		226.40		4.201E-01	3.742E-01	6.369E-01	7.975E-02	0.660
		227.20		9.648E-02	4.061E-01	6.650E-01	5.013E-02	0.145
		248.90		-1.058E-01	7.868E-01	1.253E+00	2.759E-01	-0.084
	+	293.70		5.505E+00	1.548E+00	1.743E+00	2.910E-01	3.159
		369.80		3.386E-01	8.316E-01	1.432E+00	3.001E-01	0.237
		568.70		9.164E-02	1.086E+00	1.785E+00	1.271E-01	0.051
		569.50		1.188E-01	2.912E-01	4.919E-01	3.504E-02	0.241
		574.00		9.672E-02	1.605E+00	2.632E+00	1.881E-01	0.037
		699.00		7.184E-02	8.776E-01	1.419E+00	2.645E-01	0.051
		706.10		-1.224E+00	1.387E+00	1.858E+00	8.249E-01	-0.659
		733.00		-6.203E-02	5.082E-01	6.960E-01	1.519E-01	-0.089
		742.81		1.673E-01	1.506E+00	2.429E+00	1.630E+00	0.069
		796.30		1.099E+00	1.066E+00	1.877E+00	5.018E-01	0.586
		805.60		2.133E-01	1.215E+00	2.067E+00	6.279E-01	0.103
		819.60		4.700E-01	1.401E+00	2.376E+00	8.979E-01	0.198
		826.30		-2.964E-01	8.078E-01	1.279E+00	5.695E-01	-0.232
		831.60		3.078E-01	7.134E-01	1.232E+00	3.640E-01	0.250
		876.40		3.048E-01	9.055E-01	1.473E+00	1.513E+00	0.207
		880.51		7.270E-02	2.749E-01	4.723E-01	3.477E-02	0.154
		883.24		-2.063E-01	3.385E-01	4.768E-01	3.198E-01	-0.433
		899.00		-7.908E-02	8.645E-01	1.423E+00	6.187E-01	-0.056
		925.00		-7.261E-01	1.290E+00	2.006E+00	1.443E-01	-0.362
		926.50		-6.924E-02	1.877E-01	2.973E-01	7.382E-02	-0.233
		946.00	*	5.480E-02	3.097E-01	5.236E-01	9.487E-02	0.105
		949.00		7.289E-02	4.683E-01	7.896E-01	5.601E-02	0.092
		980.50		-8.153E-01	7.789E-01	1.117E+00	7.752E-02	-0.730
		1394.10		-8.953E-01	1.301E+00	1.698E+00	1.100E+00	-0.527
PA-234M	+	766.42		2.159E+01	2.088E+01	2.533E+01	1.281E+01	0.852
		1001.03	*	-2.428E+00	5.438E+00	8.552E+00	7.237E-01	-0.284
U-235	+	89.95		3.447E+00	1.540E+00	1.511E+00	4.645E-01	2.281
	+	93.35		3.534E+00	1.232E+00	8.981E-01	2.513E-01	3.935
		105.00		4.605E-01	8.348E-01	1.420E+00	4.274E-01	0.324
		143.76	*	1.811E-01	1.944E-01	3.255E-01	5.818E-02	0.556
		163.35		-7.725E-02	4.206E-01	6.788E-01	1.264E-01	-0.114
	+	185.71		2.850E-01	8.885E-02	9.434E-02	6.988E-03	3.021
		205.31		1.358E-01	4.906E-01	7.260E-01	1.350E-01	0.187
NP-236		94.67		2.842E-02	9.014E-02	1.397E-01	1.199E-02	0.203
		98.44		7.289E-02	5.303E-02	9.262E-02	8.234E-03	0.787
		111.00		4.402E-02	1.087E-01	1.859E-01	1.860E-02	0.237
		160.31	*	-7.411E-03	6.702E-02	1.099E-01	8.630E-03	-0.067

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		6.999E-02	1.182E-01	2.042E-01	1.835E-02	0.343
		117.00	*	4.126E-02	1.506E-01	2.556E-01	2.704E-02	0.161
	+	209.75		2.476E+00	1.146E+00	1.289E+00	9.667E-02	1.921
		228.18		-2.392E-01	2.094E-01	3.138E-01	2.365E-02	-0.762
		277.60		2.038E-01	1.767E-01	3.010E-01	2.239E-02	0.677
		334.30		3.991E-01	1.346E+00	2.063E+00	1.421E-01	0.193
AM-241		59.54	*	4.197E-02	6.115E-02	9.088E-02	8.817E-03	0.462
CM-243		99.55		7.202E-02	1.216E-01	2.101E-01	1.888E-02	0.343
		103.76	*	6.805E-02	7.468E-02	1.303E-01	1.218E-02	0.522
		117.00		4.245E-02	1.549E-01	2.629E-01	2.782E-02	0.161
	+	209.75		2.440E+00	1.130E+00	1.270E+00	9.528E-02	1.921
		228.18		-2.416E-01	2.116E-01	3.170E-01	2.390E-02	-0.762
		277.60		2.055E-01	1.781E-01	3.034E-01	2.258E-02	0.677
AM-246		798.80		-1.010E-01	1.654E-01	2.626E-01	1.989E-02	-0.385
		1036.00		-3.085E-01	3.516E-01	5.199E-01	3.438E-02	-0.593
		1062.04		-8.101E-02	2.252E-01	3.521E-01	2.266E-02	-0.230
		1078.86	*	1.291E-01	1.454E-01	2.633E-01	1.662E-02	0.490
CM-247		278.00		2.457E-01	7.313E-01	1.191E+00	8.859E-02	0.206
		287.40		-6.641E-01	1.208E+00	1.847E+00	1.363E-01	-0.360
		402.60	*	2.159E-02	3.837E-02	6.651E-02	3.910E-03	0.325
CF-249		252.85		2.858E-01	8.370E-01	1.372E+00	1.033E-01	0.208
		333.44		7.850E-02	1.785E-01	2.768E-01	1.910E-02	0.284
		387.95	*	-1.187E-02	3.942E-02	6.473E-02	3.797E-03	-0.183
CF-251		176.60	*	-2.395E-02	1.114E-01	1.807E-01	1.331E-02	-0.133
		227.00		3.036E-01	3.537E-01	5.983E-01	4.510E-02	0.507
		285.00		-5.504E-01	1.734E+00	2.664E+00	1.971E-01	-0.207

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385001      *
* Acquisition date : 31-DEC-2009 09:16:57 Detector SN#     :               *
* Detector ID        : GAM17               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:     0 02:00:00.00     Abundance limit : 75.000        *
* Elapsed real time:     0 02:00:08.97     Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date        : 17-DEC-2009 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G243385001           Analyst initials: MJH1          *
* Batch Number       : 936285               Sample Quantity : 1.4481E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
* Standard Weight  :    0.00000                                             *
* CALIB. DATE/TIME : 27-JAN-2009 16:21:14 MS Isotope      :                 *
* MSD DPM          :     0.000            MSD Isotope     :                 *
* LCS DPM          :     0.000            LCS Isotope     :                 *
* LCSD DPM         :     0.000            LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.969E+01	1.926E+00	4.350E-01	0.000E+00
CD-109	2.554E+00	8.369E-01	9.077E-01	0.000E+00
SN-126	3.474E-01	8.761E-02	8.929E-02	0.000E+00
CS-135	4.540E-01	2.250E-01	2.249E-01	0.000E+00
BA-137M	2.952E-01	7.429E-02	6.537E-02	0.000E+00
CS-137	3.121E-01	7.854E-02	6.911E-02	0.000E+00
TL-208	4.722E-01	8.320E-02	6.566E-02	0.000E+00
BI-210	1.641E+00	6.687E-01	8.592E-01	0.000E+00
PB-210	1.641E+00	6.687E-01	8.592E-01	0.000E+00
PO-210	1.641E+00	6.657E-01	8.592E-01	0.000E+00
BI-211	3.842E+00	5.346E-01	3.317E-01	0.000E+00
PB-212	1.578E+00	1.755E-01	8.985E-02	0.000E+00
PO-212	1.578E+00	1.755E-01	8.985E-02	0.000E+00
BI-214	1.226E+00	2.111E-01	1.338E-01	0.000E+00
PB-214	1.336E+00	1.981E-01	1.157E-01	0.000E+00
PO-214	1.336E+00	1.981E-01	1.157E-01	0.000E+00
PO-216	1.578E+00	1.755E-01	8.985E-02	0.000E+00
PO-218	1.336E+00	1.981E-01	1.157E-01	0.000E+00
RA-224	3.857E+00	1.247E+00	1.023E+00	0.000E+00
RA-226	1.226E+00	2.111E-01	1.338E-01	0.000E+00
AC-228	1.660E+00	3.428E-01	2.382E-01	0.000E+00
RA-228	1.660E+00	3.428E-01	2.382E-01	0.000E+00
TH-228	1.600E+00	1.780E-01	9.110E-02	0.000E+00
TH-230	1.226E+00	2.111E-01	1.338E-01	0.000E+00
TH-232	1.660E+00	3.428E-01	2.382E-01	0.000E+00
TH-234	2.475E+00	1.121E+00	8.884E-01	0.000E+00
U-234	1.226E+00	2.111E-01	1.338E-01	0.000E+00
NP-237	1.020E+00	3.298E-01	2.616E-01	0.000E+00
U-238	2.475E+00	1.121E+00	8.884E-01	0.000E+00
AM-243	3.719E-01	6.139E-02	5.769E-02	0.000E+00
ANH-511	7.004E-02	6.270E-02	5.244E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error)	Ided	MDA (pCi/GRAM	)	
BE-7	1.642E-01	3.105E-01		5.625E-01	0.000E+00	NOT IDENT.
NA-22	-2.587E-02	4.966E-02		7.719E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.010E+05		0.000E+00	0.000E+00	SHORT HLIF
AL-26	5.422E-03	3.040E-02		5.311E-02	0.000E+00	NOT IDENT.
TI-44	5.693E-03	2.367E-02		3.704E-02	0.000E+00	NOT IDENT.
SC-46	2.277E-02	4.143E-02		7.555E-02	0.000E+00	FAIL ABUN
V-48	-7.653E-03	6.316E-02		1.064E-01	0.000E+00	NOT IDENT.
CR-51	4.746E-02	3.196E-01		5.812E-01	0.000E+00	NOT IDENT.
MN-52	-1.348E-01	1.816E-01		2.677E-01	0.000E+00	NOT IDENT.
MN-54	5.155E-03	4.354E-02		7.651E-02	0.000E+00	NOT IDENT.
CO-56	-2.412E-02	3.898E-02		6.310E-02	0.000E+00	FAIL ABUN
CO-57	8.551E-03	1.996E-02		3.687E-02	0.000E+00	NOT IDENT.
CO-58	-9.281E-03	4.017E-02		6.847E-02	0.000E+00	NOT IDENT.
FE-59	1.847E-02	9.616E-02		1.661E-01	0.000E+00	NOT IDENT.
CO-60	-3.644E-04	3.663E-02		6.051E-02	0.000E+00	NOT IDENT.
ZN-65	3.033E-03	9.957E-02		1.461E-01	0.000E+00	NOT IDENT.
GE-68	-2.348E-01	1.343E+00		2.230E+00	0.000E+00	NOT IDENT.
AS-73	-7.018E-02	2.158E-01		3.644E-01	0.000E+00	NOT IDENT.
AS-74	-8.582E-02	8.981E-02		1.358E-01	0.000E+00	NOT IDENT.
SE-75	-2.516E-02	4.410E-02		6.335E-02	0.000E+00	NOT IDENT.
BR-77	6.261E+00	7.606E+00		1.398E+01	0.000E+00	FAIL ABUN
SR-82	-1.965E-01	4.035E-01		6.758E-01	0.000E+00	NOT IDENT.
RB-83	4.974E-02	7.049E-02		1.286E-01	0.000E+00	NOT IDENT.
RB-84	-9.248E-03	6.765E-02		1.153E-01	0.000E+00	NOT IDENT.
KR-85	8.345E+00	7.357E+00		1.256E+01	0.000E+00	NOT IDENT.
SR-85	4.224E-02	3.724E-02		6.357E-02	0.000E+00	NOT IDENT.
RB-86	-2.390E-01	8.268E-01		1.355E+00	0.000E+00	NOT IDENT.
Y-88	3.241E-02	2.915E-02		6.251E-02	0.000E+00	NOT IDENT.
ZR-88	1.953E-03	2.949E-02		5.246E-02	0.000E+00	NOT IDENT.
Y-91	6.262E+00	2.192E+01		3.771E+01	0.000E+00	NOT IDENT.
NB-94	2.497E-02	3.992E-02		7.043E-02	0.000E+00	NOT IDENT.
NB-95	4.988E-03	5.676E-02		8.841E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.430E-01		2.475E-01	0.000E+00	NOT IDENT.
ZR-95	6.253E-02	7.681E-02		1.380E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.648E+04		0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	6.220E+05		0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.010E+00	9.815E+00		1.617E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.124E+15		0.000E+00	0.000E+00	SHORT HLIF
RH-101	4.969E-03	3.004E-02		5.249E-02	0.000E+00	NOT IDENT.
RH-102	-7.599E-03	2.695E-02		4.575E-02	0.000E+00	FAIL ABUN
RU-103	3.661E-03	3.851E-02		6.729E-02	0.000E+00	FAIL ABUN
RH-106	-2.442E-02	3.247E-01		5.464E-01	0.000E+00	NOT IDENT.
RU-106	-2.442E-02	3.247E-01		5.464E-01	0.000E+00	NOT IDENT.
AG-108M	-1.523E-02	3.225E-02		5.456E-02	0.000E+00	NOT IDENT.
AG-110M	-2.242E-02	4.364E-02		5.965E-02	0.000E+00	NOT IDENT.
IN-111	-2.303E-01	7.777E-01		1.159E+00	0.000E+00	NOT IDENT.
IN-113M	-3.680E-03	4.347E-02		7.656E-02	0.000E+00	NOT IDENT.
SN-113	-3.680E-03	4.347E-02		7.656E-02	0.000E+00	NOT IDENT.
IN-114M	-6.166E-02	1.663E-01		2.534E-01	0.000E+00	NOT IDENT.
CD-115	5.593E-01	7.708E+00		1.336E+01	0.000E+00	NOT IDENT.
SN-117M	-2.342E-02	4.277E-02		7.393E-02	0.000E+00	NOT IDENT.
SB-122	5.371E-01	1.547E+00		2.728E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.015E+06		0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.906E-02	2.366E-02		4.030E-02	0.000E+00	NOT IDENT.
I-124	-2.743E-01	6.785E-01		9.592E-01	0.000E+00	NOT IDENT.
SB-124	-2.464E-02	8.593E-02		1.366E-01	0.000E+00	FAIL ABUN
SB-125	2.691E-02	9.275E-02		1.663E-01	0.000E+00	FAIL ABUN
TE-125M	7.213E-01	6.913E+00		1.269E+01	0.000E+00	NOT IDENT.
I-126	4.607E-02	1.981E-01		3.006E-01	0.000E+00	NOT IDENT.
SB-126	-2.192E-02	1.407E-01		2.311E-01	0.000E+00	NOT IDENT.
SB-127	-3.369E-01	1.136E+00		1.846E+00	0.000E+00	FAIL ABUN
XE-127	-9.602E-06	3.955E-02		6.902E-02	0.000E+00	NOT IDENT.
I-131	4.011E-02	9.711E-02		1.777E-01	0.000E+00	NOT IDENT.
TE-132	-5.559E-01	4.883E-01		7.754E-01	0.000E+00	NOT IDENT.
BA-133	5.889E-03	4.257E-02		6.799E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.392E+03		0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.393E-02	5.170E-02		9.910E-02	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.518E+14		0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.294E-02	1.127E-01		1.975E-01	0.000E+00	FAIL ABUN
CE-139	-8.800E-04	2.592E-02		4.589E-02	0.000E+00	NOT IDENT.
BA-140	-2.094E-02	2.543E-01		4.341E-01	0.000E+00	NOT IDENT.
LA-140	-1.062E-01	1.053E-01		1.515E-01	0.000E+00	NOT IDENT.
CE-141	-5.964E-02	5.453E-02		9.240E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.821E+02		0.000E+00	0.000E+00	SHORT HLIF

CE-144	3.722E-02	1.702E-01	3.095E-01	0.000E+00	NOT IDENT.
PM-144	1.215E-02	3.897E-02	6.717E-02	0.000E+00	NOT IDENT.
PR-144	8.227E-01	2.639E+00	4.549E+00	0.000E+00	NOT IDENT.
PM-146	-9.679E-03	4.237E-02	7.271E-02	0.000E+00	NOT IDENT.
ND-147	-9.564E-02	5.773E-01	9.807E-01	0.000E+00	FAIL ABUN
PM-149	-4.052E+00	5.937E+01	9.878E+01	0.000E+00	NOT IDENT.
EU-152	7.655E-03	9.120E-02	1.642E-01	0.000E+00	NOT IDENT.
GD-153	1.548E-02	5.723E-02	1.050E-01	0.000E+00	NOT IDENT.
EU-154	-7.232E-02	1.389E-01	2.157E-01	0.000E+00	NOT IDENT.
EU-155	3.237E-02	8.175E-02	1.522E-01	0.000E+00	FAIL ABUN
TB-160	-6.498E-02	1.384E-01	2.267E-01	0.000E+00	FAIL ABUN
HO-166M	4.247E-02	6.824E-02	1.208E-01	0.000E+00	FAIL ABUN
TM-171	-7.018E+00	1.555E+01	2.372E+01	0.000E+00	NOT IDENT.
LU-176	-1.889E-03	2.308E-02	3.862E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.395E+00	1.725E+00	0.000E+00	FAIL ABUN
LU-177M	3.231E-02	1.628E-01	2.911E-01	0.000E+00	FAIL ABUN
HF-181	1.308E-02	4.093E-02	7.299E-02	0.000E+00	NOT IDENT.
W-181	-4.997E-02	1.840E-01	2.837E-01	0.000E+00	NOT IDENT.
TA-182	-3.572E-03	2.085E-01	3.478E-01	0.000E+00	FAIL ABUN
RE-183	2.823E-02	9.386E-02	1.672E-01	0.000E+00	FAIL ABUN
RE-184	7.579E-02	2.175E-01	3.804E-01	0.000E+00	NOT IDENT.
OS-185	-1.315E-02	4.207E-02	6.864E-02	0.000E+00	FAIL ABUN
RE-188	3.696E-02	1.405E-01	2.535E-01	0.000E+00	NOT IDENT.
W-188	-1.039E+00	7.759E+00	1.152E+01	0.000E+00	FAIL ABUN
IR-192	-2.045E-02	3.262E-02	5.205E-02	0.000E+00	FAIL ABUN
AU-195	1.675E-01	1.692E-01	3.179E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.995E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	5.990E-01	4.492E+00	8.012E+00	0.000E+00	NOT IDENT.
TL-202	-1.033E-02	6.273E-02	1.086E-01	0.000E+00	NOT IDENT.
HG-203	-5.412E-02	3.979E-02	6.123E-02	0.000E+00	FAIL ABUN
BI-207	-1.658E-02	5.075E-02	8.247E-02	0.000E+00	FAIL ABUN
TL-207	-9.351E-01	6.641E-01	1.067E+00	0.000E+00	FAIL ABUN
PO-209	-3.906E+00	6.860E+00	1.100E+01	0.000E+00	NOT IDENT.
PB-211	-1.247E+00	1.253E+00	1.614E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.656E-01	7.324E-01	0.000E+00	FAIL ABUN
PO-215	-9.351E-01	6.641E-01	1.067E+00	0.000E+00	FAIL ABUN
RN-219	4.176E-01	4.195E-01	7.819E-01	0.000E+00	NOT IDENT.
RN-220	5.720E+00	2.837E+01	4.950E+01	0.000E+00	NOT IDENT.
RA-223	-9.351E-01	6.641E-01	1.067E+00	0.000E+00	FAIL ABUN
AC-227	1.054E-01	3.523E-01	6.134E-01	0.000E+00	FAIL ABUN
TH-227	1.054E-01	3.524E-01	6.134E-01	0.000E+00	FAIL ABUN
TH-229	4.345E-02	4.535E-01	7.982E-01	0.000E+00	FAIL ABUN
PA-231	-3.640E-01	1.434E+00	2.388E+00	0.000E+00	NOT IDENT.
TH-231	-9.351E-01	6.641E-01	1.067E+00	0.000E+00	FAIL ABUN
U-231	-7.838E-01	6.859E-01	1.061E+00	0.000E+00	FAIL ABUN
PA-233	2.575E-02	5.995E-02	1.039E-01	0.000E+00	FAIL ABUN
PA-234	5.480E-02	3.035E-01	5.317E-01	0.000E+00	FAIL ABUN
PA-234M	-2.428E+00	5.329E+00	8.673E+00	0.000E+00	FAIL ABUN
U-235	1.811E-01	1.905E-01	3.446E-01	0.000E+00	FAIL ABUN
NP-236	-7.411E-03	6.568E-02	1.161E-01	0.000E+00	NOT IDENT.
NP-239	4.126E-02	1.476E-01	2.718E-01	0.000E+00	FAIL ABUN
AM-241	4.197E-02	5.992E-02	9.798E-02	0.000E+00	NOT IDENT.
CM-243	6.805E-02	7.319E-02	1.389E-01	0.000E+00	FAIL ABUN
AM-246	1.291E-01	1.425E-01	2.665E-01	0.000E+00	NOT IDENT.
CM-247	2.159E-02	3.760E-02	6.886E-02	0.000E+00	NOT IDENT.
CF-249	-1.187E-02	3.863E-02	6.707E-02	0.000E+00	NOT IDENT.
CF-251	-2.395E-02	1.092E-01	1.905E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:17:26.34

```
*****************************************************************************
*                              GEL Laboratories LLC                         *
*                                2040 Savage Road                           *
*                              Charleston, SC 29414                         *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385001.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:16:57
Sample ID         : G243385001           Sample quantity  : 1.44810E+02 GRAM
Detector name     : GAM17                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:08.97  0.1%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit   : 75.00000             Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID   :                      LCS ID           : 1032-A
*****************************************************************************
```

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	647	10.67*	7.981E-01	1.969E+01	1.969E+01	9.98
CD-109	88.03	235	3.72*	6.557E+00	2.502E+00	2.554E+00	33.43
SN-126	64.28	------	9.60	6.653E+00	------ Line Not Found		------
	86.94	326	8.90	6.582E+00	1.444E+00	1.444E+00	47.94
	87.57	326	37.00*	6.582E+00	3.474E-01	3.474E-01	25.73
CS-135	268.24	105	16.00*	3.747E+00	4.540E-01	4.540E-01	50.57
BA-137M	661.65	166	89.98*	1.619E+00	2.950E-01	2.952E-01	25.67
CS-137	661.65	166	85.12*	1.619E+00	3.118E-01	3.121E-01	25.68
TL-208	277.35	------	6.80	3.655E+00	------ Line Not Found		------
	510.84	56	21.60	2.075E+00	3.243E-01	3.243E-01	91.73
	583.14	280	84.20*	1.826E+00	4.722E-01	4.722E-01	17.98
	860.37	------	12.46	1.267E+00	------ Line Not Found		------
BI-210	46.50	168	4.05*	6.554E+00	1.639E+00	1.641E+00	41.58
PB-210	46.50	168	4.05*	6.554E+00	1.639E+00	1.641E+00	41.58
PO-210	46.50	168	4.05*	6.554E+00	1.639E+00	1.641E+00	41.39
BI-211	72.87	630	1.27	6.653E+00	1.933E+01	1.933E+01	16.84
	351.07	568	12.94*	2.961E+00	3.842E+00	3.842E+00	14.20
PB-212	74.81	630	10.70	6.653E+00	2.294E+00	2.294E+00	19.26
	77.11	945	18.00	6.645E+00	2.049E+00	2.049E+00	12.33
	87.30	326	8.00	6.582E+00	1.607E+00	1.607E+00	27.61
	238.63	1125	44.60*	4.143E+00	1.578E+00	1.578E+00	11.35
	300.09	85	3.41	3.421E+00	1.889E+00	1.889E+00	62.84
PO-212	74.81	630	10.70	6.653E+00	2.294E+00	2.294E+00	19.26
	77.11	945	18.00	6.645E+00	2.049E+00	2.049E+00	12.33
	87.30	326	8.00	6.582E+00	1.607E+00	1.607E+00	27.61
	115.19	------	0.60	6.204E+00	------ Line Not Found		------
	238.63	1125	44.60*	4.143E+00	1.578E+00	1.578E+00	11.35
	300.09	85	3.41	3.421E+00	1.889E+00	1.889E+00	62.84
BI-214	609.31	383	46.30*	1.750E+00	1.226E+00	1.226E+00	17.57
	1120.29	74	15.10	1.003E+00	1.266E+00	1.266E+00	44.91
	1764.49	54	15.80	6.760E-01	1.300E+00	1.300E+00	36.73
PB-214	74.81	630	6.21	6.653E+00	3.953E+00	3.953E+00	18.40

Sample ID : G243385001 Acquisition date : 31-DEC-2009 09:16:57

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	945	10.50	6.645E+00	3.512E+00	3.512E+00	14.49
	87.30	326	4.67	6.582E+00	2.753E+00	2.753E+00	26.86
	241.98	241	7.49	4.103E+00	2.034E+00	2.034E+00	33.48
	295.21	295	19.20	3.470E+00	1.147E+00	1.147E+00	24.60
	351.92	568	37.20*	2.961E+00	1.336E+00	1.336E+00	15.13
PO-214	74.81	630	6.21	6.653E+00	3.953E+00	3.953E+00	18.40
	77.11	945	10.50	6.645E+00	3.512E+00	3.512E+00	14.49
	87.30	326	4.67	6.582E+00	2.753E+00	2.753E+00	26.86
	241.98	241	7.49	4.103E+00	2.034E+00	2.034E+00	33.48
	295.21	295	19.20	3.470E+00	1.147E+00	1.147E+00	24.60
	351.92	568	37.20*	2.961E+00	1.336E+00	1.336E+00	15.13
PO-216	74.81	630	10.70	6.653E+00	2.294E+00	2.294E+00	19.26
	77.11	945	18.00	6.645E+00	2.049E+00	2.049E+00	12.33
	87.30	326	8.00	6.582E+00	1.607E+00	1.607E+00	27.61
	238.63	1125	44.60*	4.143E+00	1.578E+00	1.578E+00	11.35
	300.09	85	3.41	3.421E+00	1.889E+00	1.889E+00	62.84
PO-218	74.81	630	6.21	6.653E+00	3.953E+00	3.953E+00	18.40
	77.11	945	10.50	6.645E+00	3.512E+00	3.512E+00	14.49
	87.30	326	4.67	6.582E+00	2.753E+00	2.753E+00	26.86
	241.98	241	7.49	4.103E+00	2.034E+00	2.034E+00	33.48
	295.21	295	19.20	3.470E+00	1.147E+00	1.147E+00	24.60
	351.92	568	37.20*	2.961E+00	1.336E+00	1.336E+00	15.13
RA-224	240.98	241	3.95*	4.103E+00	3.857E+00	3.857E+00	33.01
RA-226	609.31	383	46.30*	1.750E+00	1.226E+00	1.226E+00	17.57
	1120.29	74	15.10	1.003E+00	1.266E+00	1.266E+00	44.91
	1764.49	54	15.80	6.760E-01	1.300E+00	1.300E+00	36.73
AC-228	338.32	193	11.40	3.071E+00	1.432E+00	1.432E+00	49.29
	911.07	214	27.70*	1.204E+00	1.660E+00	1.660E+00	21.08
	969.11	111	16.60	1.139E+00	1.525E+00	1.525E+00	41.15
RA-228	338.32	193	11.40	3.071E+00	1.432E+00	1.432E+00	49.29
	911.07	214	27.70*	1.204E+00	1.660E+00	1.660E+00	21.08
	969.11	111	16.60	1.139E+00	1.525E+00	1.525E+00	41.15
TH-228	74.81	630	10.70	6.653E+00	2.294E+00	2.326E+00	16.88
	77.11	945	18.00	6.645E+00	2.049E+00	2.077E+00	12.33
	87.30	326	8.00	6.582E+00	1.607E+00	1.629E+00	25.73
	238.63	1125	44.60*	4.143E+00	1.578E+00	1.600E+00	11.35
	300.09	85	3.41	3.421E+00	1.889E+00	1.915E+00	85.76
TH-230	609.31	383	46.30*	1.750E+00	1.226E+00	1.226E+00	17.57
	1120.29	74	15.10	1.003E+00	1.266E+00	1.266E+00	44.91
	1764.49	54	15.80	6.760E-01	1.300E+00	1.300E+00	36.73
TH-232	338.32	193	11.40	3.071E+00	1.432E+00	1.432E+00	28.31
	911.07	214	27.70*	1.204E+00	1.660E+00	1.660E+00	21.08
	969.11	111	16.60	1.139E+00	1.525E+00	1.525E+00	41.15
TH-234	63.29	241	3.80*	6.647E+00	2.475E+00	2.475E+00	46.23
	92.38	400	5.41	6.529E+00	2.939E+00	2.939E+00	27.53
U-234	609.31	383	46.30*	1.750E+00	1.226E+00	1.226E+00	17.57
	1120.29	74	15.10	1.003E+00	1.266E+00	1.266E+00	44.91
	1764.49	54	15.80	6.760E-01	1.300E+00	1.300E+00	36.73
NP-237	86.50	326	12.60*	6.582E+00	1.020E+00	1.020E+00	32.98

Sample ID : G243385001 Acquisition date : 31-DEC-2009 09:16:57

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	95.87	------	2.60	6.484E+00	------ Line Not Found		------
U-238	63.29	241	3.80*	6.647E+00	2.475E+00	2.475E+00	46.23
	92.38	400	5.41	6.529E+00	2.939E+00	2.939E+00	22.48
AM-243	74.67	630	66.00*	6.653E+00	3.719E-01	3.719E-01	16.84
	86.72	326	0.34	6.582E+00	3.826E+01	3.826E+01	25.73
	117.66	------	0.55	6.163E+00	------ Line Not Found		------
	142.18	------	0.13	5.726E+00	------ Line Not Found		------
ANH-511	511.00	56	100.00*	2.075E+00	7.004E-02	7.004E-02	91.35

Flag: "*" = Keyline

Sample ID : G243385001 Acquisition date : 31-DEC-2009 09:16:57

Total number of lines in spectrum 29
Number of unidentified lines 0
Number of lines tentatively identified by NID 29 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.969E+01	1.969E+01	0.197E+01	9.98	
CD-109	464.00D	1.02	2.502E+00	2.554E+00	0.854E+00	33.43	
SN-126	1.00E+05Y	1.00	3.474E-01	3.474E-01	0.894E-01	25.73	
CS-135	2.30E+06Y	1.00	4.540E-01	4.540E-01	2.296E-01	50.57	
BA-137M	30.17Y	1.00	2.950E-01	2.952E-01	0.758E-01	25.67	
CS-137	30.17Y	1.00	3.118E-01	3.121E-01	0.801E-01	25.68	
TL-208	1.41E+10Y	1.00	4.722E-01	4.722E-01	0.849E-01	17.98	
BI-210	22.26Y	1.00	1.639E+00	1.641E+00	0.682E+00	41.58	
PB-210	22.26Y	1.00	1.639E+00	1.641E+00	0.682E+00	41.58	
PO-210	22.26Y	1.00	1.639E+00	1.641E+00	0.679E+00	41.39	
BI-211	7.04E+08Y	1.00	3.842E+00	3.842E+00	0.545E+00	14.20	
PB-212	1.41E+10Y	1.00	1.578E+00	1.578E+00	0.179E+00	11.35	
PO-212	1.41E+10Y	1.00	1.578E+00	1.578E+00	0.179E+00	11.35	
BI-214	1600.00Y	1.00	1.226E+00	1.226E+00	0.215E+00	17.57	
PB-214	1600.00Y	1.00	1.336E+00	1.336E+00	0.202E+00	15.13	
PO-214	1600.00Y	1.00	1.336E+00	1.336E+00	0.202E+00	15.13	
PO-216	1.41E+10Y	1.00	1.578E+00	1.578E+00	0.179E+00	11.35	
PO-218	1600.00Y	1.00	1.336E+00	1.336E+00	0.202E+00	15.13	
RA-224	1.41E+10Y	1.00	3.857E+00	3.857E+00	1.273E+00	33.01	
RA-226	1600.00Y	1.00	1.226E+00	1.226E+00	0.215E+00	17.57	
AC-228	1.41E+10Y	1.00	1.660E+00	1.660E+00	0.350E+00	21.08	
RA-228	1.41E+10Y	1.00	1.660E+00	1.660E+00	0.350E+00	21.08	
TH-228	1.91Y	1.01	1.578E+00	1.600E+00	0.182E+00	11.35	
TH-230	4.47E+09Y	1.00	1.226E+00	1.226E+00	0.215E+00	17.57	
TH-232	1.41E+10Y	1.00	1.660E+00	1.660E+00	0.350E+00	21.08	
TH-234	4.47E+09Y	1.00	2.475E+00	2.475E+00	1.144E+00	46.23	
U-234	4.47E+09Y	1.00	1.226E+00	1.226E+00	0.215E+00	17.57	
NP-237	2.14E+06Y	1.00	1.020E+00	1.020E+00	0.337E+00	32.98	
U-238	4.47E+09Y	1.00	2.475E+00	2.475E+00	1.144E+00	46.23	
AM-243	7380.00Y	1.00	3.719E-01	3.719E-01	0.626E-01	16.84	
ANH-511	1.00E+09Y	1.00	7.004E-02	7.004E-02	6.398E-02	91.35	
	Total Activity :		6.331E+01	6.339E+01			

Grand Total Activity : 6.331E+01 6.339E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G243385001 Acquisition date : 31-DEC-2009 09:16:57

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.20	294	353	1.30	371.70	365	14	4.08E-02	30.3	4.95E+00	T
0	208.79	141	236	1.13	418.87	414	11	1.96E-02	45.7	4.57E+00	T
0	462.66	56	65	0.79	926.37	924	7	7.71E-03	55.9	2.28E+00	T
0	727.57	59	50	0.89	1456.02	1451	10	8.14E-03	53.8	1.48E+00	T
0	767.72	37	58	0.82	1536.30	1530	10	5.21E-03	82.4	1.41E+00	T
0	1239.27	58	58	1.58	2479.26	2472	17	8.04E-03	66.4	9.19E-01	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:17:30.92

```
*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
*                                                                           *
*                                DETECTOR DATA                              *
*                                                                           *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385001.CNF;1 *
* Acquisition date  : 31-DEC-2009 09:16:57  Detector SN#     :             *
* Detector ID       : GAM17                 Sensitivity      : 5.00000     *
* Geometry          : CAN                   Energy tolerance: 1.50000      *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000     *
* Elapsed real time: 0 02:00:08.97          Half life ratio : 8.00000      *
*****************************************************************************
*                                                                           *
*                                SAMPLE DATA                                *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00  Nuclide Library : SOLID        *
* Sample ID         : G243385001            Analyst initials: MJH1         *
* Batch Number      : 936285                Sample Quantity : 1.44810E+02 GRAM *
*****************************************************************************
*                                                                           *
*                                  QC DATA                                  *
*                                                                           *
* CALIB. DATE/TIME : 27-JAN-2009 16:21:14.8MS Isotope      :                *
* MSD ID           :                       MSD Isotope     :                *
* LCS ID           : 1032-A                LCS Isotope     :                *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.969E+01	1.966E+00	4.327E-01	2.660E-02	45.509
CD-109	2.554E+00	8.540E-01	8.487E-01	6.836E-02	3.010
SN-126	3.474E-01	8.940E-02	8.348E-02	6.732E-03	4.162
CS-135	4.540E-01	2.296E-01	2.153E-01	1.938E-02	2.109
BA-137M	2.952E-01	7.580E-02	6.385E-02	4.809E-03	4.624
CS-137	3.121E-01	8.015E-02	6.750E-02	5.096E-03	4.624
TL-208	4.722E-01	8.490E-02	6.395E-02	5.070E-03	7.383
BI-210	1.641E+00	6.824E-01	7.928E-01	6.345E-02	2.070
PB-210	1.641E+00	6.824E-01	7.928E-01	6.345E-02	2.070
PO-210	1.641E+00	6.793E-01	7.928E-01	5.518E-02	2.070
BI-211	3.842E+00	5.455E-01	3.194E-01	2.294E-02	12.028
PB-212	1.578E+00	1.791E-01	8.580E-02	7.530E-03	18.392
PO-212	1.578E+00	1.791E-01	8.580E-02	7.530E-03	18.392
BI-214	1.226E+00	2.154E-01	1.304E-01	1.170E-02	9.401
PB-214	1.336E+00	2.022E-01	1.114E-01	9.878E-03	11.998
PO-214	1.336E+00	2.022E-01	1.114E-01	9.878E-03	11.998
PO-216	1.578E+00	1.791E-01	8.580E-02	7.530E-03	18.392
PO-218	1.336E+00	2.022E-01	1.114E-01	9.878E-03	11.998

Sample ID : G243385001 Acquisition date : 31-DEC-2009 09:16:57

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-224	3.857E+00	1.273E+00	9.775E-01	7.373E-02	3.945
RA-226	1.226E+00	2.154E-01	1.304E-01	1.170E-02	9.401
AC-228	1.660E+00	3.498E-01	2.344E-01	2.398E-02	7.082
RA-228	1.660E+00	3.498E-01	2.344E-01	2.398E-02	7.082
TH-228	1.600E+00	1.816E-01	8.700E-02	7.635E-03	18.392
TH-230	1.226E+00	2.154E-01	1.304E-01	1.170E-02	9.401
TH-232	1.660E+00	3.498E-01	2.344E-01	2.398E-02	7.082
TH-234	2.475E+00	1.144E+00	8.250E-01	1.497E-01	3.000
U-234	1.226E+00	2.154E-01	1.304E-01	1.170E-02	9.401
NP-237	1.020E+00	3.365E-01	2.445E-01	5.420E-02	4.173
U-238	2.475E+00	1.144E+00	8.250E-01	1.497E-01	3.000
AM-243	3.719E-01	6.264E-02	5.376E-02	4.560E-03	6.919
ANH-511	7.004E-02	6.398E-02	5.093E-02	3.442E-03	1.375

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.642E-01		3.168E-01	5.455E-01	4.022E-02	0.301
NA-22	-2.587E-02		5.067E-02	7.654E-02	4.338E-03	-0.338
NA-24	5.684E-02		1.026E-01	Half-Life too short		
AL-26	5.422E-03		3.102E-02	5.310E-02	3.036E-03	0.102
TI-44	5.693E-03		2.415E-02	3.455E-02	2.886E-03	0.165
SC-46	2.277E-02		4.228E-02	7.429E-02	5.445E-03	0.307
V-48	-7.653E-03		6.445E-02	1.049E-01	7.260E-03	-0.073
CR-51	4.746E-02		3.261E-01	5.586E-01	4.260E-02	0.085
MN-52	-1.348E-01		1.853E-01	2.662E-01	1.538E-02	-0.506
MN-54	5.155E-03		4.443E-02	7.513E-02	5.636E-03	0.069
CO-56	-2.412E-02		3.977E-02	6.198E-02	4.631E-03	-0.389
CO-57	8.551E-03		2.037E-02	3.471E-02	3.851E-03	0.246
CO-58	-9.281E-03		4.099E-02	6.719E-02	5.092E-03	-0.138
FE-59	1.847E-02		9.812E-02	1.641E-01	1.166E-02	0.113
CO-60	-3.644E-04		3.738E-02	6.007E-02	3.430E-03	-0.006
ZN-65	3.033E-03		1.016E-01	1.444E-01	8.725E-03	0.021
GE-68	-2.348E-01		1.370E+00	2.202E+00	1.393E-01	-0.107
AS-73	-7.018E-02		2.202E-01	3.372E-01	2.736E-02	-0.208
AS-74	-8.582E-02		9.164E-02	1.323E-01	9.608E-03	-0.649
SE-75	-2.516E-02		4.500E-02	6.063E-02	4.574E-03	-0.415
BR-77	6.261E+00		7.761E+00	1.358E+01	9.269E-01	0.461
SR-82	-1.965E-01		4.117E-01	6.625E-01	5.036E-02	-0.297
RB-83	4.974E-02		7.193E-02	1.249E-01	8.521E-03	0.398
RB-84	-9.248E-03		6.903E-02	1.133E-01	8.338E-03	-0.082
KR-85	8.345E+00		7.507E+00	1.220E+01	8.270E-01	0.684
SR-85	4.224E-02		3.800E-02	6.174E-02	4.186E-03	0.684
RB-86	-2.390E-01		8.436E-01	1.338E+00	8.471E-02	-0.179
Y-88	3.241E-02		2.974E-02	6.252E-02	3.570E-03	0.518
ZR-88	1.953E-03		3.009E-02	5.064E-02	2.931E-03	0.039
Y-91	6.262E+00		2.237E+01	3.734E+01	2.079E+00	0.168

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-94	2.497E-02		4.074E-02	6.888E-02	5.233E-03	0.362
NB-95	4.988E-03		5.791E-02	8.664E-02	6.594E-03	0.058
NB-95M	3.650E-01		1.459E-01	2.363E-01	2.113E-02	1.545
ZR-95	6.253E-02		7.838E-02	1.353E-01	1.162E-02	0.462
NB-97	-1.737E-02		1.861E-02	Half-Life too short		
ZR-97	1.281E+00		3.174E-01	Half-Life too short		
MO-99	-1.010E+00		1.001E+01	1.584E+01	2.318E+00	-0.064
TC-99M	-9.677E+08		5.737E+08	Half-Life too short		
RH-101	4.969E-03		3.065E-02	4.993E-02	3.725E-03	0.100
RH-102	-7.599E-03		2.750E-02	4.436E-02	2.881E-03	-0.171
RU-103	3.661E-03		3.930E-02	6.530E-02	8.530E-03	0.056
RH-106	-2.442E-02		3.313E-01	5.329E-01	6.711E-02	-0.046
RU-106	-2.442E-02		3.313E-01	5.329E-01	3.933E-02	-0.046
AG-108M	-1.523E-02		3.291E-02	5.279E-02	3.499E-03	-0.289
AG-110M	-2.242E-02		4.453E-02	5.825E-02	4.550E-03	-0.385
IN-111	-2.303E-01		7.936E-01	1.108E+00	8.353E-02	-0.208
IN-113M	-3.680E-03		4.435E-02	7.391E-02	4.558E-03	-0.050
SN-113	-3.680E-03		4.435E-02	7.391E-02	4.558E-03	-0.050
IN-114M	-6.166E-02		1.697E-01	2.408E-01	1.789E-02	-0.256
CD-115	5.593E-01		7.866E+00	1.299E+01	8.925E-01	0.043
SN-117M	-2.342E-02		4.364E-02	6.998E-02	5.610E-03	-0.335
SB-122	5.371E-01		1.579E+00	2.655E+00	1.883E-01	0.202
I-123	-8.176E-01		5.180E-01	Half-Life too short		
TE-123M	-1.906E-02		2.415E-02	3.815E-02	3.065E-03	-0.499
I-124	-2.743E-01		6.923E-01	9.350E-01	6.820E-02	-0.293
SB-124	-2.464E-02		8.768E-02	1.364E-01	8.570E-03	-0.181
SB-125	2.691E-02		9.464E-02	1.609E-01	1.020E-02	0.167
TE-125M	7.213E-01		7.054E+00	1.192E+01	1.355E+00	0.061
I-126	4.607E-02		2.021E-01	2.936E-01	2.214E-02	0.157
SB-126	-2.192E-02		1.436E-01	2.261E-01	1.721E-02	-0.097
SB-127	-3.369E-01		1.159E+00	1.805E+00	1.848E-01	-0.187
XE-127	-9.602E-06		4.036E-02	6.567E-02	4.912E-03	0.000
I-131	4.011E-02		9.909E-02	1.713E-01	1.197E-02	0.234
TE-132	-5.559E-01		4.983E-01	7.397E-01	1.104E-01	-0.751
BA-133	5.889E-03		4.344E-02	6.549E-02	7.824E-03	0.090
I-133	-2.514E-04		1.220E-03	Half-Life too short		
CS-134	6.393E-02		5.276E-02	9.721E-02	7.436E-03	0.658
I-135	-6.081E+06		1.285E+08	Half-Life too short		
CS-136	3.294E-02		1.150E-01	1.950E-01	1.366E-02	0.169
CE-139	-8.800E-04		2.645E-02	4.348E-02	3.180E-03	-0.020
BA-140	-2.094E-02		2.594E-01	4.221E-01	1.382E-01	-0.050
LA-140	-1.062E-01		1.074E-01	1.511E-01	8.781E-03	-0.703
CE-141	-5.964E-02		5.564E-02	8.730E-02	8.162E-03	-0.683
CE-143	5.874E-04	+	9.293E-05	Half-Life too short		
CE-144	3.722E-02		1.736E-01	2.919E-01	4.814E-02	0.128
PM-144	1.215E-02		3.976E-02	6.569E-02	4.988E-03	0.185
PR-144	8.227E-01		2.693E+00	4.448E+00	3.377E-01	0.185
PM-146	-9.679E-03		4.323E-02	7.042E-02	6.327E-03	-0.137

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	-9.564E-02		5.891E-01	9.532E-01	1.337E-01	-0.100
PM-149	-4.052E+00		6.058E+01	9.470E+01	1.410E+01	-0.043
EU-152	7.655E-03		9.306E-02	1.581E-01	1.167E-02	0.048
GD-153	1.548E-02		5.840E-02	9.837E-02	8.663E-03	0.157
EU-154	-7.232E-02		1.417E-01	2.139E-01	1.979E-02	-0.338
EU-155	3.237E-02		8.342E-02	1.428E-01	1.368E-02	0.227
TB-160	-6.498E-02		1.412E-01	2.229E-01	1.642E-02	-0.292
HO-166M	4.247E-02		6.964E-02	1.182E-01	8.989E-03	0.359
TM-171	-7.018E+00		1.587E+01	2.205E+01	1.938E+00	-0.318
LU-176	-1.889E-03		2.355E-02	3.708E-02	2.677E-03	-0.051
LU-177	3.074E+00	+	1.424E+00	1.642E+00	1.231E-01	1.872
LU-177M	3.231E-02		1.661E-01	2.814E-01	1.682E-02	0.115
HF-181	1.308E-02		4.177E-02	7.078E-02	4.635E-03	0.185
W-181	-4.997E-02		1.877E-01	2.636E-01	2.335E-02	-0.190
TA-182	-3.572E-03		2.128E-01	3.446E-01	1.926E-02	-0.010
RE-183	2.823E-02		9.578E-02	1.584E-01	1.213E-02	0.178
RE-184	7.579E-02		2.219E-01	3.637E-01	2.738E-02	0.208
OS-185	-1.315E-02		4.293E-02	6.701E-02	5.010E-03	-0.196
RE-188	3.696E-02		1.433E-01	2.398E-01	2.002E-02	0.154
W-188	-1.039E+00		7.917E+00	1.105E+01	8.131E-01	-0.094
IR-192	-2.045E-02		3.328E-02	5.002E-02	3.571E-03	-0.409
AU-195	1.675E-01		1.727E-01	2.979E-01	2.660E-02	0.562
TL-200	4.925E-07		1.018E-04	Half-Life too short		
TL-201	5.990E-01		4.584E+00	7.593E+00	5.553E-01	0.079
TL-202	-1.033E-02		6.401E-02	1.051E-01	6.522E-03	-0.098
HG-203	-5.412E-02		4.060E-02	5.867E-02	4.526E-03	-0.923
BI-207	-1.658E-02		5.179E-02	8.144E-02	5.232E-03	-0.204
TL-207	-9.351E-01		6.777E-01	1.025E+00	1.742E-01	-0.912
PO-209	-3.906E+00		7.000E+00	1.082E+01	7.897E-01	-0.361
PB-211	-1.247E+00		1.278E+00	1.559E+00	9.721E-01	-0.800
BI-212	8.708E-01	+	4.751E-01	7.169E-01	6.564E-02	1.215
PO-215	-9.351E-01		6.777E-01	1.025E+00	1.742E-01	-0.912
RN-219	4.176E-01		4.281E-01	7.553E-01	1.030E-01	0.553
RN-220	5.720E+00		2.894E+01	4.815E+01	3.375E+00	0.119
RA-223	-9.351E-01		6.777E-01	1.025E+00	1.742E-01	-0.912
AC-227	1.054E-01		3.594E-01	5.867E-01	8.659E-02	0.180
TH-227	1.054E-01		3.596E-01	5.867E-01	1.031E-01	0.180
TH-229	4.345E-02		4.628E-01	7.588E-01	5.648E-02	0.057
PA-231	-3.640E-01		1.464E+00	2.289E+00	3.325E-01	-0.159
TH-231	-9.351E-01		6.777E-01	1.025E+00	1.742E-01	-0.912
U-231	-7.838E-01		6.999E-01	9.937E-01	8.623E-02	-0.789
PA-233	2.575E-02		6.117E-02	9.983E-02	7.448E-03	0.258
PA-234	5.480E-02		3.097E-01	5.236E-01	9.487E-02	0.105
PA-234M	-2.428E+00		5.438E+00	8.552E+00	7.237E-01	-0.284
U-235	1.811E-01		1.944E-01	3.255E-01	5.818E-02	0.556
NP-236	-7.411E-03		6.702E-02	1.099E-01	8.630E-03	-0.067
NP-239	4.126E-02		1.506E-01	2.556E-01	2.704E-02	0.161
AM-241	4.197E-02		6.115E-02	9.088E-02	8.817E-03	0.462

Sample ID : G243385001 Acquisition date : 31-DEC-2009 09:16:57

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	6.805E-02		7.468E-02	1.303E-01	1.218E-02	0.522
AM-246	1.291E-01		1.454E-01	2.633E-01	1.662E-02	0.490
CM-247	2.159E-02		3.837E-02	6.651E-02	3.910E-03	0.325
CF-249	-1.187E-02		3.942E-02	6.473E-02	3.797E-03	-0.183
CF-251	-2.395E-02		1.114E-01	1.807E-01	1.331E-02	-0.133

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243385001           *
* Acquisition date  : 31-DEC-2009 09:16:57 Detector SN#     :               *
* Detector ID       : GAM17                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:08.97      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243385001           Analyst initials: MJH1           *
* Batch Number      : 936285               Sample Quantity : 1.4481E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
*                                                                           *
* CALIB. DATE/TIME : 27-JAN-2009 16:21:14 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.969E+01	1.926E+00	2.176E-01	9.828E-01
CD-109	2.554E+00	8.369E-01	4.541E-01	4.270E-01
SN-126	3.474E-01	8.761E-02	4.467E-02	4.470E-02
CS-135	4.540E-01	2.250E-01	1.125E-01	1.148E-01
BA-137M	2.952E-01	7.429E-02	3.271E-02	3.790E-02
CS-137	3.121E-01	7.854E-02	3.457E-02	4.007E-02
TL-208	4.722E-01	8.320E-02	3.285E-02	4.245E-02
BI-210	1.641E+00	6.687E-01	4.298E-01	3.412E-01
PB-210	1.641E+00	6.687E-01	4.298E-01	3.412E-01
PO-210	1.641E+00	6.657E-01	4.298E-01	3.396E-01
BI-211	3.842E+00	5.346E-01	1.659E-01	2.727E-01
PB-212	1.578E+00	1.755E-01	4.495E-02	8.956E-02
PO-212	1.578E+00	1.755E-01	4.495E-02	8.956E-02
BI-214	1.226E+00	2.111E-01	6.692E-02	1.077E-01
PB-214	1.336E+00	1.981E-01	5.786E-02	1.011E-01
PO-214	1.336E+00	1.981E-01	5.786E-02	1.011E-01
PO-216	1.578E+00	1.755E-01	4.495E-02	8.956E-02
PO-218	1.336E+00	1.981E-01	5.786E-02	1.011E-01
RA-224	3.857E+00	1.247E+00	5.120E-01	6.365E-01
RA-226	1.226E+00	2.111E-01	6.692E-02	1.077E-01
AC-228	1.660E+00	3.428E-01	1.192E-01	1.749E-01
RA-228	1.660E+00	3.428E-01	1.192E-01	1.749E-01
TH-228	1.600E+00	1.780E-01	4.558E-02	9.081E-02
TH-230	1.226E+00	2.111E-01	6.692E-02	1.077E-01
TH-232	1.660E+00	3.428E-01	1.192E-01	1.749E-01
TH-234	2.475E+00	1.121E+00	4.445E-01	5.720E-01
U-234	1.226E+00	2.111E-01	6.692E-02	1.077E-01
NP-237	1.020E+00	3.298E-01	1.309E-01	1.683E-01
U-238	2.475E+00	1.121E+00	4.445E-01	5.720E-01
AM-243	3.719E-01	6.139E-02	2.886E-02	3.132E-02
ANH-511	7.004E-02	6.270E-02	2.624E-02	3.199E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	1.642E-01	3.105E-01	2.814E-01	1.584E-01	NOT IDENT.
NA-22	-2.587E-02	4.966E-02	3.862E-02	2.534E-02	NOT IDENT.
NA-24	5.684E+04	2.010E+05	0.000E+00	1.026E+05	SHORT HLIF
AL-26	5.422E-03	3.040E-02	2.657E-02	1.551E-02	NOT IDENT.
TI-44	5.693E-03	2.367E-02	1.853E-02	1.207E-02	NOT IDENT.
SC-46	2.277E-02	4.143E-02	3.780E-02	2.114E-02	FAIL ABUN
V-48	-7.653E-03	6.316E-02	5.323E-02	3.222E-02	NOT IDENT.
CR-51	4.746E-02	3.196E-01	2.908E-01	1.630E-01	NOT IDENT.
MN-52	-1.348E-01	1.816E-01	1.339E-01	9.265E-02	NOT IDENT.
MN-54	5.155E-03	4.354E-02	3.828E-02	2.222E-02	NOT IDENT.
CO-56	-2.412E-02	3.898E-02	3.157E-02	1.989E-02	FAIL ABUN
CO-57	8.551E-03	1.996E-02	1.845E-02	1.018E-02	NOT IDENT.
CO-58	-9.281E-03	4.017E-02	3.425E-02	2.049E-02	NOT IDENT.
FE-59	1.847E-02	9.616E-02	8.307E-02	4.906E-02	NOT IDENT.
CO-60	-3.644E-04	3.663E-02	3.027E-02	1.869E-02	NOT IDENT.
ZN-65	3.033E-03	9.957E-02	7.310E-02	5.080E-02	NOT IDENT.
GE-68	-2.348E-01	1.343E+00	1.116E+00	6.852E-01	NOT IDENT.
AS-73	-7.018E-02	2.158E-01	1.823E-01	1.101E-01	NOT IDENT.
AS-74	-8.582E-02	8.981E-02	6.793E-02	4.582E-02	NOT IDENT.
SE-75	-2.516E-02	4.410E-02	3.170E-02	2.250E-02	NOT IDENT.
BR-77	6.261E+00	7.606E+00	6.995E+00	3.881E+00	FAIL ABUN
SR-82	-1.965E-01	4.035E-01	3.381E-01	2.059E-01	NOT IDENT.
RB-83	4.974E-02	7.049E-02	6.432E-02	3.596E-02	NOT IDENT.
RB-84	-9.248E-03	6.765E-02	5.766E-02	3.451E-02	NOT IDENT.
KR-85	8.345E+00	7.357E+00	6.284E+00	3.754E+00	NOT IDENT.
SR-85	4.224E-02	3.724E-02	3.181E-02	1.900E-02	NOT IDENT.
RB-86	-2.390E-01	8.268E-01	6.777E-01	4.218E-01	NOT IDENT.
Y-88	3.241E-02	2.915E-02	3.128E-02	1.487E-02	NOT IDENT.
ZR-88	1.953E-03	2.949E-02	2.624E-02	1.505E-02	NOT IDENT.
Y-91	6.262E+00	2.192E+01	1.887E+01	1.118E+01	NOT IDENT.
NB-94	2.497E-02	3.992E-02	3.523E-02	2.037E-02	NOT IDENT.
NB-95	4.988E-03	5.676E-02	4.423E-02	2.896E-02	NOT IDENT.
NB-95M	3.650E-01	1.430E-01	1.238E-01	7.295E-02	NOT IDENT.
ZR-95	6.253E-02	7.681E-02	6.907E-02	3.919E-02	NOT IDENT.
NB-97	-1.737E+04	3.648E+04	0.000E+00	1.861E+04	SHORT HLIF
ZR-97	1.281E+06	6.220E+05	0.000E+00	3.174E+05	SHORT HLIF
MO-99	-1.010E+00	9.815E+00	8.091E+00	5.007E+00	NOT IDENT.
TC-99M	-9.677E+14	1.124E+15	0.000E+00	5.737E+14	SHORT HLIF
RH-101	4.969E-03	3.004E-02	2.626E-02	1.533E-02	NOT IDENT.
RH-102	-7.599E-03	2.695E-02	2.289E-02	1.375E-02	FAIL ABUN
RU-103	3.661E-03	3.851E-02	3.366E-02	1.965E-02	FAIL ABUN
RH-106	-2.442E-02	3.247E-01	2.733E-01	1.657E-01	NOT IDENT.
RU-106	-2.442E-02	3.247E-01	2.733E-01	1.656E-01	NOT IDENT.
AG-108M	-1.523E-02	3.225E-02	2.730E-02	1.646E-02	NOT IDENT.
AG-110M	-2.242E-02	4.364E-02	2.984E-02	2.227E-02	NOT IDENT.
IN-111	-2.303E-01	7.777E-01	5.800E-01	3.968E-01	NOT IDENT.
IN-113M	-3.680E-03	4.347E-02	3.831E-02	2.218E-02	NOT IDENT.
SN-113	-3.680E-03	4.347E-02	3.831E-02	2.218E-02	NOT IDENT.
IN-114M	-6.166E-02	1.663E-01	1.268E-01	8.486E-02	NOT IDENT.
CD-115	5.593E-01	7.708E+00	6.686E+00	3.933E+00	NOT IDENT.
SN-117M	-2.342E-02	4.277E-02	3.699E-02	2.182E-02	NOT IDENT.
SB-122	5.371E-01	1.547E+00	1.365E+00	7.893E-01	NOT IDENT.
I-123	-8.176E+05	1.015E+06	0.000E+00	5.180E+05	SHORT HLIF
TE-123M	-1.906E-02	2.366E-02	2.016E-02	1.207E-02	NOT IDENT.
I-124	-2.743E-01	6.785E-01	4.799E-01	3.462E-01	NOT IDENT.
SB-124	-2.464E-02	8.593E-02	6.835E-02	4.384E-02	FAIL ABUN
SB-125	2.691E-02	9.275E-02	8.321E-02	4.732E-02	FAIL ABUN
TE-125M	7.213E-01	6.913E+00	6.349E+00	3.527E+00	NOT IDENT.
I-126	4.607E-02	1.981E-01	1.504E-01	1.010E-01	NOT IDENT.
SB-126	-2.192E-02	1.407E-01	1.156E-01	7.180E-02	NOT IDENT.
SB-127	-3.369E-01	1.136E+00	9.237E-01	5.797E-01	FAIL ABUN
XE-127	-9.602E-06	3.955E-02	3.453E-02	2.018E-02	NOT IDENT.
I-131	4.011E-02	9.711E-02	8.892E-02	4.955E-02	NOT IDENT.
TE-132	-5.559E-01	4.883E-01	3.879E-01	2.491E-01	NOT IDENT.
BA-133	5.889E-03	4.257E-02	3.401E-02	2.172E-02	NOT IDENT.
I-133	-2.514E+02	2.392E+03	0.000E+00	1.220E+03	SHORT HLIF
CS-134	6.393E-02	5.170E-02	4.958E-02	2.638E-02	NOT IDENT.
I-135	-6.081E+12	2.518E+14	0.000E+00	1.285E+14	SHORT HLIF
CS-136	3.294E-02	1.127E-01	9.881E-02	5.751E-02	FAIL ABUN
CE-139	-8.800E-04	2.592E-02	2.296E-02	1.322E-02	NOT IDENT.
BA-140	-2.094E-02	2.543E-01	2.172E-01	1.297E-01	NOT IDENT.
LA-140	-1.062E-01	1.053E-01	7.581E-02	5.370E-02	NOT IDENT.
CE-141	-5.964E-02	5.453E-02	4.623E-02	2.782E-02	NOT IDENT.
CE-143	5.874E+02	1.821E+02	0.000E+00	9.293E+01	SHORT HLIF

CE-144	3.722E-02	1.702E-01	1.548E-01	8.682E-02	NOT IDENT.
PM-144	1.215E-02	3.897E-02	3.361E-02	1.988E-02	NOT IDENT.
PR-144	8.227E-01	2.639E+00	2.276E+00	1.346E+00	NOT IDENT.
PM-146	-9.679E-03	4.237E-02	3.638E-02	2.162E-02	NOT IDENT.
ND-147	-9.564E-02	5.773E-01	4.907E-01	2.946E-01	FAIL ABUN
PM-149	-4.052E+00	5.937E+01	4.942E+01	3.029E+01	NOT IDENT.
EU-152	7.655E-03	9.120E-02	8.215E-02	4.653E-02	NOT IDENT.
GD-153	1.548E-02	5.723E-02	5.253E-02	2.920E-02	NOT IDENT.
EU-154	-7.232E-02	1.389E-01	1.079E-01	7.087E-02	NOT IDENT.
EU-155	3.237E-02	8.175E-02	7.612E-02	4.171E-02	FAIL ABUN
TB-160	-6.498E-02	1.384E-01	1.134E-01	7.061E-02	FAIL ABUN
HO-166M	4.247E-02	6.824E-02	6.043E-02	3.482E-02	FAIL ABUN
TM-171	-7.018E+00	1.555E+01	1.187E+01	7.934E+00	NOT IDENT.
LU-176	-1.889E-03	2.308E-02	1.932E-02	1.178E-02	FAIL ABUN
LU-177	3.074E+00	1.395E+00	8.628E-01	7.118E-01	FAIL ABUN
LU-177M	3.231E-02	1.628E-01	1.457E-01	8.307E-02	FAIL ABUN
HF-181	1.308E-02	4.093E-02	3.652E-02	2.088E-02	NOT IDENT.
W-181	-4.997E-02	1.840E-01	1.419E-01	9.386E-02	NOT IDENT.
TA-182	-3.572E-03	2.085E-01	1.740E-01	1.064E-01	FAIL ABUN
RE-183	2.823E-02	9.386E-02	8.366E-02	4.789E-02	FAIL ABUN
RE-184	7.579E-02	2.175E-01	1.903E-01	1.110E-01	NOT IDENT.
OS-185	-1.315E-02	4.207E-02	3.434E-02	2.146E-02	FAIL ABUN
RE-188	3.696E-02	1.405E-01	1.268E-01	7.166E-02	NOT IDENT.
W-188	-1.039E+00	7.759E+00	5.765E+00	3.959E+00	FAIL ABUN
IR-192	-2.045E-02	3.262E-02	2.604E-02	1.664E-02	FAIL ABUN
AU-195	1.675E-01	1.692E-01	1.590E-01	8.633E-02	FAIL ABUN
TL-200	4.925E-01	1.995E+02	0.000E+00	1.018E+02	SHORT HLIF
TL-201	5.990E-01	4.492E+00	4.008E+00	2.292E+00	NOT IDENT.
TL-202	-1.033E-02	6.273E-02	5.432E-02	3.201E-02	NOT IDENT.
HG-203	-5.412E-02	3.979E-02	3.063E-02	2.030E-02	FAIL ABUN
BI-207	-1.658E-02	5.075E-02	4.126E-02	2.589E-02	FAIL ABUN
TL-207	-9.351E-01	6.641E-01	5.336E-01	3.388E-01	FAIL ABUN
PO-209	-3.906E+00	6.860E+00	5.503E+00	3.500E+00	NOT IDENT.
PB-211	-1.247E+00	1.253E+00	8.074E-01	6.392E-01	NOT IDENT.
BI-212	8.708E-01	4.656E-01	3.664E-01	2.376E-01	FAIL ABUN
PO-215	-9.351E-01	6.641E-01	5.336E-01	3.388E-01	FAIL ABUN
RN-219	4.176E-01	4.195E-01	3.912E-01	2.141E-01	NOT IDENT.
RN-220	5.720E+00	2.837E+01	2.477E+01	1.447E+01	NOT IDENT.
RA-223	-9.351E-01	6.641E-01	5.336E-01	3.388E-01	FAIL ABUN
AC-227	1.054E-01	3.523E-01	3.069E-01	1.797E-01	FAIL ABUN
TH-227	1.054E-01	3.524E-01	3.069E-01	1.798E-01	FAIL ABUN
TH-229	4.345E-02	4.535E-01	3.994E-01	2.314E-01	FAIL ABUN
PA-231	-3.640E-01	1.434E+00	1.195E+00	7.318E-01	NOT IDENT.
TH-231	-9.351E-01	6.641E-01	5.336E-01	3.388E-01	FAIL ABUN
U-231	-7.838E-01	6.859E-01	5.308E-01	3.499E-01	FAIL ABUN
PA-233	2.575E-02	5.995E-02	5.200E-02	3.058E-02	FAIL ABUN
PA-234	5.480E-02	3.035E-01	2.660E-01	1.549E-01	FAIL ABUN
PA-234M	-2.428E+00	5.329E+00	4.339E+00	2.719E+00	FAIL ABUN
U-235	1.811E-01	1.905E-01	1.724E-01	9.720E-02	FAIL ABUN
NP-236	-7.411E-03	6.568E-02	5.808E-02	3.351E-02	NOT IDENT.
NP-239	4.126E-02	1.476E-01	1.360E-01	7.530E-02	FAIL ABUN
AM-241	4.197E-02	5.992E-02	4.902E-02	3.057E-02	NOT IDENT.
CM-243	6.805E-02	7.319E-02	6.948E-02	3.734E-02	FAIL ABUN
AM-246	1.291E-01	1.425E-01	1.333E-01	7.272E-02	NOT IDENT.
CM-247	2.159E-02	3.760E-02	3.445E-02	1.919E-02	NOT IDENT.
CF-249	-1.187E-02	3.863E-02	3.355E-02	1.971E-02	NOT IDENT.
CF-251	-2.395E-02	1.092E-01	9.530E-02	5.571E-02	NOT IDENT.

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*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                          CHARLESTON ,SC 29417                             *
*                     GAMMA SPECTROSCOPY BACKGROUND REPORT                  *
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ENERGY	MDA COUNTS
46.50	304.5064
46.50	304.5064
46.50	304.5064
48.70	214.9667
49.72	265.2013
51.35	254.5739
52.39	256.5699
52.97	264.2184
53.15	264.3594
53.44	282.6259
54.07	284.3534
56.28	275.2569
56.28	275.2595
57.37	0.0000
57.53	282.3181
57.53	282.3199
57.60	282.3739
57.98	261.5546
57.98	261.5546
59.32	283.7253
59.32	283.7253
59.40	283.7881
59.54	283.8970
59.72	284.0368
60.01	277.7277
61.10	316.2362
61.14	316.2706
61.30	297.5537
63.00	298.9057
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63.29	299.1342
63.58	299.3626
64.28	333.7858
65.12	341.1372
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65.20	341.2084
66.05	385.1138
66.72	369.1441
66.83	365.9214
66.91	365.9953
67.20	366.2661
67.20	366.2661
67.75	375.1099
67.85	366.1988
68.90	359.8886
68.90	359.8886
69.30	382.8416
69.67	383.1930
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70.82	383.0151
70.83	383.0244
72.80	381.4808
72.87	381.5428
72.87	381.5428
74.67	383.1797
74.81	383.3062
74.81	383.3062
74.81	383.3062
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74.81	383.3062
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74.81	383.3062
74.97	383.4510
75.28	383.7292
75.70	384.1062
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77.11	356.8046

77.11	356.8046
77.11	356.8046
77.11	356.8046
77.11	356.8046
77.11	356.8046
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79.80	270.2145
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80.30	309.1644
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81.07	331.6342
81.07	331.6342
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83.78	281.2632
83.78	281.2632
84.21	281.5268
84.90	281.9484
85.43	282.2707
86.29	282.7914
86.50	282.9170
86.54	282.9418
86.59	282.9716
86.72	283.0509
86.79	283.0906
86.94	283.1832
87.30	283.3997
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87.57	283.5617
87.88	283.7469
88.03	283.8369
88.36	284.0345
88.47	284.1006
89.95	284.9800
91.11	285.6627
92.29	286.3553
92.38	286.4082
92.38	286.4082
93.35	226.4871
94.00	217.5009
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94.67	228.4191
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98.44	206.9365
98.88	218.7203
99.55	231.5189
99.55	231.5189
99.86	229.8697
100.00	241.5619
100.10	241.6100
103.18	225.0303
103.76	212.6614
105.00	223.9944
105.31	224.1243
108.00	223.4230
109.28	218.4827

111.00	210.9428
111.00	210.9428
111.76	234.0912
112.95	210.7620
115.19	215.2748
116.30	212.0055
117.00	200.2654
117.00	200.2654
117.66	178.3185
121.11	205.3946
121.62	216.7333
121.78	198.1827
122.06	192.6906
122.32	183.4621
122.32	183.4621
122.32	183.4621
122.32	183.4621
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127.23	215.0008
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136.48	215.3281
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140.51	0.0000
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142.65	210.6347
143.76	213.8769
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144.24	224.6332
144.24	224.6332
144.24	224.6332
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145.44	264.6348
147.16	208.1785
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152.70	187.4082
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154.21	192.7034
154.21	192.7034
154.21	192.7034
154.21	192.7034
155.03	192.9279
156.02	229.4844
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159.00	207.7933
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162.64	197.9512
163.35	201.1167
163.89	203.2462
165.85	205.7766
167.43	188.2809
171.28	193.2533
171.86	170.3528
172.10	174.4160
176.55	181.4777
176.60	191.5714
181.06	153.6268
184.41	160.8931
185.71	161.1534
186.00	161.2129
190.27	176.9343
192.34	167.6112
193.63	189.5011
197.04	185.1054
198.01	188.4244
198.60	197.8800
200.40	188.9576
201.83	190.3141
202.84	175.9609
205.31	159.7594

208.36	150.8892
208.81	150.9668
209.75	151.1279
209.75	151.1279
210.97	159.2196
215.65	174.3205
216.55	180.8404
218.09	162.0800
222.10	192.5868
223.80	169.4907
226.40	144.3123
227.00	148.6829
227.08	166.8815
227.20	166.9037
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228.18	184.2145
228.18	184.2145
231.56	0.0000
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236.00	183.0388
236.00	183.0388
238.63	172.1691
238.63	172.1691
238.63	172.1691
238.63	172.1691
239.00	172.2354
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241.98	140.1660
241.98	140.1660
241.98	140.1660
244.69	147.0905
245.39	143.9238
247.94	132.2699
248.90	149.9037
249.79	141.2762
252.40	151.5243
252.85	138.4098
252.85	138.4098
254.15	0.0000
256.20	133.3561
256.20	133.3561
260.50	136.1278
260.90	128.4303
262.80	140.8674
264.65	131.6731
268.24	115.3994
268.79	117.1317
269.46	117.2064
269.46	117.2064
269.46	117.2064
269.46	117.2064
271.23	157.6525
273.65	181.5447
276.40	143.8073
277.35	115.8226
277.60	124.8456
277.60	124.8456
278.00	138.3950
278.60	168.8660
279.20	171.2134
279.53	165.6322
280.46	124.0477
281.68	116.2836
283.67	126.6722
284.30	124.4818
285.00	127.9572
285.90	118.9944
286.10	117.8823
286.10	117.8823
287.40	136.1768
288.45	0.0000
290.67	129.7483
290.80	129.7622
291.72	128.1601
293.26	0.0000
293.70	123.2490
295.21	123.4138
295.21	123.4138

295.21	123.4138
295.96	120.0647
296.50	120.1202
297.23	120.1971
298.57	120.3381
299.80	113.5845
299.80	113.5845
300.09	113.6127
300.09	113.6127
300.09	113.6127
300.09	113.6127
300.12	113.6147
301.29	120.6244
302.84	91.4512
303.76	126.0613
303.91	117.4426
304.40	117.4913
304.40	117.4913
304.84	120.9940
306.84	108.5039
308.46	101.7178
311.98	98.5441
316.51	115.2120
318.01	104.8682
319.02	92.1281
319.41	92.1586
320.08	103.2968
323.87	155.4314
323.87	155.4314
323.87	155.4314
323.87	155.4314
325.23	105.4944
328.77	120.7864
333.44	107.6135
334.20	106.2616
334.20	106.2616
334.30	106.2708
338.28	113.7148
338.28	113.7148
338.28	113.7148
338.28	113.7148
338.32	113.7188
338.32	113.7188
338.32	113.7188
340.50	108.2184
340.57	108.2258
344.27	107.1112
345.85	107.2449
350.59	0.0000
351.07	103.1922
351.92	103.2589
351.92	103.2589
351.92	103.2589
355.39	0.0000
356.01	86.4697
364.48	87.9314
366.43	93.5056
367.43	101.7529
367.94	0.0000
369.80	90.0994
374.96	102.3186
383.85	81.8337
387.95	99.5955
388.63	93.1849
391.69	98.0115
391.69	98.0115
392.90	92.5430
398.62	109.6401
400.65	90.2552
401.10	82.8372
401.81	85.6716
402.60	93.1717
404.84	130.6433
410.95	106.8280
411.60	103.1250
413.65	78.8602
414.70	82.6746
415.30	83.6480

415.76	93.0753
417.63	0.0000
418.52	86.6543
423.70	100.1886
427.08	67.2580
427.89	83.4064
432.53	82.7108
433.93	86.5927
439.47	79.2652
439.56	79.2702
439.89	84.0630
443.98	77.5801
444.90	78.5842
445.03	78.5904
445.03	78.5904
445.03	78.5904
445.03	78.5904
453.90	77.1082
463.38	81.4442
468.07	71.3091
473.00	76.0767
475.06	65.4297
475.35	59.5806
476.78	64.5206
477.59	63.5738
477.96	66.5235
482.03	64.7250
484.57	77.5932
487.03	76.7229
490.36	0.0000
492.35	70.0585
497.08	62.3386
507.63	0.0000
510.53	0.0000
510.84	76.6031
511.00	76.6107
511.85	67.0667
511.85	67.0667
513.99	52.7597
513.99	52.7597
520.41	59.1711
520.65	59.1783
527.90	66.4713
528.96	0.0000
529.64	65.5276
529.87	0.0000
531.02	77.6838
537.32	67.8322
543.00	68.0448
546.56	0.0000
549.76	67.2750
552.65	68.4026
555.20	54.1840
563.23	55.4436
563.90	59.5718
568.70	66.9301
569.32	60.7717
569.50	60.7789
569.67	60.7843
573.80	68.1431
574.00	64.0189
574.64	64.0416
578.91	66.2539
579.30	0.0000
583.14	66.4004
585.48	44.8743
591.81	40.6436
592.07	43.7752
593.00	49.0095
595.88	62.6569
600.56	58.6199
602.52	0.0000
602.71	75.4497
602.71	75.4497
603.60	53.6766
604.41	67.1230
604.70	67.1328
609.31	76.7516

609.31	76.7516
609.31	76.7516
609.31	76.7516
610.33	76.7895
612.46	69.0794
614.37	67.4570
618.01	68.6360
621.84	53.9540
621.84	53.9540
631.29	53.1403
633.02	58.5030
633.10	58.5063
634.78	41.5196
635.90	42.6074
636.97	47.9581
645.85	47.0924
646.12	50.3090
656.30	34.4189
657.75	63.7184
657.90	0.0000
661.65	59.3053
661.65	59.3053
664.57	0.0000
666.33	50.1411
666.33	50.1411
675.00	46.6533
677.61	48.8823
685.20	52.3213
692.80	50.3139
695.00	58.0286
696.49	59.1614
696.49	59.1614
697.00	71.2306
697.49	72.3426
698.33	76.7548
698.50	72.3748
699.00	70.1973
702.63	61.5217
706.10	79.2213
706.58	0.0000
706.67	79.2422
709.31	57.2971
711.68	50.7379
713.82	61.8259
717.42	55.2902
720.50	50.9344
721.93	0.0000
722.20	49.6426
722.78	56.7484
722.78	56.7484
722.89	56.7516
722.95	56.7531
723.30	53.2148
724.18	49.6850
727.18	54.4147
733.00	58.7813
735.90	54.6196
739.58	55.8212
742.81	46.9539
744.21	48.1007
747.13	47.0411
751.79	58.3556
752.31	62.8582
753.82	49.4194
755.35	40.4604
756.15	41.5979
756.87	53.9810
763.93	55.6445
765.79	69.2340
766.42	60.2181
766.84	60.5306
776.49	58.9570
778.00	53.5480
778.57	51.7453
778.89	53.5681
783.80	50.0358
785.46	51.8900
792.07	47.4652

795.84	43.8809
796.30	45.7178
798.80	66.8139
801.93	57.7336
805.60	57.8182
810.29	54.2480
810.76	45.9814
815.85	35.9379
817.79	41.4987
818.51	37.8209
819.60	39.6826
826.30	38.8613
828.27	0.0000
831.60	47.2858
831.96	49.1466
834.83	59.4125
836.80	0.0000
846.75	44.7645
848.13	44.7879
856.28	0.0000
856.80	62.7225
860.37	30.9351
867.32	31.9555
867.82	29.1412
871.10	38.5896
873.19	29.2002
874.81	35.8152
875.33	0.0000
876.40	33.0073
879.36	40.5959
880.27	34.9431
880.51	31.1687
881.50	36.8491
883.24	46.3275
884.67	39.7298
889.25	36.0063
896.60	35.1536
898.02	40.8752
899.00	38.0371
903.28	38.0957
911.07	42.0234
911.07	42.0234
911.07	42.0234
919.63	35.4463
920.93	31.6288
925.00	45.1124
925.24	45.1159
926.50	41.2951
935.52	37.5727
937.48	55.9170
944.10	42.5176
946.00	33.8430
949.00	35.8148
962.29	51.8620
964.01	38.9199
966.15	47.0625
968.20	60.4122
969.11	60.4303
969.11	60.4303
969.11	60.4303
977.42	32.2556
980.50	45.0095
983.50	30.3635
989.30	35.3294
996.32	43.2824
1001.03	52.2172
1001.68	52.2288
1004.76	43.4038
1021.30	0.0000
1024.50	0.0000
1034.80	40.8438
1036.00	50.8257
1037.82	42.8782
1038.57	39.8965
1038.76	0.0000
1045.16	46.9771
1046.59	45.0000
1048.07	38.0167

1050.47	43.0525
1050.47	43.0525
1062.04	33.1627
1063.62	33.1789
1076.63	41.3904
1077.35	39.3809
1078.86	25.2563
1085.78	33.4093
1099.22	36.5994
1112.02	44.2262
1112.84	51.0449
1115.52	34.0576
1120.29	42.9741
1120.29	42.9741
1120.29	42.9741
1120.29	42.9741
1120.51	51.1621
1121.28	49.4685
1124.00	0.0000
1129.67	48.2255
1131.51	0.0000
1147.95	0.0000
1167.94	38.3983
1173.22	41.5762
1175.09	47.8373
1177.93	39.5512
1189.05	38.6332
1204.90	49.2995
1205.75	0.0000
1213.00	55.7199
1221.42	44.2600
1230.97	38.3032
1235.34	42.3164
1236.41	0.0000
1238.25	40.2340
1246.25	22.9912
1260.41	0.0000
1271.85	27.7837
1274.45	40.6366
1274.54	40.6366
1291.56	41.8983
1298.22	0.0000
1312.09	30.2463
1325.50	22.7647
1325.50	22.7647
1332.49	18.4626
1333.61	16.2949
1360.21	18.5954
1362.66	0.0000
1365.15	21.9053
1368.21	18.6336
1368.53	0.0000
1376.25	19.7701
1384.27	21.0946
1394.10	22.0664
1395.20	28.5100
1407.95	24.9115
1434.06	17.6440
1436.60	15.7964
1457.56	0.0000
1460.81	9.3469
1489.15	15.0566
1509.49	19.8575
1596.49	30.8685
1620.62	12.6080
1678.03	0.0000
1691.02	13.7869
1691.02	13.7869
1706.46	0.0000
1750.46	0.0000
1764.49	11.0004
1764.49	11.0004
1764.49	11.0004
1764.49	11.0004
1770.23	10.2983
1771.40	31.0454
1791.20	0.0000
1808.65	7.0635

1836.01	2.0292

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243385001

Total Uranium Activity	7.4460E+00	ug/g
Total Uranium Counting Unc.	3.3366E+00	ug/g
Total Uranium Tpu	1.7023E-06	ug/g
Total Uranium Mda	1.3247E+00	ug/g

```
*******************************************************************************
*                                                                             *
*                          GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                              *
*                             CHARLESTON ,SC 29417                            *
*                              GROSS GAMMA REPORT                             *
*                                                                             *
*                                                                             *
*******************************************************************************
*                                                                             *
*   BATCH ID      : 936285                    SAMPLE ID  : G243385001         *
*   ANALYST       : MJH1                      DETECTOR   : GAM17              *
*   SAMPLE DATE   : 17-DEC-2009 12:00:00.00   COUNT TIME :    0 02:00:00.00   *
*   ANALYSIS DATE: 31-DEC-2009 09:16:57.09    SAMPLE ALQT:  144.810 GRAM      *
*                                                                             *
*******************************************************************************


          GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 8.173E+00
          GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.051E+00
          GROSS GAMMA MDA     (pCi/GRAM  )  : 2.909E+00
          GROSS GAMMA DLC     (pCi/GRAM  )  : 1.406E+00
```

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:21:02.45

```
*****************************************************************************
*                              GEL Laboratories LLC                         *
*                                2040 Savage Road                           *
*                              Charleston, SC 29414                         *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385002.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:20:04
Sample ID         : G243385002           Sample quantity  : 1.49000E+02 GRAM
Detector name     : GAM20                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:33.26  0.5%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit   : 75.00000             Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID   :                      LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.99*	101	616	1.16	125.96	122	9	1.40E-02	46.4	
2	2	74.88	634	503	1.24	149.71	145	15	8.80E-02	7.1	2.74E+00
3	2	77.21*	822	417	1.04	154.36	145	15	1.14E-01	5.5	
4	2	84.22*	135	521	1.26	168.35	165	13	1.87E-02	30.8	1.71E+00
5	2	87.33	281	458	1.10	174.57	165	13	3.91E-02	14.0	
6	4	89.95	149	188	0.92	179.80	178	15	2.07E-02	14.0	1.72E+00
7	4	92.97*	411	475	1.54	185.84	178	15	5.70E-02	11.4	
8	0	99.58*	69	513	1.16	199.03	195	10	9.63E-03	62.8	
9	0	128.64	144	433	2.11	257.07	253	10	2.00E-02	28.2	
10	0	186.18*	246	442	1.23	371.99	367	12	3.42E-02	18.8	
11	0	209.16	181	312	1.18	417.88	413	10	2.52E-02	19.7	
12	6	238.56*	1504	220	1.07	476.61	472	16	2.09E-01	3.0	3.77E+00
13	6	241.56	360	272	1.72	482.60	472	16	5.00E-02	13.4	
14	0	270.20	132	161	1.70	539.82	536	9	1.83E-02	19.5	
15	0	295.19	451	232	1.24	589.74	585	10	6.27E-02	7.9	
16	0	300.10	88	208	1.20	599.54	595	9	1.23E-02	31.2	
17	0	338.15	371	173	1.20	675.56	671	12	5.15E-02	8.7	
18	0	351.74*	817	206	1.28	702.72	696	14	1.13E-01	5.2	
19	0	462.16	78	184	1.56	923.35	919	15	1.08E-02	39.4	
20	0	510.86*	169	140	1.86	1020.68	1013	16	2.35E-02	19.6	
21	0	583.04*	453	125	1.27	1164.93	1158	13	6.29E-02	7.0	
22	0	609.31*	599	60	1.36	1217.46	1213	10	8.32E-02	4.8	
23	0	662.77	104	135	1.47	1324.31	1316	16	1.45E-02	26.9	
24	0	727.31*	114	69	1.75	1453.35	1448	11	1.58E-02	17.2	
25	0	769.02	34	65	0.87	1536.75	1533	8	4.74E-03	45.7	
26	0	794.67	113	38	1.72	1588.03	1579	17	1.57E-02	15.7	
27	0	860.70	48	42	1.26	1720.08	1716	9	6.61E-03	28.7	
28	0	911.15	320	40	1.53	1820.98	1816	10	4.44E-02	6.7	
29	2	964.77	63	36	1.99	1928.22	1922	22	8.79E-03	23.8	1.94E+00
30	2	968.98*	233	33	1.78	1936.63	1922	22	3.23E-02	8.2	
31	0	1120.64	94	98	1.34	2240.04	2233	13	1.30E-02	24.1	
32	0	1377.71	36	21	1.49	2754.53	2749	14	5.00E-03	31.7	
33	0	1460.66*	1116	18	1.94	2920.59	2914	15	1.55E-01	3.1	
34	0	1587.98	28	7	1.91	3175.53	3170	10	3.82E-03	26.6	
35	0	1764.06*	122	0	2.33	3528.20	3521	14	1.70E-02	9.4	
36	0	1846.93	22	6	1.93	3694.23	3687	12	3.06E-03	30.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 11:21:04

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385002.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MJH1
Sample date : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:20:04
Sample ID : G243385002 Sample quantity : 149.00 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA20 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:33.26 0.5%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.103E+01	2.259E+00	4.156E-01	3.624E-02	50.600
CD-109	+	88.03	*	2.802E+00	8.254E-01	9.347E-01	8.839E-02	2.998
SN-126	+	64.28		5.761E-01	5.412E-01	5.204E-01	7.535E-02	1.107
	+	86.94		1.147E+00	5.740E-01	4.068E-01	1.689E-01	2.820
	+	87.57	*	2.759E-01	8.128E-02	9.231E-02	8.682E-03	2.989
BA-137M	+	661.65	*	1.200E-01	6.561E-02	4.536E-02	4.552E-03	2.646
CS-137	+	661.65	*	1.269E-01	6.936E-02	4.795E-02	4.819E-03	2.646
TL-208		277.35		2.858E-01	3.024E-01	5.235E-01	6.961E-02	0.546
	+	510.84		6.604E-01	2.722E-01	1.778E-01	2.222E-02	3.715
	+	583.14	*	5.022E-01	8.759E-02	4.755E-02	4.888E-03	10.563
	+	860.37		4.928E-01	2.872E-01	3.734E-01	3.958E-02	1.320
BI-211		72.87		2.970E+00	2.519E+00	3.839E+00	3.032E-01	0.774
	+	351.07	*	4.006E+00	5.634E-01	2.675E-01	2.563E-02	14.975
PB-212	+	74.81		2.468E+00	4.651E-01	4.020E-01	4.962E-02	6.138
	+	77.11		1.838E+00	2.535E-01	2.313E-01	1.913E-02	7.945
	+	87.30		1.276E+00	3.970E-01	4.985E-01	6.832E-02	2.560
	+	238.63	*	1.619E+00	1.977E-01	7.675E-02	8.162E-03	21.087
	+	300.09		1.464E+00	9.294E-01	9.712E-01	1.110E-01	1.508
PO-212	+	74.81		2.468E+00	4.651E-01	4.020E-01	4.962E-02	6.138
	+	77.11		1.838E+00	2.535E-01	2.313E-01	1.913E-02	7.945
	+	87.30		1.276E+00	3.970E-01	4.985E-01	6.832E-02	2.560
		115.19		-3.555E-01	2.866E+00	4.591E+00	3.856E-01	-0.077
	+	238.63	*	1.619E+00	1.977E-01	7.675E-02	8.162E-03	21.087
	+	300.09		1.464E+00	9.294E-01	9.712E-01	1.110E-01	1.508
BI-214	+	609.31	*	1.251E+00	1.847E-01	8.460E-02	9.414E-03	14.792
	+	1120.29		1.002E+00	4.950E-01	4.006E-01	4.334E-02	2.501
	+	1764.49		1.772E+00	3.649E-01	2.325E-01	1.910E-02	7.622
PB-214	+	74.81		4.252E+00	7.639E-01	6.927E-01	7.584E-02	6.138
	+	77.11		3.151E+00	4.965E-01	3.966E-01	4.460E-02	7.945
	+	87.30		2.186E+00	6.657E-01	8.540E-01	1.036E-01	2.560
	+	241.98		2.326E+00	6.740E-01	4.620E-01	5.167E-02	5.035
	+	295.21		1.312E+00	2.572E-01	1.758E-01	2.052E-02	7.463
	+	351.92	*	1.394E+00	2.090E-01	9.325E-02	1.016E-02	14.945
PO-214	+	74.81		4.252E+00	7.639E-01	6.927E-01	7.584E-02	6.138

Sample ID : G243385002 Acquisition date : 31-DEC-2009 09:20:04

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.151E+00	4.965E-01	3.966E-01	4.460E-02	7.945
	+	87.30		2.186E+00	6.657E-01	8.540E-01	1.036E-01	2.560
	+	241.98		2.326E+00	6.740E-01	4.620E-01	5.167E-02	5.035
	+	295.21		1.312E+00	2.572E-01	1.758E-01	2.052E-02	7.463
	+	351.92	*	1.394E+00	2.090E-01	9.325E-02	1.016E-02	14.945
PO-216	+	74.81		2.468E+00	4.651E-01	4.020E-01	4.962E-02	6.138
	+	77.11		1.838E+00	2.535E-01	2.313E-01	1.913E-02	7.945
	+	87.30		1.276E+00	3.970E-01	4.985E-01	6.832E-02	2.560
	+	238.63	*	1.619E+00	1.977E-01	7.675E-02	8.162E-03	21.087
	+	300.09		1.464E+00	9.294E-01	9.712E-01	1.110E-01	1.508
PO-218	+	74.81		4.252E+00	7.639E-01	6.927E-01	7.584E-02	6.138
	+	77.11		3.151E+00	4.965E-01	3.966E-01	4.460E-02	7.945
	+	87.30		2.186E+00	6.657E-01	8.540E-01	1.036E-01	2.560
	+	241.98		2.326E+00	6.740E-01	4.620E-01	5.167E-02	5.035
	+	295.21		1.312E+00	2.572E-01	1.758E-01	2.052E-02	7.463
	+	351.92	*	1.394E+00	2.090E-01	9.325E-02	1.016E-02	14.945
RA-224	+	240.98	*	4.411E+00	1.254E+00	8.733E-01	8.441E-02	5.051
RA-226	+	609.31	*	1.251E+00	1.847E-01	8.460E-02	9.414E-03	14.792
	+	1120.29		1.002E+00	4.950E-01	4.006E-01	4.334E-02	2.501
	+	1764.49		1.772E+00	3.649E-01	2.325E-01	1.910E-02	7.622
AC-228	+	338.32		2.004E+00	9.003E-01	2.847E-01	1.180E-01	7.037
	+	911.07	*	1.564E+00	2.840E-01	1.719E-01	2.106E-02	9.098
	+	969.11		2.002E+00	5.774E-01	2.596E-01	6.160E-02	7.711
RA-228	+	338.32		2.004E+00	9.003E-01	2.847E-01	1.180E-01	7.037
	+	911.07	*	1.564E+00	2.840E-01	1.719E-01	2.106E-02	9.098
	+	969.11		2.002E+00	5.774E-01	2.596E-01	6.160E-02	7.711
TH-228	+	74.81		2.502E+00	4.105E-01	4.076E-01	3.318E-02	6.138
	+	77.11		1.864E+00	2.570E-01	2.346E-01	1.940E-02	7.945
	+	87.30		1.294E+00	3.811E-01	5.054E-01	4.737E-02	2.560
	+	238.63	*	1.641E+00	2.005E-01	7.782E-02	8.276E-03	21.088
	+	300.09		1.485E+00	1.280E+00	9.847E-01	5.856E-01	1.508
TH-229	+	85.43		3.035E-01	1.889E-01	2.217E-01	2.029E-02	1.369
	+	88.47		3.767E-01	1.110E-01	1.253E-01	1.181E-02	3.006
	+	100.00		1.919E-01	2.414E-01	2.241E-01	1.963E-02	0.856
		193.63	*	-1.443E-01	4.012E-01	6.696E-01	6.099E-02	-0.216
		210.97		1.434E+00	7.101E-01	1.152E+00	1.075E-01	1.245
TH-230	+	609.31	*	1.251E+00	1.847E-01	8.460E-02	9.414E-03	14.792
	+	1120.29		1.002E+00	4.950E-01	4.006E-01	4.334E-02	2.501
	+	1764.49		1.772E+00	3.649E-01	2.325E-01	1.910E-02	7.622
TH-232	+	338.32		2.004E+00	3.959E-01	2.847E-01	2.668E-02	7.037
	+	911.07	*	1.564E+00	2.840E-01	1.719E-01	2.106E-02	9.098
	+	969.11		2.002E+00	5.774E-01	2.596E-01	6.160E-02	7.711
TH-234	+	63.29	*	1.455E+00	1.374E+00	1.334E+00	2.317E-01	1.091
	+	92.38		2.666E+00	7.777E-01	5.197E-01	9.530E-02	5.130
U-234	+	609.31	*	1.251E+00	1.847E-01	8.460E-02	9.414E-03	14.792
	+	1120.29		1.002E+00	4.950E-01	4.006E-01	4.334E-02	2.501
	+	1764.49		1.772E+00	3.649E-01	2.325E-01	1.910E-02	7.622
NP-237	+	86.50	*	8.102E-01	2.914E-01	2.882E-01	6.520E-02	2.812
		95.87		1.125E+00	9.448E-01	1.141E+00	2.825E-01	0.985

Sample ID : G243385002 Acquisition date : 31-DEC-2009 09:20:04

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-238	+	63.29	*	1.455E+00	1.374E+00	1.334E+00	2.317E-01	1.091
	+	92.38		2.666E+00	6.521E-01	5.197E-01	4.751E-02	5.130
AM-243	+	74.67	*	4.001E-01	6.548E-02	6.532E-02	5.258E-03	6.125
	+	86.72		3.038E+01	8.950E+00	1.079E+01	1.004E+00	2.816
		117.66		-2.327E+00	3.119E+00	4.821E+00	4.036E-01	-0.483
		142.18		-7.890E-02	1.424E+01	2.274E+01	1.920E+00	-0.003
ANH-511	+	511.00	*	1.426E-01	5.759E-02	3.841E-02	3.579E-03	3.714

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-2.244E-01	2.540E-01	3.817E-01	3.710E-02	-0.588
NA-22		1274.54	*	1.880E-02	3.573E-02	6.077E-02	5.034E-03	0.309
NA-24		1368.53	*	1.314E-01	3.573E-02	Half-Life too short		
AL-26		1129.67		-1.378E-03	1.306E+00	2.124E+00	1.799E-01	-0.001
		1808.65	*	-1.156E-02	2.137E-02	3.069E-02	2.492E-03	-0.377
TI-44		67.85		-2.162E-02	3.396E-02	5.159E-02	3.881E-03	-0.419
	+	78.38	*	3.392E-01	4.678E-02	6.277E-02	5.268E-03	5.403
SC-46		889.25	*	-2.078E-02	2.874E-02	4.374E-02	4.360E-03	-0.475
	+	1120.51		1.698E-01	8.312E-02	1.116E-01	9.544E-03	1.522
V-48		944.10		-4.938E-01	6.869E-01	1.047E+00	1.022E-01	-0.472
		983.50	*	5.546E-03	5.376E-02	8.914E-02	8.520E-03	0.062
		1312.09		-1.925E-02	6.419E-02	9.948E-02	8.299E-03	-0.194
CR-51		320.08	*	3.591E-02	2.906E-01	4.850E-01	4.862E-02	0.074
MN-52		744.21		-2.284E-02	1.686E-01	2.787E-01	2.831E-02	-0.082
		848.13		-8.138E-01	4.337E+00	7.056E+00	7.109E-01	-0.115
		935.52		1.379E-01	1.824E-01	3.193E-01	3.128E-02	0.432
		1246.25		3.842E+00	5.067E+00	8.764E+00	7.200E-01	0.438
		1333.61		-1.823E+00	3.401E+00	5.050E+00	4.231E-01	-0.361
		1434.06	*	-3.772E-03	1.298E-01	2.161E-01	1.829E-02	-0.017
MN-54		834.83	*	-7.379E-03	3.290E-02	5.362E-02	5.417E-03	-0.138
CO-56		846.75	*	-6.266E-03	2.827E-02	4.581E-02	4.617E-03	-0.137
		977.42		7.301E-02	2.289E+00	3.671E+00	3.521E-01	0.020
		1037.82		-2.256E-01	2.202E-01	3.136E-01	3.026E-02	-0.719
		1175.09		4.625E-01	1.644E+00	2.745E+00	2.208E-01	0.169
		1238.25		4.960E-02	7.344E-02	1.252E-01	1.059E-02	0.396
		1360.21		3.318E-01	7.845E-01	1.380E+00	1.160E-01	0.240
		1771.40		9.865E-02	1.383E-01	2.505E-01	2.054E-02	0.394
CO-57		122.06	*	2.946E-03	2.126E-02	3.436E-02	2.868E-03	0.086
		136.48		1.252E-01	1.716E-01	2.827E-01	2.560E-02	0.443
CO-58		810.76	*	-4.853E-02	3.356E-02	4.815E-02	4.889E-03	-1.008
FE-59		142.65		-1.417E-01	2.194E+00	3.499E+00	2.956E-01	-0.040
		192.34		2.514E-01	7.748E-01	1.240E+00	1.703E-01	0.203
		1099.22	*	4.245E-03	6.557E-02	1.076E-01	1.015E-02	0.039
		1291.56		-1.198E-01	1.051E-01	1.457E-01	1.386E-02	-0.822
CO-60		1173.22		3.027E-03	3.411E-02	5.581E-02	4.487E-03	0.054
		1332.49	*	8.658E-03	2.905E-02	4.858E-02	4.069E-03	0.178
ZN-65		1115.52	*	2.761E-02	8.247E-02	1.211E-01	1.043E-02	0.228

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---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GE-68		1077.35	*	-2.268E-02	1.034E+00	1.684E+00	1.502E-01	-0.013
AS-73		53.44	*	1.496E-01	4.484E-01	7.492E-01	5.562E-02	0.200
AS-74		595.88	*	4.071E-02	7.020E-02	1.177E-01	1.152E-02	0.346
		634.78		-8.205E-02	2.597E-01	4.269E-01	4.246E-02	-0.192
SE-75		66.05		-4.751E+00	3.720E+00	5.097E+00	4.822E-01	-0.932
		96.73		6.584E-01	7.423E-01	9.063E-01	1.251E-01	0.727
		121.11		-7.931E-02	1.138E-01	1.769E-01	1.947E-02	-0.448
		136.00		1.367E-02	3.232E-02	5.263E-02	4.447E-03	0.260
		198.60		5.280E-01	1.508E+00	2.512E+00	2.528E-01	0.210
		264.65	*	-1.675E-02	3.515E-02	5.523E-02	5.468E-03	-0.303
		279.53		-5.681E-02	8.777E-02	1.413E-01	1.446E-02	-0.402
		303.91		5.876E-01	1.857E+00	2.777E+00	3.435E-01	0.212
		400.65		3.658E-02	2.052E-01	3.401E-01	3.733E-02	0.108
BR-77	+	87.88		4.240E+02	1.249E+02	1.854E+02	1.750E+01	2.287
		200.40		-8.822E+01	9.637E+01	1.567E+02	1.442E+01	-0.563
	+	239.00		1.817E+02	2.064E+01	2.402E+01	2.317E+00	7.563
		249.79		-2.112E+01	3.664E+01	5.958E+01	5.807E+00	-0.355
		281.68		1.313E+01	4.970E+01	8.398E+01	8.351E+00	0.156
		297.23		1.395E+02	5.111E+01	6.778E+01	6.669E+00	2.058
		303.76		3.440E+01	1.113E+02	1.664E+02	1.628E+01	0.207
		439.47		4.376E+01	8.253E+01	1.393E+02	1.224E+01	0.314
		484.57		-1.080E+02	1.299E+02	1.961E+02	1.791E+01	-0.551
		520.65	*	2.669E+00	6.050E+00	1.009E+01	9.467E-01	0.264
		574.64		4.762E+01	1.176E+02	1.950E+02	1.889E+01	0.244
		578.91		2.180E+00	5.473E+01	7.693E+01	7.468E+00	0.028
		585.48		6.862E+02	1.538E+02	2.653E+02	2.583E+01	2.587
		755.35		5.949E+01	8.712E+01	1.535E+02	1.560E+01	0.388
		817.79		-2.558E+01	7.396E+01	1.189E+02	1.204E+01	-0.215
SR-82		698.33		-3.813E+00	2.633E+01	4.369E+01	4.417E+00	-0.087
		776.49	*	4.883E-03	3.032E-01	5.059E-01	5.141E-02	0.010
		1395.20		-7.458E+00	7.572E+00	1.079E+01	9.109E-01	-0.691
RB-83		520.41	*	1.886E-02	5.653E-02	9.359E-02	8.777E-03	0.202
		529.64		-4.136E-05	8.823E-02	1.423E-01	1.343E-02	0.000
		552.65		-2.558E-02	1.629E-01	2.586E-01	2.475E-02	-0.099
RB-84		881.50	*	-4.274E-03	5.287E-02	8.672E-02	8.666E-03	-0.049
KR-85		513.99	*	1.433E+01	6.542E+00	1.095E+01	1.022E+00	1.308
SR-85		513.99	*	7.251E-02	3.311E-02	5.542E-02	5.175E-03	1.308
RB-86		1076.63	*	2.707E-01	6.202E-01	1.054E+00	9.409E-02	0.257
Y-88		898.02		1.129E-03	3.227E-02	5.346E-02	5.334E-03	0.021
		1836.01	*	-7.429E-03	2.597E-02	4.013E-02	3.238E-03	-0.185
ZR-88		392.90	*	9.213E-03	2.458E-02	4.127E-02	3.451E-03	0.223
Y-91		1204.90	*	-6.232E+00	1.458E+01	2.257E+01	1.832E+00	-0.276
NB-94		702.63	*	7.133E-03	2.698E-02	4.610E-02	4.664E-03	0.155
		871.10		2.291E-02	2.621E-02	4.673E-02	4.683E-03	0.490
NB-95		765.79	*	2.557E-02	4.053E-02	6.244E-02	6.345E-03	0.409
NB-95M		235.69	*	9.429E-02	1.108E-01	1.716E-01	1.844E-02	0.550
ZR-95		724.18		1.435E-02	8.523E-02	1.263E-01	1.362E-02	0.114
		756.15	*	4.906E-02	5.156E-02	9.262E-02	1.011E-02	0.530
NB-97		657.90	*	7.665E-05	5.156E-02	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1024.50		1.812E+00	5.156E-02	Half-Life too short		
ZR-97		254.15		-4.905E-02	5.156E-02	Half-Life too short		
		355.39		1.416E-01	5.156E-02	Half-Life too short		
		507.63	*	6.751E-01	5.156E-02	Half-Life too short		
		602.52		7.722E-01	5.156E-02	Half-Life too short		
		1021.30		-1.502E+00	5.156E-02	Half-Life too short		
		1147.95		3.061E-02	5.156E-02	Half-Life too short		
		1362.66		-2.155E+00	5.156E-02	Half-Life too short		
		1750.46		6.644E-01	5.156E-02	Half-Life too short		
MO-99		140.51		-1.553E+01	1.647E+01	2.418E+01	6.682E+00	-0.642
		181.06		7.089E+00	1.153E+01	1.672E+01	3.083E+00	0.424
		366.43		-3.159E+01	4.979E+01	7.844E+01	6.973E+00	-0.403
		739.58	*	1.618E+00	7.528E+00	1.277E+01	2.057E+00	0.127
		778.00		6.504E+00	2.000E+01	3.421E+01	3.476E+00	0.190
TC-99M		140.51	*	-1.033E+09	2.000E+01	Half-Life too short		
RH-101	+	127.23		7.366E-02	4.206E-02	4.514E-02	3.766E-03	1.632
		198.01	*	1.788E-02	2.796E-02	4.706E-02	4.314E-03	0.380
		325.23		-1.256E-01	1.872E-01	2.981E-01	2.847E-02	-0.421
RH-102		418.52		-2.264E-01	2.551E-01	3.921E-01	3.373E-02	-0.578
		475.06	*	-2.695E-03	2.284E-02	3.672E-02	3.330E-03	-0.073
		631.29		-2.163E-02	4.683E-02	7.167E-02	7.120E-03	-0.302
		697.49		1.066E-02	5.987E-02	1.018E-01	1.029E-02	0.105
		766.84		1.080E-01	1.128E-01	1.773E-01	1.802E-02	0.609
		1046.59		6.708E-02	8.878E-02	1.558E-01	1.426E-02	0.431
		1112.84		-3.233E-02	1.998E-01	2.885E-01	2.487E-02	-0.112
RU-103		497.08	*	-5.120E-03	3.077E-02	4.911E-02	7.139E-03	-0.104
	+	610.33		1.322E+01	2.629E+00	2.614E+00	4.535E-01	5.060
RH-106	+	511.85		7.109E-01	2.870E-01	3.766E-01	3.512E-02	1.887
		621.84	*	-2.426E-02	2.503E-01	3.958E-01	5.626E-02	-0.061
		1050.47		9.638E-03	1.795E+00	2.934E+00	2.678E-01	0.003
RU-106	+	511.85		7.109E-01	2.870E-01	3.766E-01	3.512E-02	1.887
		621.84	*	-2.426E-02	2.502E-01	3.958E-01	3.917E-02	-0.061
		1050.47		9.638E-03	1.795E+00	2.934E+00	2.678E-01	0.003
AG-108M		433.93	*	-1.242E-02	2.552E-02	4.007E-02	3.636E-03	-0.310
		614.37		8.328E-05	3.612E-02	5.018E-02	5.101E-03	0.002
		722.95		-1.715E-02	3.770E-02	5.197E-02	5.422E-03	-0.330
AG-110M		657.75	*	2.810E-03	3.116E-02	4.615E-02	4.728E-03	0.061
		677.61		-3.905E-02	2.474E-01	4.106E-01	4.221E-02	-0.095
		706.67		-9.583E-02	1.726E-01	2.768E-01	2.858E-02	-0.346
		763.93		-2.072E-02	1.483E-01	2.116E-01	2.194E-02	-0.098
		884.67		3.958E-02	3.698E-02	6.701E-02	6.851E-03	0.591
		937.48		-1.167E-01	9.573E-02	1.384E-01	1.393E-02	-0.843
		1384.27		-2.162E-02	1.309E-01	1.830E-01	1.588E-02	-0.118
IN-111		171.28		-1.812E-01	5.983E-01	9.331E-01	8.212E-02	-0.194
		245.39	*	4.963E-02	6.811E-01	1.012E+00	9.826E-02	0.049
IN-113M		391.69	*	1.377E-02	3.638E-02	6.107E-02	5.268E-03	0.225
SN-113		391.69	*	1.377E-02	3.638E-02	6.107E-02	5.268E-03	0.225
IN-114M		190.27	*	-4.619E-03	1.591E-01	2.379E-01	2.156E-02	-0.019
CD-115		260.90		2.000E+01	7.067E+01	1.199E+02	1.179E+01	0.167

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		492.35		-1.784E-01	1.904E+01	3.082E+01	2.833E+00	-0.006
		527.90	*	2.978E+00	6.396E+00	1.067E+01	1.005E+00	0.279
SN-117M		156.02		-1.707E+00	1.837E+00	2.791E+00	2.399E-01	-0.612
		158.56	*	-2.186E-02	4.258E-02	6.597E-02	5.694E-03	-0.331
SB-122		563.90	*	-1.495E-01	1.297E+00	2.066E+00	1.989E-01	-0.072
		692.80		-1.841E+01	2.395E+01	3.752E+01	3.790E+00	-0.491
I-123		159.00	*	-3.946E-01	2.395E+01	Half-Life too short		
		528.96		-2.500E+00	2.395E+01	Half-Life too short		
TE-123M		159.00	*	-9.170E-03	2.336E-02	3.643E-02	3.165E-03	-0.252
I-124		602.71	*	7.681E-02	4.473E-01	7.011E-01	6.883E-02	0.110
		722.78		-1.344E+00	3.220E+00	4.462E+00	4.526E-01	-0.301
		1325.50		6.730E-01	2.407E+01	3.880E+01	3.246E+00	0.017
	+	1376.25		4.301E+01	2.753E+01	4.036E+01	3.400E+00	1.065
		1509.49		6.552E+00	1.008E+01	1.817E+01	1.541E+00	0.361
		1691.02		-8.759E-01	2.232E+00	3.392E+00	2.828E-01	-0.258
SB-124		602.71		5.396E-03	3.142E-02	4.925E-02	4.836E-03	0.110
		645.85		-3.663E-01	3.723E-01	5.724E-01	5.974E-02	-0.640
		709.31		4.917E-01	2.243E+00	3.819E+00	3.867E-01	0.129
		713.82		6.601E-01	1.371E+00	2.372E+00	3.122E-01	0.278
		722.78		-1.368E-01	3.279E-01	4.544E-01	4.681E-02	-0.301
	+	968.20		2.032E+01	3.864E+00	6.581E+00	6.344E-01	3.087
		1045.16		2.834E-02	1.921E+00	3.144E+00	2.882E-01	0.009
		1325.50		7.319E-02	2.617E+00	4.220E+00	3.530E-01	0.017
		1368.21		9.300E-01	1.282E+00	2.334E+00	3.115E-01	0.398
		1436.60		-7.594E-01	2.390E+00	3.787E+00	3.205E-01	-0.201
		1691.02	*	-2.104E-02	5.360E-02	8.146E-02	7.079E-03	-0.258
SB-125		427.89	*	-1.513E-03	7.925E-02	1.292E-01	1.144E-02	-0.012
	+	463.38		5.901E-01	4.687E-01	4.911E-01	4.728E-02	1.202
		600.56		-1.109E-01	1.484E-01	2.218E-01	2.300E-02	-0.500
		635.90		5.809E-02	2.050E-01	3.531E-01	3.729E-02	0.164
TE-125M		109.28	*	2.539E+00	7.206E+00	1.179E+01	1.205E+00	0.215
I-126		388.63		-1.892E-02	1.551E-01	2.525E-01	2.127E-02	-0.075
		666.33	*	5.063E-03	1.630E-01	2.396E-01	2.407E-02	0.021
		753.82		6.028E-01	1.015E+00	1.778E+00	1.807E-01	0.339
SB-126		223.80		1.105E+00	3.114E+00	5.320E+00	5.046E-01	0.208
		278.60		1.958E+00	1.832E+00	3.199E+00	3.184E-01	0.612
	+	296.50		1.220E+01	2.266E+00	3.027E+00	2.980E-01	4.029
		414.70		7.586E-03	5.882E-02	9.699E-02	8.310E-03	0.078
		415.30		-1.216E+00	4.913E+00	7.901E+00	6.774E-01	-0.154
		555.20		-1.971E+00	3.163E+00	4.818E+00	4.618E-01	-0.409
		573.80		-2.142E-02	8.232E-01	1.318E+00	1.277E-01	-0.016
		593.00		-1.660E-01	7.152E-01	1.122E+00	1.097E-01	-0.148
		656.30		2.207E+00	2.733E+00	4.347E+00	4.356E-01	0.508
		666.33		2.110E-03	6.793E-02	9.985E-02	1.003E-02	0.021
		675.00		-4.015E-01	1.486E+00	2.445E+00	2.462E-01	-0.164
		695.00		-3.855E-03	5.537E-02	9.238E-02	9.335E-03	-0.042
		697.00		7.005E-02	1.978E-01	3.403E-01	3.440E-02	0.206
		720.50	*	-1.038E-01	1.186E-01	1.717E-01	1.741E-02	-0.605
		856.80		1.239E-01	3.752E-01	5.628E-01	5.660E-02	0.220

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		989.30		-7.427E-01	9.316E-01	1.395E+00	1.329E-01	-0.532
		1034.80		4.215E+00	6.008E+00	1.055E+01	9.747E-01	0.400
		1213.00		-1.517E+00	3.649E+00	5.668E+00	4.613E-01	-0.268
SB-127		61.10		1.793E+01	3.147E+01	4.745E+01	4.588E+00	0.378
		252.40		-1.417E-01	2.750E+00	4.596E+00	1.939E+00	-0.031
		290.80		-5.020E-01	1.554E+01	2.271E+01	2.689E+00	-0.022
		411.60		-3.625E+00	8.154E+00	1.292E+01	1.994E+00	-0.280
		444.90		-4.787E+00	6.531E+00	1.003E+01	1.240E+00	-0.477
		473.00		1.333E+00	1.037E+00	1.825E+00	2.347E-01	0.730
		543.00		-4.219E+00	1.110E+01	1.729E+01	2.538E+00	-0.244
		603.60		3.905E+00	7.829E+00	1.212E+01	1.584E+00	0.322
		685.20	*	-2.893E-01	8.884E-01	1.453E+00	1.775E-01	-0.199
		698.50		-1.542E+00	9.719E+00	1.610E+01	2.648E+00	-0.096
		722.20		-5.643E+00	2.176E+01	3.074E+01	3.705E+00	-0.184
		783.80		2.682E+00	2.455E+00	4.379E+00	5.797E-01	0.612
XE-127		57.60		2.704E+00	3.565E+00	6.024E+00	4.304E-01	0.449
		145.22		2.324E-01	5.517E-01	8.979E-01	7.607E-02	0.259
		172.10		-4.742E-02	9.368E-02	1.444E-01	1.273E-02	-0.328
		202.84	*	7.890E-03	3.942E-02	6.507E-02	6.006E-03	0.121
		374.96		2.968E-02	1.531E-01	2.549E-01	2.223E-02	0.116
I-131		80.18		-8.356E-01	4.219E+00	4.773E+00	4.114E-01	-0.175
		284.30		-4.020E-01	1.055E+00	1.721E+00	1.775E-01	-0.234
		364.48	*	-9.440E-03	8.299E-02	1.356E-01	1.271E-02	-0.070
		636.97		9.334E-01	1.044E+00	1.875E+00	1.944E-01	0.498
		722.89		-2.525E+00	5.716E+00	7.895E+00	8.039E-01	-0.320
TE-132		49.72		-4.780E+00	7.673E+00	1.234E+01	1.224E+00	-0.387
		111.76		-9.428E+00	1.881E+01	2.913E+01	3.029E+00	-0.324
		116.30		-7.654E-01	1.726E+01	2.760E+01	2.856E+00	-0.028
		228.16	*	-5.776E-01	4.341E-01	6.699E-01	1.074E-01	-0.862
BA-133		53.15		9.136E-01	1.949E+00	3.273E+00	2.438E-01	0.279
		79.62		7.885E-01	1.131E+00	1.551E+00	2.352E-01	0.508
		81.00		-2.864E-02	1.001E-01	1.124E-01	1.786E-02	-0.255
		276.40		2.230E-01	3.031E-01	5.055E-01	7.721E-02	0.441
		302.84		9.291E-02	1.271E-01	1.950E-01	2.744E-02	0.477
		356.01	*	-1.505E-02	3.838E-02	5.350E-02	7.227E-03	-0.281
		383.85		-4.863E-02	2.425E-01	3.930E-01	4.929E-02	-0.124
I-133	+	510.53		5.436E-01	2.425E-01	Half-Life too short		
		529.87	*	-1.918E-04	2.425E-01	Half-Life too short		
		706.58		-7.027E-02	2.425E-01	Half-Life too short		
		856.28		1.078E-01	2.425E-01	Half-Life too short		
		875.33		-4.450E-02	2.425E-01	Half-Life too short		
		1236.41		1.923E-01	2.425E-01	Half-Life too short		
		1298.22		3.275E-02	2.425E-01	Half-Life too short		
CS-134		475.35		-4.970E-01	1.487E+00	2.348E+00	2.130E-01	-0.212
		563.23		-6.834E-02	3.089E-01	4.876E-01	4.731E-02	-0.140
		569.32		-1.201E-01	1.833E-01	2.788E-01	2.722E-02	-0.431
		604.70		1.203E-02	2.929E-02	4.280E-02	4.214E-03	0.281
	+	795.84	*	1.790E-01	5.913E-02	7.827E-02	7.987E-03	2.287
		801.93		-1.139E-01	3.487E-01	5.078E-01	5.172E-02	-0.224

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1038.57		-1.815E+00	2.699E+00	4.045E+00	3.727E-01	-0.449
		1167.94		1.925E+00	1.878E+00	3.351E+00	2.713E-01	0.574
		1365.15		2.550E-01	9.289E-01	1.611E+00	1.420E-01	0.158
CS-135		268.24	*	1.906E-01	1.399E-01	2.224E-01	2.464E-02	0.857
I-135		288.45		6.390E+08	1.399E-01	Half-Life too short		
		417.63		-2.135E+08	1.399E-01	Half-Life too short		
		546.56		3.094E+07	1.399E-01	Half-Life too short		
		836.80		5.563E+08	1.399E-01	Half-Life too short		
		1038.76		-3.691E+08	1.399E-01	Half-Life too short		
		1124.00		-5.455E+07	1.399E-01	Half-Life too short		
		1131.51		-6.946E+07	1.399E-01	Half-Life too short		
		1260.41	*	2.640E+07	1.399E-01	Half-Life too short		
		1457.56		1.586E+10	1.399E-01	Half-Life too short		
		1678.03		-4.208E+08	1.399E-01	Half-Life too short		
		1706.46		2.241E+08	1.399E-01	Half-Life too short		
		1791.20		2.040E+08	1.399E-01	Half-Life too short		
CS-136		66.91		-5.194E-01	5.646E-01	7.846E-01	1.163E-01	-0.662
	+	86.29		3.375E+00	1.045E+00	1.465E+00	1.946E-01	2.304
		153.22		1.099E+00	5.447E-01	9.239E-01	8.854E-02	1.189
		163.89		-4.621E-01	8.607E-01	1.331E+00	1.295E-01	-0.347
		176.55		-2.223E-01	2.930E-01	4.396E-01	4.113E-02	-0.506
		273.65		-2.713E-01	3.760E-01	5.226E-01	5.446E-02	-0.519
		340.57		2.549E-01	1.068E-01	1.781E-01	1.703E-02	1.431
		818.51		-4.636E-02	5.567E-02	8.499E-02	8.611E-03	-0.545
		1048.07	*	1.765E-02	8.070E-02	1.347E-01	1.279E-02	0.131
		1235.34		-1.372E-02	4.688E-01	7.553E-01	8.716E-02	-0.018
CE-139		165.85	*	1.397E-02	2.460E-02	4.003E-02	3.495E-03	0.349
BA-140		162.64		1.572E-01	5.898E-01	9.480E-01	8.705E-02	0.166
		304.84		-1.124E-01	1.060E+00	1.534E+00	4.357E-01	-0.073
		423.70		3.014E-01	1.541E+00	2.544E+00	8.247E-01	0.118
		537.32	*	2.672E-01	2.084E-01	3.384E-01	1.129E-01	0.790
LA-140		328.77		2.294E-01	2.379E-01	4.111E-01	4.088E-02	0.558
		432.53		1.845E-01	1.525E+00	2.509E+00	2.294E-01	0.074
		487.03		1.088E-02	9.970E-02	1.630E-01	1.574E-02	0.067
		751.79		-1.305E+00	1.191E+00	1.771E+00	1.940E-01	-0.737
		815.85		2.737E-01	2.521E-01	4.530E-01	4.978E-02	0.604
		867.82		-1.068E+00	1.072E+00	1.536E+00	1.602E-01	-0.695
		919.63		-3.796E-01	1.941E+00	3.134E+00	3.659E-01	-0.121
		925.24		-2.672E-01	7.990E-01	1.270E+00	1.311E-01	-0.210
		1596.49	*	-5.270E-02	6.060E-02	8.597E-02	7.258E-03	-0.613
CE-141		145.44	*	3.476E-02	4.909E-02	8.068E-02	6.966E-03	0.431
CE-143		57.37		2.342E-04	4.909E-02	Half-Life too short		
		231.56		-3.176E-04	4.909E-02	Half-Life too short		
		293.26	*	3.360E-04	4.909E-02	Half-Life too short		
	+	350.59		1.710E-02	4.909E-02	Half-Life too short		
		490.36		-5.512E-04	4.909E-02	Half-Life too short		
		664.57		7.292E-04	4.909E-02	Half-Life too short		
		721.93		1.570E-04	4.909E-02	Half-Life too short		
CE-144		80.11		-3.806E-01	2.153E+00	2.440E+00	2.090E-01	-0.156

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		133.54	*	-1.345E-01	1.929E-01	2.619E-01	4.041E-02	-0.514
PM-144		476.78		-2.303E-02	5.280E-02	8.264E-02	8.138E-03	-0.279
		618.01		-1.730E-02	2.628E-02	3.941E-02	3.977E-03	-0.439
		696.49	*	2.005E-02	2.661E-02	4.704E-02	4.756E-03	0.426
		778.57		4.758E-01	1.846E+00	3.140E+00	3.191E-01	0.152
PR-144		696.49	*	1.358E+00	1.802E+00	3.185E+00	3.220E-01	0.426
		1489.15		-2.401E-01	8.258E+00	1.371E+01	1.162E+00	-0.018
PM-146		453.90	*	2.723E-02	3.593E-02	6.136E-02	6.720E-03	0.444
		633.02		-7.845E-01	1.207E+00	1.756E+00	6.621E-01	-0.447
		735.90		5.159E-02	1.214E-01	2.083E-01	6.061E-02	0.248
		747.13		1.973E-02	6.786E-02	1.161E-01	1.745E-02	0.170
ND-147	+	91.11		4.578E-01	1.358E-01	3.678E-01	3.638E-02	1.245
		319.41		2.756E-01	2.439E+00	4.069E+00	3.915E-01	0.068
		439.89		5.276E+00	4.409E+00	7.735E+00	6.798E-01	0.682
		531.02	*	-1.753E-01	4.340E-01	6.756E-01	1.043E-01	-0.259
PM-149		285.90	*	-3.679E+01	5.047E+01	8.023E+01	1.307E+01	-0.459
EU-152		121.78		-8.927E-04	6.213E-02	9.977E-02	9.664E-03	-0.009
		244.69		-3.884E-02	2.867E-01	4.201E-01	4.075E-02	-0.092
		344.27	*	-1.635E-02	9.316E-02	1.236E-01	1.206E-02	-0.132
		443.98		-3.424E-01	8.027E-01	1.267E+00	1.118E-01	-0.270
		778.89		4.591E-02	2.173E-01	3.681E-01	3.740E-02	0.125
		867.32		-7.385E-01	7.024E-01	9.569E-01	9.599E-02	-0.772
	+	964.01		6.262E-01	3.037E-01	4.665E-01	4.507E-02	1.342
		1085.78		-2.062E-02	2.979E-01	4.820E-01	4.268E-02	-0.043
		1112.02		-7.224E-02	2.640E-01	4.055E-01	3.499E-02	-0.178
		1407.95		1.174E-01	1.498E-01	2.725E-01	2.302E-02	0.431
GD-153		69.67		1.028E+00	1.206E+00	1.937E+00	1.482E-01	0.531
	+	83.37		2.369E+01	1.475E+01	1.877E+01	1.673E+00	1.262
		97.43	*	5.906E-02	7.784E-02	9.447E-02	8.378E-03	0.625
		103.18		1.470E-02	9.458E-02	1.374E-01	1.189E-02	0.107
EU-154		123.07		4.015E-02	4.405E-02	7.306E-02	8.148E-03	0.550
		247.94		6.433E-02	2.855E-01	4.838E-01	5.966E-02	0.133
		591.81		-1.598E-01	4.966E-01	7.721E-01	9.685E-02	-0.207
		723.30		-7.870E-02	1.603E-01	2.202E-01	2.406E-02	-0.357
		756.87		3.536E-01	5.908E-01	1.032E+00	1.355E-01	0.343
		873.19		-7.006E-02	2.277E-01	3.649E-01	4.840E-02	-0.192
		996.32		-1.925E-01	2.929E-01	4.446E-01	8.092E-02	-0.433
		1004.76		-6.909E-02	1.779E-01	2.805E-01	3.437E-02	-0.246
		1274.45	*	7.197E-02	9.854E-02	1.708E-01	1.887E-02	0.421
EU-155		48.70		-2.801E-01	1.210E+00	1.982E+00	1.586E-01	-0.141
		60.01		-8.214E-01	3.406E+00	4.950E+00	3.512E-01	-0.166
	+	86.54		3.322E-01	9.793E-02	1.453E-01	1.361E-02	2.286
		105.31	*	3.263E-02	9.032E-02	1.412E-01	1.227E-02	0.231
TB-160	+	86.79		8.773E-01	2.584E-01	3.858E-01	3.592E-02	2.274
		197.04		1.219E-02	4.727E-01	7.790E-01	7.130E-02	0.016
		215.65		-7.974E-02	6.119E-01	1.027E+00	9.642E-02	-0.078
		298.57		1.749E-01	1.421E-01	1.716E-01	1.686E-02	1.019
		879.36	*	6.232E-03	1.042E-01	1.733E-01	1.732E-02	0.036
		962.29		7.277E-01	4.429E-01	7.515E-01	7.267E-02	0.968

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	966.15		4.250E-01	2.061E-01	4.141E-01	3.996E-02	1.026
		1177.93		-7.885E-02	2.661E-01	4.174E-01	3.361E-02	-0.189
		1271.85		1.268E-01	5.570E-01	9.207E-01	7.613E-02	0.138
HO-166M		80.57		1.656E-01	2.608E-01	3.131E-01	2.697E-02	0.529
		184.41		7.338E-02	3.429E-02	5.676E-02	5.098E-03	1.293
		280.46		-6.570E-02	6.930E-02	1.094E-01	1.089E-02	-0.600
		410.95		2.682E-02	1.967E-01	3.247E-01	2.771E-02	0.083
		711.68	*	-4.131E-05	5.173E-02	8.667E-02	8.779E-03	0.000
		752.31		-4.792E-02	1.942E-01	3.167E-01	3.218E-02	-0.151
		810.29		-6.856E-02	4.977E-02	7.176E-02	7.274E-03	-0.955
TM-171		51.35		-2.080E+00	1.607E+01	2.639E+01	2.016E+00	-0.079
		52.39		-3.214E-01	8.379E+00	1.381E+01	1.039E+00	-0.023
		59.40		2.818E+00	1.801E+01	2.670E+01	1.889E+00	0.106
		66.72	*	-2.731E+01	2.195E+01	3.020E+01	2.250E+00	-0.904
LU-176	+	88.36		6.544E-01	1.928E-01	2.883E-01	2.718E-02	2.270
		201.83		-4.642E-03	2.417E-02	4.059E-02	3.741E-03	-0.114
		306.84	*	-5.446E-03	1.896E-02	3.095E-02	3.019E-03	-0.176
		401.10		-1.733E+00	5.573E+00	8.944E+00	7.551E-01	-0.194
LU-177		112.95		-3.949E-01	1.165E+00	1.817E+00	1.531E-01	-0.217
	+	208.36	*	3.049E+00	1.235E+00	1.541E+00	1.433E-01	1.978
LU-177M		52.97		3.785E-01	8.739E-01	1.466E+00	1.095E-01	0.258
		54.07		-4.241E-02	4.716E-01	7.748E-01	5.710E-02	-0.055
		61.30		1.147E+00	1.005E+00	1.552E+00	1.110E-01	0.739
		121.62		-3.367E-03	3.164E-01	5.082E-01	4.238E-02	-0.007
		147.16		-1.448E-03	5.255E-01	8.381E-01	7.117E-02	-0.002
		171.86		-1.825E-01	3.849E-01	5.944E-01	5.236E-02	-0.307
		218.09		-1.243E-01	7.082E-01	1.186E+00	1.117E-01	-0.105
	+	268.79		2.153E+00	8.657E-01	1.163E+00	1.151E-01	1.851
		319.02		4.247E-02	2.049E-01	3.436E-01	3.307E-02	0.124
		367.43		-4.844E-02	7.193E-01	1.179E+00	1.046E-01	-0.041
		413.65	*	-4.556E-03	1.401E-01	2.286E-01	1.956E-02	-0.020
HF-181		56.28		-5.841E-02	5.407E-01	8.869E-01	6.399E-02	-0.066
		57.53		2.213E-01	3.005E-01	5.075E-01	3.628E-02	0.436
		65.20		1.513E-01	6.836E-01	1.012E+00	7.445E-02	0.149
		133.02		-5.075E-02	6.117E-02	8.272E-02	6.922E-03	-0.613
		136.25		2.833E-01	3.701E-01	6.107E-01	5.124E-02	0.464
		345.85		3.650E-02	1.657E-01	2.446E-01	2.264E-02	0.149
		482.03	*	1.160E-02	3.324E-02	5.532E-02	5.044E-03	0.210
W-181		56.28		-2.252E-02	2.145E-01	3.518E-01	2.538E-02	-0.064
		57.53		8.774E-02	1.193E-01	2.014E-01	1.440E-02	0.436
		65.20	*	5.955E-02	2.692E-01	3.984E-01	2.932E-02	0.149
TA-182		67.75		-6.822E-02	8.659E-02	1.221E-01	9.179E-03	-0.559
	+	100.10		1.835E-01	2.309E-01	2.474E-01	2.166E-02	0.742
		152.43		4.399E-01	2.937E-01	4.933E-01	4.219E-02	0.892
		222.10		6.550E-02	2.917E-01	4.959E-01	4.694E-02	0.132
		1001.68		9.104E-01	1.682E+00	2.918E+00	2.759E-01	0.312
	+	1121.28		4.702E-01	2.302E-01	3.116E-01	2.663E-02	1.509
		1189.05		3.931E-03	2.604E-01	4.224E-01	3.413E-02	0.009
		1221.42	*	-1.192E-01	1.511E-01	2.254E-01	1.840E-02	-0.529

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1230.97		4.123E-01	3.939E-01	6.917E-01	5.659E-02	0.596
RE-183		57.98		1.112E-01	1.235E-01	2.008E-01	1.431E-02	0.554
		59.32		1.338E-02	7.328E-02	1.088E-01	7.700E-03	0.123
		67.20		-1.237E-01	1.520E-01	2.140E-01	1.601E-02	-0.578
		162.32	*	5.257E-02	9.113E-02	1.484E-01	1.288E-02	0.354
	+	208.81		3.075E+00	1.245E+00	1.569E+00	1.460E-01	1.960
		291.72		-4.202E-01	8.516E-01	1.201E+00	1.186E-01	-0.350
RE-184		57.98		4.128E-01	4.583E-01	7.452E-01	5.312E-02	0.554
		59.32		4.962E-02	2.717E-01	4.034E-01	2.855E-02	0.123
		67.20		-4.590E-01	5.640E-01	7.940E-01	5.940E-02	-0.578
		161.27		5.378E-02	2.916E-01	4.673E-01	4.050E-02	0.115
		216.55		1.548E-01	2.186E-01	3.785E-01	3.558E-02	0.409
		252.85	*	4.443E-02	1.833E-01	3.107E-01	3.037E-02	0.143
		318.01		-2.217E-01	3.671E-01	5.866E-01	5.653E-02	-0.378
		792.07		7.461E-01	7.571E-01	1.233E+00	1.252E-01	0.605
		903.28		-2.672E-01	8.267E-01	1.310E+00	1.300E-01	-0.204
		920.93		-2.052E-01	3.288E-01	5.041E-01	4.969E-02	-0.407
OS-185		59.72		1.014E-02	1.966E-01	2.900E-01	2.054E-02	0.035
		61.14		6.818E-02	1.108E-01	1.675E-01	1.197E-02	0.407
		69.30		1.436E-01	2.132E-01	3.407E-01	2.597E-02	0.422
		592.07		4.043E-01	1.944E+00	3.171E+00	3.098E-01	0.128
		646.12	*	-3.602E-02	3.231E-02	4.907E-02	4.901E-03	-0.734
		717.42		2.481E-01	7.398E-01	1.269E+00	1.286E-01	0.195
		874.81		-5.065E-01	4.389E-01	6.325E-01	6.332E-02	-0.801
		880.27		1.756E-02	5.864E-01	9.725E-01	9.721E-02	0.018
RE-188		155.03	*	4.864E-02	1.469E-01	2.370E-01	2.035E-02	0.205
		477.96		-2.113E+00	2.472E+00	3.731E+00	3.391E-01	-0.566
		633.10		-6.846E-01	2.268E+00	3.515E+00	3.494E-01	-0.195
W-188	+	63.58		5.778E+01	5.380E+01	6.268E+01	4.555E+00	0.922
		227.08		-4.133E+00	1.015E+01	1.678E+01	1.597E+00	-0.246
		290.67	*	-4.844E-02	6.640E+00	9.721E+00	9.612E-01	-0.005
IR-192	+	295.96		9.891E-01	1.841E-01	2.568E-01	2.543E-02	3.851
		308.46		-3.936E-02	7.336E-02	1.178E-01	1.152E-02	-0.334
		316.51	*	1.162E-03	2.768E-02	4.601E-02	4.449E-03	0.025
		468.07		-3.220E-02	6.084E-02	8.148E-02	7.829E-03	-0.395
		604.41		1.909E-01	3.900E-01	5.743E-01	7.952E-02	0.332
		612.46		1.222E+00	6.626E-01	1.079E+00	1.186E-01	1.133
AU-195		65.12		4.970E-02	1.256E-01	1.873E-01	1.377E-02	0.265
		66.83		-6.843E-02	7.146E-02	9.983E-02	7.445E-03	-0.685
	+	75.70		1.289E+00	2.109E-01	3.581E-01	2.915E-02	3.599
	+	98.88	*	2.301E-01	2.895E-01	3.089E-01	2.720E-02	0.745
	+	129.76		6.467E+00	3.692E+00	4.220E+00	3.524E-01	1.532
TL-200		367.94	*	8.668E-05	3.692E+00	Half-Life too short		
		579.30		5.465E-04	3.692E+00	Half-Life too short		
		828.27		4.822E-04	3.692E+00	Half-Life too short		
		1205.75		4.547E-04	3.692E+00	Half-Life too short		
TL-201		68.90		9.931E-01	2.512E+00	4.166E+00	3.164E-01	0.238
		70.82		-3.332E-01	1.640E+00	2.377E+00	1.839E-01	-0.140
		80.30		2.274E+00	3.641E+00	4.369E+00	3.751E-01	0.521

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		135.34		-1.050E+00	1.592E+01	2.540E+01	2.129E+00	-0.041
		167.43	*	-1.648E-01	4.344E+00	6.877E+00	6.017E-01	-0.024
TL-202		68.90		1.102E-01	2.788E-01	4.622E-01	3.511E-02	0.238
		70.82		-3.687E-02	1.815E-01	2.630E-01	2.035E-02	-0.140
		80.30		2.517E-01	4.029E-01	4.836E-01	4.152E-02	0.521
		439.56	*	2.924E-02	5.338E-02	9.019E-02	7.924E-03	0.324
HG-203		70.83		-1.687E-01	8.280E-01	1.200E+00	1.567E-01	-0.141
		72.87		5.800E-01	4.953E-01	7.498E-01	9.554E-02	0.774
		82.60		4.180E-01	9.739E-01	1.319E+00	1.831E-01	0.317
		279.20	*	6.164E-03	3.216E-02	5.415E-02	5.507E-03	0.114
BI-207		72.80		1.879E-01	1.435E-01	2.199E-01	1.736E-02	0.854
	+	74.97		7.181E-01	1.175E-01	1.773E-01	1.431E-02	4.051
	+	84.90		3.075E-01	1.914E-01	2.493E-01	2.266E-02	1.233
		569.67		-1.522E-02	2.826E-02	4.338E-02	4.191E-03	-0.351
		1063.62	*	1.159E-02	4.252E-02	7.127E-02	6.435E-03	0.163
		1770.23		4.069E-02	2.973E-01	4.421E-01	3.627E-02	0.092
TL-207		81.07		-6.722E-02	2.208E-01	2.476E-01	2.146E-02	-0.271
	+	83.78		2.028E-01	1.262E-01	1.604E-01	1.438E-02	1.264
		94.90		7.144E-01	2.322E-01	3.179E-01	2.859E-02	2.247
		122.32		9.550E-01	1.463E+00	2.412E+00	2.168E-01	0.396
		144.24		2.546E-01	5.675E-01	9.241E-01	8.780E-02	0.275
		154.21		1.482E-01	3.513E-01	5.687E-01	5.367E-02	0.261
	+	269.46		5.068E-01	2.040E-01	2.830E-01	2.845E-02	1.791
		323.87	*	-7.081E-01	5.630E-01	8.415E-01	1.530E-01	-0.841
	+	338.28		8.368E+00	1.809E+00	2.281E+00	2.931E-01	3.668
		445.03		-1.307E+00	1.902E+00	2.935E+00	3.592E-01	-0.445
PO-209		260.50		2.825E+00	7.522E+00	1.282E+01	1.260E+00	0.220
		262.80		-1.022E+01	2.130E+01	3.473E+01	3.421E+00	-0.294
		896.60	*	-5.465E-01	5.553E+00	9.079E+00	9.030E-01	-0.060
BI-210		46.50	*	-1.593E-02	1.755E+00	2.881E+00	2.672E-01	-0.006
PB-210		46.50	*	-1.593E-02	1.755E+00	2.881E+00	2.672E-01	-0.006
PO-210		46.50	*	-1.593E-02	1.755E+00	2.881E+00	2.417E-01	-0.006
PB-211		404.84	*	-3.797E-01	7.993E-01	1.209E+00	7.571E-01	-0.314
		427.08		1.037E+00	1.861E+00	2.961E+00	1.840E+00	0.350
		831.96		-2.814E-01	1.054E+00	1.687E+00	1.061E+00	-0.167
BI-212	+	727.18	*	1.078E+00	3.915E-01	5.952E-01	6.755E-02	1.812
		785.46		1.964E+00	1.515E+00	2.694E+00	2.736E-01	0.729
		1620.62		5.522E-01	9.898E-01	1.775E+00	1.494E-01	0.311
PO-215		81.07		-6.722E-02	2.208E-01	2.476E-01	2.146E-02	-0.271
	+	83.78		2.028E-01	1.262E-01	1.604E-01	1.438E-02	1.264
		94.90		7.144E-01	2.322E-01	3.179E-01	2.859E-02	2.247
		122.32		9.550E-01	1.463E+00	2.412E+00	2.168E-01	0.396
		144.24		2.546E-01	5.675E-01	9.241E-01	8.780E-02	0.275
		154.21		1.482E-01	3.513E-01	5.687E-01	5.367E-02	0.261
	+	269.46		5.068E-01	2.040E-01	2.830E-01	2.845E-02	1.791
		323.87	*	-7.081E-01	5.630E-01	8.415E-01	1.530E-01	-0.841
	+	338.28		8.368E+00	1.809E+00	2.281E+00	2.931E-01	3.668
		445.03		-1.307E+00	1.902E+00	2.935E+00	3.592E-01	-0.445
RN-219	+	271.23		6.502E-01	2.640E-01	3.637E-01	4.150E-02	1.788

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		401.81	*	1.315E-01	3.339E-01	5.599E-01	8.359E-02	0.235
RN-220		549.76	*	-1.316E+01	2.200E+01	3.360E+01	3.210E+00	-0.392
RA-223		81.07		-6.722E-02	2.208E-01	2.476E-01	2.146E-02	-0.271
	+	83.78		2.028E-01	1.262E-01	1.604E-01	1.438E-02	1.264
		94.90		7.144E-01	2.322E-01	3.179E-01	2.859E-02	2.247
		122.32		9.550E-01	1.463E+00	2.412E+00	2.168E-01	0.396
		144.24		2.546E-01	5.675E-01	9.241E-01	8.780E-02	0.275
		154.21		1.482E-01	3.513E-01	5.687E-01	5.367E-02	0.261
	+	269.46		5.068E-01	2.040E-01	2.830E-01	2.845E-02	1.791
		323.87	*	-7.081E-01	5.630E-01	8.415E-01	1.530E-01	-0.841
	+	338.28		8.368E+00	1.809E+00	2.281E+00	2.931E-01	3.668
		445.03		-1.307E+00	1.902E+00	2.935E+00	3.592E-01	-0.445
AC-227		79.80		-4.582E-02	1.676E+00	1.921E+00	4.123E-01	-0.024
		236.00		5.898E-01	2.369E-01	3.765E-01	4.881E-02	1.567
		256.20	*	-8.507E-03	3.030E-01	5.068E-01	8.129E-02	-0.017
		286.10		-7.205E-01	1.231E+00	1.980E+00	2.789E-01	-0.364
	+	299.80		2.714E+00	1.764E+00	2.336E+00	4.230E-01	1.162
		304.40		9.995E-01	1.610E+00	2.451E+00	4.658E-01	0.408
		334.20		-6.083E-01	1.999E+00	2.824E+00	5.587E-01	-0.215
TH-227		79.80		-4.582E-02	1.676E+00	1.921E+00	4.176E-01	-0.024
	+	94.00		1.030E+01	3.255E+00	3.166E+00	6.948E-01	3.255
		236.00		5.898E-01	2.349E-01	3.765E-01	4.468E-02	1.567
		256.20	*	-8.507E-03	3.030E-01	5.068E-01	9.454E-02	-0.017
		286.10		-7.205E-01	1.425E+00	1.980E+00	1.990E+00	-0.364
	+	299.80		2.714E+00	1.764E+00	2.336E+00	4.230E-01	1.162
		304.40		9.995E-01	1.610E+00	2.451E+00	4.658E-01	0.408
		334.20		-6.083E-01	1.999E+00	2.824E+00	5.587E-01	-0.215
PA-231		283.67	*	-3.603E-01	1.204E+00	1.973E+00	3.150E-01	-0.183
	+	301.29		1.086E+00	6.925E-01	9.306E-01	1.220E-01	1.167
TH-231		81.07		-6.722E-02	2.208E-01	2.476E-01	2.146E-02	-0.271
	+	83.78		2.028E-01	1.262E-01	1.604E-01	1.438E-02	1.264
		94.90		7.144E-01	2.322E-01	3.179E-01	2.859E-02	2.247
		122.32		9.550E-01	1.463E+00	2.412E+00	2.168E-01	0.396
		144.24		2.546E-01	5.675E-01	9.241E-01	8.780E-02	0.275
		154.21		1.482E-01	3.513E-01	5.687E-01	5.367E-02	0.261
	+	269.46		5.068E-01	2.040E-01	2.830E-01	2.845E-02	1.791
		323.87	*	-7.081E-01	5.630E-01	8.415E-01	1.530E-01	-0.841
	+	338.28		8.368E+00	1.809E+00	2.281E+00	2.931E-01	3.668
		445.03		-1.307E+00	1.902E+00	2.935E+00	3.592E-01	-0.445
U-231	+	84.21		7.130E+00	4.438E+00	5.678E+00	5.116E-01	1.256
	+	92.29		8.308E+00	2.032E+00	2.695E+00	2.465E-01	3.083
		95.87	*	1.041E+00	8.406E-01	1.056E+00	9.444E-02	0.985
		108.00		-5.428E-01	1.332E+00	2.111E+00	1.799E-01	-0.257
PA-233	+	75.28		2.096E+01	4.341E+00	5.301E+00	7.985E-01	3.954
	+	86.59		5.402E+00	2.101E+00	2.368E+00	6.403E-01	2.281
	+	300.12		7.567E-01	4.869E-01	6.504E-01	1.014E-01	1.163
		311.98	*	-3.183E-02	4.956E-02	7.892E-02	7.830E-03	-0.403
		340.50		1.567E+00	6.675E-01	9.604E-01	2.315E-01	1.631
		398.62		5.245E-01	1.726E+00	2.874E+00	7.635E-01	0.182

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.76		4.468E-01	1.341E+00	2.235E+00	4.814E-01	0.200
PA-234	+	63.00		1.697E+00	1.595E+00	1.863E+00	2.753E-01	0.911
		94.67		5.741E-01	1.690E-01	2.431E-01	3.081E-02	2.362
	+	98.44		9.366E-02	1.287E-01	1.235E-01	6.893E-02	0.758
	+	99.86		4.855E-01	6.109E-01	6.539E-01	5.732E-02	0.742
		111.00		-1.143E-01	1.509E-01	2.302E-01	2.757E-02	-0.497
		131.20		3.284E-02	9.627E-02	1.399E-01	1.170E-02	0.235
		152.70		6.296E-01	2.969E-01	4.832E-01	8.221E-02	1.303
	+	186.00		5.026E+00	2.461E+00	2.235E+00	7.001E-01	2.249
		226.40		-2.613E-02	3.241E-01	5.438E-01	7.506E-02	-0.048
		227.20		-2.334E-01	3.480E-01	5.675E-01	5.404E-02	-0.411
		248.90		-1.928E-01	6.523E-01	1.076E+00	2.460E-01	-0.179
	+	293.70		6.298E+00	1.504E+00	1.515E+00	2.720E-01	4.158
		369.80		-1.923E-02	6.968E-01	1.144E+00	2.502E-01	-0.017
		568.70		-1.984E-01	9.229E-01	1.455E+00	1.405E-01	-0.136
		569.50		-1.664E-01	2.539E-01	3.862E-01	3.730E-02	-0.431
		574.00		-8.826E-02	1.262E+00	2.014E+00	1.950E-01	-0.044
		699.00		-3.718E-01	5.890E-01	9.337E-01	1.849E-01	-0.398
		706.10		-1.164E-01	8.357E-01	1.383E+00	6.211E-01	-0.084
		733.00		-2.315E-01	3.515E-01	4.654E-01	1.063E-01	-0.498
		742.81		5.736E-01	1.230E+00	2.023E+00	1.365E+00	0.283
		796.30		2.102E+00	1.003E+00	1.504E+00	4.147E-01	1.398
		805.60		5.043E-01	8.785E-01	1.472E+00	4.580E-01	0.343
		819.60		-6.432E-01	9.601E-01	1.436E+00	5.514E-01	-0.448
		826.30		3.194E-02	6.601E-01	1.100E+00	4.957E-01	0.029
		831.60		-2.996E-01	5.469E-01	8.544E-01	2.589E-01	-0.351
		876.40		-2.457E-01	6.708E-01	9.859E-01	1.015E+00	-0.249
		880.51		9.670E-03	2.164E-01	3.593E-01	3.591E-02	0.027
		883.24		5.494E-02	2.248E-01	3.751E-01	2.529E-01	0.146
		899.00		1.225E-01	6.679E-01	1.118E+00	4.919E-01	0.110
		925.00		-3.406E-01	8.829E-01	1.395E+00	1.373E-01	-0.244
		926.50		1.322E-02	1.282E-01	2.134E-01	5.488E-02	0.062
		946.00	*	-1.135E-01	2.383E-01	3.717E-01	7.177E-02	-0.305
		949.00		1.540E-01	3.450E-01	5.917E-01	5.760E-02	0.260
		980.50		1.978E-01	5.878E-01	9.961E-01	9.537E-02	0.199
		1394.10		-2.886E-01	8.289E-01	1.282E+00	8.341E-01	-0.225
PA-234M		766.42		1.196E+01	1.292E+01	1.817E+01	9.272E+00	0.658
		1001.03	*	2.487E+00	3.820E+00	6.686E+00	7.152E-01	0.372
U-235	+	89.95		1.970E+00	8.232E-01	1.429E+00	4.437E-01	1.379
	+	93.35		3.205E+00	1.160E+00	1.040E+00	2.930E-01	3.082
		105.00		5.248E-01	8.943E-01	1.392E+00	4.153E-01	0.377
		143.76	*	4.739E-03	1.740E-01	2.786E-01	4.855E-02	0.017
		163.35		-2.556E-01	4.013E-01	6.135E-01	1.173E-01	-0.417
	+	185.71		1.862E-01	7.205E-02	8.205E-02	7.384E-03	2.269
		205.31		-3.315E-02	4.821E-01	7.169E-01	1.389E-01	-0.046
NP-236		94.67		4.378E-01	1.223E-01	1.846E-01	1.663E-02	2.372
	+	98.44		7.080E-02	8.909E-02	9.335E-02	8.237E-03	0.758
		111.00		-8.648E-02	1.139E-01	1.741E-01	1.473E-02	-0.497
		160.31	*	8.592E-03	6.643E-02	1.062E-01	9.190E-03	0.081

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	99.55		1.618E-01	2.036E-01	2.175E-01	1.909E-02	0.744
		117.00	*	-7.007E-02	1.541E-01	2.417E-01	2.025E-02	-0.290
	+	209.75		2.455E+00	9.946E-01	1.240E+00	1.155E-01	1.980
		228.18		-2.231E-01	1.803E-01	2.843E-01	2.711E-02	-0.785
		277.60		1.379E-01	1.443E-01	2.509E-01	2.496E-02	0.550
		334.30		-3.507E-01	1.131E+00	1.599E+00	1.508E-01	-0.219
AM-241		59.54	*	1.158E-02	1.047E-01	1.548E-01	1.211E-02	0.075
CM-243	+	99.55		1.665E-01	2.095E-01	2.238E-01	1.964E-02	0.744
		103.76	*	1.893E-02	8.670E-02	1.264E-01	1.091E-02	0.150
		117.00		-7.208E-02	1.585E-01	2.486E-01	2.083E-02	-0.290
	+	209.75		2.420E+00	9.804E-01	1.222E+00	1.139E-01	1.980
		228.18		-2.254E-01	1.822E-01	2.872E-01	2.739E-02	-0.785
		277.60		1.390E-01	1.455E-01	2.529E-01	2.516E-02	0.550
AM-246		798.80		-9.909E-02	1.176E-01	1.492E-01	1.514E-02	-0.664
		1036.00		-9.598E-02	2.221E-01	3.454E-01	3.188E-02	-0.278
		1062.04		7.659E-02	1.791E-01	3.050E-01	2.757E-02	0.251
		1078.86	*	-1.074E-01	1.246E-01	1.854E-01	1.652E-02	-0.579
CM-247		278.00		4.987E-01	5.963E-01	1.032E+00	1.027E-01	0.483
		287.40		4.742E-01	9.944E-01	1.696E+00	1.680E-01	0.280
		402.60	*	2.234E-03	2.979E-02	4.903E-02	4.146E-03	0.046
CF-249		252.85		1.676E-01	6.914E-01	1.172E+00	1.145E-01	0.143
		333.44		2.489E-02	1.523E-01	2.241E-01	2.115E-02	0.111
		387.95	*	1.248E-03	3.202E-02	5.268E-02	4.445E-03	0.024
CF-251		176.60	*	-8.313E-02	1.077E-01	1.615E-01	1.433E-02	-0.515
		227.00		-1.002E-01	3.095E-01	5.135E-01	4.889E-02	-0.195
		285.00		-7.397E-01	1.392E+00	2.250E+00	2.234E-01	-0.329

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385002     *
* Acquisition date : 31-DEC-2009 09:20:04 Detector SN#     :               *
* Detector ID        : GAM20               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000        *
* Elapsed real time:    0 02:00:33.26      Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        : 17-DEC-2009 12:00:00 Nuclide Library : SOLID        *
* Sample ID          : G243385002           Analyst initials: MJH1         *
* Batch Number       : 936285               Sample Quantity : 1.4900E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000    *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME : 26-AUG-2009 06:32:11 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.103E+01	2.214E+00	4.183E-01	0.000E+00
CD-109	2.802E+00	8.089E-01	1.006E+00	0.000E+00
SN-126	2.759E-01	7.965E-02	9.933E-02	0.000E+00
BA-137M	1.200E-01	6.430E-02	4.656E-02	0.000E+00
CS-137	1.269E-01	6.797E-02	4.922E-02	0.000E+00
TL-208	5.022E-01	8.584E-02	4.896E-02	0.000E+00
BI-211	4.006E+00	5.522E-01	2.789E-01	0.000E+00
PB-212	1.619E+00	1.937E-01	8.073E-02	0.000E+00
PO-212	1.619E+00	1.937E-01	8.073E-02	0.000E+00
BI-214	1.251E+00	1.810E-01	8.703E-02	0.000E+00
PB-214	1.394E+00	2.049E-01	9.719E-02	0.000E+00
PO-214	1.394E+00	2.049E-01	9.719E-02	0.000E+00
PO-216	1.619E+00	1.937E-01	8.073E-02	0.000E+00
PO-218	1.394E+00	2.049E-01	9.719E-02	0.000E+00
RA-224	4.411E+00	1.229E+00	9.184E-01	0.000E+00
RA-226	1.251E+00	1.810E-01	8.703E-02	0.000E+00
AC-228	1.564E+00	2.784E-01	1.751E-01	0.000E+00
RA-228	1.564E+00	2.784E-01	1.751E-01	0.000E+00
TH-228	1.641E+00	1.964E-01	8.186E-02	0.000E+00
TH-229	-1.443E-01	3.932E-01	7.078E-01	0.000E+00
TH-230	1.251E+00	1.810E-01	8.703E-02	0.000E+00
TH-232	1.564E+00	2.784E-01	1.751E-01	0.000E+00
TH-234	1.455E+00	1.347E+00	1.445E+00	0.000E+00
U-234	1.251E+00	1.810E-01	8.703E-02	0.000E+00
NP-237	8.102E-01	2.856E-01	3.102E-01	0.000E+00
U-238	1.455E+00	1.347E+00	1.445E+00	0.000E+00
AM-243	4.001E-01	6.417E-02	7.054E-02	0.000E+00
ANH-511	1.426E-01	5.644E-02	3.968E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)

BE-7	-2.244E-01	2.489E-01	3.950E-01	0.000E+00	NOT IDENT.
NA-22	1.880E-02	3.501E-02	6.138E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.348E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.156E-02	2.094E-02	3.072E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.584E-02	6.772E-02	0.000E+00	FAIL ABUN
SC-46	-2.078E-02	2.817E-02	4.457E-02	0.000E+00	FAIL ABUN
V-48	5.546E-03	5.269E-02	9.062E-02	0.000E+00	NOT IDENT.
CR-51	3.591E-02	2.848E-01	5.066E-01	0.000E+00	NOT IDENT.
MN-52	-3.772E-03	1.272E-01	2.176E-01	0.000E+00	NOT IDENT.
MN-54	-7.379E-03	3.224E-02	5.474E-02	0.000E+00	NOT IDENT.
CO-56	-6.266E-03	2.770E-02	4.675E-02	0.000E+00	NOT IDENT.
CO-57	2.946E-03	2.084E-02	3.670E-02	0.000E+00	NOT IDENT.
CO-58	-4.853E-02	3.288E-02	4.918E-02	0.000E+00	NOT IDENT.
FE-59	4.245E-03	6.426E-02	1.091E-01	0.000E+00	NOT IDENT.
CO-60	8.658E-03	2.847E-02	4.901E-02	0.000E+00	NOT IDENT.
ZN-65	2.761E-02	8.082E-02	1.228E-01	0.000E+00	NOT IDENT.
GE-68	-2.268E-02	1.014E+00	1.708E+00	0.000E+00	NOT IDENT.
AS-73	1.496E-01	4.394E-01	8.150E-01	0.000E+00	NOT IDENT.
AS-74	4.071E-02	6.879E-02	1.212E-01	0.000E+00	NOT IDENT.
SE-75	-1.675E-02	3.445E-02	5.795E-02	0.000E+00	NOT IDENT.
BR-77	2.669E+00	5.929E+00	1.042E+01	0.000E+00	FAIL ABUN
SR-82	4.883E-03	2.971E-01	5.173E-01	0.000E+00	NOT IDENT.
RB-83	1.886E-02	5.540E-02	9.664E-02	0.000E+00	NOT IDENT.
RB-84	-4.274E-03	5.181E-02	8.840E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.411E+00	1.131E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.245E-02	5.725E-02	0.000E+00	NOT IDENT.
RB-86	2.707E-01	6.078E-01	1.069E+00	0.000E+00	NOT IDENT.
Y-88	-7.429E-03	2.545E-02	4.016E-02	0.000E+00	NOT IDENT.
ZR-88	9.213E-03	2.409E-02	4.290E-02	0.000E+00	NOT IDENT.
Y-91	-6.232E+00	1.429E+01	2.282E+01	0.000E+00	NOT IDENT.
NB-94	7.133E-03	2.644E-02	4.725E-02	0.000E+00	NOT IDENT.
NB-95	2.557E-02	3.972E-02	6.387E-02	0.000E+00	NOT IDENT.
NB-95M	9.429E-02	1.086E-01	1.805E-01	0.000E+00	NOT IDENT.
ZR-95	4.906E-02	5.053E-02	9.477E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.535E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.629E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.618E+00	7.378E+00	1.308E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.072E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.788E-02	2.740E-02	4.972E-02	0.000E+00	FAIL ABUN
RH-102	-2.695E-03	2.238E-02	3.800E-02	0.000E+00	NOT IDENT.
RU-103	-5.120E-03	3.015E-02	5.077E-02	0.000E+00	FAIL ABUN
RH-106	-2.426E-02	2.453E-01	4.069E-01	0.000E+00	FAIL ABUN
RU-106	-2.426E-02	2.452E-01	4.069E-01	0.000E+00	FAIL ABUN
AG-108M	-1.242E-02	2.501E-02	4.156E-02	0.000E+00	NOT IDENT.
AG-110M	2.810E-03	3.054E-02	4.738E-02	0.000E+00	NOT IDENT.
IN-111	4.963E-02	6.675E-01	1.064E+00	0.000E+00	NOT IDENT.
IN-113M	1.377E-02	3.565E-02	6.349E-02	0.000E+00	NOT IDENT.
SN-113	1.377E-02	3.565E-02	6.349E-02	0.000E+00	NOT IDENT.
IN-114M	-4.619E-03	1.559E-01	2.516E-01	0.000E+00	NOT IDENT.
CD-115	2.978E+00	6.268E+00	1.101E+01	0.000E+00	NOT IDENT.
SN-117M	-2.186E-02	4.173E-02	7.005E-02	0.000E+00	NOT IDENT.
SB-122	-1.495E-01	1.271E+00	2.129E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	9.851E+05	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-9.170E-03	2.289E-02	3.867E-02	0.000E+00	NOT IDENT.
I-124	7.681E-02	4.384E-01	7.214E-01	0.000E+00	FAIL ABUN
SB-124	-2.104E-02	5.253E-02	8.169E-02	0.000E+00	FAIL ABUN
SB-125	-1.513E-03	7.766E-02	1.341E-01	0.000E+00	FAIL ABUN
TE-125M	2.539E+00	7.062E+00	1.262E+01	0.000E+00	NOT IDENT.
I-126	5.063E-03	1.598E-01	2.459E-01	0.000E+00	NOT IDENT.
SB-126	-1.038E-01	1.162E-01	1.759E-01	0.000E+00	FAIL ABUN
SB-127	-2.893E-01	8.707E-01	1.491E+00	0.000E+00	NOT IDENT.
XE-127	7.890E-03	3.863E-02	6.870E-02	0.000E+00	NOT IDENT.
I-131	-9.440E-03	8.133E-02	1.413E-01	0.000E+00	NOT IDENT.
TE-132	-5.776E-01	4.254E-01	7.054E-01	0.000E+00	NOT IDENT.
BA-133	-1.505E-02	3.762E-02	5.574E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.859E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.795E-02	7.999E-02	0.000E+00	FAIL ABUN
CS-135	1.906E-01	1.371E-01	2.333E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.000E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.765E-02	7.909E-02	1.368E-01	0.000E+00	FAIL ABUN
CE-139	1.397E-02	2.411E-02	4.247E-02	0.000E+00	NOT IDENT.
BA-140	2.672E-01	2.043E-01	3.492E-01	0.000E+00	NOT IDENT.
LA-140	-5.270E-02	5.939E-02	8.634E-02	0.000E+00	NOT IDENT.
CE-141	3.476E-02	4.811E-02	8.584E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.063E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.345E-01	1.890E-01	2.792E-01	0.000E+00	NOT IDENT.
PM-144	2.005E-02	2.608E-02	4.823E-02	0.000E+00	NOT IDENT.

PR-144	1.358E+00	1.766E+00	3.266E+00	0.000E+00	NOT IDENT.
PM-146	2.723E-02	3.521E-02	6.357E-02	0.000E+00	NOT IDENT.
ND-147	-1.753E-01	4.253E-01	6.973E-01	0.000E+00	FAIL ABUN
PM-149	-3.679E+01	4.946E+01	8.403E+01	0.000E+00	NOT IDENT.
EU-152	-1.635E-02	9.130E-02	1.289E-01	0.000E+00	FAIL ABUN
GD-153	5.906E-02	7.629E-02	1.014E-01	0.000E+00	FAIL ABUN
EU-154	7.197E-02	9.657E-02	1.725E-01	0.000E+00	NOT IDENT.
EU-155	3.263E-02	8.851E-02	1.513E-01	0.000E+00	FAIL ABUN
TB-160	6.232E-03	1.021E-01	1.766E-01	0.000E+00	FAIL ABUN
HO-166M	-4.131E-05	5.070E-02	8.881E-02	0.000E+00	NOT IDENT.
TM-171	-2.731E+01	2.151E+01	3.269E+01	0.000E+00	NOT IDENT.
LU-176	-5.446E-03	1.858E-02	3.237E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.211E+00	1.626E+00	0.000E+00	FAIL ABUN
LU-177M	-4.556E-03	1.373E-01	2.373E-01	0.000E+00	FAIL ABUN
HF-181	1.160E-02	3.258E-02	5.723E-02	0.000E+00	NOT IDENT.
W-181	5.955E-02	2.638E-01	4.315E-01	0.000E+00	NOT IDENT.
TA-182	-1.192E-01	1.481E-01	2.279E-01	0.000E+00	FAIL ABUN
RE-183	5.257E-02	8.931E-02	1.575E-01	0.000E+00	FAIL ABUN
RE-184	4.443E-02	1.797E-01	3.264E-01	0.000E+00	NOT IDENT.
OS-185	-3.602E-02	3.166E-02	5.041E-02	0.000E+00	NOT IDENT.
RE-188	4.864E-02	1.439E-01	2.518E-01	0.000E+00	NOT IDENT.
W-188	-4.844E-02	6.507E+00	1.018E+01	0.000E+00	FAIL ABUN
IR-192	1.162E-03	2.712E-02	4.807E-02	0.000E+00	FAIL ABUN
AU-195	2.301E-01	2.837E-01	3.316E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.642E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.648E-01	4.257E+00	7.293E+00	0.000E+00	NOT IDENT.
TL-202	2.924E-02	5.231E-02	9.351E-02	0.000E+00	NOT IDENT.
HG-203	6.164E-03	3.152E-02	5.675E-02	0.000E+00	NOT IDENT.
BI-207	1.159E-02	4.167E-02	7.231E-02	0.000E+00	FAIL ABUN
TL-207	-7.081E-01	5.518E-01	8.789E-01	0.000E+00	FAIL ABUN
PO-209	-5.465E-01	5.442E+00	9.251E+00	0.000E+00	NOT IDENT.
BI-210	-1.593E-02	1.720E+00	3.144E+00	0.000E+00	NOT IDENT.
PB-210	-1.593E-02	1.720E+00	3.144E+00	0.000E+00	NOT IDENT.
PO-210	-1.593E-02	1.720E+00	3.144E+00	0.000E+00	NOT IDENT.
PB-211	-3.797E-01	7.833E-01	1.255E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.837E-01	6.096E-01	0.000E+00	FAIL ABUN
PO-215	-7.081E-01	5.518E-01	8.789E-01	0.000E+00	FAIL ABUN
RN-219	1.315E-01	3.272E-01	5.818E-01	0.000E+00	FAIL ABUN
RN-220	-1.316E+01	2.156E+01	3.465E+01	0.000E+00	NOT IDENT.
RA-223	-7.081E-01	5.518E-01	8.789E-01	0.000E+00	FAIL ABUN
AC-227	-8.507E-03	2.970E-01	5.322E-01	0.000E+00	FAIL ABUN
TH-227	-8.507E-03	2.970E-01	5.322E-01	0.000E+00	FAIL ABUN
PA-231	-3.603E-01	1.180E+00	2.067E+00	0.000E+00	FAIL ABUN
TH-231	-7.081E-01	5.518E-01	8.789E-01	0.000E+00	FAIL ABUN
U-231	1.041E+00	8.238E-01	1.134E+00	0.000E+00	FAIL ABUN
PA-233	-3.183E-02	4.857E-02	8.249E-02	0.000E+00	FAIL ABUN
PA-234	-1.135E-01	2.335E-01	3.783E-01	0.000E+00	FAIL ABUN
PA-234M	2.487E+00	3.744E+00	6.794E+00	0.000E+00	NOT IDENT.
U-235	4.739E-03	1.705E-01	2.965E-01	0.000E+00	FAIL ABUN
NP-236	8.592E-03	6.510E-02	1.127E-01	0.000E+00	FAIL ABUN
NP-239	-7.007E-02	1.510E-01	2.584E-01	0.000E+00	FAIL ABUN
AM-241	1.158E-02	1.026E-01	1.680E-01	0.000E+00	NOT IDENT.
CM-243	1.893E-02	8.497E-02	1.355E-01	0.000E+00	FAIL ABUN
AM-246	-1.074E-01	1.221E-01	1.881E-01	0.000E+00	NOT IDENT.
CM-247	2.234E-03	2.919E-02	5.094E-02	0.000E+00	NOT IDENT.
CF-249	1.248E-03	3.138E-02	5.478E-02	0.000E+00	NOT IDENT.
CF-251	-8.313E-02	1.056E-01	1.711E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:21:03.29

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385002.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:20:04
Sample ID         : G243385002           Sample quantity  : 1.49000E+02 GRAM
Detector name     : GAM20                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:33.26  0.5%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1116	10.67*	1.253E+00	2.103E+01	2.103E+01	10.74
CD-109	88.03	281	3.72*	6.941E+00	2.744E+00	2.802E+00	29.46
SN-126	64.28	101	9.60	4.591E+00	5.761E-01	5.761E-01	93.94
	86.94	281	8.90	6.941E+00	1.147E+00	1.147E+00	50.04
	87.57	281	37.00*	6.941E+00	2.759E-01	2.759E-01	29.46
BA-137M	661.65	104	89.98*	2.432E+00	1.199E-01	1.200E-01	54.67
CS-137	661.65	104	85.12*	2.432E+00	1.267E-01	1.269E-01	54.68
TL-208	277.35	------	6.80	4.722E+00	------ Line Not Found		------
	510.84	169	21.60	2.993E+00	6.604E-01	6.604E-01	41.22
	583.14	453	84.20*	2.697E+00	5.022E-01	5.022E-01	17.44
	860.37	48	12.46	1.954E+00	4.928E-01	4.928E-01	58.29
BI-211	72.87	------	1.27	5.845E+00	------ Line Not Found		------
	351.07	817	12.94*	3.971E+00	4.006E+00	4.006E+00	14.06
PB-212	74.81	634	10.70	6.048E+00	2.468E+00	2.468E+00	18.85
	77.11	822	18.00	6.260E+00	1.838E+00	1.838E+00	13.79
	87.30	281	8.00	6.941E+00	1.276E+00	1.276E+00	31.11
	238.63	1504	44.60*	5.250E+00	1.619E+00	1.619E+00	12.21
	300.09	88	3.41	4.461E+00	1.464E+00	1.464E+00	63.46
PO-212	74.81	634	10.70	6.048E+00	2.468E+00	2.468E+00	18.85
	77.11	822	18.00	6.260E+00	1.838E+00	1.838E+00	13.79
	87.30	281	8.00	6.941E+00	1.276E+00	1.276E+00	31.11
	115.19	------	0.60	7.430E+00	------ Line Not Found		------
	238.63	1504	44.60*	5.250E+00	1.619E+00	1.619E+00	12.21
	300.09	88	3.41	4.461E+00	1.464E+00	1.464E+00	63.46
BI-214	609.31	599	46.30*	2.603E+00	1.251E+00	1.251E+00	14.76
	1120.29	94	15.10	1.557E+00	1.002E+00	1.002E+00	49.40
	1764.49	122	15.80	1.100E+00	1.772E+00	1.772E+00	20.59
PB-214	74.81	634	6.21	6.048E+00	4.252E+00	4.252E+00	17.96
	77.11	822	10.50	6.260E+00	3.151E+00	3.151E+00	15.76
	87.30	281	4.67	6.941E+00	2.186E+00	2.186E+00	30.45
	241.98	360	7.49	5.205E+00	2.326E+00	2.326E+00	28.97
	295.21	451	19.20	4.514E+00	1.312E+00	1.312E+00	19.60

Sample ID : G243385002 Acquisition date : 31-DEC-2009 09:20:04

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	351.92	817	37.20*	3.971E+00	1.394E+00	1.394E+00	15.00
PO-214	74.81	634	6.21	6.048E+00	4.252E+00	4.252E+00	17.96
	77.11	822	10.50	6.260E+00	3.151E+00	3.151E+00	15.76
	87.30	281	4.67	6.941E+00	2.186E+00	2.186E+00	30.45
	241.98	360	7.49	5.205E+00	2.326E+00	2.326E+00	28.97
	295.21	451	19.20	4.514E+00	1.312E+00	1.312E+00	19.60
	351.92	817	37.20*	3.971E+00	1.394E+00	1.394E+00	15.00
PO-216	74.81	634	10.70	6.048E+00	2.468E+00	2.468E+00	18.85
	77.11	822	18.00	6.260E+00	1.838E+00	1.838E+00	13.79
	87.30	281	8.00	6.941E+00	1.276E+00	1.276E+00	31.11
	238.63	1504	44.60*	5.250E+00	1.619E+00	1.619E+00	12.21
	300.09	88	3.41	4.461E+00	1.464E+00	1.464E+00	63.46
PO-218	74.81	634	6.21	6.048E+00	4.252E+00	4.252E+00	17.96
	77.11	822	10.50	6.260E+00	3.151E+00	3.151E+00	15.76
	87.30	281	4.67	6.941E+00	2.186E+00	2.186E+00	30.45
	241.98	360	7.49	5.205E+00	2.326E+00	2.326E+00	28.97
	295.21	451	19.20	4.514E+00	1.312E+00	1.312E+00	19.60
	351.92	817	37.20*	3.971E+00	1.394E+00	1.394E+00	15.00
RA-224	240.98	360	3.95*	5.205E+00	4.411E+00	4.411E+00	28.43
RA-226	609.31	599	46.30*	2.603E+00	1.251E+00	1.251E+00	14.76
	1120.29	94	15.10	1.557E+00	1.002E+00	1.002E+00	49.40
	1764.49	122	15.80	1.100E+00	1.772E+00	1.772E+00	20.59
AC-228	338.32	371	11.40	4.088E+00	2.004E+00	2.004E+00	44.93
	911.07	320	27.70*	1.860E+00	1.564E+00	1.564E+00	18.16
	969.11	233	16.60	1.764E+00	2.002E+00	2.002E+00	28.85
RA-228	338.32	371	11.40	4.088E+00	2.004E+00	2.004E+00	44.93
	911.07	320	27.70*	1.860E+00	1.564E+00	1.564E+00	18.16
	969.11	233	16.60	1.764E+00	2.002E+00	2.002E+00	28.85
TH-228	74.81	634	10.70	6.048E+00	2.468E+00	2.502E+00	16.40
	77.11	822	18.00	6.260E+00	1.838E+00	1.864E+00	13.79
	87.30	281	8.00	6.941E+00	1.276E+00	1.294E+00	29.46
	238.63	1504	44.60*	5.250E+00	1.619E+00	1.641E+00	12.21
	300.09	88	3.41	4.461E+00	1.464E+00	1.485E+00	86.22
TH-229	85.43	135	16.50	6.771E+00	3.035E-01	3.035E-01	62.24
	88.47	281	27.10	6.941E+00	3.767E-01	3.767E-01	29.46
	100.00	69	12.40	7.342E+00	1.919E-01	1.919E-01	125.82
	193.63	------	4.59*	6.023E+00	------ Line Not Found		------
	210.97	------	3.26	5.703E+00	------ Line Not Found		------
TH-230	609.31	599	46.30*	2.603E+00	1.251E+00	1.251E+00	14.76
	1120.29	94	15.10	1.557E+00	1.002E+00	1.002E+00	49.40
	1764.49	122	15.80	1.100E+00	1.772E+00	1.772E+00	20.59
TH-232	338.32	371	11.40	4.088E+00	2.004E+00	2.004E+00	19.76
	911.07	320	27.70*	1.860E+00	1.564E+00	1.564E+00	18.16
	969.11	233	16.60	1.764E+00	2.002E+00	2.002E+00	28.85
TH-234	63.29	101	3.80*	4.591E+00	1.455E+00	1.455E+00	94.43
	92.38	411	5.41	7.174E+00	2.666E+00	2.666E+00	29.17
U-234	609.31	599	46.30*	2.603E+00	1.251E+00	1.251E+00	14.76
	1120.29	94	15.10	1.557E+00	1.002E+00	1.002E+00	49.40
	1764.49	122	15.80	1.100E+00	1.772E+00	1.772E+00	20.59

Sample ID : G243385002 Acquisition date : 31-DEC-2009 09:20:04

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
NP-237	86.50	281	12.60*	6.941E+00	8.102E-01	8.102E-01	35.97
	95.87	------	2.60	7.260E+00	------ Line Not Found		------
U-238	63.29	101	3.80*	4.591E+00	1.455E+00	1.455E+00	94.43
	92.38	411	5.41	7.174E+00	2.666E+00	2.666E+00	24.46
AM-243	74.67	634	66.00*	6.048E+00	4.001E-01	4.001E-01	16.37
	86.72	281	0.34	6.941E+00	3.038E+01	3.038E+01	29.46
	117.66	------	0.55	7.416E+00	------ Line Not Found		------
	142.18	------	0.13	7.067E+00	------ Line Not Found		------
ANH-511	511.00	169	100.00*	2.993E+00	1.426E-01	1.426E-01	40.37

Flag: "*" = Keyline

Sample ID : G243385002 Acquisition date : 31-DEC-2009 09:20:04

Total number of lines in spectrum 36
Number of unidentified lines 3
Number of lines tentatively identified by NID 33 91.67%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.103E+01	2.103E+01	0.226E+01	10.74	
CD-109	464.00D	1.02	2.744E+00	2.802E+00	0.825E+00	29.46	
SN-126	1.00E+05Y	1.00	2.759E-01	2.759E-01	0.813E-01	29.46	
BA-137M	30.17Y	1.00	1.199E-01	1.200E-01	0.656E-01	54.67	
CS-137	30.17Y	1.00	1.267E-01	1.269E-01	0.694E-01	54.68	
TL-208	1.41E+10Y	1.00	5.022E-01	5.022E-01	0.876E-01	17.44	
BI-211	7.04E+08Y	1.00	4.006E+00	4.006E+00	0.563E+00	14.06	
PB-212	1.41E+10Y	1.00	1.619E+00	1.619E+00	0.198E+00	12.21	
PO-212	1.41E+10Y	1.00	1.619E+00	1.619E+00	0.198E+00	12.21	
BI-214	1600.00Y	1.00	1.251E+00	1.251E+00	0.185E+00	14.76	
PB-214	1600.00Y	1.00	1.394E+00	1.394E+00	0.209E+00	15.00	
PO-214	1600.00Y	1.00	1.394E+00	1.394E+00	0.209E+00	15.00	
PO-216	1.41E+10Y	1.00	1.619E+00	1.619E+00	0.198E+00	12.21	
PO-218	1600.00Y	1.00	1.394E+00	1.394E+00	0.209E+00	15.00	
RA-224	1.41E+10Y	1.00	4.411E+00	4.411E+00	1.254E+00	28.43	
RA-226	1600.00Y	1.00	1.251E+00	1.251E+00	0.185E+00	14.76	
AC-228	1.41E+10Y	1.00	1.564E+00	1.564E+00	0.284E+00	18.16	
RA-228	1.41E+10Y	1.00	1.564E+00	1.564E+00	0.284E+00	18.16	
TH-228	1.91Y	1.01	1.619E+00	1.641E+00	0.200E+00	12.21	
TH-229	7340.00Y	1.00	3.767E-01	3.767E-01	1.110E-01	29.46	K
TH-230	4.47E+09Y	1.00	1.251E+00	1.251E+00	0.185E+00	14.76	
TH-232	1.41E+10Y	1.00	1.564E+00	1.564E+00	0.284E+00	18.16	
TH-234	4.47E+09Y	1.00	1.455E+00	1.455E+00	1.374E+00	94.43	
U-234	4.47E+09Y	1.00	1.251E+00	1.251E+00	0.185E+00	14.76	
NP-237	2.14E+06Y	1.00	8.102E-01	8.102E-01	2.914E-01	35.97	
U-238	4.47E+09Y	1.00	1.455E+00	1.455E+00	1.374E+00	94.43	
AM-243	7380.00Y	1.00	4.001E-01	4.001E-01	0.655E-01	16.37	
ANH-511	1.00E+09Y	1.00	1.426E-01	1.426E-01	0.576E-01	40.37	
	Total Activity :		5.821E+01	5.829E+01			

Grand Total Activity : 5.821E+01 5.829E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G243385002 Acquisition date : 31-DEC-2009 09:20:04

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	89.95	149	188	0.92	179.80	178	15	2.07E-02	28.0	7.06E+00	T
0	128.64	144	433	2.11	257.07	253	10	2.00E-02	56.5	7.30E+00	T
0	186.18	246	442	1.23	371.99	367	12	3.42E-02	37.6	6.17E+00	T
0	209.16	181	312	1.18	417.88	413	10	2.52E-02	39.4	5.73E+00	T
0	270.20	132	161	1.70	539.82	536	9	1.83E-02	39.0	4.81E+00	T
0	462.16	78	184	1.56	923.35	919	15	1.08E-02	78.8	3.23E+00	T
0	727.31	114	69	1.75	1453.35	1448	11	1.58E-02	34.5	2.25E+00	T
0	769.02	34	65	0.87	1536.75	1533	8	4.74E-03	91.4	2.15E+00	
0	794.67	113	38	1.72	1588.03	1579	17	1.57E-02	31.4	2.09E+00	T
2	964.77	63	36	1.99	1928.22	1922	22	8.79E-03	47.5	1.77E+00	T
0	1377.71	36	21	1.49	2754.53	2749	14	5.00E-03	63.5	1.31E+00	T
0	1587.98	28	7	1.91	3175.53	3170	10	3.82E-03	53.3	1.18E+00	
0	1846.93	22	6	1.93	3694.23	3687	12	3.06E-03	61.7	1.07E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:21:07.95

```
*******************************************************************************
*                            GEL Laboratories LLC                             *
*                              2040 Savage Road                               *
*                            Charleston, SC 29414                             *
*******************************************************************************
*                                                                             *
*                              DETECTOR DATA                                  *
*                                                                             *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385002.CNF;1   *
* Acquisition date  : 31-DEC-2009 09:20:04  Detector SN#     :               *
* Detector ID       : GAM20                 Sensitivity      : 5.00000        *
* Geometry          : CAN                   Energy tolerance: 1.50000        *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000       *
* Elapsed real time: 0 02:00:33.26          Half life ratio : 8.00000        *
*******************************************************************************
*                                                                             *
*                               SAMPLE DATA                                   *
*                                                                             *
* Sample date       : 17-DEC-2009 12:00:00  Nuclide Library : SOLID          *
* Sample ID         : G243385002            Analyst initials: MJH1           *
* Batch Number      : 936285                Sample Quantity : 1.49000E+02 GRAM *
*******************************************************************************
*                                                                             *
*                                 QC DATA                                     *
*                                                                             *
* CALIB. DATE/TIME : 26-AUG-2009 06:32:11.7MS Isotope       :                *
* MSD ID            :                       MSD Isotope      :                *
* LCS ID            : 1032-A                LCS Isotope      :                *
*******************************************************************************
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.103E+01	2.259E+00	4.156E-01	3.624E-02	50.600
CD-109	2.802E+00	8.254E-01	9.347E-01	8.839E-02	2.998
SN-126	2.759E-01	8.128E-02	9.231E-02	8.682E-03	2.989
BA-137M	1.200E-01	6.561E-02	4.536E-02	4.552E-03	2.646
CS-137	1.269E-01	6.936E-02	4.795E-02	4.819E-03	2.646
TL-208	5.022E-01	8.759E-02	4.755E-02	4.888E-03	10.563
BI-211	4.006E+00	5.634E-01	2.675E-01	2.563E-02	14.975
PB-212	1.619E+00	1.977E-01	7.675E-02	8.162E-03	21.087
PO-212	1.619E+00	1.977E-01	7.675E-02	8.162E-03	21.087
BI-214	1.251E+00	1.847E-01	8.460E-02	9.414E-03	14.792
PB-214	1.394E+00	2.090E-01	9.325E-02	1.016E-02	14.945
PO-214	1.394E+00	2.090E-01	9.325E-02	1.016E-02	14.945
PO-216	1.619E+00	1.977E-01	7.675E-02	8.162E-03	21.087
PO-218	1.394E+00	2.090E-01	9.325E-02	1.016E-02	14.945
RA-224	4.411E+00	1.254E+00	8.733E-01	8.441E-02	5.051
RA-226	1.251E+00	1.847E-01	8.460E-02	9.414E-03	14.792
AC-228	1.564E+00	2.840E-01	1.719E-01	2.106E-02	9.098
RA-228	1.564E+00	2.840E-01	1.719E-01	2.106E-02	9.098

Sample ID : G243385002 Acquisition date : 31-DEC-2009 09:20:04

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.641E+00	2.005E-01	7.782E-02	8.276E-03	21.088
TH-229	3.767E-01	1.110E-01	6.696E-01	6.099E-02	0.563
TH-230	1.251E+00	1.847E-01	8.460E-02	9.414E-03	14.792
TH-232	1.564E+00	2.840E-01	1.719E-01	2.106E-02	9.098
TH-234	1.455E+00	1.374E+00	1.334E+00	2.317E-01	1.091
U-234	1.251E+00	1.847E-01	8.460E-02	9.414E-03	14.792
NP-237	8.102E-01	2.914E-01	2.882E-01	6.520E-02	2.812
U-238	1.455E+00	1.374E+00	1.334E+00	2.317E-01	1.091
AM-243	4.001E-01	6.548E-02	6.532E-02	5.258E-03	6.125
ANH-511	1.426E-01	5.759E-02	3.841E-02	3.579E-03	3.714

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.244E-01		2.540E-01	3.817E-01	3.710E-02	-0.588
NA-22	1.880E-02		3.573E-02	6.077E-02	5.034E-03	0.309
NA-24	1.314E-01		6.878E-02	Half-Life too short		
AL-26	-1.156E-02		2.137E-02	3.069E-02	2.492E-03	-0.377
TI-44	3.392E-01	+	4.678E-02	6.277E-02	5.268E-03	5.403
SC-46	-2.078E-02		2.874E-02	4.374E-02	4.360E-03	-0.475
V-48	5.546E-03		5.376E-02	8.914E-02	8.520E-03	0.062
CR-51	3.591E-02		2.906E-01	4.850E-01	4.862E-02	0.074
MN-52	-3.772E-03		1.298E-01	2.161E-01	1.829E-02	-0.017
MN-54	-7.379E-03		3.290E-02	5.362E-02	5.417E-03	-0.138
CO-56	-6.266E-03		2.827E-02	4.581E-02	4.617E-03	-0.137
CO-57	2.946E-03		2.126E-02	3.436E-02	2.868E-03	0.086
CO-58	-4.853E-02		3.356E-02	4.815E-02	4.889E-03	-1.008
FE-59	4.245E-03		6.557E-02	1.076E-01	1.015E-02	0.039
CO-60	8.658E-03		2.905E-02	4.858E-02	4.069E-03	0.178
ZN-65	2.761E-02		8.247E-02	1.211E-01	1.043E-02	0.228
GE-68	-2.268E-02		1.034E+00	1.684E+00	1.502E-01	-0.013
AS-73	1.496E-01		4.484E-01	7.492E-01	5.562E-02	0.200
AS-74	4.071E-02		7.020E-02	1.177E-01	1.152E-02	0.346
SE-75	-1.675E-02		3.515E-02	5.523E-02	5.468E-03	-0.303
BR-77	2.669E+00		6.050E+00	1.009E+01	9.467E-01	0.264
SR-82	4.883E-03		3.032E-01	5.059E-01	5.141E-02	0.010
RB-83	1.886E-02		5.653E-02	9.359E-02	8.777E-03	0.202
RB-84	-4.274E-03		5.287E-02	8.672E-02	8.666E-03	-0.049
KR-85	1.433E+01		6.542E+00	1.095E+01	1.022E+00	1.308
SR-85	7.251E-02		3.311E-02	5.542E-02	5.175E-03	1.308
RB-86	2.707E-01		6.202E-01	1.054E+00	9.409E-02	0.257
Y-88	-7.429E-03		2.597E-02	4.013E-02	3.238E-03	-0.185
ZR-88	9.213E-03		2.458E-02	4.127E-02	3.451E-03	0.223
Y-91	-6.232E+00		1.458E+01	2.257E+01	1.832E+00	-0.276
NB-94	7.133E-03		2.698E-02	4.610E-02	4.664E-03	0.155
NB-95	2.557E-02		4.053E-02	6.244E-02	6.345E-03	0.409
NB-95M	9.429E-02		1.108E-01	1.716E-01	1.844E-02	0.550

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	4.906E-02		5.156E-02	9.262E-02	1.011E-02	0.530
NB-97	7.665E-05		1.293E-02	Half-Life too short		
ZR-97	6.751E-01		2.362E-01	Half-Life too short		
MO-99	1.618E+00		7.528E+00	1.277E+01	2.057E+00	0.127
TC-99M	-1.033E+09		5.471E+08	Half-Life too short		
RH-101	1.788E-02		2.796E-02	4.706E-02	4.314E-03	0.380
RH-102	-2.695E-03		2.284E-02	3.672E-02	3.330E-03	-0.073
RU-103	-5.120E-03		3.077E-02	4.911E-02	7.139E-03	-0.104
RH-106	-2.426E-02		2.503E-01	3.958E-01	5.626E-02	-0.061
RU-106	-2.426E-02		2.502E-01	3.958E-01	3.917E-02	-0.061
AG-108M	-1.242E-02		2.552E-02	4.007E-02	3.636E-03	-0.310
AG-110M	2.810E-03		3.116E-02	4.615E-02	4.728E-03	0.061
IN-111	4.963E-02		6.811E-01	1.012E+00	9.826E-02	0.049
IN-113M	1.377E-02		3.638E-02	6.107E-02	5.268E-03	0.225
SN-113	1.377E-02		3.638E-02	6.107E-02	5.268E-03	0.225
IN-114M	-4.619E-03		1.591E-01	2.379E-01	2.156E-02	-0.019
CD-115	2.978E+00		6.396E+00	1.067E+01	1.005E+00	0.279
SN-117M	-2.186E-02		4.258E-02	6.597E-02	5.694E-03	-0.331
SB-122	-1.495E-01		1.297E+00	2.066E+00	1.989E-01	-0.072
I-123	-3.946E-01		5.026E-01	Half-Life too short		
TE-123M	-9.170E-03		2.336E-02	3.643E-02	3.165E-03	-0.252
I-124	7.681E-02		4.473E-01	7.011E-01	6.883E-02	0.110
SB-124	-2.104E-02		5.360E-02	8.146E-02	7.079E-03	-0.258
SB-125	-1.513E-03		7.925E-02	1.292E-01	1.144E-02	-0.012
TE-125M	2.539E+00		7.206E+00	1.179E+01	1.205E+00	0.215
I-126	5.063E-03		1.630E-01	2.396E-01	2.407E-02	0.021
SB-126	-1.038E-01		1.186E-01	1.717E-01	1.741E-02	-0.605
SB-127	-2.893E-01		8.884E-01	1.453E+00	1.775E-01	-0.199
XE-127	7.890E-03		3.942E-02	6.507E-02	6.006E-03	0.121
I-131	-9.440E-03		8.299E-02	1.356E-01	1.271E-02	-0.070
TE-132	-5.776E-01		4.341E-01	6.699E-01	1.074E-01	-0.862
BA-133	-1.505E-02		3.838E-02	5.350E-02	7.227E-03	-0.281
I-133	-1.918E-04		9.486E-04	Half-Life too short		
CS-134	1.790E-01	+	5.913E-02	7.827E-02	7.987E-03	2.287
CS-135	1.906E-01		1.399E-01	2.224E-01	2.464E-02	0.857
I-135	2.640E+07		1.020E+08	Half-Life too short		
CS-136	1.765E-02		8.070E-02	1.347E-01	1.279E-02	0.131
CE-139	1.397E-02		2.460E-02	4.003E-02	3.495E-03	0.349
BA-140	2.672E-01		2.084E-01	3.384E-01	1.129E-01	0.790
LA-140	-5.270E-02		6.060E-02	8.597E-02	7.258E-03	-0.613
CE-141	3.476E-02		4.909E-02	8.068E-02	6.966E-03	0.431
CE-143	3.360E-04		5.422E-05	Half-Life too short		
CE-144	-1.345E-01		1.929E-01	2.619E-01	4.041E-02	-0.514
PM-144	2.005E-02		2.661E-02	4.704E-02	4.756E-03	0.426
PR-144	1.358E+00		1.802E+00	3.185E+00	3.220E-01	0.426
PM-146	2.723E-02		3.593E-02	6.136E-02	6.720E-03	0.444
ND-147	-1.753E-01		4.340E-01	6.756E-01	1.043E-01	-0.259
PM-149	-3.679E+01		5.047E+01	8.023E+01	1.307E+01	-0.459

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-1.635E-02		9.316E-02	1.236E-01	1.206E-02	-0.132
GD-153	5.906E-02		7.784E-02	9.447E-02	8.378E-03	0.625
EU-154	7.197E-02		9.854E-02	1.708E-01	1.887E-02	0.421
EU-155	3.263E-02		9.032E-02	1.412E-01	1.227E-02	0.231
TB-160	6.232E-03		1.042E-01	1.733E-01	1.732E-02	0.036
HO-166M	-4.131E-05		5.173E-02	8.667E-02	8.779E-03	0.000
TM-171	-2.731E+01		2.195E+01	3.020E+01	2.250E+00	-0.904
LU-176	-5.446E-03		1.896E-02	3.095E-02	3.019E-03	-0.176
LU-177	3.049E+00	+	1.235E+00	1.541E+00	1.433E-01	1.978
LU-177M	-4.556E-03		1.401E-01	2.286E-01	1.956E-02	-0.020
HF-181	1.160E-02		3.324E-02	5.532E-02	5.044E-03	0.210
W-181	5.955E-02		2.692E-01	3.984E-01	2.932E-02	0.149
TA-182	-1.192E-01		1.511E-01	2.254E-01	1.840E-02	-0.529
RE-183	5.257E-02		9.113E-02	1.484E-01	1.288E-02	0.354
RE-184	4.443E-02		1.833E-01	3.107E-01	3.037E-02	0.143
OS-185	-3.602E-02		3.231E-02	4.907E-02	4.901E-03	-0.734
RE-188	4.864E-02		1.469E-01	2.370E-01	2.035E-02	0.205
W-188	-4.844E-02		6.640E+00	9.721E+00	9.612E-01	-0.005
IR-192	1.162E-03		2.768E-02	4.601E-02	4.449E-03	0.025
AU-195	2.301E-01	+	2.895E-01	3.089E-01	2.720E-02	0.745
TL-200	8.668E-05		8.378E-05	Half-Life too short		
TL-201	-1.648E-01		4.344E+00	6.877E+00	6.017E-01	-0.024
TL-202	2.924E-02		5.338E-02	9.019E-02	7.924E-03	0.324
HG-203	6.164E-03		3.216E-02	5.415E-02	5.507E-03	0.114
BI-207	1.159E-02		4.252E-02	7.127E-02	6.435E-03	0.163
TL-207	-7.081E-01		5.630E-01	8.415E-01	1.530E-01	-0.841
PO-209	-5.465E-01		5.553E+00	9.079E+00	9.030E-01	-0.060
BI-210	-1.593E-02		1.755E+00	2.881E+00	2.672E-01	-0.006
PB-210	-1.593E-02		1.755E+00	2.881E+00	2.672E-01	-0.006
PO-210	-1.593E-02		1.755E+00	2.881E+00	2.417E-01	-0.006
PB-211	-3.797E-01		7.993E-01	1.209E+00	7.571E-01	-0.314
BI-212	1.078E+00	+	3.915E-01	5.952E-01	6.755E-02	1.812
PO-215	-7.081E-01		5.630E-01	8.415E-01	1.530E-01	-0.841
RN-219	1.315E-01		3.339E-01	5.599E-01	8.359E-02	0.235
RN-220	-1.316E+01		2.200E+01	3.360E+01	3.210E+00	-0.392
RA-223	-7.081E-01		5.630E-01	8.415E-01	1.530E-01	-0.841
AC-227	-8.507E-03		3.030E-01	5.068E-01	8.129E-02	-0.017
TH-227	-8.507E-03		3.030E-01	5.068E-01	9.454E-02	-0.017
PA-231	-3.603E-01		1.204E+00	1.973E+00	3.150E-01	-0.183
TH-231	-7.081E-01		5.630E-01	8.415E-01	1.530E-01	-0.841
U-231	1.041E+00		8.406E-01	1.056E+00	9.444E-02	0.985
PA-233	-3.183E-02		4.956E-02	7.892E-02	7.830E-03	-0.403
PA-234	-1.135E-01		2.383E-01	3.717E-01	7.177E-02	-0.305
PA-234M	2.487E+00		3.820E+00	6.686E+00	7.152E-01	0.372
U-235	4.739E-03		1.740E-01	2.786E-01	4.855E-02	0.017
NP-236	8.592E-03		6.643E-02	1.062E-01	9.190E-03	0.081
NP-239	-7.007E-02		1.541E-01	2.417E-01	2.025E-02	-0.290
AM-241	1.158E-02		1.047E-01	1.548E-01	1.211E-02	0.075

Sample ID : G243385002 Acquisition date : 31-DEC-2009 09:20:04

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.893E-02		8.670E-02	1.264E-01	1.091E-02	0.150
AM-246	-1.074E-01		1.246E-01	1.854E-01	1.652E-02	-0.579
CM-247	2.234E-03		2.979E-02	4.903E-02	4.146E-03	0.046
CF-249	1.248E-03		3.202E-02	5.268E-02	4.445E-03	0.024
CF-251	-8.313E-02		1.077E-01	1.615E-01	1.433E-02	-0.515

VAX/VMS Nuclide Identification Report Generated

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243385002           *
* Acquisition date  : 31-DEC-2009 09:20:04 Detector SN#     :               *
* Detector ID       : GAM20                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:33.26      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243385002           Analyst initials: MJH1           *
* Batch Number      : 936285               Sample Quantity : 1.4900E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME : 26-AUG-2009 06:32:11 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.103E+01	2.214E+00	2.093E-01	1.130E+00
CD-109	2.802E+00	8.089E-01	5.032E-01	4.127E-01
SN-126	2.759E-01	7.965E-02	4.969E-02	4.064E-02
BA-137M	1.200E-01	6.430E-02	2.330E-02	3.280E-02
CS-137	1.269E-01	6.797E-02	2.463E-02	3.468E-02
TL-208	5.022E-01	8.584E-02	2.449E-02	4.380E-02
BI-211	4.006E+00	5.522E-01	1.395E-01	2.817E-01
PB-212	1.619E+00	1.937E-01	4.039E-02	9.885E-02
PO-212	1.619E+00	1.937E-01	4.039E-02	9.885E-02
BI-214	1.251E+00	1.810E-01	4.354E-02	9.236E-02
PB-214	1.394E+00	2.049E-01	4.863E-02	1.045E-01
PO-214	1.394E+00	2.049E-01	4.863E-02	1.045E-01
PO-216	1.619E+00	1.937E-01	4.039E-02	9.885E-02
PO-218	1.394E+00	2.049E-01	4.863E-02	1.045E-01
RA-224	4.411E+00	1.229E+00	4.594E-01	6.269E-01
RA-226	1.251E+00	1.810E-01	4.354E-02	9.236E-02
AC-228	1.564E+00	2.784E-01	8.761E-02	1.420E-01
RA-228	1.564E+00	2.784E-01	8.761E-02	1.420E-01
TH-228	1.641E+00	1.964E-01	4.095E-02	1.002E-01
TH-229	-1.443E-01	3.932E-01	3.541E-01	2.006E-01
TH-230	1.251E+00	1.810E-01	4.354E-02	9.236E-02
TH-232	1.564E+00	2.784E-01	8.761E-02	1.420E-01
TH-234	1.455E+00	1.347E+00	7.231E-01	6.872E-01
U-234	1.251E+00	1.810E-01	4.354E-02	9.236E-02
NP-237	8.102E-01	2.856E-01	1.552E-01	1.457E-01
U-238	1.455E+00	1.347E+00	7.231E-01	6.872E-01
AM-243	4.001E-01	6.417E-02	3.529E-02	3.274E-02
ANH-511	1.426E-01	5.644E-02	1.985E-02	2.880E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU

BE-7	-2.244E-01	2.489E-01	1.976E-01	1.270E-01	NOT IDENT.
NA-22	1.880E-02	3.501E-02	3.071E-02	1.786E-02	NOT IDENT.
NA-24	1.314E+05	1.348E+05	0.000E+00	6.878E+04	SHORT HLIF
AL-26	-1.156E-02	2.094E-02	1.537E-02	1.069E-02	NOT IDENT.
TI-44	3.392E-01	4.584E-02	3.388E-02	2.339E-02	FAIL ABUN
SC-46	-2.078E-02	2.817E-02	2.230E-02	1.437E-02	FAIL ABUN
V-48	5.546E-03	5.269E-02	4.534E-02	2.688E-02	NOT IDENT.
CR-51	3.591E-02	2.848E-01	2.535E-01	1.453E-01	NOT IDENT.
MN-52	-3.772E-03	1.272E-01	1.089E-01	6.490E-02	NOT IDENT.
MN-54	-7.379E-03	3.224E-02	2.738E-02	1.645E-02	NOT IDENT.
CO-56	-6.266E-03	2.770E-02	2.339E-02	1.414E-02	NOT IDENT.
CO-57	2.946E-03	2.084E-02	1.836E-02	1.063E-02	NOT IDENT.
CO-58	-4.853E-02	3.288E-02	2.461E-02	1.678E-02	NOT IDENT.
FE-59	4.245E-03	6.426E-02	5.456E-02	3.279E-02	NOT IDENT.
CO-60	8.658E-03	2.847E-02	2.452E-02	1.452E-02	NOT IDENT.
ZN-65	2.761E-02	8.082E-02	6.142E-02	4.123E-02	NOT IDENT.
GE-68	-2.268E-02	1.014E+00	8.544E-01	5.172E-01	NOT IDENT.
AS-73	1.496E-01	4.394E-01	4.078E-01	2.242E-01	NOT IDENT.
AS-74	4.071E-02	6.879E-02	6.061E-02	3.510E-02	NOT IDENT.
SE-75	-1.675E-02	3.445E-02	2.899E-02	1.757E-02	NOT IDENT.
BR-77	2.669E+00	5.929E+00	5.214E+00	3.025E+00	FAIL ABUN
SR-82	4.883E-03	2.971E-01	2.588E-01	1.516E-01	NOT IDENT.
RB-83	1.886E-02	5.540E-02	4.835E-02	2.826E-02	NOT IDENT.
RB-84	-4.274E-03	5.181E-02	4.423E-02	2.644E-02	NOT IDENT.
KR-85	1.433E+01	6.411E+00	5.659E+00	3.271E+00	NOT IDENT.
SR-85	7.251E-02	3.245E-02	2.864E-02	1.656E-02	NOT IDENT.
RB-86	2.707E-01	6.078E-01	5.348E-01	3.101E-01	NOT IDENT.
Y-88	-7.429E-03	2.545E-02	2.009E-02	1.298E-02	NOT IDENT.
ZR-88	9.213E-03	2.409E-02	2.146E-02	1.229E-02	NOT IDENT.
Y-91	-6.232E+00	1.429E+01	1.142E+01	7.292E+00	NOT IDENT.
NB-94	7.133E-03	2.644E-02	2.364E-02	1.349E-02	NOT IDENT.
NB-95	2.557E-02	3.972E-02	3.195E-02	2.026E-02	NOT IDENT.
NB-95M	9.429E-02	1.086E-01	9.031E-02	5.542E-02	NOT IDENT.
ZR-95	4.906E-02	5.053E-02	4.741E-02	2.578E-02	NOT IDENT.
NB-97	7.665E+01	2.535E+04	0.000E+00	1.293E+04	SHORT HLIF
ZR-97	6.751E+05	4.629E+05	0.000E+00	2.362E+05	SHORT HLIF
MO-99	1.618E+00	7.378E+00	6.543E+00	3.764E+00	NOT IDENT.
TC-99M	-1.033E+15	1.072E+15	0.000E+00	5.471E+14	SHORT HLIF
RH-101	1.788E-02	2.740E-02	2.487E-02	1.398E-02	FAIL ABUN
RH-102	-2.695E-03	2.238E-02	1.901E-02	1.142E-02	NOT IDENT.
RU-103	-5.120E-03	3.015E-02	2.540E-02	1.538E-02	FAIL ABUN
RH-106	-2.426E-02	2.453E-01	2.036E-01	1.251E-01	FAIL ABUN
RU-106	-2.426E-02	2.452E-01	2.036E-01	1.251E-01	FAIL ABUN
AG-108M	-1.242E-02	2.501E-02	2.079E-02	1.276E-02	NOT IDENT.
AG-110M	2.810E-03	3.054E-02	2.371E-02	1.558E-02	NOT IDENT.
IN-111	4.963E-02	6.675E-01	5.323E-01	3.406E-01	NOT IDENT.
IN-113M	1.377E-02	3.565E-02	3.176E-02	1.819E-02	NOT IDENT.
SN-113	1.377E-02	3.565E-02	3.176E-02	1.819E-02	NOT IDENT.
IN-114M	-4.619E-03	1.559E-01	1.259E-01	7.953E-02	NOT IDENT.
CD-115	2.978E+00	6.268E+00	5.509E+00	3.198E+00	NOT IDENT.
SN-117M	-2.186E-02	4.173E-02	3.505E-02	2.129E-02	NOT IDENT.
SB-122	-1.495E-01	1.271E+00	1.065E+00	6.487E-01	NOT IDENT.
I-123	-3.946E+05	9.851E+05	0.000E+00	5.026E+05	SHORT HLIF
TE-123M	-9.170E-03	2.289E-02	1.935E-02	1.168E-02	NOT IDENT.
I-124	7.681E-02	4.384E-01	3.609E-01	2.237E-01	FAIL ABUN
SB-124	-2.104E-02	5.253E-02	4.087E-02	2.680E-02	FAIL ABUN
SB-125	-1.513E-03	7.766E-02	6.707E-02	3.962E-02	FAIL ABUN
TE-125M	2.539E+00	7.062E+00	6.316E+00	3.603E+00	NOT IDENT.
I-126	5.063E-03	1.598E-01	1.230E-01	8.151E-02	NOT IDENT.
SB-126	-1.038E-01	1.162E-01	8.798E-02	5.928E-02	FAIL ABUN
SB-127	-2.893E-01	8.707E-01	7.458E-01	4.442E-01	NOT IDENT.
XE-127	7.890E-03	3.863E-02	3.437E-02	1.971E-02	NOT IDENT.
I-131	-9.440E-03	8.133E-02	7.067E-02	4.149E-02	NOT IDENT.
TE-132	-5.776E-01	4.254E-01	3.529E-01	2.171E-01	NOT IDENT.
BA-133	-1.505E-02	3.762E-02	2.789E-02	1.919E-02	NOT IDENT.
I-133	-1.918E+02	1.859E+03	0.000E+00	9.486E+02	SHORT HLIF
CS-134	1.790E-01	5.795E-02	4.002E-02	2.957E-02	FAIL ABUN
CS-135	1.906E-01	1.371E-01	1.167E-01	6.994E-02	NOT IDENT.
I-135	2.640E+13	2.000E+14	0.000E+00	1.020E+14	SHORT HLIF
CS-136	1.765E-02	7.909E-02	6.843E-02	4.035E-02	FAIL ABUN
CE-139	1.397E-02	2.411E-02	2.125E-02	1.230E-02	NOT IDENT.
BA-140	2.672E-01	2.043E-01	1.747E-01	1.042E-01	NOT IDENT.
LA-140	-5.270E-02	5.939E-02	4.319E-02	3.030E-02	NOT IDENT.
CE-141	3.476E-02	4.811E-02	4.294E-02	2.454E-02	NOT IDENT.
CE-143	3.360E+02	1.063E+02	0.000E+00	5.422E+01	SHORT HLIF
CE-144	-1.345E-01	1.890E-01	1.397E-01	9.645E-02	NOT IDENT.
PM-144	2.005E-02	2.608E-02	2.413E-02	1.331E-02	NOT IDENT.

PR-144	1.358E+00	1.766E+00	1.634E+00	9.010E-01	NOT IDENT.
PM-146	2.723E-02	3.521E-02	3.180E-02	1.796E-02	NOT IDENT.
ND-147	-1.753E-01	4.253E-01	3.488E-01	2.170E-01	FAIL ABUN
PM-149	-3.679E+01	4.946E+01	4.204E+01	2.523E+01	NOT IDENT.
EU-152	-1.635E-02	9.130E-02	6.447E-02	4.658E-02	FAIL ABUN
GD-153	5.906E-02	7.629E-02	5.074E-02	3.892E-02	FAIL ABUN
EU-154	7.197E-02	9.657E-02	8.631E-02	4.927E-02	NOT IDENT.
EU-155	3.263E-02	8.851E-02	7.569E-02	4.516E-02	FAIL ABUN
TB-160	6.232E-03	1.021E-01	8.837E-02	5.209E-02	FAIL ABUN
HO-166M	-4.131E-05	5.070E-02	4.443E-02	2.587E-02	NOT IDENT.
TM-171	-2.731E+01	2.151E+01	1.635E+01	1.097E+01	NOT IDENT.
LU-176	-5.446E-03	1.858E-02	1.619E-02	9.482E-03	FAIL ABUN
LU-177	3.049E+00	1.211E+00	8.136E-01	6.177E-01	FAIL ABUN
LU-177M	-4.556E-03	1.373E-01	1.187E-01	7.003E-02	FAIL ABUN
HF-181	1.160E-02	3.258E-02	2.863E-02	1.662E-02	NOT IDENT.
W-181	5.955E-02	2.638E-01	2.159E-01	1.346E-01	NOT IDENT.
TA-182	-1.192E-01	1.481E-01	1.140E-01	7.554E-02	FAIL ABUN
RE-183	5.257E-02	8.931E-02	7.879E-02	4.556E-02	FAIL ABUN
RE-184	4.443E-02	1.797E-01	1.633E-01	9.166E-02	NOT IDENT.
OS-185	-3.602E-02	3.166E-02	2.522E-02	1.616E-02	NOT IDENT.
RE-188	4.864E-02	1.439E-01	1.260E-01	7.344E-02	NOT IDENT.
W-188	-4.844E-02	6.507E+00	5.092E+00	3.320E+00	FAIL ABUN
IR-192	1.162E-03	2.712E-02	2.405E-02	1.384E-02	FAIL ABUN
AU-195	2.301E-01	2.837E-01	1.659E-01	1.447E-01	FAIL ABUN
TL-200	8.668E+01	1.642E+02	0.000E+00	8.378E+01	SHORT HLIF
TL-201	-1.648E-01	4.257E+00	3.649E+00	2.172E+00	NOT IDENT.
TL-202	2.924E-02	5.231E-02	4.678E-02	2.669E-02	NOT IDENT.
HG-203	6.164E-03	3.152E-02	2.839E-02	1.608E-02	NOT IDENT.
BI-207	1.159E-02	4.167E-02	3.618E-02	2.126E-02	FAIL ABUN
TL-207	-7.081E-01	5.518E-01	4.397E-01	2.815E-01	FAIL ABUN
PO-209	-5.465E-01	5.442E+00	4.628E+00	2.777E+00	NOT IDENT.
BI-210	-1.593E-02	1.720E+00	1.573E+00	8.774E-01	NOT IDENT.
PB-210	-1.593E-02	1.720E+00	1.573E+00	8.774E-01	NOT IDENT.
PO-210	-1.593E-02	1.720E+00	1.573E+00	8.774E-01	NOT IDENT.
PB-211	-3.797E-01	7.833E-01	6.281E-01	3.996E-01	NOT IDENT.
BI-212	1.078E+00	3.837E-01	3.050E-01	1.957E-01	FAIL ABUN
PO-215	-7.081E-01	5.518E-01	4.397E-01	2.815E-01	FAIL ABUN
RN-219	1.315E-01	3.272E-01	2.911E-01	1.669E-01	FAIL ABUN
RN-220	-1.316E+01	2.156E+01	1.734E+01	1.100E+01	NOT IDENT.
RA-223	-7.081E-01	5.518E-01	4.397E-01	2.815E-01	FAIL ABUN
AC-227	-8.507E-03	2.970E-01	2.662E-01	1.515E-01	FAIL ABUN
TH-227	-8.507E-03	2.970E-01	2.662E-01	1.515E-01	FAIL ABUN
PA-231	-3.603E-01	1.180E+00	1.034E+00	6.021E-01	FAIL ABUN
TH-231	-7.081E-01	5.518E-01	4.397E-01	2.815E-01	FAIL ABUN
U-231	1.041E+00	8.238E-01	5.674E-01	4.203E-01	FAIL ABUN
PA-233	-3.183E-02	4.857E-02	4.127E-02	2.478E-02	FAIL ABUN
PA-234	-1.135E-01	2.335E-01	1.892E-01	1.191E-01	FAIL ABUN
PA-234M	2.487E+00	3.744E+00	3.399E+00	1.910E+00	NOT IDENT.
U-235	4.739E-03	1.705E-01	1.483E-01	8.700E-02	FAIL ABUN
NP-236	8.592E-03	6.510E-02	5.640E-02	3.322E-02	FAIL ABUN
NP-239	-7.007E-02	1.510E-01	1.293E-01	7.704E-02	FAIL ABUN
AM-241	1.158E-02	1.026E-01	8.406E-02	5.233E-02	NOT IDENT.
CM-243	1.893E-02	8.497E-02	6.778E-02	4.335E-02	FAIL ABUN
AM-246	-1.074E-01	1.221E-01	9.410E-02	6.228E-02	NOT IDENT.
CM-247	2.234E-03	2.919E-02	2.549E-02	1.489E-02	NOT IDENT.
CF-249	1.248E-03	3.138E-02	2.741E-02	1.601E-02	NOT IDENT.
CF-251	-8.313E-02	1.056E-01	8.559E-02	5.385E-02	NOT IDENT.

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                           CHARLESTON ,SC 29417                            *
*                     GAMMA SPECTROSCOPY BACKGROUND REPORT                  *
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ENERGY	MDA COUNTS
46.50	294.6740
46.50	294.6740
46.50	294.6740
48.70	303.8786
49.72	319.2158
51.35	301.6230
52.39	298.3211
52.97	292.7552
53.15	292.8601
53.44	296.9766
54.07	314.1416
56.28	338.3186
56.28	338.3203
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57.53	333.1649
57.53	333.1657
57.60	333.2092
57.98	327.2781
57.98	327.2781
59.32	363.7297
59.32	363.7297
59.40	363.7834
59.54	363.8789
59.72	364.0013
60.01	386.6782
61.10	370.9381
61.14	370.9645
61.30	351.5436
63.00	401.8590
63.29	402.0681
63.29	402.0681
63.58	402.2771
64.28	415.3681
65.12	428.0879
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65.20	428.1484
66.05	503.0305
66.72	499.0674
66.83	480.9562
66.91	481.0239
67.20	481.2657
67.20	481.2657
67.75	498.4388
67.85	485.1489
68.90	460.8490
68.90	460.8490
69.30	446.1295
69.67	446.4110
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74.81	492.0508
74.97	492.1777
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75.70	492.7563
77.11	493.8696
77.11	493.8696

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77.11	493.8696
77.11	493.8696
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83.78	445.9804
83.78	445.9804
83.78	445.9804
83.78	445.9804
84.21	455.6307
84.90	456.1030
85.43	456.4661
86.29	457.0498
86.50	457.1924
86.54	457.2191
86.59	457.2525
86.72	457.3394
86.79	457.3862
86.94	457.4886
87.30	558.0562
87.30	558.0562
87.30	558.0562
87.30	558.0562
87.30	558.0562
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87.30	558.0562
87.57	410.8662
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88.03	411.1440
88.36	411.3419
88.47	411.4079
89.95	538.1845
91.11	294.2358
92.29	294.7314
92.38	294.7699
92.38	294.7699
93.35	295.1744
94.00	295.4449
94.67	295.7198
94.67	295.7227
94.90	253.5571
94.90	253.5571
94.90	253.5571
94.90	253.5571
95.87	253.9001
95.87	253.9001
96.73	254.2029
97.43	254.4470
98.44	254.7986
98.44	254.7986
98.88	254.9512
99.55	303.6679
99.55	303.6679
99.86	303.7957
100.00	303.8538
100.10	303.8959
103.18	333.3551
103.76	323.9872
105.00	309.7359
105.31	318.8610
108.00	331.1570
109.28	303.6999

111.00	331.3459
111.00	331.3459
111.76	332.7440
112.95	318.0933
115.19	313.5537
116.30	303.1185
117.00	305.5529
117.00	305.5529
117.66	317.7695
121.11	331.1150
121.62	317.1005
121.78	318.2546
122.06	311.7970
122.32	293.2886
122.32	293.2886
122.32	293.2886
122.32	293.2886
123.07	296.8363
127.23	343.4114
129.76	299.7039
131.20	293.5614
133.02	335.7153
133.54	324.2690
135.34	303.2621
136.00	289.0326
136.25	276.8803
136.48	276.9512
140.51	319.5098
140.51	0.0000
142.18	294.3474
142.65	291.1353
143.76	289.2396
144.24	281.5375
144.24	281.5375
144.24	281.5375
144.24	281.5375
145.22	266.1115
145.44	266.1742
147.16	285.7862
152.43	283.9631
152.70	253.4868
153.22	267.2093
154.21	319.6166
154.21	319.6166
154.21	319.6166
154.21	319.6166
155.03	306.2714
156.02	329.2885
158.56	284.5968
159.00	0.0000
159.00	282.4436
160.31	274.8318
161.27	267.1038
162.32	267.3799
162.64	274.3237
163.35	298.5341
163.89	304.4155
165.85	256.8398
167.43	261.8275
171.28	248.9656
171.86	250.2551
172.10	250.3125
176.55	265.2635
176.60	265.2774
181.06	242.5289
184.41	271.6237
185.71	268.9646
186.00	269.0349
190.27	263.2016
192.34	242.0642
193.63	265.5727
197.04	273.4421
198.01	254.1883
198.60	258.7459
200.40	312.3989
201.83	295.8972
202.84	278.4939
205.31	282.3361

208.36	270.7286
208.81	270.8303
209.75	260.4875
209.75	260.4875
210.97	229.2324
215.65	261.5763
216.55	238.3811
218.09	262.0958
222.10	255.7152
223.80	237.0617
226.40	233.0180
227.00	238.5705
227.08	238.5845
227.20	244.9594
228.16	254.2221
228.18	248.7787
228.18	248.7787
231.56	0.0000
235.69	235.2581
236.00	239.6978
236.00	239.6978
238.63	235.2376
238.63	235.2376
238.63	235.2376
238.63	235.2376
239.00	235.3043
240.98	235.6591
241.98	235.8356
241.98	235.8356
241.98	235.8356
244.69	197.1462
245.39	186.9452
247.94	184.3506
248.90	195.5507
249.79	197.5262
252.40	184.9579
252.85	180.3934
252.85	180.3934
254.15	0.0000
256.20	186.3987
256.20	186.3987
260.50	168.3729
260.90	174.9362
262.80	189.1509
264.65	179.1357
268.24	157.1437
268.79	161.6941
269.46	185.7366
269.46	185.7366
269.46	185.7366
269.46	185.7366
271.23	166.4702
273.65	198.2997
276.40	168.7892
277.35	169.4366
277.60	166.6424
277.60	166.6424
278.00	167.6301
278.60	160.1610
279.20	179.0759
279.53	197.9709
280.46	200.9274
281.68	164.2746
283.67	167.3311
284.30	167.4040
285.00	174.1060
285.90	181.7871
286.10	177.0759
286.10	177.0759
287.40	160.1704
288.45	0.0000
290.67	173.2488
290.80	173.2655
291.72	187.0585
293.26	0.0000
293.70	161.4145
295.21	169.1964
295.21	169.1964

295.21	169.1964
295.96	167.7554
296.50	167.8145
297.23	167.8950
298.57	168.0427
299.80	159.0037
299.80	159.0037
300.09	159.0342
300.09	159.0342
300.09	159.0342
300.09	159.0342
300.12	159.0367
301.29	165.2801
302.84	142.4676
303.76	150.2156
303.91	150.2300
304.40	131.8765
304.40	131.8765
304.84	153.3887
306.84	143.9873
308.46	148.9406
311.98	148.3110
316.51	148.7363
318.01	163.3758
319.02	140.2630
319.41	141.2637
320.08	145.1958
323.87	184.3466
323.87	184.3466
323.87	184.3466
323.87	184.3466
325.23	181.5871
328.77	162.5202
333.44	143.6579
334.20	142.1608
334.20	142.1608
334.30	142.1697
338.28	128.2195
338.28	128.2195
338.28	128.2195
338.28	128.2195
338.32	128.2235
338.32	128.2235
338.32	128.2235
340.50	111.3362
340.57	111.3414
344.27	133.5886
345.85	124.2746
350.59	0.0000
351.07	138.0688
351.92	138.1372
351.92	138.1372
351.92	138.1372
355.39	0.0000
356.01	129.7606
364.48	123.2356
366.43	131.3313
367.43	121.4508
367.94	0.0000
369.80	126.5969
374.96	114.9667
383.85	123.5687
387.95	118.8120
388.63	123.8915
391.69	118.0444
391.69	118.0444
392.90	113.0732
398.62	117.4709
400.65	115.5690
401.10	130.8070
401.81	112.5972
402.60	116.7039
404.84	130.0508
410.95	116.1970
411.60	132.5510
413.65	113.2984
414.70	119.4887
415.30	125.6557

415.76	107.2927
417.63	0.0000
418.52	147.3530
423.70	121.0681
427.08	108.9437
427.89	121.3274
432.53	97.9079
433.93	103.1326
439.47	99.2813
439.56	99.2856
439.89	86.8890
443.98	115.0514
444.90	117.1778
445.03	117.1847
445.03	117.1847
445.03	117.1847
445.03	117.1847
453.90	92.6966
463.38	96.2606
468.07	105.7034
473.00	67.2705
475.06	90.4827
475.35	92.5990
476.78	94.7667
477.59	104.2826
477.96	106.4079
482.03	85.5001
484.57	103.5657
487.03	82.5239
490.36	0.0000
492.35	81.6656
497.08	83.9676
507.63	0.0000
510.53	0.0000
510.84	96.2540
511.00	96.2601
511.85	96.2972
511.85	96.2972
513.99	71.9701
513.99	71.9701
520.41	84.8488
520.65	83.7819
527.90	89.4362
528.96	0.0000
529.64	91.6614
529.87	0.0000
531.02	93.8739
537.32	59.5067
543.00	92.1906
546.56	0.0000
549.76	95.7183
552.65	87.1216
555.20	97.0260
563.23	97.3519
563.90	96.2849
568.70	98.6682
569.32	106.3720
569.50	106.3779
569.67	101.9997
573.80	90.0879
574.00	90.0954
574.64	75.8309
578.91	81.0278
579.30	0.0000
583.14	84.9167
585.48	72.4126
591.81	79.6794
592.07	68.6204
593.00	83.0383
595.88	70.9414
600.56	97.7271
602.52	0.0000
602.71	80.0266
602.71	80.0266
603.60	74.1231
604.41	71.1816
604.70	72.9692
609.31	75.7758

609.31	75.7758
609.31	75.7758
609.31	75.7758
610.33	99.8867
612.46	60.6953
614.37	76.8205
618.01	86.0963
621.84	66.0689
621.84	66.0689
631.29	79.7948
633.02	79.8468
633.10	76.4751
634.78	74.7243
635.90	65.7499
636.97	56.7661
645.85	78.6526
646.12	82.2777
656.30	62.0188
657.75	74.1600
657.90	0.0000
661.65	71.8406
661.65	71.8406
664.57	0.0000
666.33	88.0597
666.33	88.0597
675.00	78.5905
677.61	77.7493
685.20	80.7147
692.80	78.1747
695.00	72.7143
696.49	64.4646
696.49	64.4646
697.00	72.7645
697.49	73.6992
698.33	82.0143
698.50	82.0186
699.00	92.1729
702.63	76.6007
706.10	79.4681
706.58	0.0000
706.67	90.5734
709.31	76.7811
711.68	84.2528
713.82	75.9761
717.42	74.2148
720.50	90.5469
721.93	0.0000
722.20	78.9840
722.78	80.5496
722.78	80.5496
722.89	80.5518
722.95	80.5539
723.30	83.6631
724.18	79.0380
727.18	69.8126
733.00	79.2787
735.90	65.3516
739.58	80.3898
742.81	72.0559
744.21	73.9622
747.13	55.2923
751.79	70.3967
752.31	56.3276
753.82	51.6592
755.35	52.6258
756.15	46.9995
756.87	55.4724
763.93	73.8238
765.79	78.5848
766.42	81.7451
766.84	89.6168
776.49	70.9753
778.00	62.4889
778.57	64.3941
778.89	67.2420
783.80	62.6065
785.46	59.0549
792.07	39.6301

795.84	39.0431
796.30	41.2714
798.80	63.5449
801.93	68.1519
805.60	46.8072
810.29	83.2299
810.76	88.0267
815.85	51.7509
817.79	62.3308
818.51	68.1000
819.60	59.4873
826.30	59.6129
828.27	0.0000
831.60	80.8992
831.96	77.0547
834.83	84.8354
836.80	0.0000
846.75	51.2829
848.13	53.2396
856.28	0.0000
856.80	50.1454
860.37	60.2396
867.32	66.9389
867.82	67.0843
871.10	41.9145
873.19	53.6451
874.81	60.5015
875.33	0.0000
876.40	51.7436
879.36	48.8586
880.27	49.8483
880.51	50.8295
881.50	52.8003
883.24	48.9148
884.67	37.1910
889.25	53.9016
896.60	49.1077
898.02	53.0574
899.00	53.0732
903.28	60.0275
911.07	57.2056
911.07	57.2056
911.07	57.2056
919.63	48.4485
920.93	50.4447
925.00	50.5032
925.24	50.5069
926.50	43.5896
935.52	52.6416
937.48	77.5144
944.10	61.7306
946.00	56.7815
949.00	45.8630
962.29	40.0293
964.01	42.0502
966.15	42.0749
968.20	42.0995
969.11	42.1097
969.11	42.1097
969.11	42.1097
977.42	46.8957
980.50	48.2766
983.50	50.3296
989.30	57.4662
996.32	58.5862
1001.03	45.5120
1001.68	47.5427
1004.76	61.7565
1021.30	0.0000
1024.50	0.0000
1034.80	34.6973
1036.00	46.9580
1037.82	49.0219
1038.57	43.9259
1038.76	0.0000
1045.16	49.1180
1046.59	39.9217
1048.07	48.1314

1050.47	48.1612
1050.47	48.1612
1062.04	44.1926
1063.62	49.3523
1076.63	48.4848
1077.35	54.6847
1078.86	69.1559
1085.78	44.4613
1099.22	42.5375
1112.02	57.8233
1112.84	56.5123
1115.52	53.8236
1120.29	64.6641
1120.29	64.6641
1120.29	64.6641
1120.29	64.6641
1120.51	64.6671
1121.28	57.3767
1124.00	0.0000
1129.67	49.1320
1131.51	0.0000
1147.95	0.0000
1167.94	37.9828
1173.22	48.5965
1175.09	44.3892
1177.93	50.7656
1189.05	63.6240
1204.90	60.6683
1205.75	0.0000
1213.00	69.3132
1221.42	61.9705
1230.97	55.6816
1235.34	77.1750
1236.41	0.0000
1238.25	65.4261
1246.25	47.2785
1260.41	0.0000
1271.85	41.0689
1274.45	37.8489
1274.54	41.0931
1291.56	58.6169
1298.22	0.0000
1312.09	43.6152
1325.50	38.2761
1325.50	38.2761
1332.49	26.2852
1333.61	36.1518
1360.21	28.4621
1362.66	0.0000
1365.15	25.7339
1368.21	21.1526
1368.53	0.0000
1376.25	23.6886
1384.27	25.3103
1394.10	24.0417
1395.20	30.5212
1407.95	25.9652
1434.06	17.7143
1436.60	19.5884
1457.56	0.0000
1460.81	22.4971
1489.15	17.9107
1509.49	20.8219
1596.49	25.9816
1620.62	16.4328
1678.03	0.0000
1691.02	14.6857
1691.02	14.6857
1706.46	0.0000
1750.46	0.0000
1764.49	11.9009
1764.49	11.9009
1764.49	11.9009
1764.49	11.9009
1770.23	6.8072
1771.40	4.4681
1791.20	0.0000
1808.65	12.9905

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243385002

Total Uranium Activity	4.3321E+00	ug/g
Total Uranium Counting Unc.	4.0079E+00	ug/g
Total Uranium Tpu	2.0448E-06	ug/g
Total Uranium Mda	2.1524E+00	ug/g

```
*******************************************************************************
*                                                                             *
*                          GEL Laboratories LLC                           *
*                               2040 SAVAGE ROAD                              *
*                             CHARLESTON ,SC 29417                            *
*                              GROSS GAMMA REPORT                             *
*                                                                             *
*                                                                             *
*******************************************************************************
*                                                                             *
*   BATCH ID      : 936285                    SAMPLE ID  : G243385002         *
*   ANALYST       : MJH1                      DETECTOR   : GAM20              *
*   SAMPLE DATE   : 17-DEC-2009 12:00:00.00   COUNT TIME :    0 02:00:00.00   *
*   ANALYSIS DATE: 31-DEC-2009 09:20:04.25    SAMPLE ALQT:  149.000 GRAM      *
*                                                                             *
*******************************************************************************


        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 8.655E+00
        GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.206E+00
        GROSS GAMMA MDA     (pCi/GRAM  )  : 3.113E+00
        GROSS GAMMA DLC     (pCi/GRAM  )  : 1.511E+00
```

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:31:18.24

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385003.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:30:52
Sample ID         : G243385003           Sample quantity  : 1.36020E+02 GRAM
Detector name     : GAM02                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:02.42  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.96*	16	433	0.95	125.12	122	8	2.18E-03	244.1	
2	3	74.59	327	357	1.07	148.38	141	16	4.54E-02	10.6	1.03E+00
3	3	76.79	510	324	0.98	152.79	141	16	7.08E-02	7.3	
4	0	86.74	191	404	1.30	172.70	170	7	2.66E-02	18.8	
5	0	89.08	80	345	0.83	177.38	176	6	1.11E-02	38.1	
6	0	92.70*	263	475	1.54	184.62	181	11	3.65E-02	18.5	
7	0	104.95*	53	286	0.90	209.14	207	7	7.34E-03	56.1	
8	0	185.52*	196	439	1.17	370.36	363	14	2.73E-02	25.0	
9	0	208.89	98	258	0.87	417.11	413	8	1.36E-02	30.2	
10	0	238.35*	975	407	0.93	476.07	470	10	1.35E-01	5.1	
11	0	241.41	208	213	1.52	482.19	480	7	2.88E-02	13.9	
12	0	270.13	97	278	1.06	539.67	534	12	1.34E-02	36.0	
13	0	294.80*	346	192	1.20	589.04	584	11	4.81E-02	9.6	
14	0	299.63	60	179	0.73	598.70	595	9	8.37E-03	42.1	
15	0	327.72	81	113	1.21	654.91	651	8	1.12E-02	25.5	
16	0	337.83	249	233	1.31	675.14	668	14	3.45E-02	14.5	
17	0	351.67*	585	166	1.23	702.84	699	11	8.13E-02	6.0	
18	0	462.55	65	83	1.24	924.73	920	9	8.98E-03	28.3	
19	0	510.43*	76	169	1.84	1020.54	1013	15	1.06E-02	43.9	
20	0	583.11*	282	142	1.45	1165.98	1159	13	3.91E-02	10.8	
21	0	609.01*	433	97	1.47	1217.81	1211	14	6.01E-02	6.9	
22	0	726.96*	88	82	1.74	1453.87	1446	15	1.23E-02	25.2	
23	0	769.13	22	69	1.03	1538.27	1532	8	3.03E-03	69.6	
24	0	795.26	42	48	1.11	1590.55	1586	11	5.79E-03	36.1	
25	0	860.98	49	63	1.17	1722.09	1715	14	6.87E-03	37.6	
26	0	910.75*	258	49	1.74	1821.68	1816	12	3.58E-02	8.4	
27	4	964.11	81	30	2.64	1928.49	1920	25	1.13E-02	20.9	8.37E-01
28	4	968.63*	162	21	2.12	1937.52	1920	25	2.25E-02	10.6	
29	0	1120.47*	59	64	1.74	2241.42	2236	11	8.26E-03	30.6	
30	0	1378.35	46	28	2.30	2757.58	2750	20	6.42E-03	32.4	
31	0	1460.39*	933	20	2.21	2921.79	2913	16	1.30E-01	3.5	
32	0	1592.39	27	9	1.23	3186.00	3182	11	3.72E-03	30.4	
33	0	1730.55	11	18	0.78	3462.56	3454	12	1.56E-03	81.0	
34	0	1764.29	80	3	2.68	3530.10	3523	14	1.10E-02	12.3	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 11:31:20

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385003.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MJH1
Sample date : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:30:52
Sample ID : G243385003 Sample quantity : 136.02 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA2 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.42 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.347E+01	2.767E+00	3.139E-01	2.984E-02	74.752
CD-109	+	88.03	*	1.130E+00	8.693E-01	1.129E+00	1.134E-01	1.001
SN-126	+	64.28		1.780E-01	8.694E-01	8.249E-01	1.224E-01	0.216
	+	86.94		1.138E+00	6.389E-01	5.427E-01	2.260E-01	2.097
	+	87.57	*	2.737E-01	1.066E-01	1.118E-01	1.118E-02	2.448
EU-155		48.70		-1.315E+00	3.683E+00	5.601E+00	4.958E-01	-0.235
		60.01		-1.968E+00	5.795E+00	8.739E+00	6.594E-01	-0.225
	+	86.54		3.295E-01	1.284E-01	1.580E-01	1.572E-02	2.086
	+	105.31	*	1.168E-01	1.314E-01	1.695E-01	1.487E-02	0.689
TL-208		277.35		4.731E-01	3.692E-01	6.478E-01	9.847E-02	0.730
	+	510.84		3.834E-01	3.399E-01	2.123E-01	2.750E-02	1.806
	+	583.14	*	4.031E-01	9.584E-02	6.303E-02	6.314E-03	6.396
	+	860.37		6.633E-01	5.032E-01	4.849E-01	5.111E-02	1.368
BI-211		72.87		5.696E+00	3.036E+00	5.378E+00	4.629E-01	1.059
	+	351.07	*	3.723E+00	6.179E-01	3.472E-01	4.006E-02	10.723
PB-212	+	74.81		2.079E+00	5.149E-01	5.263E-01	6.740E-02	3.950
	+	77.11		1.819E+00	3.108E-01	2.952E-01	2.640E-02	6.160
	+	87.30		1.266E+00	5.089E-01	5.189E-01	7.325E-02	2.439
	+	238.63	*	1.354E+00	2.194E-01	1.150E-01	1.447E-02	11.775
	+	300.09		1.294E+00	1.103E+00	1.260E+00	1.702E-01	1.027
PO-212	+	74.81		2.079E+00	5.149E-01	5.263E-01	6.740E-02	3.950
	+	77.11		1.819E+00	3.108E-01	2.952E-01	2.640E-02	6.160
	+	87.30		1.266E+00	5.089E-01	5.189E-01	7.325E-02	2.439
		115.19		4.558E-01	3.496E+00	5.805E+00	4.881E-01	0.079
	+	238.63	*	1.354E+00	2.194E-01	1.150E-01	1.447E-02	11.775
	+	300.09		1.294E+00	1.103E+00	1.260E+00	1.702E-01	1.027
BI-214	+	609.31	*	1.166E+00	2.035E-01	1.120E-01	1.183E-02	10.414
	+	1120.29		8.372E-01	5.208E-01	4.475E-01	4.872E-02	1.871
	+	1764.49		1.543E+00	4.006E-01	2.622E-01	2.222E-02	5.885
PB-214	+	74.81		3.582E+00	8.635E-01	9.068E-01	1.040E-01	3.950
	+	77.11		3.117E+00	5.834E-01	5.061E-01	5.945E-02	6.160
	+	87.30		2.168E+00	8.608E-01	8.889E-01	1.120E-01	2.439
	+	241.98		1.731E+00	5.333E-01	5.387E-01	7.047E-02	3.214
	+	295.21		1.305E+00	3.077E-01	1.975E-01	2.714E-02	6.609

Sample ID : G243385003 Acquisition date : 31-DEC-2009 09:30:52

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	351.92	*	1.295E+00	2.253E-01	1.185E-01	1.498E-02	10.927
PO-214	+	74.81		3.582E+00	8.635E-01	9.068E-01	1.040E-01	3.950
	+	77.11		3.117E+00	5.834E-01	5.061E-01	5.945E-02	6.160
	+	87.30		2.168E+00	8.608E-01	8.889E-01	1.120E-01	2.439
	+	241.98		1.731E+00	5.333E-01	5.387E-01	7.047E-02	3.214
	+	295.21		1.305E+00	3.077E-01	1.975E-01	2.714E-02	6.609
	+	351.92	*	1.295E+00	2.253E-01	1.185E-01	1.498E-02	10.927
PO-216	+	74.81		2.079E+00	5.149E-01	5.263E-01	6.740E-02	3.950
	+	77.11		1.819E+00	3.108E-01	2.952E-01	2.640E-02	6.160
	+	87.30		1.266E+00	5.089E-01	5.189E-01	7.325E-02	2.439
	+	238.63	*	1.354E+00	2.194E-01	1.150E-01	1.447E-02	11.775
	+	300.09		1.294E+00	1.103E+00	1.260E+00	1.702E-01	1.027
PO-218	+	74.81		3.582E+00	8.635E-01	9.068E-01	1.040E-01	3.950
	+	77.11		3.117E+00	5.834E-01	5.061E-01	5.945E-02	6.160
	+	87.30		2.168E+00	8.608E-01	8.889E-01	1.120E-01	2.439
	+	241.98		1.731E+00	5.333E-01	5.387E-01	7.047E-02	3.214
	+	295.21		1.305E+00	3.077E-01	1.975E-01	2.714E-02	6.609
	+	351.92	*	1.295E+00	2.253E-01	1.185E-01	1.498E-02	10.927
RA-224	+	240.98	*	3.283E+00	9.942E-01	1.309E+00	1.545E-01	2.508
RA-226	+	609.31	*	1.166E+00	2.035E-01	1.120E-01	1.183E-02	10.414
	+	1120.29		8.372E-01	5.208E-01	4.475E-01	4.872E-02	1.871
	+	1764.49		1.543E+00	4.006E-01	2.622E-01	2.222E-02	5.885
AC-228	+	338.32		1.744E+00	8.897E-01	3.964E-01	1.663E-01	4.399
	+	911.07	*	1.635E+00	3.418E-01	2.043E-01	2.547E-02	8.004
	+	969.11		1.814E+00	5.790E-01	3.436E-01	8.188E-02	5.280
RA-228	+	338.32		1.744E+00	8.897E-01	3.964E-01	1.663E-01	4.399
	+	911.07	*	1.635E+00	3.418E-01	2.043E-01	2.547E-02	8.004
	+	969.11		1.814E+00	5.790E-01	3.436E-01	8.188E-02	5.280
TH-228	+	74.81		2.108E+00	4.841E-01	5.336E-01	4.710E-02	3.950
	+	77.11		1.844E+00	3.151E-01	2.993E-01	2.677E-02	6.160
	+	87.30		1.283E+00	4.998E-01	5.261E-01	5.242E-02	2.439
	+	238.63	*	1.373E+00	2.225E-01	1.166E-01	1.467E-02	11.775
	+	300.09		1.312E+00	1.356E+00	1.277E+00	7.651E-01	1.027
TH-230	+	609.31	*	1.166E+00	2.035E-01	1.120E-01	1.183E-02	10.414
	+	1120.29		8.372E-01	5.208E-01	4.475E-01	4.872E-02	1.871
	+	1764.49		1.543E+00	4.006E-01	2.622E-01	2.222E-02	5.885
TH-232	+	338.32		1.744E+00	5.446E-01	3.964E-01	4.557E-02	4.399
	+	911.07	*	1.635E+00	3.418E-01	2.043E-01	2.547E-02	8.004
	+	969.11		1.814E+00	5.790E-01	3.436E-01	8.188E-02	5.280
TH-234	+	63.29	*	4.498E-01	2.197E+00	2.170E+00	3.832E-01	0.207
	+	92.38		2.397E+00	9.933E-01	7.542E-01	1.397E-01	3.178
U-234	+	609.31	*	1.166E+00	2.035E-01	1.120E-01	1.183E-02	10.414
	+	1120.29		8.372E-01	5.208E-01	4.475E-01	4.872E-02	1.871
	+	1764.49		1.543E+00	4.006E-01	2.622E-01	2.222E-02	5.885
U-235	+	89.95		1.525E+00	1.257E+00	1.568E+00	4.893E-01	0.973
	+	93.35		2.881E+00	1.344E+00	8.475E-01	2.397E-01	3.400
	+	105.00		1.145E+00	1.329E+00	1.581E+00	4.722E-01	0.724
		143.76	*	-1.621E-02	2.207E-01	3.573E-01	6.345E-02	-0.045
		163.35		2.411E-02	4.831E-01	7.658E-01	1.516E-01	0.031

Sample ID : G243385003 Acquisition date : 31-DEC-2009 09:30:52

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	185.71		1.897E-01	9.688E-02	6.875E-02	7.337E-03	2.760
		205.31		2.724E-01	5.917E-01	8.601E-01	1.747E-01	0.317
NP-237	+	86.50	*	8.037E-01	3.542E-01	3.890E-01	8.898E-02	2.066
		95.87		3.536E-01	9.454E-01	1.437E+00	3.571E-01	0.246
U-238	+	63.29	*	4.498E-01	2.197E+00	2.170E+00	3.832E-01	0.207
	+	92.38		2.397E+00	9.174E-01	7.542E-01	7.181E-02	3.178
AM-243	+	74.67	*	3.370E-01	7.731E-02	8.565E-02	7.489E-03	3.935
	+	86.72		3.014E+01	1.174E+01	1.442E+01	1.427E+00	2.091
		117.66		-1.584E+00	3.644E+00	5.893E+00	4.937E-01	-0.269
		142.18		-2.380E+00	1.822E+01	2.943E+01	2.662E+00	-0.081
ANH-511	+	511.00	*	8.281E-02	7.310E-02	4.588E-02	4.548E-03	1.805

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-1.790E-01	3.262E-01	5.025E-01	5.329E-02	-0.356
NA-22		1274.54	*	2.274E-02	4.465E-02	7.731E-02	6.855E-03	0.294
NA-24		1368.53	*	2.086E-02	4.465E-02	Half-Life too short		
AL-26		1129.67		7.973E-02	1.598E+00	2.671E+00	2.282E-01	0.030
		1808.65	*	7.102E-03	3.017E-02	5.222E-02	4.322E-03	0.136
TI-44		67.85		-1.776E-02	4.976E-02	7.456E-02	6.151E-03	-0.238
		78.38	*	7.975E-02	3.794E-02	6.173E-02	5.588E-03	1.292
SC-46		889.25	*	-4.213E-02	3.919E-02	5.558E-02	5.651E-03	-0.758
	+	1120.51		1.419E-01	8.775E-02	1.282E-01	1.107E-02	1.107
V-48		944.10		-4.091E-01	8.293E-01	1.261E+00	1.262E-01	-0.324
		983.50	*	1.177E-02	7.493E-02	1.223E-01	1.196E-02	0.096
		1312.09		2.624E-02	8.381E-02	1.421E-01	1.301E-02	0.185
CR-51		320.08	*	-1.419E-01	3.561E-01	5.773E-01	7.043E-02	-0.246
MN-52		744.21		-1.106E-02	2.336E-01	3.833E-01	3.531E-02	-0.029
		848.13		-2.267E+00	5.990E+00	9.385E+00	9.300E-01	-0.242
		935.52		3.432E-01	2.386E-01	4.320E-01	4.342E-02	0.794
		1246.25		-1.255E+00	6.341E+00	1.025E+01	8.844E-01	-0.123
		1333.61		-1.690E+00	4.257E+00	6.594E+00	6.144E-01	-0.256
		1434.06	*	-4.080E-02	2.160E-01	3.417E-01	3.179E-02	-0.119
MN-54		834.83	*	1.735E-02	3.979E-02	6.727E-02	6.608E-03	0.258
CO-56		846.75	*	-9.923E-03	4.034E-02	6.413E-02	6.349E-03	-0.155
		977.42		-5.986E-02	2.949E+00	4.732E+00	4.647E-01	-0.013
		1037.82		1.178E-01	3.257E-01	5.629E-01	5.526E-02	0.209
		1175.09		3.609E-01	2.352E+00	3.951E+00	3.188E-01	0.091
		1238.25		1.409E-01	9.700E-02	1.764E-01	1.556E-02	0.799
		1360.21		-5.604E-01	8.359E-01	1.205E+00	1.124E-01	-0.465
		1771.40		-6.628E-01	3.340E-01	3.745E-01	3.163E-02	-1.770
CO-57		122.06	*	-1.065E-02	2.366E-02	3.813E-02	3.187E-03	-0.279
		136.48		-3.339E-02	2.028E-01	3.292E-01	3.109E-02	-0.101
CO-58		810.76	*	-2.846E-02	3.922E-02	5.937E-02	5.750E-03	-0.479
FE-59		142.65		-8.645E-02	2.815E+00	4.567E+00	4.142E-01	-0.019
		192.34		-4.875E-01	9.477E-01	1.473E+00	2.199E-01	-0.331
		1099.22	*	-1.033E-01	9.928E-02	1.487E-01	1.418E-02	-0.694

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1291.56		-3.495E-02	1.285E-01	2.047E-01	2.071E-02	-0.171
CO-60		1173.22		-2.216E-02	4.960E-02	7.887E-02	6.352E-03	-0.281
		1332.49	*	-1.757E-02	4.179E-02	6.387E-02	5.950E-03	-0.275
ZN-65		1115.52	*	6.060E-02	1.084E-01	1.662E-01	1.446E-02	0.365
GE-68		1077.35	*	9.498E-01	1.235E+00	2.207E+00	1.999E-01	0.430
AS-73		53.44	*	-4.429E-01	1.004E+00	1.688E+00	1.397E-01	-0.262
AS-74		595.88	*	-3.560E-02	8.673E-02	1.408E-01	1.314E-02	-0.253
		634.78		1.110E-01	3.383E-01	5.788E-01	5.175E-02	0.192
SE-75		66.05		-2.347E+00	5.177E+00	7.722E+00	7.744E-01	-0.304
		96.73		-4.257E-01	7.807E-01	1.128E+00	1.575E-01	-0.377
		121.11		-1.101E-01	1.264E-01	1.989E-01	2.191E-02	-0.554
		136.00		-2.587E-02	3.809E-02	6.030E-02	5.337E-03	-0.429
		198.60		4.324E-02	1.923E+00	3.009E+00	3.523E-01	0.014
		264.65	*	4.120E-02	4.417E-02	6.993E-02	8.547E-03	0.589
		279.53		-1.369E-01	1.062E-01	1.634E-01	2.063E-02	-0.838
		303.91		-2.527E-01	2.404E+00	3.503E+00	5.008E-01	-0.072
		400.65		-3.298E-02	2.595E-01	4.210E-01	5.152E-02	-0.078
BR-77	+	87.88		4.214E+02	1.641E+02	2.235E+02	2.242E+01	1.886
		200.40		2.239E+00	1.169E+02	1.869E+02	2.054E+01	0.012
	+	239.00		1.523E+02	2.372E+01	2.649E+01	3.116E+00	5.749
		249.79		-1.656E+01	4.439E+01	7.356E+01	8.795E+00	-0.225
		281.68		-7.252E+00	6.056E+01	1.009E+02	1.249E+01	-0.072
		297.23		6.783E+01	5.861E+01	7.085E+01	8.653E+00	0.957
		303.76		-5.903E+01	1.479E+02	2.106E+02	2.553E+01	-0.280
		439.47		2.679E+00	1.037E+02	1.688E+02	1.701E+01	0.016
		484.57		-2.138E+02	1.669E+02	2.379E+02	2.381E+01	-0.899
		520.65	*	-3.646E+00	7.459E+00	1.143E+01	1.128E+00	-0.319
		574.64		-3.873E+01	1.595E+02	2.566E+02	2.442E+01	-0.151
		578.91		-3.406E+00	7.601E+01	1.108E+02	1.051E+01	-0.031
		585.48		4.094E+02	1.658E+02	2.821E+02	2.660E+01	1.451
		755.35		5.020E+01	1.137E+02	1.942E+02	1.804E+01	0.258
		817.79		1.140E+02	9.115E+01	1.656E+02	1.609E+01	0.688
SR-82		698.33		2.761E+00	3.389E+01	5.647E+01	5.017E+00	0.049
		776.49	*	-4.058E-01	4.113E-01	6.152E-01	5.805E-02	-0.660
		1395.20		-7.124E+00	1.048E+01	1.526E+01	1.422E+00	-0.467
RB-83		520.41	*	-2.596E-02	7.028E-02	1.090E-01	1.076E-02	-0.238
		529.64		-1.107E-01	1.125E-01	1.640E-01	1.611E-02	-0.675
		552.65		6.891E-03	1.950E-01	3.297E-01	3.192E-02	0.021
RB-84		881.50	*	1.057E-02	7.058E-02	1.163E-01	1.177E-02	0.091
KR-85		513.99	*	5.693E+00	8.607E+00	1.282E+01	1.269E+00	0.444
SR-85		513.99	*	2.882E-02	4.356E-02	6.487E-02	6.422E-03	0.444
RB-86		1076.63	*	6.542E-01	7.880E-01	1.410E+00	1.279E-01	0.464
Y-88		898.02		4.692E-03	4.376E-02	7.166E-02	7.349E-03	0.065
		1836.01	*	3.401E-02	3.352E-02	6.559E-02	5.350E-03	0.519
ZR-88		392.90	*	-6.946E-03	3.014E-02	4.857E-02	4.860E-03	-0.143
Y-91		1204.90	*	4.591E+00	1.984E+01	3.345E+01	2.778E+00	0.137
NB-94		702.63	*	-1.867E-02	3.546E-02	5.618E-02	5.009E-03	-0.332
		871.10		-2.116E-02	3.656E-02	5.589E-02	5.620E-03	-0.379
NB-95		765.79	*	-1.895E-03	5.575E-02	8.030E-02	7.518E-03	-0.024

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M		235.69	*	2.149E-01	1.368E-01	2.195E-01	2.777E-02	0.979
ZR-95		724.18		6.131E-02	1.179E-01	1.776E-01	1.737E-02	0.345
		756.15	*	1.751E-02	6.966E-02	1.171E-01	1.184E-02	0.150
NB-97		657.90	*	-9.575E-03	6.966E-02	Half-Life too short		
		1024.50		1.291E+00	6.966E-02	Half-Life too short		
ZR-97		254.15		4.332E-01	6.966E-02	Half-Life too short		
		355.39		7.254E-01	6.966E-02	Half-Life too short		
		507.63	*	1.349E+00	6.966E-02	Half-Life too short		
		602.52		-1.663E+00	6.966E-02	Half-Life too short		
		1021.30		-1.277E+00	6.966E-02	Half-Life too short		
		1147.95		-6.080E-01	6.966E-02	Half-Life too short		
		1362.66		-1.175E+00	6.966E-02	Half-Life too short		
		1750.46		1.171E+00	6.966E-02	Half-Life too short		
MO-99		140.51		-1.341E+01	2.048E+01	3.127E+01	8.694E+00	-0.429
		181.06		-2.807E+00	1.395E+01	1.968E+01	3.796E+00	-0.143
		366.43		-2.376E+01	6.274E+01	1.006E+02	1.086E+01	-0.236
		739.58	*	-4.121E+00	9.377E+00	1.486E+01	2.304E+00	-0.277
		778.00		2.009E+01	2.531E+01	4.432E+01	4.186E+00	0.453
TC-99M		140.51	*	-9.089E+08	2.531E+01	Half-Life too short		
RH-101		127.23		2.601E-02	3.196E-02	5.411E-02	4.592E-03	0.481
		198.01	*	8.700E-03	3.532E-02	5.587E-02	6.112E-03	0.156
		325.23		8.940E-02	2.452E-01	3.684E-01	4.336E-02	0.243
RH-102		418.52		-1.850E-01	2.993E-01	4.657E-01	4.686E-02	-0.397
		475.06	*	-2.610E-02	2.915E-02	4.334E-02	4.348E-03	-0.602
		631.29		-3.333E-02	5.421E-02	8.576E-02	7.700E-03	-0.389
		697.49		1.808E-02	7.808E-02	1.316E-01	1.169E-02	0.137
		766.84		1.312E-01	1.263E-01	2.218E-01	2.078E-02	0.592
		1046.59		-3.614E-02	1.142E-01	1.850E-01	1.725E-02	-0.195
		1112.84		6.062E-03	2.559E-01	3.961E-01	3.453E-02	0.015
RU-103		497.08	*	1.137E-02	3.951E-02	6.503E-02	9.767E-03	0.175
	+	610.33		1.232E+01	2.705E+00	2.874E+00	4.883E-01	4.289
RH-106	+	511.85		4.127E-01	3.643E-01	4.391E-01	4.351E-02	0.940
		621.84	*	1.838E-02	3.151E-01	5.291E-01	7.227E-02	0.035
		1050.47		3.567E-02	2.391E+00	4.005E+00	3.721E-01	0.009
RU-106	+	511.85		4.127E-01	3.643E-01	4.391E-01	4.351E-02	0.940
		621.84	*	1.838E-02	3.151E-01	5.291E-01	4.805E-02	0.035
		1050.47		3.567E-02	2.391E+00	4.005E+00	3.721E-01	0.009
AG-108M		433.93	*	-2.100E-03	3.272E-02	5.295E-02	5.490E-03	-0.040
		614.37		2.802E-03	4.112E-02	6.031E-02	5.716E-03	0.046
		722.95		-1.286E-02	4.898E-02	6.789E-02	6.371E-03	-0.189
AG-110M		657.75	*	-1.225E-02	3.442E-02	5.556E-02	4.956E-03	-0.221
		677.61		-6.251E-02	2.898E-01	4.718E-01	4.233E-02	-0.132
		706.67		4.524E-02	2.148E-01	3.612E-01	3.314E-02	0.125
		763.93		4.142E-02	1.882E-01	2.751E-01	2.634E-02	0.151
		884.67		2.909E-02	5.030E-02	8.619E-02	8.943E-03	0.337
		937.48		-7.386E-02	1.249E-01	1.897E-01	1.956E-02	-0.389
		1384.27		-2.601E-03	1.749E-01	2.437E-01	2.328E-02	-0.011
IN-111		171.28		4.387E-01	7.489E-01	1.240E+00	1.285E-01	0.354
		245.39	*	6.179E-02	8.323E-01	1.251E+00	1.486E-01	0.049

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IN-113M		391.69	*	-1.865E-02	4.350E-02	6.907E-02	7.068E-03	-0.270
SN-113		391.69	*	-1.865E-02	4.350E-02	6.907E-02	7.068E-03	-0.270
IN-114M		190.27	*	1.405E-01	1.915E-01	2.859E-01	3.080E-02	0.491
CD-115		260.90		-1.415E+01	8.047E+01	1.343E+02	1.630E+01	-0.105
		492.35		1.419E+01	2.476E+01	4.166E+01	4.159E+00	0.341
		527.90	*	-2.131E+00	7.551E+00	1.179E+01	1.159E+00	-0.181
SN-117M		156.02		-1.327E+00	2.091E+00	3.285E+00	3.192E-01	-0.404
		158.56	*	-1.470E-03	5.074E-02	8.214E-02	8.093E-03	-0.018
SB-122		563.90	*	2.974E-01	1.467E+00	2.506E+00	2.406E-01	0.119
		692.80		-5.927E-01	3.160E+01	5.227E+01	4.623E+00	-0.011
I-123		159.00	*	3.770E-01	3.160E+01	Half-Life too short		
		528.96		-6.671E+01	3.160E+01	Half-Life too short		
TE-123M		159.00	*	8.680E-03	2.760E-02	4.538E-02	4.502E-03	0.191
I-124		602.71	*	-3.262E-01	6.166E-01	8.460E-01	7.846E-02	-0.386
		722.78		-1.314E+00	4.163E+00	5.732E+00	5.194E-01	-0.229
		1325.50		9.120E+00	2.991E+01	5.078E+01	4.703E+00	0.180
		1376.25		3.584E+01	3.427E+01	5.536E+01	5.162E+00	0.647
		1509.49		9.315E+00	1.282E+01	2.297E+01	2.118E+00	0.405
		1691.02		1.321E+00	2.974E+00	5.352E+00	4.688E-01	0.247
SB-124		602.71		-2.289E-02	4.326E-02	5.936E-02	5.506E-03	-0.386
		645.85		-3.706E-03	4.800E-01	7.993E-01	7.448E-02	-0.005
		709.31		-1.627E+00	2.773E+00	4.353E+00	3.902E-01	-0.374
		713.82		7.811E-02	1.615E+00	2.680E+00	3.300E-01	0.029
		722.78		-1.336E-01	4.235E-01	5.830E-01	5.386E-02	-0.229
	+	968.20		1.842E+01	4.312E+00	7.465E+00	7.371E-01	2.467
		1045.16		-1.571E+00	2.461E+00	3.853E+00	3.597E-01	-0.408
		1325.50		9.907E-01	3.250E+00	5.516E+00	5.109E-01	0.180
		1368.21		3.863E-01	1.477E+00	2.514E+00	3.504E-01	0.154
		1436.60		-3.136E+00	3.627E+00	5.014E+00	4.664E-01	-0.625
		1691.02	*	3.170E-02	7.136E-02	1.284E-01	1.168E-02	0.247
SB-125		427.89	*	7.381E-03	8.952E-02	1.466E-01	1.498E-02	0.050
	+	463.38		6.360E-01	3.666E-01	5.592E-01	5.950E-02	1.137
		600.56		4.565E-04	1.806E-01	2.949E-01	2.916E-02	0.002
		635.90		2.087E-01	2.703E-01	4.770E-01	4.579E-02	0.438
TE-125M		109.28	*	-8.554E-01	9.975E+00	1.473E+01	1.510E+00	-0.058
I-126		388.63		-8.323E-02	1.885E-01	2.992E-01	3.024E-02	-0.278
		666.33	*	3.838E-02	1.612E-01	2.731E-01	2.362E-02	0.141
		753.82		6.655E-01	1.407E+00	2.407E+00	2.233E-01	0.277
SB-126		223.80		2.220E+00	3.773E+00	6.161E+00	7.070E-01	0.360
		278.60		8.118E-02	2.241E+00	3.770E+00	4.672E-01	0.022
		296.50		8.298E+00	2.424E+00	3.242E+00	3.962E-01	2.559
		414.70		7.008E-02	7.027E-02	1.220E-01	1.227E-02	0.574
		415.30		4.340E+00	5.891E+00	1.008E+01	1.013E+00	0.431
		555.20		2.350E+00	3.704E+00	6.515E+00	6.296E-01	0.361
		573.80		3.041E-01	1.039E+00	1.782E+00	1.697E-01	0.171
		593.00		-5.419E-01	8.784E-01	1.402E+00	1.313E-01	-0.387
		656.30		-1.431E+00	3.013E+00	4.807E+00	4.174E-01	-0.298
		666.33		1.599E-02	6.717E-02	1.138E-01	9.845E-03	0.141
		675.00		-3.294E-01	1.825E+00	2.939E+00	2.561E-01	-0.112

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		695.00		6.075E-03	7.329E-02	1.222E-01	1.083E-02	0.050
		697.00		8.644E-02	2.514E-01	4.275E-01	3.794E-02	0.202
		720.50	*	4.524E-02	1.558E-01	2.308E-01	2.088E-02	0.196
		856.80		9.881E-02	5.082E-01	7.337E-01	7.311E-02	0.135
		989.30		3.301E-02	1.196E+00	1.927E+00	1.878E-01	0.017
		1034.80		3.435E+00	8.423E+00	1.463E+01	1.378E+00	0.235
		1213.00		1.337E+00	4.401E+00	7.471E+00	6.252E-01	0.179
SB-127		61.10		3.439E+01	5.100E+01	8.088E+01	8.147E+00	0.425
		252.40		1.372E+00	3.358E+00	5.704E+00	2.439E+00	0.240
		290.80		-1.432E+01	1.852E+01	2.544E+01	3.539E+00	-0.563
		411.60		-1.812E+01	1.092E+01	1.513E+01	2.469E+00	-1.197
		444.90		1.280E+00	7.619E+00	1.253E+01	1.664E+00	0.102
		473.00		2.461E-01	1.287E+00	2.111E+00	2.865E-01	0.117
		543.00		2.553E+00	1.319E+01	2.142E+01	3.177E+00	0.119
		603.60		-6.708E+00	1.068E+01	1.447E+01	1.831E+00	-0.464
		685.20	*	-2.185E-01	1.079E+00	1.758E+00	1.963E-01	-0.124
		698.50		-1.116E+00	1.275E+01	2.097E+01	3.296E+00	-0.053
		722.20		-1.210E+01	2.758E+01	3.730E+01	4.162E+00	-0.324
		783.80		8.256E-01	2.963E+00	4.974E+00	6.332E-01	0.166
XE-127		57.60		1.303E+00	6.778E+00	1.166E+01	8.970E-01	0.112
		145.22		2.143E-01	6.830E-01	1.128E+00	1.036E-01	0.190
		172.10		5.740E-03	1.155E-01	1.868E-01	1.939E-02	0.031
		202.84	*	-3.079E-02	4.694E-02	7.214E-02	7.966E-03	-0.427
		374.96		-4.405E-02	1.941E-01	3.142E-01	3.311E-02	-0.140
I-131		80.18		2.638E+00	3.974E+00	6.201E+00	5.742E-01	0.425
		284.30		-5.377E-01	1.331E+00	2.180E+00	2.762E-01	-0.247
		364.48	*	-7.774E-02	1.045E-01	1.629E-01	1.827E-02	-0.477
		636.97		1.005E+00	1.366E+00	2.406E+00	2.255E-01	0.418
		722.89		-2.077E+00	7.416E+00	1.026E+01	9.340E-01	-0.202
TE-132		49.72		1.677E+01	2.166E+01	3.491E+01	3.725E+00	0.480
		111.76		1.506E+00	2.333E+01	3.779E+01	3.937E+00	0.040
		116.30		1.028E+01	2.033E+01	3.423E+01	3.545E+00	0.300
		228.16	*	-2.330E-01	5.674E-01	8.753E-01	1.515E-01	-0.266
BA-133		53.15		-3.966E+00	4.470E+00	7.361E+00	6.125E-01	-0.539
		79.62		5.553E-01	1.232E+00	1.902E+00	2.956E-01	0.292
		81.00		-1.320E-01	1.029E-01	1.422E-01	2.311E-02	-0.928
		276.40		6.600E-01	3.805E-01	6.501E-01	1.102E-01	1.015
		302.84		-8.307E-03	1.624E-01	2.377E-01	3.755E-02	-0.035
		356.01	*	2.349E-02	5.080E-02	7.632E-02	1.139E-02	0.308
		383.85		1.010E-01	3.100E-01	5.191E-01	7.152E-02	0.195
I-133	+	510.53		3.174E-01	3.100E-01	Half-Life too short		
		529.87	*	-1.713E-03	3.100E-01	Half-Life too short		
		706.58		2.908E-02	3.100E-01	Half-Life too short		
		856.28		-1.937E-01	3.100E-01	Half-Life too short		
		875.33		-6.446E-04	3.100E-01	Half-Life too short		
		1236.41		3.003E-01	3.100E-01	Half-Life too short		
		1298.22		2.321E-02	3.100E-01	Half-Life too short		
CS-134		475.35		-8.041E-01	1.847E+00	2.869E+00	2.878E-01	-0.280
		563.23		5.194E-02	3.456E-01	5.883E-01	5.695E-02	0.088

---- Non-Identified Nuclides ----

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		569.32		2.334E-03	1.963E-01	3.305E-01	3.195E-02	0.007
		604.70		2.240E-02	3.520E-02	5.478E-02	5.081E-03	0.409
	+	795.84	*	8.560E-02	6.232E-02	8.938E-02	8.602E-03	0.958
		801.93		-2.168E-01	4.854E-01	6.837E-01	6.599E-02	-0.317
		1038.57		8.357E-01	3.997E+00	6.821E+00	6.404E-01	0.123
		1167.94		-8.257E-01	2.734E+00	4.409E+00	3.578E-01	-0.187
		1365.15		-1.553E-01	1.007E+00	1.602E+00	1.552E-01	-0.097
CS-135		268.24	*	2.468E-01	1.799E-01	2.869E-01	3.795E-02	0.860
I-135		288.45		1.268E+09	1.799E-01	Half-Life too short		
		417.63		-7.630E+08	1.799E-01	Half-Life too short		
		546.56		-1.557E+08	1.799E-01	Half-Life too short		
		836.80		8.377E+08	1.799E-01	Half-Life too short		
		1038.76		6.447E+07	1.799E-01	Half-Life too short		
		1124.00		-3.399E+08	1.799E-01	Half-Life too short		
		1131.51		2.041E+08	1.799E-01	Half-Life too short		
		1260.41	*	-6.927E+07	1.799E-01	Half-Life too short		
		1457.56		3.081E+10	1.799E-01	Half-Life too short		
		1678.03		1.884E+08	1.799E-01	Half-Life too short		
		1706.46		1.772E+09	1.799E-01	Half-Life too short		
		1791.20		3.139E+08	1.799E-01	Half-Life too short		
CS-136		66.91		-5.688E-01	7.957E-01	1.164E+00	1.769E-01	-0.489
	+	86.29		3.349E+00	1.343E+00	1.869E+00	2.562E-01	1.792
		153.22		5.200E-02	5.941E-01	9.690E-01	1.017E-01	0.054
		163.89		-2.314E-01	1.031E+00	1.613E+00	1.780E-01	-0.143
		176.55		1.251E-01	3.425E-01	5.609E-01	6.108E-02	0.223
		273.65		-4.613E-01	4.788E-01	6.552E-01	8.340E-02	-0.704
		340.57		4.129E-02	1.329E-01	1.980E-01	2.304E-02	0.209
		818.51		3.782E-02	6.779E-02	1.167E-01	1.134E-02	0.324
		1048.07	*	-5.392E-02	1.016E-01	1.609E-01	1.552E-02	-0.335
		1235.34		2.445E-01	5.730E-01	9.776E-01	1.153E-01	0.250
BA-137M		661.65	*	-2.161E-03	3.560E-02	5.892E-02	5.077E-03	-0.037
CS-137		661.65	*	-2.285E-03	3.764E-02	6.229E-02	5.377E-03	-0.037
CE-139		165.85	*	-1.067E-02	2.946E-02	4.677E-02	4.797E-03	-0.228
BA-140		162.64		-1.479E-01	7.143E-01	1.118E+00	1.175E-01	-0.132
		304.84		-9.450E-01	1.422E+00	1.941E+00	5.684E-01	-0.487
		423.70		-1.295E+00	1.859E+00	2.792E+00	9.168E-01	-0.464
		537.32	*	-2.218E-01	2.552E-01	3.577E-01	1.197E-01	-0.620
LA-140	+	328.77		6.540E-01	3.427E-01	5.093E-01	6.141E-02	1.284
		432.53		7.046E-01	1.857E+00	3.106E+00	3.241E-01	0.227
		487.03		3.728E-02	1.244E-01	2.054E-01	2.149E-02	0.181
		751.79		-7.693E-01	1.654E+00	2.608E+00	2.641E-01	-0.295
		815.85		2.448E-01	2.984E-01	5.242E-01	5.552E-02	0.467
		867.82		4.747E-01	1.505E+00	2.316E+00	2.416E-01	0.205
		919.63		5.560E-01	2.430E+00	4.031E+00	4.797E-01	0.138
		925.24		-3.457E-01	9.965E-01	1.544E+00	1.632E-01	-0.224
		1596.49	*	1.572E-02	6.791E-02	1.041E-01	9.414E-03	0.151
CE-141		145.44	*	8.168E-03	6.134E-02	1.005E-01	9.390E-03	0.081
CE-143		57.37		4.434E-04	6.134E-02	Half-Life too short		
		231.56		-2.292E-04	6.134E-02	Half-Life too short		

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		293.26	*	4.204E-04	6.134E-02	Half-Life too short		
	+	350.59		1.595E-02	6.134E-02	Half-Life too short		
		490.36		1.830E-04	6.134E-02	Half-Life too short		
		664.57		1.298E-04	6.134E-02	Half-Life too short		
		721.93		-2.944E-04	6.134E-02	Half-Life too short		
CE-144		80.11		1.292E+00	2.025E+00	3.156E+00	2.907E-01	0.409
		133.54	*	5.269E-02	1.973E-01	3.266E-01	5.099E-02	0.161
PM-144		476.78		-2.044E-02	6.757E-02	1.063E-01	1.141E-02	-0.192
		618.01		-3.073E-02	3.191E-02	4.901E-02	4.581E-03	-0.627
		696.49	*	1.046E-02	3.506E-02	5.941E-02	5.272E-03	0.176
		778.57		1.996E+00	2.272E+00	4.006E+00	3.787E-01	0.498
PR-144		696.49	*	7.085E-01	2.374E+00	4.023E+00	3.569E-01	0.176
		1489.15		-8.797E+00	1.264E+01	1.806E+01	1.670E+00	-0.487
PM-146		453.90	*	1.570E-02	4.601E-02	7.635E-02	9.099E-03	0.206
		633.02		-2.223E-01	1.377E+00	2.263E+00	8.476E-01	-0.098
		735.90		-1.539E-03	1.550E-01	2.553E-01	7.343E-02	-0.006
		747.13		1.188E-03	1.023E-01	1.686E-01	2.431E-02	0.007
ND-147		91.11		5.793E-01	3.032E-01	4.700E-01	4.840E-02	1.232
		319.41		-2.026E+00	2.986E+00	4.743E+00	5.632E-01	-0.427
		439.89		-3.499E-01	5.490E+00	8.876E+00	8.943E-01	-0.039
		531.02	*	3.532E-01	5.359E-01	9.002E-01	1.410E-01	0.392
PM-149		285.90	*	2.718E+00	6.294E+01	1.057E+02	1.890E+01	0.026
EU-152		121.78		-3.883E-02	6.854E-02	1.098E-01	1.064E-02	-0.354
		244.69		1.059E-01	3.392E-01	5.179E-01	6.146E-02	0.204
		344.27	*	-2.677E-02	1.107E-01	1.667E-01	1.960E-02	-0.161
		443.98		6.819E-02	9.327E-01	1.523E+00	1.534E-01	0.045
		778.89		2.187E-01	2.593E-01	4.566E-01	4.316E-02	0.479
		867.32		1.327E-01	1.027E+00	1.481E+00	1.486E-01	0.090
	+	964.01		1.049E+00	4.503E-01	6.558E-01	6.491E-02	1.600
		1085.78		7.371E-02	3.879E-01	6.593E-01	5.921E-02	0.112
		1112.02		1.176E-01	3.320E-01	5.594E-01	4.881E-02	0.210
		1407.95		1.436E-01	2.023E-01	3.580E-01	3.335E-02	0.401
GD-153		69.67		6.798E-01	1.763E+00	2.735E+00	2.291E-01	0.249
		83.37		3.832E+00	1.537E+01	2.321E+01	2.212E+00	0.165
		97.43	*	-2.910E-02	8.264E-02	1.193E-01	1.084E-02	-0.244
		103.18		8.652E-03	1.051E-01	1.554E-01	1.360E-02	0.056
EU-154		123.07		-2.731E-03	4.828E-02	7.924E-02	8.858E-03	-0.034
		247.94		-4.092E-02	3.463E-01	5.824E-01	8.227E-02	-0.070
		591.81		-2.860E-01	6.236E-01	1.008E+00	1.234E-01	-0.284
		723.30		-5.629E-02	2.090E-01	2.897E-01	2.878E-02	-0.194
		756.87		2.661E-01	7.565E-01	1.282E+00	1.600E-01	0.208
		873.19		4.151E-02	3.069E-01	5.053E-01	6.722E-02	0.082
		996.32		-3.911E-01	4.384E-01	6.325E-01	1.158E-01	-0.618
		1004.76		-1.932E-01	2.278E-01	3.509E-01	4.356E-02	-0.551
		1274.45	*	5.745E-02	1.242E-01	2.140E-01	2.460E-02	0.268
TB-160	+	86.79		8.702E-01	3.389E-01	4.827E-01	4.781E-02	1.803
		197.04		2.463E-01	5.924E-01	9.444E-01	1.031E-01	0.261
		215.65		2.707E-01	7.650E-01	1.237E+00	1.399E-01	0.219
	+	298.57		1.861E-01	1.583E-01	2.056E-01	2.507E-02	0.905

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		879.36	*	-3.403E-02	1.414E-01	2.239E-01	2.262E-02	-0.152
		962.29		1.106E+00	6.633E-01	1.089E+00	1.079E-01	1.015
		966.15		1.336E+00	3.035E-01	5.704E-01	5.639E-02	2.343
		1177.93		8.428E-04	3.817E-01	6.324E-01	5.117E-02	0.001
		1271.85		-8.932E-03	7.611E-01	1.251E+00	1.105E-01	-0.007
HO-166M		80.57		-2.034E-02	2.680E-01	4.036E-01	3.734E-02	-0.050
	+	184.41		1.423E-01	7.266E-02	7.486E-02	7.968E-03	1.901
		280.46		-7.722E-02	8.272E-02	1.308E-01	1.621E-02	-0.590
		410.95		-1.304E-01	2.548E-01	4.012E-01	4.032E-02	-0.325
		711.68	*	-1.768E-02	5.987E-02	9.641E-02	8.659E-03	-0.183
		752.31		6.580E-02	2.828E-01	4.745E-01	4.398E-02	0.139
		810.29		-2.930E-02	5.989E-02	9.317E-02	9.003E-03	-0.315
TM-171		51.35		-1.487E+01	3.931E+01	6.636E+01	5.696E+00	-0.224
		52.39		-1.568E+01	1.964E+01	3.247E+01	2.739E+00	-0.483
		59.40		-7.965E+00	3.115E+01	4.722E+01	3.534E+00	-0.169
		66.72	*	-1.104E+01	3.025E+01	4.534E+01	3.704E+00	-0.244
LU-176	+	88.36		2.639E-01	2.030E-01	3.362E-01	3.361E-02	0.785
		201.83		-2.551E-02	2.957E-02	4.488E-02	4.945E-03	-0.569
		306.84	*	8.526E-03	2.555E-02	4.335E-02	5.237E-03	0.197
		401.10		5.819E-01	6.834E+00	1.124E+01	1.128E+00	0.052
LU-177		112.95		-2.714E-01	1.452E+00	2.325E+00	1.963E-01	-0.117
	+	208.36	*	2.117E+00	1.299E+00	1.799E+00	2.007E-01	1.177
LU-177M		52.97		-1.880E+00	2.019E+00	3.317E+00	2.769E-01	-0.567
		54.07		1.788E-02	1.038E+00	1.778E+00	1.455E-01	0.010
		61.30		1.393E+00	1.639E+00	2.621E+00	2.019E-01	0.531
		121.62		-2.060E-01	3.478E-01	5.563E-01	4.645E-02	-0.370
		147.16		-2.462E-01	6.438E-01	1.030E+00	9.552E-02	-0.239
		171.86		8.564E-02	4.768E-01	7.756E-01	8.049E-02	0.110
		218.09		-1.120E-01	8.651E-01	1.363E+00	1.549E-01	-0.082
	+	268.79		2.050E+00	1.497E+00	1.552E+00	1.902E-01	1.321
		319.02		-2.377E-01	2.540E-01	3.956E-01	4.700E-02	-0.601
		367.43		-4.140E-01	9.334E-01	1.491E+00	1.604E-01	-0.278
		413.65	*	1.891E-01	1.765E-01	3.074E-01	3.091E-02	0.615
HF-181		56.28		8.272E-02	1.106E+00	1.896E+00	1.491E-01	0.044
		57.53		1.031E-01	5.727E-01	9.847E-01	7.584E-02	0.105
		65.20		-2.772E-01	1.004E+00	1.514E+00	1.220E-01	-0.183
		133.02		1.763E-02	6.242E-02	1.035E-01	8.982E-03	0.170
		136.25		-1.244E-01	4.345E-01	7.015E-01	6.174E-02	-0.177
		345.85		-4.748E-02	2.005E-01	3.153E-01	3.570E-02	-0.151
		482.03	*	1.017E-02	4.197E-02	6.898E-02	6.908E-03	0.147
W-181		56.28		3.268E-02	4.386E-01	7.518E-01	5.914E-02	0.043
		57.53		4.082E-02	2.273E-01	3.908E-01	3.010E-02	0.104
		65.20	*	-1.091E-01	3.953E-01	5.960E-01	4.802E-02	-0.183
TA-182		67.75		-5.974E-02	1.114E-01	1.764E-01	1.454E-02	-0.339
		100.10		2.255E-02	1.631E-01	2.730E-01	2.434E-02	0.083
		152.43		9.320E-02	3.260E-01	5.364E-01	5.113E-02	0.174
		222.10		5.382E-02	3.423E-01	5.473E-01	6.262E-02	0.098
		1001.68		-8.336E-01	2.410E+00	3.807E+00	3.678E-01	-0.219
	+	1121.28		3.929E-01	2.430E-01	3.499E-01	3.020E-02	1.123

---- Non-Identified Nuclides ----

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		1189.05		-6.986E-02	3.153E-01	5.109E-01	4.179E-02	-0.137
		1221.42	*	-6.532E-02	2.005E-01	3.209E-01	2.707E-02	-0.204
		1230.97		-2.064E-01	4.840E-01	7.670E-01	6.528E-02	-0.269
RE-183		57.98		-1.773E-02	2.243E-01	3.818E-01	2.919E-02	-0.046
		59.32		-3.258E-02	1.273E-01	1.929E-01	1.445E-02	-0.169
		67.20		-1.929E-01	2.155E-01	3.134E-01	2.571E-02	-0.616
		162.32	*	-7.600E-02	1.115E-01	1.701E-01	1.711E-02	-0.447
	+	208.81		2.133E+00	1.309E+00	1.800E+00	2.010E-01	1.185
		291.72		-1.108E+00	1.011E+00	1.345E+00	1.652E-01	-0.824
RE-184		57.98		-6.579E-02	8.325E-01	1.417E+00	1.083E-01	-0.046
		59.32		-1.208E-01	4.719E-01	7.153E-01	5.359E-02	-0.169
		67.20		-7.158E-01	7.995E-01	1.163E+00	9.537E-02	-0.616
		161.27		-2.138E-01	3.655E-01	5.616E-01	5.616E-02	-0.381
		216.55		7.906E-02	2.725E-01	4.392E-01	4.976E-02	0.180
		252.85	*	2.686E-01	2.186E-01	3.882E-01	4.661E-02	0.692
		318.01		-8.040E-01	4.646E-01	6.752E-01	8.034E-02	-1.191
		792.07		2.952E-02	1.178E+00	1.676E+00	1.599E-01	0.018
		903.28		-6.218E-01	1.152E+00	1.644E+00	1.677E-01	-0.378
		920.93		-3.009E-02	4.226E-01	6.777E-01	6.860E-02	-0.044
OS-185		59.72		-1.712E-01	3.453E-01	5.164E-01	3.875E-02	-0.332
		61.14		1.272E-01	1.791E-01	2.847E-01	2.188E-02	0.447
		69.30		1.661E-01	3.107E-01	4.856E-01	4.055E-02	0.342
		592.07		-1.434E+00	2.486E+00	3.977E+00	3.727E-01	-0.361
		646.12	*	-1.415E-03	4.183E-02	6.951E-02	6.122E-03	-0.020
		717.42		3.811E-01	9.177E-01	1.566E+00	1.413E-01	0.243
		874.81		-8.538E-02	5.877E-01	9.402E-01	9.475E-02	-0.091
		880.27		1.682E-01	7.935E-01	1.315E+00	1.330E-01	0.128
RE-188		155.03	*	-5.886E-03	1.633E-01	2.646E-01	2.558E-02	-0.022
		477.96		1.538E+00	3.038E+00	5.094E+00	5.107E-01	0.302
		633.10		-3.877E-01	2.750E+00	4.537E+00	4.064E-01	-0.085
W-188	+	63.58		1.786E+01	8.718E+01	1.008E+02	7.986E+00	0.177
		227.08		-2.490E+00	1.328E+01	2.080E+01	2.401E+00	-0.120
		290.67	*	-5.505E+00	7.906E+00	1.097E+01	1.348E+00	-0.502
IR-192	+	295.96		9.839E-01	2.239E-01	2.864E-01	3.514E-02	3.436
		308.46		7.700E-02	9.656E-02	1.673E-01	2.023E-02	0.460
		316.51	*	1.485E-02	3.403E-02	5.800E-02	6.925E-03	0.256
		468.07		-7.942E-02	7.514E-02	9.999E-02	1.058E-02	-0.794
		604.41		-2.665E-02	4.952E-01	7.176E-01	9.651E-02	-0.037
		612.46		8.368E-01	7.334E-01	1.191E+00	1.237E-01	0.703
AU-195		65.12		-4.847E-02	1.838E-01	2.774E-01	2.233E-02	-0.175
		66.83		-3.674E-02	9.952E-02	1.491E-01	1.219E-02	-0.246
	+	75.70		1.598E+00	2.730E-01	4.495E-01	3.968E-02	3.554
		98.88	*	1.149E-01	2.232E-01	3.562E-01	3.202E-02	0.323
		129.76		1.113E+00	2.842E+00	4.734E+00	4.056E-01	0.235
TL-200		367.94	*	-3.777E-05	2.842E+00	Half-Life too short		
		579.30		8.271E-04	2.842E+00	Half-Life too short		
		828.27		1.079E-03	2.842E+00	Half-Life too short		
		1205.75		3.352E-05	2.842E+00	Half-Life too short		
TL-201		68.90		2.196E+00	3.799E+00	5.953E+00	4.955E-01	0.369

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		70.82		1.249E+00	2.189E+00	3.419E+00	2.892E-01	0.365
		80.30		-3.145E-03	3.768E+00	5.697E+00	5.257E-01	-0.001
		135.34		-1.623E+01	1.873E+01	2.936E+01	2.574E+00	-0.553
		167.43	*	-2.554E+00	5.330E+00	8.404E+00	8.647E-01	-0.304
TL-202		68.90		2.433E-01	4.210E-01	6.597E-01	5.491E-02	0.369
		70.82		1.380E-01	2.419E-01	3.779E-01	3.196E-02	0.365
		80.30		-3.476E-04	4.165E-01	6.298E-01	5.812E-02	-0.001
		439.56	*	1.151E-02	6.617E-02	1.089E-01	1.097E-02	0.106
HG-203		70.83		6.319E-01	1.105E+00	1.723E+00	2.327E-01	0.367
		72.87		1.113E+00	6.033E-01	1.050E+00	1.386E-01	1.059
		82.60		-3.307E-01	1.071E+00	1.666E+00	2.379E-01	-0.199
		279.20	*	-2.580E-02	3.839E-02	6.187E-02	7.779E-03	-0.417
BI-207		72.80		2.747E-01	1.744E-01	3.076E-01	2.646E-02	0.893
	+	74.97		6.049E-01	1.388E-01	2.259E-01	1.981E-02	2.677
		84.90		2.134E-01	1.956E-01	3.051E-01	2.958E-02	0.700
		569.67		1.979E-03	3.093E-02	5.228E-02	4.997E-03	0.038
		1063.62	*	6.040E-02	5.827E-02	1.054E-01	9.675E-03	0.573
		1770.23		-8.697E-02	5.278E-01	7.115E-01	6.012E-02	-0.122
TL-207		81.07		-2.692E-01	2.079E-01	3.132E-01	2.914E-02	-0.859
		83.78		4.663E-02	1.322E-01	2.005E-01	1.920E-02	0.233
		94.90		2.039E-01	2.209E-01	3.459E-01	3.212E-02	0.589
		122.32		-3.126E-01	1.626E+00	2.653E+00	2.389E-01	-0.118
		144.24		2.239E-01	7.114E-01	1.169E+00	1.182E-01	0.191
		154.21		2.302E-01	3.809E-01	6.345E-01	6.599E-02	0.363
	+	269.46		4.825E-01	3.524E-01	3.691E-01	4.574E-02	1.307
		323.87	*	-1.848E-01	7.541E-01	1.078E+00	2.097E-01	-0.171
	+	338.28		7.281E+00	2.362E+00	2.604E+00	3.769E-01	2.796
		445.03		3.497E-01	2.209E+00	3.630E+00	4.778E-01	0.096
PO-209		260.50		-2.223E+00	8.700E+00	1.446E+01	1.754E+00	-0.154
		262.80		-3.081E+01	2.492E+01	3.860E+01	4.696E+00	-0.798
		896.60	*	2.625E+00	7.799E+00	1.305E+01	1.333E+00	0.201
BI-210		46.50	*	2.276E-01	5.757E+00	8.825E+00	8.456E-01	0.026
PB-210		46.50	*	2.276E-01	5.757E+00	8.825E+00	8.456E-01	0.026
PO-210		46.50	*	2.276E-01	5.757E+00	8.825E+00	7.703E-01	0.026
PB-211		404.84	*	-7.343E-01	1.108E+00	1.569E+00	9.863E-01	-0.468
		427.08		1.131E+00	2.152E+00	3.445E+00	2.148E+00	0.328
		831.96		-3.428E-01	1.272E+00	1.994E+00	1.253E+00	-0.172
BI-212	+	727.18	*	1.080E+00	5.546E-01	6.892E-01	7.179E-02	1.566
		785.46		1.010E+00	1.779E+00	3.056E+00	2.902E-01	0.331
		1620.62		2.249E-01	1.586E+00	2.697E+00	2.422E-01	0.083
PO-215		81.07		-2.692E-01	2.079E-01	3.132E-01	2.914E-02	-0.859
		83.78		4.663E-02	1.322E-01	2.005E-01	1.920E-02	0.233
		94.90		2.039E-01	2.209E-01	3.459E-01	3.212E-02	0.589
		122.32		-3.126E-01	1.626E+00	2.653E+00	2.389E-01	-0.118
		144.24		2.239E-01	7.114E-01	1.169E+00	1.182E-01	0.191
		154.21		2.302E-01	3.809E-01	6.345E-01	6.599E-02	0.363
	+	269.46		4.825E-01	3.524E-01	3.691E-01	4.574E-02	1.307
		323.87	*	-1.848E-01	7.541E-01	1.078E+00	2.097E-01	-0.171
	+	338.28		7.281E+00	2.362E+00	2.604E+00	3.769E-01	2.796

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		445.03		3.497E-01	2.209E+00	3.630E+00	4.778E-01	0.096
RN-219	+	271.23		6.191E-01	4.533E-01	4.712E-01	6.376E-02	1.314
		401.81	*	1.266E-01	4.182E-01	6.973E-01	1.107E-01	0.182
RN-220		549.76	*	4.664E+00	2.662E+01	4.311E+01	4.182E+00	0.108
RA-223		81.07		-2.692E-01	2.079E-01	3.132E-01	2.914E-02	-0.859
		83.78		4.663E-02	1.322E-01	2.005E-01	1.920E-02	0.233
		94.90		2.039E-01	2.209E-01	3.459E-01	3.212E-02	0.589
		122.32		-3.126E-01	1.626E+00	2.653E+00	2.389E-01	-0.118
		144.24		2.239E-01	7.114E-01	1.169E+00	1.182E-01	0.191
		154.21		2.302E-01	3.809E-01	6.345E-01	6.599E-02	0.363
	+	269.46		4.825E-01	3.524E-01	3.691E-01	4.574E-02	1.307
		323.87	*	-1.848E-01	7.541E-01	1.078E+00	2.097E-01	-0.171
	+	338.28		7.281E+00	2.362E+00	2.604E+00	3.769E-01	2.796
		445.03		3.497E-01	2.209E+00	3.630E+00	4.778E-01	0.096
AC-227		79.80		8.192E-01	1.575E+00	2.431E+00	5.284E-01	0.337
		236.00		8.281E-01	2.976E-01	4.715E-01	6.877E-02	1.756
		256.20	*	-7.908E-02	3.612E-01	6.024E-01	1.055E-01	-0.131
		286.10		-2.185E-02	1.541E+00	2.581E+00	4.100E-01	-0.008
	+	299.80		2.398E+00	2.072E+00	2.692E+00	5.248E-01	0.891
		304.40		-7.414E-01	2.161E+00	3.082E+00	6.260E-01	-0.241
		334.20		8.095E-01	2.701E+00	4.019E+00	8.400E-01	0.201
TH-227		79.80		8.192E-01	1.575E+00	2.431E+00	5.350E-01	0.337
	+	94.00		9.261E+00	4.000E+00	3.423E+00	7.560E-01	2.705
		236.00		8.281E-01	2.945E-01	4.715E-01	6.422E-02	1.756
		256.20	*	-7.908E-02	3.613E-01	6.024E-01	1.201E-01	-0.131
		286.10		-2.185E-02	1.542E+00	2.581E+00	2.601E+00	-0.008
	+	299.80		2.398E+00	2.072E+00	2.692E+00	5.248E-01	0.891
		304.40		-7.414E-01	2.161E+00	3.082E+00	6.260E-01	-0.241
		334.20		8.095E-01	2.701E+00	4.019E+00	8.400E-01	0.201
TH-229	+	85.43		6.137E-01	2.390E-01	3.136E-01	3.058E-02	1.957
	+	88.47		1.519E-01	1.169E-01	1.911E-01	1.907E-02	0.795
		100.00		3.615E-02	1.706E-01	2.863E-01	2.554E-02	0.126
		193.63	*	-8.372E-02	5.158E-01	8.185E-01	8.875E-02	-0.102
		210.97		5.471E-01	8.945E-01	1.312E+00	1.472E-01	0.417
PA-231		283.67	*	4.659E-01	1.501E+00	2.555E+00	4.491E-01	0.182
		301.29		7.373E-01	6.738E-01	1.053E+00	1.574E-01	0.700
TH-231		81.07		-2.692E-01	2.079E-01	3.132E-01	2.914E-02	-0.859
		83.78		4.663E-02	1.322E-01	2.005E-01	1.920E-02	0.233
		94.90		2.039E-01	2.209E-01	3.459E-01	3.212E-02	0.589
		122.32		-3.126E-01	1.626E+00	2.653E+00	2.389E-01	-0.118
		144.24		2.239E-01	7.114E-01	1.169E+00	1.182E-01	0.191
		154.21		2.302E-01	3.809E-01	6.345E-01	6.599E-02	0.363
	+	269.46		4.825E-01	3.524E-01	3.691E-01	4.574E-02	1.307
		323.87	*	-1.848E-01	7.541E-01	1.078E+00	2.097E-01	-0.171
	+	338.28		7.281E+00	2.362E+00	2.604E+00	3.769E-01	2.796
		445.03		3.497E-01	2.209E+00	3.630E+00	4.778E-01	0.096
U-231		84.21		3.655E+00	4.518E+00	6.982E+00	6.716E-01	0.524
	+	92.29		7.477E+00	2.862E+00	3.474E+00	3.311E-01	2.152
		95.87	*	3.276E-01	8.726E-01	1.332E+00	1.226E-01	0.246

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		108.00		1.062E+00	1.778E+00	2.724E+00	2.334E-01	0.390
PA-233	+	75.28		1.765E+01	4.629E+00	6.864E+00	1.060E+00	2.572
	+	86.59		5.358E+00	2.491E+00	2.974E+00	8.104E-01	1.802
	+	300.12		6.685E-01	5.745E-01	7.405E-01	1.272E-01	0.903
		311.98	*	-7.087E-02	6.564E-02	1.015E-01	1.236E-02	-0.698
		340.50		2.322E-01	7.012E-01	1.043E+00	2.607E-01	0.223
		398.62		-2.491E+00	2.231E+00	3.192E+00	8.655E-01	-0.780
		415.76		7.537E-01	1.715E+00	2.869E+00	6.360E-01	0.263
PA-234	+	63.00		5.243E-01	2.560E+00	3.050E+00	4.605E-01	0.172
		94.67		1.035E-01	1.650E-01	2.543E-01	3.278E-02	0.407
		98.44		8.214E-02	1.047E-01	1.453E-01	8.114E-02	0.565
		99.86		1.155E-01	4.330E-01	7.284E-01	6.504E-02	0.158
		111.00		-1.912E-01	1.887E-01	2.894E-01	3.471E-02	-0.661
		131.20		-8.902E-02	1.063E-01	1.676E-01	1.444E-02	-0.531
		152.70		4.596E-02	3.163E-01	5.172E-01	9.067E-02	0.089
	+	186.00		5.123E+00	3.034E+00	2.767E+00	8.810E-01	1.852
		226.40		-1.040E-01	4.097E-01	6.388E-01	9.748E-02	-0.163
		227.20		-8.771E-02	4.541E-01	7.109E-01	8.206E-02	-0.123
		248.90		-7.492E-01	8.132E-01	1.277E+00	3.052E-01	-0.586
	+	293.70		6.265E+00	1.706E+00	1.781E+00	3.450E-01	3.517
		369.80		4.289E-01	8.795E-01	1.484E+00	3.365E-01	0.289
		568.70		-1.988E-01	9.843E-01	1.632E+00	1.561E-01	-0.122
		569.50		1.484E-02	2.728E-01	4.608E-01	4.405E-02	0.032
		574.00		3.484E-01	1.589E+00	2.711E+00	2.582E-01	0.128
		699.00		1.982E-01	7.294E-01	1.232E+00	2.365E-01	0.161
		706.10		2.672E-01	1.065E+00	1.786E+00	7.977E-01	0.150
		733.00		2.614E-02	4.155E-01	5.987E-01	1.341E-01	0.044
		742.81		1.020E-01	1.500E+00	2.483E+00	1.671E+00	0.041
	+	796.30		1.666E+00	1.285E+00	1.763E+00	4.825E-01	0.945
		805.60		5.956E-01	1.074E+00	1.816E+00	5.620E-01	0.328
		819.60		-1.476E-01	1.219E+00	1.965E+00	7.524E-01	-0.075
		826.30		1.423E-01	8.113E-01	1.343E+00	6.042E-01	0.106
		831.60		-4.637E-01	6.707E-01	9.990E-01	3.018E-01	-0.464
		876.40		9.588E-02	8.482E-01	1.384E+00	1.425E+00	0.069
		880.51		7.889E-02	2.884E-01	4.808E-01	4.863E-02	0.164
		883.24		1.537E-01	3.138E-01	5.053E-01	3.407E-01	0.304
		899.00		2.310E-01	8.831E-01	1.458E+00	6.426E-01	0.158
		925.00		-4.408E-01	1.100E+00	1.692E+00	1.710E-01	-0.260
		926.50		-3.180E-02	1.611E-01	2.538E-01	6.554E-02	-0.125
		946.00	*	-2.193E-01	3.092E-01	4.547E-01	8.838E-02	-0.482
		949.00		4.014E-01	4.561E-01	7.986E-01	7.972E-02	0.503
		980.50		1.342E-01	7.755E-01	1.269E+00	1.244E-01	0.106
		1394.10		-6.679E-01	1.193E+00	1.634E+00	1.065E+00	-0.409
PA-234M		766.42		1.455E+01	1.648E+01	2.336E+01	1.189E+01	0.623
		1001.03	*	-2.205E-03	5.489E+00	8.954E+00	9.744E-01	0.000
NP-236		94.67		7.934E-02	1.250E-01	1.930E-01	1.796E-02	0.411
		98.44		6.210E-02	7.137E-02	1.098E-01	9.905E-03	0.565
		111.00		-1.446E-01	1.422E-01	2.189E-01	1.858E-02	-0.661
		160.31	*	1.592E-02	7.762E-02	1.269E-01	1.262E-02	0.125

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		3.700E-04	1.521E-01	2.476E-01	2.216E-02	0.001
		117.00	*	-5.666E-03	1.828E-01	3.013E-01	2.526E-02	-0.019
	+	209.75		1.703E+00	1.045E+00	1.453E+00	1.626E-01	1.172
		228.18		-9.859E-02	2.403E-01	3.712E-01	4.292E-02	-0.266
		277.60		1.868E-01	1.745E-01	3.063E-01	3.792E-02	0.610
		334.30		4.588E-01	1.528E+00	2.278E+00	2.638E-01	0.201
AM-241		59.54	*	-1.021E-01	1.840E-01	2.741E-01	2.245E-02	-0.373
CM-243		99.55		3.807E-04	1.565E-01	2.548E-01	2.280E-02	0.001
	+	103.76	*	1.046E-01	1.177E-01	1.526E-01	1.332E-02	0.685
		117.00		-5.829E-03	1.881E-01	3.099E-01	2.599E-02	-0.019
	+	209.75		1.679E+00	1.031E+00	1.432E+00	1.603E-01	1.172
		228.18		-9.961E-02	2.428E-01	3.751E-01	4.336E-02	-0.266
		277.60		1.883E-01	1.759E-01	3.088E-01	3.823E-02	0.610
AM-246		798.80		-6.796E-03	1.634E-01	2.303E-01	2.207E-02	-0.030
		1036.00		3.915E-02	3.128E-01	5.298E-01	4.985E-02	0.074
		1062.04		4.240E-01	2.573E-01	4.829E-01	4.440E-02	0.878
		1078.86	*	1.148E-02	1.423E-01	2.394E-01	2.165E-02	0.048
CM-247		278.00		4.023E-01	7.231E-01	1.246E+00	1.543E-01	0.323
		287.40		9.160E-01	1.221E+00	2.118E+00	2.610E-01	0.433
		402.60	*	4.694E-02	3.772E-02	6.626E-02	6.647E-03	0.708
CF-249		252.85		1.013E+00	8.245E-01	1.464E+00	1.758E-01	0.692
		333.44		1.350E-01	2.107E-01	3.020E-01	3.504E-02	0.447
		387.95	*	-1.187E-02	3.965E-02	6.367E-02	6.448E-03	-0.186
CF-251		176.60	*	4.571E-02	1.260E-01	2.062E-01	2.161E-02	0.222
		227.00		-7.406E-02	4.035E-01	6.321E-01	7.293E-02	-0.117
		285.00		-8.913E-01	1.771E+00	2.883E+00	3.560E-01	-0.309

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385003     *
* Acquisition date : 31-DEC-2009 09:30:52 Detector SN#     :               *
* Detector ID        : GAM02               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:     0 02:00:00.00     Abundance limit : 75.000        *
* Elapsed real time:     0 02:00:02.42     Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        : 17-DEC-2009 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G243385003           Analyst initials: MJH1          *
* Batch Number       : 936285               Sample Quantity : 1.3602E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :    0.00000                                             *
* CALIB. DATE/TIME : 29-OCT-2009 10:28:07 MS Isotope       :                *
* MSD DPM            :    0.000            MSD Isotope      :               *
* LCS DPM            :    0.000            LCS Isotope      :               *
* LCSD DPM           :    0.000            LCSD Isotope     :               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.347E+01	2.712E+00	3.147E-01	0.000E+00
CD-109	1.130E+00	8.520E-01	1.192E+00	0.000E+00
SN-126	2.737E-01	1.044E-01	1.181E-01	0.000E+00
EU-155	1.168E-01	1.288E-01	1.785E-01	0.000E+00
TL-208	4.031E-01	9.393E-02	6.431E-02	0.000E+00
BI-211	3.723E+00	6.055E-01	3.576E-01	0.000E+00
PB-212	1.354E+00	2.150E-01	1.193E-01	0.000E+00
PO-212	1.354E+00	2.150E-01	1.193E-01	0.000E+00
BI-214	1.166E+00	1.994E-01	1.142E-01	0.000E+00
PB-214	1.295E+00	2.208E-01	1.221E-01	0.000E+00
PO-214	1.295E+00	2.208E-01	1.221E-01	0.000E+00
PO-216	1.354E+00	2.150E-01	1.193E-01	0.000E+00
PO-218	1.295E+00	2.208E-01	1.221E-01	0.000E+00
RA-224	3.283E+00	9.744E-01	1.358E+00	0.000E+00
RA-226	1.166E+00	1.994E-01	1.142E-01	0.000E+00
AC-228	1.635E+00	3.350E-01	2.067E-01	0.000E+00
RA-228	1.635E+00	3.350E-01	2.067E-01	0.000E+00
TH-228	1.373E+00	2.180E-01	1.209E-01	0.000E+00
TH-230	1.166E+00	1.994E-01	1.142E-01	0.000E+00
TH-232	1.635E+00	3.350E-01	2.067E-01	0.000E+00
TH-234	4.498E-01	2.153E+00	2.305E+00	0.000E+00
U-234	1.166E+00	1.994E-01	1.142E-01	0.000E+00
U-235	-1.621E-02	2.163E-01	3.741E-01	0.000E+00
NP-237	8.037E-01	3.471E-01	4.109E-01	0.000E+00
U-238	4.498E-01	2.153E+00	2.305E+00	0.000E+00
AM-243	3.370E-01	7.577E-02	9.071E-02	0.000E+00
ANH-511	8.281E-02	7.164E-02	4.693E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)

BE-7	-1.790E-01	3.197E-01	5.146E-01	0.000E+00	NOT IDENT.
NA-22	2.274E-02	4.376E-02	7.771E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.666E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	7.102E-03	2.956E-02	5.213E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	3.719E-02	6.532E-02	0.000E+00	NOT IDENT.
SC-46	-4.213E-02	3.840E-02	5.626E-02	0.000E+00	FAIL ABUN
V-48	1.177E-02	7.343E-02	1.236E-01	0.000E+00	NOT IDENT.
CR-51	-1.419E-01	3.490E-01	5.956E-01	0.000E+00	NOT IDENT.
MN-52	-4.080E-02	2.117E-01	3.427E-01	0.000E+00	NOT IDENT.
MN-54	1.735E-02	3.900E-02	6.817E-02	0.000E+00	NOT IDENT.
CO-56	-9.923E-03	3.953E-02	6.497E-02	0.000E+00	NOT IDENT.
CO-57	-1.065E-02	2.319E-02	4.003E-02	0.000E+00	NOT IDENT.
CO-58	-2.846E-02	3.844E-02	6.020E-02	0.000E+00	NOT IDENT.
FE-59	-1.033E-01	9.729E-02	1.499E-01	0.000E+00	NOT IDENT.
CO-60	-1.757E-02	4.095E-02	6.414E-02	0.000E+00	NOT IDENT.
ZN-65	6.060E-02	1.063E-01	1.675E-01	0.000E+00	NOT IDENT.
GE-68	9.498E-01	1.210E+00	2.226E+00	0.000E+00	NOT IDENT.
AS-73	-4.429E-01	9.842E-01	1.798E+00	0.000E+00	NOT IDENT.
AS-74	-3.560E-02	8.499E-02	1.436E-01	0.000E+00	NOT IDENT.
SE-75	4.120E-02	4.328E-02	7.240E-02	0.000E+00	NOT IDENT.
BR-77	-3.646E+00	7.310E+00	1.169E+01	0.000E+00	FAIL ABUN
SR-82	-4.058E-01	4.031E-01	6.243E-01	0.000E+00	NOT IDENT.
RB-83	-2.596E-02	6.888E-02	1.115E-01	0.000E+00	NOT IDENT.
RB-84	1.057E-02	6.917E-02	1.177E-01	0.000E+00	NOT IDENT.
KR-85	5.693E+00	8.434E+00	1.311E+01	0.000E+00	NOT IDENT.
SR-85	2.882E-02	4.269E-02	6.635E-02	0.000E+00	NOT IDENT.
RB-86	6.542E-01	7.722E-01	1.422E+00	0.000E+00	NOT IDENT.
Y-88	3.401E-02	3.285E-02	6.546E-02	0.000E+00	NOT IDENT.
ZR-88	-6.946E-03	2.953E-02	4.993E-02	0.000E+00	NOT IDENT.
Y-91	4.591E+00	1.944E+01	3.366E+01	0.000E+00	NOT IDENT.
NB-94	-1.867E-02	3.475E-02	5.712E-02	0.000E+00	NOT IDENT.
NB-95	-1.895E-03	5.464E-02	8.151E-02	0.000E+00	NOT IDENT.
NB-95M	2.149E-01	1.341E-01	2.278E-01	0.000E+00	NOT IDENT.
ZR-95	1.751E-02	6.827E-02	1.189E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.844E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	6.018E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-4.121E+00	9.190E+00	1.509E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.360E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	8.700E-03	3.461E-02	5.816E-02	0.000E+00	NOT IDENT.
RH-102	-2.610E-02	2.857E-02	4.439E-02	0.000E+00	NOT IDENT.
RU-103	1.137E-02	3.872E-02	6.655E-02	0.000E+00	FAIL ABUN
RH-106	1.838E-02	3.088E-01	5.392E-01	0.000E+00	FAIL ABUN
RU-106	1.838E-02	3.088E-01	5.392E-01	0.000E+00	FAIL ABUN
AG-108M	-2.100E-03	3.207E-02	5.433E-02	0.000E+00	NOT IDENT.
AG-110M	-1.225E-02	3.373E-02	5.656E-02	0.000E+00	NOT IDENT.
IN-111	6.179E-02	8.156E-01	1.297E+00	0.000E+00	NOT IDENT.
IN-113M	-1.865E-02	4.263E-02	7.100E-02	0.000E+00	NOT IDENT.
SN-113	-1.865E-02	4.263E-02	7.100E-02	0.000E+00	NOT IDENT.
IN-114M	1.405E-01	1.877E-01	2.978E-01	0.000E+00	NOT IDENT.
CD-115	-2.131E+00	7.400E+00	1.205E+01	0.000E+00	NOT IDENT.
SN-117M	-1.470E-03	4.973E-02	8.584E-02	0.000E+00	NOT IDENT.
SB-122	2.974E-01	1.437E+00	2.559E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.175E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	8.680E-03	2.705E-02	4.742E-02	0.000E+00	NOT IDENT.
I-124	-3.262E-01	6.043E-01	8.627E-01	0.000E+00	NOT IDENT.
SB-124	3.170E-02	6.994E-02	1.284E-01	0.000E+00	FAIL ABUN
SB-125	7.381E-03	8.773E-02	1.505E-01	0.000E+00	FAIL ABUN
TE-125M	-8.554E-01	9.775E+00	1.550E+01	0.000E+00	NOT IDENT.
I-126	3.838E-02	1.580E-01	2.780E-01	0.000E+00	NOT IDENT.
SB-126	4.524E-02	1.527E-01	2.346E-01	0.000E+00	NOT IDENT.
SB-127	-2.185E-01	1.057E+00	1.788E+00	0.000E+00	NOT IDENT.
XE-127	-3.079E-02	4.600E-02	7.506E-02	0.000E+00	NOT IDENT.
I-131	-7.774E-02	1.024E-01	1.677E-01	0.000E+00	NOT IDENT.
TE-132	-2.330E-01	5.561E-01	9.088E-01	0.000E+00	NOT IDENT.
BA-133	2.349E-02	4.979E-02	7.859E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.377E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.560E-02	6.107E-02	9.067E-02	0.000E+00	FAIL ABUN
CS-135	2.468E-01	1.763E-01	2.970E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.491E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.392E-02	9.956E-02	1.623E-01	0.000E+00	FAIL ABUN
BA-137M	-2.161E-03	3.489E-02	5.998E-02	0.000E+00	NOT IDENT.
CS-137	-2.285E-03	3.688E-02	6.340E-02	0.000E+00	NOT IDENT.
CE-139	-1.067E-02	2.887E-02	4.883E-02	0.000E+00	NOT IDENT.
BA-140	-2.218E-01	2.501E-01	3.656E-01	0.000E+00	NOT IDENT.
LA-140	1.572E-02	6.655E-02	1.042E-01	0.000E+00	FAIL ABUN
CE-141	8.168E-03	6.011E-02	1.052E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.350E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	5.269E-02	1.933E-01	3.424E-01	0.000E+00	NOT IDENT.

PM-144	1.046E-02	3.436E-02	6.041E-02	0.000E+00	NOT IDENT.
PR-144	7.085E-01	2.327E+00	4.091E+00	0.000E+00	NOT IDENT.
PM-146	1.570E-02	4.509E-02	7.827E-02	0.000E+00	NOT IDENT.
ND-147	3.532E-01	5.252E-01	9.201E-01	0.000E+00	NOT IDENT.
PM-149	2.718E+00	6.168E+01	1.093E+02	0.000E+00	NOT IDENT.
EU-152	-2.677E-02	1.085E-01	1.718E-01	0.000E+00	FAIL ABUN
GD-153	-2.910E-02	8.099E-02	1.258E-01	0.000E+00	NOT IDENT.
EU-154	5.745E-02	1.217E-01	2.151E-01	0.000E+00	NOT IDENT.
TB-160	-3.403E-02	1.386E-01	2.266E-01	0.000E+00	FAIL ABUN
HO-166M	-1.768E-02	5.867E-02	9.800E-02	0.000E+00	FAIL ABUN
TM-171	-1.104E+01	2.965E+01	4.811E+01	0.000E+00	NOT IDENT.
LU-176	8.526E-03	2.504E-02	4.477E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.273E+00	1.870E+00	0.000E+00	FAIL ABUN
LU-177M	1.891E-01	1.730E-01	3.157E-01	0.000E+00	FAIL ABUN
HF-181	1.017E-02	4.113E-02	7.063E-02	0.000E+00	NOT IDENT.
W-181	-1.091E-01	3.874E-01	6.327E-01	0.000E+00	NOT IDENT.
TA-182	-6.532E-02	1.965E-01	3.229E-01	0.000E+00	FAIL ABUN
RE-183	-7.600E-02	1.092E-01	1.777E-01	0.000E+00	FAIL ABUN
RE-184	2.686E-01	2.143E-01	4.022E-01	0.000E+00	NOT IDENT.
OS-185	-1.415E-03	4.099E-02	7.078E-02	0.000E+00	NOT IDENT.
RE-188	-5.886E-03	1.600E-01	2.767E-01	0.000E+00	NOT IDENT.
W-188	-5.505E+00	7.748E+00	1.133E+01	0.000E+00	FAIL ABUN
IR-192	1.485E-02	3.335E-02	5.986E-02	0.000E+00	FAIL ABUN
AU-195	1.149E-01	2.187E-01	3.754E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.146E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.554E+00	5.224E+00	8.774E+00	0.000E+00	NOT IDENT.
TL-202	1.151E-02	6.485E-02	1.117E-01	0.000E+00	NOT IDENT.
HG-203	-2.580E-02	3.762E-02	6.400E-02	0.000E+00	NOT IDENT.
BI-207	6.040E-02	5.710E-02	1.063E-01	0.000E+00	FAIL ABUN
TL-207	-1.848E-01	7.390E-01	1.112E+00	0.000E+00	FAIL ABUN
PO-209	2.625E+00	7.643E+00	1.321E+01	0.000E+00	NOT IDENT.
BI-210	2.276E-01	5.642E+00	9.424E+00	0.000E+00	NOT IDENT.
PB-210	2.276E-01	5.642E+00	9.424E+00	0.000E+00	NOT IDENT.
PO-210	2.276E-01	5.642E+00	9.424E+00	0.000E+00	NOT IDENT.
PB-211	-7.343E-01	1.086E+00	1.611E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.436E-01	7.003E-01	0.000E+00	FAIL ABUN
PO-215	-1.848E-01	7.390E-01	1.112E+00	0.000E+00	FAIL ABUN
RN-219	1.266E-01	4.098E-01	7.165E-01	0.000E+00	FAIL ABUN
RN-220	4.664E+00	2.609E+01	4.404E+01	0.000E+00	NOT IDENT.
RA-223	-1.848E-01	7.390E-01	1.112E+00	0.000E+00	FAIL ABUN
AC-227	-7.908E-02	3.540E-01	6.241E-01	0.000E+00	FAIL ABUN
TH-227	-7.908E-02	3.541E-01	6.241E-01	0.000E+00	FAIL ABUN
TH-229	-8.372E-02	5.055E-01	8.523E-01	0.000E+00	FAIL ABUN
PA-231	4.659E-01	1.471E+00	2.642E+00	0.000E+00	NOT IDENT.
TH-231	-1.848E-01	7.390E-01	1.112E+00	0.000E+00	FAIL ABUN
U-231	3.276E-01	8.551E-01	1.404E+00	0.000E+00	FAIL ABUN
PA-233	-7.087E-02	6.433E-02	1.047E-01	0.000E+00	FAIL ABUN
PA-234	-2.193E-01	3.030E-01	4.597E-01	0.000E+00	FAIL ABUN
PA-234M	-2.205E-03	5.379E+00	9.043E+00	0.000E+00	NOT IDENT.
NP-236	1.592E-02	7.607E-02	1.326E-01	0.000E+00	NOT IDENT.
NP-239	-5.666E-03	1.791E-01	3.165E-01	0.000E+00	FAIL ABUN
AM-241	-1.021E-01	1.803E-01	2.914E-01	0.000E+00	NOT IDENT.
CM-243	1.046E-01	1.154E-01	1.607E-01	0.000E+00	FAIL ABUN
AM-246	1.148E-02	1.395E-01	2.414E-01	0.000E+00	NOT IDENT.
CM-247	4.694E-02	3.697E-02	6.808E-02	0.000E+00	NOT IDENT.
CF-249	-1.187E-02	3.886E-02	6.546E-02	0.000E+00	NOT IDENT.
CF-251	4.571E-02	1.234E-01	2.151E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:31:19.09

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*****************************************************************************
*                              GEL Laboratories LLC                         *
*                                2040 Savage Road                           *
*                              Charleston, SC 29414                         *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385003.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:30:52
Sample ID         : G243385003           Sample quantity  : 1.36020E+02 GRAM
Detector name     : GAM02                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:02.42  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit   : 75.00000             Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID   :                      LCS ID           : 1032-A
*****************************************************************************
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	933	10.67*	1.028E+00	2.347E+01	2.347E+01	11.79
CD-109	88.03	80	3.72*	5.375E+00	1.107E+00	1.130E+00	76.92
SN-126	64.28	16	9.60	2.532E+00	1.780E-01	1.780E-01	488.35
	86.94	191	8.90	5.211E+00	1.138E+00	1.138E+00	56.15
	87.57	191	37.00*	5.211E+00	2.737E-01	2.737E-01	38.94
EU-155	48.70	------	4.60	7.388E-01	------	Line Not Found	------
	60.01	------	1.11	2.121E+00	------	Line Not Found	------
	86.54	191	30.90	5.211E+00	3.277E-01	3.295E-01	38.96
	105.31	53	20.70*	6.069E+00	1.161E-01	1.168E-01	112.56
TL-208	277.35	------	6.80	3.991E+00	------	Line Not Found	------
	510.84	76	21.60	2.540E+00	3.834E-01	3.834E-01	88.66
	583.14	282	84.20*	2.291E+00	4.031E-01	4.031E-01	23.78
	860.37	49	12.46	1.651E+00	6.633E-01	6.633E-01	75.85
BI-211	72.87	------	1.27	3.848E+00	------	Line Not Found	------
	351.07	585	12.94*	3.351E+00	3.723E+00	3.723E+00	16.60
PB-212	74.81	327	10.70	4.052E+00	2.079E+00	2.079E+00	24.77
	77.11	510	18.00	4.300E+00	1.819E+00	1.819E+00	17.09
	87.30	191	8.00	5.211E+00	1.266E+00	1.266E+00	40.21
	238.63	975	44.60*	4.458E+00	1.354E+00	1.354E+00	16.21
	300.09	60	3.41	3.770E+00	1.294E+00	1.294E+00	85.28
PO-212	74.81	327	10.70	4.052E+00	2.079E+00	2.079E+00	24.77
	77.11	510	18.00	4.300E+00	1.819E+00	1.819E+00	17.09
	87.30	191	8.00	5.211E+00	1.266E+00	1.266E+00	40.21
	115.19	------	0.60	6.220E+00	------	Line Not Found	------
	238.63	975	44.60*	4.458E+00	1.354E+00	1.354E+00	16.21
	300.09	60	3.41	3.770E+00	1.294E+00	1.294E+00	85.28
BI-214	609.31	433	46.30*	2.214E+00	1.166E+00	1.166E+00	17.45
	1120.29	59	15.10	1.298E+00	8.372E-01	8.372E-01	62.21
	1764.49	80	15.80	9.004E-01	1.543E+00	1.543E+00	25.96
PB-214	74.81	327	6.21	4.052E+00	3.581E+00	3.582E+00	24.11
	77.11	510	10.50	4.300E+00	3.117E+00	3.117E+00	18.71
	87.30	191	4.67	5.211E+00	2.168E+00	2.168E+00	39.70

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	241.98	208	7.49	4.417E+00	1.731E+00	1.731E+00	30.80
	295.21	346	19.20	3.816E+00	1.305E+00	1.305E+00	23.57
	351.92	585	37.20*	3.351E+00	1.295E+00	1.295E+00	17.40
PO-214	74.81	327	6.21	4.052E+00	3.581E+00	3.582E+00	24.11
	77.11	510	10.50	4.300E+00	3.117E+00	3.117E+00	18.71
	87.30	191	4.67	5.211E+00	2.168E+00	2.168E+00	39.70
	241.98	208	7.49	4.417E+00	1.731E+00	1.731E+00	30.80
	295.21	346	19.20	3.816E+00	1.305E+00	1.305E+00	23.57
	351.92	585	37.20*	3.351E+00	1.295E+00	1.295E+00	17.40
PO-216	74.81	327	10.70	4.052E+00	2.079E+00	2.079E+00	24.77
	77.11	510	18.00	4.300E+00	1.819E+00	1.819E+00	17.09
	87.30	191	8.00	5.211E+00	1.266E+00	1.266E+00	40.21
	238.63	975	44.60*	4.458E+00	1.354E+00	1.354E+00	16.21
	300.09	60	3.41	3.770E+00	1.294E+00	1.294E+00	85.28
PO-218	74.81	327	6.21	4.052E+00	3.581E+00	3.582E+00	24.11
	77.11	510	10.50	4.300E+00	3.117E+00	3.117E+00	18.71
	87.30	191	4.67	5.211E+00	2.168E+00	2.168E+00	39.70
	241.98	208	7.49	4.417E+00	1.731E+00	1.731E+00	30.80
	295.21	346	19.20	3.816E+00	1.305E+00	1.305E+00	23.57
	351.92	585	37.20*	3.351E+00	1.295E+00	1.295E+00	17.40
RA-224	240.98	208	3.95*	4.417E+00	3.283E+00	3.283E+00	30.29
RA-226	609.31	433	46.30*	2.214E+00	1.166E+00	1.166E+00	17.45
	1120.29	59	15.10	1.298E+00	8.372E-01	8.372E-01	62.21
	1764.49	80	15.80	9.004E-01	1.543E+00	1.543E+00	25.96
AC-228	338.32	249	11.40	3.452E+00	1.744E+00	1.744E+00	51.03
	911.07	258	27.70*	1.569E+00	1.635E+00	1.635E+00	20.91
	969.11	162	16.60	1.484E+00	1.814E+00	1.814E+00	31.91
RA-228	338.32	249	11.40	3.452E+00	1.744E+00	1.744E+00	51.03
	911.07	258	27.70*	1.569E+00	1.635E+00	1.635E+00	20.91
	969.11	162	16.60	1.484E+00	1.814E+00	1.814E+00	31.91
TH-228	74.81	327	10.70	4.052E+00	2.079E+00	2.108E+00	22.97
	77.11	510	18.00	4.300E+00	1.819E+00	1.844E+00	17.09
	87.30	191	8.00	5.211E+00	1.266E+00	1.283E+00	38.94
	238.63	975	44.60*	4.458E+00	1.354E+00	1.373E+00	16.21
	300.09	60	3.41	3.770E+00	1.294E+00	1.312E+00	103.34
TH-230	609.31	433	46.30*	2.214E+00	1.166E+00	1.166E+00	17.45
	1120.29	59	15.10	1.298E+00	8.372E-01	8.372E-01	62.21
	1764.49	80	15.80	9.004E-01	1.543E+00	1.543E+00	25.96
TH-232	338.32	249	11.40	3.452E+00	1.744E+00	1.744E+00	31.24
	911.07	258	27.70*	1.569E+00	1.635E+00	1.635E+00	20.91
	969.11	162	16.60	1.484E+00	1.814E+00	1.814E+00	31.91
TH-234	63.29	16	3.80*	2.532E+00	4.498E-01	4.498E-01	488.44
	92.38	263	5.41	5.595E+00	2.397E+00	2.397E+00	41.45
U-234	609.31	433	46.30*	2.214E+00	1.166E+00	1.166E+00	17.45
	1120.29	59	15.10	1.298E+00	8.372E-01	8.372E-01	62.21
	1764.49	80	15.80	9.004E-01	1.543E+00	1.543E+00	25.96
U-235	89.95	80	2.70	5.375E+00	1.525E+00	1.525E+00	82.43
	93.35	263	4.50	5.595E+00	2.881E+00	2.881E+00	46.65
	105.00	53	2.10	6.069E+00	1.145E+00	1.145E+00	116.12

Sample ID : G243385003 Acquisition date : 31-DEC-2009 09:30:52

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	143.76	------	10.50*	6.030E+00	------	Line Not Found	------
	163.35	------	4.70	5.697E+00	------	Line Not Found	------
	185.71	196	54.00	5.292E+00	1.897E-01	1.897E-01	51.06
	205.31	------	4.70	4.952E+00	------	Line Not Found	------
NP-237	86.50	191	12.60*	5.211E+00	8.037E-01	8.037E-01	44.07
	95.87	------	2.60	5.755E+00	------	Line Not Found	------
U-238	63.29	16	3.80*	2.532E+00	4.498E-01	4.498E-01	488.44
	92.38	263	5.41	5.595E+00	2.397E+00	2.397E+00	38.28
AM-243	74.67	327	66.00*	4.052E+00	3.370E-01	3.370E-01	22.94
	86.72	191	0.34	5.211E+00	3.014E+01	3.014E+01	38.94
	117.66	------	0.55	6.232E+00	------	Line Not Found	------
	142.18	------	0.13	6.053E+00	------	Line Not Found	------
ANH-511	511.00	76	100.00*	2.540E+00	8.281E-02	8.281E-02	88.27

Flag: "*" = Keyline

Sample ID : G243385003 Acquisition date : 31-DEC-2009 09:30:52

Total number of lines in spectrum 34
Number of unidentified lines 4
Number of lines tentatively identified by NID 30 88.24%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.347E+01	2.347E+01	0.277E+01	11.79	
CD-109	464.00D	1.02	1.107E+00	1.130E+00	0.869E+00	76.92	
SN-126	1.00E+05Y	1.00	2.737E-01	2.737E-01	1.066E-01	38.94	
EU-155	4.96Y	1.01	1.161E-01	1.168E-01	1.314E-01	112.56	
TL-208	1.41E+10Y	1.00	4.031E-01	4.031E-01	0.958E-01	23.78	
BI-211	7.04E+08Y	1.00	3.723E+00	3.723E+00	0.618E+00	16.60	
PB-212	1.41E+10Y	1.00	1.354E+00	1.354E+00	0.219E+00	16.21	
PO-212	1.41E+10Y	1.00	1.354E+00	1.354E+00	0.219E+00	16.21	
BI-214	1600.00Y	1.00	1.166E+00	1.166E+00	0.204E+00	17.45	
PB-214	1600.00Y	1.00	1.295E+00	1.295E+00	0.225E+00	17.40	
PO-214	1600.00Y	1.00	1.295E+00	1.295E+00	0.225E+00	17.40	
PO-216	1.41E+10Y	1.00	1.354E+00	1.354E+00	0.219E+00	16.21	
PO-218	1600.00Y	1.00	1.295E+00	1.295E+00	0.225E+00	17.40	
RA-224	1.41E+10Y	1.00	3.283E+00	3.283E+00	0.994E+00	30.29	
RA-226	1600.00Y	1.00	1.166E+00	1.166E+00	0.204E+00	17.45	
AC-228	1.41E+10Y	1.00	1.635E+00	1.635E+00	0.342E+00	20.91	
RA-228	1.41E+10Y	1.00	1.635E+00	1.635E+00	0.342E+00	20.91	
TH-228	1.91Y	1.01	1.354E+00	1.373E+00	0.222E+00	16.21	
TH-230	4.47E+09Y	1.00	1.166E+00	1.166E+00	0.204E+00	17.45	
TH-232	1.41E+10Y	1.00	1.635E+00	1.635E+00	0.342E+00	20.91	
TH-234	4.47E+09Y	1.00	4.498E-01	4.498E-01	21.97E-01	488.44	
U-234	4.47E+09Y	1.00	1.166E+00	1.166E+00	0.204E+00	17.45	
U-235	7.04E+08Y	1.00	1.897E-01	1.897E-01	0.969E-01	51.06	K
NP-237	2.14E+06Y	1.00	8.037E-01	8.037E-01	3.542E-01	44.07	
U-238	4.47E+09Y	1.00	4.498E-01	4.498E-01	21.97E-01	488.44	
AM-243	7380.00Y	1.00	3.370E-01	3.370E-01	0.773E-01	22.94	
ANH-511	1.00E+09Y	1.00	8.281E-02	8.281E-02	7.310E-02	88.27	
	Total Activity :		5.355E+01	5.360E+01			

Grand Total Activity : 5.355E+01 5.360E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G243385003 Acquisition date : 31-DEC-2009 09:30:52

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	208.89	98	258	0.87	417.11	413	8	1.36E-02	60.4	4.89E+00	T
0	270.13	97	278	1.06	539.67	534	12	1.34E-02	72.0	4.07E+00	T
0	327.72	81	113	1.21	654.91	651	8	1.12E-02	51.0	3.53E+00	T
0	462.55	65	83	1.24	924.73	920	9	8.98E-03	56.6	2.74E+00	T
0	726.96	88	82	1.74	1453.87	1446	15	1.23E-02	50.3	1.91E+00	T
0	769.13	22	69	1.03	1538.27	1532	8	3.03E-03	****	1.82E+00	
0	795.26	42	48	1.11	1590.55	1586	11	5.79E-03	72.2	1.77E+00	T
4	964.11	81	30	2.64	1928.49	1920	25	1.13E-02	41.8	1.49E+00	T
0	1378.35	46	28	2.30	2757.58	2750	20	6.42E-03	64.7	1.08E+00	
0	1592.39	27	9	1.23	3186.00	3182	11	3.72E-03	60.7	9.62E-01	
0	1730.55	11	18	0.78	3462.56	3454	12	1.56E-03	****	9.11E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:31:24.67

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385003.CNF;1 *
* Acquisition date  : 31-DEC-2009 09:30:52  Detector SN#     :             *
* Detector ID       : GAM02                 Sensitivity      : 5.00000     *
* Geometry          : CAN                   Energy tolerance: 1.50000      *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000     *
* Elapsed real time: 0 02:00:02.42          Half life ratio : 8.00000      *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00  Nuclide Library : SOLID        *
* Sample ID         : G243385003            Analyst initials: MJH1         *
* Batch Number      : 936285                Sample Quantity : 1.36020E+02 GRAM *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
*                                                                           *
* CALIB. DATE/TIME : 29-OCT-2009 10:28:07.3MS Isotope      :               *
* MSD ID           :                      MSD Isotope     :               *
* LCS ID           : 1032-A               LCS Isotope     :               *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.347E+01	2.767E+00	3.139E-01	2.984E-02	74.752
CD-109	1.130E+00	8.693E-01	1.129E+00	1.134E-01	1.001
SN-126	2.737E-01	1.066E-01	1.118E-01	1.118E-02	2.448
EU-155	1.168E-01	1.314E-01	1.695E-01	1.487E-02	0.689
TL-208	4.031E-01	9.584E-02	6.303E-02	6.314E-03	6.396
BI-211	3.723E+00	6.179E-01	3.472E-01	4.006E-02	10.723
PB-212	1.354E+00	2.194E-01	1.150E-01	1.447E-02	11.775
PO-212	1.354E+00	2.194E-01	1.150E-01	1.447E-02	11.775
BI-214	1.166E+00	2.035E-01	1.120E-01	1.183E-02	10.414
PB-214	1.295E+00	2.253E-01	1.185E-01	1.498E-02	10.927
PO-214	1.295E+00	2.253E-01	1.185E-01	1.498E-02	10.927
PO-216	1.354E+00	2.194E-01	1.150E-01	1.447E-02	11.775
PO-218	1.295E+00	2.253E-01	1.185E-01	1.498E-02	10.927
RA-224	3.283E+00	9.942E-01	1.309E+00	1.545E-01	2.508
RA-226	1.166E+00	2.035E-01	1.120E-01	1.183E-02	10.414
AC-228	1.635E+00	3.418E-01	2.043E-01	2.547E-02	8.004
RA-228	1.635E+00	3.418E-01	2.043E-01	2.547E-02	8.004
TH-228	1.373E+00	2.225E-01	1.166E-01	1.467E-02	11.775

Sample ID : G243385003 Acquisition date : 31-DEC-2009 09:30:52

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.166E+00	2.035E-01	1.120E-01	1.183E-02	10.414
TH-232	1.635E+00	3.418E-01	2.043E-01	2.547E-02	8.004
TH-234	4.498E-01	2.197E+00	2.170E+00	3.832E-01	0.207
U-234	1.166E+00	2.035E-01	1.120E-01	1.183E-02	10.414
U-235	1.897E-01	9.688E-02	3.573E-01	6.345E-02	0.531
NP-237	8.037E-01	3.542E-01	3.890E-01	8.898E-02	2.066
U-238	4.498E-01	2.197E+00	2.170E+00	3.832E-01	0.207
AM-243	3.370E-01	7.731E-02	8.565E-02	7.489E-03	3.935
ANH-511	8.281E-02	7.310E-02	4.588E-02	4.548E-03	1.805

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.790E-01		3.262E-01	5.025E-01	5.329E-02	-0.356
NA-22	2.274E-02		4.465E-02	7.731E-02	6.855E-03	0.294
NA-24	2.086E-02		8.498E-02	Half-Life too short		
AL-26	7.102E-03		3.017E-02	5.222E-02	4.322E-03	0.136
TI-44	7.975E-02		3.794E-02	6.173E-02	5.588E-03	1.292
SC-46	-4.213E-02		3.919E-02	5.558E-02	5.651E-03	-0.758
V-48	1.177E-02		7.493E-02	1.223E-01	1.196E-02	0.096
CR-51	-1.419E-01		3.561E-01	5.773E-01	7.043E-02	-0.246
MN-52	-4.080E-02		2.160E-01	3.417E-01	3.179E-02	-0.119
MN-54	1.735E-02		3.979E-02	6.727E-02	6.608E-03	0.258
CO-56	-9.923E-03		4.034E-02	6.413E-02	6.349E-03	-0.155
CO-57	-1.065E-02		2.366E-02	3.813E-02	3.187E-03	-0.279
CO-58	-2.846E-02		3.922E-02	5.937E-02	5.750E-03	-0.479
FE-59	-1.033E-01		9.928E-02	1.487E-01	1.418E-02	-0.694
CO-60	-1.757E-02		4.179E-02	6.387E-02	5.950E-03	-0.275
ZN-65	6.060E-02		1.084E-01	1.662E-01	1.446E-02	0.365
GE-68	9.498E-01		1.235E+00	2.207E+00	1.999E-01	0.430
AS-73	-4.429E-01		1.004E+00	1.688E+00	1.397E-01	-0.262
AS-74	-3.560E-02		8.673E-02	1.408E-01	1.314E-02	-0.253
SE-75	4.120E-02		4.417E-02	6.993E-02	8.547E-03	0.589
BR-77	-3.646E+00		7.459E+00	1.143E+01	1.128E+00	-0.319
SR-82	-4.058E-01		4.113E-01	6.152E-01	5.805E-02	-0.660
RB-83	-2.596E-02		7.028E-02	1.090E-01	1.076E-02	-0.238
RB-84	1.057E-02		7.058E-02	1.163E-01	1.177E-02	0.091
KR-85	5.693E+00		8.607E+00	1.282E+01	1.269E+00	0.444
SR-85	2.882E-02		4.356E-02	6.487E-02	6.422E-03	0.444
RB-86	6.542E-01		7.880E-01	1.410E+00	1.279E-01	0.464
Y-88	3.401E-02		3.352E-02	6.559E-02	5.350E-03	0.519
ZR-88	-6.946E-03		3.014E-02	4.857E-02	4.860E-03	-0.143
Y-91	4.591E+00		1.984E+01	3.345E+01	2.778E+00	0.137
NB-94	-1.867E-02		3.546E-02	5.618E-02	5.009E-03	-0.332
NB-95	-1.895E-03		5.575E-02	8.030E-02	7.518E-03	-0.024
NB-95M	2.149E-01		1.368E-01	2.195E-01	2.777E-02	0.979
ZR-95	1.751E-02		6.966E-02	1.171E-01	1.184E-02	0.150

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	-9.575E-03		1.451E-02	Half-Life too short		
ZR-97	1.349E+00		3.070E-01	Half-Life too short		
MO-99	-4.121E+00		9.377E+00	1.486E+01	2.304E+00	-0.277
TC-99M	-9.089E+08		6.939E+08	Half-Life too short		
RH-101	8.700E-03		3.532E-02	5.587E-02	6.112E-03	0.156
RH-102	-2.610E-02		2.915E-02	4.334E-02	4.348E-03	-0.602
RU-103	1.137E-02		3.951E-02	6.503E-02	9.767E-03	0.175
RH-106	1.838E-02		3.151E-01	5.291E-01	7.227E-02	0.035
RU-106	1.838E-02		3.151E-01	5.291E-01	4.805E-02	0.035
AG-108M	-2.100E-03		3.272E-02	5.295E-02	5.490E-03	-0.040
AG-110M	-1.225E-02		3.442E-02	5.556E-02	4.956E-03	-0.221
IN-111	6.179E-02		8.323E-01	1.251E+00	1.486E-01	0.049
IN-113M	-1.865E-02		4.350E-02	6.907E-02	7.068E-03	-0.270
SN-113	-1.865E-02		4.350E-02	6.907E-02	7.068E-03	-0.270
IN-114M	1.405E-01		1.915E-01	2.859E-01	3.080E-02	0.491
CD-115	-2.131E+00		7.551E+00	1.179E+01	1.159E+00	-0.181
SN-117M	-1.470E-03		5.074E-02	8.214E-02	8.093E-03	-0.018
SB-122	2.974E-01		1.467E+00	2.506E+00	2.406E-01	0.119
I-123	3.770E-01		5.994E-01	Half-Life too short		
TE-123M	8.680E-03		2.760E-02	4.538E-02	4.502E-03	0.191
I-124	-3.262E-01		6.166E-01	8.460E-01	7.846E-02	-0.386
SB-124	3.170E-02		7.136E-02	1.284E-01	1.168E-02	0.247
SB-125	7.381E-03		8.952E-02	1.466E-01	1.498E-02	0.050
TE-125M	-8.554E-01		9.975E+00	1.473E+01	1.510E+00	-0.058
I-126	3.838E-02		1.612E-01	2.731E-01	2.362E-02	0.141
SB-126	4.524E-02		1.558E-01	2.308E-01	2.088E-02	0.196
SB-127	-2.185E-01		1.079E+00	1.758E+00	1.963E-01	-0.124
XE-127	-3.079E-02		4.694E-02	7.214E-02	7.966E-03	-0.427
I-131	-7.774E-02		1.045E-01	1.629E-01	1.827E-02	-0.477
TE-132	-2.330E-01		5.674E-01	8.753E-01	1.515E-01	-0.266
BA-133	2.349E-02		5.080E-02	7.632E-02	1.139E-02	0.308
I-133	-1.713E-03		1.213E-03	Half-Life too short		
CS-134	8.560E-02	+	6.232E-02	8.938E-02	8.602E-03	0.958
CS-135	2.468E-01		1.799E-01	2.869E-01	3.795E-02	0.860
I-135	-6.927E+07		1.271E+08	Half-Life too short		
CS-136	-5.392E-02		1.016E-01	1.609E-01	1.552E-02	-0.335
BA-137M	-2.161E-03		3.560E-02	5.892E-02	5.077E-03	-0.037
CS-137	-2.285E-03		3.764E-02	6.229E-02	5.377E-03	-0.037
CE-139	-1.067E-02		2.946E-02	4.677E-02	4.797E-03	-0.228
BA-140	-2.218E-01		2.552E-01	3.577E-01	1.197E-01	-0.620
LA-140	1.572E-02		6.791E-02	1.041E-01	9.414E-03	0.151
CE-141	8.168E-03		6.134E-02	1.005E-01	9.390E-03	0.081
CE-143	4.204E-04		6.885E-05	Half-Life too short		
CE-144	5.269E-02		1.973E-01	3.266E-01	5.099E-02	0.161
PM-144	1.046E-02		3.506E-02	5.941E-02	5.272E-03	0.176
PR-144	7.085E-01		2.374E+00	4.023E+00	3.569E-01	0.176
PM-146	1.570E-02		4.601E-02	7.635E-02	9.099E-03	0.206
ND-147	3.532E-01		5.359E-01	9.002E-01	1.410E-01	0.392

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-149	2.718E+00		6.294E+01	1.057E+02	1.890E+01	0.026
EU-152	-2.677E-02		1.107E-01	1.667E-01	1.960E-02	-0.161
GD-153	-2.910E-02		8.264E-02	1.193E-01	1.084E-02	-0.244
EU-154	5.745E-02		1.242E-01	2.140E-01	2.460E-02	0.268
TB-160	-3.403E-02		1.414E-01	2.239E-01	2.262E-02	-0.152
HO-166M	-1.768E-02		5.987E-02	9.641E-02	8.659E-03	-0.183
TM-171	-1.104E+01		3.025E+01	4.534E+01	3.704E+00	-0.244
LU-176	8.526E-03		2.555E-02	4.335E-02	5.237E-03	0.197
LU-177	2.117E+00	+	1.299E+00	1.799E+00	2.007E-01	1.177
LU-177M	1.891E-01		1.765E-01	3.074E-01	3.091E-02	0.615
HF-181	1.017E-02		4.197E-02	6.898E-02	6.908E-03	0.147
W-181	-1.091E-01		3.953E-01	5.960E-01	4.802E-02	-0.183
TA-182	-6.532E-02		2.005E-01	3.209E-01	2.707E-02	-0.204
RE-183	-7.600E-02		1.115E-01	1.701E-01	1.711E-02	-0.447
RE-184	2.686E-01		2.186E-01	3.882E-01	4.661E-02	0.692
OS-185	-1.415E-03		4.183E-02	6.951E-02	6.122E-03	-0.020
RE-188	-5.886E-03		1.633E-01	2.646E-01	2.558E-02	-0.022
W-188	-5.505E+00		7.906E+00	1.097E+01	1.348E+00	-0.502
IR-192	1.485E-02		3.403E-02	5.800E-02	6.925E-03	0.256
AU-195	1.149E-01		2.232E-01	3.562E-01	3.202E-02	0.323
TL-200	-3.777E-05		1.095E-04	Half-Life too short		
TL-201	-2.554E+00		5.330E+00	8.404E+00	8.647E-01	-0.304
TL-202	1.151E-02		6.617E-02	1.089E-01	1.097E-02	0.106
HG-203	-2.580E-02		3.839E-02	6.187E-02	7.779E-03	-0.417
BI-207	6.040E-02		5.827E-02	1.054E-01	9.675E-03	0.573
TL-207	-1.848E-01		7.541E-01	1.078E+00	2.097E-01	-0.171
PO-209	2.625E+00		7.799E+00	1.305E+01	1.333E+00	0.201
BI-210	2.276E-01		5.757E+00	8.825E+00	8.456E-01	0.026
PB-210	2.276E-01		5.757E+00	8.825E+00	8.456E-01	0.026
PO-210	2.276E-01		5.757E+00	8.825E+00	7.703E-01	0.026
PB-211	-7.343E-01		1.108E+00	1.569E+00	9.863E-01	-0.468
BI-212	1.080E+00	+	5.546E-01	6.892E-01	7.179E-02	1.566
PO-215	-1.848E-01		7.541E-01	1.078E+00	2.097E-01	-0.171
RN-219	1.266E-01		4.182E-01	6.973E-01	1.107E-01	0.182
RN-220	4.664E+00		2.662E+01	4.311E+01	4.182E+00	0.108
RA-223	-1.848E-01		7.541E-01	1.078E+00	2.097E-01	-0.171
AC-227	-7.908E-02		3.612E-01	6.024E-01	1.055E-01	-0.131
TH-227	-7.908E-02		3.613E-01	6.024E-01	1.201E-01	-0.131
TH-229	-8.372E-02		5.158E-01	8.185E-01	8.875E-02	-0.102
PA-231	4.659E-01		1.501E+00	2.555E+00	4.491E-01	0.182
TH-231	-1.848E-01		7.541E-01	1.078E+00	2.097E-01	-0.171
U-231	3.276E-01		8.726E-01	1.332E+00	1.226E-01	0.246
PA-233	-7.087E-02		6.564E-02	1.015E-01	1.236E-02	-0.698
PA-234	-2.193E-01		3.092E-01	4.547E-01	8.838E-02	-0.482
PA-234M	-2.205E-03		5.489E+00	8.954E+00	9.744E-01	0.000
NP-236	1.592E-02		7.762E-02	1.269E-01	1.262E-02	0.125
NP-239	-5.666E-03		1.828E-01	3.013E-01	2.526E-02	-0.019
AM-241	-1.021E-01		1.840E-01	2.741E-01	2.245E-02	-0.373

Sample ID : G243385003 Acquisition date : 31-DEC-2009 09:30:52

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.046E-01	+	1.177E-01	1.526E-01	1.332E-02	0.685
AM-246	1.148E-02		1.423E-01	2.394E-01	2.165E-02	0.048
CM-247	4.694E-02		3.772E-02	6.626E-02	6.647E-03	0.708
CF-249	-1.187E-02		3.965E-02	6.367E-02	6.448E-03	-0.186
CF-251	4.571E-02		1.260E-01	2.062E-01	2.161E-02	0.222

VAX/VMS Nuclide Identification Report Generated

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243385003           *
* Acquisition date  : 31-DEC-2009 09:30:52 Detector SN#     :               *
* Detector ID       : GAM02                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:02.42      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243385003           Analyst initials: MJH1           *
* Batch Number      : 936285               Sample Quantity : 1.3602E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME : 29-OCT-2009 10:28:07 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.347E+01	2.712E+00	1.574E-01	1.383E+00
CD-109	1.130E+00	8.520E-01	5.966E-01	4.347E-01
SN-126	2.737E-01	1.044E-01	5.908E-02	5.329E-02
EU-155	1.168E-01	1.288E-01	8.929E-02	6.571E-02
TL-208	4.031E-01	9.393E-02	3.217E-02	4.792E-02
BI-211	3.723E+00	6.055E-01	1.789E-01	3.089E-01
PB-212	1.354E+00	2.150E-01	5.967E-02	1.097E-01
PO-212	1.354E+00	2.150E-01	5.967E-02	1.097E-01
BI-214	1.166E+00	1.994E-01	5.711E-02	1.018E-01
PB-214	1.295E+00	2.208E-01	6.107E-02	1.127E-01
PO-214	1.295E+00	2.208E-01	6.107E-02	1.127E-01
PO-216	1.354E+00	2.150E-01	5.967E-02	1.097E-01
PO-218	1.295E+00	2.208E-01	6.107E-02	1.127E-01
RA-224	3.283E+00	9.744E-01	6.793E-01	4.971E-01
RA-226	1.166E+00	1.994E-01	5.711E-02	1.018E-01
AC-228	1.635E+00	3.350E-01	1.034E-01	1.709E-01
RA-228	1.635E+00	3.350E-01	1.034E-01	1.709E-01
TH-228	1.373E+00	2.180E-01	6.050E-02	1.112E-01
TH-230	1.166E+00	1.994E-01	5.711E-02	1.018E-01
TH-232	1.635E+00	3.350E-01	1.034E-01	1.709E-01
TH-234	4.498E-01	2.153E+00	1.153E+00	1.098E+00
U-234	1.166E+00	1.994E-01	5.711E-02	1.018E-01
U-235	-1.621E-02	2.163E-01	1.871E-01	1.104E-01
NP-237	8.037E-01	3.471E-01	2.056E-01	1.771E-01
U-238	4.498E-01	2.153E+00	1.153E+00	1.098E+00
AM-243	3.370E-01	7.577E-02	4.538E-02	3.866E-02
ANH-511	8.281E-02	7.164E-02	2.348E-02	3.655E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU

BE-7	-1.790E-01	3.197E-01	2.575E-01	1.631E-01	NOT IDENT.
NA-22	2.274E-02	4.376E-02	3.888E-02	2.233E-02	NOT IDENT.
NA-24	2.086E+04	1.666E+05	0.000E+00	8.498E+04	SHORT HLIF
AL-26	7.102E-03	2.956E-02	2.608E-02	1.508E-02	NOT IDENT.
TI-44	7.975E-02	3.719E-02	3.268E-02	1.897E-02	NOT IDENT.
SC-46	-4.213E-02	3.840E-02	2.815E-02	1.959E-02	FAIL ABUN
V-48	1.177E-02	7.343E-02	6.183E-02	3.747E-02	NOT IDENT.
CR-51	-1.419E-01	3.490E-01	2.980E-01	1.780E-01	NOT IDENT.
MN-52	-4.080E-02	2.117E-01	1.715E-01	1.080E-01	NOT IDENT.
MN-54	1.735E-02	3.900E-02	3.411E-02	1.990E-02	NOT IDENT.
CO-56	-9.923E-03	3.953E-02	3.251E-02	2.017E-02	NOT IDENT.
CO-57	-1.065E-02	2.319E-02	2.003E-02	1.183E-02	NOT IDENT.
CO-58	-2.846E-02	3.844E-02	3.012E-02	1.961E-02	NOT IDENT.
FE-59	-1.033E-01	9.729E-02	7.500E-02	4.964E-02	NOT IDENT.
CO-60	-1.757E-02	4.095E-02	3.209E-02	2.089E-02	NOT IDENT.
ZN-65	6.060E-02	1.063E-01	8.381E-02	5.422E-02	NOT IDENT.
GE-68	9.498E-01	1.210E+00	1.114E+00	6.176E-01	NOT IDENT.
AS-73	-4.429E-01	9.842E-01	8.997E-01	5.021E-01	NOT IDENT.
AS-74	-3.560E-02	8.499E-02	7.183E-02	4.336E-02	NOT IDENT.
SE-75	4.120E-02	4.328E-02	3.622E-02	2.208E-02	NOT IDENT.
BR-77	-3.646E+00	7.310E+00	5.848E+00	3.729E+00	FAIL ABUN
SR-82	-4.058E-01	4.031E-01	3.123E-01	2.056E-01	NOT IDENT.
RB-83	-2.596E-02	6.888E-02	5.576E-02	3.514E-02	NOT IDENT.
RB-84	1.057E-02	6.917E-02	5.889E-02	3.529E-02	NOT IDENT.
KR-85	5.693E+00	8.434E+00	6.558E+00	4.303E+00	NOT IDENT.
SR-85	2.882E-02	4.269E-02	3.319E-02	2.178E-02	NOT IDENT.
RB-86	6.542E-01	7.722E-01	7.116E-01	3.940E-01	NOT IDENT.
Y-88	3.401E-02	3.285E-02	3.275E-02	1.676E-02	NOT IDENT.
ZR-88	-6.946E-03	2.953E-02	2.498E-02	1.507E-02	NOT IDENT.
Y-91	4.591E+00	1.944E+01	1.684E+01	9.919E+00	NOT IDENT.
NB-94	-1.867E-02	3.475E-02	2.858E-02	1.773E-02	NOT IDENT.
NB-95	-1.895E-03	5.464E-02	4.078E-02	2.788E-02	NOT IDENT.
NB-95M	2.149E-01	1.341E-01	1.139E-01	6.840E-02	NOT IDENT.
ZR-95	1.751E-02	6.827E-02	5.949E-02	3.483E-02	NOT IDENT.
NB-97	-9.575E+03	2.844E+04	0.000E+00	1.451E+04	SHORT HLIF
ZR-97	1.349E+06	6.018E+05	0.000E+00	3.070E+05	SHORT HLIF
MO-99	-4.121E+00	9.190E+00	7.550E+00	4.689E+00	NOT IDENT.
TC-99M	-9.089E+14	1.360E+15	0.000E+00	6.939E+14	SHORT HLIF
RH-101	8.700E-03	3.461E-02	2.910E-02	1.766E-02	NOT IDENT.
RH-102	-2.610E-02	2.857E-02	2.221E-02	1.458E-02	NOT IDENT.
RU-103	1.137E-02	3.872E-02	3.329E-02	1.976E-02	FAIL ABUN
RH-106	1.838E-02	3.088E-01	2.698E-01	1.576E-01	FAIL ABUN
RU-106	1.838E-02	3.088E-01	2.698E-01	1.576E-01	FAIL ABUN
AG-108M	-2.100E-03	3.207E-02	2.718E-02	1.636E-02	NOT IDENT.
AG-110M	-1.225E-02	3.373E-02	2.830E-02	1.721E-02	NOT IDENT.
IN-111	6.179E-02	8.156E-01	6.488E-01	4.161E-01	NOT IDENT.
IN-113M	-1.865E-02	4.263E-02	3.552E-02	2.175E-02	NOT IDENT.
SN-113	-1.865E-02	4.263E-02	3.552E-02	2.175E-02	NOT IDENT.
IN-114M	1.405E-01	1.877E-01	1.490E-01	9.575E-02	NOT IDENT.
CD-115	-2.131E+00	7.400E+00	6.027E+00	3.775E+00	NOT IDENT.
SN-117M	-1.470E-03	4.973E-02	4.295E-02	2.537E-02	NOT IDENT.
SB-122	2.974E-01	1.437E+00	1.280E+00	7.334E-01	NOT IDENT.
I-123	3.770E+05	1.175E+06	0.000E+00	5.994E+05	SHORT HLIF
TE-123M	8.680E-03	2.705E-02	2.372E-02	1.380E-02	NOT IDENT.
I-124	-3.262E-01	6.043E-01	4.316E-01	3.083E-01	NOT IDENT.
SB-124	3.170E-02	6.994E-02	6.421E-02	3.568E-02	FAIL ABUN
SB-125	7.381E-03	8.773E-02	7.529E-02	4.476E-02	FAIL ABUN
TE-125M	-8.554E-01	9.775E+00	7.753E+00	4.987E+00	NOT IDENT.
I-126	3.838E-02	1.580E-01	1.391E-01	8.059E-02	NOT IDENT.
SB-126	4.524E-02	1.527E-01	1.174E-01	7.792E-02	NOT IDENT.
SB-127	-2.185E-01	1.057E+00	8.946E-01	5.395E-01	NOT IDENT.
XE-127	-3.079E-02	4.600E-02	3.755E-02	2.347E-02	NOT IDENT.
I-131	-7.774E-02	1.024E-01	8.390E-02	5.225E-02	NOT IDENT.
TE-132	-2.330E-01	5.561E-01	4.547E-01	2.837E-01	NOT IDENT.
BA-133	2.349E-02	4.979E-02	3.932E-02	2.540E-02	NOT IDENT.
I-133	-1.713E+03	2.377E+03	0.000E+00	1.213E+03	SHORT HLIF
CS-134	8.560E-02	6.107E-02	4.536E-02	3.116E-02	FAIL ABUN
CS-135	2.468E-01	1.763E-01	1.486E-01	8.995E-02	NOT IDENT.
I-135	-6.927E+13	2.491E+14	0.000E+00	1.271E+14	SHORT HLIF
CS-136	-5.392E-02	9.956E-02	8.121E-02	5.080E-02	FAIL ABUN
BA-137M	-2.161E-03	3.489E-02	3.001E-02	1.780E-02	NOT IDENT.
CS-137	-2.285E-03	3.688E-02	3.172E-02	1.882E-02	NOT IDENT.
CE-139	-1.067E-02	2.887E-02	2.443E-02	1.473E-02	NOT IDENT.
BA-140	-2.218E-01	2.501E-01	1.829E-01	1.276E-01	NOT IDENT.
LA-140	1.572E-02	6.655E-02	5.212E-02	3.396E-02	FAIL ABUN
CE-141	8.168E-03	6.011E-02	5.264E-02	3.067E-02	NOT IDENT.
CE-143	4.204E+02	1.350E+02	0.000E+00	6.885E+01	SHORT HLIF
CE-144	5.269E-02	1.933E-01	1.713E-01	9.863E-02	NOT IDENT.

PM-144	1.046E-02	3.436E-02	3.022E-02	1.753E-02	NOT IDENT.
PR-144	7.085E-01	2.327E+00	2.047E+00	1.187E+00	NOT IDENT.
PM-146	1.570E-02	4.509E-02	3.916E-02	2.301E-02	NOT IDENT.
ND-147	3.532E-01	5.252E-01	4.603E-01	2.680E-01	NOT IDENT.
PM-149	2.718E+00	6.168E+01	5.469E+01	3.147E+01	NOT IDENT.
EU-152	-2.677E-02	1.085E-01	8.594E-02	5.536E-02	FAIL ABUN
GD-153	-2.910E-02	8.099E-02	6.292E-02	4.132E-02	NOT IDENT.
EU-154	5.745E-02	1.217E-01	1.076E-01	6.210E-02	NOT IDENT.
TB-160	-3.403E-02	1.386E-01	1.134E-01	7.070E-02	FAIL ABUN
HO-166M	-1.768E-02	5.867E-02	4.903E-02	2.993E-02	FAIL ABUN
TM-171	-1.104E+01	2.965E+01	2.407E+01	1.513E+01	NOT IDENT.
LU-176	8.526E-03	2.504E-02	2.240E-02	1.277E-02	FAIL ABUN
LU-177	2.117E+00	1.273E+00	9.357E-01	6.497E-01	FAIL ABUN
LU-177M	1.891E-01	1.730E-01	1.579E-01	8.826E-02	FAIL ABUN
HF-181	1.017E-02	4.113E-02	3.534E-02	2.098E-02	NOT IDENT.
W-181	-1.091E-01	3.874E-01	3.165E-01	1.976E-01	NOT IDENT.
TA-182	-6.532E-02	1.965E-01	1.615E-01	1.002E-01	FAIL ABUN
RE-183	-7.600E-02	1.092E-01	8.892E-02	5.573E-02	FAIL ABUN
RE-184	2.686E-01	2.143E-01	2.012E-01	1.093E-01	NOT IDENT.
OS-185	-1.415E-03	4.099E-02	3.541E-02	2.092E-02	NOT IDENT.
RE-188	-5.886E-03	1.600E-01	1.384E-01	8.165E-02	NOT IDENT.
W-188	-5.505E+00	7.748E+00	5.670E+00	3.953E+00	FAIL ABUN
IR-192	1.485E-02	3.335E-02	2.995E-02	1.702E-02	FAIL ABUN
AU-195	1.149E-01	2.187E-01	1.878E-01	1.116E-01	FAIL ABUN
TL-200	-3.777E+01	2.146E+02	0.000E+00	1.095E+02	SHORT HLIF
TL-201	-2.554E+00	5.224E+00	4.390E+00	2.665E+00	NOT IDENT.
TL-202	1.151E-02	6.485E-02	5.587E-02	3.309E-02	NOT IDENT.
HG-203	-2.580E-02	3.762E-02	3.202E-02	1.920E-02	NOT IDENT.
BI-207	6.040E-02	5.710E-02	5.319E-02	2.913E-02	FAIL ABUN
TL-207	-1.848E-01	7.390E-01	5.565E-01	3.770E-01	FAIL ABUN
PO-209	2.625E+00	7.643E+00	6.609E+00	3.899E+00	NOT IDENT.
BI-210	2.276E-01	5.642E+00	4.715E+00	2.879E+00	NOT IDENT.
PB-210	2.276E-01	5.642E+00	4.715E+00	2.879E+00	NOT IDENT.
PO-210	2.276E-01	5.642E+00	4.715E+00	2.879E+00	NOT IDENT.
PB-211	-7.343E-01	1.086E+00	8.062E-01	5.541E-01	NOT IDENT.
BI-212	1.080E+00	5.436E-01	3.503E-01	2.773E-01	FAIL ABUN
PO-215	-1.848E-01	7.390E-01	5.565E-01	3.770E-01	FAIL ABUN
RN-219	1.266E-01	4.098E-01	3.584E-01	2.091E-01	FAIL ABUN
RN-220	4.664E+00	2.609E+01	2.203E+01	1.331E+01	NOT IDENT.
RA-223	-1.848E-01	7.390E-01	5.565E-01	3.770E-01	FAIL ABUN
AC-227	-7.908E-02	3.540E-01	3.122E-01	1.806E-01	FAIL ABUN
TH-227	-7.908E-02	3.541E-01	3.122E-01	1.807E-01	FAIL ABUN
TH-229	-8.372E-02	5.055E-01	4.264E-01	2.579E-01	FAIL ABUN
PA-231	4.659E-01	1.471E+00	1.322E+00	7.504E-01	NOT IDENT.
TH-231	-1.848E-01	7.390E-01	5.565E-01	3.770E-01	FAIL ABUN
U-231	3.276E-01	8.551E-01	7.025E-01	4.363E-01	FAIL ABUN
PA-233	-7.087E-02	6.433E-02	5.240E-02	3.282E-02	FAIL ABUN
PA-234	-2.193E-01	3.030E-01	2.300E-01	1.546E-01	FAIL ABUN
PA-234M	-2.205E-03	5.379E+00	4.524E+00	2.744E+00	NOT IDENT.
NP-236	1.592E-02	7.607E-02	6.635E-02	3.881E-02	NOT IDENT.
NP-239	-5.666E-03	1.791E-01	1.584E-01	9.140E-02	FAIL ABUN
AM-241	-1.021E-01	1.803E-01	1.458E-01	9.198E-02	NOT IDENT.
CM-243	1.046E-01	1.154E-01	8.041E-02	5.887E-02	FAIL ABUN
AM-246	1.148E-02	1.395E-01	1.208E-01	7.116E-02	NOT IDENT.
CM-247	4.694E-02	3.697E-02	3.406E-02	1.886E-02	NOT IDENT.
CF-249	-1.187E-02	3.886E-02	3.275E-02	1.983E-02	NOT IDENT.
CF-251	4.571E-02	1.234E-01	1.076E-01	6.298E-02	NOT IDENT.

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                          CHARLESTON ,SC 29417                             *
*                   GAMMA SPECTROSCOPY BACKGROUND REPORT                    *
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ENERGY	MDA COUNTS
46.50	212.1977
46.50	212.1977
46.50	212.1977
48.70	233.7643
49.72	203.4012
51.35	240.0943
52.39	248.4921
52.97	260.7489
53.15	260.9042
53.44	245.9911
54.07	243.9680
56.28	263.5681
56.28	263.5705
57.37	0.0000
57.53	258.6391
57.53	258.6407
57.60	258.6961
57.98	270.1160
57.98	270.1160
59.32	261.3692
59.32	261.3692
59.40	260.1456
59.54	275.7181
59.72	275.8700
60.01	270.9531
61.10	240.7817
61.14	240.8108
61.30	240.9264
63.00	274.2619
63.29	274.4962
63.29	274.4962
63.58	274.7300
64.28	280.9552
65.12	297.3591
65.20	297.4279
65.20	297.4279
66.05	304.7213
66.72	301.3522
66.83	301.4483
66.91	318.6331
67.20	329.4373
67.20	329.4373
67.75	317.8045
67.85	311.5577
68.90	285.9901
68.90	285.9901
69.30	294.2594
69.67	307.8312
70.82	315.4545
70.82	315.4545
70.83	315.4636
72.80	318.4815
72.87	318.5396
72.87	318.5396
74.67	320.0613
74.81	320.1775
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74.81	320.1775
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74.81	320.1775
74.81	320.1775
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74.97	320.3119
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75.70	320.9220
77.11	322.0931
77.11	322.0931

77.11	322.0931
77.11	322.0931
77.11	322.0931
77.11	322.0931
77.11	322.0931
78.38	313.6332
79.62	276.4813
79.80	277.9677
79.80	277.9677
80.11	278.1841
80.18	278.2323
80.30	315.1524
80.30	315.1524
80.57	315.3639
81.00	371.7339
81.07	365.2371
81.07	365.2371
81.07	365.2371
81.07	365.2371
82.60	322.7091
83.37	314.7894
83.78	320.6096
83.78	320.6096
83.78	320.6096
83.78	320.6096
84.21	292.0160
84.90	293.8809
85.43	331.5546
86.29	393.1413
86.50	393.3384
86.54	386.4496
86.59	386.4944
86.72	386.6136
86.79	386.6753
86.94	386.8137
87.30	288.6232
87.30	288.6232
87.30	288.6232
87.30	288.6232
87.30	288.6232
87.30	288.6232
87.30	288.6232
87.57	288.8057
87.88	289.0151
88.03	289.1167
88.36	289.3389
88.47	289.4135
89.95	321.1230
91.11	195.9863
92.29	314.4207
92.38	314.4839
92.38	314.4839
93.35	279.9956
94.00	280.4040
94.67	280.8185
94.67	280.8215
94.90	249.9042
94.90	249.9042
94.90	249.9042
94.90	249.9042
95.87	261.7596
95.87	261.7596
96.73	284.9366
97.43	271.1723
98.44	227.6575
98.44	227.6575
98.88	247.2428
99.55	268.1372
99.55	268.1372
99.86	258.8004
100.00	258.8778
100.10	260.8399
103.18	224.2107
103.76	228.8003
105.00	246.6996
105.31	273.3237
108.00	261.2796
109.28	291.0599

111.00	303.7401
111.00	303.7401
111.76	281.7724
112.95	282.4324
115.19	280.7195
116.30	252.7935
117.00	264.9515
117.00	264.9515
117.66	271.2010
121.11	260.0624
121.62	251.3670
121.78	253.4293
122.06	253.5603
122.32	243.7339
122.32	243.7339
122.32	243.7339
122.32	243.7339
123.07	244.0716
127.23	273.0251
129.76	289.3823
131.20	312.3571
133.02	259.6042
133.54	255.7786
135.34	283.0451
136.00	279.2903
136.25	266.1521
136.48	266.2570
140.51	299.9131
140.51	0.0000
142.18	277.0587
142.65	289.6412
143.76	283.9770
144.24	269.7297
144.24	269.7297
144.24	269.7297
144.24	269.7297
145.22	279.4785
145.44	279.5801
147.16	282.4368
152.43	250.2615
152.70	253.5111
153.22	248.4758
154.21	234.1586
154.21	234.1586
154.21	234.1586
154.21	234.1586
155.03	249.1774
156.02	268.5147
158.56	248.4205
159.00	0.0000
159.00	236.9518
160.31	237.4235
161.27	256.8739
162.32	255.1538
162.64	239.3211
163.35	237.4456
163.89	245.0979
165.85	254.3615
167.43	259.2372
171.28	227.2977
171.86	230.7231
172.10	230.8015
176.55	224.6711
176.60	224.6859
181.06	242.4715
184.41	233.7163
185.71	234.1280
186.00	234.2211
190.27	195.7544
192.34	243.9797
193.63	234.3958
197.04	232.0957
198.01	237.9739
198.60	244.8623
200.40	230.8615
201.83	251.4919
202.84	243.9462
205.31	196.2191

208.36	237.7197
208.81	237.8543
209.75	222.8215
209.75	222.8215
210.97	231.6748
215.65	209.0192
216.55	206.9595
218.09	208.4898
222.10	188.7708
223.80	179.9227
226.40	201.2955
227.00	213.0139
227.08	213.0345
227.20	213.0626
228.16	220.2557
228.18	220.2615
228.18	220.2615
231.56	0.0000
235.69	197.8441
236.00	204.9329
236.00	204.9329
238.63	316.7578
238.63	316.7578
238.63	316.7578
238.63	316.7578
239.00	316.8869
240.98	317.5900
241.98	192.1780
241.98	192.1780
241.98	192.1780
244.69	161.5733
245.39	170.2090
247.94	171.5726
248.90	189.5504
249.79	172.8079
252.40	153.6429
252.85	134.0561
252.85	134.0561
254.15	0.0000
256.20	164.1348
256.20	164.1348
260.50	146.8607
260.90	144.2188
262.80	167.9864
264.65	120.1697
268.24	155.4922
268.79	171.5725
269.46	156.4130
269.46	156.4130
269.46	156.4130
269.46	156.4130
271.23	141.3889
273.65	197.2628
276.40	128.7313
277.35	141.1628
277.60	142.1149
277.60	142.1149
278.00	153.1785
278.60	164.2836
279.20	168.0553
279.53	183.7280
280.46	172.8621
281.68	152.8185
283.67	145.7382
284.30	160.5974
285.00	169.0187
285.90	158.0738
286.10	158.1051
286.10	158.1051
287.40	138.8649
288.45	0.0000
290.67	157.5068
290.80	157.5275
291.72	166.5891
293.26	0.0000
293.70	113.2578
295.21	126.8525
295.21	126.8525

295.21	126.8525
295.96	156.8130
296.50	156.8925
297.23	157.0001
298.57	157.2001
299.80	158.8810
299.80	158.8810
300.09	158.9250
300.09	158.9250
300.09	158.9250
300.09	158.9250
300.12	158.9276
301.29	154.6006
302.84	153.3212
303.76	170.0021
303.91	157.9871
304.40	159.5642
304.40	159.5642
304.84	168.6644
306.84	145.2162
308.46	130.3226
311.98	161.0585
316.51	127.4754
318.01	170.5138
319.02	145.8772
319.41	138.2983
320.08	138.3801
323.87	144.0201
323.87	144.0201
323.87	144.0201
323.87	144.0201
325.23	128.8526
328.77	130.7933
333.44	135.1871
334.20	145.3236
334.20	145.3236
334.30	145.3374
338.28	147.3868
338.28	147.3868
338.28	147.3868
338.28	147.3868
338.32	147.3915
338.32	147.3915
338.32	147.3915
340.50	144.5564
340.57	139.9021
344.27	145.5394
345.85	138.2977
350.59	0.0000
351.07	138.0049
351.92	132.4127
351.92	132.4127
351.92	132.4127
355.39	0.0000
356.01	122.8214
364.48	124.8599
366.43	120.0935
367.43	127.1426
367.94	0.0000
369.80	110.4648
374.96	115.9133
383.85	111.6893
387.95	113.0527
388.63	113.1117
391.69	111.3512
391.69	111.3512
392.90	109.4271
398.62	128.2168
400.65	114.1448
401.10	111.1239
401.81	106.0836
402.60	91.8567
404.84	138.0137
410.95	125.2866
411.60	151.0330
413.65	89.5196
414.70	87.5291
415.30	92.7177

415.76	102.0243
417.63	0.0000
418.52	117.7173
423.70	111.9370
427.08	87.2723
427.89	90.4409
432.53	82.3933
433.93	95.0018
439.47	99.5618
439.56	95.3760
439.89	97.4942
443.98	86.2066
444.90	84.1565
445.03	84.1638
445.03	84.1638
445.03	84.1638
445.03	84.1638
453.90	96.3168
463.38	85.2136
468.07	112.5467
473.00	76.1087
475.06	96.6055
475.35	85.8875
476.78	90.2664
477.59	97.8400
477.96	78.5060
482.03	81.9468
484.57	105.8417
487.03	73.5563
490.36	0.0000
492.35	73.8054
497.08	76.2036
507.63	0.0000
510.53	0.0000
510.84	82.3477
511.00	82.3551
511.85	98.4389
511.85	98.4389
513.99	96.8066
513.99	96.8066
520.41	86.1409
520.65	86.1552
527.90	82.0938
528.96	0.0000
529.64	99.9481
529.87	0.0000
531.02	71.1328
537.32	87.0168
543.00	70.5174
546.56	0.0000
549.76	74.1654
552.65	80.1435
555.20	72.1445
563.23	76.0983
563.90	77.0354
568.70	84.5128
569.32	83.6333
569.50	83.6423
569.67	84.5605
573.80	90.2239
574.00	90.2336
574.64	96.2421
578.91	103.5799
579.30	0.0000
583.14	89.7767
585.48	91.7261
591.81	84.6800
592.07	83.7729
593.00	87.4993
595.88	83.9462
600.56	82.2049
602.52	0.0000
602.71	89.5016
602.71	89.5016
603.60	94.1757
604.41	81.8615
604.70	66.4264
609.31	79.9069

609.31	79.9069
609.31	79.9069
609.31	79.9069
610.33	75.9225
612.46	60.4963
614.37	69.8730
618.01	87.7429
621.84	72.0183
621.84	72.0183
631.29	78.0131
633.02	72.4375
633.10	72.4413
634.78	66.8537
635.90	61.2390
636.97	59.3886
645.85	66.2864
646.12	69.1361
656.30	72.3466
657.75	75.2564
657.90	0.0000
661.65	74.4485
661.65	74.4485
664.57	0.0000
666.33	64.0982
666.33	64.0982
675.00	63.4106
677.61	63.4912
685.20	68.5542
692.80	70.7419
695.00	72.7570
696.49	71.8375
696.49	71.8375
697.00	68.9425
697.49	72.8430
698.33	76.7588
698.50	81.6231
699.00	72.8961
702.63	87.6248
706.10	70.2141
706.58	0.0000
706.67	73.1598
709.31	78.1348
711.68	69.4209
713.82	66.5540
717.42	65.6849
720.50	65.4525
721.93	0.0000
722.20	75.3284
722.78	76.9870
722.78	76.9870
722.89	76.9908
722.95	76.9927
723.30	80.2830
724.18	83.5930
727.18	54.1648
733.00	59.2456
735.90	68.2234
739.58	80.2209
742.81	74.3884
744.21	81.3814
747.13	77.5144
751.79	71.7012
752.31	63.7484
753.82	59.8052
755.35	54.8577
756.15	58.8689
756.87	55.8934
763.93	65.0793
765.79	86.8423
766.42	71.8329
766.84	73.1818
776.49	87.5862
778.00	52.3847
778.57	49.3744
778.89	48.3738
783.80	62.6161
785.46	57.6067
792.07	67.5684

795.84	71.0613
796.30	65.9982
798.80	62.6799
801.93	77.0600
805.60	58.1035
810.29	62.3031
810.76	64.3581
815.85	44.0215
817.79	37.9096
818.51	45.0946
819.60	53.3178
826.30	50.3817
828.27	0.0000
831.60	71.1007
831.96	64.9272
834.83	63.9723
836.80	0.0000
846.75	60.1354
848.13	60.1693
856.28	0.0000
856.80	53.7858
860.37	60.4653
867.32	54.0116
867.82	49.2917
871.10	60.7230
873.19	51.3423
874.81	52.4243
875.33	0.0000
876.40	49.3087
879.36	54.6178
880.27	50.4352
880.51	49.3890
881.50	51.5098
883.24	47.3379
884.67	45.2592
889.25	60.1005
896.60	50.7551
898.02	55.0151
899.00	51.8603
903.28	66.2567
911.07	47.8477
911.07	47.8477
911.07	47.8477
919.63	39.4688
920.93	42.6895
925.00	44.8926
925.24	44.8967
926.50	41.7098
935.52	42.9238
937.48	68.7281
944.10	49.5185
946.00	56.0168
949.00	40.9808
962.29	52.3784
964.01	43.3740
966.15	43.4082
968.20	43.4404
969.11	43.4541
969.11	43.4541
969.11	43.4541
977.42	46.8528
980.50	49.0858
983.50	54.5984
989.30	45.9570
996.32	74.5925
1001.03	56.0365
1001.68	60.4449
1004.76	66.9286
1021.30	0.0000
1024.50	0.0000
1034.80	45.3932
1036.00	50.9717
1037.82	50.0757
1038.57	49.1613
1038.76	0.0000
1045.16	55.7788
1046.59	51.1552
1048.07	53.9738

1050.47	52.1536
1050.47	52.1536
1062.04	41.1372
1063.62	47.7067
1076.63	43.2148
1077.35	39.4673
1078.86	47.0072
1085.78	43.3459
1099.22	70.9808
1112.02	49.7642
1112.84	57.0361
1115.52	53.8230
1120.29	46.6892
1120.29	46.6892
1120.29	46.6892
1120.29	46.6892
1120.51	49.5519
1121.28	44.1180
1124.00	0.0000
1129.67	43.9617
1131.51	0.0000
1147.95	0.0000
1167.94	64.7999
1173.22	67.8125
1175.09	56.2182
1177.93	59.1781
1189.05	58.4058
1204.90	59.6622
1205.75	0.0000
1213.00	52.9431
1221.42	62.9063
1230.97	66.0404
1235.34	63.1641
1236.41	0.0000
1238.25	57.2896
1246.25	53.4639
1260.41	0.0000
1271.85	47.8750
1274.45	37.9289
1274.54	37.9304
1291.56	45.1355
1298.22	0.0000
1312.09	38.3340
1325.50	32.4010
1325.50	32.4010
1332.49	34.4925
1333.61	32.4740
1360.21	23.5100
1362.66	0.0000
1365.15	18.4233
1368.21	17.4143
1368.53	0.0000
1376.25	33.4369
1384.27	22.9268
1394.10	25.7863
1395.20	28.8887
1407.95	25.8799
1434.06	27.0981
1436.60	27.1161
1457.56	0.0000
1460.81	7.1959
1489.15	26.4221
1509.49	16.9954
1596.49	9.7617
1620.62	28.0486
1678.03	0.0000
1691.02	10.4502
1691.02	10.4502
1706.46	0.0000
1750.46	0.0000
1764.49	8.4473
1764.49	8.4473
1764.49	8.4473
1764.49	8.4473
1770.23	13.5322
1771.40	42.5406
1791.20	0.0000
1808.65	10.7196

1836.01 6.8606

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243385003

Total Uranium Activity	1.3305E+00	ug/g
Total Uranium Counting Unc.	6.4055E+00	ug/g
Total Uranium Tpu	3.2681E-06	ug/g
Total Uranium Mda	3.4318E+00	ug/g

```
*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                           *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                               GROSS GAMMA REPORT                          *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 936285                    SAMPLE ID  : G243385003       *
*   ANALYST       : MJH1                      DETECTOR   : GAM02            *
*   SAMPLE DATE   : 17-DEC-2009 12:00:00.00   COUNT TIME :    0 02:00:00.00 *
*   ANALYSIS DATE: 31-DEC-2009 09:30:52.46    SAMPLE ALQT:  136.020 GRAM    *
*                                                                           *
*****************************************************************************
```

GROSS GAMMA ACTIVITY (pCi/GRAM) : 8.201E+00
GROSS GAMMA ERROR (pCi/GRAM) : 1.676E+00
GROSS GAMMA MDA (pCi/GRAM) : 3.364E+00
GROSS GAMMA DLC (pCi/GRAM) : 1.623E+00

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:32:08.74

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385004.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:31:17
Sample ID         : G243385004           Sample quantity  : 1.40260E+02 GRAM
Detector name     : GAM18                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.64  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit   : 75.00000             Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID   :                      LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.72*	75	434	0.86	126.56	123	8	1.04E-02	50.5	
2	4	75.14*	447	369	1.05	149.39	145	14	6.21E-02	8.5	7.90E-01
3	4	77.44	654	369	1.04	153.99	145	14	9.08E-02	6.1	
4	0	87.31	238	558	1.45	173.73	170	8	3.30E-02	18.4	
5	0	93.49*	294	515	1.64	186.08	182	10	4.09E-02	16.3	
6	0	129.33	109	236	1.19	257.73	255	6	1.52E-02	24.2	
7	0	186.24*	301	353	1.30	371.51	366	10	4.18E-02	13.6	
8	0	209.98	193	501	2.00	418.98	411	15	2.69E-02	26.3	
9	3	238.92*	1582	264	1.14	476.84	470	23	2.20E-01	3.1	1.05E+00
10	3	241.94*	313	331	1.77	482.88	470	23	4.34E-02	14.9	
11	0	270.26	145	303	1.32	539.51	533	13	2.02E-02	26.1	
12	0	277.77	84	193	1.03	554.52	551	8	1.16E-02	30.9	
13	0	295.51*	463	270	1.17	589.98	584	11	6.44E-02	8.5	
14	0	300.56	91	186	1.28	600.08	596	8	1.27E-02	27.9	
15	0	328.40	142	234	1.52	655.74	650	12	1.98E-02	23.0	
16	0	338.70*	317	251	1.18	676.34	671	10	4.41E-02	11.1	
17	0	352.13*	937	210	1.30	703.19	698	12	1.30E-01	4.6	
18	0	462.92	115	101	1.41	924.71	921	8	1.60E-02	17.7	
19	0	511.19*	196	176	2.03	1021.21	1013	18	2.72E-02	20.3	
20	0	583.35*	553	130	1.62	1165.49	1158	14	7.67E-02	6.3	
21	0	609.35*	687	146	1.72	1217.49	1211	13	9.55E-02	5.4	
22	0	727.46*	151	100	1.52	1453.65	1447	14	2.10E-02	16.8	
23	0	795.46	105	97	1.96	1589.61	1581	15	1.46E-02	22.6	
24	0	860.47*	74	86	1.19	1719.60	1711	14	1.03E-02	28.4	
25	0	911.31*	412	99	1.65	1821.27	1813	15	5.73E-02	7.1	
26	1	964.90	100	48	1.93	1928.42	1924	29	1.39E-02	16.4	1.74E+00
27	1	969.16*	226	62	2.33	1936.95	1924	29	3.14E-02	10.4	
28	0	1120.46*	179	105	1.82	2239.50	2229	18	2.49E-02	15.5	
29	0	1376.33	77	47	1.80	2751.16	2741	19	1.08E-02	24.1	
30	0	1460.65*	1777	22	2.23	2919.79	2909	23	2.47E-01	2.5	
31	0	1611.13	14	13	1.45	3220.71	3212	13	1.94E-03	59.4	
32	0	1764.36*	156	14	2.10	3527.16	3516	20	2.17E-02	10.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 11:32:11

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385004.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MJH1
Sample date : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:31:17
Sample ID : G243385004 Sample quantity : 140.26 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA18 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.64 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.355E+01	2.137E+00	4.110E-01	3.119E-02	57.300
CD-109	+	88.03	*	2.709E+00	1.028E+00	1.232E+00	1.139E-01	2.199
SN-126	+	64.28		6.607E-01	6.746E-01	7.234E-01	1.069E-01	0.913
	+	86.94		1.109E+00	6.151E-01	5.086E-01	2.109E-01	2.181
	+	87.57	*	2.668E-01	1.012E-01	1.212E-01	1.117E-02	2.201
HG-203		70.83		3.815E-01	9.712E-01	1.468E+00	1.955E-01	0.260
		72.87		1.723E-01	5.573E-01	8.374E-01	1.086E-01	0.206
		82.60		-1.170E+00	1.034E+00	1.419E+00	1.969E-01	-0.824
	+	279.20	*	5.714E-02	3.551E-02	4.257E-02	2.582E-03	1.342
TL-208	+	277.35		5.279E-01	3.312E-01	4.477E-01	4.701E-02	1.179
	+	510.84		5.639E-01	2.372E-01	1.409E-01	1.498E-02	4.002
	+	583.14	*	4.466E-01	6.597E-02	4.124E-02	3.233E-03	10.830
	+	860.37		5.464E-01	3.158E-01	3.027E-01	3.385E-02	1.805
BI-211		72.87		8.822E-01	2.852E+00	4.287E+00	3.540E-01	0.206
	+	351.07	*	3.556E+00	3.979E-01	2.330E-01	1.496E-02	15.261
PB-212	+	74.81		2.258E+00	4.753E-01	4.563E-01	5.719E-02	4.949
	+	77.11		1.841E+00	2.747E-01	2.552E-01	2.163E-02	7.212
	+	87.30		1.234E+00	4.841E-01	5.629E-01	7.645E-02	2.192
	+	238.63	*	1.398E+00	1.318E-01	6.867E-02	4.906E-03	20.355
	+	300.09		1.197E+00	6.760E-01	8.746E-01	7.181E-02	1.368
PO-212	+	74.81		2.258E+00	4.753E-01	4.563E-01	5.719E-02	4.949
	+	77.11		1.841E+00	2.747E-01	2.552E-01	2.163E-02	7.212
	+	87.30		1.234E+00	4.841E-01	5.629E-01	7.645E-02	2.192
		115.19		5.275E-01	2.839E+00	4.609E+00	2.903E-01	0.114
	+	238.63	*	1.398E+00	1.318E-01	6.867E-02	4.906E-03	20.355
	+	300.09		1.197E+00	6.760E-01	8.746E-01	7.181E-02	1.368
BI-214	+	609.31	*	1.043E+00	1.456E-01	8.487E-02	7.581E-03	12.286
	+	1120.29		1.363E+00	4.414E-01	3.089E-01	2.957E-02	4.412
	+	1764.49		1.558E+00	3.375E-01	1.915E-01	1.164E-02	8.137
PB-214	+	74.81		3.890E+00	7.883E-01	7.861E-01	8.776E-02	4.949
	+	77.11		3.156E+00	5.288E-01	4.376E-01	4.987E-02	7.212
	+	87.30		2.114E+00	8.183E-01	9.643E-01	1.157E-01	2.192
	+	241.98		1.656E+00	5.114E-01	4.128E-01	3.264E-02	4.013
	+	295.21		1.070E+00	2.028E-01	1.591E-01	1.350E-02	6.726

Sample ID : G243385004 Acquisition date : 31-DEC-2009 09:31:17

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	351.92	*	1.237E+00	1.527E-01	8.100E-02	6.701E-03	15.272
PO-214	+	74.81		3.890E+00	7.883E-01	7.861E-01	8.776E-02	4.949
	+	77.11		3.156E+00	5.288E-01	4.376E-01	4.987E-02	7.212
	+	87.30		2.114E+00	8.183E-01	9.643E-01	1.157E-01	2.192
	+	241.98		1.656E+00	5.114E-01	4.128E-01	3.264E-02	4.013
	+	295.21		1.070E+00	2.028E-01	1.591E-01	1.350E-02	6.726
	+	351.92	*	1.237E+00	1.527E-01	8.100E-02	6.701E-03	15.272
PO-216	+	74.81		2.258E+00	4.753E-01	4.563E-01	5.719E-02	4.949
	+	77.11		1.841E+00	2.747E-01	2.552E-01	2.163E-02	7.212
	+	87.30		1.234E+00	4.841E-01	5.629E-01	7.645E-02	2.192
	+	238.63	*	1.398E+00	1.318E-01	6.867E-02	4.906E-03	20.355
	+	300.09		1.197E+00	6.760E-01	8.746E-01	7.181E-02	1.368
PO-218	+	74.81		3.890E+00	7.883E-01	7.861E-01	8.776E-02	4.949
	+	77.11		3.156E+00	5.288E-01	4.376E-01	4.987E-02	7.212
	+	87.30		2.114E+00	8.183E-01	9.643E-01	1.157E-01	2.192
	+	241.98		1.656E+00	5.114E-01	4.128E-01	3.264E-02	4.013
	+	295.21		1.070E+00	2.028E-01	1.591E-01	1.350E-02	6.726
	+	351.92	*	1.237E+00	1.527E-01	8.100E-02	6.701E-03	15.272
RA-224	+	240.98	*	3.141E+00	9.536E-01	7.805E-01	4.348E-02	4.024
RA-226	+	609.31	*	1.043E+00	1.456E-01	8.487E-02	7.581E-03	12.286
	+	1120.29		1.363E+00	4.414E-01	3.089E-01	2.957E-02	4.412
	+	1764.49		1.558E+00	3.375E-01	1.915E-01	1.164E-02	8.137
AC-228	+	338.32		1.335E+00	6.200E-01	2.756E-01	1.124E-01	4.845
	+	911.07	*	1.433E+00	2.779E-01	1.442E-01	1.910E-02	9.943
	+	969.11		1.384E+00	4.395E-01	2.373E-01	5.682E-02	5.831
RA-228	+	338.32		1.335E+00	6.200E-01	2.756E-01	1.124E-01	4.845
	+	911.07	*	1.433E+00	2.779E-01	1.442E-01	1.910E-02	9.943
	+	969.11		1.384E+00	4.395E-01	2.373E-01	5.682E-02	5.831
TH-228	+	74.81		2.289E+00	4.326E-01	4.626E-01	3.898E-02	4.949
	+	77.11		1.867E+00	2.785E-01	2.588E-01	2.194E-02	7.212
	+	87.30		1.251E+00	4.747E-01	5.707E-01	5.246E-02	2.192
	+	238.63	*	1.417E+00	1.336E-01	6.963E-02	4.974E-03	20.355
	+	300.09		1.213E+00	9.854E-01	8.868E-01	5.226E-01	1.368
TH-230	+	609.31	*	1.043E+00	1.456E-01	8.486E-02	7.581E-03	12.286
	+	1120.29		1.363E+00	4.414E-01	3.089E-01	2.957E-02	4.412
	+	1764.49		1.558E+00	3.375E-01	1.915E-01	1.164E-02	8.137
TH-232	+	338.32		1.335E+00	3.067E-01	2.756E-01	1.594E-02	4.845
	+	911.07	*	1.433E+00	2.779E-01	1.442E-01	1.910E-02	9.943
	+	969.11		1.384E+00	4.395E-01	2.373E-01	5.682E-02	5.831
TH-234	+	63.29	*	1.669E+00	1.712E+00	1.940E+00	3.420E-01	0.860
	+	92.38		2.079E+00	7.724E-01	7.870E-01	1.419E-01	2.641
U-234	+	609.31	*	1.043E+00	1.456E-01	8.486E-02	7.581E-03	12.286
	+	1120.29		1.363E+00	4.414E-01	3.089E-01	2.957E-02	4.412
	+	1764.49		1.558E+00	3.375E-01	1.915E-01	1.164E-02	8.137
NP-237	+	86.50	*	7.834E-01	3.383E-01	3.386E-01	7.640E-02	2.314
		95.87		3.534E-01	8.129E-01	1.204E+00	2.941E-01	0.294
U-238	+	63.29	*	1.669E+00	1.712E+00	1.940E+00	3.420E-01	0.860
	+	92.38		2.079E+00	6.982E-01	7.870E-01	6.689E-02	2.641
AM-243	+	74.67	*	3.660E-01	6.904E-02	7.426E-02	6.197E-03	4.929

Sample ID : G243385004 Acquisition date : 31-DEC-2009 09:31:17

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	86.72		2.938E+01	1.115E+01	1.352E+01	1.236E+00	2.174
		117.66		-9.714E-01	3.049E+00	4.836E+00	2.975E-01	-0.201
		142.18		-1.534E+01	1.438E+01	2.145E+01	1.182E+00	-0.715
ANH-511	+	511.00	*	1.218E-01	5.022E-02	3.044E-02	2.010E-03	4.001

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	1.631E-01	2.244E-01	3.854E-01	2.793E-02	0.423
NA-22		1274.54	*	-1.190E-02	3.363E-02	5.368E-02	3.653E-03	-0.222
NA-24		1368.53	*	-2.691E-02	3.363E-02	Half-Life too short		
AL-26		1129.67		-5.482E-01	1.279E+00	1.918E+00	1.281E-01	-0.286
		1808.65	*	-9.432E-05	2.182E-02	3.578E-02	2.089E-03	-0.003
TI-44		67.85		-3.234E-02	4.603E-02	6.635E-02	5.335E-03	-0.487
	+	78.38	*	3.397E-01	5.069E-02	7.164E-02	6.125E-03	4.742
SC-46		889.25	*	-9.146E-03	2.760E-02	4.388E-02	4.895E-03	-0.208
	+	1120.51		2.309E-01	7.323E-02	9.751E-02	6.736E-03	2.368
V-48		944.10		-1.964E-01	6.175E-01	9.773E-01	1.034E-01	-0.201
		983.50	*	-4.438E-03	4.756E-02	7.638E-02	7.554E-03	-0.058
		1312.09		-5.790E-03	5.100E-02	8.258E-02	6.015E-03	-0.070
CR-51		320.08	*	-1.875E-01	2.630E-01	4.062E-01	2.615E-02	-0.462
MN-52		744.21		1.047E-02	1.395E-01	2.328E-01	2.053E-02	0.045
		848.13		2.835E-01	4.237E+00	6.988E+00	7.311E-01	0.041
		935.52		3.461E-01	1.733E-01	3.134E-01	3.361E-02	1.104
		1246.25		-2.150E+00	4.595E+00	7.296E+00	4.691E-01	-0.295
		1333.61		-1.914E+00	3.038E+00	4.641E+00	3.506E-01	-0.412
		1434.06	*	1.773E-01	1.341E-01	2.498E-01	1.841E-02	0.710
MN-54		834.83	*	-2.848E-02	2.850E-02	4.344E-02	4.450E-03	-0.656
CO-56		846.75	*	9.578E-04	2.903E-02	4.777E-02	4.987E-03	0.020
		977.42		2.196E-01	2.484E+00	3.476E+00	3.477E-01	0.063
		1037.82		-2.732E-01	2.183E-01	3.273E-01	3.032E-02	-0.835
		1175.09		-6.075E-01	1.563E+00	2.510E+00	1.393E-01	-0.242
		1238.25		1.522E-01	6.964E-02	1.277E-01	8.514E-03	1.191
		1360.21		-5.301E-03	7.299E-01	1.190E+00	8.945E-02	-0.004
		1771.40		4.003E-02	1.677E-01	2.472E-01	1.494E-02	0.162
CO-57		122.06	*	-5.410E-03	1.987E-02	3.130E-02	1.854E-03	-0.173
		136.48		-7.018E-03	1.697E-01	2.697E-01	1.766E-02	-0.026
CO-58		810.76	*	-2.550E-02	2.684E-02	4.079E-02	4.027E-03	-0.625
FE-59		142.65		-1.475E+00	2.148E+00	3.263E+00	1.795E-01	-0.452
		192.34		9.432E-02	6.680E-01	1.124E+00	1.303E-01	0.084
		1099.22	*	1.992E-02	6.273E-02	1.069E-01	8.798E-03	0.186
		1291.56		-9.681E-02	8.020E-02	1.150E-01	9.665E-03	-0.842
CO-60		1173.22		-1.431E-02	3.199E-02	5.118E-02	2.828E-03	-0.280
		1332.49	*	-2.299E-03	2.730E-02	4.426E-02	3.344E-03	-0.052
ZN-65		1115.52	*	4.541E-02	7.436E-02	1.123E-01	7.909E-03	0.404
GE-68		1077.35	*	9.659E-02	8.521E-01	1.434E+00	1.139E-01	0.067
AS-73		53.44	*	3.362E-01	9.432E-01	1.555E+00	1.233E-01	0.216
AS-74		595.88	*	-9.772E-03	6.116E-02	9.785E-02	7.030E-03	-0.100

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		634.78		-1.068E-01	2.550E-01	3.981E-01	2.964E-02	-0.268
SE-75		66.05		-2.981E+00	4.740E+00	6.864E+00	6.798E-01	-0.434
		96.73		-2.101E-01	6.614E-01	9.436E-01	1.244E-01	-0.223
		121.11		-5.636E-03	1.058E-01	1.684E-01	1.572E-02	-0.033
		136.00		2.862E-02	3.142E-02	5.189E-02	2.955E-03	0.551
		198.60		4.780E-01	1.335E+00	2.245E+00	1.523E-01	0.213
		264.65	*	-2.711E-02	3.656E-02	4.962E-02	2.838E-03	-0.546
		279.53		1.338E-01	8.711E-02	1.364E-01	8.426E-03	0.981
		303.91		8.082E-01	1.705E+00	2.490E+00	2.369E-01	0.325
		400.65		-9.335E-02	1.778E-01	2.887E-01	2.630E-02	-0.323
BR-77	+	87.88		4.109E+02	1.559E+02	2.029E+02	1.875E+01	2.025
		200.40		-1.171E-01	8.541E+01	1.425E+02	7.674E+00	-0.001
	+	239.00		1.573E+02	1.304E+01	2.044E+01	1.137E+00	7.695
		249.79		-1.255E+01	3.708E+01	5.525E+01	3.097E+00	-0.227
		281.68		-2.452E+01	5.114E+01	7.024E+01	4.008E+00	-0.349
		297.23		1.981E+02	5.156E+01	7.012E+01	4.026E+00	2.825
		303.76		5.374E+01	1.026E+02	1.505E+02	8.658E+00	0.357
		439.47		2.379E+01	6.996E+01	1.184E+02	7.218E+00	0.201
		484.57		-2.868E+01	1.145E+02	1.857E+02	1.192E+01	-0.154
		520.65	*	9.350E-01	5.259E+00	8.482E+00	5.658E-01	0.110
		574.64		-3.185E+01	1.107E+02	1.712E+02	1.205E+01	-0.186
		578.91		2.469E+01	5.008E+01	7.324E+01	5.178E+00	0.337
		585.48		1.129E+03	1.601E+02	2.775E+02	1.974E+01	4.070
		755.35		6.361E+01	8.294E+01	1.442E+02	1.296E+01	0.441
		817.79		4.375E+01	6.778E+01	1.165E+02	1.161E+01	0.376
SR-82		698.33		-3.334E+01	2.499E+01	3.815E+01	3.106E+00	-0.874
		776.49	*	-1.795E-01	2.670E-01	4.205E-01	3.916E-02	-0.427
		1395.20		-4.376E+00	7.442E+00	1.129E+01	8.412E-01	-0.388
RB-83		520.41	*	8.732E-03	4.914E-02	7.926E-02	5.286E-03	0.110
		529.64		-7.416E-02	6.898E-02	1.037E-01	6.981E-03	-0.715
		552.65		1.349E-01	1.380E-01	2.386E-01	1.644E-02	0.566
RB-84		881.50	*	-2.493E-02	4.608E-02	7.181E-02	7.914E-03	-0.347
KR-85		513.99	*	2.182E+01	6.101E+00	1.065E+01	7.053E-01	2.050
SR-85		513.99	*	1.105E-01	3.088E-02	5.389E-02	3.570E-03	2.050
RB-86		1076.63	*	6.280E-02	5.117E-01	8.618E-01	6.861E-02	0.073
Y-88		898.02		4.317E-03	3.119E-02	5.144E-02	5.831E-03	0.084
		1836.01	*	-1.605E-02	2.403E-02	3.519E-02	2.004E-03	-0.456
ZR-88		392.90	*	-8.913E-03	2.082E-02	3.406E-02	1.959E-03	-0.262
Y-91		1204.90	*	4.235E+00	1.368E+01	2.306E+01	1.363E+00	0.184
NB-94		702.63	*	5.927E-03	2.480E-02	4.197E-02	3.443E-03	0.141
		871.10		-2.112E-03	2.446E-02	3.979E-02	4.315E-03	-0.053
NB-95		765.79	*	3.556E-02	3.155E-02	5.542E-02	5.070E-03	0.642
NB-95M		235.69	*	-4.468E-02	1.066E-01	1.507E-01	1.106E-02	-0.297
ZR-95		724.18		9.843E-02	7.720E-02	1.220E-01	1.131E-02	0.807
		756.15	*	3.044E-02	4.923E-02	8.487E-02	8.351E-03	0.359
NB-97		657.90	*	1.049E-03	4.923E-02	Half-Life too short		
		1024.50		-2.687E+00	4.923E-02	Half-Life too short		
ZR-97		254.15		2.769E-01	4.923E-02	Half-Life too short		
		355.39		1.194E+00	4.923E-02	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		507.63	*	7.977E-01	4.923E-02	Half-Life too short		
		602.52		-3.618E-01	4.923E-02	Half-Life too short		
		1021.30		-1.815E+00	4.923E-02	Half-Life too short		
		1147.95		-9.359E-01	4.923E-02	Half-Life too short		
		1362.66		4.850E-02	4.923E-02	Half-Life too short		
		1750.46		-6.301E-01	4.923E-02	Half-Life too short		
MO-99		140.51		4.087E+00	1.545E+01	2.450E+01	6.589E+00	0.167
		181.06		-5.506E+00	1.047E+01	1.501E+01	2.549E+00	-0.367
		366.43		-7.212E+01	4.380E+01	6.696E+01	3.868E+00	-1.077
		739.58	*	-1.965E-01	5.985E+00	9.924E+00	1.514E+00	-0.020
		778.00		-2.212E+01	1.827E+01	2.745E+01	2.563E+00	-0.806
TC-99M		140.51	*	2.773E+08	1.827E+01	Half-Life too short		
RH-101		127.23		2.207E-02	2.662E-02	3.970E-02	2.294E-03	0.556
		198.01	*	7.951E-03	2.490E-02	4.182E-02	2.248E-03	0.190
		325.23		1.690E-01	1.769E-01	2.661E-01	1.537E-02	0.635
RH-102		418.52		-1.952E-03	1.996E-01	3.325E-01	1.976E-02	-0.006
		475.06	*	-8.806E-03	2.080E-02	3.344E-02	2.124E-03	-0.263
		631.29		3.761E-02	4.140E-02	6.889E-02	5.113E-03	0.546
		697.49		-4.335E-02	5.784E-02	9.215E-02	7.491E-03	-0.470
		766.84		9.713E-02	8.296E-02	1.457E-01	1.335E-02	0.667
		1046.59		2.299E-02	8.093E-02	1.381E-01	1.192E-02	0.166
		1112.84		2.509E-01	1.653E-01	2.743E-01	1.947E-02	0.915
RU-103		497.08	*	8.340E-03	2.781E-02	4.654E-02	6.042E-03	0.179
	+	610.33		1.102E+01	2.126E+00	2.141E+00	3.433E-01	5.147
RH-106	+	511.85		6.070E-01	2.503E-01	3.345E-01	2.211E-02	1.815
		621.84	*	3.403E-02	2.338E-01	3.805E-01	4.787E-02	0.089
		1050.47		3.608E-01	1.550E+00	2.638E+00	2.254E-01	0.137
RU-106	+	511.85		6.070E-01	2.503E-01	3.345E-01	2.211E-02	1.815
		621.84	*	3.403E-02	2.337E-01	3.805E-01	2.800E-02	0.089
		1050.47		3.608E-01	1.550E+00	2.638E+00	2.254E-01	0.137
AG-108M		433.93	*	-1.561E-02	2.288E-02	3.647E-02	2.383E-03	-0.428
		614.37		1.649E-02	3.271E-02	4.759E-02	3.667E-03	0.346
		722.95		1.089E-02	3.286E-02	4.859E-02	4.297E-03	0.224
AG-110M		657.75	*	-2.265E-04	2.622E-02	4.399E-02	3.470E-03	-0.005
		677.61		-1.183E-02	2.212E-01	3.692E-01	2.995E-02	-0.032
		706.67		-1.266E-01	1.487E-01	2.340E-01	1.991E-02	-0.541
		763.93		-1.341E-01	1.249E-01	1.921E-01	1.796E-02	-0.698
		884.67		-8.722E-03	3.414E-02	5.463E-02	6.169E-03	-0.160
		937.48		3.029E-03	8.734E-02	1.424E-01	1.559E-02	0.021
		1384.27		8.487E-02	1.146E-01	1.789E-01	1.387E-02	0.474
IN-111		171.28		-5.853E-01	5.433E-01	8.762E-01	4.610E-02	-0.668
		245.39	*	6.494E-01	6.401E-01	9.804E-01	5.479E-02	0.662
IN-113M		391.69	*	-6.513E-03	3.034E-02	5.026E-02	3.083E-03	-0.130
SN-113		391.69	*	-6.513E-03	3.034E-02	5.026E-02	3.083E-03	-0.130
IN-114M		190.27	*	1.732E-01	1.389E-01	2.187E-01	1.168E-02	0.792
CD-115		260.90		6.432E+01	6.513E+01	1.114E+02	6.287E+00	0.578
		492.35		-7.023E+00	1.732E+01	2.775E+01	1.796E+00	-0.253
		527.90	*	-3.581E-01	4.890E+00	7.956E+00	5.347E-01	-0.045
SN-117M		156.02		1.155E-01	1.593E+00	2.708E+00	1.446E-01	0.043

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		158.56	*	2.105E-03	3.794E-02	6.441E-02	3.423E-03	0.033
SB-122		563.90	*	8.310E-01	1.101E+00	1.872E+00	1.305E-01	0.444
		692.80		1.503E+01	2.280E+01	3.957E+01	3.190E+00	0.380
I-123		159.00	*	4.713E-01	2.280E+01	Half-Life too short		
		528.96		-3.257E+01	2.280E+01	Half-Life too short		
TE-123M		159.00	*	1.085E-02	2.064E-02	3.562E-02	1.922E-03	0.305
I-124		602.71	*	1.355E-02	4.444E-01	6.213E-01	4.492E-02	0.022
		722.78		9.011E-01	2.802E+00	4.140E+00	3.518E-01	0.218
		1325.50		9.201E+00	2.104E+01	3.575E+01	2.668E+00	0.257
	+	1376.25		6.531E+01	3.190E+01	4.125E+01	3.088E+00	1.583
		1509.49		1.702E+01	9.798E+00	1.878E+01	1.346E+00	0.906
		1691.02		-9.892E-01	2.351E+00	3.665E+00	2.364E-01	-0.270
SB-124		602.71		9.505E-04	3.118E-02	4.359E-02	3.153E-03	0.022
		645.85		-3.859E-01	3.635E-01	5.355E-01	4.341E-02	-0.721
		709.31		-1.099E+00	2.035E+00	3.195E+00	2.653E-01	-0.344
		713.82		-1.619E-01	1.158E+00	1.912E+00	2.267E-01	-0.085
		722.78		9.164E-02	2.850E-01	4.211E-01	3.658E-02	0.218
	+	968.20		1.404E+01	3.259E+00	5.182E+00	5.270E-01	2.710
		1045.16		7.477E-01	1.795E+00	3.009E+00	2.606E-01	0.248
		1325.50		9.995E-01	2.285E+00	3.884E+00	2.898E-01	0.257
		1368.21		-2.183E-01	1.429E+00	1.934E+00	2.474E-01	-0.113
		1436.60		5.032E-01	2.453E+00	4.080E+00	3.004E-01	0.123
		1691.02	*	-2.373E-02	5.641E-02	8.792E-02	6.066E-03	-0.270
SB-125		427.89	*	1.896E-02	6.577E-02	1.112E-01	6.946E-03	0.171
	+	463.38		6.534E-01	2.363E-01	4.105E-01	2.943E-02	1.592
		600.56		-3.345E-02	1.262E-01	2.004E-01	1.596E-02	-0.167
		635.90		-7.925E-02	2.051E-01	3.208E-01	2.646E-02	-0.247
TE-125M		109.28	*	-2.637E+00	7.435E+00	1.184E+01	1.040E+00	-0.223
I-126		388.63		7.512E-02	1.348E-01	2.281E-01	1.311E-02	0.329
		666.33	*	-4.688E-02	1.299E-01	2.134E-01	1.640E-02	-0.220
		753.82		1.341E+00	9.784E-01	1.755E+00	1.573E-01	0.764
SB-126		223.80		-6.303E-01	2.803E+00	4.596E+00	2.526E-01	-0.137
	+	278.60		3.260E+00	2.025E+00	2.988E+00	1.703E-01	1.091
	+	296.50		9.951E+00	1.781E+00	2.615E+00	1.501E-01	3.806
		414.70		-3.087E-02	5.115E-02	8.255E-02	4.882E-03	-0.374
		415.30		-4.161E-01	4.154E+00	6.891E+00	4.079E-01	-0.060
		555.20		-4.191E-01	2.688E+00	4.332E+00	2.993E-01	-0.097
		573.80		-1.495E-01	7.063E-01	1.131E+00	7.955E-02	-0.132
		593.00		-5.732E-02	6.092E-01	9.797E-01	7.020E-02	-0.059
		656.30		-1.005E+00	2.377E+00	3.892E+00	2.953E-01	-0.258
		666.33		-1.954E-02	5.415E-02	8.891E-02	6.835E-03	-0.220
		675.00		2.826E-02	1.356E+00	2.274E+00	1.776E-01	0.012
		695.00		7.927E-02	5.219E-02	9.431E-02	7.633E-03	0.841
		697.00		-2.407E-02	1.865E-01	3.092E-01	2.511E-02	-0.078
		720.50	*	1.523E-02	1.092E-01	1.588E-01	1.344E-02	0.096
		856.80		1.603E-01	3.757E-01	5.510E-01	5.844E-02	0.291
		989.30		1.148E-03	8.269E-01	1.338E+00	1.309E-01	0.001
		1034.80		-1.178E+00	6.192E+00	9.817E+00	8.716E-01	-0.120
		1213.00		-1.135E+00	3.247E+00	5.228E+00	3.143E-01	-0.217

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		61.10		1.331E+01	4.606E+01	7.007E+01	7.076E+00	0.190
		252.40		2.100E-01	2.584E+00	4.254E+00	1.762E+00	0.049
		290.80		-7.344E+00	1.465E+01	2.004E+01	1.739E+00	-0.366
		411.60		5.196E+00	7.259E+00	1.249E+01	1.765E+00	0.416
		444.90		1.717E+00	5.311E+00	8.976E+00	9.526E-01	0.191
		473.00		-4.262E-01	9.419E-01	1.510E+00	1.678E-01	-0.282
		543.00		3.942E-02	9.197E+00	1.501E+01	1.967E+00	0.003
		603.60		-1.464E-01	7.348E+00	1.022E+01	1.151E+00	-0.014
		685.20	*	-1.484E-01	7.356E-01	1.214E+00	1.277E-01	-0.122
		698.50		-1.147E+01	9.406E+00	1.429E+01	2.189E+00	-0.802
		722.20		4.534E+00	1.854E+01	2.721E+01	2.913E+00	0.167
		783.80		3.879E+00	2.217E+00	3.965E+00	5.030E-01	0.978
XE-127		57.60		2.353E+00	5.807E+00	9.882E+00	7.616E-01	0.238
		145.22		5.955E-01	5.342E-01	8.853E-01	4.839E-02	0.673
		172.10		-1.781E-02	8.537E-02	1.427E-01	7.514E-03	-0.125
		202.84	*	-2.705E-02	3.676E-02	5.476E-02	2.956E-03	-0.494
		374.96		-7.736E-02	1.307E-01	2.125E-01	1.226E-02	-0.364
I-131		80.18		3.730E-01	3.632E+00	5.377E+00	4.683E-01	0.069
		284.30		-6.883E-01	9.876E-01	1.547E+00	9.835E-02	-0.445
		364.48	*	3.456E-02	7.021E-02	1.213E-01	7.817E-03	0.285
		636.97		-4.867E-01	1.036E+00	1.609E+00	1.288E-01	-0.302
		722.89		1.633E+00	4.981E+00	7.363E+00	6.293E-01	0.222
TE-132		49.72		-1.077E+01	1.764E+01	2.900E+01	2.862E+00	-0.371
		111.76		5.451E+00	1.771E+01	2.895E+01	2.579E+00	0.188
		116.30		5.796E+00	1.703E+01	2.779E+01	2.417E+00	0.209
		228.16	*	-1.115E-01	4.038E-01	6.593E-01	9.239E-02	-0.169
BA-133		53.15		1.564E+00	4.106E+00	6.773E+00	5.375E-01	0.231
		79.62		4.309E-01	1.161E+00	1.740E+00	2.649E-01	0.248
		81.00		-1.900E-02	8.657E-02	1.260E-01	2.007E-02	-0.151
	+	276.40		5.216E-01	3.296E-01	5.064E-01	6.540E-02	1.030
		302.84		1.623E-01	1.201E-01	1.836E-01	2.135E-02	0.884
		356.01	*	9.948E-03	3.479E-02	4.953E-02	5.721E-03	0.201
		383.85		-1.765E-01	2.104E-01	3.359E-01	3.644E-02	-0.525
I-133	+	510.53		4.670E-01	2.104E-01	Half-Life too short		
		529.87	*	-2.080E-03	2.104E-01	Half-Life too short		
		706.58		-8.935E-02	2.104E-01	Half-Life too short		
		856.28		5.429E-02	2.104E-01	Half-Life too short		
		875.33		-1.142E-02	2.104E-01	Half-Life too short		
		1236.41		3.914E-01	2.104E-01	Half-Life too short		
		1298.22		4.651E-02	2.104E-01	Half-Life too short		
CS-134		475.35		-5.642E-01	1.355E+00	2.179E+00	1.385E-01	-0.259
		563.23		1.933E-01	2.638E-01	4.480E-01	3.166E-02	0.431
		569.32		6.721E-03	1.443E-01	2.351E-01	1.681E-02	0.029
		604.70		2.352E-02	2.620E-02	3.954E-02	2.875E-03	0.595
	+	795.84	*	1.194E-01	5.530E-02	6.945E-02	6.717E-03	1.720
		801.93		-3.269E-01	3.513E-01	4.455E-01	4.346E-02	-0.734
		1038.57		-3.981E+00	2.815E+00	4.164E+00	3.664E-01	-0.956
		1167.94		6.340E-01	1.822E+00	3.090E+00	1.752E-01	0.205
		1365.15		3.070E-01	9.542E-01	1.515E+00	1.205E-01	0.203

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135		268.24	*	1.617E-01	1.248E-01	1.931E-01	1.459E-02	0.838
I-135		288.45		1.396E+08	1.248E-01	Half-Life too short		
		417.63		-3.172E+08	1.248E-01	Half-Life too short		
		546.56		-5.320E+08	1.248E-01	Half-Life too short		
		836.80		7.893E+07	1.248E-01	Half-Life too short		
		1038.76		-7.234E+08	1.248E-01	Half-Life too short		
		1124.00		3.262E+09	1.248E-01	Half-Life too short		
		1131.51		4.979E+07	1.248E-01	Half-Life too short		
		1260.41	*	-9.435E+07	1.248E-01	Half-Life too short		
		1457.56		3.330E+10	1.248E-01	Half-Life too short		
		1678.03		-4.710E+06	1.248E-01	Half-Life too short		
		1706.46		-2.453E+08	1.248E-01	Half-Life too short		
		1791.20		-3.606E+08	1.248E-01	Half-Life too short		
CS-136		66.91		-3.624E-01	7.144E-01	1.039E+00	1.569E-01	-0.349
	+	86.29		3.265E+00	1.277E+00	1.610E+00	2.123E-01	2.028
		153.22		5.465E-01	4.622E-01	8.069E-01	5.553E-02	0.677
		163.89		-3.020E-02	7.398E-01	1.249E+00	8.529E-02	-0.024
		176.55		-1.713E-02	2.562E-01	4.300E-01	2.605E-02	-0.040
		273.65		-6.637E-02	4.964E-01	5.015E-01	3.266E-02	-0.132
		340.57		5.657E-01	1.170E-01	2.013E-01	1.238E-02	2.810
		818.51		1.717E-02	5.074E-02	8.552E-02	8.538E-03	0.201
		1048.07	*	1.057E-02	7.069E-02	1.195E-01	1.071E-02	0.088
		1235.34		6.973E-01	4.276E-01	7.621E-01	7.834E-02	0.915
BA-137M		661.65	*	1.445E-02	2.783E-02	4.797E-02	3.657E-03	0.301
CS-137		661.65	*	1.527E-02	2.942E-02	5.071E-02	3.875E-03	0.301
CE-139		165.85	*	1.313E-02	2.194E-02	3.786E-02	1.987E-03	0.347
BA-140		162.64		-3.244E-01	5.249E-01	8.673E-01	5.257E-02	-0.374
		304.84		2.688E-01	9.818E-01	1.411E+00	3.850E-01	0.190
		423.70		9.703E-01	1.293E+00	2.179E+00	6.933E-01	0.445
		537.32	*	1.063E-01	1.731E-01	2.882E-01	9.428E-02	0.369
LA-140	+	328.77		6.970E-01	3.245E-01	3.974E-01	2.575E-02	1.754
		432.53		-5.527E-01	1.336E+00	2.167E+00	1.436E-01	-0.255
		487.03		4.945E-02	9.069E-02	1.542E-01	1.100E-02	0.321
		751.79		-6.960E-02	1.144E+00	1.890E+00	1.857E-01	-0.037
		815.85		2.368E-01	2.151E-01	3.796E-01	4.103E-02	0.624
		867.82		5.566E-01	9.999E-01	1.591E+00	1.775E-01	0.350
		919.63		1.346E-02	1.992E+00	3.093E+00	3.907E-01	0.004
		925.24		3.234E-01	7.547E-01	1.269E+00	1.437E-01	0.255
		1596.49	*	-3.436E-02	5.909E-02	9.165E-02	6.288E-03	-0.375
CE-141		145.44	*	5.109E-02	4.823E-02	7.975E-02	4.553E-03	0.641
CE-143		57.37		-1.412E-04	4.823E-02	Half-Life too short		
		231.56		6.463E-04	4.823E-02	Half-Life too short		
		293.26	*	2.116E-04	4.823E-02	Half-Life too short		
		350.59		1.414E-02	4.823E-02	Half-Life too short		
		490.36		-4.414E-04	4.823E-02	Half-Life too short		
		664.57		5.173E-04	4.823E-02	Half-Life too short		
		721.93		1.390E-04	4.823E-02	Half-Life too short		
CE-144		80.11		2.071E-01	1.853E+00	2.745E+00	2.377E-01	0.075
		133.54	*	2.744E-02	1.759E-01	2.687E-01	3.799E-02	0.102

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-144		476.78		2.192E-02	4.838E-02	8.187E-02	6.074E-03	0.268
		618.01		-1.172E-02	2.484E-02	3.880E-02	2.953E-03	-0.302
		696.49	*	9.340E-03	2.540E-02	4.332E-02	3.516E-03	0.216
		778.57		-1.982E+00	1.695E+00	2.559E+00	2.392E-01	-0.774
PR-144		696.49	*	6.325E-01	1.720E+00	2.933E+00	2.381E-01	0.216
		1489.15		-1.520E+00	7.852E+00	1.236E+01	8.931E-01	-0.123
PM-146		453.90	*	1.835E-02	3.086E-02	5.278E-02	4.695E-03	0.348
		633.02		1.038E+00	1.119E+00	1.760E+00	6.531E-01	0.590
		735.90		4.924E-02	1.069E-01	1.743E-01	4.989E-02	0.283
		747.13		3.825E-03	6.288E-02	1.048E-01	1.487E-02	0.036
ND-147		91.11		3.355E-01	2.947E-01	3.641E-01	3.425E-02	0.921
		319.41		-1.490E+00	2.245E+00	3.479E+00	2.009E-01	-0.428
		439.89		1.653E+00	3.685E+00	6.277E+00	3.830E-01	0.263
		531.02	*	-4.537E-01	3.523E-01	5.082E-01	7.091E-02	-0.893
PM-149		285.90	*	2.298E+01	4.603E+01	7.649E+01	1.081E+01	0.300
EU-152		121.78		-3.390E-03	5.760E-02	9.160E-02	7.059E-03	-0.037
		244.69		1.647E-01	2.604E-01	4.390E-01	2.452E-02	0.375
		344.27	*	-5.889E-02	7.605E-02	1.058E-01	6.903E-03	-0.557
		443.98		-7.468E-02	6.434E-01	1.060E+00	6.496E-02	-0.070
		778.89		-1.661E-01	1.928E-01	2.988E-01	2.793E-02	-0.556
		867.32		3.169E-01	6.691E-01	1.024E+00	1.104E-01	0.309
	+	964.01		7.017E-01	2.414E-01	4.260E-01	4.363E-02	1.647
		1085.78		4.111E-02	2.814E-01	4.743E-01	3.675E-02	0.087
		1112.02		2.167E-01	2.454E-01	3.829E-01	2.726E-02	0.566
		1407.95		1.801E-02	1.499E-01	2.465E-01	1.831E-02	0.073
GD-153		69.67		-3.529E-01	1.416E+00	2.328E+00	1.889E-01	-0.152
		83.37		5.750E+00	1.368E+01	2.027E+01	1.801E+00	0.284
		97.43	*	-2.232E-02	6.826E-02	9.732E-02	7.609E-03	-0.229
		103.18		-6.895E-02	8.720E-02	1.367E-01	9.857E-03	-0.504
EU-154		123.07		-2.302E-02	4.025E-02	6.279E-02	5.939E-03	-0.367
		247.94		7.477E-02	2.966E-01	4.343E-01	4.091E-02	0.172
		591.81		6.097E-03	4.334E-01	7.025E-01	7.472E-02	0.009
		723.30		5.592E-02	1.401E-01	2.082E-01	1.962E-02	0.269
		756.87		2.335E-03	5.465E-01	9.066E-01	1.111E-01	0.003
		873.19		-9.529E-02	2.085E-01	3.280E-01	4.568E-02	-0.291
		996.32		-2.606E-01	2.668E-01	3.883E-01	7.101E-02	-0.671
		1004.76		-1.296E-02	1.638E-01	2.630E-01	3.233E-02	-0.049
		1274.45	*	3.086E-03	9.114E-02	1.501E-01	1.499E-02	0.021
EU-155		48.70		-1.291E+00	2.916E+00	4.836E+00	3.669E-01	-0.267
		60.01		2.014E+00	5.151E+00	7.883E+00	6.016E-01	0.256
	+	86.54		3.212E-01	1.219E-01	1.619E-01	1.491E-02	1.984
		105.31	*	9.772E-02	8.821E-02	1.487E-01	1.063E-02	0.657
TB-160	+	86.79		8.483E-01	3.218E-01	4.322E-01	3.954E-02	1.963
		197.04		1.673E-01	4.055E-01	6.878E-01	3.694E-02	0.243
		215.65		8.961E-02	6.048E-01	8.900E-01	4.858E-02	0.101
		298.57		7.438E-02	1.349E-01	1.456E-01	8.362E-03	0.511
		879.36	*	2.918E-03	8.898E-02	1.460E-01	1.604E-02	0.020
		962.29		7.472E-01	4.384E-01	7.043E-01	7.236E-02	1.061
	+	966.15		4.763E-01	1.638E-01	3.794E-01	3.872E-02	1.256

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1177.93		-1.379E-02	2.474E-01	4.077E-01	2.276E-02	-0.034
		1271.85		1.590E-01	5.269E-01	8.857E-01	5.985E-02	0.180
HO-166M		80.57		2.860E-02	2.368E-01	3.508E-01	3.048E-02	0.082
		184.41		7.557E-02	3.002E-02	4.905E-02	2.606E-03	1.541
		280.46		2.945E-02	6.667E-02	9.795E-02	5.587E-03	0.301
		410.95		2.020E-01	1.792E-01	3.151E-01	1.855E-02	0.641
		711.68	*	1.505E-02	4.268E-02	7.274E-02	6.063E-03	0.207
		752.31		1.064E-01	1.941E-01	3.335E-01	2.982E-02	0.319
		810.29		-3.422E-02	4.164E-02	6.415E-02	6.316E-03	-0.533
TM-171		51.35		-6.043E+00	3.529E+01	5.906E+01	4.681E+00	-0.102
		52.39		2.223E-01	1.782E+01	3.001E+01	2.384E+00	0.007
		59.40		4.942E-01	2.805E+01	4.217E+01	3.202E+00	0.012
		66.72	*	-6.697E+00	2.729E+01	4.032E+01	3.224E+00	-0.166
LU-176	+	88.36		6.328E-01	2.401E-01	3.072E-01	2.820E-02	2.060
		201.83		-2.971E-02	2.132E-02	3.348E-02	1.805E-03	-0.887
		306.84	*	-6.996E-03	1.829E-02	2.895E-02	1.667E-03	-0.242
		401.10		-1.425E+00	4.664E+00	7.674E+00	4.461E-01	-0.186
LU-177		112.95		-5.236E-01	1.159E+00	1.833E+00	1.181E-01	-0.286
		208.36	*	1.359E+00	7.571E-01	1.332E+00	7.225E-02	1.020
LU-177M		52.97		1.081E+00	1.834E+00	3.047E+00	2.419E-01	0.355
		54.07		-2.493E-01	9.603E-01	1.544E+00	1.221E-01	-0.161
		61.30		4.198E-01	1.469E+00	2.234E+00	1.727E-01	0.188
		121.62		-3.262E-04	2.946E-01	4.698E-01	2.787E-02	-0.001
		147.16		-1.157E-01	5.096E-01	7.991E-01	4.348E-02	-0.145
		171.86		-1.474E-01	3.504E-01	5.810E-01	3.058E-02	-0.254
		218.09		-3.462E-01	6.256E-01	1.013E+00	5.542E-02	-0.342
	+	268.79		1.911E+00	1.002E+00	1.052E+00	5.963E-02	1.817
		319.02		-9.233E-02	1.869E-01	2.926E-01	1.689E-02	-0.316
		367.43		-6.470E-01	6.283E-01	9.985E-01	5.766E-02	-0.648
		413.65	*	-3.452E-02	1.282E-01	2.110E-01	1.246E-02	-0.164
HF-181		56.28		-5.712E-01	9.483E-01	1.551E+00	1.208E-01	-0.368
		57.53		-4.101E-02	4.979E-01	8.317E-01	6.414E-02	-0.049
	+	65.20		1.265E+00	1.281E+00	1.363E+00	1.081E-01	0.928
		133.02		2.428E-02	5.841E-02	8.475E-02	4.794E-03	0.287
		136.25		1.669E-01	3.627E-01	5.887E-01	3.296E-02	0.284
		345.85		-1.287E-01	1.474E-01	2.033E-01	1.176E-02	-0.633
		482.03	*	-1.287E-02	3.021E-02	4.848E-02	3.103E-03	-0.266
W-181		56.28		-2.260E-01	3.761E-01	6.152E-01	4.792E-02	-0.367
		57.53		-1.667E-02	1.976E-01	3.300E-01	2.545E-02	-0.051
	+	65.20	*	4.979E-01	5.045E-01	5.368E-01	4.257E-02	0.928
TA-182		67.75		-2.143E-02	1.064E-01	1.575E-01	1.266E-02	-0.136
		100.10		5.395E-02	1.408E-01	2.323E-01	1.746E-02	0.232
		152.43		2.944E-02	2.683E-01	4.230E-01	2.276E-02	0.070
		222.10		-7.384E-02	2.551E-01	4.173E-01	2.291E-02	-0.177
		1001.68		1.504E+00	1.520E+00	2.611E+00	2.492E-01	0.576
	+	1121.28		6.396E-01	2.028E-01	2.675E-01	1.843E-02	2.391
		1189.05		-6.841E-02	2.107E-01	3.397E-01	1.942E-02	-0.201
		1221.42	*	8.505E-02	1.420E-01	2.435E-01	1.490E-02	0.349
		1230.97		-4.328E-01	3.504E-01	5.259E-01	3.280E-02	-0.823

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183		57.98		3.618E-02	1.932E-01	3.259E-01	2.504E-02	0.111
		59.32		-3.827E-04	1.142E-01	1.715E-01	1.303E-02	-0.002
		67.20		-1.179E-01	1.927E-01	2.791E-01	2.237E-02	-0.422
		162.32	*	-2.147E-02	7.997E-02	1.339E-01	7.070E-03	-0.160
	+	208.81		2.762E+00	1.462E+00	1.366E+00	7.412E-02	2.022
		291.72		-5.350E-01	8.072E-01	1.093E+00	6.262E-02	-0.490
RE-184		57.98		1.343E-01	7.168E-01	1.209E+00	9.292E-02	0.111
		59.32		-1.419E-03	4.234E-01	6.359E-01	4.831E-02	-0.002
		67.20		-4.372E-01	7.147E-01	1.035E+00	8.300E-02	-0.422
		161.27		-1.369E-01	2.588E-01	4.292E-01	2.270E-02	-0.319
		216.55		-1.504E-02	2.072E-01	3.175E-01	1.734E-02	-0.047
		252.85	*	5.305E-02	1.725E-01	2.869E-01	1.612E-02	0.185
		318.01		1.656E-02	3.237E-01	5.231E-01	3.019E-02	0.032
		792.07		7.492E-01	8.652E-01	1.320E+00	1.262E-01	0.567
		903.28		3.492E-01	8.428E-01	1.230E+00	1.381E-01	0.284
		920.93		1.488E-01	3.180E-01	5.366E-01	5.880E-02	0.277
OS-185		59.72		1.949E-02	3.075E-01	4.632E-01	3.523E-02	0.042
		61.14		4.624E-02	1.616E-01	2.458E-01	1.897E-02	0.188
		69.30		-3.402E-02	2.506E-01	4.138E-01	3.352E-02	-0.082
		592.07		-3.480E-01	1.763E+00	2.814E+00	2.015E-01	-0.124
		646.12	*	-2.424E-02	3.069E-02	4.630E-02	3.482E-03	-0.524
		717.42		-2.108E-01	6.303E-01	1.027E+00	8.644E-02	-0.205
		874.81		-8.052E-02	3.879E-01	6.237E-01	6.803E-02	-0.129
		880.27		-1.942E-01	5.056E-01	7.991E-01	8.790E-02	-0.243
RE-188		155.03	*	9.301E-02	1.277E-01	2.219E-01	1.187E-02	0.419
		477.96		1.457E+00	2.173E+00	3.722E+00	2.372E-01	0.391
		633.10		1.681E+00	2.123E+00	3.508E+00	2.608E-01	0.479
W-188	+	63.58		6.628E+01	6.716E+01	8.395E+01	6.596E+00	0.789
		227.08		5.405E-01	9.419E+00	1.561E+01	8.604E-01	0.035
		290.67	*	-3.031E+00	6.242E+00	8.558E+00	4.902E-01	-0.354
IR-192	+	295.96		8.067E-01	1.446E-01	2.129E-01	1.242E-02	3.789
		308.46		-2.514E-02	6.965E-02	1.103E-01	6.426E-03	-0.228
		316.51	*	2.960E-03	2.501E-02	4.059E-02	2.354E-03	0.073
		468.07		1.527E-02	5.172E-02	7.597E-02	5.414E-03	0.201
		604.41		1.782E-01	3.589E-01	5.226E-01	6.350E-02	0.341
		612.46		3.735E+00	8.081E-01	1.355E+00	1.189E-01	2.756
AU-195	+	65.12		2.306E-01	2.337E-01	2.507E-01	1.988E-02	0.920
		66.83		-4.577E-02	9.104E-02	1.327E-01	1.062E-02	-0.345
	+	75.70		1.179E+00	2.224E-01	3.780E-01	3.175E-02	3.119
		98.88	*	9.243E-02	1.858E-01	2.943E-01	2.252E-02	0.314
	+	129.76		4.619E+00	2.251E+00	3.798E+00	2.173E-01	1.216
TL-200		367.94	*	-6.506E-06	2.251E+00	Half-Life too short		
		579.30		1.219E-03	2.251E+00	Half-Life too short		
		828.27		2.156E-03	2.251E+00	Half-Life too short		
		1205.75		1.875E-04	2.251E+00	Half-Life too short		
TL-201		68.90		-1.401E+00	3.115E+00	5.085E+00	4.111E-01	-0.275
		70.82		7.496E-01	1.925E+00	2.912E+00	2.377E-01	0.257
		80.30		4.315E-01	3.323E+00	4.926E+00	4.271E-01	0.088
		135.34		1.312E+01	1.552E+01	2.558E+01	1.436E+00	0.513

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		167.43	*	2.384E+00	3.914E+00	6.752E+00	3.545E-01	0.353
TL-202		68.90		-1.552E-01	3.452E-01	5.634E-01	4.555E-02	-0.275
		70.82		8.283E-02	2.128E-01	3.218E-01	2.627E-02	0.257
		80.30		4.770E-02	3.674E-01	5.446E-01	4.722E-02	0.088
		439.56	*	1.509E-02	4.509E-02	7.630E-02	4.652E-03	0.198
BI-207		72.80		2.759E-02	1.658E-01	2.477E-01	2.045E-02	0.111
	+	74.97		6.570E-01	1.239E-01	1.980E-01	1.655E-02	3.318
		84.90		2.022E-01	1.779E-01	2.704E-01	2.433E-02	0.748
		569.67		7.170E-03	2.227E-02	3.691E-02	2.587E-03	0.194
		1063.62	*	4.335E-02	3.815E-02	6.848E-02	5.653E-03	0.633
		1770.23		1.947E-01	3.945E-01	6.042E-01	3.655E-02	0.322
TL-207		81.07		-4.366E-02	1.909E-01	2.777E-01	2.422E-02	-0.157
		83.78		6.402E-02	1.172E-01	1.745E-01	1.556E-02	0.367
	+	94.90		1.004E+00	3.372E-01	3.395E-01	2.764E-02	2.957
		122.32		-4.038E-01	1.377E+00	2.166E+00	1.471E-01	-0.186
		144.24		1.734E-01	5.501E-01	8.726E-01	6.089E-02	0.199
		154.21		1.911E-01	3.002E-01	5.156E-01	3.431E-02	0.371
	+	269.46		4.498E-01	2.359E-01	2.630E-01	1.562E-02	1.710
		323.87	*	2.097E-01	5.317E-01	7.681E-01	1.268E-01	0.273
	+	338.28		5.577E+00	1.371E+00	1.925E+00	2.026E-01	2.897
		445.03		3.467E-01	1.548E+00	2.602E+00	2.723E-01	0.133
PO-209		260.50		4.141E+00	7.125E+00	1.197E+01	6.757E-01	0.346
		262.80		-7.616E+00	2.034E+01	3.148E+01	1.779E+00	-0.242
		896.60	*	3.681E-01	5.653E+00	9.276E+00	1.046E+00	0.040
BI-210		46.50	*	-1.268E+00	4.443E+00	7.435E+00	5.753E-01	-0.170
PB-210		46.50	*	-1.268E+00	4.443E+00	7.435E+00	5.753E-01	-0.170
PO-210		46.50	*	-1.268E+00	4.442E+00	7.435E+00	4.946E-01	-0.170
PB-211		404.84	*	1.945E-01	6.867E-01	1.146E+00	7.146E-01	0.170
		427.08		2.419E-01	1.469E+00	2.454E+00	1.517E+00	0.099
		831.96		-1.097E+00	1.135E+00	1.353E+00	8.511E-01	-0.811
BI-212	+	727.18	*	1.026E+00	3.597E-01	4.919E-01	4.899E-02	2.085
		785.46		1.487E+00	1.353E+00	2.335E+00	2.207E-01	0.637
		1620.62		3.400E-01	9.797E-01	1.661E+00	1.123E-01	0.205
PO-215		81.07		-4.366E-02	1.909E-01	2.777E-01	2.422E-02	-0.157
		83.78		6.402E-02	1.172E-01	1.745E-01	1.556E-02	0.367
	+	94.90		1.004E+00	3.372E-01	3.395E-01	2.764E-02	2.957
		122.32		-4.038E-01	1.377E+00	2.166E+00	1.471E-01	-0.186
		144.24		1.734E-01	5.501E-01	8.726E-01	6.089E-02	0.199
		154.21		1.911E-01	3.002E-01	5.156E-01	3.431E-02	0.371
	+	269.46		4.498E-01	2.359E-01	2.630E-01	1.562E-02	1.710
		323.87	*	2.097E-01	5.317E-01	7.681E-01	1.268E-01	0.273
	+	338.28		5.577E+00	1.371E+00	1.925E+00	2.026E-01	2.897
		445.03		3.467E-01	1.548E+00	2.602E+00	2.723E-01	0.133
RN-219	+	271.23		5.771E-01	3.043E-01	3.351E-01	2.687E-02	1.722
		401.81	*	-1.253E-02	2.909E-01	4.854E-01	6.608E-02	-0.026
RN-220		549.76	*	3.512E-01	1.834E+01	2.993E+01	2.056E+00	0.012
RA-223		81.07		-4.366E-02	1.909E-01	2.777E-01	2.422E-02	-0.157
		83.78		6.402E-02	1.172E-01	1.745E-01	1.556E-02	0.367
	+	94.90		1.004E+00	3.372E-01	3.395E-01	2.764E-02	2.957

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		122.32		-4.038E-01	1.377E+00	2.166E+00	1.471E-01	-0.186
		144.24		1.734E-01	5.501E-01	8.726E-01	6.089E-02	0.199
		154.21		1.911E-01	3.002E-01	5.156E-01	3.431E-02	0.371
	+	269.46		4.498E-01	2.359E-01	2.630E-01	1.562E-02	1.710
		323.87	*	2.097E-01	5.317E-01	7.681E-01	1.268E-01	0.273
	+	338.28		5.577E+00	1.371E+00	1.925E+00	2.026E-01	2.897
		445.03		3.467E-01	1.548E+00	2.602E+00	2.723E-01	0.133
AC-227		79.80		2.192E-01	1.445E+00	2.144E+00	4.612E-01	0.102
		236.00		1.054E-01	2.051E-01	3.043E-01	3.139E-02	0.346
		256.20	*	-3.225E-02	2.853E-01	4.650E-01	6.459E-02	-0.069
		286.10		6.080E-01	1.132E+00	1.886E+00	2.172E-01	0.322
	+	299.80		2.218E+00	1.291E+00	1.939E+00	3.153E-01	1.144
		304.40		2.822E-01	1.566E+00	2.241E+00	3.873E-01	0.126
		334.20		-6.039E-01	2.892E+00	2.816E+00	5.161E-01	-0.214
TH-227		79.80		2.192E-01	1.445E+00	2.144E+00	4.671E-01	0.102
	+	94.00		8.033E+00	3.140E+00	3.212E+00	6.951E-01	2.501
		236.00		1.054E-01	2.050E-01	3.043E-01	2.708E-02	0.346
		256.20	*	-3.225E-02	2.853E-01	4.650E-01	7.832E-02	-0.069
		286.10		6.080E-01	1.284E+00	1.886E+00	1.889E+00	0.322
	+	299.80		2.218E+00	1.291E+00	1.939E+00	3.153E-01	1.144
		304.40		2.822E-01	1.566E+00	2.241E+00	3.873E-01	0.126
		334.20		-6.039E-01	2.892E+00	2.816E+00	5.161E-01	-0.214
TH-229		85.43		3.236E-01	1.791E-01	2.773E-01	2.506E-02	1.167
	+	88.47		3.643E-01	1.382E-01	1.755E-01	1.608E-02	2.075
		100.00		5.584E-02	1.472E-01	2.429E-01	1.828E-02	0.230
		193.63	*	-1.587E-01	3.714E-01	6.104E-01	3.268E-02	-0.260
	+	210.97		2.189E+00	1.158E+00	1.048E+00	5.698E-02	2.089
PA-231		283.67	*	-7.130E-01	1.159E+00	1.750E+00	2.404E-01	-0.408
	+	301.29		8.870E-01	5.043E-01	7.823E-01	8.154E-02	1.134
TH-231		81.07		-4.366E-02	1.909E-01	2.777E-01	2.422E-02	-0.157
		83.78		6.402E-02	1.172E-01	1.745E-01	1.556E-02	0.367
	+	94.90		1.004E+00	3.372E-01	3.395E-01	2.764E-02	2.957
		122.32		-4.038E-01	1.377E+00	2.166E+00	1.471E-01	-0.186
		144.24		1.734E-01	5.501E-01	8.726E-01	6.089E-02	0.199
		154.21		1.911E-01	3.002E-01	5.156E-01	3.431E-02	0.371
	+	269.46		4.498E-01	2.359E-01	2.630E-01	1.562E-02	1.710
		323.87	*	2.097E-01	5.317E-01	7.681E-01	1.268E-01	0.273
	+	338.28		5.577E+00	1.371E+00	1.925E+00	2.026E-01	2.897
		445.03		3.467E-01	1.548E+00	2.602E+00	2.723E-01	0.133
U-231		84.21		2.517E+00	4.127E+00	6.161E+00	5.511E-01	0.408
	+	92.29		6.486E+00	2.178E+00	2.648E+00	2.254E-01	2.450
		95.87	*	3.274E-01	7.493E-01	1.115E+00	8.936E-02	0.294
		108.00		-1.035E+00	1.375E+00	2.152E+00	1.463E-01	-0.481
PA-233	+	75.28		1.917E+01	4.360E+00	5.822E+00	8.856E-01	3.293
	+	86.59		5.223E+00	2.384E+00	2.643E+00	7.133E-01	1.976
	+	300.12		6.182E-01	3.554E-01	5.378E-01	7.215E-02	1.149
		311.98	*	-1.091E-02	4.774E-02	7.610E-02	4.662E-03	-0.143
		340.50		3.156E+00	9.319E-01	1.066E+00	2.448E-01	2.960
		398.62		-9.769E-01	1.448E+00	2.296E+00	5.936E-01	-0.425

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.76		-6.079E-01	1.198E+00	1.933E+00	3.986E-01	-0.315
PA-234	+	63.00		1.946E+00	1.988E+00	2.492E+00	3.756E-01	0.781
	+	94.67		7.163E-01	2.489E-01	2.550E-01	3.084E-02	2.809
		98.44		2.239E-02	8.149E-02	1.187E-01	6.607E-02	0.189
		99.86		1.394E-01	3.728E-01	6.149E-01	4.639E-02	0.227
		111.00		-2.774E-02	1.466E-01	2.347E-01	2.518E-02	-0.118
		131.20		2.345E-02	9.523E-02	1.371E-01	7.803E-03	0.171
		152.70		1.734E-01	2.589E-01	4.158E-01	6.510E-02	0.417
	+	186.00		5.265E+00	2.152E+00	2.057E+00	6.269E-01	2.559
		226.40		6.737E-02	3.005E-01	5.014E-01	5.724E-02	0.134
		227.20		2.351E-02	3.217E-01	5.336E-01	2.941E-02	0.044
		248.90		-2.581E-01	6.927E-01	9.702E-01	2.079E-01	-0.266
		293.70		3.783E+00	9.066E-01	1.216E+00	1.952E-01	3.112
		369.80		1.054E+00	6.093E-01	1.048E+00	2.182E-01	1.005
		568.70		1.053E-01	7.274E-01	1.193E+00	8.350E-02	0.088
		569.50		6.155E-02	1.975E-01	3.272E-01	2.292E-02	0.188
		574.00		-6.245E-01	1.111E+00	1.737E+00	1.222E-01	-0.360
		699.00		-1.726E-01	5.445E-01	8.911E-01	1.682E-01	-0.194
		706.10		-2.317E-01	7.619E-01	1.236E+00	5.501E-01	-0.188
		733.00		-5.926E-03	2.897E-01	4.140E-01	9.194E-02	-0.014
		742.81		-3.942E-01	9.809E-01	1.523E+00	1.024E+00	-0.259
	+	796.30		2.324E+00	1.230E+00	1.353E+00	3.705E-01	1.718
		805.60		9.711E-01	7.552E-01	1.254E+00	3.886E-01	0.775
		819.60		2.964E-01	9.249E-01	1.546E+00	5.929E-01	0.192
		826.30		1.823E-01	6.352E-01	1.057E+00	4.761E-01	0.173
		831.60		-5.735E-01	5.076E-01	7.184E-01	2.179E-01	-0.798
		876.40		-2.399E-01	5.984E-01	8.578E-01	8.837E-01	-0.280
		880.51		-1.103E-02	1.801E-01	2.930E-01	3.225E-02	-0.038
		883.24		-5.760E-02	1.977E-01	3.091E-01	2.089E-01	-0.186
		899.00		2.221E-01	6.446E-01	1.066E+00	4.726E-01	0.208
		925.00		1.197E-01	8.555E-01	1.408E+00	1.534E-01	0.085
		926.50		-7.511E-04	1.259E-01	2.048E-01	5.352E-02	-0.004
		946.00	*	-2.206E-01	2.299E-01	3.381E-01	6.669E-02	-0.653
		949.00		8.715E-02	3.190E-01	5.292E-01	5.557E-02	0.165
		980.50		1.821E-01	5.704E-01	8.217E-01	8.173E-02	0.222
		1394.10		-5.435E-01	8.969E-01	1.240E+00	8.052E-01	-0.438
PA-234M		766.42		1.403E+01	1.111E+01	1.543E+01	7.842E+00	0.909
		1001.03	*	2.680E+00	3.476E+00	5.886E+00	6.350E-01	0.455
U-235		89.95		-2.274E-01	1.340E+00	1.526E+00	4.722E-01	-0.149
	+	93.35		2.499E+00	1.072E+00	1.042E+00	2.911E-01	2.400
		105.00		7.144E-01	8.968E-01	1.458E+00	4.291E-01	0.490
		143.76	*	-1.953E-02	1.711E-01	2.666E-01	4.317E-02	-0.073
		163.35		-1.966E-01	3.522E-01	5.806E-01	1.034E-01	-0.339
	+	185.71		1.950E-01	5.413E-02	7.624E-02	4.055E-03	2.558
		205.31		-9.653E-02	4.428E-01	6.314E-01	1.128E-01	-0.153
NP-236	+	94.67		5.433E-01	1.825E-01	1.936E-01	1.582E-02	2.806
		98.44		1.689E-02	6.089E-02	8.975E-02	6.911E-03	0.188
		111.00		-2.099E-02	1.109E-01	1.776E-01	1.168E-02	-0.118
		160.31	*	3.637E-03	5.876E-02	9.971E-02	5.282E-03	0.036

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		8.367E-02	1.232E-01	2.056E-01	1.558E-02	0.407
		117.00	*	5.300E-02	1.510E-01	2.465E-01	1.526E-02	0.215
	+	209.75		2.205E+00	1.167E+00	1.107E+00	6.012E-02	1.992
		228.18		-4.669E-02	1.711E-01	2.797E-01	1.543E-02	-0.167
	+	277.60		2.546E-01	1.582E-01	2.392E-01	1.362E-02	1.064
		334.30		-3.235E-01	1.638E+00	1.599E+00	9.245E-02	-0.202
AM-241		59.54	*	8.833E-03	1.629E-01	2.454E-01	2.035E-02	0.036
CM-243		99.55		8.609E-02	1.267E-01	2.115E-01	1.603E-02	0.407
		103.76	*	-4.119E-02	8.013E-02	1.271E-01	9.100E-03	-0.324
		117.00		5.453E-02	1.553E-01	2.535E-01	1.569E-02	0.215
	+	209.75		2.174E+00	1.150E+00	1.091E+00	5.926E-02	1.992
		228.18		-4.717E-02	1.729E-01	2.826E-01	1.559E-02	-0.167
	+	277.60		2.566E-01	1.594E-01	2.411E-01	1.373E-02	1.064
AM-246		798.80		-2.907E-03	1.128E-01	1.596E-01	1.542E-02	-0.018
		1036.00		-1.769E-01	2.120E-01	3.312E-01	2.932E-02	-0.534
		1062.04		1.785E-01	1.685E-01	3.009E-01	2.495E-02	0.593
		1078.86	*	-1.508E-03	1.014E-01	1.689E-01	1.336E-02	-0.009
CM-247	+	278.00		1.056E+00	6.559E-01	9.840E-01	5.606E-02	1.073
		287.40		6.429E-01	9.177E-01	1.541E+00	8.815E-02	0.417
		402.60	*	-1.915E-03	2.626E-02	4.375E-02	2.548E-03	-0.044
CF-249		252.85		2.000E-01	6.505E-01	1.082E+00	6.077E-02	0.185
		333.44		4.897E-02	1.951E-01	2.020E-01	1.168E-02	0.242
		387.95	*	-2.537E-03	2.881E-02	4.719E-02	2.713E-03	-0.054
CF-251		176.60	*	-6.291E-03	9.421E-02	1.581E-01	8.350E-03	-0.040
		227.00		1.743E-02	2.861E-01	4.744E-01	2.614E-02	0.037
		285.00		-8.168E-01	1.308E+00	2.059E+00	1.176E-01	-0.397

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385004     *
* Acquisition date : 31-DEC-2009 09:31:17 Detector SN#     :               *
* Detector ID        : GAM18               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:     0 02:00:00.00     Abundance limit : 75.000        *
* Elapsed real time:     0 02:00:01.64     Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        : 17-DEC-2009 12:00:00 Nuclide Library : SOLID        *
* Sample ID          : G243385004           Analyst initials: MJH1         *
* Batch Number       : 936285               Sample Quantity : 1.4026E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000    *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :    0.00000                                             *
* CALIB. DATE/TIME : 23-APR-2009 11:59:23 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.355E+01	2.094E+00	4.126E-01	0.000E+00
CD-109	2.709E+00	1.007E+00	1.309E+00	0.000E+00
SN-126	2.668E-01	9.919E-02	1.288E-01	0.000E+00
HG-203	5.714E-02	3.480E-02	4.422E-02	0.000E+00
TL-208	4.466E-01	6.465E-02	4.220E-02	0.000E+00
BI-211	3.556E+00	3.899E-01	2.410E-01	0.000E+00
PB-212	1.398E+00	1.292E-01	7.156E-02	0.000E+00
PO-212	1.398E+00	1.292E-01	7.156E-02	0.000E+00
BI-214	1.043E+00	1.427E-01	8.677E-02	0.000E+00
PB-214	1.237E+00	1.497E-01	8.376E-02	0.000E+00
PO-214	1.237E+00	1.497E-01	8.376E-02	0.000E+00
PO-216	1.398E+00	1.292E-01	7.156E-02	0.000E+00
PO-218	1.237E+00	1.497E-01	8.376E-02	0.000E+00
RA-224	3.141E+00	9.345E-01	8.132E-01	0.000E+00
RA-226	1.043E+00	1.427E-01	8.677E-02	0.000E+00
AC-228	1.433E+00	2.723E-01	1.462E-01	0.000E+00
RA-228	1.433E+00	2.723E-01	1.462E-01	0.000E+00
TH-228	1.417E+00	1.310E-01	7.256E-02	0.000E+00
TH-230	1.043E+00	1.427E-01	8.677E-02	0.000E+00
TH-232	1.433E+00	2.723E-01	1.462E-01	0.000E+00
TH-234	1.669E+00	1.678E+00	2.074E+00	0.000E+00
U-234	1.043E+00	1.427E-01	8.677E-02	0.000E+00
NP-237	7.834E-01	3.316E-01	3.599E-01	0.000E+00
U-238	1.669E+00	1.678E+00	2.074E+00	0.000E+00
AM-243	3.660E-01	6.766E-02	7.916E-02	0.000E+00
ANH-511	1.218E-01	4.921E-02	3.124E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)		
BE-7	1.631E-01	2.199E-01	3.960E-01	0.000E+00	NOT IDENT.

NA-22	-1.190E-02	3.296E-02	5.404E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.545E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-9.432E-05	2.139E-02	3.575E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.968E-02	7.629E-02	0.000E+00	FAIL ABUN
SC-46	-9.146E-03	2.705E-02	4.452E-02	0.000E+00	FAIL ABUN
V-48	-4.438E-03	4.660E-02	7.732E-02	0.000E+00	NOT IDENT.
CR-51	-1.875E-01	2.578E-01	4.208E-01	0.000E+00	NOT IDENT.
MN-52	1.773E-01	1.314E-01	2.508E-01	0.000E+00	NOT IDENT.
MN-54	-2.848E-02	2.793E-02	4.413E-02	0.000E+00	NOT IDENT.
CO-56	9.578E-04	2.845E-02	4.851E-02	0.000E+00	NOT IDENT.
CO-57	-5.410E-03	1.948E-02	3.305E-02	0.000E+00	NOT IDENT.
CO-58	-2.550E-02	2.631E-02	4.146E-02	0.000E+00	NOT IDENT.
FE-59	1.992E-02	6.148E-02	1.080E-01	0.000E+00	NOT IDENT.
CO-60	-2.299E-03	2.676E-02	4.452E-02	0.000E+00	NOT IDENT.
ZN-65	4.541E-02	7.287E-02	1.134E-01	0.000E+00	NOT IDENT.
GE-68	9.659E-02	8.350E-01	1.449E+00	0.000E+00	NOT IDENT.
AS-73	3.362E-01	9.244E-01	1.668E+00	0.000E+00	NOT IDENT.
AS-74	-9.772E-03	5.993E-02	1.001E-01	0.000E+00	NOT IDENT.
SE-75	-2.711E-02	3.583E-02	5.160E-02	0.000E+00	NOT IDENT.
BR-77	9.350E-01	5.153E+00	8.701E+00	0.000E+00	FAIL ABUN
SR-82	-1.795E-01	2.617E-01	4.278E-01	0.000E+00	NOT IDENT.
RB-83	8.732E-03	4.815E-02	8.131E-02	0.000E+00	NOT IDENT.
RB-84	-2.493E-02	4.516E-02	7.286E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	5.979E+00	1.092E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.026E-02	5.530E-02	0.000E+00	NOT IDENT.
RB-86	6.280E-02	5.015E-01	8.708E-01	0.000E+00	NOT IDENT.
Y-88	-1.605E-02	2.355E-02	3.515E-02	0.000E+00	NOT IDENT.
ZR-88	-8.913E-03	2.040E-02	3.514E-02	0.000E+00	NOT IDENT.
Y-91	4.235E+00	1.341E+01	2.325E+01	0.000E+00	NOT IDENT.
NB-94	5.927E-03	2.430E-02	4.278E-02	0.000E+00	NOT IDENT.
NB-95	3.556E-02	3.092E-02	5.640E-02	0.000E+00	NOT IDENT.
NB-95M	-4.468E-02	1.045E-01	1.571E-01	0.000E+00	NOT IDENT.
ZR-95	3.044E-02	4.824E-02	8.639E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.170E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.185E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.965E-01	5.866E+00	1.011E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.027E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	7.951E-03	2.440E-02	4.375E-02	0.000E+00	NOT IDENT.
RH-102	-8.806E-03	2.039E-02	3.437E-02	0.000E+00	NOT IDENT.
RU-103	8.340E-03	2.725E-02	4.778E-02	0.000E+00	FAIL ABUN
RH-106	3.403E-02	2.291E-01	3.889E-01	0.000E+00	FAIL ABUN
RU-106	3.403E-02	2.291E-01	3.889E-01	0.000E+00	FAIL ABUN
AG-108M	-1.561E-02	2.242E-02	3.755E-02	0.000E+00	NOT IDENT.
AG-110M	-2.265E-04	2.569E-02	4.491E-02	0.000E+00	NOT IDENT.
IN-111	6.494E-01	6.273E-01	1.021E+00	0.000E+00	NOT IDENT.
IN-113M	-6.513E-03	2.974E-02	5.186E-02	0.000E+00	NOT IDENT.
SN-113	-6.513E-03	2.974E-02	5.186E-02	0.000E+00	NOT IDENT.
IN-114M	1.732E-01	1.362E-01	2.290E-01	0.000E+00	NOT IDENT.
CD-115	-3.581E-01	4.792E+00	8.159E+00	0.000E+00	NOT IDENT.
SN-117M	2.105E-03	3.718E-02	6.766E-02	0.000E+00	NOT IDENT.
SB-122	8.310E-01	1.079E+00	1.917E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.787E+05	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.085E-02	2.023E-02	3.742E-02	0.000E+00	NOT IDENT.
I-124	1.355E-02	4.355E-01	6.354E-01	0.000E+00	FAIL ABUN
SB-124	-2.373E-02	5.528E-02	8.798E-02	0.000E+00	FAIL ABUN
SB-125	1.896E-02	6.445E-02	1.145E-01	0.000E+00	FAIL ABUN
TE-125M	-2.637E+00	7.287E+00	1.252E+01	0.000E+00	NOT IDENT.
I-126	-4.688E-02	1.273E-01	2.178E-01	0.000E+00	NOT IDENT.
SB-126	1.523E-02	1.070E-01	1.618E-01	0.000E+00	FAIL ABUN
SB-127	-1.484E-01	7.209E-01	1.238E+00	0.000E+00	NOT IDENT.
XE-127	-2.705E-02	3.602E-02	5.725E-02	0.000E+00	NOT IDENT.
I-131	3.456E-02	6.881E-02	1.253E-01	0.000E+00	NOT IDENT.
TE-132	-1.115E-01	3.957E-01	6.877E-01	0.000E+00	NOT IDENT.
BA-133	9.948E-03	3.409E-02	5.120E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.510E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.419E-02	7.062E-02	0.000E+00	FAIL ABUN
CS-135	1.617E-01	1.223E-01	2.007E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.795E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.057E-02	6.928E-02	1.208E-01	0.000E+00	FAIL ABUN
BA-137M	1.445E-02	2.727E-02	4.897E-02	0.000E+00	NOT IDENT.
CS-137	1.527E-02	2.883E-02	5.176E-02	0.000E+00	NOT IDENT.
CE-139	1.313E-02	2.151E-02	3.974E-02	0.000E+00	NOT IDENT.
BA-140	1.063E-01	1.697E-01	2.954E-01	0.000E+00	NOT IDENT.
LA-140	-3.436E-02	5.791E-02	9.183E-02	0.000E+00	FAIL ABUN
CE-141	5.109E-02	4.726E-02	8.393E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	7.762E+01	0.000E+00	0.000E+00	SHORT HLIF
CE-144	2.744E-02	1.724E-01	2.832E-01	0.000E+00	NOT IDENT.
PM-144	9.340E-03	2.489E-02	4.417E-02	0.000E+00	NOT IDENT.

PR-144	6.325E-01	1.685E+00	2.991E+00	0.000E+00	NOT IDENT.
PM-146	1.835E-02	3.024E-02	5.429E-02	0.000E+00	NOT IDENT.
ND-147	-4.537E-01	3.453E-01	5.211E-01	0.000E+00	NOT IDENT.
PM-149	2.298E+01	4.511E+01	7.942E+01	0.000E+00	NOT IDENT.
EU-152	-5.889E-02	7.453E-02	1.094E-01	0.000E+00	FAIL ABUN
GD-153	-2.232E-02	6.689E-02	1.032E-01	0.000E+00	NOT IDENT.
EU-154	3.086E-03	8.932E-02	1.511E-01	0.000E+00	NOT IDENT.
EU-155	9.772E-02	8.645E-02	1.575E-01	0.000E+00	FAIL ABUN
TB-160	2.918E-03	8.720E-02	1.481E-01	0.000E+00	FAIL ABUN
HO-166M	1.505E-02	4.183E-02	7.414E-02	0.000E+00	NOT IDENT.
TM-171	-6.697E+00	2.674E+01	4.307E+01	0.000E+00	NOT IDENT.
LU-176	-6.996E-03	1.792E-02	3.001E-02	0.000E+00	FAIL ABUN
LU-177	1.359E+00	7.420E-01	1.392E+00	0.000E+00	NOT IDENT.
LU-177M	-3.452E-02	1.257E-01	2.174E-01	0.000E+00	FAIL ABUN
HF-181	-1.287E-02	2.960E-02	4.981E-02	0.000E+00	FAIL ABUN
W-181	4.979E-01	4.944E-01	5.736E-01	0.000E+00	FAIL ABUN
TA-182	8.505E-02	1.392E-01	2.454E-01	0.000E+00	FAIL ABUN
RE-183	-2.147E-02	7.837E-02	1.407E-01	0.000E+00	FAIL ABUN
RE-184	5.305E-02	1.690E-01	2.987E-01	0.000E+00	NOT IDENT.
OS-185	-2.424E-02	3.007E-02	4.728E-02	0.000E+00	NOT IDENT.
RE-188	9.301E-02	1.251E-01	2.332E-01	0.000E+00	NOT IDENT.
W-188	-3.031E+00	6.117E+00	8.883E+00	0.000E+00	FAIL ABUN
IR-192	2.960E-03	2.451E-02	4.206E-02	0.000E+00	FAIL ABUN
AU-195	9.243E-02	1.821E-01	3.120E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.412E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	2.384E+00	3.836E+00	7.086E+00	0.000E+00	NOT IDENT.
TL-202	1.509E-02	4.419E-02	7.854E-02	0.000E+00	NOT IDENT.
BI-207	4.335E-02	3.739E-02	6.921E-02	0.000E+00	FAIL ABUN
TL-207	2.097E-01	5.210E-01	7.955E-01	0.000E+00	FAIL ABUN
PO-209	3.681E-01	5.540E+00	9.408E+00	0.000E+00	NOT IDENT.
BI-210	-1.268E+00	4.354E+00	7.997E+00	0.000E+00	NOT IDENT.
PB-210	-1.268E+00	4.354E+00	7.997E+00	0.000E+00	NOT IDENT.
PO-210	-1.268E+00	4.354E+00	7.997E+00	0.000E+00	NOT IDENT.
PB-211	1.945E-01	6.729E-01	1.182E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.525E-01	5.011E-01	0.000E+00	FAIL ABUN
PO-215	2.097E-01	5.210E-01	7.955E-01	0.000E+00	FAIL ABUN
RN-219	-1.253E-02	2.850E-01	5.005E-01	0.000E+00	FAIL ABUN
RN-220	3.512E-01	1.797E+01	3.066E+01	0.000E+00	NOT IDENT.
RA-223	2.097E-01	5.210E-01	7.955E-01	0.000E+00	FAIL ABUN
AC-227	-3.225E-02	2.796E-01	4.839E-01	0.000E+00	FAIL ABUN
TH-227	-3.225E-02	2.796E-01	4.839E-01	0.000E+00	FAIL ABUN
TH-229	-1.587E-01	3.640E-01	6.388E-01	0.000E+00	FAIL ABUN
PA-231	-7.130E-01	1.136E+00	1.817E+00	0.000E+00	FAIL ABUN
TH-231	2.097E-01	5.210E-01	7.955E-01	0.000E+00	FAIL ABUN
U-231	3.274E-01	7.343E-01	1.183E+00	0.000E+00	FAIL ABUN
PA-233	-1.091E-02	4.679E-02	7.888E-02	0.000E+00	FAIL ABUN
PA-234	-2.206E-01	2.253E-01	3.425E-01	0.000E+00	FAIL ABUN
PA-234M	2.680E+00	3.407E+00	5.956E+00	0.000E+00	NOT IDENT.
U-235	-1.953E-02	1.676E-01	2.806E-01	0.000E+00	FAIL ABUN
NP-236	3.637E-03	5.758E-02	1.047E-01	0.000E+00	FAIL ABUN
NP-239	5.300E-02	1.479E-01	2.605E-01	0.000E+00	FAIL ABUN
AM-241	8.833E-03	1.597E-01	2.626E-01	0.000E+00	NOT IDENT.
CM-243	-4.119E-02	7.852E-02	1.347E-01	0.000E+00	FAIL ABUN
AM-246	-1.508E-03	9.933E-02	1.706E-01	0.000E+00	NOT IDENT.
CM-247	-1.915E-03	2.574E-02	4.512E-02	0.000E+00	FAIL ABUN
CF-249	-2.537E-03	2.823E-02	4.870E-02	0.000E+00	NOT IDENT.
CF-251	-6.291E-03	9.233E-02	1.658E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:32:09.64

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385004.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:31:17
Sample ID         : G243385004           Sample quantity  : 1.40260E+02 GRAM
Detector name     : GAM18                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.64  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit   : 75.00000             Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID   :                      LCS ID           : 1032-A
*****************************************************************************
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1777	10.67*	1.893E+00	2.355E+01	2.355E+01	9.07
CD-109	88.03	238	3.72*	6.448E+00	2.654E+00	2.709E+00	37.94
SN-126	64.28	75	9.60	3.151E+00	6.607E-01	6.607E-01	102.10
	86.94	238	8.90	6.448E+00	1.109E+00	1.109E+00	55.46
	87.57	238	37.00*	6.448E+00	2.668E-01	2.668E-01	37.94
HG-203	70.83	------	4.75	4.309E+00	------	Line Not Found	------
	72.87	------	8.00	4.622E+00	------	Line Not Found	------
	82.60	------	3.55	5.935E+00	------	Line Not Found	------
	279.20	84	77.30*	6.253E+00	4.644E-02	5.714E-02	62.16
TL-208	277.35	84	6.80	6.253E+00	5.279E-01	5.279E-01	62.75
	510.84	196	21.60	4.308E+00	5.639E-01	5.639E-01	42.06
	583.14	553	84.20*	3.933E+00	4.466E-01	4.466E-01	14.77
	860.37	74	12.46	2.915E+00	5.464E-01	5.464E-01	57.80
BI-211	72.87	------	1.27	4.622E+00	------	Line Not Found	------
	351.07	937	12.94*	5.449E+00	3.556E+00	3.556E+00	11.19
PB-212	74.81	447	10.70	4.956E+00	2.258E+00	2.258E+00	21.05
	77.11	654	18.00	5.278E+00	1.841E+00	1.841E+00	14.92
	87.30	238	8.00	6.448E+00	1.234E+00	1.234E+00	39.23
	238.63	1582	44.60*	6.789E+00	1.398E+00	1.398E+00	9.43
	300.09	91	3.41	5.979E+00	1.197E+00	1.197E+00	56.49
PO-212	74.81	447	10.70	4.956E+00	2.258E+00	2.258E+00	21.05
	77.11	654	18.00	5.278E+00	1.841E+00	1.841E+00	14.92
	87.30	238	8.00	6.448E+00	1.234E+00	1.234E+00	39.23
	115.19	------	0.60	8.058E+00	------	Line Not Found	------
	238.63	1582	44.60*	6.789E+00	1.398E+00	1.398E+00	9.43
	300.09	91	3.41	5.979E+00	1.197E+00	1.197E+00	56.49
BI-214	609.31	687	46.30*	3.812E+00	1.043E+00	1.043E+00	13.97
	1120.29	179	15.10	2.334E+00	1.363E+00	1.363E+00	32.39
	1764.49	156	15.80	1.694E+00	1.558E+00	1.558E+00	21.66
PB-214	74.81	447	6.21	4.956E+00	3.890E+00	3.890E+00	20.26
	77.11	654	10.50	5.278E+00	3.156E+00	3.156E+00	16.76
	87.30	238	4.67	6.448E+00	2.114E+00	2.114E+00	38.71

Sample ID : G243385004 Acquisition date : 31-DEC-2009 09:31:17

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	241.98	313	7.49	6.744E+00	1.656E+00	1.656E+00	30.87
	295.21	463	19.20	6.037E+00	1.070E+00	1.070E+00	18.95
	351.92	937	37.20*	5.449E+00	1.237E+00	1.237E+00	12.35
PO-214	74.81	447	6.21	4.956E+00	3.890E+00	3.890E+00	20.26
	77.11	654	10.50	5.278E+00	3.156E+00	3.156E+00	16.76
	87.30	238	4.67	6.448E+00	2.114E+00	2.114E+00	38.71
	241.98	313	7.49	6.744E+00	1.656E+00	1.656E+00	30.87
	295.21	463	19.20	6.037E+00	1.070E+00	1.070E+00	18.95
	351.92	937	37.20*	5.449E+00	1.237E+00	1.237E+00	12.35
PO-216	74.81	447	10.70	4.956E+00	2.258E+00	2.258E+00	21.05
	77.11	654	18.00	5.278E+00	1.841E+00	1.841E+00	14.92
	87.30	238	8.00	6.448E+00	1.234E+00	1.234E+00	39.23
	238.63	1582	44.60*	6.789E+00	1.398E+00	1.398E+00	9.43
	300.09	91	3.41	5.979E+00	1.197E+00	1.197E+00	56.49
PO-218	74.81	447	6.21	4.956E+00	3.890E+00	3.890E+00	20.26
	77.11	654	10.50	5.278E+00	3.156E+00	3.156E+00	16.76
	87.30	238	4.67	6.448E+00	2.114E+00	2.114E+00	38.71
	241.98	313	7.49	6.744E+00	1.656E+00	1.656E+00	30.87
	295.21	463	19.20	6.037E+00	1.070E+00	1.070E+00	18.95
	351.92	937	37.20*	5.449E+00	1.237E+00	1.237E+00	12.35
RA-224	240.98	313	3.95*	6.744E+00	3.141E+00	3.141E+00	30.36
RA-226	609.31	687	46.30*	3.812E+00	1.043E+00	1.043E+00	13.97
	1120.29	179	15.10	2.334E+00	1.363E+00	1.363E+00	32.39
	1764.49	156	15.80	1.694E+00	1.558E+00	1.558E+00	21.66
AC-228	338.32	317	11.40	5.577E+00	1.335E+00	1.335E+00	46.43
	911.07	412	27.70*	2.779E+00	1.433E+00	1.433E+00	19.39
	969.11	226	16.60	2.638E+00	1.384E+00	1.384E+00	31.76
RA-228	338.32	317	11.40	5.577E+00	1.335E+00	1.335E+00	46.43
	911.07	412	27.70*	2.779E+00	1.433E+00	1.433E+00	19.39
	969.11	226	16.60	2.638E+00	1.384E+00	1.384E+00	31.76
TH-228	74.81	447	10.70	4.956E+00	2.258E+00	2.289E+00	18.89
	77.11	654	18.00	5.278E+00	1.841E+00	1.867E+00	14.92
	87.30	238	8.00	6.448E+00	1.234E+00	1.251E+00	37.94
	238.63	1582	44.60*	6.789E+00	1.398E+00	1.417E+00	9.43
	300.09	91	3.41	5.979E+00	1.197E+00	1.213E+00	81.22
TH-230	609.31	687	46.30*	3.812E+00	1.043E+00	1.043E+00	13.97
	1120.29	179	15.10	2.334E+00	1.363E+00	1.363E+00	32.39
	1764.49	156	15.80	1.694E+00	1.558E+00	1.558E+00	21.66
TH-232	338.32	317	11.40	5.577E+00	1.335E+00	1.335E+00	22.96
	911.07	412	27.70*	2.779E+00	1.433E+00	1.433E+00	19.39
	969.11	226	16.60	2.638E+00	1.384E+00	1.384E+00	31.76
TH-234	63.29	75	3.80*	3.151E+00	1.669E+00	1.669E+00	102.56
	92.38	294	5.41	7.001E+00	2.079E+00	2.079E+00	37.16
U-234	609.31	687	46.30*	3.812E+00	1.043E+00	1.043E+00	13.97
	1120.29	179	15.10	2.334E+00	1.363E+00	1.363E+00	32.39
	1764.49	156	15.80	1.694E+00	1.558E+00	1.558E+00	21.66
NP-237	86.50	238	12.60*	6.448E+00	7.834E-01	7.834E-01	43.19
	95.87	------	2.60	7.180E+00	------ Line Not Found		------
U-238	63.29	75	3.80*	3.151E+00	1.669E+00	1.669E+00	102.56

Sample ID : G243385004 Acquisition date : 31-DEC-2009 09:31:17

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	92.38	294	5.41	7.001E+00	2.079E+00	2.079E+00	33.58
AM-243	74.67	447	66.00*	4.956E+00	3.660E-01	3.660E-01	18.86
	86.72	238	0.34	6.448E+00	2.938E+01	2.938E+01	37.94
	117.66	------	0.55	8.112E+00	------	Line Not Found	------
	142.18	------	0.13	8.232E+00	------	Line Not Found	------
ANH-511	511.00	196	100.00*	4.308E+00	1.218E-01	1.218E-01	41.23

Flag: "*" = Keyline

Sample ID : G243385004 Acquisition date : 31-DEC-2009 09:31:17

Total number of lines in spectrum 32
Number of unidentified lines 1
Number of lines tentatively identified by NID 31 96.88%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.355E+01	2.355E+01	0.214E+01	9.07	
CD-109	464.00D	1.02	2.654E+00	2.709E+00	1.028E+00	37.94	
SN-126	1.00E+05Y	1.00	2.668E-01	2.668E-01	1.012E-01	37.94	
HG-203	46.60D	1.23	4.644E-02	5.714E-02	3.551E-02	62.16	
TL-208	1.41E+10Y	1.00	4.466E-01	4.466E-01	0.660E-01	14.77	
BI-211	7.04E+08Y	1.00	3.556E+00	3.556E+00	0.398E+00	11.19	
PB-212	1.41E+10Y	1.00	1.398E+00	1.398E+00	0.132E+00	9.43	
PO-212	1.41E+10Y	1.00	1.398E+00	1.398E+00	0.132E+00	9.43	
BI-214	1600.00Y	1.00	1.043E+00	1.043E+00	0.146E+00	13.97	
PB-214	1600.00Y	1.00	1.237E+00	1.237E+00	0.153E+00	12.35	
PO-214	1600.00Y	1.00	1.237E+00	1.237E+00	0.153E+00	12.35	
PO-216	1.41E+10Y	1.00	1.398E+00	1.398E+00	0.132E+00	9.43	
PO-218	1600.00Y	1.00	1.237E+00	1.237E+00	0.153E+00	12.35	
RA-224	1.41E+10Y	1.00	3.141E+00	3.141E+00	0.954E+00	30.36	
RA-226	1600.00Y	1.00	1.043E+00	1.043E+00	0.146E+00	13.97	
AC-228	1.41E+10Y	1.00	1.433E+00	1.433E+00	0.278E+00	19.39	
RA-228	1.41E+10Y	1.00	1.433E+00	1.433E+00	0.278E+00	19.39	
TH-228	1.91Y	1.01	1.398E+00	1.417E+00	0.134E+00	9.43	
TH-230	4.47E+09Y	1.00	1.043E+00	1.043E+00	0.146E+00	13.97	
TH-232	1.41E+10Y	1.00	1.433E+00	1.433E+00	0.278E+00	19.39	
TH-234	4.47E+09Y	1.00	1.669E+00	1.669E+00	1.712E+00	102.56	
U-234	4.47E+09Y	1.00	1.043E+00	1.043E+00	0.146E+00	13.97	
NP-237	2.14E+06Y	1.00	7.834E-01	7.834E-01	3.383E-01	43.19	
U-238	4.47E+09Y	1.00	1.669E+00	1.669E+00	1.712E+00	102.56	
AM-243	7380.00Y	1.00	3.660E-01	3.660E-01	0.690E-01	18.86	
ANH-511	1.00E+09Y	1.00	1.218E-01	1.218E-01	0.502E-01	41.23	
	Total Activity :		5.604E+01	5.613E+01			

Grand Total Activity : 5.604E+01 5.613E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G243385004 Acquisition date : 31-DEC-2009 09:31:17

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	129.33	109	236	1.19	257.73	255	6	1.52E-02	48.4	8.25E+00	T
0	186.24	301	353	1.30	371.51	366	10	4.18E-02	27.2	7.64E+00	T
0	209.98	193	501	2.00	418.98	411	15	2.69E-02	52.6	7.25E+00	T
0	270.26	145	303	1.32	539.51	533	13	2.02E-02	52.1	6.35E+00	T
0	328.40	142	234	1.52	655.74	650	12	1.98E-02	46.1	5.68E+00	T
0	462.92	115	101	1.41	924.71	921	8	1.60E-02	35.4	4.60E+00	T
0	727.46	151	100	1.52	1453.65	1447	14	2.10E-02	33.6	3.34E+00	T
0	795.46	105	97	1.96	1589.61	1581	15	1.46E-02	45.3	3.11E+00	T
1	964.90	100	48	1.93	1928.42	1924	29	1.39E-02	32.8	2.65E+00	T
0	1376.33	77	47	1.80	2751.16	2741	19	1.08E-02	48.3	1.98E+00	T
0	1611.13	14	13	1.45	3220.71	3212	13	1.94E-03	****	1.78E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:32:15.85

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*******************************************************************************
*                            GEL Laboratories LLC                             *
*                              2040 Savage Road                               *
*                            Charleston, SC 29414                             *
*******************************************************************************
*                                                                             *
*                              DETECTOR DATA                                  *
*                                                                             *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385004.CNF;1   *
* Acquisition date  : 31-DEC-2009 09:31:17  Detector SN#     :               *
* Detector ID       : GAM18                 Sensitivity      : 5.00000        *
* Geometry          : CAN                   Energy tolerance: 1.50000        *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000       *
* Elapsed real time: 0 02:00:01.64          Half life ratio : 8.00000        *
*******************************************************************************
*                                                                             *
*                               SAMPLE DATA                                   *
*                                                                             *
* Sample date       : 17-DEC-2009 12:00:00  Nuclide Library : SOLID          *
* Sample ID         : G243385004            Analyst initials: MJH1           *
* Batch Number      : 936285                Sample Quantity : 1.40260E+02 GRAM *
*******************************************************************************
*                                                                             *
*                                 QC DATA                                     *
*                                                                             *
* CALIB. DATE/TIME : 23-APR-2009 11:59:23.2MS Isotope       :                *
* MSD ID            :                      MSD Isotope      :                *
* LCS ID            : 1032-A               LCS Isotope      :                *
*******************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.355E+01	2.137E+00	4.110E-01	3.119E-02	57.300
CD-109	2.709E+00	1.028E+00	1.232E+00	1.139E-01	2.199
SN-126	2.668E-01	1.012E-01	1.212E-01	1.117E-02	2.201
HG-203	5.714E-02	3.551E-02	4.257E-02	2.582E-03	1.342
TL-208	4.466E-01	6.597E-02	4.124E-02	3.233E-03	10.830
BI-211	3.556E+00	3.979E-01	2.330E-01	1.496E-02	15.261
PB-212	1.398E+00	1.318E-01	6.867E-02	4.906E-03	20.355
PO-212	1.398E+00	1.318E-01	6.867E-02	4.906E-03	20.355
BI-214	1.043E+00	1.456E-01	8.487E-02	7.581E-03	12.286
PB-214	1.237E+00	1.527E-01	8.100E-02	6.701E-03	15.272
PO-214	1.237E+00	1.527E-01	8.100E-02	6.701E-03	15.272
PO-216	1.398E+00	1.318E-01	6.867E-02	4.906E-03	20.355
PO-218	1.237E+00	1.527E-01	8.100E-02	6.701E-03	15.272
RA-224	3.141E+00	9.536E-01	7.805E-01	4.348E-02	4.024
RA-226	1.043E+00	1.456E-01	8.487E-02	7.581E-03	12.286
AC-228	1.433E+00	2.779E-01	1.442E-01	1.910E-02	9.943
RA-228	1.433E+00	2.779E-01	1.442E-01	1.910E-02	9.943
TH-228	1.417E+00	1.336E-01	6.963E-02	4.974E-03	20.355

Sample ID : G243385004 Acquisition date : 31-DEC-2009 09:31:17

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.043E+00	1.456E-01	8.486E-02	7.581E-03	12.286
TH-232	1.433E+00	2.779E-01	1.442E-01	1.910E-02	9.943
TH-234	1.669E+00	1.712E+00	1.940E+00	3.420E-01	0.860
U-234	1.043E+00	1.456E-01	8.486E-02	7.581E-03	12.286
NP-237	7.834E-01	3.383E-01	3.386E-01	7.640E-02	2.314
U-238	1.669E+00	1.712E+00	1.940E+00	3.420E-01	0.860
AM-243	3.660E-01	6.904E-02	7.426E-02	6.197E-03	4.929
ANH-511	1.218E-01	5.022E-02	3.044E-02	2.010E-03	4.001

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.631E-01		2.244E-01	3.854E-01	2.793E-02	0.423
NA-22	-1.190E-02		3.363E-02	5.368E-02	3.653E-03	-0.222
NA-24	-2.691E-02		7.884E-02	Half-Life too short		
AL-26	-9.432E-05		2.182E-02	3.578E-02	2.089E-03	-0.003
TI-44	3.397E-01	+	5.069E-02	7.164E-02	6.125E-03	4.742
SC-46	-9.146E-03		2.760E-02	4.388E-02	4.895E-03	-0.208
V-48	-4.438E-03		4.756E-02	7.638E-02	7.554E-03	-0.058
CR-51	-1.875E-01		2.630E-01	4.062E-01	2.615E-02	-0.462
MN-52	1.773E-01		1.341E-01	2.498E-01	1.841E-02	0.710
MN-54	-2.848E-02		2.850E-02	4.344E-02	4.450E-03	-0.656
CO-56	9.578E-04		2.903E-02	4.777E-02	4.987E-03	0.020
CO-57	-5.410E-03		1.987E-02	3.130E-02	1.854E-03	-0.173
CO-58	-2.550E-02		2.684E-02	4.079E-02	4.027E-03	-0.625
FE-59	1.992E-02		6.273E-02	1.069E-01	8.798E-03	0.186
CO-60	-2.299E-03		2.730E-02	4.426E-02	3.344E-03	-0.052
ZN-65	4.541E-02		7.436E-02	1.123E-01	7.909E-03	0.404
GE-68	9.659E-02		8.521E-01	1.434E+00	1.139E-01	0.067
AS-73	3.362E-01		9.432E-01	1.555E+00	1.233E-01	0.216
AS-74	-9.772E-03		6.116E-02	9.785E-02	7.030E-03	-0.100
SE-75	-2.711E-02		3.656E-02	4.962E-02	2.838E-03	-0.546
BR-77	9.350E-01		5.259E+00	8.482E+00	5.658E-01	0.110
SR-82	-1.795E-01		2.670E-01	4.205E-01	3.916E-02	-0.427
RB-83	8.732E-03		4.914E-02	7.926E-02	5.286E-03	0.110
RB-84	-2.493E-02		4.608E-02	7.181E-02	7.914E-03	-0.347
KR-85	2.182E+01		6.101E+00	1.065E+01	7.053E-01	2.050
SR-85	1.105E-01		3.088E-02	5.389E-02	3.570E-03	2.050
RB-86	6.280E-02		5.117E-01	8.618E-01	6.861E-02	0.073
Y-88	-1.605E-02		2.403E-02	3.519E-02	2.004E-03	-0.456
ZR-88	-8.913E-03		2.082E-02	3.406E-02	1.959E-03	-0.262
Y-91	4.235E+00		1.368E+01	2.306E+01	1.363E+00	0.184
NB-94	5.927E-03		2.480E-02	4.197E-02	3.443E-03	0.141
NB-95	3.556E-02		3.155E-02	5.542E-02	5.070E-03	0.642
NB-95M	-4.468E-02		1.066E-01	1.507E-01	1.106E-02	-0.297
ZR-95	3.044E-02		4.923E-02	8.487E-02	8.351E-03	0.359
NB-97	1.049E-03		1.107E-02	Half-Life too short		

Sample ID : G243385004 Acquisition date : 31-DEC-2009 09:31:17

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97	7.977E-01		2.135E-01	Half-Life too short		
MO-99	-1.965E-01		5.985E+00	9.924E+00	1.514E+00	-0.020
TC-99M	2.773E+08		5.241E+08	Half-Life too short		
RH-101	7.951E-03		2.490E-02	4.182E-02	2.248E-03	0.190
RH-102	-8.806E-03		2.080E-02	3.344E-02	2.124E-03	-0.263
RU-103	8.340E-03		2.781E-02	4.654E-02	6.042E-03	0.179
RH-106	3.403E-02		2.338E-01	3.805E-01	4.787E-02	0.089
RU-106	3.403E-02		2.337E-01	3.805E-01	2.800E-02	0.089
AG-108M	-1.561E-02		2.288E-02	3.647E-02	2.383E-03	-0.428
AG-110M	-2.265E-04		2.622E-02	4.399E-02	3.470E-03	-0.005
IN-111	6.494E-01		6.401E-01	9.804E-01	5.479E-02	0.662
IN-113M	-6.513E-03		3.034E-02	5.026E-02	3.083E-03	-0.130
SN-113	-6.513E-03		3.034E-02	5.026E-02	3.083E-03	-0.130
IN-114M	1.732E-01		1.389E-01	2.187E-01	1.168E-02	0.792
CD-115	-3.581E-01		4.890E+00	7.956E+00	5.347E-01	-0.045
SN-117M	2.105E-03		3.794E-02	6.441E-02	3.423E-03	0.033
SB-122	8.310E-01		1.101E+00	1.872E+00	1.305E-01	0.444
I-123	4.713E-01		4.483E-01	Half-Life too short		
TE-123M	1.085E-02		2.064E-02	3.562E-02	1.922E-03	0.305
I-124	1.355E-02		4.444E-01	6.213E-01	4.492E-02	0.022
SB-124	-2.373E-02		5.641E-02	8.792E-02	6.066E-03	-0.270
SB-125	1.896E-02		6.577E-02	1.112E-01	6.946E-03	0.171
TE-125M	-2.637E+00		7.435E+00	1.184E+01	1.040E+00	-0.223
I-126	-4.688E-02		1.299E-01	2.134E-01	1.640E-02	-0.220
SB-126	1.523E-02		1.092E-01	1.588E-01	1.344E-02	0.096
SB-127	-1.484E-01		7.356E-01	1.214E+00	1.277E-01	-0.122
XE-127	-2.705E-02		3.676E-02	5.476E-02	2.956E-03	-0.494
I-131	3.456E-02		7.021E-02	1.213E-01	7.817E-03	0.285
TE-132	-1.115E-01		4.038E-01	6.593E-01	9.239E-02	-0.169
BA-133	9.948E-03		3.479E-02	4.953E-02	5.721E-03	0.201
I-133	-2.080E-03		7.704E-04	Half-Life too short		
CS-134	1.194E-01	+	5.530E-02	6.945E-02	6.717E-03	1.720
CS-135	1.617E-01		1.248E-01	1.931E-01	1.459E-02	0.838
I-135	-9.435E+07		9.159E+07	Half-Life too short		
CS-136	1.057E-02		7.069E-02	1.195E-01	1.071E-02	0.088
BA-137M	1.445E-02		2.783E-02	4.797E-02	3.657E-03	0.301
CS-137	1.527E-02		2.942E-02	5.071E-02	3.875E-03	0.301
CE-139	1.313E-02		2.194E-02	3.786E-02	1.987E-03	0.347
BA-140	1.063E-01		1.731E-01	2.882E-01	9.428E-02	0.369
LA-140	-3.436E-02		5.909E-02	9.165E-02	6.288E-03	-0.375
CE-141	5.109E-02		4.823E-02	7.975E-02	4.553E-03	0.641
CE-143	2.116E-04		3.960E-05	Half-Life too short		
CE-144	2.744E-02		1.759E-01	2.687E-01	3.799E-02	0.102
PM-144	9.340E-03		2.540E-02	4.332E-02	3.516E-03	0.216
PR-144	6.325E-01		1.720E+00	2.933E+00	2.381E-01	0.216
PM-146	1.835E-02		3.086E-02	5.278E-02	4.695E-03	0.348
ND-147	-4.537E-01		3.523E-01	5.082E-01	7.091E-02	-0.893
PM-149	2.298E+01		4.603E+01	7.649E+01	1.081E+01	0.300

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-5.889E-02		7.605E-02	1.058E-01	6.903E-03	-0.557
GD-153	-2.232E-02		6.826E-02	9.732E-02	7.609E-03	-0.229
EU-154	3.086E-03		9.114E-02	1.501E-01	1.499E-02	0.021
EU-155	9.772E-02		8.821E-02	1.487E-01	1.063E-02	0.657
TB-160	2.918E-03		8.898E-02	1.460E-01	1.604E-02	0.020
HO-166M	1.505E-02		4.268E-02	7.274E-02	6.063E-03	0.207
TM-171	-6.697E+00		2.729E+01	4.032E+01	3.224E+00	-0.166
LU-176	-6.996E-03		1.829E-02	2.895E-02	1.667E-03	-0.242
LU-177	1.359E+00		7.571E-01	1.332E+00	7.225E-02	1.020
LU-177M	-3.452E-02		1.282E-01	2.110E-01	1.246E-02	-0.164
HF-181	-1.287E-02		3.021E-02	4.848E-02	3.103E-03	-0.266
W-181	4.979E-01	+	5.045E-01	5.368E-01	4.257E-02	0.928
TA-182	8.505E-02		1.420E-01	2.435E-01	1.490E-02	0.349
RE-183	-2.147E-02		7.997E-02	1.339E-01	7.070E-03	-0.160
RE-184	5.305E-02		1.725E-01	2.869E-01	1.612E-02	0.185
OS-185	-2.424E-02		3.069E-02	4.630E-02	3.482E-03	-0.524
RE-188	9.301E-02		1.277E-01	2.219E-01	1.187E-02	0.419
W-188	-3.031E+00		6.242E+00	8.558E+00	4.902E-01	-0.354
IR-192	2.960E-03		2.501E-02	4.059E-02	2.354E-03	0.073
AU-195	9.243E-02		1.858E-01	2.943E-01	2.252E-02	0.314
TL-200	-6.506E-06		7.206E-05	Half-Life too short		
TL-201	2.384E+00		3.914E+00	6.752E+00	3.545E-01	0.353
TL-202	1.509E-02		4.509E-02	7.630E-02	4.652E-03	0.198
BI-207	4.335E-02		3.815E-02	6.848E-02	5.653E-03	0.633
TL-207	2.097E-01		5.317E-01	7.681E-01	1.268E-01	0.273
PO-209	3.681E-01		5.653E+00	9.276E+00	1.046E+00	0.040
BI-210	-1.268E+00		4.443E+00	7.435E+00	5.753E-01	-0.170
PB-210	-1.268E+00		4.443E+00	7.435E+00	5.753E-01	-0.170
PO-210	-1.268E+00		4.442E+00	7.435E+00	4.946E-01	-0.170
PB-211	1.945E-01		6.867E-01	1.146E+00	7.146E-01	0.170
BI-212	1.026E+00	+	3.597E-01	4.919E-01	4.899E-02	2.085
PO-215	2.097E-01		5.317E-01	7.681E-01	1.268E-01	0.273
RN-219	-1.253E-02		2.909E-01	4.854E-01	6.608E-02	-0.026
RN-220	3.512E-01		1.834E+01	2.993E+01	2.056E+00	0.012
RA-223	2.097E-01		5.317E-01	7.681E-01	1.268E-01	0.273
AC-227	-3.225E-02		2.853E-01	4.650E-01	6.459E-02	-0.069
TH-227	-3.225E-02		2.853E-01	4.650E-01	7.832E-02	-0.069
TH-229	-1.587E-01		3.714E-01	6.104E-01	3.268E-02	-0.260
PA-231	-7.130E-01		1.159E+00	1.750E+00	2.404E-01	-0.408
TH-231	2.097E-01		5.317E-01	7.681E-01	1.268E-01	0.273
U-231	3.274E-01		7.493E-01	1.115E+00	8.936E-02	0.294
PA-233	-1.091E-02		4.774E-02	7.610E-02	4.662E-03	-0.143
PA-234	-2.206E-01		2.299E-01	3.381E-01	6.669E-02	-0.653
PA-234M	2.680E+00		3.476E+00	5.886E+00	6.350E-01	0.455
U-235	-1.953E-02		1.711E-01	2.666E-01	4.317E-02	-0.073
NP-236	3.637E-03		5.876E-02	9.971E-02	5.282E-03	0.036
NP-239	5.300E-02		1.510E-01	2.465E-01	1.526E-02	0.215
AM-241	8.833E-03		1.629E-01	2.454E-01	2.035E-02	0.036

Sample ID : G243385004 Acquisition date : 31-DEC-2009 09:31:17

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-4.119E-02		8.013E-02	1.271E-01	9.100E-03	-0.324
AM-246	-1.508E-03		1.014E-01	1.689E-01	1.336E-02	-0.009
CM-247	-1.915E-03		2.626E-02	4.375E-02	2.548E-03	-0.044
CF-249	-2.537E-03		2.881E-02	4.719E-02	2.713E-03	-0.054
CF-251	-6.291E-03		9.421E-02	1.581E-01	8.350E-03	-0.040

VAX/VMS Nuclide Identification Report Generated

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243385004           *
* Acquisition date  : 31-DEC-2009 09:31:17 Detector SN#     :               *
* Detector ID       : GAM18                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.64      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243385004           Analyst initials: MJH1           *
* Batch Number      : 936285               Sample Quantity : 1.4026E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME : 23-APR-2009 11:59:23 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.355E+01	2.094E+00	2.064E-01	1.069E+00
CD-109	2.709E+00	1.007E+00	6.549E-01	5.140E-01
SN-126	2.668E-01	9.919E-02	6.446E-02	5.061E-02
HG-203	5.714E-02	3.480E-02	2.212E-02	1.776E-02
TL-208	4.466E-01	6.465E-02	2.111E-02	3.298E-02
BI-211	3.556E+00	3.899E-01	1.206E-01	1.989E-01
PB-212	1.398E+00	1.292E-01	3.580E-02	6.590E-02
PO-212	1.398E+00	1.292E-01	3.580E-02	6.590E-02
BI-214	1.043E+00	1.427E-01	4.341E-02	7.281E-02
PB-214	1.237E+00	1.497E-01	4.191E-02	7.636E-02
PO-214	1.237E+00	1.497E-01	4.191E-02	7.636E-02
PO-216	1.398E+00	1.292E-01	3.580E-02	6.590E-02
PO-218	1.237E+00	1.497E-01	4.191E-02	7.636E-02
RA-224	3.141E+00	9.345E-01	4.069E-01	4.768E-01
RA-226	1.043E+00	1.427E-01	4.341E-02	7.281E-02
AC-228	1.433E+00	2.723E-01	7.313E-02	1.389E-01
RA-228	1.433E+00	2.723E-01	7.313E-02	1.389E-01
TH-228	1.417E+00	1.310E-01	3.630E-02	6.682E-02
TH-230	1.043E+00	1.427E-01	4.341E-02	7.281E-02
TH-232	1.433E+00	2.723E-01	7.313E-02	1.389E-01
TH-234	1.669E+00	1.678E+00	1.038E+00	8.560E-01
U-234	1.043E+00	1.427E-01	4.341E-02	7.281E-02
NP-237	7.834E-01	3.316E-01	1.801E-01	1.692E-01
U-238	1.669E+00	1.678E+00	1.038E+00	8.560E-01
AM-243	3.660E-01	6.766E-02	3.960E-02	3.452E-02
ANH-511	1.218E-01	4.921E-02	1.563E-02	2.511E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.631E-01	2.199E-01	1.981E-01	1.122E-01 NOT IDENT.

NA-22	-1.190E-02	3.296E-02	2.704E-02	1.682E-02	NOT IDENT.
NA-24	-2.691E+04	1.545E+05	0.000E+00	7.884E+04	SHORT HLIF
AL-26	-9.432E-05	2.139E-02	1.789E-02	1.091E-02	NOT IDENT.
TI-44	3.397E-01	4.968E-02	3.817E-02	2.535E-02	FAIL ABUN
SC-46	-9.146E-03	2.705E-02	2.227E-02	1.380E-02	FAIL ABUN
V-48	-4.438E-03	4.660E-02	3.868E-02	2.378E-02	NOT IDENT.
CR-51	-1.875E-01	2.578E-01	2.105E-01	1.315E-01	NOT IDENT.
MN-52	1.773E-01	1.314E-01	1.255E-01	6.707E-02	NOT IDENT.
MN-54	-2.848E-02	2.793E-02	2.208E-02	1.425E-02	NOT IDENT.
CO-56	9.578E-04	2.845E-02	2.427E-02	1.451E-02	NOT IDENT.
CO-57	-5.410E-03	1.948E-02	1.653E-02	9.936E-03	NOT IDENT.
CO-58	-2.550E-02	2.631E-02	2.074E-02	1.342E-02	NOT IDENT.
FE-59	1.992E-02	6.148E-02	5.401E-02	3.137E-02	NOT IDENT.
CO-60	-2.299E-03	2.676E-02	2.227E-02	1.365E-02	NOT IDENT.
ZN-65	4.541E-02	7.287E-02	5.672E-02	3.718E-02	NOT IDENT.
GE-68	9.659E-02	8.350E-01	7.247E-01	4.260E-01	NOT IDENT.
AS-73	3.362E-01	9.244E-01	8.345E-01	4.716E-01	NOT IDENT.
AS-74	-9.772E-03	5.993E-02	5.008E-02	3.058E-02	NOT IDENT.
SE-75	-2.711E-02	3.583E-02	2.582E-02	1.828E-02	NOT IDENT.
BR-77	9.350E-01	5.153E+00	4.353E+00	2.629E+00	FAIL ABUN
SR-82	-1.795E-01	2.617E-01	2.140E-01	1.335E-01	NOT IDENT.
RB-83	8.732E-03	4.815E-02	4.068E-02	2.457E-02	NOT IDENT.
RB-84	-2.493E-02	4.516E-02	3.645E-02	2.304E-02	NOT IDENT.
KR-85	2.182E+01	5.979E+00	5.465E+00	3.050E+00	NOT IDENT.
SR-85	1.105E-01	3.026E-02	2.766E-02	1.544E-02	NOT IDENT.
RB-86	6.280E-02	5.015E-01	4.356E-01	2.559E-01	NOT IDENT.
Y-88	-1.605E-02	2.355E-02	1.759E-02	1.202E-02	NOT IDENT.
ZR-88	-8.913E-03	2.040E-02	1.758E-02	1.041E-02	NOT IDENT.
Y-91	4.235E+00	1.341E+01	1.163E+01	6.841E+00	NOT IDENT.
NB-94	5.927E-03	2.430E-02	2.140E-02	1.240E-02	NOT IDENT.
NB-95	3.556E-02	3.092E-02	2.822E-02	1.578E-02	NOT IDENT.
NB-95M	-4.468E-02	1.045E-01	7.858E-02	5.330E-02	NOT IDENT.
ZR-95	3.044E-02	4.824E-02	4.322E-02	2.461E-02	NOT IDENT.
NB-97	1.049E+03	2.170E+04	0.000E+00	1.107E+04	SHORT HLIF
ZR-97	7.977E+05	4.185E+05	0.000E+00	2.135E+05	SHORT HLIF
MO-99	-1.965E-01	5.866E+00	5.056E+00	2.993E+00	NOT IDENT.
TC-99M	2.773E+14	1.027E+15	0.000E+00	5.241E+14	SHORT HLIF
RH-101	7.951E-03	2.440E-02	2.189E-02	1.245E-02	NOT IDENT.
RH-102	-8.806E-03	2.039E-02	1.719E-02	1.040E-02	NOT IDENT.
RU-103	8.340E-03	2.725E-02	2.391E-02	1.391E-02	FAIL ABUN
RH-106	3.403E-02	2.291E-01	1.946E-01	1.169E-01	FAIL ABUN
RU-106	3.403E-02	2.291E-01	1.946E-01	1.169E-01	FAIL ABUN
AG-108M	-1.561E-02	2.242E-02	1.879E-02	1.144E-02	NOT IDENT.
AG-110M	-2.265E-04	2.569E-02	2.247E-02	1.311E-02	NOT IDENT.
IN-111	6.494E-01	6.273E-01	5.109E-01	3.201E-01	NOT IDENT.
IN-113M	-6.513E-03	2.974E-02	2.595E-02	1.517E-02	NOT IDENT.
SN-113	-6.513E-03	2.974E-02	2.595E-02	1.517E-02	NOT IDENT.
IN-114M	1.732E-01	1.362E-01	1.145E-01	6.947E-02	NOT IDENT.
CD-115	-3.581E-01	4.792E+00	4.082E+00	2.445E+00	NOT IDENT.
SN-117M	2.105E-03	3.718E-02	3.385E-02	1.897E-02	NOT IDENT.
SB-122	8.310E-01	1.079E+00	9.592E-01	5.504E-01	NOT IDENT.
I-123	4.713E+05	8.787E+05	0.000E+00	4.483E+05	SHORT HLIF
TE-123M	1.085E-02	2.023E-02	1.872E-02	1.032E-02	NOT IDENT.
I-124	1.355E-02	4.355E-01	3.179E-01	2.222E-01	FAIL ABUN
SB-124	-2.373E-02	5.528E-02	4.402E-02	2.821E-02	FAIL ABUN
SB-125	1.896E-02	6.445E-02	5.728E-02	3.289E-02	FAIL ABUN
TE-125M	-2.637E+00	7.287E+00	6.266E+00	3.718E+00	NOT IDENT.
I-126	-4.688E-02	1.273E-01	1.089E-01	6.497E-02	NOT IDENT.
SB-126	1.523E-02	1.070E-01	8.094E-02	5.461E-02	FAIL ABUN
SB-127	-1.484E-01	7.209E-01	6.193E-01	3.678E-01	NOT IDENT.
XE-127	-2.705E-02	3.602E-02	2.864E-02	1.838E-02	NOT IDENT.
I-131	3.456E-02	6.881E-02	6.271E-02	3.511E-02	NOT IDENT.
TE-132	-1.115E-01	3.957E-01	3.441E-01	2.019E-01	NOT IDENT.
BA-133	9.948E-03	3.409E-02	2.562E-02	1.739E-02	FAIL ABUN
I-133	-2.080E+03	1.510E+03	0.000E+00	7.704E+02	SHORT HLIF
CS-134	1.194E-01	5.419E-02	3.533E-02	2.765E-02	FAIL ABUN
CS-135	1.617E-01	1.223E-01	1.004E-01	6.242E-02	NOT IDENT.
I-135	-9.435E+13	1.795E+14	0.000E+00	9.159E+13	SHORT HLIF
CS-136	1.057E-02	6.928E-02	6.046E-02	3.535E-02	FAIL ABUN
BA-137M	1.445E-02	2.727E-02	2.450E-02	1.392E-02	NOT IDENT.
CS-137	1.527E-02	2.883E-02	2.590E-02	1.471E-02	NOT IDENT.
CE-139	1.313E-02	2.151E-02	1.988E-02	1.097E-02	NOT IDENT.
BA-140	1.063E-01	1.697E-01	1.478E-01	8.656E-02	NOT IDENT.
LA-140	-3.436E-02	5.791E-02	4.594E-02	2.954E-02	FAIL ABUN
CE-141	5.109E-02	4.726E-02	4.199E-02	2.411E-02	NOT IDENT.
CE-143	2.116E+02	7.762E+01	0.000E+00	3.960E+01	SHORT HLIF
CE-144	2.744E-02	1.724E-01	1.417E-01	8.795E-02	NOT IDENT.
PM-144	9.340E-03	2.489E-02	2.210E-02	1.270E-02	NOT IDENT.

PR-144	6.325E-01	1.685E+00	1.496E+00	8.599E-01	NOT IDENT.
PM-146	1.835E-02	3.024E-02	2.716E-02	1.543E-02	NOT IDENT.
ND-147	-4.537E-01	3.453E-01	2.607E-01	1.762E-01	NOT IDENT.
PM-149	2.298E+01	4.511E+01	3.974E+01	2.302E+01	NOT IDENT.
EU-152	-5.889E-02	7.453E-02	5.475E-02	3.803E-02	FAIL ABUN
GD-153	-2.232E-02	6.689E-02	5.164E-02	3.413E-02	NOT IDENT.
EU-154	3.086E-03	8.932E-02	7.559E-02	4.557E-02	NOT IDENT.
EU-155	9.772E-02	8.645E-02	7.879E-02	4.411E-02	FAIL ABUN
TB-160	2.918E-03	8.720E-02	7.411E-02	4.449E-02	FAIL ABUN
HO-166M	1.505E-02	4.183E-02	3.709E-02	2.134E-02	NOT IDENT.
TM-171	-6.697E+00	2.674E+01	2.155E+01	1.364E+01	NOT IDENT.
LU-176	-6.996E-03	1.792E-02	1.502E-02	9.145E-03	FAIL ABUN
LU-177	1.359E+00	7.420E-01	6.963E-01	3.786E-01	NOT IDENT.
LU-177M	-3.452E-02	1.257E-01	1.088E-01	6.411E-02	FAIL ABUN
HF-181	-1.287E-02	2.960E-02	2.492E-02	1.510E-02	FAIL ABUN
W-181	4.979E-01	4.944E-01	2.870E-01	2.523E-01	FAIL ABUN
TA-182	8.505E-02	1.392E-01	1.228E-01	7.102E-02	FAIL ABUN
RE-183	-2.147E-02	7.837E-02	7.037E-02	3.999E-02	FAIL ABUN
RE-184	5.305E-02	1.690E-01	1.494E-01	8.624E-02	NOT IDENT.
OS-185	-2.424E-02	3.007E-02	2.365E-02	1.534E-02	NOT IDENT.
RE-188	9.301E-02	1.251E-01	1.167E-01	6.383E-02	NOT IDENT.
W-188	-3.031E+00	6.117E+00	4.444E+00	3.121E+00	FAIL ABUN
IR-192	2.960E-03	2.451E-02	2.104E-02	1.251E-02	FAIL ABUN
AU-195	9.243E-02	1.821E-01	1.561E-01	9.290E-02	FAIL ABUN
TL-200	-6.506E+00	1.412E+02	0.000E+00	7.206E+01	SHORT HLIF
TL-201	2.384E+00	3.836E+00	3.545E+00	1.957E+00	NOT IDENT.
TL-202	1.509E-02	4.419E-02	3.929E-02	2.255E-02	NOT IDENT.
BI-207	4.335E-02	3.739E-02	3.462E-02	1.908E-02	FAIL ABUN
TL-207	2.097E-01	5.210E-01	3.980E-01	2.658E-01	FAIL ABUN
PO-209	3.681E-01	5.540E+00	4.707E+00	2.826E+00	NOT IDENT.
BI-210	-1.268E+00	4.354E+00	4.001E+00	2.221E+00	NOT IDENT.
PB-210	-1.268E+00	4.354E+00	4.001E+00	2.221E+00	NOT IDENT.
PO-210	-1.268E+00	4.354E+00	4.001E+00	2.221E+00	NOT IDENT.
PB-211	1.945E-01	6.729E-01	5.913E-01	3.433E-01	NOT IDENT.
BI-212	1.026E+00	3.525E-01	2.507E-01	1.799E-01	FAIL ABUN
PO-215	2.097E-01	5.210E-01	3.980E-01	2.658E-01	FAIL ABUN
RN-219	-1.253E-02	2.850E-01	2.504E-01	1.454E-01	FAIL ABUN
RN-220	3.512E-01	1.797E+01	1.534E+01	9.170E+00	NOT IDENT.
RA-223	2.097E-01	5.210E-01	3.980E-01	2.658E-01	FAIL ABUN
AC-227	-3.225E-02	2.796E-01	2.421E-01	1.426E-01	FAIL ABUN
TH-227	-3.225E-02	2.796E-01	2.421E-01	1.426E-01	FAIL ABUN
TH-229	-1.587E-01	3.640E-01	3.196E-01	1.857E-01	FAIL ABUN
PA-231	-7.130E-01	1.136E+00	9.090E-01	5.796E-01	FAIL ABUN
TH-231	2.097E-01	5.210E-01	3.980E-01	2.658E-01	FAIL ABUN
U-231	3.274E-01	7.343E-01	5.920E-01	3.747E-01	FAIL ABUN
PA-233	-1.091E-02	4.679E-02	3.946E-02	2.387E-02	FAIL ABUN
PA-234	-2.206E-01	2.253E-01	1.714E-01	1.149E-01	FAIL ABUN
PA-234M	2.680E+00	3.407E+00	2.980E+00	1.738E+00	NOT IDENT.
U-235	-1.953E-02	1.676E-01	1.404E-01	8.553E-02	FAIL ABUN
NP-236	3.637E-03	5.758E-02	5.239E-02	2.938E-02	FAIL ABUN
NP-239	5.300E-02	1.479E-01	1.303E-01	7.548E-02	FAIL ABUN
AM-241	8.833E-03	1.597E-01	1.314E-01	8.146E-02	NOT IDENT.
CM-243	-4.119E-02	7.852E-02	6.737E-02	4.006E-02	FAIL ABUN
AM-246	-1.508E-03	9.933E-02	8.536E-02	5.068E-02	NOT IDENT.
CM-247	-1.915E-03	2.574E-02	2.257E-02	1.313E-02	FAIL ABUN
CF-249	-2.537E-03	2.823E-02	2.437E-02	1.440E-02	NOT IDENT.
CF-251	-6.291E-03	9.233E-02	8.293E-02	4.711E-02	NOT IDENT.

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                           CHARLESTON ,SC 29417                            *
*                     GAMMA SPECTROSCOPY BACKGROUND REPORT                  *
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ENERGY	MDA COUNTS
46.50	281.7614
46.50	281.7614
46.50	281.7614
48.70	281.6396
49.72	289.9785
51.35	288.2338
52.39	287.5828
52.97	250.0349
53.15	262.9440
53.44	269.6102
54.07	285.7736
56.28	302.8501
56.28	302.8534
57.37	0.0000
57.53	294.9827
57.53	294.9843
57.60	274.7078
57.98	288.0500
57.98	288.0500
59.32	300.1260
59.32	300.1260
59.40	300.2105
59.54	300.3582
59.72	304.7413
60.01	293.8561
61.10	296.3751
61.14	296.4161
61.30	296.5795
63.00	325.1642
63.29	333.0292
63.29	333.0292
63.58	333.3533
64.28	327.9817
65.12	345.9805
65.20	346.0718
65.20	346.0718
66.05	348.4659
66.72	327.7549
66.83	343.6230
66.91	343.7109
67.20	349.7671
67.20	349.7671
67.75	338.8971
67.85	369.1728
68.90	375.6927
68.90	375.6927
69.30	364.6233
69.67	376.6096
70.82	361.0435
70.82	361.0435
70.83	361.0549
72.80	389.5060
72.87	389.5896
72.87	389.5896
74.67	370.6801
74.81	370.8353
74.81	370.8353
74.81	370.8353
74.81	370.8353
74.81	370.8353
74.81	370.8353
74.81	370.8353
74.97	371.0117
75.28	371.3548
75.70	371.8174
77.11	373.3596
77.11	373.3596

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77.11	373.3596
77.11	373.3596
77.11	373.3596
77.11	373.3596
78.38	366.3335
79.62	369.1278
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79.80	361.8711
80.11	362.1900
80.18	362.2623
80.30	360.8934
80.30	360.8934
80.57	361.1703
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81.07	379.6144
81.07	379.6144
81.07	379.6144
81.07	379.6144
82.60	456.2876
83.37	388.0669
83.78	391.5215
83.78	391.5215
83.78	391.5215
83.78	391.5215
84.21	396.5065
84.90	389.7006
85.43	388.7490
86.29	476.0739
86.50	476.3423
86.54	476.3926
86.59	476.4572
86.72	543.4104
86.79	543.5087
86.94	543.7300
87.30	544.2544
87.30	544.2544
87.30	544.2544
87.30	544.2544
87.30	544.2544
87.30	544.2544
87.30	544.2544
87.57	544.6450
87.88	552.7059
88.03	552.9275
88.36	540.7048
88.47	540.8618
89.95	496.0187
91.11	423.8084
92.29	559.0951
92.38	559.2253
92.38	559.2253
93.35	433.4539
94.00	434.1691
94.67	292.8568
94.67	292.8612
94.90	293.0299
94.90	293.0299
94.90	293.0299
94.90	293.0299
95.87	301.5117
95.87	301.5117
96.73	316.1761
97.43	312.0392
98.44	301.8629
98.44	301.8629
98.88	299.3685
99.55	290.6551
99.55	290.6551
99.86	305.5212
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100.10	305.7009
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103.76	349.5578
105.00	316.6792
105.31	303.1302
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111.00	322.1130
111.76	296.8452
112.95	342.9182
115.19	313.1759
116.30	308.4980
117.00	299.1713
117.00	299.1713
117.66	321.3839
121.11	279.8388
121.62	281.2357
121.78	281.3294
122.06	289.1906
122.32	289.3457
122.32	289.3457
122.32	289.3457
122.32	289.3457
123.07	307.4268
127.23	268.3728
129.76	330.6054
131.20	329.3085
133.02	323.7393
133.54	337.5671
135.34	309.3872
136.00	305.2551
136.25	318.9741
136.48	337.2204
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140.51	0.0000
142.18	356.8684
142.65	341.1522
143.76	331.5251
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144.24	314.5938
144.24	314.5938
145.22	301.3544
145.44	301.4770
147.16	330.1173
152.43	320.4109
152.70	299.5797
153.22	290.5203
154.21	313.8127
154.21	313.8127
154.21	313.8127
154.21	313.8127
155.03	319.5275
156.02	330.6265
158.56	311.7567
159.00	0.0000
159.00	295.1957
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161.27	323.8333
162.32	322.6267
162.64	339.6942
163.35	335.6448
163.89	317.2336
165.85	300.3831
167.43	295.7845
171.28	322.8861
171.86	307.8397
172.10	302.5382
176.55	311.0438
176.60	311.0673
181.06	326.7827
184.41	318.1465
185.71	285.9350
186.00	286.0603
190.27	239.2261
192.34	284.1085
193.63	307.0444
197.04	292.6190
198.01	289.2693
198.60	281.0539
200.40	310.0490
201.83	341.8386
202.84	325.3030
205.31	309.7279

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208.81	315.6182
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209.75	316.0248
210.97	316.5526
215.65	267.9370
216.55	276.2255
218.09	293.5305
222.10	286.3507
223.80	284.0669
226.40	274.2876
227.00	277.4304
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227.20	276.5248
228.16	292.5191
228.18	292.5260
228.18	292.5260
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235.69	341.3443
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236.00	338.3144
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238.63	279.5473
238.63	279.5473
238.63	279.5473
239.00	279.6743
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241.98	280.7005
241.98	280.7005
241.98	280.7005
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248.90	244.1129
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252.85	230.9411
254.15	0.0000
256.20	241.9767
256.20	241.9767
260.50	217.7487
260.90	201.5620
262.80	232.0267
264.65	235.5539
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268.79	189.0004
269.46	229.2304
269.46	229.2304
269.46	229.2304
269.46	229.2304
271.23	258.7318
273.65	247.8625
276.40	229.2801
277.35	234.3591
277.60	234.4212
277.60	234.4212
278.00	233.4869
278.60	204.3584
279.20	179.5526
279.53	179.6159
280.46	186.4598
281.68	211.7111
283.67	219.5653
284.30	223.5937
285.00	230.0372
285.90	199.9065
286.10	199.9473
286.10	199.9473
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291.72	251.0628
293.26	0.0000
293.70	217.8135
295.21	219.8511
295.21	219.8511

295.21	219.8511
295.96	198.8665
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297.23	237.2583
298.57	237.5898
299.80	222.5977
299.80	222.5977
300.09	205.6675
300.09	205.6675
300.09	205.6675
300.09	205.6675
300.12	205.6734
301.29	228.0421
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303.76	187.6741
303.91	187.7009
304.40	199.7455
304.40	199.7455
304.84	189.5889
306.84	204.3044
308.46	199.2825
311.98	199.9863
316.51	184.6855
318.01	181.7146
319.02	192.7211
319.41	198.2100
320.08	198.3384
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323.87	170.5717
323.87	170.5717
323.87	170.5717
325.23	162.0802
328.77	198.9181
333.44	184.4344
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334.30	228.5315
338.28	198.5065
338.28	198.5065
338.28	198.5065
338.28	198.5065
338.32	198.5147
338.32	198.5147
338.32	198.5147
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340.57	164.4506
344.27	186.3058
345.85	188.0557
350.59	0.0000
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351.92	174.2098
351.92	174.2098
351.92	174.2098
355.39	0.0000
356.01	154.2268
364.48	144.5488
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367.43	181.1548
367.94	0.0000
369.80	116.1781
374.96	163.1933
383.85	176.3719
387.95	159.4654
388.63	139.2658
391.69	159.0370
391.69	159.0370
392.90	161.0477
398.62	163.6658
400.65	169.5231
401.10	164.9285
401.81	164.0901
402.60	166.9931
404.84	168.2314
410.95	155.9067
411.60	165.3846
413.65	176.9476
414.70	178.0365
415.30	160.2155

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417.63	0.0000
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427.89	147.5187
432.53	147.0877
433.93	153.9386
439.47	135.3820
439.56	135.3906
439.89	127.7414
443.98	131.0229
444.90	125.3281
445.03	128.2333
445.03	128.2333
445.03	128.2333
445.03	128.2333
453.90	131.9874
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473.00	139.7188
475.06	144.8485
475.35	143.8934
476.78	132.1991
477.59	123.3902
477.96	126.3844
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484.57	138.8721
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511.00	111.0883
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511.85	111.1514
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513.99	101.1890
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546.56	0.0000
549.76	117.0002
552.65	101.6511
555.20	125.7059
563.23	120.0649
563.90	118.0238
568.70	127.7992
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569.67	123.6811
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574.00	141.8687
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578.91	121.2076
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583.14	120.4570
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591.81	111.5164
592.07	115.7832
593.00	113.7188
595.88	117.1060
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602.71	124.6960
603.60	119.4119
604.41	115.9029
604.70	105.2210
609.31	144.8383

609.31	144.8383
609.31	144.8383
609.31	144.8383
610.33	130.6105
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614.37	121.9440
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621.84	115.6154
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661.65	137.1229
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666.33	147.6107
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677.61	116.9355
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692.80	109.4399
695.00	96.4535
696.49	123.7043
696.49	123.7043
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697.49	148.1475
698.33	159.4649
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723.30	107.4710
724.18	105.8880
727.18	102.7815
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739.58	101.4906
742.81	104.5271
744.21	94.0403
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751.79	105.9404
752.31	95.3705
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756.87	103.3014
763.93	147.2376
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778.00	122.8572
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796.30	72.4830
798.80	97.8790
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831.60	129.8598
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836.80	0.0000
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848.13	93.5695
856.28	0.0000
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881.50	82.6562
883.24	79.6520
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896.60	95.4957
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903.28	86.4900
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911.07	79.5347
911.07	79.5347
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926.50	83.1478
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949.00	79.6955
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964.01	68.7093
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968.20	69.7249
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969.11	69.7504
969.11	69.7504
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983.50	78.6340
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1001.68	70.6138
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1038.76	0.0000
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1046.59	78.3105
1048.07	78.3516

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1078.86	82.9819
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1112.84	53.4277
1115.52	86.8994
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1120.29	76.5179
1120.29	76.5179
1120.29	76.5179
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1147.95	0.0000
1167.94	89.3977
1173.22	96.3655
1175.09	93.5022
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1205.75	0.0000
1213.00	111.4038
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1235.34	102.2564
1236.41	0.0000
1238.25	98.3716
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1260.41	0.0000
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1274.54	89.4222
1291.56	70.6909
1298.22	0.0000
1312.09	54.8664
1325.50	56.1011
1325.50	56.1011
1332.49	53.1498
1333.61	59.3007
1360.21	52.5439
1362.66	0.0000
1365.15	45.9593
1368.21	46.9838
1368.53	0.0000
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1384.27	29.0449
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1395.20	48.9031
1407.95	60.5610
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1436.60	33.6763
1457.56	0.0000
1460.81	44.4888
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1509.49	30.9808
1596.49	45.1067
1620.62	36.0425
1678.03	0.0000
1691.02	32.3998
1691.02	32.3998
1706.46	0.0000
1750.46	0.0000
1764.49	16.9751
1764.49	16.9751
1764.49	16.9751
1764.49	16.9751
1770.23	23.1069
1771.40	17.7794
1791.20	0.0000
1808.65	23.1937

1836.01 27.3914

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243385004

Total Uranium Activity	4.9569E+00	ug/g
Total Uranium Counting Unc.	4.9917E+00	ug/g
Total Uranium Tpu	2.5468E-06	ug/g
Total Uranium Mda	3.0883E+00	ug/g

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*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                             *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 936285                    SAMPLE ID   : G243385004      *
*   ANALYST       : MJH1                      DETECTOR    : GAM18           *
*   SAMPLE DATE   : 17-DEC-2009 12:00:00.00   COUNT TIME :    0 02:00:00.00 *
*   ANALYSIS DATE: 31-DEC-2009 09:31:17.86    SAMPLE ALQT:  140.260 GRAM    *
*                                                                           *
*****************************************************************************


        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 7.976E+00
        GROSS GAMMA ERROR   (pCi/GRAM  )  : 9.864E-01
        GROSS GAMMA MDA     (pCi/GRAM  )  : 1.872E+00
        GROSS GAMMA DLC     (pCi/GRAM  )  : 9.053E-01
```

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:40:25.27

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385005.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:39:54
Sample ID         : G243385005           Sample quantity  : 1.28850E+02 GRAM
Detector name     : GAM16                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.86  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.47*	42	444	0.72	127.13	123	8	5.83E-03	91.0	
2	4	74.89	338	327	0.83	149.96	146	12	4.70E-02	9.5	9.65E-01
3	4	77.11*	667	274	0.87	154.40	146	12	9.26E-02	5.5	
4	4	87.30	251	411	1.27	174.79	171	21	3.49E-02	15.2	1.98E+00
5	4	89.91	179	300	1.06	180.00	171	21	2.48E-02	17.0	
6	4	92.80*	214	339	1.15	185.79	171	21	2.98E-02	16.9	
7	0	185.75*	198	277	1.03	371.70	367	9	2.75E-02	17.7	
8	0	209.04	116	289	0.96	418.28	414	9	1.61E-02	28.1	
9	7	238.51*	1313	149	0.99	477.21	471	18	1.82E-01	3.2	8.02E-01
10	7	241.54	291	270	1.80	483.27	471	18	4.04E-02	14.5	
11	0	269.84*	71	199	1.03	539.88	536	9	9.79E-03	38.7	
12	0	295.11	391	168	1.16	590.42	586	10	5.43E-02	8.0	
13	0	299.93	88	172	1.08	600.06	596	10	1.23E-02	29.6	
14	0	338.06*	245	207	1.09	676.31	670	12	3.40E-02	13.6	
15	0	351.71*	607	163	1.19	703.60	697	12	8.43E-02	5.9	
16	0	462.73	38	110	0.79	925.63	922	9	5.29E-03	52.3	
17	0	510.85*	115	148	1.77	1021.86	1014	17	1.59E-02	29.0	
18	0	582.98*	400	91	1.33	1166.11	1161	11	5.55E-02	6.9	
19	0	609.00*	472	88	1.24	1218.13	1213	12	6.56E-02	6.2	
20	0	726.84*	138	58	1.65	1453.78	1447	13	1.92E-02	14.5	
21	0	768.31	42	59	1.57	1536.69	1532	8	5.78E-03	35.7	
22	0	795.30	59	77	1.35	1590.67	1585	14	8.23E-03	33.5	
23	0	859.93	46	53	1.06	1719.89	1715	10	6.33E-03	33.3	
24	0	910.83*	224	71	1.67	1821.67	1816	13	3.11E-02	10.4	
25	0	934.41	35	52	1.51	1868.81	1860	13	4.87E-03	45.6	
26	9	964.74	33	41	1.82	1929.46	1926	17	4.61E-03	35.0	2.68E+00
27	9	968.54*	130	42	1.62	1937.05	1926	17	1.80E-02	13.7	
28	0	1119.87*	89	60	1.55	2239.62	2233	14	1.23E-02	21.7	
29	0	1238.07*	36	55	0.75	2475.93	2469	11	4.95E-03	45.0	
30	0	1377.20*	37	29	1.96	2754.07	2746	19	5.08E-03	39.5	
31	0	1460.24*	1015	54	1.91	2920.08	2912	19	1.41E-01	3.6	
32	0	1729.38	20	8	1.35	3458.08	3453	10	2.83E-03	33.5	
33	0	1763.91*	84	12	2.08	3527.10	3522	13	1.17E-02	13.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 11:40:28

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385005.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MJH1
Sample date : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:39:54
Sample ID : G243385005 Sample quantity : 128.85 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA16 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.86 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.293E+01	2.613E+00	4.163E-01	3.659E-02	55.089
CD-109	+	88.03	*	3.211E+00	1.026E+00	1.010E+00	9.735E-02	3.178
SN-126	+	64.28		3.578E-01	6.534E-01	6.303E-01	9.183E-02	0.568
	+	86.94		1.314E+00	6.774E-01	4.181E-01	1.737E-01	3.143
	+	87.57	*	3.161E-01	1.010E-01	9.993E-02	9.581E-03	3.164
TL-208		277.35		2.918E-01	3.611E-01	5.872E-01	8.728E-02	0.497
	+	510.84		5.218E-01	3.102E-01	1.734E-01	2.193E-02	3.009
	+	583.14	*	5.186E-01	8.842E-02	5.077E-02	5.032E-03	10.215
	+	860.37		5.545E-01	3.736E-01	4.339E-01	4.344E-02	1.278
BI-211		72.87		1.253E+00	2.595E+00	4.095E+00	3.329E-01	0.306
	+	351.07	*	3.467E+00	5.589E-01	2.764E-01	3.022E-02	12.544
PB-212	+	74.81		1.800E+00	4.097E-01	4.387E-01	5.480E-02	4.103
	+	77.11		2.013E+00	2.807E-01	2.489E-01	2.114E-02	8.087
	+	87.30		1.462E+00	4.895E-01	4.634E-01	6.410E-02	3.155
	+	238.63	*	1.641E+00	2.208E-01	7.998E-02	9.470E-03	20.520
	+	300.09		1.703E+00	1.033E+00	9.870E-01	1.293E-01	1.725
PO-212	+	74.81		1.800E+00	4.097E-01	4.387E-01	5.480E-02	4.103
	+	77.11		2.013E+00	2.807E-01	2.489E-01	2.114E-02	8.087
	+	87.30		1.462E+00	4.895E-01	4.634E-01	6.410E-02	3.155
		115.19		5.711E-01	2.929E+00	4.959E+00	4.137E-01	0.115
	+	238.63	*	1.641E+00	2.208E-01	7.998E-02	9.470E-03	20.520
	+	300.09		1.703E+00	1.033E+00	9.870E-01	1.293E-01	1.725
BI-214	+	609.31	*	1.154E+00	1.886E-01	9.770E-02	1.033E-02	11.808
	+	1120.29		1.126E+00	5.038E-01	4.646E-01	4.988E-02	2.423
	+	1764.49		1.472E+00	4.269E-01	2.419E-01	2.002E-02	6.084
PB-214	+	74.81		3.101E+00	6.835E-01	7.558E-01	8.403E-02	4.103
	+	77.11		3.450E+00	5.483E-01	4.267E-01	4.868E-02	8.087
	+	87.30		2.505E+00	8.232E-01	7.939E-01	9.747E-02	3.155
	+	241.98		2.182E+00	6.885E-01	4.817E-01	5.968E-02	4.530
	+	295.21		1.322E+00	2.759E-01	1.835E-01	2.449E-02	7.204
	+	351.92	*	1.206E+00	2.044E-01	9.635E-02	1.165E-02	12.517
PO-214	+	74.81		3.101E+00	6.835E-01	7.558E-01	8.403E-02	4.103
	+	77.11		3.450E+00	5.483E-01	4.267E-01	4.868E-02	8.087
	+	87.30		2.505E+00	8.232E-01	7.939E-01	9.747E-02	3.155

Sample ID : G243385005 Acquisition date : 31-DEC-2009 09:39:54

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	241.98		2.182E+00	6.885E-01	4.817E-01	5.968E-02	4.530
	+	295.21		1.322E+00	2.759E-01	1.835E-01	2.449E-02	7.204
	+	351.92	*	1.206E+00	2.044E-01	9.635E-02	1.165E-02	12.517
PO-216	+	74.81		1.800E+00	4.097E-01	4.387E-01	5.480E-02	4.103
	+	77.11		2.013E+00	2.807E-01	2.489E-01	2.114E-02	8.087
	+	87.30		1.462E+00	4.895E-01	4.634E-01	6.410E-02	3.155
	+	238.63	*	1.641E+00	2.208E-01	7.998E-02	9.470E-03	20.520
	+	300.09		1.703E+00	1.033E+00	9.870E-01	1.293E-01	1.725
PO-218	+	74.81		3.101E+00	6.835E-01	7.558E-01	8.403E-02	4.103
	+	77.11		3.450E+00	5.483E-01	4.267E-01	4.868E-02	8.087
	+	87.30		2.505E+00	8.232E-01	7.939E-01	9.747E-02	3.155
	+	241.98		2.182E+00	6.885E-01	4.817E-01	5.968E-02	4.530
	+	295.21		1.322E+00	2.759E-01	1.835E-01	2.449E-02	7.204
	+	351.92	*	1.206E+00	2.044E-01	9.635E-02	1.165E-02	12.517
RA-224	+	240.98	*	4.138E+00	1.285E+00	9.104E-01	1.003E-01	4.546
RA-226	+	609.31	*	1.154E+00	1.886E-01	9.770E-02	1.033E-02	11.808
	+	1120.29		1.126E+00	5.038E-01	4.646E-01	4.988E-02	2.423
	+	1764.49		1.472E+00	4.269E-01	2.419E-01	2.002E-02	6.084
AC-228	+	338.32		1.543E+00	7.689E-01	3.230E-01	1.350E-01	4.776
	+	911.07	*	1.292E+00	3.107E-01	1.804E-01	2.143E-02	7.163
	+	969.11		1.316E+00	4.757E-01	3.054E-01	7.201E-02	4.310
RA-228	+	338.32		1.543E+00	7.689E-01	3.230E-01	1.350E-01	4.776
	+	911.07	*	1.292E+00	3.107E-01	1.804E-01	2.143E-02	7.163
	+	969.11		1.316E+00	4.757E-01	3.054E-01	7.201E-02	4.310
TH-228	+	74.81		1.825E+00	3.794E-01	4.448E-01	3.721E-02	4.103
	+	77.11		2.041E+00	2.846E-01	2.523E-01	2.143E-02	8.087
	+	87.30		1.483E+00	4.737E-01	4.699E-01	4.490E-02	3.155
	+	238.63	*	1.664E+00	2.238E-01	8.110E-02	9.602E-03	20.520
	+	300.09		1.726E+00	1.453E+00	1.001E+00	5.985E-01	1.725
TH-230	+	609.31	*	1.154E+00	1.886E-01	9.769E-02	1.033E-02	11.807
	+	1120.29		1.126E+00	5.038E-01	4.646E-01	4.988E-02	2.423
	+	1764.49		1.472E+00	4.269E-01	2.419E-01	2.002E-02	6.084
TH-232	+	338.32		1.543E+00	4.513E-01	3.230E-01	3.526E-02	4.776
	+	911.07	*	1.292E+00	3.107E-01	1.804E-01	2.143E-02	7.163
	+	969.11		1.316E+00	4.757E-01	3.054E-01	7.201E-02	4.310
TH-234	+	63.29	*	9.039E-01	1.653E+00	1.629E+00	2.841E-01	0.555
	+	92.38		1.749E+00	6.729E-01	6.562E-01	1.206E-01	2.665
U-234	+	609.31	*	1.154E+00	1.886E-01	9.769E-02	1.033E-02	11.807
	+	1120.29		1.126E+00	5.038E-01	4.646E-01	4.988E-02	2.423
	+	1764.49		1.472E+00	4.269E-01	2.419E-01	2.002E-02	6.084
NP-237	+	86.50	*	9.283E-01	3.531E-01	2.967E-01	6.735E-02	3.129
		95.87		1.176E-01	7.931E-01	1.218E+00	3.016E-01	0.097
U-238	+	63.29	*	9.039E-01	1.653E+00	1.629E+00	2.841E-01	0.555
	+	92.38		1.749E+00	6.128E-01	6.562E-01	6.055E-02	2.665
AM-243	+	74.67	*	2.918E-01	6.057E-02	7.133E-02	5.906E-03	4.091
	+	86.72		3.481E+01	1.112E+01	1.110E+01	1.053E+00	3.136
		117.66		-1.697E+00	3.150E+00	5.156E+00	4.290E-01	-0.329
		142.18		-7.889E-01	1.460E+01	2.422E+01	2.065E+00	-0.033
ANH-511	+	511.00	*	1.127E-01	6.634E-02	3.747E-02	3.563E-03	3.009

Sample ID : G243385005 Acquisition date : 31-DEC-2009 09:39:54

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	1.757E-01	2.809E-01	4.857E-01	4.913E-02	0.362
NA-22		1274.54	*	1.390E-02	3.792E-02	6.414E-02	5.337E-03	0.217
NA-24		1368.53	*	-5.400E-02	3.792E-02	Half-Life too short		
AL-26		1129.67		-3.701E-01	1.528E+00	2.439E+00	2.045E-01	-0.152
		1808.65	*	-1.121E-02	2.623E-02	3.902E-02	3.191E-03	-0.287
TI-44		67.85		1.223E-02	3.962E-02	6.227E-02	4.822E-03	0.196
	+	78.38	*	3.714E-01	5.179E-02	6.224E-02	5.360E-03	5.967
SC-46		889.25	*	3.056E-02	3.439E-02	6.195E-02	5.857E-03	0.493
	+	1120.51		1.908E-01	8.445E-02	1.171E-01	9.893E-03	1.629
V-48		944.10		2.207E-01	7.746E-01	1.322E+00	1.235E-01	0.167
		983.50	*	-2.132E-02	5.765E-02	9.170E-02	8.441E-03	-0.233
		1312.09		7.747E-02	6.938E-02	1.267E-01	1.064E-02	0.611
CR-51		320.08	*	-3.028E-01	3.371E-01	4.965E-01	5.805E-02	-0.610
MN-52		744.21		2.114E-02	1.845E-01	2.990E-01	2.745E-02	0.071
		848.13		-1.697E+00	4.559E+00	7.340E+00	6.909E-01	-0.231
	+	935.52		3.415E-01	3.132E-01	3.779E-01	3.540E-02	0.904
		1246.25		1.081E+00	5.662E+00	9.380E+00	7.731E-01	0.115
		1333.61		-8.184E-01	3.672E+00	5.734E+00	4.838E-01	-0.143
		1434.06	*	-1.372E-01	1.849E-01	2.586E-01	2.206E-02	-0.530
MN-54		834.83	*	1.838E-02	3.212E-02	5.648E-02	5.305E-03	0.325
CO-56		846.75	*	-9.385E-03	2.986E-02	4.838E-02	4.553E-03	-0.194
		977.42		3.294E-02	2.334E+00	3.876E+00	3.577E-01	0.008
		1037.82		-1.269E-01	2.877E-01	4.531E-01	4.259E-02	-0.280
		1175.09		-7.052E-01	2.062E+00	3.249E+00	2.614E-01	-0.217
	+	1238.25		1.263E-01	1.142E-01	1.642E-01	1.393E-02	0.769
		1360.21		1.295E-01	7.827E-01	1.296E+00	1.098E-01	0.100
		1771.40		-5.997E-02	1.997E-01	3.088E-01	2.552E-02	-0.194
CO-57		122.06	*	-1.801E-02	2.062E-02	3.309E-02	2.750E-03	-0.544
		136.48		2.671E-02	1.689E-01	2.834E-01	2.576E-02	0.094
CO-58		810.76	*	1.152E-02	3.307E-02	5.736E-02	5.374E-03	0.201
FE-59		142.65		4.312E-01	2.297E+00	3.790E+00	3.235E-01	0.114
		192.34		-6.635E-01	7.762E-01	1.203E+00	1.703E-01	-0.552
		1099.22	*	3.539E-02	8.602E-02	1.467E-01	1.364E-02	0.241
		1291.56		-1.048E-01	1.041E-01	1.444E-01	1.379E-02	-0.725
CO-60		1173.22		2.578E-02	4.197E-02	7.249E-02	5.829E-03	0.356
		1332.49	*	-1.362E-02	3.303E-02	5.000E-02	4.217E-03	-0.273
ZN-65		1115.52	*	5.558E-02	9.163E-02	1.408E-01	1.196E-02	0.395
GE-68		1077.35	*	6.112E-01	1.133E+00	1.963E+00	1.714E-01	0.311
AS-73		53.44	*	1.557E-01	6.823E-01	1.083E+00	8.261E-02	0.144
AS-74		595.88	*	-4.444E-03	7.492E-02	1.215E-01	1.128E-02	-0.037
		634.78		-9.130E-02	2.929E-01	4.608E-01	4.177E-02	-0.198
SE-75		66.05		-2.366E+00	4.440E+00	6.147E+00	5.915E-01	-0.385
		96.73		-3.099E-01	6.474E-01	9.573E-01	1.323E-01	-0.324
		121.11		7.457E-02	1.079E-01	1.859E-01	2.041E-02	0.401
		136.00		1.459E-03	3.228E-02	5.389E-02	4.574E-03	0.027
		198.60		-7.262E-01	1.598E+00	2.505E+00	2.686E-01	-0.290
		264.65	*	1.644E-02	3.893E-02	6.114E-02	7.135E-03	0.269
		279.53		-8.210E-02	9.798E-02	1.474E-01	1.804E-02	-0.557
		303.91		-1.490E+00	2.139E+00	2.815E+00	3.912E-01	-0.530

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		400.65		-5.590E-02	2.075E-01	3.412E-01	3.973E-02	-0.164
BR-77	+	87.88		4.877E+02	1.558E+02	1.994E+02	1.919E+01	2.445
		200.40		2.322E+01	9.944E+01	1.640E+02	1.630E+01	0.142
	+	239.00		1.850E+02	2.346E+01	2.573E+01	2.822E+00	7.187
		249.79		1.542E+01	3.923E+01	6.461E+01	7.270E+00	0.239
		281.68		-4.225E+01	5.401E+01	8.123E+01	9.731E+00	-0.520
		297.23		7.699E+01	4.389E+01	5.865E+01	6.899E+00	1.313
		303.76		-8.590E+01	1.288E+02	1.703E+02	1.984E+01	-0.505
		439.47		-5.818E+00	8.884E+01	1.474E+02	1.391E+01	-0.039
		484.57		8.753E+01	1.444E+02	2.491E+02	2.370E+01	0.351
		520.65	*	4.078E+00	6.260E+00	1.083E+01	1.029E+00	0.377
		574.64		5.551E+01	1.220E+02	2.071E+02	1.941E+01	0.268
		578.91		-1.858E+01	6.174E+01	8.523E+01	7.973E+00	-0.218
		585.48		4.083E+02	1.339E+02	2.367E+02	2.208E+01	1.725
		755.35		2.890E+00	1.126E+02	1.807E+02	1.665E+01	0.016
		817.79		1.450E+01	7.835E+01	1.340E+02	1.255E+01	0.108
SR-82		698.33		-9.667E+00	3.187E+01	4.997E+01	4.509E+00	-0.193
		776.49	*	-1.268E-01	3.251E-01	4.971E-01	4.609E-02	-0.255
		1395.20		-6.102E+00	1.053E+01	1.549E+01	1.318E+00	-0.394
RB-83		520.41	*	3.454E-02	5.808E-02	1.001E-01	9.512E-03	0.345
		529.64		-1.400E-02	8.313E-02	1.346E-01	1.278E-02	-0.104
		552.65		-5.813E-02	1.727E-01	2.749E-01	2.595E-02	-0.211
RB-84		881.50	*	4.577E-03	5.278E-02	8.906E-02	8.414E-03	0.051
KR-85		513.99	*	6.597E+00	6.494E+00	1.036E+01	9.852E-01	0.637
SR-85		513.99	*	3.339E-02	3.287E-02	5.245E-02	4.987E-03	0.637
RB-86		1076.63	*	3.188E-01	6.904E-01	1.187E+00	1.038E-01	0.268
Y-88		898.02		2.946E-03	3.796E-02	6.382E-02	6.061E-03	0.046
		1836.01	*	9.336E-03	2.986E-02	5.217E-02	4.235E-03	0.179
ZR-88		392.90	*	-9.835E-03	2.637E-02	4.318E-02	3.994E-03	-0.228
Y-91		1204.90	*	1.392E+01	1.727E+01	3.020E+01	2.456E+00	0.461
NB-94		702.63	*	-1.452E-03	2.960E-02	4.741E-02	4.286E-03	-0.031
		871.10		2.020E-02	2.776E-02	4.970E-02	4.691E-03	0.406
NB-95		765.79	*	1.912E-02	4.731E-02	6.867E-02	6.347E-03	0.278
NB-95M		235.69	*	8.630E-02	1.115E-01	1.688E-01	2.007E-02	0.511
ZR-95		724.18		1.005E-01	9.601E-02	1.507E-01	1.480E-02	0.667
		756.15	*	2.902E-02	6.796E-02	1.129E-01	1.133E-02	0.257
NB-97		657.90	*	-4.229E-02	6.796E-02	Half-Life too short		
		1024.50		-2.718E-01	6.796E-02	Half-Life too short		
ZR-97		254.15		-1.994E-01	6.796E-02	Half-Life too short		
		355.39		1.513E-01	6.796E-02	Half-Life too short		
		507.63	*	5.280E-01	6.796E-02	Half-Life too short		
		602.52		-9.728E-01	6.796E-02	Half-Life too short		
		1021.30		4.938E-01	6.796E-02	Half-Life too short		
		1147.95		1.631E-01	6.796E-02	Half-Life too short		
		1362.66		-7.893E-01	6.796E-02	Half-Life too short		
		1750.46		5.367E-01	6.796E-02	Half-Life too short		
MO-99		140.51		-7.720E+00	1.632E+01	2.573E+01	7.116E+00	-0.300
		181.06		1.402E-01	1.187E+01	1.743E+01	3.257E+00	0.008
		366.43		4.444E+00	5.156E+01	8.745E+01	8.845E+00	0.051

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		739.58	*	-4.130E+00	7.838E+00	1.185E+01	1.837E+00	-0.349
		778.00		-9.043E-02	2.097E+01	3.346E+01	3.104E+00	-0.003
TC-99M		140.51	*	-5.318E+08	2.097E+01	Half-Life too short		
RH-101		127.23		-2.682E-02	2.821E-02	4.517E-02	3.761E-03	-0.594
		198.01	*	-7.249E-03	2.956E-02	4.692E-02	4.633E-03	-0.154
		325.23		-2.543E-01	2.173E-01	3.137E-01	3.522E-02	-0.811
RH-102		418.52		-1.210E-02	2.552E-01	4.254E-01	3.985E-02	-0.028
		475.06	*	1.234E-02	2.506E-02	4.302E-02	4.089E-03	0.287
		631.29		2.882E-02	4.638E-02	7.950E-02	7.225E-03	0.362
		697.49		2.719E-02	7.264E-02	1.207E-01	1.088E-02	0.225
	+	766.84		1.697E-01	1.223E-01	1.992E-01	1.842E-02	0.852
		1046.59		-6.004E-02	1.025E-01	1.582E-01	1.409E-02	-0.380
		1112.84		4.208E-02	2.395E-01	3.485E-01	2.963E-02	0.121
RU-103		497.08	*	6.882E-04	3.406E-02	5.636E-02	8.299E-03	0.012
	+	610.33		1.219E+01	2.571E+00	2.692E+00	4.576E-01	4.528
RH-106	+	511.85		5.617E-01	3.306E-01	3.881E-01	3.691E-02	1.447
		621.84	*	-1.889E-03	2.732E-01	4.437E-01	6.080E-02	-0.004
		1050.47		1.827E-01	2.067E+00	3.439E+00	3.057E-01	0.053
RU-106	+	511.85		5.617E-01	3.306E-01	3.881E-01	3.691E-02	1.447
		621.84	*	-1.889E-03	2.732E-01	4.437E-01	4.058E-02	-0.004
		1050.47		1.827E-01	2.067E+00	3.439E+00	3.057E-01	0.053
AG-108M		433.93	*	-4.274E-02	2.902E-02	4.223E-02	4.111E-03	-1.012
		614.37		8.350E-03	3.634E-02	5.320E-02	5.057E-03	0.157
		722.95		-5.540E-03	4.132E-02	5.618E-02	5.299E-03	-0.099
AG-110M		657.75	*	-4.112E-02	3.359E-02	4.804E-02	4.397E-03	-0.856
		677.61		5.964E-03	2.966E-01	4.797E-01	4.401E-02	0.012
		706.67		-5.110E-02	1.852E-01	2.899E-01	2.691E-02	-0.176
		763.93		2.690E-02	1.728E-01	2.456E-01	2.325E-02	0.110
		884.67		-5.386E-02	4.037E-02	5.678E-02	5.509E-03	-0.949
		937.48		-3.203E-02	1.096E-01	1.514E-01	1.461E-02	-0.211
		1384.27		3.593E-02	1.653E-01	2.398E-01	2.096E-02	0.150
IN-111		171.28		-4.714E-02	6.293E-01	1.032E+00	9.488E-02	-0.046
		245.39	*	6.539E-01	7.259E-01	1.112E+00	1.238E-01	0.588
IN-113M		391.69	*	-5.885E-04	3.863E-02	6.481E-02	6.152E-03	-0.009
SN-113		391.69	*	-5.885E-04	3.863E-02	6.481E-02	6.152E-03	-0.009
IN-114M		190.27	*	-1.746E-02	1.554E-01	2.407E-01	2.327E-02	-0.073
CD-115		260.90		-5.645E+01	7.824E+01	1.193E+02	1.377E+01	-0.473
		492.35		-1.452E+00	2.102E+01	3.457E+01	3.289E+00	-0.042
		527.90	*	2.970E+00	5.844E+00	1.004E+01	9.527E-01	0.296
SN-117M		156.02		-1.541E-01	1.870E+00	3.083E+00	2.719E-01	-0.050
		158.56	*	2.203E-02	4.472E-02	7.547E-02	6.703E-03	0.292
SB-122		563.90	*	7.437E-01	1.381E+00	2.311E+00	2.174E-01	0.322
		692.80		1.554E+01	3.082E+01	5.172E+01	4.656E+00	0.300
I-123		159.00	*	2.097E-01	3.082E+01	Half-Life too short		
		528.96		3.263E+01	3.082E+01	Half-Life too short		
TE-123M		159.00	*	4.792E-03	2.486E-02	4.142E-02	3.704E-03	0.116
I-124		602.71	*	-1.768E-01	4.892E-01	7.069E-01	6.538E-02	-0.250
		722.78		2.341E-02	3.465E+00	4.805E+00	4.378E-01	0.005
		1325.50		1.742E+01	2.574E+01	4.513E+01	3.801E+00	0.386

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	1376.25		5.239E+01	4.164E+01	4.734E+01	4.018E+00	1.107
		1509.49		5.981E+00	1.080E+01	1.946E+01	1.665E+00	0.307
		1691.02		-2.046E+00	2.582E+00	3.514E+00	2.955E-01	-0.582
SB-124		602.71		-1.239E-02	3.429E-02	4.955E-02	4.584E-03	-0.250
		645.85		-1.440E-01	4.152E-01	6.492E-01	6.159E-02	-0.222
		709.31		1.208E+00	2.422E+00	4.073E+00	3.692E-01	0.296
		713.82		-6.761E-01	1.422E+00	2.173E+00	2.688E-01	-0.311
		722.78		2.379E-03	3.521E-01	4.882E-01	4.535E-02	0.005
	+	968.20		1.336E+01	3.864E+00	6.513E+00	6.033E-01	2.051
		1045.16		-1.493E-01	2.127E+00	3.481E+00	3.104E-01	-0.043
		1325.50		1.891E+00	2.793E+00	4.898E+00	4.125E-01	0.386
		1368.21		-4.171E-01	1.564E+00	2.249E+00	3.011E-01	-0.185
		1436.60		-1.247E+00	2.917E+00	4.560E+00	3.892E-01	-0.274
		1691.02	*	-4.904E-02	6.191E-02	8.423E-02	7.377E-03	-0.582
SB-125		427.89	*	-1.485E-02	7.690E-02	1.266E-01	1.209E-02	-0.117
	+	463.38		3.378E-01	3.549E-01	4.773E-01	4.824E-02	0.708
		600.56		-5.324E-02	1.440E-01	2.265E-01	2.232E-02	-0.235
		635.90		-1.844E-01	2.306E-01	3.431E-01	3.336E-02	-0.537
TE-125M		109.28	*	-2.074E+00	7.419E+00	1.234E+01	1.256E+00	-0.168
I-126		388.63		-3.250E-02	1.640E-01	2.719E-01	2.544E-02	-0.120
		666.33	*	-1.484E-01	1.660E-01	2.468E-01	2.195E-02	-0.601
		753.82		-3.048E-01	1.303E+00	2.037E+00	1.876E-01	-0.150
SB-126		223.80		1.324E+00	3.275E+00	5.417E+00	5.721E-01	0.245
		278.60		1.713E+00	2.159E+00	3.516E+00	4.218E-01	0.487
	+	296.50		1.229E+01	2.449E+00	2.915E+00	3.433E-01	4.217
		414.70		2.856E-02	6.145E-02	1.058E-01	9.898E-03	0.270
		415.30		2.756E-01	5.273E+00	8.852E+00	8.280E-01	0.031
		555.20		1.580E+00	3.138E+00	5.359E+00	5.055E-01	0.295
		573.80		-2.643E-01	8.463E-01	1.346E+00	1.262E-01	-0.196
		593.00		2.818E-01	7.175E-01	1.211E+00	1.126E-01	0.233
		656.30		3.989E-02	2.731E+00	4.425E+00	3.945E-01	0.009
		666.33		-6.183E-02	6.917E-02	1.028E-01	9.148E-03	-0.601
		675.00		2.628E+00	1.711E+00	3.103E+00	2.771E-01	0.847
		695.00		1.997E-02	7.296E-02	1.201E-01	1.082E-02	0.166
		697.00		1.271E-01	2.428E-01	4.076E-01	3.676E-02	0.312
		720.50	*	3.960E-03	1.347E-01	1.874E-01	1.706E-02	0.021
		856.80		2.814E-02	4.157E-01	6.118E-01	5.765E-02	0.046
		989.30		-1.935E-01	1.035E+00	1.681E+00	1.544E-01	-0.115
		1034.80		-6.483E+00	7.772E+00	1.168E+01	1.048E+00	-0.555
		1213.00		7.802E-01	4.058E+00	6.728E+00	5.487E-01	0.116
SB-127		61.10		9.218E+00	4.088E+01	5.938E+01	5.784E+00	0.155
		252.40		1.105E+00	3.084E+00	5.009E+00	2.133E+00	0.221
		290.80		5.871E+00	1.693E+01	2.467E+01	3.338E+00	0.238
		411.60		-8.700E+00	8.823E+00	1.363E+01	2.165E+00	-0.638
		444.90		2.851E+00	6.674E+00	1.144E+01	1.467E+00	0.249
		473.00		-1.107E+00	1.176E+00	1.790E+00	2.360E-01	-0.618
		543.00		8.944E-01	1.175E+01	1.940E+01	2.843E+00	0.046
		603.60		4.643E+00	8.252E+00	1.257E+01	1.589E+00	0.369
		685.20	*	-2.713E-01	9.397E-01	1.471E+00	1.664E-01	-0.184

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		698.50		-2.287E+00	1.166E+01	1.844E+01	2.914E+00	-0.124
		722.20		2.030E+00	2.320E+01	3.252E+01	3.644E+00	0.062
		783.80		3.760E-01	2.570E+00	4.160E+00	5.236E-01	0.090
XE-127		57.60		-6.058E+00	5.115E+00	7.449E+00	5.385E-01	-0.813
		145.22		2.239E-01	5.670E-01	9.571E-01	8.216E-02	0.234
		172.10		2.214E-02	9.911E-02	1.648E-01	1.518E-02	0.134
		202.84	*	-2.868E-02	4.083E-02	6.407E-02	6.408E-03	-0.448
		374.96		-1.499E-01	1.616E-01	2.540E-01	2.498E-02	-0.590
I-131		80.18		3.132E+00	3.288E+00	5.282E+00	4.664E-01	0.593
		284.30		7.158E-01	1.096E+00	1.823E+00	2.237E-01	0.393
		364.48	*	2.839E-02	8.810E-02	1.516E-01	1.602E-02	0.187
		636.97		-3.925E-01	1.171E+00	1.836E+00	1.745E-01	-0.214
		722.89		-6.436E-02	6.146E+00	8.500E+00	7.783E-01	-0.008
TE-132		49.72		1.262E+01	1.282E+01	2.113E+01	2.136E+00	0.597
		111.76		6.515E+00	1.850E+01	3.156E+01	3.268E+00	0.206
		116.30		1.675E+01	1.716E+01	2.987E+01	3.079E+00	0.561
		228.16	*	-4.435E-01	4.802E-01	7.285E-01	1.219E-01	-0.609
BA-133		53.15		-8.146E-01	3.060E+00	4.726E+00	3.621E-01	-0.172
		79.62		-5.120E-01	1.061E+00	1.589E+00	2.430E-01	-0.322
		81.00		-5.583E-02	7.811E-02	1.229E-01	1.968E-02	-0.454
		276.40		2.461E-01	3.619E-01	5.850E-01	9.735E-02	0.421
		302.84		-4.616E-02	1.405E-01	1.921E-01	2.966E-02	-0.240
		356.01	*	2.166E-02	3.898E-02	6.086E-02	8.794E-03	0.356
		383.85		-4.226E-02	2.488E-01	4.135E-01	5.476E-02	-0.102
I-133	+	510.53		4.342E-01	2.488E-01	Half-Life too short		
		529.87	*	-1.174E-03	2.488E-01	Half-Life too short		
		706.58		-3.729E-02	2.488E-01	Half-Life too short		
		856.28		-4.443E-02	2.488E-01	Half-Life too short		
		875.33		-3.592E-02	2.488E-01	Half-Life too short		
		1236.41		1.730E-01	2.488E-01	Half-Life too short		
		1298.22		2.782E-02	2.488E-01	Half-Life too short		
CS-134		475.35		6.955E-01	1.676E+00	2.861E+00	2.719E-01	0.243
		563.23		1.912E-01	3.252E-01	5.462E-01	5.181E-02	0.350
		569.32		9.190E-02	1.695E-01	2.894E-01	2.748E-02	0.318
		604.70		1.753E-02	2.966E-02	4.536E-02	4.200E-03	0.386
	+	795.84	*	1.106E-01	7.477E-02	8.533E-02	8.000E-03	1.296
		801.93		-1.910E-01	4.080E-01	5.626E-01	5.275E-02	-0.339
		1038.57		3.225E-01	3.594E+00	5.983E+00	5.357E-01	0.054
		1167.94		-1.835E+00	2.248E+00	3.343E+00	2.702E-01	-0.549
		1365.15		2.690E-01	9.835E-01	1.655E+00	1.469E-01	0.162
CS-135		268.24	*	8.795E-02	1.597E-01	2.368E-01	3.020E-02	0.371
I-135		288.45		-5.420E+08	1.597E-01	Half-Life too short		
		417.63		3.741E+08	1.597E-01	Half-Life too short		
		546.56		-2.070E+08	1.597E-01	Half-Life too short		
		836.80		-8.772E+07	1.597E-01	Half-Life too short		
		1038.76		2.701E+08	1.597E-01	Half-Life too short		
		1124.00		4.369E+08	1.597E-01	Half-Life too short		
		1131.51		-6.270E+07	1.597E-01	Half-Life too short		
		1260.41	*	-2.902E+07	1.597E-01	Half-Life too short		

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		1457.56		2.805E+10	1.597E-01	Half-Life too short		
		1678.03		-1.521E+07	1.597E-01	Half-Life too short		
		1706.46		-8.785E+08	1.597E-01	Half-Life too short		
		1791.20		-6.095E+08	1.597E-01	Half-Life too short		
CS-136		66.91		-5.550E-01	6.957E-01	9.418E-01	1.406E-01	-0.589
	+	86.29		3.870E+00	1.290E+00	1.553E+00	2.083E-01	2.492
		153.22		-1.508E-01	5.334E-01	8.720E-01	8.506E-02	-0.173
		163.89		2.358E-01	8.448E-01	1.411E+00	1.413E-01	0.167
		176.55		-2.306E-02	2.990E-01	4.895E-01	4.789E-02	-0.047
		273.65		-2.504E-01	4.437E-01	6.022E-01	7.399E-02	-0.416
		340.57		1.581E-01	1.032E-01	1.715E-01	1.896E-02	0.922
		818.51		2.230E-02	5.964E-02	1.036E-01	9.711E-03	0.215
		1048.07	*	2.454E-02	8.782E-02	1.490E-01	1.379E-02	0.165
		1235.34		1.074E-02	6.432E-01	9.050E-01	1.046E-01	0.012
BA-137M		661.65	*	3.730E-02	3.562E-02	6.205E-02	5.507E-03	0.601
CS-137		661.65	*	3.943E-02	3.765E-02	6.559E-02	5.832E-03	0.601
CE-139		165.85	*	-1.420E-02	2.515E-02	4.031E-02	3.656E-03	-0.352
BA-140		162.64		2.364E-01	6.021E-01	1.011E+00	9.570E-02	0.234
		304.84		-3.704E-01	1.207E+00	1.649E+00	4.799E-01	-0.225
		423.70		1.985E-01	1.502E+00	2.531E+00	8.258E-01	0.078
		537.32	*	-1.483E-01	2.088E-01	3.115E-01	1.040E-01	-0.476
LA-140		328.77		1.575E-01	2.607E-01	4.267E-01	4.918E-02	0.369
		432.53		-1.184E+00	1.631E+00	2.543E+00	2.492E-01	-0.466
		487.03		1.871E-02	1.154E-01	1.933E-01	1.933E-02	0.097
		751.79		-3.233E-01	1.481E+00	2.319E+00	2.335E-01	-0.139
		815.85		-8.652E-02	2.552E-01	4.150E-01	4.267E-02	-0.208
		867.82		-8.554E-01	1.062E+00	1.621E+00	1.597E-01	-0.528
		919.63		1.999E+00	1.956E+00	3.603E+00	4.070E-01	0.555
		925.24		-7.422E-01	8.728E-01	1.261E+00	1.248E-01	-0.589
		1596.49	*	-3.781E-02	7.764E-02	1.199E-01	1.021E-02	-0.315
CE-141		145.44	*	7.886E-03	5.072E-02	8.479E-02	7.417E-03	0.093
CE-143		57.37		-1.356E-04	5.072E-02	Half-Life too short		
		231.56		3.550E-04	5.072E-02	Half-Life too short		
		293.26	*	2.127E-04	5.072E-02	Half-Life too short		
	+	350.59		1.490E-02	5.072E-02	Half-Life too short		
		490.36		-7.001E-04	5.072E-02	Half-Life too short		
		664.57		-5.885E-04	5.072E-02	Half-Life too short		
		721.93		3.736E-05	5.072E-02	Half-Life too short		
CE-144		80.11		1.498E+00	1.671E+00	2.679E+00	2.352E-01	0.559
		133.54	*	5.988E-02	1.674E-01	2.831E-01	4.371E-02	0.212
PM-144		476.78		2.223E-02	5.941E-02	1.011E-01	1.035E-02	0.220
		618.01		8.189E-04	2.730E-02	4.451E-02	4.180E-03	0.018
		696.49	*	2.407E-02	3.363E-02	5.722E-02	5.161E-03	0.421
		778.57		3.624E-01	1.950E+00	3.174E+00	2.946E-01	0.114
PR-144		696.49	*	1.630E+00	2.277E+00	3.875E+00	3.494E-01	0.421
		1489.15		-2.837E+00	9.889E+00	1.578E+01	1.349E+00	-0.180
PM-146		453.90	*	2.281E-02	3.785E-02	6.549E-02	7.479E-03	0.348
		633.02		6.613E-01	1.207E+00	2.016E+00	7.556E-01	0.328
		735.90		8.425E-02	1.363E-01	2.282E-01	6.564E-02	0.369

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		747.13		-6.332E-02	8.420E-02	1.236E-01	1.779E-02	-0.512
ND-147	+	91.11		6.978E-01	2.480E-01	3.698E-01	3.697E-02	1.887
		319.41		-9.312E-01	2.803E+00	4.329E+00	4.916E-01	-0.215
		439.89		-1.777E+00	4.718E+00	7.646E+00	7.217E-01	-0.232
		531.02	*	-3.969E-01	4.464E-01	6.699E-01	1.036E-01	-0.593
PM-149		285.90	*	-2.419E+01	5.328E+01	8.203E+01	1.443E+01	-0.295
EU-152		121.78		-4.241E-02	5.949E-02	9.619E-02	9.286E-03	-0.441
		244.69		3.290E-01	3.030E-01	4.689E-01	5.213E-02	0.702
		344.27	*	-3.876E-02	8.170E-02	1.293E-01	1.445E-02	-0.300
		443.98		2.322E-01	7.931E-01	1.349E+00	1.275E-01	0.172
		778.89		4.893E-02	2.263E-01	3.695E-01	3.428E-02	0.132
		867.32		-9.803E-01	7.042E-01	9.948E-01	9.386E-02	-0.985
	+	964.01		3.880E-01	2.743E-01	5.251E-01	4.871E-02	0.739
		1085.78		-2.197E-03	3.628E-01	5.961E-01	5.175E-02	-0.004
		1112.02		-1.151E-01	3.191E-01	4.727E-01	4.021E-02	-0.244
		1407.95		1.752E-01	1.606E-01	2.974E-01	2.533E-02	0.589
GD-153		69.67		-8.669E-02	1.284E+00	2.199E+00	1.733E-01	-0.039
		83.37		7.297E-01	1.302E+01	1.989E+01	1.813E+00	0.037
		97.43	*	-6.954E-02	6.940E-02	9.931E-02	8.822E-03	-0.700
		103.18		-1.156E-02	8.549E-02	1.435E-01	1.237E-02	-0.081
EU-154		123.07		-4.770E-02	4.295E-02	6.777E-02	7.540E-03	-0.704
		247.94		-4.264E-01	3.167E-01	4.578E-01	6.192E-02	-0.931
		591.81		1.797E-01	5.054E-01	8.506E-01	1.036E-01	0.211
		723.30		3.578E-02	1.732E-01	2.493E-01	2.487E-02	0.144
		756.87		8.544E-01	7.326E-01	1.285E+00	1.595E-01	0.665
		873.19		2.906E-02	2.472E-01	4.184E-01	5.370E-02	0.069
		996.32		-1.011E-02	3.512E-01	5.798E-01	1.045E-01	-0.017
		1004.76		-2.023E-01	2.011E-01	2.966E-01	3.562E-02	-0.682
		1274.45	*	1.619E-02	1.094E-01	1.804E-01	1.998E-02	0.090
EU-155		48.70		-8.019E-01	2.229E+00	3.439E+00	2.825E-01	-0.233
		60.01		2.285E+00	4.408E+00	6.524E+00	4.660E-01	0.350
	+	86.54		3.806E-01	1.217E-01	1.562E-01	1.492E-02	2.436
		105.31	*	8.572E-02	8.980E-02	1.567E-01	1.356E-02	0.547
TB-160	+	86.79		1.005E+00	3.212E-01	4.180E-01	3.970E-02	2.405
		197.04		2.486E-02	4.819E-01	7.758E-01	7.640E-02	0.032
		215.65		1.034E-01	6.736E-01	1.102E+00	1.140E-01	0.094
	+	298.57		2.449E-01	1.479E-01	1.699E-01	1.995E-02	1.441
		879.36	*	1.567E-01	1.116E-01	2.106E-01	1.989E-02	0.744
		962.29		1.603E-01	5.623E-01	8.379E-01	7.778E-02	0.191
	+	966.15		2.634E-01	1.862E-01	4.665E-01	4.325E-02	0.564
		1177.93		-4.100E-02	3.116E-01	5.016E-01	4.040E-02	-0.082
		1271.85		-9.001E-02	5.920E-01	9.417E-01	7.821E-02	-0.096
HO-166M		80.57		4.366E-02	2.232E-01	3.465E-01	3.057E-02	0.126
	+	184.41		1.306E-01	4.788E-02	5.847E-02	5.566E-03	2.233
		280.46		-5.638E-02	7.538E-02	1.140E-01	1.368E-02	-0.494
		410.95		5.339E-02	2.055E-01	3.499E-01	3.267E-02	0.153
		711.68	*	1.439E-02	5.414E-02	8.922E-02	8.094E-03	0.161
		752.31		-5.056E-02	2.489E-01	3.901E-01	3.591E-02	-0.130
		810.29		2.869E-03	5.193E-02	8.781E-02	8.209E-03	0.033

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		51.35		-1.112E+01	2.621E+01	4.015E+01	3.164E+00	-0.277
		52.39		-8.820E+00	1.340E+01	2.021E+01	1.567E+00	-0.436
		59.40		9.311E+00	2.369E+01	3.483E+01	2.473E+00	0.267
		66.72	*	-2.142E+01	2.681E+01	3.649E+01	2.796E+00	-0.587
LU-176	+	88.36		7.498E-01	2.396E-01	2.984E-01	2.865E-02	2.513
		201.83		-3.205E-03	2.518E-02	4.079E-02	4.068E-03	-0.079
		306.84	*	7.556E-03	2.234E-02	3.625E-02	4.204E-03	0.208
		401.10		1.081E+00	5.379E+00	9.144E+00	8.495E-01	0.118
LU-177		112.95		-9.479E-01	1.154E+00	1.866E+00	1.563E-01	-0.508
	+	208.36	*	2.263E+00	1.291E+00	1.601E+00	1.624E-01	1.414
LU-177M		52.97		-3.780E-01	1.379E+00	2.129E+00	1.636E-01	-0.178
		54.07		1.320E-01	7.070E-01	1.119E+00	8.459E-02	0.118
		61.30		3.151E-01	1.307E+00	1.899E+00	1.378E-01	0.166
		121.62		-1.527E-01	3.023E-01	4.945E-01	4.104E-02	-0.309
		147.16		-5.942E-02	5.223E-01	8.621E-01	7.435E-02	-0.069
		171.86		5.314E-02	4.047E-01	6.701E-01	6.170E-02	0.079
		218.09		2.449E-02	7.375E-01	1.199E+00	1.248E-01	0.020
	+	268.79		1.340E+00	1.048E+00	1.315E+00	1.544E-01	1.019
		319.02		-2.838E-02	2.354E-01	3.695E-01	4.198E-02	-0.077
		367.43		1.735E-01	7.450E-01	1.275E+00	1.285E-01	0.136
		413.65	*	4.369E-02	1.518E-01	2.587E-01	2.418E-02	0.169
HF-181		56.28		2.449E-01	7.763E-01	1.235E+00	9.062E-02	0.198
		57.53		-5.090E-01	4.321E-01	6.296E-01	4.554E-02	-0.809
		65.20		-5.062E-01	8.664E-01	1.197E+00	9.041E-02	-0.423
		133.02		1.628E-02	5.290E-02	8.940E-02	7.497E-03	0.182
		136.25		1.016E-01	3.661E-01	6.173E-01	5.204E-02	0.165
		345.85		-9.502E-02	1.778E-01	2.530E-01	2.711E-02	-0.376
		482.03	*	-8.896E-03	3.860E-02	6.283E-02	5.976E-03	-0.142
W-181		56.28		9.755E-02	3.078E-01	4.896E-01	3.594E-02	0.199
		57.53		-2.020E-01	1.715E-01	2.498E-01	1.807E-02	-0.808
		65.20	*	-1.993E-01	3.411E-01	4.713E-01	3.559E-02	-0.423
TA-182		67.75		2.536E-02	9.376E-02	1.471E-01	1.138E-02	0.172
		100.10		7.079E-02	1.388E-01	2.394E-01	2.094E-02	0.296
		152.43		-5.531E-02	2.820E-01	4.629E-01	4.045E-02	-0.119
		222.10		-1.029E-01	2.956E-01	4.697E-01	4.940E-02	-0.219
		1001.68		2.324E+00	1.879E+00	3.433E+00	3.134E-01	0.677
	+	1121.28		5.285E-01	2.339E-01	3.198E-01	2.700E-02	1.652
		1189.05		2.712E-01	2.563E-01	4.624E-01	3.739E-02	0.586
		1221.42	*	-1.102E-01	1.815E-01	2.773E-01	2.268E-02	-0.398
		1230.97		2.419E-01	5.290E-01	7.856E-01	6.444E-02	0.308
RE-183		57.98		-1.501E-01	1.660E-01	2.459E-01	1.771E-02	-0.610
		59.32		2.859E-02	9.670E-02	1.413E-01	1.004E-02	0.202
		67.20		-1.054E-01	1.869E-01	2.583E-01	1.988E-02	-0.408
		162.32	*	4.771E-03	9.327E-02	1.543E-01	1.385E-02	0.031
	+	208.81		2.279E+00	1.300E+00	1.622E+00	1.648E-01	1.405
		291.72		5.494E-01	8.838E-01	1.316E+00	1.559E-01	0.417
RE-184		57.98		-5.571E-01	6.160E-01	9.126E-01	6.571E-02	-0.610
		59.32		1.060E-01	3.586E-01	5.240E-01	3.724E-02	0.202
		67.20		-3.911E-01	6.934E-01	9.583E-01	7.376E-02	-0.408

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		161.27		-2.196E-03	3.029E-01	5.000E-01	4.475E-02	-0.004
		216.55		7.752E-02	2.345E-01	3.869E-01	4.011E-02	0.200
		252.85	*	6.612E-02	2.040E-01	3.341E-01	3.787E-02	0.198
		318.01		1.699E-01	4.128E-01	6.712E-01	7.640E-02	0.253
		792.07		9.756E-01	8.959E-01	1.489E+00	1.386E-01	0.655
		903.28		4.052E-01	9.303E-01	1.575E+00	1.488E-01	0.257
		920.93		2.069E-01	3.470E-01	6.148E-01	5.783E-02	0.337
OS-185		59.72		1.621E-01	2.566E-01	3.826E-01	2.722E-02	0.424
		61.14		3.278E-02	1.434E-01	2.083E-01	1.508E-02	0.157
		69.30		1.260E-02	2.284E-01	3.928E-01	3.084E-02	0.032
		592.07		8.238E-01	2.053E+00	3.470E+00	3.227E-01	0.237
		646.12	*	-1.903E-02	3.623E-02	5.560E-02	4.997E-03	-0.342
		717.42		1.389E-01	7.521E-01	1.231E+00	1.119E-01	0.113
		874.81		-3.942E-01	4.999E-01	7.668E-01	7.240E-02	-0.514
		880.27		4.062E-01	6.159E-01	1.097E+00	1.036E-01	0.370
RE-188		155.03	*	6.403E-02	1.478E-01	2.490E-01	2.191E-02	0.257
		477.96		8.882E-01	2.756E+00	4.670E+00	4.441E-01	0.190
		633.10		1.553E+00	2.322E+00	3.997E+00	3.628E-01	0.389
W-188	+	63.58		3.589E+01	6.539E+01	7.602E+01	5.650E+00	0.472
		227.08		-4.317E-01	1.097E+01	1.773E+01	1.888E+00	-0.024
		290.67	*	2.258E+00	7.191E+00	1.045E+01	1.240E+00	0.216
IR-192	+	295.96		9.964E-01	1.987E-01	2.615E-01	3.093E-02	3.810
		308.46		5.222E-03	8.734E-02	1.391E-01	1.614E-02	0.038
		316.51	*	2.996E-02	3.112E-02	5.222E-02	5.968E-03	0.574
		468.07		1.729E-02	5.906E-02	8.892E-02	8.948E-03	0.194
		604.41		2.019E-01	3.947E-01	5.979E-01	8.034E-02	0.338
		612.46		4.275E-01	6.720E-01	1.025E+00	1.067E-01	0.417
AU-195		65.12		-8.903E-02	1.585E-01	2.194E-01	1.656E-02	-0.406
		66.83		-7.087E-02	8.828E-02	1.201E-01	9.213E-03	-0.590
	+	75.70		9.400E-01	1.951E-01	3.720E-01	3.113E-02	2.527
		98.88	*	1.881E-01	1.781E-01	3.127E-01	2.754E-02	0.601
		129.76		1.259E+00	2.434E+00	4.146E+00	3.462E-01	0.304
TL-200		367.94	*	-2.721E-05	2.434E+00	Half-Life too short		
		579.30		-4.280E-04	2.434E+00	Half-Life too short		
		828.27		9.592E-04	2.434E+00	Half-Life too short		
		1205.75		7.837E-04	2.434E+00	Half-Life too short		
TL-201		68.90		1.008E+00	2.769E+00	4.812E+00	3.764E-01	0.209
		70.82		-3.849E-01	1.759E+00	2.694E+00	2.146E-01	-0.143
		80.30		3.176E+00	3.031E+00	4.885E+00	4.298E-01	0.650
		135.34		4.815E+00	1.576E+01	2.662E+01	2.240E+00	0.181
		167.43	*	2.820E+00	4.463E+00	7.560E+00	6.883E-01	0.373
TL-202		68.90		1.115E-01	3.065E-01	5.327E-01	4.166E-02	0.209
		70.82		-4.249E-02	1.941E-01	2.974E-01	2.369E-02	-0.143
		80.30		3.507E-01	3.347E-01	5.395E-01	4.746E-02	0.650
		439.56	*	-1.278E-02	5.741E-02	9.416E-02	8.886E-03	-0.136
HG-203		70.83		-1.911E-01	8.854E-01	1.356E+00	1.790E-01	-0.141
		72.87		2.448E-01	5.074E-01	8.000E-01	1.031E-01	0.306
		82.60		-1.279E-01	8.835E-01	1.412E+00	1.978E-01	-0.091
		279.20	*	-6.368E-03	3.580E-02	5.655E-02	6.892E-03	-0.113

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-207		72.80		7.128E-02	1.515E-01	2.389E-01	1.941E-02	0.298
	+	74.97		5.237E-01	1.087E-01	1.863E-01	1.547E-02	2.811
		84.90		1.217E-01	1.593E-01	2.506E-01	2.326E-02	0.486
		569.67		1.120E-02	2.637E-02	4.464E-02	4.191E-03	0.251
		1063.62	*	3.743E-02	4.971E-02	8.752E-02	7.715E-03	0.428
		1770.23		6.199E-02	4.348E-01	6.431E-01	5.315E-02	0.096
TL-207		81.07		-1.166E-01	1.718E-01	2.721E-01	2.415E-02	-0.428
		83.78		3.177E-02	1.093E-01	1.687E-01	1.545E-02	0.188
		94.90		2.528E-01	1.872E-01	3.040E-01	2.749E-02	0.832
		122.32		-1.594E+00	1.444E+00	2.285E+00	2.047E-01	-0.698
		144.24		2.881E-01	5.865E-01	9.788E-01	9.390E-02	0.294
		154.21		2.215E-01	3.396E-01	5.771E-01	5.553E-02	0.384
	+	269.46		3.155E-01	2.468E-01	3.147E-01	3.744E-02	1.002
		323.87	*	2.680E-01	5.949E-01	9.666E-01	1.849E-01	0.277
	+	338.28		6.442E+00	1.968E+00	2.377E+00	3.331E-01	2.711
		445.03		7.283E-01	1.926E+00	3.292E+00	4.179E-01	0.221
PO-209		260.50		-2.692E+00	8.259E+00	1.297E+01	1.496E+00	-0.208
		262.80		-9.357E+00	2.294E+01	3.579E+01	4.148E+00	-0.261
		896.60	*	-1.652E+00	6.665E+00	1.086E+01	1.027E+00	-0.152
BI-210		46.50	*	-1.306E+00	3.229E+00	4.949E+00	4.616E-01	-0.264
PB-210		46.50	*	-1.306E+00	3.229E+00	4.949E+00	4.616E-01	-0.264
PO-210		46.50	*	-1.306E+00	3.229E+00	4.949E+00	4.181E-01	-0.264
PB-211		404.84	*	-3.843E-01	8.233E-01	1.275E+00	8.005E-01	-0.301
		427.08		-1.183E+00	1.916E+00	2.811E+00	1.750E+00	-0.421
		831.96		-4.414E-01	1.097E+00	1.716E+00	1.077E+00	-0.257
BI-212	+	727.18	*	1.537E+00	4.746E-01	6.872E-01	7.179E-02	2.237
		785.46		8.688E-01	1.533E+00	2.687E+00	2.497E-01	0.323
		1620.62		1.764E-01	1.190E+00	2.021E+00	1.717E-01	0.087
PO-215		81.07		-1.166E-01	1.718E-01	2.721E-01	2.415E-02	-0.428
		83.78		3.177E-02	1.093E-01	1.687E-01	1.545E-02	0.188
		94.90		2.528E-01	1.872E-01	3.040E-01	2.749E-02	0.832
		122.32		-1.594E+00	1.444E+00	2.285E+00	2.047E-01	-0.698
		144.24		2.881E-01	5.865E-01	9.788E-01	9.390E-02	0.294
		154.21		2.215E-01	3.396E-01	5.771E-01	5.553E-02	0.384
	+	269.46		3.155E-01	2.468E-01	3.147E-01	3.744E-02	1.002
		323.87	*	2.680E-01	5.949E-01	9.666E-01	1.849E-01	0.277
	+	338.28		6.442E+00	1.968E+00	2.377E+00	3.331E-01	2.711
		445.03		7.283E-01	1.926E+00	3.292E+00	4.179E-01	0.221
RN-219	+	271.23		4.047E-01	3.173E-01	3.932E-01	5.149E-02	1.029
		401.81	*	7.603E-02	3.273E-01	5.574E-01	8.597E-02	0.136
RN-220		549.76	*	2.187E+00	2.226E+01	3.682E+01	3.479E+00	0.059
RA-223		81.07		-1.166E-01	1.718E-01	2.721E-01	2.415E-02	-0.428
		83.78		3.177E-02	1.093E-01	1.687E-01	1.545E-02	0.188
		94.90		2.528E-01	1.872E-01	3.040E-01	2.749E-02	0.832
		122.32		-1.594E+00	1.444E+00	2.285E+00	2.047E-01	-0.698
		144.24		2.881E-01	5.865E-01	9.788E-01	9.390E-02	0.294
		154.21		2.215E-01	3.396E-01	5.771E-01	5.553E-02	0.384
	+	269.46		3.155E-01	2.468E-01	3.147E-01	3.744E-02	1.002
		323.87	*	2.680E-01	5.949E-01	9.666E-01	1.849E-01	0.277

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	338.28		6.442E+00	1.968E+00	2.377E+00	3.331E-01	2.711
		445.03		7.283E-01	1.926E+00	3.292E+00	4.179E-01	0.221
AC-227		79.80		-5.195E-01	1.352E+00	2.033E+00	4.383E-01	-0.255
		236.00		2.198E-01	2.089E-01	3.203E-01	4.463E-02	0.686
		256.20	*	-2.067E-01	3.391E-01	5.214E-01	8.904E-02	-0.397
		286.10		-3.383E-02	1.273E+00	2.026E+00	3.153E-01	-0.017
	+	299.80		3.155E+00	1.965E+00	2.346E+00	4.507E-01	1.345
		304.40		-6.265E-01	1.882E+00	2.569E+00	5.146E-01	-0.244
		334.20		-2.177E+00	2.269E+00	3.069E+00	6.319E-01	-0.709
TH-227		79.80		-5.195E-01	1.352E+00	2.033E+00	4.438E-01	-0.255
	+	94.00		6.758E+00	2.727E+00	3.068E+00	6.743E-01	2.202
		236.00		2.198E-01	2.086E-01	3.203E-01	4.139E-02	0.686
		256.20	*	-2.067E-01	3.397E-01	5.214E-01	1.020E-01	-0.397
		286.10		-3.383E-02	1.273E+00	2.026E+00	2.040E+00	-0.017
	+	299.80		3.155E+00	1.965E+00	2.346E+00	4.507E-01	1.345
		304.40		-6.265E-01	1.882E+00	2.569E+00	5.146E-01	-0.244
		334.20		-2.177E+00	2.269E+00	3.069E+00	6.319E-01	-0.709
TH-229		85.43		8.705E-02	1.603E-01	2.498E-01	2.333E-02	0.349
	+	88.47		4.316E-01	1.379E-01	1.726E-01	1.655E-02	2.501
		100.00		7.404E-02	1.451E-01	2.503E-01	2.191E-02	0.296
		193.63	*	1.527E-01	4.124E-01	6.866E-01	6.699E-02	0.222
		210.97		4.537E-01	7.396E-01	1.114E+00	1.139E-01	0.407
PA-231		283.67	*	2.721E-01	1.271E+00	2.057E+00	3.558E-01	0.132
	+	301.29		1.262E+00	7.700E-01	9.234E-01	1.346E-01	1.367
TH-231		81.07		-1.166E-01	1.718E-01	2.721E-01	2.415E-02	-0.428
		83.78		3.177E-02	1.093E-01	1.687E-01	1.545E-02	0.188
		94.90		2.528E-01	1.872E-01	3.040E-01	2.749E-02	0.832
		122.32		-1.594E+00	1.444E+00	2.285E+00	2.047E-01	-0.698
		144.24		2.881E-01	5.865E-01	9.788E-01	9.390E-02	0.294
		154.21		2.215E-01	3.396E-01	5.771E-01	5.553E-02	0.384
	+	269.46		3.155E-01	2.468E-01	3.147E-01	3.744E-02	1.002
		323.87	*	2.680E-01	5.949E-01	9.666E-01	1.849E-01	0.277
	+	338.28		6.442E+00	1.968E+00	2.377E+00	3.331E-01	2.711
		445.03		7.283E-01	1.926E+00	3.292E+00	4.179E-01	0.221
U-231		84.21		7.505E-01	3.841E+00	5.900E+00	5.432E-01	0.127
	+	92.29		5.462E+00	1.914E+00	2.780E+00	2.568E-01	1.964
		95.87	*	1.091E-01	7.350E-01	1.130E+00	1.014E-01	0.097
		108.00		-5.774E-01	1.414E+00	2.341E+00	1.983E-01	-0.247
PA-233	+	75.28		1.528E+01	3.719E+00	5.497E+00	8.349E-01	2.780
	+	86.59		6.189E+00	2.526E+00	2.547E+00	6.905E-01	2.430
	+	300.12		8.797E-01	5.418E-01	6.589E-01	1.111E-01	1.335
		311.98	*	-1.691E-02	5.812E-02	9.021E-02	1.054E-02	-0.187
		340.50		8.688E-01	5.711E-01	8.965E-01	2.217E-01	0.969
		398.62		6.465E-02	1.764E+00	2.967E+00	7.966E-01	0.022
		415.76		4.834E-01	1.488E+00	2.534E+00	5.539E-01	0.191
PA-234	+	63.00		1.054E+00	1.924E+00	2.257E+00	3.352E-01	0.467
		94.67		3.038E-01	1.401E-01	2.293E-01	2.914E-02	1.325
		98.44		4.487E-02	7.794E-02	1.228E-01	6.857E-02	0.365
		99.86		2.558E-01	3.655E-01	6.348E-01	5.559E-02	0.403

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		111.00		-4.055E-02	1.489E-01	2.475E-01	2.955E-02	-0.164
		131.20		-1.386E-01	9.107E-02	1.408E-01	1.177E-02	-0.984
		152.70		-1.508E-01	2.819E-01	4.538E-01	7.765E-02	-0.332
	+	186.00		4.700E+00	2.227E+00	2.334E+00	7.349E-01	2.014
		226.40		-3.208E-02	3.523E-01	5.675E-01	8.284E-02	-0.057
		227.20		-1.020E-02	3.755E-01	6.070E-01	6.466E-02	-0.017
		248.90		-3.979E-01	6.995E-01	1.075E+00	2.531E-01	-0.370
	+	293.70		6.344E+00	1.582E+00	1.509E+00	2.882E-01	4.203
		369.80		4.883E-02	6.938E-01	1.175E+00	2.627E-01	0.042
		568.70		3.434E-01	8.852E-01	1.493E+00	1.402E-01	0.230
		569.50		1.168E-01	2.339E-01	3.981E-01	3.738E-02	0.293
		574.00		-3.847E-01	1.303E+00	2.075E+00	1.945E-01	-0.185
		699.00		-2.167E-01	6.730E-01	1.051E+00	2.024E-01	-0.206
		706.10		-6.273E-01	9.904E-01	1.433E+00	6.401E-01	-0.438
		733.00		2.534E-02	3.767E-01	5.618E-01	1.259E-01	0.045
		742.81		5.916E-01	1.260E+00	2.011E+00	1.353E+00	0.294
	+	796.30		2.152E+00	1.556E+00	1.642E+00	4.480E-01	1.310
		805.60		-3.360E-01	9.324E-01	1.472E+00	4.542E-01	-0.228
		819.60		1.134E-01	1.087E+00	1.843E+00	7.039E-01	0.062
		826.30		7.215E-02	7.094E-01	1.202E+00	5.395E-01	0.060
		831.60		-1.358E-01	5.464E-01	8.947E-01	2.691E-01	-0.152
		876.40		-3.655E-01	7.983E-01	1.115E+00	1.147E+00	-0.328
		880.51		1.122E-01	2.178E-01	3.836E-01	3.624E-02	0.293
		883.24		-2.524E-01	2.829E-01	3.299E-01	2.221E-01	-0.765
		899.00		-1.830E-01	7.658E-01	1.243E+00	5.453E-01	-0.147
		925.00		-1.055E+00	9.705E-01	1.350E+00	1.268E-01	-0.782
		926.50		-3.018E-02	1.560E-01	2.182E-01	5.576E-02	-0.138
		946.00	*	-1.560E-02	2.671E-01	4.415E-01	8.434E-02	-0.035
		949.00		-7.909E-02	3.885E-01	6.323E-01	5.897E-02	-0.125
		980.50		2.979E-01	5.999E-01	1.046E+00	9.644E-02	0.285
		1394.10		-7.295E-01	1.199E+00	1.587E+00	1.033E+00	-0.460
PA-234M		766.42		8.810E+00	1.421E+01	2.006E+01	1.020E+01	0.439
		1001.03	*	4.801E+00	4.398E+00	7.929E+00	8.256E-01	0.605
U-235	+	89.95		3.001E+00	1.384E+00	1.590E+00	4.943E-01	1.888
	+	93.35		2.103E+00	9.258E-01	1.066E+00	3.007E-01	1.972
		105.00		9.321E-01	9.291E-01	1.557E+00	4.644E-01	0.599
		143.76	*	3.964E-02	1.818E-01	3.000E-01	5.244E-02	0.132
		163.35		2.596E-01	3.936E-01	6.643E-01	1.279E-01	0.391
	+	185.71		1.741E-01	6.384E-02	8.731E-02	8.340E-03	1.994
		205.31		5.387E-01	4.968E-01	7.575E-01	1.498E-01	0.711
NP-236		94.67		2.319E-01	1.043E-01	1.741E-01	1.577E-02	1.332
		98.44		3.386E-02	5.587E-02	9.286E-02	8.198E-03	0.365
		111.00		-3.068E-02	1.126E-01	1.872E-01	1.574E-02	-0.164
		160.31	*	1.709E-02	6.927E-02	1.157E-01	1.032E-02	0.148
NP-239		99.55		1.123E-01	1.214E-01	2.124E-01	1.863E-02	0.528
		117.00	*	4.538E-02	1.564E-01	2.657E-01	2.212E-02	0.171
	+	209.75		1.820E+00	1.038E+00	1.297E+00	1.321E-01	1.403
		228.18		-1.890E-01	2.019E-01	3.083E-01	3.292E-02	-0.613
		277.60		1.757E-01	1.707E-01	2.810E-01	3.363E-02	0.625

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		-1.206E+00	1.269E+00	1.745E+00	1.922E-01	-0.691
AM-241		59.54	*	8.038E-02	1.364E-01	2.029E-01	1.592E-02	0.396
CM-243		99.55		1.155E-01	1.249E-01	2.186E-01	1.917E-02	0.528
		103.76	*	4.249E-02	8.035E-02	1.383E-01	1.189E-02	0.307
		117.00		4.669E-02	1.609E-01	2.734E-01	2.276E-02	0.171
	+	209.75		1.794E+00	1.023E+00	1.278E+00	1.302E-01	1.403
		228.18		-1.910E-01	2.040E-01	3.115E-01	3.326E-02	-0.613
		277.60		1.772E-01	1.721E-01	2.833E-01	3.390E-02	0.625
AM-246		798.80		-3.901E-04	1.375E-01	2.018E-01	1.881E-02	-0.002
		1036.00		-1.082E-01	2.793E-01	4.424E-01	3.967E-02	-0.245
		1062.04		1.973E-01	2.166E-01	3.862E-01	3.408E-02	0.511
		1078.86	*	-5.328E-02	1.335E-01	2.106E-01	1.837E-02	-0.253
CM-247		278.00		4.112E-01	7.178E-01	1.158E+00	1.387E-01	0.355
		287.40		-5.335E-01	1.072E+00	1.649E+00	1.963E-01	-0.324
		402.60	*	-1.133E-02	2.981E-02	4.860E-02	4.518E-03	-0.233
CF-249		252.85		2.493E-01	7.692E-01	1.260E+00	1.428E-01	0.198
		333.44		-7.701E-02	1.609E-01	2.316E-01	2.555E-02	-0.333
		387.95	*	-2.650E-03	3.431E-02	5.738E-02	5.383E-03	-0.046
CF-251		176.60	*	-8.221E-03	1.099E-01	1.800E-01	1.678E-02	-0.046
		227.00		-2.802E-02	3.345E-01	5.390E-01	5.739E-02	-0.052
		285.00		1.711E-02	1.479E+00	2.362E+00	2.820E-01	0.007

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385005      *
* Acquisition date : 31-DEC-2009 09:39:54 Detector SN#     :               *
* Detector ID        : GAM16                Sensitivity      : 5.000       *
* Geometry           : CAN                  Energy tolerance: 1.500        *
* Elapsed live time:     0 02:00:00.00      Abundance limit : 75.000       *
* Elapsed real time:     0 02:00:01.86      Half life ratio :  8.000       *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        : 17-DEC-2009 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G243385005           Analyst initials: MJH1          *
* Batch Number       : 936285               Sample Quantity : 1.2885E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME : 16-NOV-2009 11:22:16 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope      :               *
* LCS DPM          :    0.000             LCS Isotope      :               *
* LCSD DPM         :    0.000             LCSD Isotope     :               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.293E+01	2.561E+00	4.164E-01	0.000E+00
CD-109	3.211E+00	1.005E+00	1.056E+00	0.000E+00
SN-126	3.161E-01	9.899E-02	1.044E-01	0.000E+00
TL-208	5.186E-01	8.665E-02	5.153E-02	0.000E+00
BI-211	3.467E+00	5.477E-01	2.828E-01	0.000E+00
PB-212	1.641E+00	2.163E-01	8.232E-02	0.000E+00
PO-212	1.641E+00	2.163E-01	8.232E-02	0.000E+00
BI-214	1.154E+00	1.848E-01	9.910E-02	0.000E+00
PB-214	1.206E+00	2.003E-01	9.857E-02	0.000E+00
PO-214	1.206E+00	2.003E-01	9.857E-02	0.000E+00
PO-216	1.641E+00	2.163E-01	8.232E-02	0.000E+00
PO-218	1.206E+00	2.003E-01	9.857E-02	0.000E+00
RA-224	4.138E+00	1.259E+00	9.368E-01	0.000E+00
RA-226	1.154E+00	1.848E-01	9.910E-02	0.000E+00
AC-228	1.292E+00	3.045E-01	1.819E-01	0.000E+00
RA-228	1.292E+00	3.045E-01	1.819E-01	0.000E+00
TH-228	1.664E+00	2.194E-01	8.347E-02	0.000E+00
TH-230	1.154E+00	1.848E-01	9.910E-02	0.000E+00
TH-232	1.292E+00	3.045E-01	1.819E-01	0.000E+00
TH-234	9.039E-01	1.620E+00	1.710E+00	0.000E+00
U-234	1.154E+00	1.848E-01	9.910E-02	0.000E+00
NP-237	9.283E-01	3.460E-01	3.101E-01	0.000E+00
U-238	9.039E-01	1.620E+00	1.710E+00	0.000E+00
AM-243	2.918E-01	5.936E-02	7.471E-02	0.000E+00
ANH-511	1.127E-01	6.502E-02	3.811E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)		
BE-7	1.757E-01	2.753E-01	4.945E-01	0.000E+00	NOT IDENT.
NA-22	1.390E-02	3.716E-02	6.430E-02	0.000E+00	NOT IDENT.

NA-24	0.000E+00	1.694E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.121E-02	2.571E-02	3.890E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.076E-02	6.514E-02	0.000E+00	FAIL ABUN
SC-46	3.056E-02	3.370E-02	6.247E-02	0.000E+00	FAIL ABUN
V-48	-2.132E-02	5.650E-02	9.231E-02	0.000E+00	NOT IDENT.
CR-51	-3.028E-01	3.303E-01	5.087E-01	0.000E+00	NOT IDENT.
MN-52	-1.372E-01	1.812E-01	2.587E-01	0.000E+00	FAIL ABUN
MN-54	1.838E-02	3.148E-02	5.701E-02	0.000E+00	NOT IDENT.
CO-56	-9.385E-03	2.927E-02	4.883E-02	0.000E+00	FAIL ABUN
CO-57	-1.801E-02	2.021E-02	3.440E-02	0.000E+00	NOT IDENT.
CO-58	1.152E-02	3.241E-02	5.792E-02	0.000E+00	NOT IDENT.
FE-59	3.539E-02	8.430E-02	1.474E-01	0.000E+00	NOT IDENT.
CO-60	-1.362E-02	3.237E-02	5.009E-02	0.000E+00	NOT IDENT.
ZN-65	5.558E-02	8.980E-02	1.415E-01	0.000E+00	NOT IDENT.
GE-68	6.112E-01	1.111E+00	1.973E+00	0.000E+00	NOT IDENT.
AS-73	1.557E-01	6.686E-01	1.140E+00	0.000E+00	NOT IDENT.
AS-74	-4.444E-03	7.342E-02	1.233E-01	0.000E+00	NOT IDENT.
SE-75	1.644E-02	3.816E-02	6.283E-02	0.000E+00	NOT IDENT.
BR-77	4.078E+00	6.134E+00	1.101E+01	0.000E+00	FAIL ABUN
SR-82	-1.268E-01	3.186E-01	5.023E-01	0.000E+00	NOT IDENT.
RB-83	3.454E-02	5.692E-02	1.018E-01	0.000E+00	NOT IDENT.
RB-84	4.577E-03	5.172E-02	8.981E-02	0.000E+00	NOT IDENT.
KR-85	6.597E+00	6.364E+00	1.054E+01	0.000E+00	NOT IDENT.
SR-85	3.339E-02	3.222E-02	5.335E-02	0.000E+00	NOT IDENT.
RB-86	3.188E-01	6.766E-01	1.194E+00	0.000E+00	NOT IDENT.
Y-88	9.336E-03	2.926E-02	5.199E-02	0.000E+00	NOT IDENT.
ZR-88	-9.835E-03	2.585E-02	4.410E-02	0.000E+00	NOT IDENT.
Y-91	1.392E+01	1.692E+01	3.030E+01	0.000E+00	NOT IDENT.
NB-94	-1.452E-03	2.900E-02	4.799E-02	0.000E+00	NOT IDENT.
NB-95	1.912E-02	4.636E-02	6.940E-02	0.000E+00	NOT IDENT.
NB-95M	8.630E-02	1.092E-01	1.738E-01	0.000E+00	NOT IDENT.
ZR-95	2.902E-02	6.660E-02	1.141E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.832E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.631E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-4.130E+00	7.681E+00	1.198E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.101E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-7.249E-03	2.897E-02	4.843E-02	0.000E+00	NOT IDENT.
RH-102	1.234E-02	2.456E-02	4.381E-02	0.000E+00	FAIL ABUN
RU-103	6.882E-04	3.338E-02	5.736E-02	0.000E+00	FAIL ABUN
RH-106	-1.889E-03	2.678E-01	4.499E-01	0.000E+00	FAIL ABUN
RU-106	-1.889E-03	2.678E-01	4.499E-01	0.000E+00	FAIL ABUN
AG-108M	-4.274E-02	2.844E-02	4.306E-02	0.000E+00	NOT IDENT.
AG-110M	-4.112E-02	3.292E-02	4.868E-02	0.000E+00	NOT IDENT.
IN-111	6.539E-01	7.114E-01	1.144E+00	0.000E+00	NOT IDENT.
IN-113M	-5.885E-04	3.786E-02	6.620E-02	0.000E+00	NOT IDENT.
SN-113	-5.885E-04	3.786E-02	6.620E-02	0.000E+00	NOT IDENT.
IN-114M	-1.746E-02	1.523E-01	2.486E-01	0.000E+00	NOT IDENT.
CD-115	2.970E+00	5.727E+00	1.020E+01	0.000E+00	NOT IDENT.
SN-117M	2.203E-02	4.383E-02	7.816E-02	0.000E+00	NOT IDENT.
SB-122	7.437E-01	1.353E+00	2.347E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.066E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	4.792E-03	2.436E-02	4.290E-02	0.000E+00	NOT IDENT.
I-124	-1.768E-01	4.794E-01	7.172E-01	0.000E+00	FAIL ABUN
SB-124	-4.904E-02	6.067E-02	8.406E-02	0.000E+00	FAIL ABUN
SB-125	-1.485E-02	7.536E-02	1.291E-01	0.000E+00	FAIL ABUN
TE-125M	-2.074E+00	7.271E+00	1.285E+01	0.000E+00	NOT IDENT.
I-126	-1.484E-01	1.627E-01	2.500E-01	0.000E+00	NOT IDENT.
SB-126	3.960E-03	1.320E-01	1.896E-01	0.000E+00	FAIL ABUN
SB-127	-2.713E-01	9.209E-01	1.489E+00	0.000E+00	NOT IDENT.
XE-127	-2.868E-02	4.001E-02	6.611E-02	0.000E+00	NOT IDENT.
I-131	2.839E-02	8.634E-02	1.550E-01	0.000E+00	NOT IDENT.
TE-132	-4.435E-01	4.706E-01	7.503E-01	0.000E+00	NOT IDENT.
BA-133	2.166E-02	3.820E-02	6.225E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.829E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.327E-02	8.619E-02	0.000E+00	FAIL ABUN
CS-135	8.795E-02	1.565E-01	2.433E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.240E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.454E-02	8.606E-02	1.498E-01	0.000E+00	FAIL ABUN
BA-137M	3.730E-02	3.491E-02	6.286E-02	0.000E+00	NOT IDENT.
CS-137	3.943E-02	3.690E-02	6.645E-02	0.000E+00	NOT IDENT.
CE-139	-1.420E-02	2.465E-02	4.172E-02	0.000E+00	NOT IDENT.
BA-140	-1.483E-01	2.046E-01	3.166E-01	0.000E+00	NOT IDENT.
LA-140	-3.781E-02	7.609E-02	1.198E-01	0.000E+00	NOT IDENT.
CE-141	7.886E-03	4.971E-02	8.793E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	9.470E+01	0.000E+00	0.000E+00	SHORT HLIF
CE-144	5.988E-02	1.640E-01	2.939E-01	0.000E+00	NOT IDENT.
PM-144	2.407E-02	3.296E-02	5.792E-02	0.000E+00	NOT IDENT.
PR-144	1.630E+00	2.232E+00	3.923E+00	0.000E+00	NOT IDENT.

PM-146	2.281E-02	3.710E-02	6.674E-02	0.000E+00	NOT IDENT.
ND-147	-3.969E-01	4.375E-01	6.810E-01	0.000E+00	FAIL ABUN
PM-149	-2.419E+01	5.222E+01	8.420E+01	0.000E+00	NOT IDENT.
EU-152	-3.876E-02	8.007E-02	1.324E-01	0.000E+00	FAIL ABUN
GD-153	-6.954E-02	6.801E-02	1.036E-01	0.000E+00	NOT IDENT.
EU-154	1.619E-02	1.072E-01	1.808E-01	0.000E+00	NOT IDENT.
EU-155	8.572E-02	8.800E-02	1.633E-01	0.000E+00	FAIL ABUN
TB-160	1.567E-01	1.093E-01	2.124E-01	0.000E+00	FAIL ABUN
HO-166M	1.439E-02	5.306E-02	9.028E-02	0.000E+00	FAIL ABUN
TM-171	-2.142E+01	2.627E+01	3.829E+01	0.000E+00	NOT IDENT.
LU-176	7.556E-03	2.189E-02	3.716E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.265E+00	1.651E+00	0.000E+00	FAIL ABUN
LU-177M	4.369E-02	1.487E-01	2.640E-01	0.000E+00	FAIL ABUN
HF-181	-8.896E-03	3.782E-02	6.397E-02	0.000E+00	NOT IDENT.
W-181	-1.993E-01	3.343E-01	4.946E-01	0.000E+00	NOT IDENT.
TA-182	-1.102E-01	1.778E-01	2.782E-01	0.000E+00	FAIL ABUN
RE-183	4.771E-03	9.141E-02	1.598E-01	0.000E+00	FAIL ABUN
RE-184	6.612E-02	1.999E-01	3.436E-01	0.000E+00	NOT IDENT.
OS-185	-1.903E-02	3.551E-02	5.634E-02	0.000E+00	NOT IDENT.
RE-188	6.403E-02	1.449E-01	2.580E-01	0.000E+00	NOT IDENT.
W-188	2.258E+00	7.048E+00	1.073E+01	0.000E+00	FAIL ABUN
IR-192	2.996E-02	3.050E-02	5.351E-02	0.000E+00	FAIL ABUN
AU-195	1.881E-01	1.745E-01	3.262E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.749E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	2.820E+00	4.374E+00	7.824E+00	0.000E+00	NOT IDENT.
TL-202	-1.278E-02	5.626E-02	9.601E-02	0.000E+00	NOT IDENT.
HG-203	-6.368E-03	3.509E-02	5.806E-02	0.000E+00	NOT IDENT.
BI-207	3.743E-02	4.872E-02	8.800E-02	0.000E+00	FAIL ABUN
TL-207	2.680E-01	5.830E-01	9.902E-01	0.000E+00	FAIL ABUN
PO-209	-1.652E+00	6.531E+00	1.095E+01	0.000E+00	NOT IDENT.
BI-210	-1.306E+00	3.165E+00	5.220E+00	0.000E+00	NOT IDENT.
PB-210	-1.306E+00	3.165E+00	5.220E+00	0.000E+00	NOT IDENT.
PO-210	-1.306E+00	3.164E+00	5.220E+00	0.000E+00	NOT IDENT.
PB-211	-3.843E-01	8.068E-01	1.302E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.651E-01	6.951E-01	0.000E+00	FAIL ABUN
PO-215	2.680E-01	5.830E-01	9.902E-01	0.000E+00	FAIL ABUN
RN-219	7.603E-02	3.208E-01	5.691E-01	0.000E+00	FAIL ABUN
RN-220	2.187E+00	2.182E+01	3.741E+01	0.000E+00	NOT IDENT.
RA-223	2.680E-01	5.830E-01	9.902E-01	0.000E+00	FAIL ABUN
AC-227	-2.067E-01	3.323E-01	5.360E-01	0.000E+00	FAIL ABUN
TH-227	-2.067E-01	3.329E-01	5.360E-01	0.000E+00	FAIL ABUN
TH-229	1.527E-01	4.041E-01	7.089E-01	0.000E+00	FAIL ABUN
PA-231	2.721E-01	1.245E+00	2.111E+00	0.000E+00	FAIL ABUN
TH-231	2.680E-01	5.830E-01	9.902E-01	0.000E+00	FAIL ABUN
U-231	1.091E-01	7.203E-01	1.179E+00	0.000E+00	FAIL ABUN
PA-233	-1.691E-02	5.695E-02	9.247E-02	0.000E+00	FAIL ABUN
PA-234	-1.560E-02	2.618E-01	4.447E-01	0.000E+00	FAIL ABUN
PA-234M	4.801E+00	4.310E+00	7.980E+00	0.000E+00	NOT IDENT.
U-235	3.964E-02	1.781E-01	3.112E-01	0.000E+00	FAIL ABUN
NP-236	1.709E-02	6.788E-02	1.198E-01	0.000E+00	NOT IDENT.
NP-239	4.538E-02	1.533E-01	2.765E-01	0.000E+00	FAIL ABUN
AM-241	8.038E-02	1.337E-01	2.132E-01	0.000E+00	NOT IDENT.
CM-243	4.249E-02	7.874E-02	1.442E-01	0.000E+00	FAIL ABUN
AM-246	-5.328E-02	1.309E-01	2.117E-01	0.000E+00	NOT IDENT.
CM-247	-1.133E-02	2.921E-02	4.962E-02	0.000E+00	NOT IDENT.
CF-249	-2.650E-03	3.363E-02	5.861E-02	0.000E+00	NOT IDENT.
CF-251	-8.221E-03	1.077E-01	1.861E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:40:26.20

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
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Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385005.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:39:54
Sample ID         : G243385005           Sample quantity  : 1.28850E+02 GRAM
Detector name     : GAM16                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.86  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit   : 75.00000             Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID   :                      LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1015	10.67*	1.208E+00	2.293E+01	2.293E+01	11.40
CD-109	88.03	251	3.72*	6.262E+00	3.144E+00	3.211E+00	31.95
SN-126	64.28	42	9.60	3.558E+00	3.578E-01	3.578E-01	182.62
	86.94	251	8.90	6.262E+00	1.314E+00	1.314E+00	51.55
	87.57	251	37.00*	6.262E+00	3.161E-01	3.161E-01	31.95
TL-208	277.35	------	6.80	4.695E+00	------ Line Not Found		------
	510.84	115	21.60	2.964E+00	5.218E-01	5.218E-01	59.45
	583.14	400	84.20*	2.668E+00	5.186E-01	5.186E-01	17.05
	860.37	46	12.46	1.920E+00	5.545E-01	5.545E-01	67.39
BI-211	72.87	------	1.27	4.872E+00	------ Line Not Found		------
	351.07	607	12.94*	3.941E+00	3.467E+00	3.467E+00	16.12
PB-212	74.81	338	10.70	5.114E+00	1.800E+00	1.800E+00	22.76
	77.11	667	18.00	5.362E+00	2.013E+00	2.013E+00	13.95
	87.30	251	8.00	6.262E+00	1.462E+00	1.462E+00	33.48
	238.63	1313	44.60*	5.226E+00	1.641E+00	1.641E+00	13.45
	300.09	88	3.41	4.434E+00	1.703E+00	1.703E+00	60.66
PO-212	74.81	338	10.70	5.114E+00	1.800E+00	1.800E+00	22.76
	77.11	667	18.00	5.362E+00	2.013E+00	2.013E+00	13.95
	87.30	251	8.00	6.262E+00	1.462E+00	1.462E+00	33.48
	115.19	------	0.60	7.166E+00	------ Line Not Found		------
	238.63	1313	44.60*	5.226E+00	1.641E+00	1.641E+00	13.45
	300.09	88	3.41	4.434E+00	1.703E+00	1.703E+00	60.66
BI-214	609.31	472	46.30*	2.575E+00	1.154E+00	1.154E+00	16.35
	1120.29	89	15.10	1.517E+00	1.126E+00	1.126E+00	44.75
	1764.49	84	15.80	1.056E+00	1.472E+00	1.472E+00	29.00
PB-214	74.81	338	6.21	5.114E+00	3.101E+00	3.101E+00	22.04
	77.11	667	10.50	5.362E+00	3.450E+00	3.450E+00	15.89
	87.30	251	4.67	6.262E+00	2.505E+00	2.505E+00	32.87
	241.98	291	7.49	5.180E+00	2.182E+00	2.182E+00	31.55
	295.21	391	19.20	4.487E+00	1.322E+00	1.322E+00	20.88
	351.92	607	37.20*	3.941E+00	1.206E+00	1.206E+00	16.95
PO-214	74.81	338	6.21	5.114E+00	3.101E+00	3.101E+00	22.04

Sample ID : G243385005 Acquisition date : 31-DEC-2009 09:39:54

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	667	10.50	5.362E+00	3.450E+00	3.450E+00	15.89
	87.30	251	4.67	6.262E+00	2.505E+00	2.505E+00	32.87
	241.98	291	7.49	5.180E+00	2.182E+00	2.182E+00	31.55
	295.21	391	19.20	4.487E+00	1.322E+00	1.322E+00	20.88
	351.92	607	37.20*	3.941E+00	1.206E+00	1.206E+00	16.95
PO-216	74.81	338	10.70	5.114E+00	1.800E+00	1.800E+00	22.76
	77.11	667	18.00	5.362E+00	2.013E+00	2.013E+00	13.95
	87.30	251	8.00	6.262E+00	1.462E+00	1.462E+00	33.48
	238.63	1313	44.60*	5.226E+00	1.641E+00	1.641E+00	13.45
	300.09	88	3.41	4.434E+00	1.703E+00	1.703E+00	60.66
PO-218	74.81	338	6.21	5.114E+00	3.101E+00	3.101E+00	22.04
	77.11	667	10.50	5.362E+00	3.450E+00	3.450E+00	15.89
	87.30	251	4.67	6.262E+00	2.505E+00	2.505E+00	32.87
	241.98	291	7.49	5.180E+00	2.182E+00	2.182E+00	31.55
	295.21	391	19.20	4.487E+00	1.322E+00	1.322E+00	20.88
	351.92	607	37.20*	3.941E+00	1.206E+00	1.206E+00	16.95
RA-224	240.98	291	3.95*	5.180E+00	4.138E+00	4.138E+00	31.05
RA-226	609.31	472	46.30*	2.575E+00	1.154E+00	1.154E+00	16.35
	1120.29	89	15.10	1.517E+00	1.126E+00	1.126E+00	44.75
	1764.49	84	15.80	1.056E+00	1.472E+00	1.472E+00	29.00
AC-228	338.32	245	11.40	4.059E+00	1.543E+00	1.543E+00	49.84
	911.07	224	27.70*	1.825E+00	1.292E+00	1.292E+00	24.04
	969.11	130	16.60	1.727E+00	1.316E+00	1.316E+00	36.15
RA-228	338.32	245	11.40	4.059E+00	1.543E+00	1.543E+00	49.84
	911.07	224	27.70*	1.825E+00	1.292E+00	1.292E+00	24.04
	969.11	130	16.60	1.727E+00	1.316E+00	1.316E+00	36.15
TH-228	74.81	338	10.70	5.114E+00	1.800E+00	1.825E+00	20.79
	77.11	667	18.00	5.362E+00	2.013E+00	2.041E+00	13.95
	87.30	251	8.00	6.262E+00	1.462E+00	1.483E+00	31.95
	238.63	1313	44.60*	5.226E+00	1.641E+00	1.664E+00	13.45
	300.09	88	3.41	4.434E+00	1.703E+00	1.726E+00	84.18
TH-230	609.31	472	46.30*	2.575E+00	1.154E+00	1.154E+00	16.35
	1120.29	89	15.10	1.517E+00	1.126E+00	1.126E+00	44.75
	1764.49	84	15.80	1.056E+00	1.472E+00	1.472E+00	29.00
TH-232	338.32	245	11.40	4.059E+00	1.543E+00	1.543E+00	29.25
	911.07	224	27.70*	1.825E+00	1.292E+00	1.292E+00	24.04
	969.11	130	16.60	1.727E+00	1.316E+00	1.316E+00	36.15
TH-234	63.29	42	3.80*	3.558E+00	9.039E-01	9.039E-01	182.87
	92.38	214	5.41	6.596E+00	1.749E+00	1.749E+00	38.48
U-234	609.31	472	46.30*	2.575E+00	1.154E+00	1.154E+00	16.35
	1120.29	89	15.10	1.517E+00	1.126E+00	1.126E+00	44.75
	1764.49	84	15.80	1.056E+00	1.472E+00	1.472E+00	29.00
NP-237	86.50	251	12.60*	6.262E+00	9.283E-01	9.283E-01	38.03
	95.87	------	2.60	6.742E+00	------ Line Not Found		------
U-238	63.29	42	3.80*	3.558E+00	9.039E-01	9.039E-01	182.87
	92.38	214	5.41	6.596E+00	1.749E+00	1.749E+00	35.04
AM-243	74.67	338	66.00*	5.114E+00	2.918E-01	2.918E-01	20.76
	86.72	251	0.34	6.262E+00	3.481E+01	3.481E+01	31.95
	117.66	------	0.55	7.175E+00	------ Line Not Found		------

Sample ID : G243385005 Acquisition date : 31-DEC-2009 09:39:54

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	142.18	------	0.13	6.968E+00	------	Line Not Found	------
ANH-511	511.00	115	100.00*	2.964E+00	1.127E-01	1.127E-01	58.86

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G243385005 Acquisition date : 31-DEC-2009 09:39:54

Total number of lines in spectrum 33
Number of unidentified lines 1
Number of lines tentatively identified by NID 32 96.97%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.293E+01	2.293E+01	0.261E+01	11.40	
CD-109	464.00D	1.02	3.144E+00	3.211E+00	1.026E+00	31.95	
SN-126	1.00E+05Y	1.00	3.161E-01	3.161E-01	1.010E-01	31.95	
TL-208	1.41E+10Y	1.00	5.186E-01	5.186E-01	0.884E-01	17.05	
BI-211	7.04E+08Y	1.00	3.467E+00	3.467E+00	0.559E+00	16.12	
PB-212	1.41E+10Y	1.00	1.641E+00	1.641E+00	0.221E+00	13.45	
PO-212	1.41E+10Y	1.00	1.641E+00	1.641E+00	0.221E+00	13.45	
BI-214	1600.00Y	1.00	1.154E+00	1.154E+00	0.189E+00	16.35	
PB-214	1600.00Y	1.00	1.206E+00	1.206E+00	0.204E+00	16.95	
PO-214	1600.00Y	1.00	1.206E+00	1.206E+00	0.204E+00	16.95	
PO-216	1.41E+10Y	1.00	1.641E+00	1.641E+00	0.221E+00	13.45	
PO-218	1600.00Y	1.00	1.206E+00	1.206E+00	0.204E+00	16.95	
RA-224	1.41E+10Y	1.00	4.138E+00	4.138E+00	1.285E+00	31.05	
RA-226	1600.00Y	1.00	1.154E+00	1.154E+00	0.189E+00	16.35	
AC-228	1.41E+10Y	1.00	1.292E+00	1.292E+00	0.311E+00	24.04	
RA-228	1.41E+10Y	1.00	1.292E+00	1.292E+00	0.311E+00	24.04	
TH-228	1.91Y	1.01	1.641E+00	1.664E+00	0.224E+00	13.45	
TH-230	4.47E+09Y	1.00	1.154E+00	1.154E+00	0.189E+00	16.35	
TH-232	1.41E+10Y	1.00	1.292E+00	1.292E+00	0.311E+00	24.04	
TH-234	4.47E+09Y	1.00	9.039E-01	9.039E-01	16.53E-01	182.87	
U-234	4.47E+09Y	1.00	1.154E+00	1.154E+00	0.189E+00	16.35	
NP-237	2.14E+06Y	1.00	9.283E-01	9.283E-01	3.531E-01	38.03	
U-238	4.47E+09Y	1.00	9.039E-01	9.039E-01	16.53E-01	182.87	
AM-243	7380.00Y	1.00	2.918E-01	2.918E-01	0.606E-01	20.76	
ANH-511	1.00E+09Y	1.00	1.127E-01	1.127E-01	0.663E-01	58.86	
	Total Activity :		5.633E+01	5.642E+01			

Grand Total Activity : 5.633E+01 5.642E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G243385005 Acquisition date : 31-DEC-2009 09:39:54

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	89.91	179	300	1.06	180.00	171	21	2.48E-02	34.1	6.43E+00	T
0	185.75	198	277	1.03	371.70	367	9	2.75E-02	35.4	6.15E+00	T
0	209.04	116	289	0.96	418.28	414	9	1.61E-02	56.1	5.71E+00	T
0	269.84	71	199	1.03	539.88	536	9	9.79E-03	77.3	4.79E+00	T
0	462.73	38	110	0.79	925.63	922	9	5.29E-03	****	3.20E+00	T
0	726.84	138	58	1.65	1453.78	1447	13	1.92E-02	29.1	2.22E+00	T
0	768.31	42	59	1.57	1536.69	1532	8	5.78E-03	71.5	2.12E+00	T
0	795.30	59	77	1.35	1590.67	1585	14	8.23E-03	67.0	2.06E+00	T
0	934.41	35	52	1.51	1868.81	1860	13	4.87E-03	91.2	1.78E+00	T
9	964.74	33	41	1.82	1929.46	1926	17	4.61E-03	70.1	1.73E+00	T
0	1238.07	36	55	0.75	2475.93	2469	11	4.95E-03	90.0	1.39E+00	T
0	1377.20	37	29	1.96	2754.07	2746	19	5.08E-03	79.0	1.27E+00	T
0	1729.38	20	8	1.35	3458.08	3453	10	2.83E-03	67.1	1.07E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:40:33.67

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*******************************************************************************
*                              GEL Laboratories LLC                           *
*                                2040 Savage Road                             *
*                              Charleston, SC 29414                           *
*******************************************************************************
*                                                                             *
*                                DETECTOR DATA                                *
*                                                                             *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385005.CNF;1   *
* Acquisition date  : 31-DEC-2009 09:39:54  Detector SN#     :                *
* Detector ID       : GAM16                 Sensitivity      : 5.00000        *
* Geometry          : CAN                   Energy tolerance: 1.50000         *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000        *
* Elapsed real time: 0 02:00:01.86          Half life ratio : 8.00000         *
*******************************************************************************
*                                                                             *
*                                SAMPLE DATA                                  *
*                                                                             *
* Sample date       : 17-DEC-2009 12:00:00  Nuclide Library : SOLID           *
* Sample ID         : G243385005            Analyst initials: MJH1            *
* Batch Number      : 936285                Sample Quantity : 1.28850E+02 GRAM *
*******************************************************************************
*                                                                             *
*                                  QC DATA                                    *
*                                                                             *
* CALIB. DATE/TIME : 16-NOV-2009 11:22:16.1MS Isotope      :                  *
* MSD ID           :                      MSD Isotope     :                  *
* LCS ID           : 1032-A               LCS Isotope     :                  *
*******************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.293E+01	2.613E+00	4.163E-01	3.659E-02	55.089
CD-109	3.211E+00	1.026E+00	1.010E+00	9.735E-02	3.178
SN-126	3.161E-01	1.010E-01	9.993E-02	9.581E-03	3.164
TL-208	5.186E-01	8.842E-02	5.077E-02	5.032E-03	10.215
BI-211	3.467E+00	5.589E-01	2.764E-01	3.022E-02	12.544
PB-212	1.641E+00	2.208E-01	7.998E-02	9.470E-03	20.520
PO-212	1.641E+00	2.208E-01	7.998E-02	9.470E-03	20.520
BI-214	1.154E+00	1.886E-01	9.770E-02	1.033E-02	11.808
PB-214	1.206E+00	2.044E-01	9.635E-02	1.165E-02	12.517
PO-214	1.206E+00	2.044E-01	9.635E-02	1.165E-02	12.517
PO-216	1.641E+00	2.208E-01	7.998E-02	9.470E-03	20.520
PO-218	1.206E+00	2.044E-01	9.635E-02	1.165E-02	12.517
RA-224	4.138E+00	1.285E+00	9.104E-01	1.003E-01	4.546
RA-226	1.154E+00	1.886E-01	9.770E-02	1.033E-02	11.808
AC-228	1.292E+00	3.107E-01	1.804E-01	2.143E-02	7.163
RA-228	1.292E+00	3.107E-01	1.804E-01	2.143E-02	7.163
TH-228	1.664E+00	2.238E-01	8.110E-02	9.602E-03	20.520
TH-230	1.154E+00	1.886E-01	9.769E-02	1.033E-02	11.807

Sample ID : G243385005 Acquisition date : 31-DEC-2009 09:39:54

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.292E+00	3.107E-01	1.804E-01	2.143E-02	7.163
TH-234	9.039E-01	1.653E+00	1.629E+00	2.841E-01	0.555
U-234	1.154E+00	1.886E-01	9.769E-02	1.033E-02	11.807
NP-237	9.283E-01	3.531E-01	2.967E-01	6.735E-02	3.129
U-238	9.039E-01	1.653E+00	1.629E+00	2.841E-01	0.555
AM-243	2.918E-01	6.057E-02	7.133E-02	5.906E-03	4.091
ANH-511	1.127E-01	6.634E-02	3.747E-02	3.563E-03	3.009

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.757E-01		2.809E-01	4.857E-01	4.913E-02	0.362
NA-22	1.390E-02		3.792E-02	6.414E-02	5.337E-03	0.217
NA-24	-5.400E-02		8.645E-02	Half-Life too short		
AL-26	-1.121E-02		2.623E-02	3.902E-02	3.191E-03	-0.287
TI-44	3.714E-01	+	5.179E-02	6.224E-02	5.360E-03	5.967
SC-46	3.056E-02		3.439E-02	6.195E-02	5.857E-03	0.493
V-48	-2.132E-02		5.765E-02	9.170E-02	8.441E-03	-0.233
CR-51	-3.028E-01		3.371E-01	4.965E-01	5.805E-02	-0.610
MN-52	-1.372E-01		1.849E-01	2.586E-01	2.206E-02	-0.530
MN-54	1.838E-02		3.212E-02	5.648E-02	5.305E-03	0.325
CO-56	-9.385E-03		2.986E-02	4.838E-02	4.553E-03	-0.194
CO-57	-1.801E-02		2.062E-02	3.309E-02	2.750E-03	-0.544
CO-58	1.152E-02		3.307E-02	5.736E-02	5.374E-03	0.201
FE-59	3.539E-02		8.602E-02	1.467E-01	1.364E-02	0.241
CO-60	-1.362E-02		3.303E-02	5.000E-02	4.217E-03	-0.273
ZN-65	5.558E-02		9.163E-02	1.408E-01	1.196E-02	0.395
GE-68	6.112E-01		1.133E+00	1.963E+00	1.714E-01	0.311
AS-73	1.557E-01		6.823E-01	1.083E+00	8.261E-02	0.144
AS-74	-4.444E-03		7.492E-02	1.215E-01	1.128E-02	-0.037
SE-75	1.644E-02		3.893E-02	6.114E-02	7.135E-03	0.269
BR-77	4.078E+00		6.260E+00	1.083E+01	1.029E+00	0.377
SR-82	-1.268E-01		3.251E-01	4.971E-01	4.609E-02	-0.255
RB-83	3.454E-02		5.808E-02	1.001E-01	9.512E-03	0.345
RB-84	4.577E-03		5.278E-02	8.906E-02	8.414E-03	0.051
KR-85	6.597E+00		6.494E+00	1.036E+01	9.852E-01	0.637
SR-85	3.339E-02		3.287E-02	5.245E-02	4.987E-03	0.637
RB-86	3.188E-01		6.904E-01	1.187E+00	1.038E-01	0.268
Y-88	9.336E-03		2.986E-02	5.217E-02	4.235E-03	0.179
ZR-88	-9.835E-03		2.637E-02	4.318E-02	3.994E-03	-0.228
Y-91	1.392E+01		1.727E+01	3.020E+01	2.456E+00	0.461
NB-94	-1.452E-03		2.960E-02	4.741E-02	4.286E-03	-0.031
NB-95	1.912E-02		4.731E-02	6.867E-02	6.347E-03	0.278
NB-95M	8.630E-02		1.115E-01	1.688E-01	2.007E-02	0.511
ZR-95	2.902E-02		6.796E-02	1.129E-01	1.133E-02	0.257
NB-97	-4.229E-02		1.445E-02	Half-Life too short		
ZR-97	5.280E-01		2.363E-01	Half-Life too short		

Sample ID : G243385005 Acquisition date : 31-DEC-2009 09:39:54

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	-4.130E+00		7.838E+00	1.185E+01	1.837E+00	-0.349
TC-99M	-5.318E+08		5.619E+08	Half-Life too short		
RH-101	-7.249E-03		2.956E-02	4.692E-02	4.633E-03	-0.154
RH-102	1.234E-02		2.506E-02	4.302E-02	4.089E-03	0.287
RU-103	6.882E-04		3.406E-02	5.636E-02	8.299E-03	0.012
RH-106	-1.889E-03		2.732E-01	4.437E-01	6.080E-02	-0.004
RU-106	-1.889E-03		2.732E-01	4.437E-01	4.058E-02	-0.004
AG-108M	-4.274E-02		2.902E-02	4.223E-02	4.111E-03	-1.012
AG-110M	-4.112E-02		3.359E-02	4.804E-02	4.397E-03	-0.856
IN-111	6.539E-01		7.259E-01	1.112E+00	1.238E-01	0.588
IN-113M	-5.885E-04		3.863E-02	6.481E-02	6.152E-03	-0.009
SN-113	-5.885E-04		3.863E-02	6.481E-02	6.152E-03	-0.009
IN-114M	-1.746E-02		1.554E-01	2.407E-01	2.327E-02	-0.073
CD-115	2.970E+00		5.844E+00	1.004E+01	9.527E-01	0.296
SN-117M	2.203E-02		4.472E-02	7.547E-02	6.703E-03	0.292
SB-122	7.437E-01		1.381E+00	2.311E+00	2.174E-01	0.322
I-123	2.097E-01		5.440E-01	Half-Life too short		
TE-123M	4.792E-03		2.486E-02	4.142E-02	3.704E-03	0.116
I-124	-1.768E-01		4.892E-01	7.069E-01	6.538E-02	-0.250
SB-124	-4.904E-02		6.191E-02	8.423E-02	7.377E-03	-0.582
SB-125	-1.485E-02		7.690E-02	1.266E-01	1.209E-02	-0.117
TE-125M	-2.074E+00		7.419E+00	1.234E+01	1.256E+00	-0.168
I-126	-1.484E-01		1.660E-01	2.468E-01	2.195E-02	-0.601
SB-126	3.960E-03		1.347E-01	1.874E-01	1.706E-02	0.021
SB-127	-2.713E-01		9.397E-01	1.471E+00	1.664E-01	-0.184
XE-127	-2.868E-02		4.083E-02	6.407E-02	6.408E-03	-0.448
I-131	2.839E-02		8.810E-02	1.516E-01	1.602E-02	0.187
TE-132	-4.435E-01		4.802E-01	7.285E-01	1.219E-01	-0.609
BA-133	2.166E-02		3.898E-02	6.086E-02	8.794E-03	0.356
I-133	-1.174E-03		9.331E-04	Half-Life too short		
CS-134	1.106E-01	+	7.477E-02	8.533E-02	8.000E-03	1.296
CS-135	8.795E-02		1.597E-01	2.368E-01	3.020E-02	0.371
I-135	-2.902E+07		1.143E+08	Half-Life too short		
CS-136	2.454E-02		8.782E-02	1.490E-01	1.379E-02	0.165
BA-137M	3.730E-02		3.562E-02	6.205E-02	5.507E-03	0.601
CS-137	3.943E-02		3.765E-02	6.559E-02	5.832E-03	0.601
CE-139	-1.420E-02		2.515E-02	4.031E-02	3.656E-03	-0.352
BA-140	-1.483E-01		2.088E-01	3.115E-01	1.040E-01	-0.476
LA-140	-3.781E-02		7.764E-02	1.199E-01	1.021E-02	-0.315
CE-141	7.886E-03		5.072E-02	8.479E-02	7.417E-03	0.093
CE-143	2.127E-04		4.832E-05	Half-Life too short		
CE-144	5.988E-02		1.674E-01	2.831E-01	4.371E-02	0.212
PM-144	2.407E-02		3.363E-02	5.722E-02	5.161E-03	0.421
PR-144	1.630E+00		2.277E+00	3.875E+00	3.494E-01	0.421
PM-146	2.281E-02		3.785E-02	6.549E-02	7.479E-03	0.348
ND-147	-3.969E-01		4.464E-01	6.699E-01	1.036E-01	-0.593
PM-149	-2.419E+01		5.328E+01	8.203E+01	1.443E+01	-0.295
EU-152	-3.876E-02		8.170E-02	1.293E-01	1.445E-02	-0.300

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-6.954E-02		6.940E-02	9.931E-02	8.822E-03	-0.700
EU-154	1.619E-02		1.094E-01	1.804E-01	1.998E-02	0.090
EU-155	8.572E-02		8.980E-02	1.567E-01	1.356E-02	0.547
TB-160	1.567E-01		1.116E-01	2.106E-01	1.989E-02	0.744
HO-166M	1.439E-02		5.414E-02	8.922E-02	8.094E-03	0.161
TM-171	-2.142E+01		2.681E+01	3.649E+01	2.796E+00	-0.587
LU-176	7.556E-03		2.234E-02	3.625E-02	4.204E-03	0.208
LU-177	2.263E+00	+	1.291E+00	1.601E+00	1.624E-01	1.414
LU-177M	4.369E-02		1.518E-01	2.587E-01	2.418E-02	0.169
HF-181	-8.896E-03		3.860E-02	6.283E-02	5.976E-03	-0.142
W-181	-1.993E-01		3.411E-01	4.713E-01	3.559E-02	-0.423
TA-182	-1.102E-01		1.815E-01	2.773E-01	2.268E-02	-0.398
RE-183	4.771E-03		9.327E-02	1.543E-01	1.385E-02	0.031
RE-184	6.612E-02		2.040E-01	3.341E-01	3.787E-02	0.198
OS-185	-1.903E-02		3.623E-02	5.560E-02	4.997E-03	-0.342
RE-188	6.403E-02		1.478E-01	2.490E-01	2.191E-02	0.257
W-188	2.258E+00		7.191E+00	1.045E+01	1.240E+00	0.216
IR-192	2.996E-02		3.112E-02	5.222E-02	5.968E-03	0.574
AU-195	1.881E-01		1.781E-01	3.127E-01	2.754E-02	0.601
TL-200	-2.721E-05		8.923E-05	Half-Life too short		
TL-201	2.820E+00		4.463E+00	7.560E+00	6.883E-01	0.373
TL-202	-1.278E-02		5.741E-02	9.416E-02	8.886E-03	-0.136
HG-203	-6.368E-03		3.580E-02	5.655E-02	6.892E-03	-0.113
BI-207	3.743E-02		4.971E-02	8.752E-02	7.715E-03	0.428
TL-207	2.680E-01		5.949E-01	9.666E-01	1.849E-01	0.277
PO-209	-1.652E+00		6.665E+00	1.086E+01	1.027E+00	-0.152
BI-210	-1.306E+00		3.229E+00	4.949E+00	4.616E-01	-0.264
PB-210	-1.306E+00		3.229E+00	4.949E+00	4.616E-01	-0.264
PO-210	-1.306E+00		3.229E+00	4.949E+00	4.181E-01	-0.264
PB-211	-3.843E-01		8.233E-01	1.275E+00	8.005E-01	-0.301
BI-212	1.537E+00	+	4.746E-01	6.872E-01	7.179E-02	2.237
PO-215	2.680E-01		5.949E-01	9.666E-01	1.849E-01	0.277
RN-219	7.603E-02		3.273E-01	5.574E-01	8.597E-02	0.136
RN-220	2.187E+00		2.226E+01	3.682E+01	3.479E+00	0.059
RA-223	2.680E-01		5.949E-01	9.666E-01	1.849E-01	0.277
AC-227	-2.067E-01		3.391E-01	5.214E-01	8.904E-02	-0.397
TH-227	-2.067E-01		3.397E-01	5.214E-01	1.020E-01	-0.397
TH-229	1.527E-01		4.124E-01	6.866E-01	6.699E-02	0.222
PA-231	2.721E-01		1.271E+00	2.057E+00	3.558E-01	0.132
TH-231	2.680E-01		5.949E-01	9.666E-01	1.849E-01	0.277
U-231	1.091E-01		7.350E-01	1.130E+00	1.014E-01	0.097
PA-233	-1.691E-02		5.812E-02	9.021E-02	1.054E-02	-0.187
PA-234	-1.560E-02		2.671E-01	4.415E-01	8.434E-02	-0.035
PA-234M	4.801E+00		4.398E+00	7.929E+00	8.256E-01	0.605
U-235	3.964E-02		1.818E-01	3.000E-01	5.244E-02	0.132
NP-236	1.709E-02		6.927E-02	1.157E-01	1.032E-02	0.148
NP-239	4.538E-02		1.564E-01	2.657E-01	2.212E-02	0.171
AM-241	8.038E-02		1.364E-01	2.029E-01	1.592E-02	0.396

Sample ID : G243385005 Acquisition date : 31-DEC-2009 09:39:54

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	4.249E-02		8.035E-02	1.383E-01	1.189E-02	0.307
AM-246	-5.328E-02		1.335E-01	2.106E-01	1.837E-02	-0.253
CM-247	-1.133E-02		2.981E-02	4.860E-02	4.518E-03	-0.233
CF-249	-2.650E-03		3.431E-02	5.738E-02	5.383E-03	-0.046
CF-251	-8.221E-03		1.099E-01	1.800E-01	1.678E-02	-0.046

VAX/VMS Nuclide Identification Report Generated

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243385005           *
* Acquisition date  : 31-DEC-2009 09:39:54 Detector SN#     :               *
* Detector ID       : GAM16                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.86      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243385005           Analyst initials: MJH1           *
* Batch Number      : 936285               Sample Quantity : 1.2885E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME : 16-NOV-2009 11:22:16 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.293E+01	2.561E+00	2.083E-01	1.307E+00
CD-109	3.211E+00	1.005E+00	5.281E-01	5.129E-01
SN-126	3.161E-01	9.899E-02	5.224E-02	5.050E-02
TL-208	5.186E-01	8.665E-02	2.578E-02	4.421E-02
BI-211	3.467E+00	5.477E-01	1.415E-01	2.795E-01
PB-212	1.641E+00	2.163E-01	4.118E-02	1.104E-01
PO-212	1.641E+00	2.163E-01	4.118E-02	1.104E-01
BI-214	1.154E+00	1.848E-01	4.958E-02	9.430E-02
PB-214	1.206E+00	2.003E-01	4.932E-02	1.022E-01
PO-214	1.206E+00	2.003E-01	4.932E-02	1.022E-01
PO-216	1.641E+00	2.163E-01	4.118E-02	1.104E-01
PO-218	1.206E+00	2.003E-01	4.932E-02	1.022E-01
RA-224	4.138E+00	1.259E+00	4.687E-01	6.424E-01
RA-226	1.154E+00	1.848E-01	4.958E-02	9.430E-02
AC-228	1.292E+00	3.045E-01	9.099E-02	1.553E-01
RA-228	1.292E+00	3.045E-01	9.099E-02	1.553E-01
TH-228	1.664E+00	2.194E-01	4.176E-02	1.119E-01
TH-230	1.154E+00	1.848E-01	4.958E-02	9.430E-02
TH-232	1.292E+00	3.045E-01	9.099E-02	1.553E-01
TH-234	9.039E-01	1.620E+00	8.556E-01	8.265E-01
U-234	1.154E+00	1.848E-01	4.958E-02	9.430E-02
NP-237	9.283E-01	3.460E-01	1.551E-01	1.765E-01
U-238	9.039E-01	1.620E+00	8.556E-01	8.265E-01
AM-243	2.918E-01	5.936E-02	3.738E-02	3.029E-02
ANH-511	1.127E-01	6.502E-02	1.907E-02	3.317E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.757E-01	2.753E-01	2.474E-01	1.405E-01 NOT IDENT.
NA-22	1.390E-02	3.716E-02	3.217E-02	1.896E-02 NOT IDENT.

NA-24	-5.400E+04	1.694E+05	0.000E+00	8.645E+04	SHORT HLIF
AL-26	-1.121E-02	2.571E-02	1.946E-02	1.312E-02	NOT IDENT.
TI-44	3.714E-01	5.076E-02	3.259E-02	2.590E-02	FAIL ABUN
SC-46	3.056E-02	3.370E-02	3.125E-02	1.719E-02	FAIL ABUN
V-48	-2.132E-02	5.650E-02	4.618E-02	2.883E-02	NOT IDENT.
CR-51	-3.028E-01	3.303E-01	2.545E-01	1.685E-01	NOT IDENT.
MN-52	-1.372E-01	1.812E-01	1.294E-01	9.245E-02	FAIL ABUN
MN-54	1.838E-02	3.148E-02	2.852E-02	1.606E-02	NOT IDENT.
CO-56	-9.385E-03	2.927E-02	2.443E-02	1.493E-02	FAIL ABUN
CO-57	-1.801E-02	2.021E-02	1.721E-02	1.031E-02	NOT IDENT.
CO-58	1.152E-02	3.241E-02	2.898E-02	1.654E-02	NOT IDENT.
FE-59	3.539E-02	8.430E-02	7.375E-02	4.301E-02	NOT IDENT.
CO-60	-1.362E-02	3.237E-02	2.506E-02	1.651E-02	NOT IDENT.
ZN-65	5.558E-02	8.980E-02	7.079E-02	4.582E-02	NOT IDENT.
GE-68	6.112E-01	1.111E+00	9.871E-01	5.666E-01	NOT IDENT.
AS-73	1.557E-01	6.686E-01	5.702E-01	3.411E-01	NOT IDENT.
AS-74	-4.444E-03	7.342E-02	6.168E-02	3.746E-02	NOT IDENT.
SE-75	1.644E-02	3.816E-02	3.143E-02	1.947E-02	NOT IDENT.
BR-77	4.078E+00	6.134E+00	5.509E+00	3.130E+00	FAIL ABUN
SR-82	-1.268E-01	3.186E-01	2.513E-01	1.626E-01	NOT IDENT.
RB-83	3.454E-02	5.692E-02	5.093E-02	2.904E-02	NOT IDENT.
RB-84	4.577E-03	5.172E-02	4.493E-02	2.639E-02	NOT IDENT.
KR-85	6.597E+00	6.364E+00	5.272E+00	3.247E+00	NOT IDENT.
SR-85	3.339E-02	3.222E-02	2.669E-02	1.644E-02	NOT IDENT.
RB-86	3.188E-01	6.766E-01	5.972E-01	3.452E-01	NOT IDENT.
Y-88	9.336E-03	2.926E-02	2.601E-02	1.493E-02	NOT IDENT.
ZR-88	-9.835E-03	2.585E-02	2.206E-02	1.319E-02	NOT IDENT.
Y-91	1.392E+01	1.692E+01	1.516E+01	8.634E+00	NOT IDENT.
NB-94	-1.452E-03	2.900E-02	2.401E-02	1.480E-02	NOT IDENT.
NB-95	1.912E-02	4.636E-02	3.472E-02	2.365E-02	NOT IDENT.
NB-95M	8.630E-02	1.092E-01	8.693E-02	5.573E-02	NOT IDENT.
ZR-95	2.902E-02	6.660E-02	5.709E-02	3.398E-02	NOT IDENT.
NB-97	-4.229E+04	2.832E+04	0.000E+00	1.445E+04	SHORT HLIF
ZR-97	5.280E+05	4.631E+05	0.000E+00	2.363E+05	SHORT HLIF
MO-99	-4.130E+00	7.681E+00	5.995E+00	3.919E+00	NOT IDENT.
TC-99M	-5.318E+14	1.101E+15	0.000E+00	5.619E+14	SHORT HLIF
RH-101	-7.249E-03	2.897E-02	2.423E-02	1.478E-02	NOT IDENT.
RH-102	1.234E-02	2.456E-02	2.192E-02	1.253E-02	FAIL ABUN
RU-103	6.882E-04	3.338E-02	2.870E-02	1.703E-02	FAIL ABUN
RH-106	-1.889E-03	2.678E-01	2.251E-01	1.366E-01	FAIL ABUN
RU-106	-1.889E-03	2.678E-01	2.251E-01	1.366E-01	FAIL ABUN
AG-108M	-4.274E-02	2.844E-02	2.155E-02	1.451E-02	NOT IDENT.
AG-110M	-4.112E-02	3.292E-02	2.435E-02	1.680E-02	NOT IDENT.
IN-111	6.539E-01	7.114E-01	5.722E-01	3.630E-01	NOT IDENT.
IN-113M	-5.885E-04	3.786E-02	3.312E-02	1.931E-02	NOT IDENT.
SN-113	-5.885E-04	3.786E-02	3.312E-02	1.931E-02	NOT IDENT.
IN-114M	-1.746E-02	1.523E-01	1.244E-01	7.768E-02	NOT IDENT.
CD-115	2.970E+00	5.727E+00	5.105E+00	2.922E+00	NOT IDENT.
SN-117M	2.203E-02	4.383E-02	3.910E-02	2.236E-02	NOT IDENT.
SB-122	7.437E-01	1.353E+00	1.174E+00	6.904E-01	NOT IDENT.
I-123	2.097E+05	1.066E+06	0.000E+00	5.440E+05	SHORT HLIF
TE-123M	4.792E-03	2.436E-02	2.146E-02	1.243E-02	NOT IDENT.
I-124	-1.768E-01	4.794E-01	3.588E-01	2.446E-01	FAIL ABUN
SB-124	-4.904E-02	6.067E-02	4.205E-02	3.095E-02	FAIL ABUN
SB-125	-1.485E-02	7.536E-02	6.458E-02	3.845E-02	FAIL ABUN
TE-125M	-2.074E+00	7.271E+00	6.430E+00	3.710E+00	NOT IDENT.
I-126	-1.484E-01	1.627E-01	1.251E-01	8.300E-02	NOT IDENT.
SB-126	3.960E-03	1.320E-01	9.484E-02	6.734E-02	FAIL ABUN
SB-127	-2.713E-01	9.209E-01	7.451E-01	4.699E-01	NOT IDENT.
XE-127	-2.868E-02	4.001E-02	3.308E-02	2.042E-02	NOT IDENT.
I-131	2.839E-02	8.634E-02	7.754E-02	4.405E-02	NOT IDENT.
TE-132	-4.435E-01	4.706E-01	3.754E-01	2.401E-01	NOT IDENT.
BA-133	2.166E-02	3.820E-02	3.114E-02	1.949E-02	NOT IDENT.
I-133	-1.174E+03	1.829E+03	0.000E+00	9.331E+02	SHORT HLIF
CS-134	1.106E-01	7.327E-02	4.312E-02	3.738E-02	FAIL ABUN
CS-135	8.795E-02	1.565E-01	1.217E-01	7.987E-02	NOT IDENT.
I-135	-2.902E+13	2.240E+14	0.000E+00	1.143E+14	SHORT HLIF
CS-136	2.454E-02	8.606E-02	7.497E-02	4.391E-02	FAIL ABUN
BA-137M	3.730E-02	3.491E-02	3.145E-02	1.781E-02	NOT IDENT.
CS-137	3.943E-02	3.690E-02	3.325E-02	1.883E-02	NOT IDENT.
CE-139	-1.420E-02	2.465E-02	2.087E-02	1.258E-02	NOT IDENT.
BA-140	-1.483E-01	2.046E-01	1.584E-01	1.044E-01	NOT IDENT.
LA-140	-3.781E-02	7.609E-02	5.991E-02	3.882E-02	NOT IDENT.
CE-141	7.886E-03	4.971E-02	4.399E-02	2.536E-02	NOT IDENT.
CE-143	2.127E+02	9.470E+01	0.000E+00	4.832E+01	SHORT HLIF
CE-144	5.988E-02	1.640E-01	1.470E-01	8.368E-02	NOT IDENT.
PM-144	2.407E-02	3.296E-02	2.898E-02	1.681E-02	NOT IDENT.
PR-144	1.630E+00	2.232E+00	1.962E+00	1.139E+00	NOT IDENT.

PM-146	2.281E-02	3.710E-02	3.339E-02	1.893E-02	NOT IDENT.
ND-147	-3.969E-01	4.375E-01	3.407E-01	2.232E-01	FAIL ABUN
PM-149	-2.419E+01	5.222E+01	4.212E+01	2.664E+01	NOT IDENT.
EU-152	-3.876E-02	8.007E-02	6.622E-02	4.085E-02	FAIL ABUN
GD-153	-6.954E-02	6.801E-02	5.183E-02	3.470E-02	NOT IDENT.
EU-154	1.619E-02	1.072E-01	9.046E-02	5.468E-02	NOT IDENT.
EU-155	8.572E-02	8.800E-02	8.168E-02	4.490E-02	FAIL ABUN
TB-160	1.567E-01	1.093E-01	1.062E-01	5.578E-02	FAIL ABUN
HO-166M	1.439E-02	5.306E-02	4.517E-02	2.707E-02	FAIL ABUN
TM-171	-2.142E+01	2.627E+01	1.915E+01	1.340E+01	NOT IDENT.
LU-176	7.556E-03	2.189E-02	1.859E-02	1.117E-02	FAIL ABUN
LU-177	2.263E+00	1.265E+00	8.259E-01	6.456E-01	FAIL ABUN
LU-177M	4.369E-02	1.487E-01	1.321E-01	7.589E-02	FAIL ABUN
HF-181	-8.896E-03	3.782E-02	3.200E-02	1.930E-02	NOT IDENT.
W-181	-1.993E-01	3.343E-01	2.475E-01	1.705E-01	NOT IDENT.
TA-182	-1.102E-01	1.778E-01	1.392E-01	9.074E-02	FAIL ABUN
RE-183	4.771E-03	9.141E-02	7.993E-02	4.664E-02	FAIL ABUN
RE-184	6.612E-02	1.999E-01	1.719E-01	1.020E-01	NOT IDENT.
OS-185	-1.903E-02	3.551E-02	2.819E-02	1.812E-02	NOT IDENT.
RE-188	6.403E-02	1.449E-01	1.291E-01	7.391E-02	NOT IDENT.
W-188	2.258E+00	7.048E+00	5.367E+00	3.596E+00	FAIL ABUN
IR-192	2.996E-02	3.050E-02	2.677E-02	1.556E-02	FAIL ABUN
AU-195	1.881E-01	1.745E-01	1.632E-01	8.903E-02	FAIL ABUN
TL-200	-2.721E+01	1.749E+02	0.000E+00	8.923E+01	SHORT HLIF
TL-201	2.820E+00	4.374E+00	3.914E+00	2.231E+00	NOT IDENT.
TL-202	-1.278E-02	5.626E-02	4.803E-02	2.870E-02	NOT IDENT.
HG-203	-6.368E-03	3.509E-02	2.905E-02	1.790E-02	NOT IDENT.
BI-207	3.743E-02	4.872E-02	4.402E-02	2.485E-02	FAIL ABUN
TL-207	2.680E-01	5.830E-01	4.954E-01	2.975E-01	FAIL ABUN
PO-209	-1.652E+00	6.531E+00	5.478E+00	3.332E+00	NOT IDENT.
BI-210	-1.306E+00	3.165E+00	2.612E+00	1.615E+00	NOT IDENT.
PB-210	-1.306E+00	3.165E+00	2.612E+00	1.615E+00	NOT IDENT.
PO-210	-1.306E+00	3.164E+00	2.612E+00	1.614E+00	NOT IDENT.
PB-211	-3.843E-01	8.068E-01	6.514E-01	4.116E-01	NOT IDENT.
BI-212	1.537E+00	4.651E-01	3.478E-01	2.373E-01	FAIL ABUN
PO-215	2.680E-01	5.830E-01	4.954E-01	2.975E-01	FAIL ABUN
RN-219	7.603E-02	3.208E-01	2.847E-01	1.637E-01	FAIL ABUN
RN-220	2.187E+00	2.182E+01	1.872E+01	1.113E+01	NOT IDENT.
RA-223	2.680E-01	5.830E-01	4.954E-01	2.975E-01	FAIL ABUN
AC-227	-2.067E-01	3.323E-01	2.682E-01	1.695E-01	FAIL ABUN
TH-227	-2.067E-01	3.329E-01	2.682E-01	1.698E-01	FAIL ABUN
TH-229	1.527E-01	4.041E-01	3.547E-01	2.062E-01	FAIL ABUN
PA-231	2.721E-01	1.245E+00	1.056E+00	6.355E-01	FAIL ABUN
TH-231	2.680E-01	5.830E-01	4.954E-01	2.975E-01	FAIL ABUN
U-231	1.091E-01	7.203E-01	5.897E-01	3.675E-01	FAIL ABUN
PA-233	-1.691E-02	5.695E-02	4.626E-02	2.906E-02	FAIL ABUN
PA-234	-1.560E-02	2.618E-01	2.225E-01	1.336E-01	FAIL ABUN
PA-234M	4.801E+00	4.310E+00	3.993E+00	2.199E+00	NOT IDENT.
U-235	3.964E-02	1.781E-01	1.557E-01	9.089E-02	FAIL ABUN
NP-236	1.709E-02	6.788E-02	5.991E-02	3.463E-02	NOT IDENT.
NP-239	4.538E-02	1.533E-01	1.383E-01	7.821E-02	FAIL ABUN
AM-241	8.038E-02	1.337E-01	1.067E-01	6.821E-02	NOT IDENT.
CM-243	4.249E-02	7.874E-02	7.214E-02	4.017E-02	FAIL ABUN
AM-246	-5.328E-02	1.309E-01	1.059E-01	6.677E-02	NOT IDENT.
CM-247	-1.133E-02	2.921E-02	2.482E-02	1.490E-02	NOT IDENT.
CF-249	-2.650E-03	3.363E-02	2.932E-02	1.716E-02	NOT IDENT.
CF-251	-8.221E-03	1.077E-01	9.311E-02	5.497E-02	NOT IDENT.

GEL Laboratories LLC
2040 SAVAGE ROAD
CHARLESTON ,SC 29417
GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS
46.50	222.1650
46.50	222.1650
46.50	222.1650
48.70	244.9968
49.72	187.5852
51.35	219.5234
52.39	223.7867
52.97	220.5696
53.15	220.6850
53.44	200.4638
54.07	204.4353
56.28	215.3968
56.28	215.3982
57.37	0.0000
57.53	267.1469
57.53	267.1481
57.60	267.1985
57.98	254.1033
57.98	254.1033
59.32	232.6594
59.32	232.6594
59.40	229.4549
59.54	221.4019
59.72	221.5088
60.01	231.4614
61.10	248.4813
61.14	248.5072
61.30	248.6119
63.00	259.9883
63.29	260.1839
63.29	260.1839
63.58	260.3787
64.28	270.3242
65.12	303.9409
65.20	304.0013
65.20	304.0013
66.05	298.0316
66.72	318.4336
66.83	318.5215
66.91	318.5859
67.20	315.4935
67.20	315.4935
67.75	283.0832
67.85	283.1542
68.90	295.9742
68.90	295.9742
69.30	316.2921
69.67	322.4245
70.82	329.1811
70.82	329.1811
70.83	329.1891
72.80	323.1602
72.87	323.2129
72.87	323.2129
74.67	312.7408
74.81	312.8405
74.81	312.8405
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74.81	312.8405
74.97	312.9572
75.28	313.1812
75.70	313.4823
77.11	314.4910
77.11	314.4910

77.11	314.4910
77.11	314.4910
77.11	314.4910
77.11	314.4910
77.11	314.4910
78.38	318.3759
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79.80	306.5579
79.80	306.5579
80.11	255.4258
80.18	255.4652
80.30	255.5320
80.30	255.5320
80.57	295.5140
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81.07	331.3393
81.07	331.3393
81.07	331.3393
81.07	331.3393
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83.37	316.7063
83.78	301.4608
83.78	301.4608
83.78	301.4608
83.78	301.4608
84.21	305.6232
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86.29	361.6024
86.50	293.2263
86.54	293.2503
86.59	293.2813
86.72	293.3604
86.79	293.4016
86.94	293.4962
87.30	293.7162
87.30	293.7162
87.30	293.7162
87.30	293.7162
87.30	293.7162
87.30	293.7162
87.30	293.7162
87.57	293.8813
87.88	294.0704
88.03	294.1615
88.36	294.3626
88.47	294.4297
89.95	295.3236
91.11	296.0199
92.29	296.7248
92.38	296.7780
92.38	296.7780
93.35	297.3522
94.00	297.7373
94.67	206.3960
94.67	206.3984
94.90	218.4042
94.90	218.4042
94.90	218.4042
94.90	218.4042
95.87	241.3647
95.87	241.3647
96.73	249.7420
97.43	274.0228
98.44	221.7757
98.44	221.7769
98.88	222.3193
99.55	212.8089
99.55	212.8089
99.86	220.9532
100.00	228.1406
100.10	228.1862
103.18	255.5038
103.76	246.8046
105.00	241.0716
105.31	238.5092
108.00	276.7569
109.28	252.9175

111.00	248.2338
111.00	248.2338
111.76	235.8187
112.95	258.2076
115.19	240.8920
116.30	208.3142
117.00	231.5332
117.00	231.5332
117.66	252.0279
121.11	201.6817
121.62	232.4081
121.78	238.0264
122.06	245.5504
122.32	253.9985
122.32	253.9985
122.32	253.9985
122.32	253.9985
123.07	257.0966
127.23	302.7563
129.76	257.0673
131.20	296.2065
133.02	228.2093
133.54	223.6726
135.34	223.3482
136.00	233.0499
136.25	220.8172
136.48	220.8954
140.51	233.6901
140.51	0.0000
142.18	244.7891
142.65	231.5646
143.76	230.0269
144.24	220.5968
144.24	220.5968
144.24	220.5968
144.24	220.5968
145.22	235.3225
145.44	235.3973
147.16	225.3902
152.43	242.6224
152.70	263.1019
153.22	256.4939
154.21	229.6069
154.21	229.6069
154.21	229.6069
154.21	229.6069
155.03	242.5334
156.02	255.5475
158.56	228.0605
159.00	0.0000
159.00	241.9069
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161.27	232.8340
162.32	233.1643
162.64	223.4208
163.35	202.9468
163.89	217.8818
165.85	236.2454
167.43	204.0511
171.28	214.0399
171.86	209.2203
172.10	209.2844
176.55	224.5127
176.60	224.5286
181.06	219.2390
184.41	204.9678
185.71	217.9657
186.00	218.0444
190.27	203.0683
192.34	213.5880
193.63	180.1393
197.04	195.2514
198.01	216.0498
198.60	218.2562
200.40	207.3651
201.83	220.1091
202.84	236.9180
205.31	180.5243

208.36	208.2153
208.81	208.3211
209.75	204.8914
209.75	204.8914
210.97	203.6050
215.65	212.0071
216.55	195.4075
218.09	191.5273
222.10	190.2448
223.80	177.8848
226.40	188.9946
227.00	186.9893
227.08	184.8803
227.20	184.9033
228.16	209.5570
228.18	209.5610
228.18	209.5610
231.56	0.0000
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236.00	159.2571
236.00	159.2571
238.63	189.2577
238.63	189.2577
238.63	189.2577
238.63	189.2577
239.00	189.3275
240.98	189.7088
241.98	189.9004
241.98	189.9004
241.98	189.9004
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245.39	133.1687
247.94	176.9216
248.90	156.4468
249.79	138.0988
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252.85	150.5107
254.15	0.0000
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256.20	167.4130
260.50	149.4279
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262.80	148.6533
264.65	131.0421
268.24	157.7148
268.79	144.5079
269.46	150.6924
269.46	150.6924
269.46	150.6924
269.46	150.6924
271.23	164.8117
273.65	188.5391
276.40	157.2337
277.35	148.4398
277.60	137.3115
277.60	137.3115
278.00	151.8794
278.60	137.4366
279.20	156.5145
279.53	169.9826
280.46	158.9324
281.68	145.6602
283.67	118.9826
284.30	106.6953
285.00	125.8656
285.90	133.8411
286.10	121.4890
286.10	121.4890
287.40	140.7751
288.45	0.0000
290.67	135.5347
290.80	135.5493
291.72	123.7890
293.26	0.0000
293.70	161.3736
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295.21	136.0718

295.21	136.0718
295.96	105.5256
296.50	105.5748
297.23	105.6411
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300.09	121.2729
300.09	121.2729
300.09	121.2729
300.12	121.2772
301.29	117.9789
302.84	135.2557
303.76	150.7827
303.91	150.8015
304.40	138.8628
304.40	138.8628
304.84	138.9147
306.84	124.8337
308.46	133.0323
311.98	132.2739
316.51	110.8340
318.01	123.6861
319.02	129.5729
319.41	131.9285
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323.87	119.6323
323.87	119.6323
323.87	119.6323
325.23	170.9258
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333.44	134.8313
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334.20	148.9642
334.30	148.9771
338.28	121.5986
338.28	121.5986
338.28	121.5986
338.28	121.5986
338.32	121.6028
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338.32	121.6028
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340.57	90.3906
344.27	116.3477
345.85	121.9600
350.59	0.0000
351.07	108.5650
351.92	108.6358
351.92	108.6358
351.92	108.6358
355.39	0.0000
356.01	92.8940
364.48	100.6729
366.43	99.0178
367.43	96.3875
367.94	0.0000
369.80	95.6533
374.96	114.1279
383.85	100.2716
387.95	106.9632
388.63	107.9278
391.69	108.1601
391.69	108.1601
392.90	111.0041
398.62	98.5508
400.65	96.8433
401.10	87.6477
401.81	84.9206
402.60	96.0496
404.84	107.2950
410.95	95.6667
411.60	125.4419
413.65	97.7005
414.70	94.9760
415.30	107.1229

415.76	101.5655
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427.89	90.1714
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433.93	108.4407
439.47	95.5798
439.56	98.4236
439.89	97.4976
443.98	77.8222
444.90	79.7664
445.03	79.7741
445.03	79.7741
445.03	79.7741
445.03	79.7741
453.90	80.2189
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473.00	95.6570
475.06	75.4601
475.35	80.3113
476.78	81.3481
477.59	78.4811
477.96	86.2513
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484.57	78.8074
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511.85	67.2130
513.99	66.5027
513.99	66.5027
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520.65	64.5676
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528.96	0.0000
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529.87	0.0000
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537.32	76.1925
543.00	73.4099
546.56	0.0000
549.76	67.6236
552.65	76.8257
555.20	60.7343
563.23	65.0586
563.90	67.1138
568.70	71.3608
569.32	65.2656
569.50	65.2715
569.67	66.2973
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574.00	75.6463
574.64	60.3324
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579.30	0.0000
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591.81	55.7073
592.07	55.7139
593.00	56.7725
595.88	68.2256
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602.71	71.9168
603.60	54.7916
604.41	54.8142
604.70	54.8222
609.31	73.8861

609.31	73.8861
609.31	73.8861
609.31	73.8861
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612.46	65.0375
614.37	61.7600
618.01	63.7514
621.84	62.8235
621.84	62.8235
631.29	52.5925
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633.10	50.5327
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646.12	64.6170
656.30	62.7955
657.75	91.5955
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661.65	70.4211
664.57	0.0000
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666.33	91.9576
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685.20	60.3955
692.80	70.3400
695.00	80.1584
696.49	70.4550
696.49	70.4550
697.00	71.5551
697.49	70.4868
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717.42	52.5073
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722.78	56.1375
722.78	56.1375
722.89	56.1406
722.95	59.6511
723.30	59.6594
724.18	57.9272
727.18	53.8270
733.00	63.1388
735.90	51.8222
739.58	65.1542
742.81	49.7626
744.21	56.4303
747.13	67.5769
751.79	63.2692
752.31	61.0626
753.82	66.6559
755.35	66.6980
756.15	62.2720
756.87	50.0551
763.93	64.2568
765.79	71.4512
766.42	78.6178
766.84	67.9083
776.49	58.3080
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778.57	48.2569
778.89	48.2635
783.80	55.1071
785.46	46.8165
792.07	40.6208

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796.30	51.5407
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805.60	57.1753
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828.27	0.0000
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834.83	51.4021
836.80	0.0000
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856.80	47.8207
860.37	58.6978
867.32	60.3979
867.82	51.1154
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873.19	42.8353
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880.27	34.5448
880.51	33.6138
881.50	37.3623
883.24	49.5361
884.67	54.2376
889.25	40.2779
896.60	53.5335
898.02	53.5614
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911.07	45.3152
911.07	45.3152
911.07	45.3152
919.63	25.5676
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925.00	48.4907
925.24	46.3860
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935.52	50.7852
937.48	49.2322
944.10	47.7539
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949.00	48.7912
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964.01	51.2852
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968.20	39.4815
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969.11	41.7422
969.11	41.7422
977.42	37.6727
980.50	34.8108
983.50	46.4613
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996.32	55.4080
1001.03	44.7849
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1004.76	63.3607
1021.30	0.0000
1024.50	0.0000
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1037.82	54.1890
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1038.76	0.0000
1045.16	44.4419
1046.59	51.3779
1048.07	40.5275

1050.47	45.5059
1050.47	45.5059
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1063.62	43.7078
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1077.35	41.8995
1078.86	53.8945
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1099.22	49.2105
1112.02	57.9717
1112.84	50.4248
1115.52	45.4175
1120.29	61.6553
1120.29	61.6553
1120.29	61.6553
1120.29	61.6553
1120.51	61.6583
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1124.00	0.0000
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1131.51	0.0000
1147.95	0.0000
1167.94	57.4000
1173.22	47.2219
1175.09	56.4932
1177.93	48.3150
1189.05	34.0313
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1205.75	0.0000
1213.00	55.0289
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1230.97	60.8683
1235.34	76.6133
1236.41	0.0000
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1260.41	0.0000
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1274.45	38.0145
1274.54	33.7906
1291.56	41.3708
1298.22	0.0000
1312.09	24.5307
1325.50	25.6875
1325.50	25.6875
1332.49	28.9499
1333.61	27.8865
1360.21	19.4379
1362.66	0.0000
1365.15	18.3813
1368.21	24.3468
1368.53	0.0000
1376.25	23.8541
1384.27	23.5403
1394.10	30.4965
1395.20	33.7730
1407.95	16.3938
1434.06	27.4988
1436.60	21.0955
1457.56	0.0000
1460.81	15.6836
1489.15	19.5046
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1596.49	26.6533
1620.62	19.1398
1678.03	0.0000
1691.02	15.5456
1691.02	15.5456
1706.46	0.0000
1750.46	0.0000
1764.49	8.8788
1764.49	8.8788
1764.49	8.8788
1764.49	8.8788
1770.23	10.1589
1771.40	13.8308
1791.20	0.0000
1808.65	12.9397

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243385005

Total Uranium Activity	2.7076E+00	ug/g
Total Uranium Counting Unc.	4.8202E+00	ug/g
Total Uranium Tpu	2.4593E-06	ug/g
Total Uranium Mda	2.5464E+00	ug/g

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*******************************************************************************
*                                                                             *
*                          GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                              *
*                             CHARLESTON ,SC 29417                            *
*                              GROSS GAMMA REPORT                             *
*                                                                             *
*                                                                             *
*******************************************************************************
*                                                                             *
*   BATCH ID      : 936285                    SAMPLE ID   : G243385005        *
*   ANALYST       : MJH1                      DETECTOR    : GAM16             *
*   SAMPLE DATE   : 17-DEC-2009 12:00:00.00   COUNT TIME  :    0 02:00:00.00  *
*   ANALYSIS DATE: 31-DEC-2009 09:39:54.66    SAMPLE ALQT:  128.850 GRAM      *
*                                                                             *
*******************************************************************************
```

```
GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 8.172E+00
GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.256E+00
GROSS GAMMA MDA     (pCi/GRAM  )  : 2.907E+00
GROSS GAMMA DLC     (pCi/GRAM  )  : 1.401E+00
```

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:41:18.56

```
*****************************************************************************
*                              GEL Laboratories LLC                         *
*                                2040 Savage Road                           *
*                              Charleston, SC 29414                         *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385006.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:40:22
Sample ID         : G243385006           Sample quantity  : 1.58180E+02 GRAM
Detector name     : GAM22                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:02.10  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit   : 75.00000             Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID   :                      LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.32*	69	501	0.85	126.88	123	7	9.57E-03	57.5	
2	4	74.85	445	600	1.34	149.93	143	15	6.19E-02	10.9	1.96E+00
3	4	77.08*	679	453	1.02	154.39	143	15	9.42E-02	6.6	
4	3	87.09	236	586	1.16	174.38	170	22	3.28E-02	17.4	2.74E+00
5	3	89.82	152	538	1.17	179.84	170	22	2.11E-02	26.4	
6	3	92.62*	279	476	1.18	185.44	170	22	3.87E-02	16.1	
7	0	129.28	126	523	1.48	258.69	254	9	1.75E-02	33.9	
8	0	185.96*	252	470	1.39	371.93	367	10	3.50E-02	18.1	
9	0	209.79	104	451	0.85	419.56	415	9	1.45E-02	38.0	
10	0	238.63*	1407	491	1.25	477.19	473	8	1.95E-01	3.9	
11	0	241.90	261	372	1.60	483.71	481	8	3.62E-02	14.7	
12	0	270.25	118	293	1.74	540.37	536	10	1.64E-02	28.8	
13	0	277.38	147	352	1.52	554.61	548	14	2.04E-02	28.4	
14	0	295.16*	443	296	1.28	590.14	585	11	6.16E-02	9.1	
15	0	300.16	124	222	1.49	600.13	596	9	1.72E-02	23.6	
16	0	327.73	99	297	1.72	655.23	648	12	1.38E-02	36.2	
17	0	338.41*	319	330	1.30	676.58	671	13	4.44E-02	13.3	
18	0	351.99*	847	281	1.38	703.72	697	13	1.18E-01	5.5	
19	0	462.87*	58	177	2.30	925.32	921	11	8.08E-03	46.9	
20	0	510.51*	167	289	2.06	1020.52	1012	18	2.32E-02	28.0	
21	0	583.21*	559	194	1.71	1165.83	1156	16	7.77E-02	7.1	
22	0	609.34*	563	170	1.80	1218.06	1212	14	7.82E-02	6.8	
23	0	661.60	308	233	1.78	1322.53	1315	18	4.28E-02	12.9	
24	0	726.75	146	129	1.59	1452.77	1446	15	2.03E-02	18.7	
25	0	795.86	112	80	1.75	1590.92	1582	17	1.55E-02	20.7	
26	0	860.70*	73	77	1.60	1720.55	1715	13	1.02E-02	28.4	
27	0	911.19*	391	140	2.18	1821.50	1811	20	5.43E-02	9.2	
28	1	964.49	122	75	2.56	1928.07	1916	33	1.69E-02	18.3	2.18E+00
29	1	968.92*	281	75	2.56	1936.93	1916	33	3.90E-02	9.3	
30	2	1120.27*	173	51	2.99	2239.57	2232	31	2.40E-02	12.5	5.31E+00
31	2	1127.99	61	52	2.47	2255.00	2232	31	8.41E-03	27.5	
32	0	1460.72*	1697	57	2.60	2920.46	2909	23	2.36E-01	2.7	
33	3	1759.71	20	0	2.16	3518.61	3516	30	2.76E-03	19.8	1.99E+00
34	3	1764.38*	117	5	3.75	3527.96	3516	30	1.62E-02	12.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 11:41:21

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385006.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MJH1
Sample date : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:40:22
Sample ID : G243385006 Sample quantity : 158.18 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA22 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.10 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.977E+01	2.109E+00	3.342E-01	3.062E-02	59.156
CD-109	+	88.03	*	2.060E+00	7.442E-01	8.953E-01	8.496E-02	2.301
SN-126	+	64.28		3.924E-01	4.544E-01	5.429E-01	7.885E-02	0.723
	+	86.94		8.432E-01	4.573E-01	3.701E-01	1.537E-01	2.278
	+	87.57	*	2.028E-01	7.328E-02	8.852E-02	8.358E-03	2.291
BA-137M	+	661.65	*	2.265E-01	6.304E-02	3.998E-02	4.216E-03	5.664
CS-137	+	661.65	*	2.394E-01	6.665E-02	4.227E-02	4.463E-03	5.664
TL-208	+	277.35		8.293E-01	4.900E-01	4.343E-01	7.161E-02	1.909
	+	510.84		4.262E-01	2.453E-01	1.560E-01	2.032E-02	2.733
	+	583.14	*	4.010E-01	7.145E-02	4.131E-02	4.479E-03	9.708
	+	860.37		4.789E-01	2.780E-01	3.305E-01	3.852E-02	1.449
BI-211		72.87		3.071E+00	2.074E+00	3.535E+00	2.830E-01	0.869
	+	351.07	*	2.877E+00	4.605E-01	2.349E-01	2.741E-02	12.249
PB-212	+	74.81		1.601E+00	4.016E-01	3.672E-01	4.556E-02	4.360
	+	77.11		1.385E+00	2.165E-01	2.091E-01	1.749E-02	6.625
	+	87.30		9.381E-01	3.516E-01	4.104E-01	5.635E-02	2.286
	+	238.63	*	1.115E+00	1.712E-01	8.400E-02	1.110E-02	13.279
	+	300.09		1.461E+00	7.212E-01	8.867E-01	1.293E-01	1.647
PO-212	+	74.81		1.601E+00	4.016E-01	3.672E-01	4.556E-02	4.360
	+	77.11		1.385E+00	2.165E-01	2.091E-01	1.749E-02	6.625
	+	87.30		9.381E-01	3.516E-01	4.104E-01	5.635E-02	2.286
		115.19		5.916E-01	2.706E+00	4.344E+00	3.599E-01	0.136
	+	238.63	*	1.115E+00	1.712E-01	8.400E-02	1.110E-02	13.279
	+	300.09		1.461E+00	7.212E-01	8.867E-01	1.293E-01	1.647
BI-214	+	609.31	*	7.573E-01	1.352E-01	8.169E-02	9.498E-03	9.270
	+	1120.29		1.157E+00	3.165E-01	2.828E-01	3.125E-02	4.092
	+	1764.49		1.023E+00	2.705E-01	1.982E-01	1.651E-02	5.161
PB-214	+	74.81		2.759E+00	6.738E-01	6.327E-01	6.974E-02	4.360
	+	77.11		2.375E+00	4.129E-01	3.584E-01	4.055E-02	6.625
	+	87.30		1.607E+00	5.936E-01	7.030E-01	8.553E-02	2.286
	+	241.98		1.239E+00	4.015E-01	5.132E-01	7.058E-02	2.414
	+	295.21		9.176E-01	2.155E-01	1.524E-01	2.269E-02	6.020
	+	351.92	*	1.001E+00	1.685E-01	8.186E-02	1.043E-02	12.227
PO-214	+	74.81		2.759E+00	6.738E-01	6.327E-01	6.974E-02	4.360

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		2.375E+00	4.129E-01	3.584E-01	4.055E-02	6.625
	+	87.30		1.607E+00	5.936E-01	7.030E-01	8.553E-02	2.286
	+	241.98		1.239E+00	4.015E-01	5.132E-01	7.058E-02	2.414
	+	295.21		9.176E-01	2.155E-01	1.524E-01	2.269E-02	6.020
	+	351.92	*	1.001E+00	1.685E-01	8.186E-02	1.043E-02	12.227
PO-216	+	74.81		1.601E+00	4.016E-01	3.672E-01	4.556E-02	4.360
	+	77.11		1.385E+00	2.165E-01	2.091E-01	1.749E-02	6.625
	+	87.30		9.381E-01	3.516E-01	4.104E-01	5.635E-02	2.286
	+	238.63	*	1.115E+00	1.712E-01	8.400E-02	1.110E-02	13.279
	+	300.09		1.461E+00	7.212E-01	8.867E-01	1.293E-01	1.647
PO-218	+	74.81		2.759E+00	6.738E-01	6.327E-01	6.974E-02	4.360
	+	77.11		2.375E+00	4.129E-01	3.584E-01	4.055E-02	6.625
	+	87.30		1.607E+00	5.936E-01	7.030E-01	8.553E-02	2.286
	+	241.98		1.239E+00	4.015E-01	5.132E-01	7.058E-02	2.414
	+	295.21		9.176E-01	2.155E-01	1.524E-01	2.269E-02	6.020
	+	351.92	*	1.001E+00	1.685E-01	8.186E-02	1.043E-02	12.227
RA-224	+	240.98	*	2.350E+00	7.499E-01	1.020E+00	1.276E-01	2.304
RA-226	+	609.31	*	7.573E-01	1.352E-01	8.169E-02	9.498E-03	9.270
	+	1120.29		1.157E+00	3.165E-01	2.828E-01	3.125E-02	4.092
	+	1764.49		1.023E+00	2.705E-01	1.982E-01	1.651E-02	5.161
AC-228	+	338.32		1.204E+00	5.985E-01	2.720E-01	1.144E-01	4.426
	+	911.07	*	1.200E+00	2.719E-01	1.492E-01	1.977E-02	8.045
	+	969.11		1.515E+00	4.617E-01	2.256E-01	5.449E-02	6.714
RA-228	+	338.32		1.204E+00	5.985E-01	2.720E-01	1.144E-01	4.426
	+	911.07	*	1.200E+00	2.719E-01	1.492E-01	1.977E-02	8.045
	+	969.11		1.515E+00	4.617E-01	2.256E-01	5.449E-02	6.714
TH-228	+	74.81		1.623E+00	3.783E-01	3.723E-01	3.068E-02	4.360
	+	77.11		1.405E+00	2.195E-01	2.120E-01	1.773E-02	6.625
	+	87.30		9.511E-01	3.436E-01	4.161E-01	3.916E-02	2.286
	+	238.63	*	1.131E+00	1.736E-01	8.517E-02	1.125E-02	13.279
	+	300.09		1.481E+00	1.132E+00	8.991E-01	5.408E-01	1.647
TH-230	+	609.31	*	7.573E-01	1.352E-01	8.169E-02	9.498E-03	9.270
	+	1120.29		1.157E+00	3.165E-01	2.828E-01	3.125E-02	4.092
	+	1764.49		1.023E+00	2.705E-01	1.982E-01	1.651E-02	5.161
TH-232	+	338.32		1.204E+00	3.498E-01	2.720E-01	3.234E-02	4.426
	+	911.07	*	1.200E+00	2.719E-01	1.492E-01	1.977E-02	8.045
	+	969.11		1.515E+00	4.617E-01	2.256E-01	5.449E-02	6.714
TH-234	+	63.29	*	9.913E-01	1.152E+00	1.371E+00	2.387E-01	0.723
	+	92.38		1.556E+00	5.756E-01	5.838E-01	1.070E-01	2.666
U-234	+	609.31	*	7.573E-01	1.352E-01	8.169E-02	9.498E-03	9.270
	+	1120.29		1.157E+00	3.165E-01	2.828E-01	3.125E-02	4.092
	+	1764.49		1.023E+00	2.705E-01	1.982E-01	1.651E-02	5.161
NP-237	+	86.50	*	5.956E-01	2.478E-01	2.625E-01	5.944E-02	2.269
		95.87		-1.052E-01	7.478E-01	1.067E+00	2.638E-01	-0.099
U-238	+	63.29	*	9.913E-01	1.152E+00	1.371E+00	2.387E-01	0.723
	+	92.38		1.556E+00	5.198E-01	5.838E-01	5.319E-02	2.666
AM-243	+	74.67	*	2.596E-01	6.042E-02	5.970E-02	4.866E-03	4.348
	+	86.72		2.233E+01	8.069E+00	9.824E+00	9.180E-01	2.274
		117.66		-1.143E+00	2.943E+00	4.605E+00	3.803E-01	-0.248

Sample ID : G243385006 Acquisition date : 31-DEC-2009 09:40:22

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		142.18		2.562E+00	1.348E+01	2.246E+01	1.984E+00	0.114
ANH-511	+	511.00	*	9.206E-02	5.242E-02	3.370E-02	3.376E-03	2.732

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	2.873E-02	2.340E-01	3.806E-01	3.972E-02	0.075
NA-22		1274.54	*	-9.490E-03	2.881E-02	4.643E-02	4.002E-03	-0.204
NA-24		1368.53	*	2.103E-02	2.881E-02	Half-Life too short		
AL-26		1129.67		1.233E+00	1.141E+00	1.775E+00	1.546E-01	0.694
		1808.65	*	1.237E-02	1.916E-02	3.432E-02	2.806E-03	0.360
TI-44		67.85		-4.537E-03	3.028E-02	4.971E-02	3.794E-03	-0.091
	+	78.38	*	2.556E-01	3.995E-02	5.280E-02	4.477E-03	4.841
SC-46		889.25	*	2.581E-03	2.697E-02	4.502E-02	5.039E-03	0.057
	+	1120.51		1.961E-01	5.204E-02	8.205E-02	7.254E-03	2.391
V-48		944.10		3.694E-01	5.872E-01	1.008E+00	1.093E-01	0.367
		983.50	*	1.451E-03	4.199E-02	6.917E-02	7.254E-03	0.021
		1312.09		3.298E-02	5.195E-02	8.995E-02	7.925E-03	0.367
CR-51		320.08	*	1.144E-02	2.909E-01	4.441E-01	5.750E-02	0.026
MN-52		744.21		-6.302E-02	1.405E-01	2.208E-01	2.399E-02	-0.285
		848.13		4.008E-01	4.078E+00	6.836E+00	7.611E-01	0.059
		935.52		1.101E-01	1.503E-01	2.594E-01	2.832E-02	0.425
		1246.25		-1.166E+00	4.359E+00	7.101E+00	6.003E-01	-0.164
		1333.61		3.712E-01	2.778E+00	4.633E+00	4.132E-01	0.080
		1434.06	*	2.345E-02	1.386E-01	2.305E-01	2.060E-02	0.102
MN-54		834.83	*	1.440E-02	2.606E-02	4.481E-02	4.978E-03	0.321
CO-56		846.75	*	9.198E-03	2.747E-02	4.669E-02	5.198E-03	0.197
		977.42		-1.241E+00	2.222E+00	2.904E+00	3.063E-01	-0.427
		1037.82		3.851E-02	2.107E-01	3.489E-01	3.597E-02	0.110
		1175.09		-1.105E+00	1.584E+00	2.521E+00	2.030E-01	-0.438
		1238.25		8.984E-02	6.385E-02	1.125E-01	9.747E-03	0.799
		1360.21		-2.998E-01	6.301E-01	9.852E-01	8.800E-02	-0.304
		1771.40		1.238E-01	1.653E-01	2.650E-01	2.201E-02	0.467
CO-57		122.06	*	5.453E-03	2.006E-02	3.212E-02	2.649E-03	0.170
		136.48		2.686E-02	1.537E-01	2.612E-01	2.424E-02	0.103
CO-58		810.76	*	-1.876E-02	2.566E-02	4.070E-02	4.506E-03	-0.461
FE-59		142.65		1.440E+00	2.026E+00	3.423E+00	3.029E-01	0.421
		192.34		-4.917E-02	6.939E-01	1.141E+00	1.695E-01	-0.043
		1099.22	*	-4.883E-02	6.713E-02	1.001E-01	9.811E-03	-0.488
		1291.56		-4.204E-02	8.732E-02	1.279E-01	1.260E-02	-0.329
CO-60		1173.22		2.707E-02	3.045E-02	5.355E-02	4.306E-03	0.506
		1332.49	*	5.248E-03	2.442E-02	4.104E-02	3.659E-03	0.128
ZN-65		1115.52	*	-5.690E-02	7.698E-02	9.777E-02	8.721E-03	-0.582
GE-68		1077.35	*	4.006E-01	7.936E-01	1.342E+00	1.265E-01	0.299
AS-73		53.44	*	2.270E-01	5.257E-01	8.929E-01	6.747E-02	0.254
AS-74		595.88	*	-2.154E-02	6.585E-02	1.026E-01	1.064E-02	-0.210
		634.78		6.282E-02	2.274E-01	3.811E-01	3.994E-02	0.165
SE-75		66.05		-5.665E-01	3.504E+00	5.161E+00	4.924E-01	-0.110

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		-3.234E-01	6.222E-01	8.684E-01	1.195E-01	-0.372
		121.11		5.583E-02	1.054E-01	1.704E-01	1.863E-02	0.328
		136.00		-1.624E-02	2.860E-02	4.742E-02	4.115E-03	-0.343
		198.60		4.501E-01	1.429E+00	2.311E+00	2.701E-01	0.195
		264.65	*	2.157E-02	3.814E-02	5.518E-02	7.427E-03	0.391
		279.53		6.349E-02	9.311E-02	1.347E-01	1.913E-02	0.471
		303.91		-8.312E-01	1.725E+00	2.444E+00	3.725E-01	-0.340
		400.65		-1.327E-01	1.789E-01	2.812E-01	3.291E-02	-0.472
BR-77	+	87.88		3.129E+02	1.130E+02	1.657E+02	1.571E+01	1.888
		200.40		-8.587E+01	9.030E+01	1.427E+02	1.569E+01	-0.602
	+	239.00		1.257E+02	1.846E+01	1.879E+01	2.338E+00	6.690
		249.79		-1.476E+01	3.462E+01	5.477E+01	7.042E+00	-0.269
		281.68		2.091E+01	5.257E+01	7.506E+01	1.046E+01	0.279
		297.23		1.784E+02	5.326E+01	6.306E+01	8.480E+00	2.829
		303.76		-5.425E+01	1.037E+02	1.466E+02	1.939E+01	-0.370
		439.47		2.131E+01	7.681E+01	1.268E+02	1.220E+01	0.168
		484.57		-6.261E+01	1.172E+02	1.830E+02	1.809E+01	-0.342
		520.65	*	-2.149E+00	5.243E+00	8.405E+00	8.460E-01	-0.256
		574.64		-1.531E+02	1.251E+02	1.599E+02	1.645E+01	-0.958
		578.91		4.014E+01	4.992E+01	7.554E+01	7.785E+00	0.531
		585.48		1.040E+03	1.675E+02	2.554E+02	2.638E+01	4.072
		755.35		1.252E+01	8.414E+01	1.343E+02	1.464E+01	0.093
		817.79		1.122E+01	6.132E+01	1.037E+02	1.149E+01	0.108
SR-82		698.33		-1.282E+01	2.357E+01	3.717E+01	3.977E+00	-0.345
		776.49	*	-3.371E-01	2.660E-01	3.882E-01	4.257E-02	-0.868
		1395.20		-2.584E-01	7.512E+00	1.228E+01	1.098E+00	-0.021
RB-83		520.41	*	-2.199E-02	4.881E-02	7.803E-02	7.853E-03	-0.282
		529.64		-1.060E-02	7.210E-02	1.198E-01	1.211E-02	-0.089
		552.65		-4.811E-02	1.367E-01	2.236E-01	2.282E-02	-0.215
RB-84		881.50	*	4.275E-03	4.735E-02	7.907E-02	8.844E-03	0.054
KR-85		513.99	*	2.436E+01	6.656E+00	1.081E+01	1.084E+00	2.254
SR-85		513.99	*	1.233E-01	3.369E-02	5.470E-02	5.489E-03	2.254
RB-86		1076.63	*	3.750E-01	4.840E-01	8.336E-01	7.866E-02	0.450
Y-88		898.02		-2.396E-02	2.871E-02	4.463E-02	5.015E-03	-0.537
		1836.01	*	-2.036E-02	2.306E-02	3.294E-02	2.663E-03	-0.618
ZR-88		392.90	*	-1.081E-02	2.202E-02	3.528E-02	3.285E-03	-0.307
Y-91		1204.90	*	1.819E+00	1.289E+01	2.164E+01	1.779E+00	0.084
NB-94		702.63	*	2.340E-02	2.293E-02	3.952E-02	4.235E-03	0.592
		871.10		2.580E-03	2.372E-02	3.970E-02	4.435E-03	0.065
NB-95		765.79	*	5.978E-02	2.998E-02	5.308E-02	5.805E-03	1.126
NB-95M		235.69	*	1.946E-01	1.123E-01	1.684E-01	2.226E-02	1.155
ZR-95		724.18		1.551E-01	7.963E-02	1.255E-01	1.431E-02	1.236
		756.15	*	3.058E-02	4.691E-02	7.919E-02	9.193E-03	0.386
NB-97		657.90	*	4.136E-02	4.691E-02	Half-Life too short		
		1024.50		7.125E-01	4.691E-02	Half-Life too short		
ZR-97		254.15		4.767E-01	4.691E-02	Half-Life too short		
		355.39		1.219E+00	4.691E-02	Half-Life too short		
		507.63	*	1.604E+00	4.691E-02	Half-Life too short		
		602.52		-6.596E-01	4.691E-02	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1021.30		-4.068E-01	4.691E-02	Half-Life too short		
		1147.95		-2.736E-01	4.691E-02	Half-Life too short		
		1362.66		-1.362E+00	4.691E-02	Half-Life too short		
		1750.46		1.244E-01	4.691E-02	Half-Life too short		
MO-99		140.51		-8.496E+00	1.540E+01	2.444E+01	6.779E+00	-0.348
		181.06		1.244E+01	1.053E+01	1.583E+01	3.030E+00	0.786
		366.43		1.503E+01	4.614E+01	7.743E+01	8.213E+00	0.194
		739.58	*	-2.851E+00	5.713E+00	8.920E+00	1.477E+00	-0.320
		778.00		-1.762E+01	1.790E+01	2.678E+01	2.938E+00	-0.658
TC-99M		140.51	*	-5.856E+08	1.790E+01	Half-Life too short		
RH-101		127.23		1.215E-02	2.850E-02	4.080E-02	3.411E-03	0.298
		198.01	*	1.208E-02	2.655E-02	4.313E-02	4.705E-03	0.280
		325.23		1.389E-01	1.780E-01	2.699E-01	3.355E-02	0.515
RH-102		418.52		4.719E-02	2.137E-01	3.533E-01	3.353E-02	0.134
		475.06	*	-9.628E-03	2.173E-02	3.422E-02	3.365E-03	-0.281
		631.29		-1.871E-02	3.521E-02	5.593E-02	5.857E-03	-0.335
		697.49		-3.487E-02	5.457E-02	8.548E-02	9.143E-03	-0.408
		766.84		1.430E-01	7.873E-02	1.382E-01	1.512E-02	1.035
		1046.59		-1.891E-02	8.430E-02	1.354E-01	1.328E-02	-0.140
		1112.84		1.094E-03	1.816E-01	2.505E-01	2.242E-02	0.004
RU-103		497.08	*	2.116E-03	2.816E-02	4.554E-02	6.834E-03	0.046
	+	610.33		8.004E+00	1.783E+00	1.816E+00	3.211E-01	4.407
RH-106	+	511.85		4.588E-01	2.612E-01	3.150E-01	3.157E-02	1.456
		621.84	*	1.204E-01	2.234E-01	3.792E-01	5.537E-02	0.318
		1050.47		1.552E+00	1.652E+00	2.860E+00	2.791E-01	0.543
RU-106	+	511.85		4.588E-01	2.612E-01	3.150E-01	3.157E-02	1.456
		621.84	*	1.204E-01	2.231E-01	3.792E-01	3.961E-02	0.318
		1050.47		1.552E+00	1.652E+00	2.860E+00	2.791E-01	0.543
AG-108M		433.93	*	-4.712E-03	2.412E-02	3.891E-02	3.852E-03	-0.121
		614.37		-1.505E-02	3.035E-02	4.122E-02	4.412E-03	-0.365
		722.95		4.617E-02	3.335E-02	5.158E-02	5.707E-03	0.895
AG-110M		657.75	*	3.838E-02	2.925E-02	4.524E-02	4.862E-03	0.848
		677.61		-5.880E-02	2.032E-01	3.263E-01	3.528E-02	-0.180
		706.67		1.173E-02	1.413E-01	2.317E-01	2.531E-02	0.051
		763.93		-6.473E-02	1.165E-01	1.816E-01	2.020E-02	-0.356
		884.67		-6.580E-03	3.431E-02	5.619E-02	6.407E-03	-0.117
		937.48		-5.697E-02	7.579E-02	1.180E-01	1.315E-02	-0.483
		1384.27		-2.333E-01	1.387E-01	1.940E-01	1.780E-02	-1.203
IN-111		171.28		5.495E-01	5.740E-01	9.810E-01	9.792E-02	0.560
		245.39	*	2.782E-01	6.538E-01	9.316E-01	1.182E-01	0.299
IN-113M		391.69	*	-1.806E-02	3.322E-02	5.193E-02	4.960E-03	-0.348
SN-113		391.69	*	-1.806E-02	3.322E-02	5.193E-02	4.960E-03	-0.348
IN-114M		190.27	*	9.338E-03	1.482E-01	2.154E-01	2.290E-02	0.043
CD-115		260.90		-5.563E+01	6.869E+01	1.059E+02	1.407E+01	-0.525
		492.35		1.423E+01	1.726E+01	2.909E+01	2.887E+00	0.489
		527.90	*	-3.531E+00	5.071E+00	8.148E+00	8.228E-01	-0.433
SN-117M		156.02		-4.129E-01	1.599E+00	2.654E+00	2.488E-01	-0.156
		158.56	*	2.420E-03	3.892E-02	6.524E-02	6.187E-03	0.037
SB-122		563.90	*	4.909E-01	1.084E+00	1.847E+00	1.893E-01	0.266

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		692.80		1.404E+01	2.313E+01	3.905E+01	4.169E+00	0.360
I-123		159.00	*	5.064E-02	2.313E+01	Half-Life too short		
		528.96		-4.391E+01	2.313E+01	Half-Life too short		
TE-123M		159.00	*	1.156E-03	2.122E-02	3.557E-02	3.397E-03	0.033
I-124		602.71	*	-1.253E-01	4.808E-01	6.566E-01	6.820E-02	-0.191
		722.78		3.718E+00	2.831E+00	4.365E+00	4.710E-01	0.852
		1325.50		4.087E+00	1.838E+01	3.089E+01	2.744E+00	0.132
		1376.25		3.259E+01	1.973E+01	3.591E+01	3.210E+00	0.907
		1509.49		1.724E+01	9.260E+00	1.745E+01	1.551E+00	0.988
		1691.02		-1.191E+00	2.171E+00	3.344E+00	2.859E-01	-0.356
SB-124		602.71		-8.785E-03	3.370E-02	4.602E-02	4.781E-03	-0.191
		645.85		-7.242E-02	3.424E-01	5.560E-01	6.081E-02	-0.130
		709.31		-4.505E-01	1.860E+00	2.986E+00	3.207E-01	-0.151
		713.82		-3.668E-01	1.085E+00	1.726E+00	2.357E-01	-0.212
		722.78		3.778E-01	2.878E-01	4.435E-01	4.852E-02	0.852
	+	968.20		1.538E+01	3.294E+00	4.921E+00	5.232E-01	3.125
		1045.16		-4.502E-01	1.761E+00	2.823E+00	2.773E-01	-0.159
		1325.50		4.435E-01	1.995E+00	3.353E+00	2.978E-01	0.132
		1368.21		5.420E-01	1.156E+00	1.980E+00	2.708E-01	0.274
		1436.60		4.192E-01	2.319E+00	3.866E+00	3.455E-01	0.108
		1691.02	*	-2.855E-02	5.204E-02	8.013E-02	7.128E-03	-0.356
SB-125		427.89	*	3.290E-02	6.638E-02	1.110E-01	1.077E-02	0.296
	+	463.38		2.941E-01	2.774E-01	3.635E-01	3.769E-02	0.809
		600.56		-5.067E-02	1.404E-01	2.143E-01	2.338E-02	-0.236
		635.90		1.145E-01	1.825E-01	3.116E-01	3.447E-02	0.368
TE-125M		109.28	*	1.591E+00	6.836E+00	1.102E+01	1.116E+00	0.144
I-126		388.63		7.610E-02	1.390E-01	2.344E-01	2.220E-02	0.325
		666.33	*	4.925E-02	1.431E-01	2.071E-01	2.188E-02	0.238
		753.82		3.410E-01	1.011E+00	1.633E+00	1.780E-01	0.209
SB-126		223.80		1.725E+00	2.908E+00	4.835E+00	5.736E-01	0.357
	+	278.60		5.123E+00	2.993E+00	2.981E+00	4.167E-01	1.718
	+	296.50		8.536E+00	1.932E+00	2.349E+00	3.164E-01	3.635
		414.70		-8.188E-05	5.277E-02	8.636E-02	8.174E-03	-0.001
		415.30		2.135E+00	4.331E+00	7.252E+00	6.866E-01	0.294
		555.20		4.836E-01	2.590E+00	4.363E+00	4.457E-01	0.111
		573.80		-1.095E+00	7.810E-01	1.028E+00	1.058E-01	-1.065
		593.00		-6.965E-01	6.217E-01	9.578E-01	9.918E-02	-0.727
		656.30		6.656E-01	2.420E+00	3.498E+00	3.684E-01	0.190
		666.33		2.052E-02	5.964E-02	8.629E-02	9.117E-03	0.238
		675.00		-9.371E-02	1.272E+00	2.074E+00	2.199E-01	-0.045
		695.00		-7.685E-03	5.198E-02	8.419E-02	8.997E-03	-0.091
		697.00		-6.249E-02	1.796E-01	2.871E-01	3.070E-02	-0.218
		720.50	*	3.179E-02	1.051E-01	1.506E-01	1.625E-02	0.211
		856.80		4.306E-01	3.349E-01	5.303E-01	5.913E-02	0.812
		989.30		-2.494E-02	7.770E-01	1.273E+00	1.327E-01	-0.020
		1034.80		-2.910E+00	5.774E+00	9.070E+00	9.019E-01	-0.321
		1213.00		1.212E+00	3.005E+00	5.120E+00	4.234E-01	0.237
SB-127		61.10		1.803E+01	3.225E+01	4.915E+01	4.767E+00	0.367
		252.40		-9.306E-01	2.682E+00	4.214E+00	1.814E+00	-0.221

---- Non-Identified Nuclides ----

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		290.80		-1.213E+01	1.407E+01	1.945E+01	2.943E+00	-0.624
		411.60		-5.623E+00	7.448E+00	1.166E+01	1.861E+00	-0.482
		444.90		-2.013E+00	5.889E+00	9.395E+00	1.219E+00	-0.214
		473.00		-4.448E-01	1.016E+00	1.600E+00	2.147E-01	-0.278
		543.00		5.087E-01	9.151E+00	1.534E+01	2.319E+00	0.033
		603.60		-3.565E+00	8.120E+00	1.111E+01	1.501E+00	-0.321
		685.20	*	6.138E-01	7.972E-01	1.357E+00	1.722E-01	0.452
		698.50		-4.744E+00	8.745E+00	1.376E+01	2.313E+00	-0.345
		722.20		1.882E+01	1.874E+01	2.831E+01	3.569E+00	0.665
		783.80		2.909E+00	2.155E+00	3.706E+00	5.147E-01	0.785
XE-127		57.60		-2.378E-01	3.735E+00	6.208E+00	4.459E-01	-0.038
		145.22		-2.697E-02	4.965E-01	8.344E-01	7.462E-02	-0.032
		172.10		3.202E-02	9.065E-02	1.525E-01	1.526E-02	0.210
		202.84	*	1.532E-02	3.529E-02	5.878E-02	6.516E-03	0.261
		374.96		8.433E-02	1.414E-01	2.395E-01	2.438E-02	0.352
I-131		80.18		-9.433E-01	3.086E+00	4.437E+00	3.859E-01	-0.213
		284.30		-4.056E-01	1.121E+00	1.614E+00	2.281E-01	-0.251
		364.48	*	4.581E-03	7.577E-02	1.258E-01	1.393E-02	0.036
		636.97		8.169E-01	9.374E-01	1.620E+00	1.762E-01	0.504
		722.89		6.862E+00	5.046E+00	7.799E+00	8.445E-01	0.880
TE-132		49.72		-6.670E+00	9.452E+00	1.541E+01	1.548E+00	-0.433
		111.76		-2.006E+00	1.708E+01	2.713E+01	2.797E+00	-0.074
		116.30		1.027E+01	1.615E+01	2.627E+01	2.696E+00	0.391
		228.16	*	5.457E-02	4.227E-01	6.910E-01	1.218E-01	0.079
BA-133		53.15		1.876E+00	2.299E+00	3.954E+00	3.001E-01	0.474
		79.62		2.574E-01	9.511E-01	1.403E+00	2.134E-01	0.183
		81.00		-9.375E-02	7.642E-02	1.031E-01	1.644E-02	-0.909
	+	276.40		8.193E-01	4.880E-01	4.870E-01	8.811E-02	1.683
		302.84		-6.699E-03	1.179E-01	1.720E-01	2.867E-02	-0.039
		356.01	*	6.808E-03	3.363E-02	4.908E-02	7.333E-03	0.139
		383.85		-9.056E-03	2.169E-01	3.567E-01	4.774E-02	-0.025
I-133	+	510.53		3.547E-01	2.169E-01	Half-Life too short		
		529.87	*	9.449E-04	2.169E-01	Half-Life too short		
		706.58		5.880E-03	2.169E-01	Half-Life too short		
		856.28		6.745E-02	2.169E-01	Half-Life too short		
		875.33		-9.731E-03	2.169E-01	Half-Life too short		
		1236.41		2.314E-01	2.169E-01	Half-Life too short		
		1298.22		-8.851E-03	2.169E-01	Half-Life too short		
CS-134		475.35		-6.341E-01	1.428E+00	2.249E+00	2.212E-01	-0.282
		563.23		6.116E-03	2.607E-01	4.348E-01	4.486E-02	0.014
		569.32		-2.628E-02	1.559E-01	2.389E-01	2.477E-02	-0.110
		604.70		-5.916E-03	2.928E-02	4.088E-02	4.256E-03	-0.145
	+	795.84	*	1.124E-01	4.811E-02	6.155E-02	6.812E-03	1.826
		801.93		-8.644E-02	3.335E-01	4.438E-01	4.914E-02	-0.195
		1038.57		2.021E-01	2.702E+00	4.438E+00	4.394E-01	0.046
		1167.94		-6.635E-01	1.714E+00	2.786E+00	2.264E-01	-0.238
		1365.15		-4.901E-01	8.051E-01	1.239E+00	1.154E-01	-0.395
CS-135		268.24	*	1.058E-01	1.400E-01	2.035E-01	2.943E-02	0.520
I-135		288.45		7.472E+08	1.400E-01	Half-Life too short		

---- Non-Identified Nuclides ----

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		417.63		4.060E+08	1.400E-01	Half-Life too short		
		546.56		2.882E+08	1.400E-01	Half-Life too short		
		836.80		4.788E+08	1.400E-01	Half-Life too short		
		1038.76		6.543E+07	1.400E-01	Half-Life too short		
		1124.00		4.431E+09	1.400E-01	Half-Life too short		
		1131.51		-2.550E+07	1.400E-01	Half-Life too short		
		1260.41	*	1.311E+07	1.400E-01	Half-Life too short		
		1457.56		3.480E+10	1.400E-01	Half-Life too short		
		1678.03		-2.084E+08	1.400E-01	Half-Life too short		
		1706.46		-1.003E+08	1.400E-01	Half-Life too short		
		1791.20		4.365E+08	1.400E-01	Half-Life too short		
CS-136		66.91		-1.445E-01	5.361E-01	7.846E-01	1.167E-01	-0.184
	+	86.29		2.483E+00	9.277E-01	1.317E+00	1.753E-01	1.886
		153.22		6.054E-01	4.687E-01	8.111E-01	8.281E-02	0.746
		163.89		4.168E-01	7.620E-01	1.293E+00	1.376E-01	0.322
		176.55		-5.662E-02	2.584E-01	4.256E-01	4.503E-02	-0.133
		273.65		-7.891E-02	4.815E-01	4.716E-01	6.672E-02	-0.167
		340.57		3.925E-01	1.184E-01	1.852E-01	2.219E-02	2.119
		818.51		-7.114E-03	4.608E-02	7.624E-02	8.446E-03	-0.093
		1048.07	*	1.388E-02	7.408E-02	1.225E-01	1.238E-02	0.113
		1235.34		5.800E-01	3.901E-01	6.914E-01	8.079E-02	0.839
CE-139		165.85	*	-8.332E-03	2.229E-02	3.668E-02	3.597E-03	-0.227
BA-140		162.64		2.126E-01	5.341E-01	9.029E-01	9.130E-02	0.235
		304.84		-3.175E-01	1.018E+00	1.456E+00	4.332E-01	-0.218
		423.70		-2.516E-01	1.304E+00	2.105E+00	6.876E-01	-0.120
		537.32	*	-1.635E-03	1.653E-01	2.765E-01	9.281E-02	-0.006
LA-140	+	328.77		4.343E-01	3.190E-01	3.716E-01	4.694E-02	1.169
		432.53		-4.192E-01	1.413E+00	2.267E+00	2.258E-01	-0.185
		487.03		-9.150E-02	9.130E-02	1.374E-01	1.424E-02	-0.666
		751.79		6.391E-01	1.142E+00	1.914E+00	2.227E-01	0.334
		815.85		-7.665E-02	1.977E-01	3.216E-01	3.814E-02	-0.238
		867.82		7.390E-01	1.027E+00	1.559E+00	1.796E-01	0.474
		919.63		-4.013E-01	2.055E+00	2.841E+00	3.606E-01	-0.141
		925.24		-2.245E-01	7.376E-01	1.192E+00	1.363E-01	-0.188
		1596.49	*	-6.101E-02	5.648E-02	8.299E-02	7.275E-03	-0.735
CE-141		145.44	*	-7.961E-03	4.465E-02	7.472E-02	6.802E-03	-0.107
CE-143		57.37		-2.222E-04	4.465E-02	Half-Life too short		
		231.56		-2.292E-04	4.465E-02	Half-Life too short		
		293.26	*	3.178E-04	4.465E-02	Half-Life too short		
	+	350.59		1.237E-02	4.465E-02	Half-Life too short		
		490.36		-6.049E-05	4.465E-02	Half-Life too short		
		664.57		2.598E-03	4.465E-02	Half-Life too short		
		721.93		5.124E-04	4.465E-02	Half-Life too short		
CE-144		80.11		-4.712E-01	1.573E+00	2.263E+00	1.956E-01	-0.208
		133.54	*	-6.498E-02	1.684E-01	2.470E-01	3.834E-02	-0.263
PM-144		476.78		4.629E-03	4.930E-02	8.009E-02	8.455E-03	0.058
		618.01		3.347E-03	2.344E-02	3.729E-02	3.964E-03	0.090
		696.49	*	-2.436E-03	2.463E-02	4.001E-02	4.279E-03	-0.061
		778.57		-1.228E+00	1.659E+00	2.539E+00	2.786E-01	-0.484

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144		696.49	*	-1.649E-01	1.668E+00	2.710E+00	2.897E-01	-0.061
		1489.15		-4.770E+00	7.564E+00	1.134E+01	1.010E+00	-0.421
PM-146		453.90	*	2.663E-03	3.210E-02	5.233E-02	6.082E-03	0.051
		633.02		-6.908E-02	8.978E-01	1.472E+00	5.571E-01	-0.047
		735.90		5.230E-02	1.025E-01	1.633E-01	4.793E-02	0.320
		747.13		1.769E-02	6.370E-02	1.052E-01	1.633E-02	0.168
ND-147	+	91.11		4.042E-01	2.172E-01	3.466E-01	3.424E-02	1.166
		319.41		-3.167E-01	2.312E+00	3.745E+00	4.741E-01	-0.085
		439.89		1.059E+00	4.124E+00	6.799E+00	6.548E-01	0.156
		531.02	*	1.523E-01	3.569E-01	6.100E-01	9.673E-02	0.250
PM-149		285.90	*	-3.855E+00	4.751E+01	7.555E+01	1.429E+01	-0.051
EU-152		121.78		3.346E-02	5.797E-02	9.381E-02	9.005E-03	0.357
		244.69		2.980E-01	2.738E-01	4.080E-01	5.166E-02	0.730
		344.27	*	-1.498E-02	9.459E-02	1.179E-01	1.417E-02	-0.127
		443.98		-4.317E-01	7.175E-01	1.128E+00	1.089E-01	-0.383
		778.89		-1.093E-02	1.857E-01	2.989E-01	3.280E-02	-0.037
		867.32		2.378E-01	6.593E-01	9.702E-01	1.083E-01	0.245
	+	964.01		7.569E-01	2.887E-01	4.084E-01	4.358E-02	1.853
		1085.78		3.174E-03	2.738E-01	4.458E-01	4.153E-02	0.007
		1112.02		6.096E-02	2.608E-01	3.685E-01	3.302E-02	0.165
		1407.95		2.267E-01	1.375E-01	2.533E-01	2.265E-02	0.895
GD-153		69.67		-1.263E+00	1.233E+00	1.730E+00	1.342E-01	-0.730
		83.37		4.037E+00	1.152E+01	1.692E+01	1.518E+00	0.239
		97.43	*	-4.309E-02	6.675E-02	9.177E-02	8.069E-03	-0.470
		103.18		-7.897E-02	8.043E-02	1.239E-01	1.059E-02	-0.637
EU-154		123.07		6.578E-03	4.125E-02	6.574E-02	7.293E-03	0.100
		247.94		1.545E-01	2.731E-01	4.361E-01	6.481E-02	0.354
		591.81		-4.120E-01	4.499E-01	6.839E-01	8.891E-02	-0.602
		723.30		2.216E-01	1.416E-01	2.207E-01	2.545E-02	1.004
		756.87		2.084E-01	5.129E-01	8.534E-01	1.170E-01	0.244
		873.19		1.565E-02	2.079E-01	3.471E-01	4.915E-02	0.045
		996.32		-1.599E-01	2.673E-01	4.175E-01	7.796E-02	-0.383
		1004.76		-7.681E-02	1.605E-01	2.543E-01	3.283E-02	-0.302
		1274.45	*	-3.053E-02	8.023E-02	1.287E-01	1.455E-02	-0.237
EU-155		48.70		-1.582E+00	1.572E+00	2.535E+00	2.065E-01	-0.624
		60.01		2.247E+00	3.415E+00	5.241E+00	3.722E-01	0.429
	+	86.54		2.442E-01	8.826E-02	1.306E-01	1.228E-02	1.870
		105.31	*	7.335E-02	8.160E-02	1.347E-01	1.156E-02	0.545
TB-160	+	86.79		6.450E-01	2.330E-01	3.437E-01	3.214E-02	1.877
		197.04		3.105E-01	4.438E-01	7.259E-01	7.893E-02	0.428
		215.65		-4.231E-01	5.796E-01	8.832E-01	1.021E-01	-0.479
		298.57		1.542E-01	1.357E-01	1.488E-01	1.994E-02	1.036
		879.36	*	-1.964E-02	9.580E-02	1.569E-01	1.754E-02	-0.125
		962.29		1.057E+00	3.780E-01	6.939E-01	7.415E-02	1.523
		966.15		1.230E+00	2.223E-01	3.787E-01	4.033E-02	3.249
		1177.93		-1.385E-01	2.505E-01	4.026E-01	3.249E-02	-0.344
		1271.85		-1.677E-01	4.461E-01	7.156E-01	6.150E-02	-0.234
HO-166M		80.57		-5.961E-02	2.007E-01	2.886E-01	2.508E-02	-0.207
		184.41		5.653E-02	3.344E-02	5.206E-02	5.428E-03	1.086

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		280.46		4.442E-02	6.880E-02	9.967E-02	1.392E-02	0.446
		410.95		6.086E-02	1.824E-01	3.034E-01	2.864E-02	0.201
		711.68	*	2.552E-02	4.012E-02	6.798E-02	7.309E-03	0.375
		752.31		1.259E-01	1.930E-01	3.253E-01	3.544E-02	0.387
		810.29		-3.844E-02	3.984E-02	6.205E-02	6.859E-03	-0.620
TM-171		51.35		-7.162E+00	1.948E+01	3.220E+01	2.512E+00	-0.222
		52.39		8.034E-01	1.014E+01	1.703E+01	1.307E+00	0.047
		59.40		1.194E+01	1.833E+01	2.815E+01	1.990E+00	0.424
		66.72	*	-2.871E+00	2.082E+01	3.068E+01	2.318E+00	-0.094
LU-176	+	88.36		4.811E-01	1.738E-01	2.557E-01	2.418E-02	1.882
		201.83		-2.083E-02	2.247E-02	3.551E-02	3.923E-03	-0.587
		306.84	*	1.867E-02	1.912E-02	3.232E-02	4.241E-03	0.578
		401.10		-4.120E+00	4.697E+00	7.331E+00	6.869E-01	-0.562
LU-177		112.95		-6.777E-01	1.084E+00	1.684E+00	1.400E-01	-0.402
	+	208.36	*	1.324E+00	1.018E+00	1.317E+00	1.487E-01	1.005
LU-177M		52.97		7.703E-01	1.038E+00	1.782E+00	1.356E-01	0.432
		54.07		4.284E-01	5.482E-01	9.407E-01	7.046E-02	0.455
		61.30		7.626E-01	1.037E+00	1.592E+00	1.145E-01	0.479
		121.62		1.675E-01	2.955E-01	4.783E-01	3.940E-02	0.350
		147.16		-5.567E-01	4.752E-01	7.638E-01	6.887E-02	-0.729
		171.86		1.157E-01	3.713E-01	6.237E-01	6.237E-02	0.186
		218.09		-8.014E-03	6.314E-01	1.031E+00	1.201E-01	-0.008
	+	268.79		1.393E+00	8.236E-01	1.061E+00	1.442E-01	1.313
		319.02		-1.057E-01	1.902E-01	3.100E-01	3.928E-02	-0.341
		367.43		3.522E-02	6.649E-01	1.102E+00	1.164E-01	0.032
		413.65	*	-1.892E-01	1.356E-01	2.049E-01	1.937E-02	-0.924
HF-181		56.28		-3.742E-01	5.927E-01	9.645E-01	7.026E-02	-0.388
		57.53		-1.473E-01	3.198E-01	5.234E-01	3.762E-02	-0.281
		65.20		-3.146E-01	6.827E-01	9.926E-01	7.399E-02	-0.317
		133.02		-3.824E-03	5.285E-02	7.881E-02	6.718E-03	-0.049
		136.25		-1.103E-01	3.319E-01	5.550E-01	4.788E-02	-0.199
		345.85		-6.189E-02	1.851E-01	2.270E-01	2.626E-02	-0.273
		482.03	*	1.989E-02	3.043E-02	5.082E-02	5.017E-03	0.391
W-181		56.28		-1.483E-01	2.350E-01	3.824E-01	2.786E-02	-0.388
		57.53		-5.868E-02	1.269E-01	2.077E-01	1.493E-02	-0.283
		65.20	*	-1.238E-01	2.687E-01	3.908E-01	2.913E-02	-0.317
TA-182		67.75		-1.411E-02	7.165E-02	1.174E-01	8.956E-03	-0.120
		100.10		1.204E-01	1.315E-01	2.179E-01	1.888E-02	0.553
		152.43		1.626E-01	2.538E-01	4.337E-01	4.002E-02	0.375
		222.10		1.596E-02	2.641E-01	4.316E-01	5.094E-02	0.037
		1001.68		-9.883E-02	1.597E+00	2.506E+00	2.583E-01	-0.039
	+	1121.28		5.432E-01	1.441E-01	2.295E-01	2.026E-02	2.367
		1189.05		-4.290E-02	2.098E-01	3.450E-01	2.806E-02	-0.124
		1221.42	*	5.617E-02	1.318E-01	2.248E-01	1.869E-02	0.250
		1230.97		-4.626E-01	3.333E-01	5.015E-01	4.197E-02	-0.922
RE-183		57.98		-6.351E-02	1.246E-01	2.034E-01	1.455E-02	-0.312
		59.32		4.493E-02	7.445E-02	1.141E-01	8.071E-03	0.394
		67.20		-1.083E-01	1.375E-01	2.094E-01	1.589E-02	-0.517
		162.32	*	1.410E-02	8.239E-02	1.384E-01	1.335E-02	0.102

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	+	208.81		1.333E+00	1.025E+00	1.334E+00	1.508E-01	0.999
		291.72		-3.825E-01	7.567E-01	1.076E+00	1.467E-01	-0.355
RE-184		57.98		-2.357E-01	4.622E-01	7.547E-01	5.401E-02	-0.312
		59.32		1.666E-01	2.760E-01	4.231E-01	2.993E-02	0.394
		67.20		-4.017E-01	5.100E-01	7.769E-01	5.895E-02	-0.517
		161.27		-2.804E-02	2.694E-01	4.486E-01	4.307E-02	-0.063
		216.55		2.278E-02	1.975E-01	3.241E-01	3.757E-02	0.070
		252.85	*	-8.887E-02	1.789E-01	2.819E-01	3.658E-02	-0.315
		318.01		9.766E-03	3.278E-01	5.493E-01	6.983E-02	0.018
		792.07		-4.759E-01	8.408E-01	1.093E+00	1.204E-01	-0.435
		903.28		1.806E-01	7.685E-01	1.113E+00	1.243E-01	0.162
		920.93		-6.184E-02	3.355E-01	4.982E-01	5.497E-02	-0.124
OS-185		59.72		1.388E-01	2.021E-01	3.106E-01	2.199E-02	0.447
		61.14		6.590E-02	1.131E-01	1.727E-01	1.240E-02	0.382
		69.30		-1.138E-02	2.100E-01	3.089E-01	2.389E-02	-0.037
		592.07		-1.556E+00	1.770E+00	2.775E+00	2.873E-01	-0.561
		646.12	*	4.758E-03	2.897E-02	4.814E-02	5.059E-03	0.099
		717.42		-1.465E-01	6.270E-01	9.822E-01	1.058E-01	-0.149
		874.81		-2.259E-01	4.079E-01	6.512E-01	7.278E-02	-0.347
		880.27		-5.046E-02	5.300E-01	8.743E-01	9.777E-02	-0.058
RE-188		155.03	*	5.054E-02	1.287E-01	2.181E-01	2.036E-02	0.232
		477.96		2.670E-01	2.257E+00	3.670E+00	3.615E-01	0.073
		633.10		-1.749E-01	1.798E+00	2.945E+00	3.085E-01	-0.059
W-188	+	63.58		3.936E+01	4.532E+01	6.256E+01	4.597E+00	0.629
		227.08		-5.068E+00	9.977E+00	1.590E+01	1.906E+00	-0.319
		290.67	*	-5.404E+00	5.974E+00	8.243E+00	1.126E+00	-0.656
IR-192	+	295.96		6.918E-01	1.568E-01	1.916E-01	2.592E-02	3.610
		308.46		4.537E-02	7.157E-02	1.227E-01	1.607E-02	0.370
		316.51	*	5.082E-05	2.531E-02	4.239E-02	5.418E-03	0.001
		468.07		2.477E-02	5.459E-02	7.889E-02	8.161E-03	0.314
		604.41		-1.342E-01	3.915E-01	5.401E-01	7.699E-02	-0.249
		612.46		2.878E+00	7.329E-01	1.176E+00	1.353E-01	2.447
AU-195		65.12		-1.390E-01	1.290E-01	1.821E-01	1.356E-02	-0.763
		66.83		-1.469E-02	6.843E-02	1.005E-01	7.599E-03	-0.146
	+	75.70		8.361E-01	1.946E-01	3.060E-01	2.521E-02	2.733
		98.88	*	9.651E-02	1.709E-01	2.762E-01	2.409E-02	0.349
	+	129.76		4.569E+00	3.121E+00	3.876E+00	3.267E-01	1.179
TL-200		367.94	*	-6.049E-05	3.121E+00	Half-Life too short		
		579.30		2.493E-03	3.121E+00	Half-Life too short		
		828.27		-1.024E-03	3.121E+00	Half-Life too short		
		1205.75		-2.716E-05	3.121E+00	Half-Life too short		
TL-201		68.90		-3.604E-01	2.607E+00	3.821E+00	2.945E-01	-0.094
		70.82		5.042E-01	1.476E+00	2.204E+00	1.730E-01	0.229
		80.30		-6.826E-01	2.819E+00	4.064E+00	3.521E-01	-0.168
		135.34		-1.639E+01	1.421E+01	2.302E+01	1.979E+00	-0.712
		167.43	*	-4.394E+00	4.049E+00	6.459E+00	6.366E-01	-0.680
TL-202		68.90		-3.989E-02	2.886E-01	4.230E-01	3.260E-02	-0.094
		70.82		5.566E-02	1.629E-01	2.433E-01	1.909E-02	0.229
		80.30		-7.538E-02	3.113E-01	4.488E-01	3.888E-02	-0.168

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		439.56	*	1.746E-02	4.927E-02	8.161E-02	7.856E-03	0.214
HG-203		70.83		2.586E-01	7.435E-01	1.110E+00	1.457E-01	0.233
		72.87		6.000E-01	4.096E-01	6.906E-01	8.846E-02	0.869
		82.60		3.139E-01	8.199E-01	1.211E+00	1.685E-01	0.259
		279.20	*	2.869E-02	3.468E-02	5.051E-02	7.149E-03	0.568
BI-207		72.80		1.487E-01	1.199E-01	2.035E-01	1.627E-02	0.731
	+	74.97		4.659E-01	1.084E-01	1.500E-01	1.227E-02	3.105
		84.90		8.775E-02	1.493E-01	2.209E-01	2.019E-02	0.397
		569.67		-3.829E-03	2.394E-02	3.662E-02	3.761E-03	-0.105
		1063.62	*	2.871E-02	3.853E-02	6.472E-02	6.214E-03	0.444
		1770.23		4.594E-01	4.008E-01	6.620E-01	5.503E-02	0.694
TL-207		81.07		-2.114E-01	1.663E-01	2.271E-01	1.985E-02	-0.931
		83.78		3.116E-02	9.890E-02	1.450E-01	1.308E-02	0.215
		94.90		2.911E-01	1.818E-01	2.781E-01	2.486E-02	1.047
		122.32		1.727E-01	1.384E+00	2.205E+00	1.962E-01	0.078
		144.24		7.841E-02	5.150E-01	8.560E-01	8.474E-02	0.092
		154.21		2.024E-01	2.996E-01	5.119E-01	5.170E-02	0.395
	+	269.46		3.278E-01	1.939E-01	2.522E-01	3.464E-02	1.300
		323.87	*	-2.457E-01	5.428E-01	7.633E-01	1.517E-01	-0.322
	+	338.28		5.026E+00	1.526E+00	1.753E+00	2.593E-01	2.867
		445.03		-5.611E-01	1.708E+00	2.727E+00	3.504E-01	-0.206
PO-209		260.50		-7.913E+00	7.506E+00	1.140E+01	1.512E+00	-0.694
		262.80		9.336E+00	2.043E+01	3.345E+01	4.469E+00	0.279
		896.60	*	-1.466E+00	5.122E+00	8.318E+00	9.318E-01	-0.176
BI-210		46.50	*	3.228E+00	2.368E+00	4.020E+00	3.735E-01	0.803
PB-210		46.50	*	3.228E+00	2.368E+00	4.020E+00	3.735E-01	0.803
PO-210		46.50	*	3.228E+00	2.365E+00	4.020E+00	3.380E-01	0.803
PB-211		404.84	*	-2.147E-01	6.935E-01	1.098E+00	6.895E-01	-0.196
		427.08		6.548E-01	1.530E+00	2.464E+00	1.534E+00	0.266
		831.96		3.241E-01	8.619E-01	1.430E+00	9.018E-01	0.227
BI-212	+	727.18	*	8.803E-01	3.464E-01	4.402E-01	5.258E-02	2.000
		785.46		1.361E+00	1.329E+00	2.181E+00	2.398E-01	0.624
		1620.62		2.273E-01	8.491E-01	1.452E+00	1.266E-01	0.157
PO-215		81.07		-2.114E-01	1.663E-01	2.271E-01	1.985E-02	-0.931
		83.78		3.116E-02	9.890E-02	1.450E-01	1.308E-02	0.215
		94.90		2.911E-01	1.818E-01	2.781E-01	2.486E-02	1.047
		122.32		1.727E-01	1.384E+00	2.205E+00	1.962E-01	0.078
		144.24		7.841E-02	5.150E-01	8.560E-01	8.474E-02	0.092
		154.21		2.024E-01	2.996E-01	5.119E-01	5.170E-02	0.395
	+	269.46		3.278E-01	1.939E-01	2.522E-01	3.464E-02	1.300
		323.87	*	-2.457E-01	5.428E-01	7.633E-01	1.517E-01	-0.322
	+	338.28		5.026E+00	1.526E+00	1.753E+00	2.593E-01	2.867
		445.03		-5.611E-01	1.708E+00	2.727E+00	3.504E-01	-0.206
RN-219	+	271.23		4.206E-01	2.498E-01	3.245E-01	4.808E-02	1.296
		401.81	*	-1.961E-01	2.945E-01	4.643E-01	7.183E-02	-0.422
RN-220		549.76	*	-7.736E+00	1.839E+01	2.998E+01	3.056E+00	-0.258
RA-223		81.07		-2.114E-01	1.663E-01	2.271E-01	1.985E-02	-0.931
		83.78		3.116E-02	9.890E-02	1.450E-01	1.308E-02	0.215
		94.90		2.911E-01	1.818E-01	2.781E-01	2.486E-02	1.047

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		122.32		1.727E-01	1.384E+00	2.205E+00	1.962E-01	0.078
		144.24		7.841E-02	5.150E-01	8.560E-01	8.474E-02	0.092
		154.21		2.024E-01	2.996E-01	5.119E-01	5.170E-02	0.395
	+	269.46		3.278E-01	1.939E-01	2.522E-01	3.464E-02	1.300
		323.87	*	-2.457E-01	5.428E-01	7.633E-01	1.517E-01	-0.322
	+	338.28		5.026E+00	1.526E+00	1.753E+00	2.593E-01	2.867
		445.03		-5.611E-01	1.708E+00	2.727E+00	3.504E-01	-0.206
AC-227		79.80		1.736E-01	1.202E+00	1.763E+00	3.791E-01	0.098
		236.00		9.135E-01	2.599E-01	3.683E-01	5.556E-02	2.480
		256.20	*	1.605E-01	2.954E-01	4.848E-01	8.846E-02	0.331
		286.10		2.010E-01	1.161E+00	1.867E+00	3.182E-01	0.108
	+	299.80		2.707E+00	1.389E+00	1.901E+00	3.849E-01	1.424
		304.40		-6.877E-01	1.585E+00	2.250E+00	4.719E-01	-0.306
		334.20		8.546E-02	2.124E+00	2.702E+00	5.720E-01	0.032
TH-227		79.80		1.736E-01	1.202E+00	1.763E+00	3.840E-01	0.098
	+	94.00		6.014E+00	2.341E+00	2.751E+00	6.033E-01	2.186
		236.00		9.135E-01	2.555E-01	3.683E-01	5.213E-02	2.480
		256.20	*	1.605E-01	2.958E-01	4.848E-01	9.979E-02	0.331
		286.10		2.010E-01	1.178E+00	1.867E+00	1.885E+00	0.108
	+	299.80		2.707E+00	1.389E+00	1.901E+00	3.849E-01	1.424
		304.40		-6.877E-01	1.585E+00	2.250E+00	4.719E-01	-0.306
		334.20		8.546E-02	2.124E+00	2.702E+00	5.720E-01	0.032
TH-229		85.43		1.425E-01	1.522E-01	2.275E-01	2.093E-02	0.626
	+	88.47		1.732E-01	9.287E-02	1.464E-01	1.383E-02	1.183
		100.00		1.025E-01	1.387E-01	2.286E-01	1.982E-02	0.448
		193.63	*	7.288E-03	3.856E-01	6.360E-01	6.838E-02	0.011
	+	210.97		1.057E+00	8.125E-01	1.061E+00	1.208E-01	0.996
PA-231		283.67	*	-5.957E-01	1.356E+00	1.827E+00	3.412E-01	-0.326
	+	301.29		1.083E+00	5.391E-01	7.487E-01	1.190E-01	1.446
TH-231		81.07		-2.114E-01	1.663E-01	2.271E-01	1.985E-02	-0.931
		83.78		3.116E-02	9.890E-02	1.450E-01	1.308E-02	0.215
		94.90		2.911E-01	1.818E-01	2.781E-01	2.486E-02	1.047
		122.32		1.727E-01	1.384E+00	2.205E+00	1.962E-01	0.078
		144.24		7.841E-02	5.150E-01	8.560E-01	8.474E-02	0.092
		154.21		2.024E-01	2.996E-01	5.119E-01	5.170E-02	0.395
	+	269.46		3.278E-01	1.939E-01	2.522E-01	3.464E-02	1.300
		323.87	*	-2.457E-01	5.428E-01	7.633E-01	1.517E-01	-0.322
	+	338.28		5.026E+00	1.526E+00	1.753E+00	2.593E-01	2.867
		445.03		-5.611E-01	1.708E+00	2.727E+00	3.504E-01	-0.206
U-231		84.21		2.183E+00	3.453E+00	5.121E+00	4.642E-01	0.426
	+	92.29		4.861E+00	1.623E+00	2.432E+00	2.218E-01	1.999
		95.87	*	-9.757E-02	6.932E-01	9.894E-01	8.786E-02	-0.099
		108.00		-1.013E+00	1.286E+00	1.991E+00	1.674E-01	-0.509
PA-233	+	75.28		1.360E+01	3.605E+00	4.594E+00	6.946E-01	2.959
	+	86.59		3.971E+00	1.753E+00	2.125E+00	5.749E-01	1.869
	+	300.12		7.547E-01	3.811E-01	5.277E-01	9.516E-02	1.430
		311.98	*	-3.863E-02	4.885E-02	7.879E-02	1.032E-02	-0.490
		340.50		2.148E+00	7.824E-01	9.705E-01	2.442E-01	2.214
		398.62		-6.765E-01	1.508E+00	2.403E+00	6.458E-01	-0.282

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.76		1.254E+00	1.234E+00	2.070E+00	4.536E-01	0.606
PA-234	+	63.00		1.155E+00	1.339E+00	1.857E+00	2.750E-01	0.622
		94.67		3.053E-01	1.369E-01	2.084E-01	2.634E-02	1.465
		98.44		3.512E-02	7.521E-02	1.121E-01	6.255E-02	0.313
		99.86		2.106E-01	3.589E-01	5.802E-01	5.033E-02	0.363
		111.00		1.688E-03	1.391E-01	2.221E-01	2.641E-02	0.008
		131.20		1.537E-01	8.677E-02	1.384E-01	1.172E-02	1.110
		152.70		2.734E-01	2.484E-01	4.235E-01	7.355E-02	0.646
	+	186.00		3.935E+00	1.898E+00	1.935E+00	6.150E-01	2.033
		226.40		-1.625E-01	3.188E-01	5.074E-01	7.911E-02	-0.320
		227.20		-6.448E-02	3.365E-01	5.435E-01	6.519E-02	-0.119
		248.90		-2.017E-01	6.100E-01	9.678E-01	2.356E-01	-0.208
	+	293.70		4.405E+00	1.196E+00	1.184E+00	2.394E-01	3.721
		369.80		2.230E-02	6.372E-01	1.055E+00	2.380E-01	0.021
		568.70		-1.490E-01	7.899E-01	1.209E+00	1.241E-01	-0.123
		569.50		-1.380E-02	2.135E-01	3.285E-01	3.374E-02	-0.042
		574.00		-1.927E+00	1.223E+00	1.583E+00	1.629E-01	-1.217
		699.00		-4.216E-01	5.232E-01	8.021E-01	1.613E-01	-0.526
		706.10		-1.989E-01	7.200E-01	1.145E+00	5.158E-01	-0.174
		733.00		4.674E-02	2.818E-01	3.985E-01	9.223E-02	0.117
		742.81		2.431E-02	9.019E-01	1.467E+00	9.908E-01	0.017
	+	796.30		2.187E+00	1.091E+00	1.179E+00	3.290E-01	1.855
		805.60		5.169E-01	7.256E-01	1.195E+00	3.756E-01	0.432
		819.60		-2.796E-01	8.429E-01	1.367E+00	5.284E-01	-0.205
		826.30		8.590E-02	5.611E-01	9.441E-01	4.275E-01	0.091
		831.60		-6.158E-02	4.356E-01	7.201E-01	2.207E-01	-0.086
		876.40		-4.714E-01	7.601E-01	9.180E-01	9.460E-01	-0.513
		880.51		1.469E-02	1.921E-01	3.206E-01	3.585E-02	0.046
		883.24		7.042E-02	2.034E-01	3.360E-01	2.271E-01	0.210
		899.00		-3.287E-01	6.067E-01	9.192E-01	4.072E-01	-0.358
		925.00		-3.130E-01	8.259E-01	1.328E+00	1.461E-01	-0.236
		926.50		2.937E-03	1.245E-01	2.060E-01	5.393E-02	0.014
		946.00	*	7.632E-02	2.101E-01	3.540E-01	7.037E-02	0.216
		949.00		2.627E-01	3.016E-01	5.248E-01	5.671E-02	0.500
		980.50		-2.636E-02	4.836E-01	7.414E-01	7.797E-02	-0.036
		1394.10		-5.144E-02	8.520E-01	1.389E+00	9.044E-01	-0.037
PA-234M		766.42		1.507E+01	1.120E+01	1.455E+01	7.445E+00	1.036
		1001.03	*	1.381E+00	3.656E+00	5.898E+00	6.759E-01	0.234
U-235	+	89.95		1.738E+00	1.065E+00	1.309E+00	4.065E-01	1.328
	+	93.35		1.871E+00	7.996E-01	9.318E-01	2.624E-01	2.008
		105.00		6.391E-01	8.198E-01	1.316E+00	3.922E-01	0.486
		143.76	*	5.071E-02	1.600E-01	2.670E-01	4.710E-02	0.190
		163.35		2.166E-01	3.597E-01	6.082E-01	1.191E-01	0.356
	+	185.71		1.457E-01	5.503E-02	7.225E-02	7.566E-03	2.017
		205.31		-2.420E-02	4.706E-01	6.679E-01	1.360E-01	-0.036
NP-236		94.67		2.337E-01	1.019E-01	1.583E-01	1.418E-02	1.476
		98.44		2.652E-02	5.494E-02	8.473E-02	7.407E-03	0.313
		111.00		1.277E-03	1.052E-01	1.680E-01	1.402E-02	0.008
		160.31	*	-1.627E-02	6.049E-02	1.002E-01	9.578E-03	-0.162

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		6.747E-02	1.191E-01	1.923E-01	1.671E-02	0.351
		117.00	*	6.184E-03	1.478E-01	2.354E-01	1.946E-02	0.026
	+	209.75		1.065E+00	8.185E-01	1.071E+00	1.215E-01	0.994
		228.18		2.298E-02	1.790E-01	2.926E-01	3.520E-02	0.079
	+	277.60		3.999E-01	2.336E-01	2.359E-01	3.288E-02	1.695
		334.30		-1.852E-01	1.130E+00	1.528E+00	1.842E-01	-0.121
AM-241		59.54	*	7.854E-02	1.069E-01	1.647E-01	1.287E-02	0.477
CM-243		99.55		6.942E-02	1.225E-01	1.979E-01	1.720E-02	0.351
		103.76	*	2.877E-03	7.295E-02	1.172E-01	9.991E-03	0.025
		117.00		6.362E-03	1.520E-01	2.422E-01	2.002E-02	0.026
	+	209.75		1.049E+00	8.068E-01	1.056E+00	1.198E-01	0.994
		228.18		2.322E-02	1.808E-01	2.956E-01	3.556E-02	0.079
	+	277.60		4.032E-01	2.355E-01	2.378E-01	3.315E-02	1.695
AM-246		798.80		-2.231E-03	1.184E-01	1.627E-01	1.794E-02	-0.014
		1036.00		-9.736E-02	2.082E-01	3.280E-01	3.257E-02	-0.297
		1062.04		5.108E-02	1.645E-01	2.738E-01	2.634E-02	0.187
		1078.86	*	-3.042E-02	9.195E-02	1.456E-01	1.369E-02	-0.209
CM-247	+	278.00		1.659E+00	9.689E-01	9.872E-01	1.378E-01	1.680
		287.40		9.750E-01	9.283E-01	1.538E+00	2.117E-01	0.634
		402.60	*	-7.618E-03	2.612E-02	4.220E-02	3.959E-03	-0.181
CF-249		252.85		-3.351E-01	6.747E-01	1.063E+00	1.379E-01	-0.315
		333.44		4.712E-02	1.758E-01	2.058E-01	2.490E-02	0.229
		387.95	*	1.476E-02	2.919E-02	4.915E-02	4.671E-03	0.300
CF-251		176.60	*	-1.961E-02	9.504E-02	1.566E-01	1.591E-02	-0.125
		227.00		-1.539E-01	3.030E-01	4.829E-01	5.787E-02	-0.319
		285.00		-4.702E-01	1.383E+00	2.090E+00	2.892E-01	-0.225

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385006     *
* Acquisition date : 31-DEC-2009 09:40:22 Detector SN#     :               *
* Detector ID        : GAM22               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:     0 02:00:00.00     Abundance limit : 75.000        *
* Elapsed real time:     0 02:00:02.10     Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        : 17-DEC-2009 12:00:00 Nuclide Library : SOLID        *
* Sample ID          : G243385006           Analyst initials: MJH1         *
* Batch Number       : 936285               Sample Quantity : 1.5818E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000    *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME :  2-DEC-2009 16:47:28 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope      :               *
* LCS DPM          :    0.000             LCS Isotope      :               *
* LCSD DPM         :    0.000             LCSD Isotope     :               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.977E+01	2.067E+00	3.374E-01	0.000E+00
CD-109	2.060E+00	7.293E-01	9.758E-01	0.000E+00
SN-126	2.028E-01	7.181E-02	9.648E-02	0.000E+00
BA-137M	2.265E-01	6.178E-02	4.129E-02	0.000E+00
CS-137	2.394E-01	6.532E-02	4.365E-02	0.000E+00
TL-208	4.010E-01	7.002E-02	4.281E-02	0.000E+00
BI-211	2.877E+00	4.512E-01	2.469E-01	0.000E+00
PB-212	1.115E+00	1.678E-01	8.921E-02	0.000E+00
PO-212	1.115E+00	1.678E-01	8.921E-02	0.000E+00
BI-214	7.573E-01	1.325E-01	8.456E-02	0.000E+00
PB-214	1.001E+00	1.651E-01	8.603E-02	0.000E+00
PO-214	1.001E+00	1.651E-01	8.603E-02	0.000E+00
PO-216	1.115E+00	1.678E-01	8.921E-02	0.000E+00
PO-218	1.001E+00	1.651E-01	8.603E-02	0.000E+00
RA-224	2.350E+00	7.349E-01	1.083E+00	0.000E+00
RA-226	7.573E-01	1.325E-01	8.456E-02	0.000E+00
AC-228	1.200E+00	2.665E-01	1.527E-01	0.000E+00
RA-228	1.200E+00	2.665E-01	1.527E-01	0.000E+00
TH-228	1.131E+00	1.701E-01	9.045E-02	0.000E+00
TH-230	7.573E-01	1.325E-01	8.456E-02	0.000E+00
TH-232	1.200E+00	2.665E-01	1.527E-01	0.000E+00
TH-234	9.913E-01	1.129E+00	1.507E+00	0.000E+00
U-234	7.573E-01	1.325E-01	8.456E-02	0.000E+00
NP-237	5.956E-01	2.428E-01	2.862E-01	0.000E+00
U-238	9.913E-01	1.129E+00	1.507E+00	0.000E+00
AM-243	2.596E-01	5.921E-02	6.534E-02	0.000E+00
ANH-511	9.206E-02	5.137E-02	3.505E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)

BE-7	2.873E-02	2.293E-01	3.967E-01	0.000E+00	NOT IDENT.
NA-22	-9.490E-03	2.823E-02	4.706E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.291E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.237E-02	1.878E-02	3.442E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	3.915E-02	5.772E-02	0.000E+00	FAIL ABUN
SC-46	2.581E-03	2.643E-02	4.610E-02	0.000E+00	FAIL ABUN
V-48	1.451E-03	4.115E-02	7.063E-02	0.000E+00	NOT IDENT.
CR-51	1.144E-02	2.851E-01	4.679E-01	0.000E+00	NOT IDENT.
MN-52	2.345E-02	1.358E-01	2.328E-01	0.000E+00	NOT IDENT.
MN-54	1.440E-02	2.554E-02	4.597E-02	0.000E+00	NOT IDENT.
CO-56	9.198E-03	2.692E-02	4.789E-02	0.000E+00	NOT IDENT.
CO-57	5.453E-03	1.966E-02	3.472E-02	0.000E+00	NOT IDENT.
CO-58	-1.876E-02	2.514E-02	4.179E-02	0.000E+00	NOT IDENT.
FE-59	-4.883E-02	6.579E-02	1.019E-01	0.000E+00	NOT IDENT.
CO-60	5.248E-03	2.393E-02	4.154E-02	0.000E+00	NOT IDENT.
ZN-65	-5.690E-02	7.544E-02	9.947E-02	0.000E+00	NOT IDENT.
GE-68	4.006E-01	7.777E-01	1.367E+00	0.000E+00	NOT IDENT.
AS-73	2.270E-01	5.152E-01	9.854E-01	0.000E+00	NOT IDENT.
AS-74	-2.154E-02	6.453E-02	1.063E-01	0.000E+00	NOT IDENT.
SE-75	2.157E-02	3.737E-02	5.844E-02	0.000E+00	NOT IDENT.
BR-77	-2.149E+00	5.138E+00	8.738E+00	0.000E+00	FAIL ABUN
SR-82	-3.371E-01	2.607E-01	3.991E-01	0.000E+00	NOT IDENT.
RB-83	-2.199E-02	4.783E-02	8.113E-02	0.000E+00	NOT IDENT.
RB-84	4.275E-03	4.640E-02	8.100E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.523E+00	1.124E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.302E-02	5.689E-02	0.000E+00	NOT IDENT.
RB-86	3.750E-01	4.744E-01	8.490E-01	0.000E+00	NOT IDENT.
Y-88	-2.036E-02	2.260E-02	3.303E-02	0.000E+00	NOT IDENT.
ZR-88	-1.081E-02	2.158E-02	3.696E-02	0.000E+00	NOT IDENT.
Y-91	1.819E+00	1.263E+01	2.196E+01	0.000E+00	NOT IDENT.
NB-94	2.340E-02	2.247E-02	4.075E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	2.938E-02	5.459E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.100E-01	1.789E-01	0.000E+00	NOT IDENT.
ZR-95	3.058E-02	4.597E-02	8.147E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.483E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.769E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-2.851E+00	5.598E+00	9.183E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.040E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.208E-02	2.602E-02	4.603E-02	0.000E+00	NOT IDENT.
RH-102	-9.628E-03	2.129E-02	3.567E-02	0.000E+00	NOT IDENT.
RU-103	2.116E-03	2.760E-02	4.740E-02	0.000E+00	FAIL ABUN
RH-106	1.204E-01	2.189E-01	3.923E-01	0.000E+00	FAIL ABUN
RU-106	1.204E-01	2.186E-01	3.923E-01	0.000E+00	FAIL ABUN
AG-108M	-4.712E-03	2.364E-02	4.066E-02	0.000E+00	NOT IDENT.
AG-110M	3.838E-02	2.866E-02	4.673E-02	0.000E+00	NOT IDENT.
IN-111	2.782E-01	6.408E-01	9.886E-01	0.000E+00	NOT IDENT.
IN-113M	-1.806E-02	3.256E-02	5.442E-02	0.000E+00	NOT IDENT.
SN-113	-1.806E-02	3.256E-02	5.442E-02	0.000E+00	NOT IDENT.
IN-114M	9.338E-03	1.452E-01	2.301E-01	0.000E+00	NOT IDENT.
CD-115	-3.531E+00	4.969E+00	8.468E+00	0.000E+00	NOT IDENT.
SN-117M	2.420E-03	3.814E-02	7.004E-02	0.000E+00	NOT IDENT.
SB-122	4.909E-01	1.062E+00	1.916E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	9.108E+05	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.156E-03	2.080E-02	3.818E-02	0.000E+00	NOT IDENT.
I-124	-1.253E-01	4.712E-01	6.799E-01	0.000E+00	NOT IDENT.
SB-124	-2.855E-02	5.100E-02	8.054E-02	0.000E+00	FAIL ABUN
SB-125	3.290E-02	6.505E-02	1.160E-01	0.000E+00	FAIL ABUN
TE-125M	1.591E+00	6.699E+00	1.194E+01	0.000E+00	NOT IDENT.
I-126	4.925E-02	1.402E-01	2.138E-01	0.000E+00	NOT IDENT.
SB-126	3.179E-02	1.030E-01	1.552E-01	0.000E+00	FAIL ABUN
SB-127	6.138E-01	7.813E-01	1.400E+00	0.000E+00	NOT IDENT.
XE-127	1.532E-02	3.458E-02	6.269E-02	0.000E+00	NOT IDENT.
I-131	4.581E-03	7.426E-02	1.320E-01	0.000E+00	NOT IDENT.
TE-132	5.457E-02	4.142E-01	7.347E-01	0.000E+00	NOT IDENT.
BA-133	6.808E-03	3.296E-02	5.156E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.513E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.714E-02	6.323E-02	0.000E+00	FAIL ABUN
CS-135	1.058E-01	1.372E-01	2.154E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.722E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.388E-02	7.260E-02	1.248E-01	0.000E+00	FAIL ABUN
CE-139	-8.332E-03	2.185E-02	3.933E-02	0.000E+00	NOT IDENT.
BA-140	-1.635E-03	1.620E-01	2.872E-01	0.000E+00	NOT IDENT.
LA-140	-6.101E-02	5.535E-02	8.355E-02	0.000E+00	FAIL ABUN
CE-141	-7.961E-03	4.376E-02	8.039E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.003E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-6.498E-02	1.650E-01	2.663E-01	0.000E+00	NOT IDENT.
PM-144	-2.436E-03	2.414E-02	4.126E-02	0.000E+00	NOT IDENT.
PR-144	-1.649E-01	1.635E+00	2.794E+00	0.000E+00	NOT IDENT.

PM-146	2.663E-03	3.146E-02	5.462E-02	0.000E+00	NOT IDENT.
ND-147	1.523E-01	3.497E-01	6.339E-01	0.000E+00	FAIL ABUN
PM-149	-3.855E+00	4.656E+01	7.985E+01	0.000E+00	NOT IDENT.
EU-152	-1.498E-02	9.270E-02	1.240E-01	0.000E+00	FAIL ABUN
GD-153	-4.309E-02	6.541E-02	9.975E-02	0.000E+00	NOT IDENT.
EU-154	-3.053E-02	7.863E-02	1.304E-01	0.000E+00	NOT IDENT.
EU-155	7.335E-02	7.996E-02	1.461E-01	0.000E+00	FAIL ABUN
TB-160	-1.964E-02	9.389E-02	1.607E-01	0.000E+00	FAIL ABUN
HO-166M	2.552E-02	3.932E-02	7.006E-02	0.000E+00	NOT IDENT.
TM-171	-2.871E+00	2.040E+01	3.367E+01	0.000E+00	NOT IDENT.
LU-176	1.867E-02	1.873E-02	3.410E-02	0.000E+00	FAIL ABUN
LU-177	1.324E+00	9.977E-01	1.404E+00	0.000E+00	FAIL ABUN
LU-177M	-1.892E-01	1.329E-01	2.143E-01	0.000E+00	FAIL ABUN
HF-181	1.989E-02	2.982E-02	5.295E-02	0.000E+00	NOT IDENT.
W-181	-1.238E-01	2.634E-01	4.291E-01	0.000E+00	NOT IDENT.
TA-182	5.617E-02	1.292E-01	2.281E-01	0.000E+00	FAIL ABUN
RE-183	1.410E-02	8.074E-02	1.484E-01	0.000E+00	FAIL ABUN
RE-184	-8.887E-02	1.753E-01	2.989E-01	0.000E+00	NOT IDENT.
OS-185	4.758E-03	2.839E-02	4.974E-02	0.000E+00	NOT IDENT.
RE-188	5.054E-02	1.261E-01	2.343E-01	0.000E+00	NOT IDENT.
W-188	-5.404E+00	5.855E+00	8.708E+00	0.000E+00	FAIL ABUN
IR-192	5.082E-05	2.481E-02	4.468E-02	0.000E+00	FAIL ABUN
AU-195	9.651E-02	1.675E-01	3.001E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.552E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-4.394E+00	3.968E+00	6.924E+00	0.000E+00	NOT IDENT.
TL-202	1.746E-02	4.829E-02	8.525E-02	0.000E+00	NOT IDENT.
HG-203	2.869E-02	3.399E-02	5.342E-02	0.000E+00	NOT IDENT.
BI-207	2.871E-02	3.776E-02	6.594E-02	0.000E+00	FAIL ABUN
TL-207	-2.457E-01	5.320E-01	8.040E-01	0.000E+00	FAIL ABUN
PO-209	-1.466E+00	5.019E+00	8.517E+00	0.000E+00	NOT IDENT.
BI-210	3.228E+00	2.321E+00	4.451E+00	0.000E+00	NOT IDENT.
PB-210	3.228E+00	2.321E+00	4.451E+00	0.000E+00	NOT IDENT.
PO-210	3.228E+00	2.318E+00	4.451E+00	0.000E+00	NOT IDENT.
PB-211	-2.147E-01	6.796E-01	1.150E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.395E-01	4.534E-01	0.000E+00	FAIL ABUN
PO-215	-2.457E-01	5.320E-01	8.040E-01	0.000E+00	FAIL ABUN
RN-219	-1.961E-01	2.886E-01	4.862E-01	0.000E+00	FAIL ABUN
RN-220	-7.736E+00	1.802E+01	3.112E+01	0.000E+00	NOT IDENT.
RA-223	-2.457E-01	5.320E-01	8.040E-01	0.000E+00	FAIL ABUN
AC-227	1.605E-01	2.895E-01	5.139E-01	0.000E+00	FAIL ABUN
TH-227	1.605E-01	2.899E-01	5.139E-01	0.000E+00	FAIL ABUN
TH-229	7.288E-03	3.779E-01	6.792E-01	0.000E+00	FAIL ABUN
PA-231	-5.957E-01	1.329E+00	1.932E+00	0.000E+00	FAIL ABUN
TH-231	-2.457E-01	5.320E-01	8.040E-01	0.000E+00	FAIL ABUN
U-231	-9.757E-02	6.793E-01	1.076E+00	0.000E+00	FAIL ABUN
PA-233	-3.863E-02	4.787E-02	8.308E-02	0.000E+00	FAIL ABUN
PA-234	7.632E-02	2.059E-01	3.619E-01	0.000E+00	FAIL ABUN
PA-234M	1.381E+00	3.583E+00	6.019E+00	0.000E+00	NOT IDENT.
U-235	5.071E-02	1.568E-01	2.873E-01	0.000E+00	FAIL ABUN
NP-236	-1.627E-02	5.928E-02	1.075E-01	0.000E+00	NOT IDENT.
NP-239	6.184E-03	1.448E-01	2.547E-01	0.000E+00	FAIL ABUN
AM-241	7.854E-02	1.048E-01	1.812E-01	0.000E+00	NOT IDENT.
CM-243	2.877E-03	7.149E-02	1.272E-01	0.000E+00	FAIL ABUN
AM-246	-3.042E-02	9.011E-02	1.482E-01	0.000E+00	NOT IDENT.
CM-247	-7.618E-03	2.559E-02	4.419E-02	0.000E+00	FAIL ABUN
CF-249	1.476E-02	2.860E-02	5.152E-02	0.000E+00	NOT IDENT.
CF-251	-1.961E-02	9.314E-02	1.676E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:41:19.48

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385006.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:40:22
Sample ID         : G243385006           Sample quantity  : 1.58180E+02 GRAM
Detector name     : GAM22                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:02.10  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1697	10.67*	1.909E+00	1.977E+01	1.977E+01	10.67
CD-109	88.03	236	3.72*	7.470E+00	2.017E+00	2.060E+00	36.13
SN-126	64.28	69	9.60	4.339E+00	3.924E-01	3.924E-01	115.81
	86.94	236	8.90	7.470E+00	8.432E-01	8.432E-01	54.23
	87.57	236	37.00*	7.470E+00	2.028E-01	2.028E-01	36.13
BA-137M	661.65	308	89.98*	3.590E+00	2.263E-01	2.265E-01	27.83
CS-137	661.65	308	85.12*	3.590E+00	2.392E-01	2.394E-01	27.84
TL-208	277.35	147	6.80	6.182E+00	8.293E-01	8.293E-01	59.08
	510.84	167	21.60	4.300E+00	4.262E-01	4.262E-01	57.55
	583.14	559	84.20*	3.930E+00	4.010E-01	4.010E-01	17.82
	860.37	73	12.46	2.923E+00	4.789E-01	4.789E-01	58.06
BI-211	72.87	------	1.27	5.897E+00	------ Line Not Found		------
	351.07	847	12.94*	5.401E+00	2.877E+00	2.877E+00	16.00
PB-212	74.81	445	10.70	6.171E+00	1.601E+00	1.601E+00	25.08
	77.11	679	18.00	6.458E+00	1.385E+00	1.385E+00	15.63
	87.30	236	8.00	7.470E+00	9.381E-01	9.381E-01	37.49
	238.63	1407	44.60*	6.710E+00	1.115E+00	1.115E+00	15.35
	300.09	124	3.41	5.915E+00	1.461E+00	1.461E+00	49.37
PO-212	74.81	445	10.70	6.171E+00	1.601E+00	1.601E+00	25.08
	77.11	679	18.00	6.458E+00	1.385E+00	1.385E+00	15.63
	87.30	236	8.00	7.470E+00	9.381E-01	9.381E-01	37.49
	115.19	------	0.60	8.535E+00	------ Line Not Found		------
	238.63	1407	44.60*	6.710E+00	1.115E+00	1.115E+00	15.35
	300.09	124	3.41	5.915E+00	1.461E+00	1.461E+00	49.37
BI-214	609.31	563	46.30*	3.811E+00	7.573E-01	7.573E-01	17.85
	1120.29	173	15.10	2.346E+00	1.157E+00	1.157E+00	27.35
	1764.49	117	15.80	1.716E+00	1.023E+00	1.023E+00	26.45
PB-214	74.81	445	6.21	6.171E+00	2.759E+00	2.759E+00	24.43
	77.11	679	10.50	6.458E+00	2.375E+00	2.375E+00	17.39
	87.30	236	4.67	7.470E+00	1.607E+00	1.607E+00	36.94
	241.98	261	7.49	6.661E+00	1.239E+00	1.239E+00	32.41
	295.21	443	19.20	5.971E+00	9.176E-01	9.176E-01	23.48

Sample ID : G243385006 Acquisition date : 31-DEC-2009 09:40:22

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	351.92	847	37.20*	5.401E+00	1.001E+00	1.001E+00	16.83
PO-214	74.81	445	6.21	6.171E+00	2.759E+00	2.759E+00	24.43
	77.11	679	10.50	6.458E+00	2.375E+00	2.375E+00	17.39
	87.30	236	4.67	7.470E+00	1.607E+00	1.607E+00	36.94
	241.98	261	7.49	6.661E+00	1.239E+00	1.239E+00	32.41
	295.21	443	19.20	5.971E+00	9.176E-01	9.176E-01	23.48
	351.92	847	37.20*	5.401E+00	1.001E+00	1.001E+00	16.83
PO-216	74.81	445	10.70	6.171E+00	1.601E+00	1.601E+00	25.08
	77.11	679	18.00	6.458E+00	1.385E+00	1.385E+00	15.63
	87.30	236	8.00	7.470E+00	9.381E-01	9.381E-01	37.49
	238.63	1407	44.60*	6.710E+00	1.115E+00	1.115E+00	15.35
	300.09	124	3.41	5.915E+00	1.461E+00	1.461E+00	49.37
PO-218	74.81	445	6.21	6.171E+00	2.759E+00	2.759E+00	24.43
	77.11	679	10.50	6.458E+00	2.375E+00	2.375E+00	17.39
	87.30	236	4.67	7.470E+00	1.607E+00	1.607E+00	36.94
	241.98	261	7.49	6.661E+00	1.239E+00	1.239E+00	32.41
	295.21	443	19.20	5.971E+00	9.176E-01	9.176E-01	23.48
	351.92	847	37.20*	5.401E+00	1.001E+00	1.001E+00	16.83
RA-224	240.98	261	3.95*	6.661E+00	2.350E+00	2.350E+00	31.92
RA-226	609.31	563	46.30*	3.811E+00	7.573E-01	7.573E-01	17.85
	1120.29	173	15.10	2.346E+00	1.157E+00	1.157E+00	27.35
	1764.49	117	15.80	1.716E+00	1.023E+00	1.023E+00	26.45
AC-228	338.32	319	11.40	5.525E+00	1.204E+00	1.204E+00	49.73
	911.07	391	27.70*	2.788E+00	1.200E+00	1.200E+00	22.66
	969.11	281	16.60	2.649E+00	1.515E+00	1.515E+00	30.48
RA-228	338.32	319	11.40	5.525E+00	1.204E+00	1.204E+00	49.73
	911.07	391	27.70*	2.788E+00	1.200E+00	1.200E+00	22.66
	969.11	281	16.60	2.649E+00	1.515E+00	1.515E+00	30.48
TH-228	74.81	445	10.70	6.171E+00	1.601E+00	1.623E+00	23.30
	77.11	679	18.00	6.458E+00	1.385E+00	1.405E+00	15.63
	87.30	236	8.00	7.470E+00	9.381E-01	9.511E-01	36.13
	238.63	1407	44.60*	6.710E+00	1.115E+00	1.131E+00	15.35
	300.09	124	3.41	5.915E+00	1.461E+00	1.481E+00	76.44
TH-230	609.31	563	46.30*	3.811E+00	7.573E-01	7.573E-01	17.85
	1120.29	173	15.10	2.346E+00	1.157E+00	1.157E+00	27.35
	1764.49	117	15.80	1.716E+00	1.023E+00	1.023E+00	26.45
TH-232	338.32	319	11.40	5.525E+00	1.204E+00	1.204E+00	29.06
	911.07	391	27.70*	2.788E+00	1.200E+00	1.200E+00	22.66
	969.11	281	16.60	2.649E+00	1.515E+00	1.515E+00	30.48
TH-234	63.29	69	3.80*	4.339E+00	9.913E-01	9.913E-01	116.21
	92.38	279	5.41	7.855E+00	1.556E+00	1.556E+00	36.99
U-234	609.31	563	46.30*	3.811E+00	7.573E-01	7.573E-01	17.85
	1120.29	173	15.10	2.346E+00	1.157E+00	1.157E+00	27.35
	1764.49	117	15.80	1.716E+00	1.023E+00	1.023E+00	26.45
NP-237	86.50	236	12.60*	7.470E+00	5.956E-01	5.956E-01	41.61
	95.87	------	2.60	8.032E+00	------	Line Not Found	------
U-238	63.29	69	3.80*	4.339E+00	9.913E-01	9.913E-01	116.21
	92.38	279	5.41	7.855E+00	1.556E+00	1.556E+00	33.40
AM-243	74.67	445	66.00*	6.171E+00	2.596E-01	2.596E-01	23.28

Sample ID : G243385006 Acquisition date : 31-DEC-2009 09:40:22

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	236	0.34	7.470E+00	2.233E+01	2.233E+01	36.13
	117.66	------	0.55	8.550E+00	------	Line Not Found	------
	142.18	------	0.13	8.387E+00	------	Line Not Found	------
ANH-511	511.00	167	100.00*	4.300E+00	9.206E-02	9.206E-02	56.94

Flag: "*" = Keyline

Sample ID : G243385006 Acquisition date : 31-DEC-2009 09:40:22

Total number of lines in spectrum 34
Number of unidentified lines 2
Number of lines tentatively identified by NID 32 94.12%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.977E+01	1.977E+01	0.211E+01	10.67	
CD-109	464.00D	1.02	2.017E+00	2.060E+00	0.744E+00	36.13	
SN-126	1.00E+05Y	1.00	2.028E-01	2.028E-01	0.733E-01	36.13	
BA-137M	30.17Y	1.00	2.263E-01	2.265E-01	0.630E-01	27.83	
CS-137	30.17Y	1.00	2.392E-01	2.394E-01	0.666E-01	27.84	
TL-208	1.41E+10Y	1.00	4.010E-01	4.010E-01	0.714E-01	17.82	
BI-211	7.04E+08Y	1.00	2.877E+00	2.877E+00	0.460E+00	16.00	
PB-212	1.41E+10Y	1.00	1.115E+00	1.115E+00	0.171E+00	15.35	
PO-212	1.41E+10Y	1.00	1.115E+00	1.115E+00	0.171E+00	15.35	
BI-214	1600.00Y	1.00	7.573E-01	7.573E-01	1.352E-01	17.85	
PB-214	1600.00Y	1.00	1.001E+00	1.001E+00	0.168E+00	16.83	
PO-214	1600.00Y	1.00	1.001E+00	1.001E+00	0.168E+00	16.83	
PO-216	1.41E+10Y	1.00	1.115E+00	1.115E+00	0.171E+00	15.35	
PO-218	1600.00Y	1.00	1.001E+00	1.001E+00	0.168E+00	16.83	
RA-224	1.41E+10Y	1.00	2.350E+00	2.350E+00	0.750E+00	31.92	
RA-226	1600.00Y	1.00	7.573E-01	7.573E-01	1.352E-01	17.85	
AC-228	1.41E+10Y	1.00	1.200E+00	1.200E+00	0.272E+00	22.66	
RA-228	1.41E+10Y	1.00	1.200E+00	1.200E+00	0.272E+00	22.66	
TH-228	1.91Y	1.01	1.115E+00	1.131E+00	0.174E+00	15.35	
TH-230	4.47E+09Y	1.00	7.573E-01	7.573E-01	1.352E-01	17.85	
TH-232	1.41E+10Y	1.00	1.200E+00	1.200E+00	0.272E+00	22.66	
TH-234	4.47E+09Y	1.00	9.913E-01	9.913E-01	11.52E-01	116.21	
U-234	4.47E+09Y	1.00	7.573E-01	7.573E-01	1.352E-01	17.85	
NP-237	2.14E+06Y	1.00	5.956E-01	5.956E-01	2.478E-01	41.61	
U-238	4.47E+09Y	1.00	9.913E-01	9.913E-01	11.52E-01	116.21	
AM-243	7380.00Y	1.00	2.596E-01	2.596E-01	0.604E-01	23.28	
ANH-511	1.00E+09Y	1.00	9.206E-02	9.206E-02	5.242E-02	56.94	
		Total Activity :	4.511E+01	4.517E+01			

Grand Total Activity : 4.511E+01 4.517E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G243385006 Acquisition date : 31-DEC-2009 09:40:22

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	89.82	152	538	1.17	179.84	170	22	2.11E-02	52.8	7.67E+00	T
0	129.28	126	523	1.48	258.69	254	9	1.75E-02	67.8	8.53E+00	T
0	185.96	252	470	1.39	371.93	367	10	3.50E-02	36.3	7.61E+00	T
0	209.79	104	451	0.85	419.56	415	9	1.45E-02	76.0	7.18E+00	T
0	270.25	118	293	1.74	540.37	536	10	1.64E-02	57.5	6.27E+00	T
0	327.73	99	297	1.72	655.23	648	12	1.38E-02	72.4	5.63E+00	T
0	462.87	58	177	2.30	925.32	921	11	8.08E-03	93.7	4.58E+00	T
0	726.75	146	129	1.59	1452.77	1446	15	2.03E-02	37.5	3.34E+00	T
0	795.86	112	80	1.75	1590.92	1582	17	1.55E-02	41.3	3.11E+00	T
1	964.49	122	75	2.56	1928.07	1916	33	1.69E-02	36.6	2.66E+00	T
2	1127.99	61	52	2.47	2255.00	2232	31	8.41E-03	55.1	2.33E+00	
3	1759.71	20	0	2.16	3518.61	3516	30	2.76E-03	39.7	1.72E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:41:24.31

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385006.CNF;1 *
* Acquisition date  : 31-DEC-2009 09:40:22  Detector SN#     :             *
* Detector ID       : GAM22                 Sensitivity      : 5.00000     *
* Geometry          : CAN                   Energy tolerance: 1.50000      *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000     *
* Elapsed real time: 0 02:00:02.10          Half life ratio : 8.00000      *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00  Nuclide Library : SOLID        *
* Sample ID         : G243385006            Analyst initials: MJH1         *
* Batch Number      : 936285                Sample Quantity : 1.58180E+02 GRAM *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME : 2-DEC-2009 16:47:28.08MS Isotope       :              *
* MSD ID           :                      MSD Isotope      :              *
* LCS ID           : 1032-A               LCS Isotope      :              *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.977E+01	2.109E+00	3.342E-01	3.062E-02	59.156
CD-109	2.060E+00	7.442E-01	8.953E-01	8.496E-02	2.301
SN-126	2.028E-01	7.328E-02	8.852E-02	8.358E-03	2.291
BA-137M	2.265E-01	6.304E-02	3.998E-02	4.216E-03	5.664
CS-137	2.394E-01	6.665E-02	4.227E-02	4.463E-03	5.664
TL-208	4.010E-01	7.145E-02	4.131E-02	4.479E-03	9.708
BI-211	2.877E+00	4.605E-01	2.349E-01	2.741E-02	12.249
PB-212	1.115E+00	1.712E-01	8.400E-02	1.110E-02	13.279
PO-212	1.115E+00	1.712E-01	8.400E-02	1.110E-02	13.279
BI-214	7.573E-01	1.352E-01	8.169E-02	9.498E-03	9.270
PB-214	1.001E+00	1.685E-01	8.186E-02	1.043E-02	12.227
PO-214	1.001E+00	1.685E-01	8.186E-02	1.043E-02	12.227
PO-216	1.115E+00	1.712E-01	8.400E-02	1.110E-02	13.279
PO-218	1.001E+00	1.685E-01	8.186E-02	1.043E-02	12.227
RA-224	2.350E+00	7.499E-01	1.020E+00	1.276E-01	2.304
RA-226	7.573E-01	1.352E-01	8.169E-02	9.498E-03	9.270
AC-228	1.200E+00	2.719E-01	1.492E-01	1.977E-02	8.045
RA-228	1.200E+00	2.719E-01	1.492E-01	1.977E-02	8.045

Sample ID : G243385006 Acquisition date : 31-DEC-2009 09:40:22

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.131E+00	1.736E-01	8.517E-02	1.125E-02	13.279
TH-230	7.573E-01	1.352E-01	8.169E-02	9.498E-03	9.270
TH-232	1.200E+00	2.719E-01	1.492E-01	1.977E-02	8.045
TH-234	9.913E-01	1.152E+00	1.371E+00	2.387E-01	0.723
U-234	7.573E-01	1.352E-01	8.169E-02	9.498E-03	9.270
NP-237	5.956E-01	2.478E-01	2.625E-01	5.944E-02	2.269
U-238	9.913E-01	1.152E+00	1.371E+00	2.387E-01	0.723
AM-243	2.596E-01	6.042E-02	5.970E-02	4.866E-03	4.348
ANH-511	9.206E-02	5.242E-02	3.370E-02	3.376E-03	2.732

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.873E-02		2.340E-01	3.806E-01	3.972E-02	0.075
NA-22	-9.490E-03		2.881E-02	4.643E-02	4.002E-03	-0.204
NA-24	2.103E-02		6.585E-02	Half-Life too short		
AL-26	1.237E-02		1.916E-02	3.432E-02	2.806E-03	0.360
TI-44	2.556E-01	+	3.995E-02	5.280E-02	4.477E-03	4.841
SC-46	2.581E-03		2.697E-02	4.502E-02	5.039E-03	0.057
V-48	1.451E-03		4.199E-02	6.917E-02	7.254E-03	0.021
CR-51	1.144E-02		2.909E-01	4.441E-01	5.750E-02	0.026
MN-52	2.345E-02		1.386E-01	2.305E-01	2.060E-02	0.102
MN-54	1.440E-02		2.606E-02	4.481E-02	4.978E-03	0.321
CO-56	9.198E-03		2.747E-02	4.669E-02	5.198E-03	0.197
CO-57	5.453E-03		2.006E-02	3.212E-02	2.649E-03	0.170
CO-58	-1.876E-02		2.566E-02	4.070E-02	4.506E-03	-0.461
FE-59	-4.883E-02		6.713E-02	1.001E-01	9.811E-03	-0.488
CO-60	5.248E-03		2.442E-02	4.104E-02	3.659E-03	0.128
ZN-65	-5.690E-02		7.698E-02	9.777E-02	8.721E-03	-0.582
GE-68	4.006E-01		7.936E-01	1.342E+00	1.265E-01	0.299
AS-73	2.270E-01		5.257E-01	8.929E-01	6.747E-02	0.254
AS-74	-2.154E-02		6.585E-02	1.026E-01	1.064E-02	-0.210
SE-75	2.157E-02		3.814E-02	5.518E-02	7.427E-03	0.391
BR-77	-2.149E+00		5.243E+00	8.405E+00	8.460E-01	-0.256
SR-82	-3.371E-01		2.660E-01	3.882E-01	4.257E-02	-0.868
RB-83	-2.199E-02		4.881E-02	7.803E-02	7.853E-03	-0.282
RB-84	4.275E-03		4.735E-02	7.907E-02	8.844E-03	0.054
KR-85	2.436E+01		6.656E+00	1.081E+01	1.084E+00	2.254
SR-85	1.233E-01		3.369E-02	5.470E-02	5.489E-03	2.254
RB-86	3.750E-01		4.840E-01	8.336E-01	7.866E-02	0.450
Y-88	-2.036E-02		2.306E-02	3.294E-02	2.663E-03	-0.618
ZR-88	-1.081E-02		2.202E-02	3.528E-02	3.285E-03	-0.307
Y-91	1.819E+00		1.289E+01	2.164E+01	1.779E+00	0.084
NB-94	2.340E-02		2.293E-02	3.952E-02	4.235E-03	0.592
NB-95	5.978E-02		2.998E-02	5.308E-02	5.805E-03	1.126
NB-95M	1.946E-01		1.123E-01	1.684E-01	2.226E-02	1.155
ZR-95	3.058E-02		4.691E-02	7.919E-02	9.193E-03	0.386

Sample ID : G243385006 Acquisition date : 31-DEC-2009 09:40:22

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	4.136E-02		1.267E-02	Half-Life too short		
ZR-97	1.604E+00		2.433E-01	Half-Life too short		
MO-99	-2.851E+00		5.713E+00	8.920E+00	1.477E+00	-0.320
TC-99M	-5.856E+08		5.305E+08	Half-Life too short		
RH-101	1.208E-02		2.655E-02	4.313E-02	4.705E-03	0.280
RH-102	-9.628E-03		2.173E-02	3.422E-02	3.365E-03	-0.281
RU-103	2.116E-03		2.816E-02	4.554E-02	6.834E-03	0.046
RH-106	1.204E-01		2.234E-01	3.792E-01	5.537E-02	0.318
RU-106	1.204E-01		2.231E-01	3.792E-01	3.961E-02	0.318
AG-108M	-4.712E-03		2.412E-02	3.891E-02	3.852E-03	-0.121
AG-110M	3.838E-02		2.925E-02	4.524E-02	4.862E-03	0.848
IN-111	2.782E-01		6.538E-01	9.316E-01	1.182E-01	0.299
IN-113M	-1.806E-02		3.322E-02	5.193E-02	4.960E-03	-0.348
SN-113	-1.806E-02		3.322E-02	5.193E-02	4.960E-03	-0.348
IN-114M	9.338E-03		1.482E-01	2.154E-01	2.290E-02	0.043
CD-115	-3.531E+00		5.071E+00	8.148E+00	8.228E-01	-0.433
SN-117M	2.420E-03		3.892E-02	6.524E-02	6.187E-03	0.037
SB-122	4.909E-01		1.084E+00	1.847E+00	1.893E-01	0.266
I-123	5.064E-02		4.647E-01	Half-Life too short		
TE-123M	1.156E-03		2.122E-02	3.557E-02	3.397E-03	0.033
I-124	-1.253E-01		4.808E-01	6.566E-01	6.820E-02	-0.191
SB-124	-2.855E-02		5.204E-02	8.013E-02	7.128E-03	-0.356
SB-125	3.290E-02		6.638E-02	1.110E-01	1.077E-02	0.296
TE-125M	1.591E+00		6.836E+00	1.102E+01	1.116E+00	0.144
I-126	4.925E-02		1.431E-01	2.071E-01	2.188E-02	0.238
SB-126	3.179E-02		1.051E-01	1.506E-01	1.625E-02	0.211
SB-127	6.138E-01		7.972E-01	1.357E+00	1.722E-01	0.452
XE-127	1.532E-02		3.529E-02	5.878E-02	6.516E-03	0.261
I-131	4.581E-03		7.577E-02	1.258E-01	1.393E-02	0.036
TE-132	5.457E-02		4.227E-01	6.910E-01	1.218E-01	0.079
BA-133	6.808E-03		3.363E-02	4.908E-02	7.333E-03	0.139
I-133	9.449E-04		7.720E-04	Half-Life too short		
CS-134	1.124E-01	+	4.811E-02	6.155E-02	6.812E-03	1.826
CS-135	1.058E-01		1.400E-01	2.035E-01	2.943E-02	0.520
I-135	1.311E+07		8.785E+07	Half-Life too short		
CS-136	1.388E-02		7.408E-02	1.225E-01	1.238E-02	0.113
CE-139	-8.332E-03		2.229E-02	3.668E-02	3.597E-03	-0.227
BA-140	-1.635E-03		1.653E-01	2.765E-01	9.281E-02	-0.006
LA-140	-6.101E-02		5.648E-02	8.299E-02	7.275E-03	-0.735
CE-141	-7.961E-03		4.465E-02	7.472E-02	6.802E-03	-0.107
CE-143	3.178E-04		5.118E-05	Half-Life too short		
CE-144	-6.498E-02		1.684E-01	2.470E-01	3.834E-02	-0.263
PM-144	-2.436E-03		2.463E-02	4.001E-02	4.279E-03	-0.061
PR-144	-1.649E-01		1.668E+00	2.710E+00	2.897E-01	-0.061
PM-146	2.663E-03		3.210E-02	5.233E-02	6.082E-03	0.051
ND-147	1.523E-01		3.569E-01	6.100E-01	9.673E-02	0.250
PM-149	-3.855E+00		4.751E+01	7.555E+01	1.429E+01	-0.051
EU-152	-1.498E-02		9.459E-02	1.179E-01	1.417E-02	-0.127

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-4.309E-02		6.675E-02	9.177E-02	8.069E-03	-0.470
EU-154	-3.053E-02		8.023E-02	1.287E-01	1.455E-02	-0.237
EU-155	7.335E-02		8.160E-02	1.347E-01	1.156E-02	0.545
TB-160	-1.964E-02		9.580E-02	1.569E-01	1.754E-02	-0.125
HO-166M	2.552E-02		4.012E-02	6.798E-02	7.309E-03	0.375
TM-171	-2.871E+00		2.082E+01	3.068E+01	2.318E+00	-0.094
LU-176	1.867E-02		1.912E-02	3.232E-02	4.241E-03	0.578
LU-177	1.324E+00	+	1.018E+00	1.317E+00	1.487E-01	1.005
LU-177M	-1.892E-01		1.356E-01	2.049E-01	1.937E-02	-0.924
HF-181	1.989E-02		3.043E-02	5.082E-02	5.017E-03	0.391
W-181	-1.238E-01		2.687E-01	3.908E-01	2.913E-02	-0.317
TA-182	5.617E-02		1.318E-01	2.248E-01	1.869E-02	0.250
RE-183	1.410E-02		8.239E-02	1.384E-01	1.335E-02	0.102
RE-184	-8.887E-02		1.789E-01	2.819E-01	3.658E-02	-0.315
OS-185	4.758E-03		2.897E-02	4.814E-02	5.059E-03	0.099
RE-188	5.054E-02		1.287E-01	2.181E-01	2.036E-02	0.232
W-188	-5.404E+00		5.974E+00	8.243E+00	1.126E+00	-0.656
IR-192	5.082E-05		2.531E-02	4.239E-02	5.418E-03	0.001
AU-195	9.651E-02		1.709E-01	2.762E-01	2.409E-02	0.349
TL-200	-6.049E-05		7.918E-05	Half-Life too short		
TL-201	-4.394E+00		4.049E+00	6.459E+00	6.366E-01	-0.680
TL-202	1.746E-02		4.927E-02	8.161E-02	7.856E-03	0.214
HG-203	2.869E-02		3.468E-02	5.051E-02	7.149E-03	0.568
BI-207	2.871E-02		3.853E-02	6.472E-02	6.214E-03	0.444
TL-207	-2.457E-01		5.428E-01	7.633E-01	1.517E-01	-0.322
PO-209	-1.466E+00		5.122E+00	8.318E+00	9.318E-01	-0.176
BI-210	3.228E+00		2.368E+00	4.020E+00	3.735E-01	0.803
PB-210	3.228E+00		2.368E+00	4.020E+00	3.735E-01	0.803
PO-210	3.228E+00		2.365E+00	4.020E+00	3.380E-01	0.803
PB-211	-2.147E-01		6.935E-01	1.098E+00	6.895E-01	-0.196
BI-212	8.803E-01	+	3.464E-01	4.402E-01	5.258E-02	2.000
PO-215	-2.457E-01		5.428E-01	7.633E-01	1.517E-01	-0.322
RN-219	-1.961E-01		2.945E-01	4.643E-01	7.183E-02	-0.422
RN-220	-7.736E+00		1.839E+01	2.998E+01	3.056E+00	-0.258
RA-223	-2.457E-01		5.428E-01	7.633E-01	1.517E-01	-0.322
AC-227	1.605E-01		2.954E-01	4.848E-01	8.846E-02	0.331
TH-227	1.605E-01		2.958E-01	4.848E-01	9.979E-02	0.331
TH-229	7.288E-03		3.856E-01	6.360E-01	6.838E-02	0.011
PA-231	-5.957E-01		1.356E+00	1.827E+00	3.412E-01	-0.326
TH-231	-2.457E-01		5.428E-01	7.633E-01	1.517E-01	-0.322
U-231	-9.757E-02		6.932E-01	9.894E-01	8.786E-02	-0.099
PA-233	-3.863E-02		4.885E-02	7.879E-02	1.032E-02	-0.490
PA-234	7.632E-02		2.101E-01	3.540E-01	7.037E-02	0.216
PA-234M	1.381E+00		3.656E+00	5.898E+00	6.759E-01	0.234
U-235	5.071E-02		1.600E-01	2.670E-01	4.710E-02	0.190
NP-236	-1.627E-02		6.049E-02	1.002E-01	9.578E-03	-0.162
NP-239	6.184E-03		1.478E-01	2.354E-01	1.946E-02	0.026
AM-241	7.854E-02		1.069E-01	1.647E-01	1.287E-02	0.477

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	2.877E-03		7.295E-02	1.172E-01	9.991E-03	0.025
AM-246	-3.042E-02		9.195E-02	1.456E-01	1.369E-02	-0.209
CM-247	-7.618E-03		2.612E-02	4.220E-02	3.959E-03	-0.181
CF-249	1.476E-02		2.919E-02	4.915E-02	4.671E-03	0.300
CF-251	-1.961E-02		9.504E-02	1.566E-01	1.591E-02	-0.125

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243385006           *
* Acquisition date  : 31-DEC-2009 09:40:22 Detector SN#     :               *
* Detector ID       : GAM22                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:02.10      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243385006           Analyst initials: MJH1           *
* Batch Number      : 936285               Sample Quantity : 1.5818E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME :  2-DEC-2009 16:47:28 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.977E+01	2.067E+00	1.688E-01	1.055E+00
CD-109	2.060E+00	7.293E-01	4.882E-01	3.721E-01
SN-126	2.028E-01	7.181E-02	4.827E-02	3.664E-02
BA-137M	2.265E-01	6.178E-02	2.066E-02	3.152E-02
CS-137	2.394E-01	6.532E-02	2.184E-02	3.332E-02
TL-208	4.010E-01	7.002E-02	2.142E-02	3.572E-02
BI-211	2.877E+00	4.512E-01	1.235E-01	2.302E-01
PB-212	1.115E+00	1.678E-01	4.463E-02	8.561E-02
PO-212	1.115E+00	1.678E-01	4.463E-02	8.561E-02
BI-214	7.573E-01	1.325E-01	4.230E-02	6.760E-02
PB-214	1.001E+00	1.651E-01	4.304E-02	8.424E-02
PO-214	1.001E+00	1.651E-01	4.304E-02	8.424E-02
PO-216	1.115E+00	1.678E-01	4.463E-02	8.561E-02
PO-218	1.001E+00	1.651E-01	4.304E-02	8.424E-02
RA-224	2.350E+00	7.349E-01	5.416E-01	3.750E-01
RA-226	7.573E-01	1.325E-01	4.230E-02	6.760E-02
AC-228	1.200E+00	2.665E-01	7.638E-02	1.360E-01
RA-228	1.200E+00	2.665E-01	7.638E-02	1.360E-01
TH-228	1.131E+00	1.701E-01	4.525E-02	8.680E-02
TH-230	7.573E-01	1.325E-01	4.230E-02	6.760E-02
TH-232	1.200E+00	2.665E-01	7.638E-02	1.360E-01
TH-234	9.913E-01	1.129E+00	7.540E-01	5.760E-01
U-234	7.573E-01	1.325E-01	4.230E-02	6.760E-02
NP-237	5.956E-01	2.428E-01	1.432E-01	1.239E-01
U-238	9.913E-01	1.129E+00	7.540E-01	5.760E-01
AM-243	2.596E-01	5.921E-02	3.269E-02	3.021E-02
ANH-511	9.206E-02	5.137E-02	1.754E-02	2.621E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU

BE-7	2.873E-02	2.293E-01	1.985E-01	1.170E-01	NOT IDENT.
NA-22	-9.490E-03	2.823E-02	2.354E-02	1.440E-02	NOT IDENT.
NA-24	2.103E+04	1.291E+05	0.000E+00	6.585E+04	SHORT HLIF
AL-26	1.237E-02	1.878E-02	1.722E-02	9.582E-03	NOT IDENT.
TI-44	2.556E-01	3.915E-02	2.888E-02	1.998E-02	FAIL ABUN
SC-46	2.581E-03	2.643E-02	2.306E-02	1.349E-02	FAIL ABUN
V-48	1.451E-03	4.115E-02	3.533E-02	2.100E-02	NOT IDENT.
CR-51	1.144E-02	2.851E-01	2.341E-01	1.455E-01	NOT IDENT.
MN-52	2.345E-02	1.358E-01	1.164E-01	6.928E-02	NOT IDENT.
MN-54	1.440E-02	2.554E-02	2.300E-02	1.303E-02	NOT IDENT.
CO-56	9.198E-03	2.692E-02	2.396E-02	1.374E-02	NOT IDENT.
CO-57	5.453E-03	1.966E-02	1.737E-02	1.003E-02	NOT IDENT.
CO-58	-1.876E-02	2.514E-02	2.091E-02	1.283E-02	NOT IDENT.
FE-59	-4.883E-02	6.579E-02	5.098E-02	3.357E-02	NOT IDENT.
CO-60	5.248E-03	2.393E-02	2.078E-02	1.221E-02	NOT IDENT.
ZN-65	-5.690E-02	7.544E-02	4.976E-02	3.849E-02	NOT IDENT.
GE-68	4.006E-01	7.777E-01	6.837E-01	3.968E-01	NOT IDENT.
AS-73	2.270E-01	5.152E-01	4.930E-01	2.629E-01	NOT IDENT.
AS-74	-2.154E-02	6.453E-02	5.317E-02	3.292E-02	NOT IDENT.
SE-75	2.157E-02	3.737E-02	2.924E-02	1.907E-02	NOT IDENT.
BR-77	-2.149E+00	5.138E+00	4.372E+00	2.622E+00	FAIL ABUN
SR-82	-3.371E-01	2.607E-01	1.997E-01	1.330E-01	NOT IDENT.
RB-83	-2.199E-02	4.783E-02	4.059E-02	2.440E-02	NOT IDENT.
RB-84	4.275E-03	4.640E-02	4.052E-02	2.368E-02	NOT IDENT.
KR-85	2.436E+01	6.523E+00	5.623E+00	3.328E+00	NOT IDENT.
SR-85	1.233E-01	3.302E-02	2.846E-02	1.685E-02	NOT IDENT.
RB-86	3.750E-01	4.744E-01	4.247E-01	2.420E-01	NOT IDENT.
Y-88	-2.036E-02	2.260E-02	1.652E-02	1.153E-02	NOT IDENT.
ZR-88	-1.081E-02	2.158E-02	1.849E-02	1.101E-02	NOT IDENT.
Y-91	1.819E+00	1.263E+01	1.099E+01	6.444E+00	NOT IDENT.
NB-94	2.340E-02	2.247E-02	2.039E-02	1.147E-02	NOT IDENT.
NB-95	5.978E-02	2.938E-02	2.731E-02	1.499E-02	NOT IDENT.
NB-95M	1.946E-01	1.100E-01	8.952E-02	5.613E-02	NOT IDENT.
ZR-95	3.058E-02	4.597E-02	4.076E-02	2.346E-02	NOT IDENT.
NB-97	4.136E+04	2.483E+04	0.000E+00	1.267E+04	SHORT HLIF
ZR-97	1.604E+06	4.769E+05	0.000E+00	2.433E+05	SHORT HLIF
MO-99	-2.851E+00	5.598E+00	4.594E+00	2.856E+00	NOT IDENT.
TC-99M	-5.856E+14	1.040E+15	0.000E+00	5.305E+14	SHORT HLIF
RH-101	1.208E-02	2.602E-02	2.303E-02	1.327E-02	NOT IDENT.
RH-102	-9.628E-03	2.129E-02	1.785E-02	1.086E-02	NOT IDENT.
RU-103	2.116E-03	2.760E-02	2.372E-02	1.408E-02	FAIL ABUN
RH-106	1.204E-01	2.189E-01	1.963E-01	1.117E-01	FAIL ABUN
RU-106	1.204E-01	2.186E-01	1.963E-01	1.115E-01	FAIL ABUN
AG-108M	-4.712E-03	2.364E-02	2.034E-02	1.206E-02	NOT IDENT.
AG-110M	3.838E-02	2.866E-02	2.338E-02	1.462E-02	NOT IDENT.
IN-111	2.782E-01	6.408E-01	4.946E-01	3.269E-01	NOT IDENT.
IN-113M	-1.806E-02	3.256E-02	2.723E-02	1.661E-02	NOT IDENT.
SN-113	-1.806E-02	3.256E-02	2.723E-02	1.661E-02	NOT IDENT.
IN-114M	9.338E-03	1.452E-01	1.151E-01	7.408E-02	NOT IDENT.
CD-115	-3.531E+00	4.969E+00	4.236E+00	2.535E+00	NOT IDENT.
SN-117M	2.420E-03	3.814E-02	3.504E-02	1.946E-02	NOT IDENT.
SB-122	4.909E-01	1.062E+00	9.583E-01	5.421E-01	NOT IDENT.
I-123	5.064E+04	9.108E+05	0.000E+00	4.647E+05	SHORT HLIF
TE-123M	1.156E-03	2.080E-02	1.910E-02	1.061E-02	NOT IDENT.
I-124	-1.253E-01	4.712E-01	3.401E-01	2.404E-01	NOT IDENT.
SB-124	-2.855E-02	5.100E-02	4.029E-02	2.602E-02	FAIL ABUN
SB-125	3.290E-02	6.505E-02	5.805E-02	3.319E-02	FAIL ABUN
TE-125M	1.591E+00	6.699E+00	5.975E+00	3.418E+00	NOT IDENT.
I-126	4.925E-02	1.402E-01	1.070E-01	7.155E-02	NOT IDENT.
SB-126	3.179E-02	1.030E-01	7.765E-02	5.253E-02	FAIL ABUN
SB-127	6.138E-01	7.813E-01	7.006E-01	3.986E-01	NOT IDENT.
XE-127	1.532E-02	3.458E-02	3.137E-02	1.764E-02	NOT IDENT.
I-131	4.581E-03	7.426E-02	6.606E-02	3.789E-02	NOT IDENT.
TE-132	5.457E-02	4.142E-01	3.676E-01	2.113E-01	NOT IDENT.
BA-133	6.808E-03	3.296E-02	2.579E-02	1.682E-02	FAIL ABUN
I-133	9.449E+02	1.513E+03	0.000E+00	7.720E+02	SHORT HLIF
CS-134	1.124E-01	4.714E-02	3.163E-02	2.405E-02	FAIL ABUN
CS-135	1.058E-01	1.372E-01	1.078E-01	6.999E-02	NOT IDENT.
I-135	1.311E+13	1.722E+14	0.000E+00	8.785E+13	SHORT HLIF
CS-136	1.388E-02	7.260E-02	6.245E-02	3.704E-02	FAIL ABUN
CE-139	-8.332E-03	2.185E-02	1.968E-02	1.115E-02	NOT IDENT.
BA-140	-1.635E-03	1.620E-01	1.437E-01	8.267E-02	NOT IDENT.
LA-140	-6.101E-02	5.535E-02	4.180E-02	2.824E-02	FAIL ABUN
CE-141	-7.961E-03	4.376E-02	4.022E-02	2.233E-02	NOT IDENT.
CE-143	3.178E+02	1.003E+02	0.000E+00	5.118E+01	SHORT HLIF
CE-144	-6.498E-02	1.650E-01	1.332E-01	8.421E-02	NOT IDENT.
PM-144	-2.436E-03	2.414E-02	2.064E-02	1.232E-02	NOT IDENT.
PR-144	-1.649E-01	1.635E+00	1.398E+00	8.341E-01	NOT IDENT.

PM-146	2.663E-03	3.146E-02	2.732E-02	1.605E-02	NOT IDENT.
ND-147	1.523E-01	3.497E-01	3.171E-01	1.784E-01	FAIL ABUN
PM-149	-3.855E+00	4.656E+01	3.995E+01	2.376E+01	NOT IDENT.
EU-152	-1.498E-02	9.270E-02	6.203E-02	4.730E-02	FAIL ABUN
GD-153	-4.309E-02	6.541E-02	4.991E-02	3.337E-02	NOT IDENT.
EU-154	-3.053E-02	7.863E-02	6.526E-02	4.012E-02	NOT IDENT.
EU-155	7.335E-02	7.996E-02	7.311E-02	4.080E-02	FAIL ABUN
TB-160	-1.964E-02	9.389E-02	8.039E-02	4.790E-02	FAIL ABUN
HO-166M	2.552E-02	3.932E-02	3.505E-02	2.006E-02	NOT IDENT.
TM-171	-2.871E+00	2.040E+01	1.684E+01	1.041E+01	NOT IDENT.
LU-176	1.867E-02	1.873E-02	1.706E-02	9.559E-03	FAIL ABUN
LU-177	1.324E+00	9.977E-01	7.024E-01	5.090E-01	FAIL ABUN
LU-177M	-1.892E-01	1.329E-01	1.072E-01	6.781E-02	FAIL ABUN
HF-181	1.989E-02	2.982E-02	2.649E-02	1.522E-02	NOT IDENT.
W-181	-1.238E-01	2.634E-01	2.147E-01	1.344E-01	NOT IDENT.
TA-182	5.617E-02	1.292E-01	1.141E-01	6.591E-02	FAIL ABUN
RE-183	1.410E-02	8.074E-02	7.427E-02	4.120E-02	FAIL ABUN
RE-184	-8.887E-02	1.753E-01	1.495E-01	8.946E-02	NOT IDENT.
OS-185	4.758E-03	2.839E-02	2.489E-02	1.448E-02	NOT IDENT.
RE-188	5.054E-02	1.261E-01	1.172E-01	6.433E-02	NOT IDENT.
W-188	-5.404E+00	5.855E+00	4.357E+00	2.987E+00	FAIL ABUN
IR-192	5.082E-05	2.481E-02	2.235E-02	1.266E-02	FAIL ABUN
AU-195	9.651E-02	1.675E-01	1.501E-01	8.544E-02	FAIL ABUN
TL-200	-6.049E+01	1.552E+02	0.000E+00	7.918E+01	SHORT HLIF
TL-201	-4.394E+00	3.968E+00	3.464E+00	2.025E+00	NOT IDENT.
TL-202	1.746E-02	4.829E-02	4.265E-02	2.464E-02	NOT IDENT.
HG-203	2.869E-02	3.399E-02	2.672E-02	1.734E-02	NOT IDENT.
BI-207	2.871E-02	3.776E-02	3.299E-02	1.926E-02	FAIL ABUN
TL-207	-2.457E-01	5.320E-01	4.022E-01	2.714E-01	FAIL ABUN
PO-209	-1.466E+00	5.019E+00	4.261E+00	2.561E+00	NOT IDENT.
BI-210	3.228E+00	2.321E+00	2.227E+00	1.184E+00	NOT IDENT.
PB-210	3.228E+00	2.321E+00	2.227E+00	1.184E+00	NOT IDENT.
PO-210	3.228E+00	2.318E+00	2.227E+00	1.182E+00	NOT IDENT.
PB-211	-2.147E-01	6.796E-01	5.753E-01	3.467E-01	NOT IDENT.
BI-212	8.803E-01	3.395E-01	2.268E-01	1.732E-01	FAIL ABUN
PO-215	-2.457E-01	5.320E-01	4.022E-01	2.714E-01	FAIL ABUN
RN-219	-1.961E-01	2.886E-01	2.432E-01	1.472E-01	FAIL ABUN
RN-220	-7.736E+00	1.802E+01	1.557E+01	9.196E+00	NOT IDENT.
RA-223	-2.457E-01	5.320E-01	4.022E-01	2.714E-01	FAIL ABUN
AC-227	1.605E-01	2.895E-01	2.571E-01	1.477E-01	FAIL ABUN
TH-227	1.605E-01	2.899E-01	2.571E-01	1.479E-01	FAIL ABUN
TH-229	7.288E-03	3.779E-01	3.398E-01	1.928E-01	FAIL ABUN
PA-231	-5.957E-01	1.329E+00	9.664E-01	6.780E-01	FAIL ABUN
TH-231	-2.457E-01	5.320E-01	4.022E-01	2.714E-01	FAIL ABUN
U-231	-9.757E-02	6.793E-01	5.383E-01	3.466E-01	FAIL ABUN
PA-233	-3.863E-02	4.787E-02	4.156E-02	2.442E-02	FAIL ABUN
PA-234	7.632E-02	2.059E-01	1.811E-01	1.050E-01	FAIL ABUN
PA-234M	1.381E+00	3.583E+00	3.011E+00	1.828E+00	NOT IDENT.
U-235	5.071E-02	1.568E-01	1.438E-01	7.998E-02	FAIL ABUN
NP-236	-1.627E-02	5.928E-02	5.380E-02	3.025E-02	NOT IDENT.
NP-239	6.184E-03	1.448E-01	1.274E-01	7.390E-02	FAIL ABUN
AM-241	7.854E-02	1.048E-01	9.067E-02	5.345E-02	NOT IDENT.
CM-243	2.877E-03	7.149E-02	6.363E-02	3.647E-02	FAIL ABUN
AM-246	-3.042E-02	9.011E-02	7.416E-02	4.597E-02	NOT IDENT.
CM-247	-7.618E-03	2.559E-02	2.211E-02	1.306E-02	FAIL ABUN
CF-249	1.476E-02	2.860E-02	2.577E-02	1.459E-02	NOT IDENT.
CF-251	-1.961E-02	9.314E-02	8.386E-02	4.752E-02	NOT IDENT.

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                          CHARLESTON ,SC 29417                             *
*                   GAMMA SPECTROSCOPY BACKGROUND REPORT                    *
*****************************************************************************
```

ENERGY	MDA COUNTS
46.50	273.6614
46.50	273.6614
46.50	273.6614
48.70	350.4063
49.72	328.2067
51.35	326.9181
52.39	325.6321
52.97	308.7829
53.15	305.3004
53.44	315.9331
54.07	313.9832
56.28	359.3521
56.28	359.3560
57.37	0.0000
57.53	364.9978
57.53	365.0008
57.60	345.1879
57.98	363.7670
57.98	363.7670
59.32	336.6059
59.32	336.6059
59.40	336.7126
59.54	336.8999
59.72	342.8796
60.01	343.2735
61.10	373.5939
61.14	373.6517
61.30	373.8844
63.00	427.1958
63.29	418.9400
63.29	418.9400
63.58	419.4003
64.28	454.0906
65.12	493.6003
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65.20	446.8634
66.05	432.1019
66.72	437.5829
66.83	437.7596
66.91	437.8887
67.20	461.6707
67.20	461.6707
67.75	458.4486
67.85	458.6154
68.90	449.9506
68.90	449.9506
69.30	443.1554
69.67	510.7474
70.82	448.5237
70.82	448.5237
70.83	448.5397
72.80	478.7007
72.87	478.8172
72.87	478.8172
74.67	481.7455
74.81	481.9712
74.81	481.9712
74.81	481.9712
74.81	481.9712
74.81	481.9712
74.81	481.9712
74.81	481.9712
74.97	482.2308
75.28	482.7306
75.70	483.4050
77.11	485.6589
77.11	485.6589

77.11	485.6589
77.11	485.6589
77.11	485.6589
77.11	485.6589
77.11	485.6589
78.38	449.3336
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79.80	459.0931
79.80	459.0931
80.11	487.3057
80.18	487.4142
80.30	481.4277
80.30	481.4277
80.57	481.8395
81.00	541.2621
81.07	541.3822
81.07	541.3822
81.07	541.3822
81.07	541.3822
82.60	474.0424
83.37	492.3083
83.78	502.2946
83.78	502.2946
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83.78	502.2946
84.21	487.3405
84.90	502.4564
85.43	531.4876
86.29	494.6195
86.50	494.9316
86.54	494.9916
86.59	495.0661
86.72	495.2605
86.79	495.3614
86.94	495.5870
87.30	496.1200
87.30	496.1200
87.30	496.1200
87.30	496.1200
87.30	496.1200
87.30	496.1200
87.30	496.1200
87.57	496.5185
87.88	496.9770
88.03	497.1979
88.36	497.6828
88.47	497.8461
89.95	500.0115
91.11	501.6992
92.29	503.4037
92.38	503.5334
92.38	503.5334
93.35	504.9234
94.00	505.8525
94.67	397.8171
94.67	397.8228
94.90	398.0791
94.90	398.0791
94.90	398.0791
94.90	398.0791
95.87	416.9332
95.87	416.9332
96.73	434.1280
97.43	444.7002
98.44	401.0091
98.44	401.0110
98.88	401.9249
99.55	396.1255
99.55	396.1255
99.86	400.8117
100.00	400.9633
100.10	387.9970
103.18	456.0086
103.76	411.5830
105.00	391.9359
105.31	390.0401
108.00	446.1382
109.28	396.2368

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111.00	405.7881
111.76	403.1830
112.95	424.6389
115.19	396.3776
116.30	375.8616
117.00	407.2003
117.00	407.2003
117.66	413.5355
121.11	383.5883
121.62	390.9409
121.78	391.0844
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122.32	406.5421
122.32	406.5421
122.32	406.5421
122.32	406.5421
123.07	414.1661
127.23	424.4815
129.76	437.0552
131.20	362.3066
133.02	410.4427
133.54	417.9875
135.34	448.0444
136.00	426.4157
136.25	426.6423
136.48	409.9191
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140.51	0.0000
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142.65	400.7558
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144.24	410.1995
144.24	410.1995
144.24	410.1995
144.24	410.1995
145.22	423.7140
145.44	422.0874
147.16	446.3093
152.43	416.8940
152.70	395.9338
153.22	391.7223
154.21	410.9372
154.21	410.9372
154.21	410.9372
154.21	410.9372
155.03	422.6811
156.02	429.0394
158.56	411.5491
159.00	0.0000
159.00	408.1588
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161.27	423.9237
162.32	413.4913
162.64	406.2315
163.35	398.3055
163.89	400.5775
165.85	416.1628
167.43	440.0634
171.28	377.3378
171.86	403.4753
172.10	403.6463
176.55	393.3168
176.60	393.3511
181.06	341.1101
184.41	447.4951
185.71	411.1521
186.00	411.3512
190.27	365.2301
192.34	380.0741
193.63	388.7753
197.04	367.0125
198.01	382.5117
198.60	380.8692
200.40	441.9326
201.83	437.9035
202.84	387.3989
205.31	417.4763

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208.81	424.5539
209.75	404.6651
209.75	404.6651
210.97	354.3964
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216.55	347.2816
218.09	344.9799
222.10	359.3688
223.80	343.6769
226.40	390.6559
227.00	388.9061
227.08	388.9489
227.20	371.3321
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228.18	372.8830
228.18	372.8830
231.56	0.0000
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236.00	372.2900
236.00	372.2900
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238.63	519.0032
238.63	519.0032
238.63	519.0032
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240.98	593.5645
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241.98	538.3196
241.98	538.3196
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252.85	317.5787
254.15	0.0000
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256.20	291.9126
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260.90	312.1370
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268.24	300.2728
268.79	282.9056
269.46	283.1375
269.46	283.1375
269.46	283.1375
269.46	283.1375
271.23	242.3303
273.65	273.9708
276.40	273.3974
277.35	273.7061
277.60	273.7851
277.60	273.7851
278.00	273.9168
278.60	274.1125
279.20	266.8945
279.53	266.9971
280.46	231.6514
281.68	246.2606
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284.30	281.9196
285.00	277.6718
285.90	270.1174
286.10	262.3324
286.10	262.3324
287.40	235.7790
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290.67	291.5131
290.80	291.5565
291.72	288.8555
293.26	0.0000
293.70	247.2846
295.21	250.7292
295.21	250.7292

295.21	250.7292
295.96	267.5706
296.50	267.7327
297.23	267.9523
298.57	268.3557
299.80	255.0591
299.80	255.0591
300.09	262.7381
300.09	262.7381
300.09	262.7381
300.09	262.7381
300.12	262.7452
301.29	264.6073
302.84	268.1107
303.76	276.0073
303.91	276.0515
304.40	283.8324
304.40	283.8324
304.84	283.9686
306.84	246.8513
308.46	255.6670
311.98	290.7982
316.51	256.9621
318.01	250.8706
319.02	266.9500
319.41	254.3448
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323.87	253.9811
323.87	253.9811
323.87	253.9811
323.87	253.9811
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334.20	243.3142
334.30	253.2620
338.28	240.9992
338.28	240.9992
338.28	240.9992
338.28	240.9992
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338.32	241.0116
338.32	241.0116
340.50	250.4142
340.57	250.4303
344.27	248.1743
345.85	255.7348
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351.07	221.9766
351.92	222.1599
351.92	222.1599
351.92	222.1599
355.39	0.0000
356.01	194.7196
364.48	214.1482
366.43	214.5430
367.43	218.6488
367.94	0.0000
369.80	225.0024
374.96	202.4946
383.85	209.1017
387.95	203.9064
388.63	200.0505
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391.69	220.5576
392.90	216.7987
398.62	210.8665
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401.81	213.4699
402.60	203.5412
404.84	219.0794
410.95	216.1747
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413.65	258.3780
414.70	214.8300
415.30	197.6209

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423.70	200.0464
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427.89	178.0937
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433.93	195.5315
439.47	199.5305
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439.89	199.5984
443.98	205.4697
444.90	200.4024
445.03	200.4234
445.03	200.4234
445.03	200.4234
445.03	200.4234
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468.07	168.2813
473.00	194.1615
475.06	190.1897
475.35	192.3706
476.78	174.3893
477.59	176.6358
477.96	177.7570
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511.85	172.3234
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513.99	139.2406
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520.65	168.6749
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529.64	157.4347
529.87	0.0000
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543.00	149.5280
546.56	0.0000
549.76	164.2868
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555.20	148.8643
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563.90	159.1919
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569.32	162.6017
569.50	155.9655
569.67	155.9822
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574.00	194.5662
574.64	189.7421
578.91	154.1761
579.30	0.0000
583.14	153.4928
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591.81	167.3107
592.07	165.9321
593.00	173.7524
595.88	147.9542
600.56	174.5691
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602.71	176.4646
602.71	176.4646
603.60	184.8890
604.41	184.9819
604.70	183.3461
609.31	170.6314

609.31	170.6314
609.31	170.6314
609.31	170.6314
610.33	147.1833
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614.37	154.2489
618.01	144.6752
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621.84	133.6121
631.29	125.4704
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634.78	121.7688
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636.97	112.0137
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646.12	127.5599
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657.75	127.2675
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661.65	136.7415
661.65	136.7415
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666.33	148.6254
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677.61	123.7673
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692.80	139.1266
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696.49	150.6816
696.49	150.6816
697.00	154.8248
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722.78	112.2671
722.78	112.2671
722.89	112.2737
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727.18	125.0269
733.00	105.6987
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739.58	118.4923
742.81	109.2368
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747.13	116.8445
751.79	118.1774
752.31	113.9875
753.82	115.1295
755.35	114.1611
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756.87	104.7283
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766.84	118.0098
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778.00	137.9050
778.57	139.0137
778.89	120.8534
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785.46	114.5918
792.07	143.9295

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798.80	129.5874
801.93	113.0964
805.60	106.1746
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836.80	0.0000
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880.27	105.7031
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884.67	108.7968
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896.60	108.3965
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899.00	113.7245
903.28	96.8189
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911.07	109.0723
911.07	109.0723
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920.93	101.3164
925.00	109.7188
925.24	106.7913
926.50	106.8483
935.52	94.4615
937.48	113.2493
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946.00	97.8381
949.00	85.0957
962.29	80.5861
964.01	80.6412
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968.20	80.7782
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969.11	80.8093
969.11	80.8093
977.42	92.8406
980.50	79.0838
983.50	79.2700
989.30	88.5049
996.32	119.0083
1001.03	98.0098
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1038.76	0.0000
1045.16	108.9391
1046.59	112.0831
1048.07	104.9456

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1050.47	89.5913
1062.04	99.2879
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1076.63	71.7507
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1078.86	87.4219
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1099.22	114.2842
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1112.84	101.4096
1115.52	131.0363
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1120.29	82.3989
1120.29	82.3989
1120.29	82.3989
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1121.28	82.4289
1124.00	0.0000
1129.67	57.5006
1131.51	0.0000
1147.95	0.0000
1167.94	114.6617
1173.22	93.2113
1175.09	129.0730
1177.93	123.5401
1189.05	115.4845
1204.90	117.0504
1205.75	0.0000
1213.00	112.5948
1221.42	110.0375
1230.97	153.5742
1235.34	114.3842
1236.41	0.0000
1238.25	108.7204
1246.25	114.7874
1260.41	0.0000
1271.85	79.7478
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1274.54	85.6555
1291.56	82.2004
1298.22	0.0000
1312.09	64.9990
1325.50	58.3446
1325.50	58.3446
1332.49	52.5229
1333.61	56.5060
1360.21	55.9607
1362.66	0.0000
1365.15	58.0443
1368.21	49.0822
1368.53	0.0000
1376.25	64.2598
1384.27	111.7148
1394.10	60.5603
1395.20	58.5593
1407.95	47.6297
1434.06	47.9868
1436.60	39.8486
1457.56	0.0000
1460.81	38.0637
1489.15	42.5102
1509.49	33.3633
1596.49	57.8477
1620.62	37.2142
1678.03	0.0000
1691.02	36.9022
1691.02	36.9022
1706.46	0.0000
1750.46	0.0000
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1764.49	23.7207
1764.49	23.7207
1764.49	23.7207
1770.23	26.7217
1771.40	19.6013
1791.20	0.0000
1808.65	18.9727

1836.01 34.1642

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243385006

Total Uranium Activity	2.9725E+00	ug/g
Total Uranium Counting Unc.	3.3594E+00	ug/g
Total Uranium Tpu	1.7140E-06	ug/g
Total Uranium Mda	2.2440E+00	ug/g

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*******************************************************************************
*                                                                             *
*                          GEL Laboratories LLC                           *
*                               2040 SAVAGE ROAD                              *
*                             CHARLESTON ,SC 29417                            *
*                              GROSS GAMMA REPORT                             *
*                                                                             *
*                                                                             *
*******************************************************************************
*                                                                             *
*   BATCH ID      : 936285                    SAMPLE ID  : G243385006         *
*   ANALYST       : MJH1                      DETECTOR   : GAM22              *
*   SAMPLE DATE   : 17-DEC-2009 12:00:00.00   COUNT TIME :    0 02:00:00.00   *
*   ANALYSIS DATE: 31-DEC-2009 09:40:22.39    SAMPLE ALQT:  158.180 GRAM      *
*                                                                             *
*******************************************************************************


        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 6.772E+00
        GROSS GAMMA ERROR  (pCi/GRAM  )   : 9.772E-01
        GROSS GAMMA MDA    (pCi/GRAM  )   : 1.873E+00
        GROSS GAMMA DLC    (pCi/GRAM  )   : 9.093E-01
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VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:55:05.33

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*****************************************************************************
*                              GEL Laboratories LLC                         *
*                                2040 Savage Road                           *
*                              Charleston, SC 29414                         *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385007.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:54:41
Sample ID         : G243385007           Sample quantity  : 1.19940E+02 GRAM
Detector name     : GAM23                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.59  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit   : 75.00000             Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID   :                      LCS ID           : 1032-A
*****************************************************************************
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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	2	74.69	314	372	1.37	149.37	144	15	4.36E-02	12.0	2.14E+00
2	2	76.97	496	310	1.19	153.95	144	15	6.88E-02	7.7	
3	3	87.12	150	351	1.20	174.23	170	13	2.08E-02	21.7	1.95E+00
4	3	89.79	103	292	1.18	179.58	170	13	1.44E-02	30.5	
5	0	92.60*	133	311	1.54	185.19	183	7	1.85E-02	24.7	
6	0	128.99	93	201	1.06	257.98	254	7	1.29E-02	27.3	
7	0	185.62*	144	217	1.28	371.23	367	9	2.00E-02	21.5	
8	0	209.02	106	172	1.53	418.04	414	8	1.48E-02	23.5	
9	3	238.44*	981	126	1.17	476.88	472	17	1.36E-01	3.8	1.18E+00
10	3	241.32*	260	182	1.77	482.64	472	17	3.62E-02	15.6	
11	0	269.83	89	180	1.50	539.65	535	11	1.23E-02	31.2	
12	0	277.10	27	160	1.37	554.20	550	8	3.70E-03	84.6	
13	0	294.89	297	108	1.08	589.78	585	10	4.13E-02	8.7	
14	0	299.80	87	164	1.39	599.59	595	12	1.20E-02	31.4	
15	0	338.21	195	157	1.29	676.42	672	11	2.71E-02	14.5	
16	0	351.56*	478	137	1.38	703.13	696	13	6.64E-02	6.9	
17	0	463.07	70	52	1.16	926.13	922	10	9.71E-03	22.8	
18	0	510.43*	100	142	2.33	1020.86	1011	23	1.39E-02	35.0	
19	0	582.86	339	92	1.85	1165.73	1157	19	4.71E-02	8.8	
20	0	608.62*	320	64	1.38	1217.23	1210	12	4.45E-02	7.7	
21	0	727.07	43	96	1.45	1454.14	1449	15	5.98E-03	51.4	
22	0	910.54*	187	53	1.81	1821.07	1812	16	2.59E-02	11.5	
23	0	968.67*	82	69	1.59	1937.35	1930	12	1.13E-02	23.6	
24	0	1119.79	58	61	2.16	2239.58	2234	14	8.03E-03	31.9	
25	0	1376.31	37	21	0.67	2752.61	2743	17	5.13E-03	33.0	
26	0	1459.85*	885	27	2.24	2919.70	2909	22	1.23E-01	3.7	
27	0	1763.51*	64	12	2.13	3527.01	3519	16	8.93E-03	17.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 11:55:08

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385007.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MJH1
Sample date : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:54:41
Sample ID : G243385007 Sample quantity : 119.94 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA23 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.59 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.604E+01	2.742E+00	6.180E-01	4.623E-02	42.133
CD-109	+	88.03	*	2.470E+00	1.101E+00	1.596E+00	1.558E-01	1.548
SN-126		64.28		2.460E-01	6.354E-01	1.066E+00	1.623E-01	0.231
	+	86.94		1.011E+00	6.086E-01	6.630E-01	2.757E-01	1.525
	+	87.57	*	2.433E-01	1.084E-01	1.581E-01	1.538E-02	1.539
TL-208	+	277.35		2.959E-01	5.013E-01	6.534E-01	6.904E-02	0.453
	+	510.84		5.714E-01	4.041E-01	2.270E-01	2.306E-02	2.517
	+	583.14	*	5.535E-01	1.034E-01	6.228E-02	4.043E-03	8.888
		860.37		6.887E-01	3.276E-01	6.331E-01	5.723E-02	1.088
BI-211		72.87		9.658E+00	4.358E+00	6.889E+00	6.076E-01	1.402
	+	351.07	*	3.360E+00	5.109E-01	3.375E-01	2.199E-02	9.957
PB-212	+	74.81		2.270E+00	6.182E-01	6.503E-01	8.389E-02	3.491
	+	77.11		2.007E+00	3.583E-01	3.643E-01	3.278E-02	5.508
	+	87.30		1.125E+00	5.138E-01	7.339E-01	1.023E-01	1.533
	+	238.63	*	1.485E+00	1.546E-01	9.476E-02	6.813E-03	15.666
	+	300.09		2.039E+00	1.289E+00	1.281E+00	1.064E-01	1.591
PO-212	+	74.81		2.270E+00	6.182E-01	6.503E-01	8.389E-02	3.491
	+	77.11		2.007E+00	3.583E-01	3.643E-01	3.278E-02	5.508
	+	87.30		1.125E+00	5.138E-01	7.339E-01	1.023E-01	1.533
		115.19		1.425E+00	3.973E+00	6.641E+00	4.236E-01	0.215
	+	238.63	*	1.485E+00	1.546E-01	9.476E-02	6.813E-03	15.666
	+	300.09		2.039E+00	1.289E+00	1.281E+00	1.064E-01	1.591
BI-214	+	609.31	*	9.863E-01	1.695E-01	1.211E-01	9.107E-03	8.142
	+	1120.29		9.525E-01	6.134E-01	5.531E-01	5.140E-02	1.722
	+	1764.49		1.457E+00	5.252E-01	2.744E-01	1.706E-02	5.309
PB-214	+	74.81		3.911E+00	1.042E+00	1.120E+00	1.297E-01	3.491
	+	77.11		3.440E+00	6.679E-01	6.246E-01	7.364E-02	5.508
	+	87.30		1.927E+00	8.715E-01	1.257E+00	1.558E-01	1.533
	+	241.98		2.367E+00	7.630E-01	5.707E-01	4.539E-02	4.148
	+	295.21		1.227E+00	2.387E-01	1.965E-01	1.684E-02	6.243
	+	351.92	*	1.169E+00	1.879E-01	1.248E-01	1.042E-02	9.365
PO-214	+	74.81		3.911E+00	1.042E+00	1.120E+00	1.297E-01	3.491
	+	77.11		3.440E+00	6.679E-01	6.246E-01	7.364E-02	5.508
	+	87.30		1.927E+00	8.715E-01	1.257E+00	1.558E-01	1.533

Sample ID : G243385007 Acquisition date : 31-DEC-2009 09:54:41

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	241.98		2.367E+00	7.630E-01	5.707E-01	4.539E-02	4.148
	+	295.21		1.227E+00	2.387E-01	1.965E-01	1.684E-02	6.243
	+	351.92	*	1.169E+00	1.879E-01	1.248E-01	1.042E-02	9.365
PO-216	+	74.81		2.270E+00	6.182E-01	6.503E-01	8.389E-02	3.491
	+	77.11		2.007E+00	3.583E-01	3.643E-01	3.278E-02	5.508
	+	87.30		1.125E+00	5.138E-01	7.339E-01	1.023E-01	1.533
	+	238.63	*	1.485E+00	1.546E-01	9.476E-02	6.813E-03	15.666
	+	300.09		2.039E+00	1.289E+00	1.281E+00	1.064E-01	1.591
PO-218	+	74.81		3.911E+00	1.042E+00	1.120E+00	1.297E-01	3.491
	+	77.11		3.440E+00	6.679E-01	6.246E-01	7.364E-02	5.508
	+	87.30		1.927E+00	8.715E-01	1.257E+00	1.558E-01	1.533
	+	241.98		2.367E+00	7.630E-01	5.707E-01	4.539E-02	4.148
	+	295.21		1.227E+00	2.387E-01	1.965E-01	1.684E-02	6.243
	+	351.92	*	1.169E+00	1.879E-01	1.248E-01	1.042E-02	9.365
RA-224	+	240.98	*	4.489E+00	1.425E+00	1.079E+00	6.077E-02	4.162
RA-226	+	609.31	*	9.863E-01	1.695E-01	1.211E-01	9.107E-03	8.142
	+	1120.29		9.525E-01	6.134E-01	5.531E-01	5.140E-02	1.722
	+	1764.49		1.457E+00	5.252E-01	2.744E-01	1.706E-02	5.309
AC-228	+	338.32		1.511E+00	7.557E-01	4.268E-01	1.740E-01	3.541
	+	911.07	*	1.381E+00	3.565E-01	2.528E-01	2.917E-02	5.463
	+	969.11		1.067E+00	5.613E-01	3.592E-01	8.363E-02	2.970
RA-228	+	338.32		1.511E+00	7.557E-01	4.268E-01	1.740E-01	3.541
	+	911.07	*	1.381E+00	3.565E-01	2.528E-01	2.917E-02	5.463
	+	969.11		1.067E+00	5.613E-01	3.592E-01	8.363E-02	2.970
TH-228	+	74.81		2.302E+00	5.893E-01	6.593E-01	5.910E-02	3.491
	+	77.11		2.035E+00	3.634E-01	3.694E-01	3.324E-02	5.508
	+	87.30		1.141E+00	5.083E-01	7.442E-01	7.223E-02	1.533
	+	238.63	*	1.505E+00	1.568E-01	9.609E-02	6.908E-03	15.666
	+	300.09		2.067E+00	1.779E+00	1.299E+00	7.658E-01	1.591
TH-230	+	609.31	*	9.863E-01	1.695E-01	1.211E-01	9.107E-03	8.142
	+	1120.29		9.525E-01	6.134E-01	5.531E-01	5.140E-02	1.722
	+	1764.49		1.457E+00	5.251E-01	2.744E-01	1.706E-02	5.309
TH-232	+	338.32		1.511E+00	4.463E-01	4.268E-01	2.521E-02	3.541
	+	911.07	*	1.381E+00	3.565E-01	2.528E-01	2.917E-02	5.463
	+	969.11		1.067E+00	5.613E-01	3.592E-01	8.363E-02	2.970
U-234	+	609.31	*	9.863E-01	1.695E-01	1.211E-01	9.107E-03	8.142
	+	1120.29		9.525E-01	6.134E-01	5.531E-01	5.140E-02	1.722
	+	1764.49		1.457E+00	5.251E-01	2.744E-01	1.706E-02	5.309
NP-237	+	86.50	*	7.143E-01	3.508E-01	4.736E-01	1.079E-01	1.508
		95.87		-3.565E-01	1.256E+00	1.797E+00	4.412E-01	-0.198
AM-243	+	74.67	*	3.680E-01	9.414E-02	1.058E-01	9.405E-03	3.477
	+	86.72		2.679E+01	1.194E+01	1.761E+01	1.701E+00	1.521
		117.66		-7.583E-01	4.303E+00	7.033E+00	4.355E-01	-0.108
		142.18		-7.962E-01	1.942E+01	3.172E+01	1.727E+00	-0.025
ANH-511	+	511.00	*	1.234E-01	8.667E-02	4.905E-02	2.849E-03	2.516

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	6.211E-02	3.622E-01	5.818E-01	3.954E-02	0.107

Sample ID : G243385007 Acquisition date : 31-DEC-2009 09:54:41

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22		1274.54	*	1.929E-02	5.463E-02	9.232E-02	6.200E-03	0.209
NA-24		1368.53	*	6.070E-02	5.463E-02	Half-Life too short		
AL-26		1129.67		-2.424E-01	2.083E+00	3.303E+00	2.104E-01	-0.073
		1808.65	*	2.838E-02	3.362E-02	6.471E-02	3.889E-03	0.439
TI-44		67.85		2.509E-03	5.551E-02	9.292E-02	8.091E-03	0.027
	+	78.38	*	3.703E-01	6.613E-02	9.041E-02	8.195E-03	4.096
SC-46		889.25	*	-4.856E-03	4.610E-02	7.606E-02	6.795E-03	-0.064
	+	1120.51		1.614E-01	1.034E-01	1.359E-01	8.854E-03	1.188
V-48		944.10		-5.280E-01	8.751E-01	1.351E+00	1.177E-01	-0.391
		983.50	*	1.342E-02	6.861E-02	1.161E-01	9.662E-03	0.116
		1312.09		2.171E-02	9.305E-02	1.555E-01	1.107E-02	0.140
CR-51		320.08	*	-1.111E-02	3.692E-01	6.180E-01	4.052E-02	-0.018
MN-52		744.21		7.230E-02	2.303E-01	3.818E-01	2.430E-02	0.189
		848.13		1.206E+00	6.519E+00	1.108E+01	9.039E-01	0.109
		935.52		2.704E-01	2.527E-01	4.589E-01	4.034E-02	0.589
		1246.25		-2.000E+00	7.836E+00	1.247E+01	7.979E-01	-0.160
		1333.61		7.064E-01	5.198E+00	8.594E+00	6.309E-01	0.082
		1434.06	*	-8.963E-02	2.525E-01	3.861E-01	2.793E-02	-0.232
MN-54		834.83	*	2.448E-02	4.604E-02	8.009E-02	6.341E-03	0.306
CO-56		846.75	*	1.087E-02	4.552E-02	7.765E-02	6.317E-03	0.140
		977.42		-2.154E-01	3.099E+00	5.095E+00	4.272E-01	-0.042
		1037.82		-2.108E-01	3.270E-01	4.985E-01	4.086E-02	-0.423
		1175.09		-7.672E-01	2.810E+00	4.484E+00	2.538E-01	-0.171
		1238.25		1.162E-01	1.058E-01	1.886E-01	1.254E-02	0.616
		1360.21		3.225E-01	9.983E-01	1.703E+00	1.247E-01	0.189
		1771.40		-4.709E-01	3.130E-01	3.680E-01	2.277E-02	-1.280
CO-57		122.06	*	-1.899E-02	2.859E-02	4.566E-02	2.692E-03	-0.416
		136.48		-1.702E-01	2.288E-01	3.622E-01	2.355E-02	-0.470
CO-58		810.76	*	-9.311E-03	3.874E-02	6.326E-02	4.753E-03	-0.147
FE-59		142.65		3.063E-02	3.003E+00	4.802E+00	2.611E-01	0.006
		192.34		-3.681E-01	1.058E+00	1.684E+00	1.948E-01	-0.219
		1099.22	*	-3.842E-02	1.023E-01	1.614E-01	1.243E-02	-0.238
		1291.56		7.965E-02	1.474E-01	2.542E-01	2.110E-02	0.313
CO-60		1173.22		-7.151E-02	6.052E-02	8.807E-02	4.968E-03	-0.812
		1332.49	*	2.089E-03	4.716E-02	7.707E-02	5.658E-03	0.027
ZN-65		1115.52	*	6.515E-02	1.237E-01	1.869E-01	1.234E-02	0.349
GE-68		1077.35	*	-6.342E-01	1.287E+00	1.993E+00	1.426E-01	-0.318
AS-73		53.44	*	1.172E+00	1.181E+00	2.056E+00	1.815E-01	0.570
AS-74		595.88	*	2.723E-02	9.620E-02	1.604E-01	8.848E-03	0.170
		634.78		2.278E-01	4.058E-01	6.891E-01	3.648E-02	0.331
SE-75		66.05		-4.683E+00	5.946E+00	9.629E+00	1.011E+00	-0.486
		96.73		5.942E-02	9.952E-01	1.452E+00	1.947E-01	0.041
		121.11		-3.235E-02	1.538E-01	2.507E-01	2.338E-02	-0.129
		136.00		-2.091E-02	4.236E-02	6.789E-02	3.833E-03	-0.308
		198.60		-1.452E+00	2.101E+00	3.233E+00	2.183E-01	-0.449
		264.65	*	1.301E-03	5.634E-02	7.863E-02	4.577E-03	0.017
		279.53		8.876E-03	1.388E-01	2.049E-01	1.289E-02	0.043
		303.91		4.486E-01	2.530E+00	3.755E+00	3.602E-01	0.119
		400.65		1.078E-01	2.898E-01	4.923E-01	4.479E-02	0.219

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	87.88		3.764E+02	1.677E+02	2.732E+02	2.666E+01	1.378
		200.40		1.152E+00	1.308E+02	2.116E+02	1.132E+01	0.005
	+	239.00		1.678E+02	1.578E+01	2.825E+01	1.588E+00	5.939
		249.79		2.074E+01	5.173E+01	8.479E+01	4.821E+00	0.245
		281.68		1.237E+01	7.912E+01	1.176E+02	6.855E+00	0.105
		297.23		1.899E+02	6.249E+01	8.637E+01	5.072E+00	2.199
		303.76		2.467E+01	1.526E+02	2.263E+02	1.332E+01	0.109
		439.47		5.458E+01	1.151E+02	1.965E+02	1.149E+01	0.278
		484.57		3.973E+01	1.823E+02	3.049E+02	1.782E+01	0.130
		520.65	*	-3.555E+00	9.580E+00	1.371E+01	7.938E-01	-0.259
		574.64		-4.539E+01	1.807E+02	2.596E+02	1.457E+01	-0.175
		578.91		2.107E+01	8.165E+01	1.184E+02	6.623E+00	0.178
		585.48		5.541E+02	1.824E+02	3.212E+02	1.787E+01	1.725
		755.35		-1.612E+01	1.320E+02	2.094E+02	1.371E+01	-0.077
		817.79		-1.930E+01	1.037E+02	1.705E+02	1.298E+01	-0.113
SR-82		698.33		1.188E+01	3.668E+01	6.093E+01	3.442E+00	0.195
		776.49	*	-1.537E-01	4.241E-01	6.899E-01	4.759E-02	-0.223
		1395.20		-6.236E+00	1.118E+01	1.634E+01	1.190E+00	-0.382
RB-83		520.41	*	-3.745E-02	8.881E-02	1.264E-01	7.319E-03	-0.296
		529.64		-1.356E-01	1.088E-01	1.572E-01	9.067E-03	-0.862
		552.65		-1.025E-01	2.150E-01	3.368E-01	1.919E-02	-0.304
RB-84		881.50	*	-1.627E-03	7.914E-02	1.317E-01	1.157E-02	-0.012
KR-85		513.99	*	7.296E+00	7.532E+00	1.322E+01	7.673E-01	0.552
SR-85		513.99	*	3.694E-02	3.813E-02	6.694E-02	3.885E-03	0.552
RB-86		1076.63	*	-3.570E-01	7.641E-01	1.186E+00	8.498E-02	-0.301
Y-88		898.02		-3.156E-03	4.713E-02	7.797E-02	7.130E-03	-0.040
		1836.01	*	2.381E-03	3.603E-02	6.040E-02	3.556E-03	0.039
ZR-88		392.90	*	9.158E-03	3.354E-02	5.673E-02	3.275E-03	0.161
Y-91		1204.90	*	4.127E+00	2.227E+01	3.706E+01	2.211E+00	0.111
NB-94		702.63	*	-4.604E-03	3.833E-02	6.115E-02	3.494E-03	-0.075
		871.10		5.324E-04	3.771E-02	6.299E-02	5.410E-03	0.008
NB-95		765.79	*	4.513E-02	4.784E-02	8.315E-02	5.587E-03	0.543
NB-95M		235.69	*	4.518E-01	1.681E-01	2.696E-01	1.989E-02	1.676
ZR-95		724.18		2.226E-01	1.253E-01	2.085E-01	1.474E-02	1.068
		756.15	*	-1.794E-02	7.851E-02	1.231E-01	9.448E-03	-0.146
NB-97		657.90	*	1.645E-02	7.851E-02	Half-Life too short		
		1024.50		-1.887E+00	7.851E-02	Half-Life too short		
ZR-97		254.15		-6.133E-01	7.851E-02	Half-Life too short		
		355.39		1.133E+00	7.851E-02	Half-Life too short		
		507.63	*	1.717E+00	7.851E-02	Half-Life too short		
		602.52		-1.253E+00	7.851E-02	Half-Life too short		
		1021.30		7.083E-01	7.851E-02	Half-Life too short		
		1147.95		1.657E-02	7.851E-02	Half-Life too short		
		1362.66		-2.720E-01	7.851E-02	Half-Life too short		
		1750.46		-1.862E-01	7.851E-02	Half-Life too short		
MO-99		140.51		-2.645E+00	2.119E+01	3.449E+01	9.270E+00	-0.077
		181.06		-1.744E+00	1.581E+01	2.228E+01	3.775E+00	-0.078
		366.43		4.880E+01	6.791E+01	1.182E+02	6.929E+00	0.413
		739.58	*	3.604E+00	9.756E+00	1.624E+01	2.272E+00	0.222

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		778.00		-1.711E+01	2.856E+01	4.538E+01	3.143E+00	-0.377
TC-99M		140.51	*	-1.870E+08	2.856E+01	Half-Life too short		
RH-101		127.23		4.420E-02	3.853E-02	5.915E-02	3.397E-03	0.747
		198.01	*	-2.876E-02	3.901E-02	5.993E-02	3.195E-03	-0.480
		325.23		2.197E-02	2.386E-01	4.019E-01	2.374E-02	0.055
RH-102		418.52		-2.226E-01	3.276E-01	5.173E-01	3.014E-02	-0.430
		475.06	*	1.586E-02	3.126E-02	5.348E-02	3.130E-03	0.297
		631.29		4.600E-02	6.759E-02	1.156E-01	6.147E-03	0.398
		697.49		2.103E-02	8.572E-02	1.414E-01	7.971E-03	0.149
		766.84		6.217E-02	1.274E-01	2.132E-01	1.436E-02	0.292
		1046.59		-3.005E-02	1.208E-01	1.936E-01	1.466E-02	-0.155
		1112.84		-1.403E-01	3.091E-01	4.060E-01	2.694E-02	-0.346
RU-103		497.08	*	-2.252E-02	4.316E-02	6.774E-02	8.575E-03	-0.332
		610.33		9.981E+00	2.095E+00	2.931E+00	4.480E-01	3.406
RH-106	+	511.85		6.151E-01	4.319E-01	4.666E-01	2.710E-02	1.318
		621.84	*	-8.370E-02	3.500E-01	5.557E-01	6.409E-02	-0.151
		1050.47		-1.724E+00	2.329E+00	3.484E+00	2.621E-01	-0.495
RU-106	+	511.85		6.151E-01	4.319E-01	4.666E-01	2.710E-02	1.318
		621.84	*	-8.370E-02	3.499E-01	5.557E-01	2.986E-02	-0.151
		1050.47		-1.724E+00	2.329E+00	3.484E+00	2.621E-01	-0.495
AG-108M		433.93	*	-3.973E-02	3.697E-02	5.625E-02	3.566E-03	-0.706
		614.37		-2.783E-02	4.781E-02	6.569E-02	3.902E-03	-0.424
		722.95		1.471E-02	5.422E-02	7.794E-02	5.068E-03	0.189
AG-110M		657.75	*	1.520E-02	4.075E-02	6.809E-02	3.784E-03	0.223
		677.61		-1.032E-01	3.510E-01	5.517E-01	3.157E-02	-0.187
		706.67		7.214E-02	2.431E-01	4.023E-01	2.464E-02	0.179
		763.93		-8.235E-02	2.001E-01	3.090E-01	2.163E-02	-0.266
		884.67		4.486E-04	6.012E-02	1.003E-01	9.141E-03	0.004
		937.48		-8.197E-02	1.271E-01	1.971E-01	1.789E-02	-0.416
		1384.27		-2.634E-02	1.770E-01	2.468E-01	1.872E-02	-0.107
IN-111		171.28		-1.206E-01	8.406E-01	1.358E+00	6.965E-02	-0.089
		245.39	*	-1.074E-01	9.477E-01	1.313E+00	7.431E-02	-0.082
IN-113M		391.69	*	1.621E-03	5.050E-02	8.412E-02	5.182E-03	0.019
SN-113		391.69	*	1.621E-03	5.050E-02	8.412E-02	5.182E-03	0.019
IN-114M		190.27	*	-1.270E-01	2.340E-01	3.194E-01	1.683E-02	-0.398
CD-115		260.90		-1.086E+01	1.023E+02	1.626E+02	9.339E+00	-0.067
		492.35		-2.415E+01	2.780E+01	4.246E+01	2.479E+00	-0.569
		527.90	*	-7.599E+00	7.989E+00	1.197E+01	6.906E-01	-0.635
SN-117M		156.02		1.024E+00	2.368E+00	3.934E+00	2.059E-01	0.260
		158.56	*	-1.516E-02	5.975E-02	9.543E-02	4.959E-03	-0.159
SB-122		563.90	*	-1.163E+00	1.678E+00	2.574E+00	1.456E-01	-0.452
		692.80		-3.060E+01	3.507E+01	5.165E+01	2.874E+00	-0.592
I-123		159.00	*	9.597E-02	3.507E+01	Half-Life too short		
		528.96		-8.569E+01	3.507E+01	Half-Life too short		
TE-123M		159.00	*	2.164E-03	3.227E-02	5.226E-02	2.758E-03	0.041
I-124		602.71	*	-3.474E-01	7.015E-01	9.250E-01	5.069E-02	-0.376
		722.78		1.199E+00	4.634E+00	6.651E+00	4.008E-01	0.180
		1325.50		-5.948E+00	3.799E+01	5.908E+01	4.291E+00	-0.101
	+	1376.25		6.892E+01	4.575E+01	6.159E+01	4.501E+00	1.119

---- Non-Identified Nuclides ----

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		1509.49		-7.305E+00	1.351E+01	1.952E+01	1.384E+00	-0.374
		1691.02		-1.853E-01	3.133E+00	5.140E+00	3.355E-01	-0.036
SB-124		602.71		-2.432E-02	4.909E-02	6.474E-02	3.549E-03	-0.376
		645.85		-3.275E-01	5.772E-01	8.865E-01	5.351E-02	-0.369
		709.31		-3.680E-01	3.279E+00	5.233E+00	3.044E-01	-0.070
		713.82		5.726E-01	1.930E+00	3.193E+00	3.275E-01	0.179
		722.78		1.217E-01	4.701E-01	6.748E-01	4.244E-02	0.180
	+	968.20		1.083E+01	5.192E+00	7.686E+00	6.517E-01	1.409
		1045.16		2.402E-01	2.695E+00	4.490E+00	3.409E-01	0.053
		1325.50		-6.445E-01	4.117E+00	6.402E+00	4.650E-01	-0.101
		1368.21		6.847E-02	2.270E+00	3.171E+00	4.021E-01	0.022
		1436.60		-5.236E-01	4.375E+00	6.940E+00	5.018E-01	-0.075
		1691.02	*	-4.434E-03	7.497E-02	1.230E-01	8.576E-03	-0.036
SB-125		427.89	*	7.792E-02	1.041E-01	1.808E-01	1.100E-02	0.431
	+	463.38		7.734E-01	3.562E-01	5.646E-01	3.846E-02	1.370
		600.56		4.555E-02	2.125E-01	3.324E-01	2.142E-02	0.137
		635.90		2.148E-03	3.232E-01	5.246E-01	3.336E-02	0.004
TE-125M		109.28	*	-6.530E+00	9.945E+00	1.593E+01	1.420E+00	-0.410
I-126		388.63		5.504E-02	2.151E-01	3.634E-01	2.102E-02	0.151
		666.33	*	-1.688E-01	1.964E-01	2.925E-01	1.513E-02	-0.577
		753.82		9.456E-01	1.586E+00	2.692E+00	1.756E-01	0.351
SB-126		223.80		1.394E+00	4.280E+00	7.002E+00	3.866E-01	0.199
	+	278.60		1.829E+00	3.095E+00	4.633E+00	2.695E-01	0.395
		296.50		1.057E+01	2.340E+00	3.491E+00	2.050E-01	3.028
		414.70		-2.100E-02	7.857E-02	1.279E-01	7.444E-03	-0.164
		415.30		-9.598E-01	6.458E+00	1.060E+01	6.169E-01	-0.091
		555.20		-3.274E+00	4.039E+00	6.114E+00	3.478E-01	-0.536
		573.80		-4.618E-01	1.190E+00	1.758E+00	9.877E-02	-0.263
		593.00		-3.201E-01	9.685E-01	1.531E+00	8.465E-02	-0.209
		656.30		-2.100E+00	3.853E+00	5.947E+00	3.061E-01	-0.353
		666.33		-7.036E-02	8.185E-02	1.219E-01	6.307E-03	-0.577
		675.00		-1.001E+00	2.085E+00	3.214E+00	1.704E-01	-0.312
		695.00		-2.348E-02	7.981E-02	1.252E-01	7.008E-03	-0.188
		697.00		-7.004E-02	2.829E-01	4.460E-01	2.510E-02	-0.157
		720.50	*	-9.216E-02	1.758E-01	2.396E-01	1.435E-02	-0.385
		856.80		-5.796E-01	4.991E-01	7.364E-01	6.127E-02	-0.787
		989.30		6.868E-01	1.262E+00	2.209E+00	1.824E-01	0.311
		1034.80		-8.051E+00	9.120E+00	1.350E+01	1.043E+00	-0.596
		1213.00		3.445E-01	5.382E+00	8.851E+00	5.355E-01	0.039
SB-127		61.10		2.495E+01	5.821E+01	9.898E+01	1.075E+01	0.252
		252.40		-2.323E+00	4.082E+00	6.135E+00	2.542E+00	-0.379
		290.80		-1.897E+01	2.092E+01	2.794E+01	2.450E+00	-0.679
		411.60		-4.719E+00	1.099E+01	1.767E+01	2.494E+00	-0.267
		444.90		-3.454E+00	8.855E+00	1.421E+01	1.486E+00	-0.243
		473.00		-7.361E-01	1.456E+00	2.299E+00	2.495E-01	-0.320
		543.00		1.042E+00	1.511E+01	2.487E+01	3.126E+00	0.042
		603.60		2.758E+00	1.181E+01	1.706E+01	1.744E+00	0.162
		685.20	*	1.583E-01	1.285E+00	2.099E+00	1.846E-01	0.075
		698.50		3.273E+00	1.373E+01	2.263E+01	3.201E+00	0.145

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		722.20		1.307E+00	3.167E+01	4.419E+01	3.922E+00	0.030
		783.80		9.733E-01	3.228E+00	5.552E+00	6.120E-01	0.175
XE-127		57.60		-4.627E+00	7.872E+00	1.287E+01	1.128E+00	-0.359
		145.22		2.843E-01	7.607E-01	1.234E+00	6.656E-02	0.230
		172.10		-1.960E-02	1.316E-01	2.125E-01	1.091E-02	-0.092
		202.84	*	1.050E-02	5.350E-02	8.428E-02	4.524E-03	0.125
		374.96		1.751E-01	1.975E-01	3.481E-01	2.031E-02	0.503
I-131		80.18		-5.828E+00	5.437E+00	7.496E+00	6.907E-01	-0.777
		284.30		-1.187E-01	1.498E+00	2.515E+00	1.627E-01	-0.047
		364.48	*	-6.320E-02	1.145E-01	1.839E-01	1.200E-02	-0.344
		636.97		-1.141E+00	1.693E+00	2.582E+00	1.555E-01	-0.442
		722.89		2.196E+00	8.228E+00	1.182E+01	7.204E-01	0.186
TE-132		49.72		-1.494E+01	2.336E+01	3.818E+01	3.956E+00	-0.391
		111.76		-8.676E+00	2.497E+01	4.056E+01	3.655E+00	-0.214
		116.30		1.536E+01	2.417E+01	4.077E+01	3.566E+00	0.377
		228.16	*	-1.774E-01	6.031E-01	9.542E-01	1.339E-01	-0.186
BA-133		53.15		6.014E+00	5.225E+00	9.139E+00	8.061E-01	0.658
		79.62		-6.474E-01	1.670E+00	2.394E+00	3.717E-01	-0.270
		81.00		-2.130E-01	1.465E-01	1.778E-01	2.883E-02	-1.198
	+	276.40		2.923E-01	4.958E-01	7.288E-01	9.452E-02	0.401
		302.84		8.595E-02	1.724E-01	2.619E-01	3.065E-02	0.328
		356.01	*	2.261E-02	5.180E-02	7.807E-02	9.058E-03	0.290
		383.85		-1.023E-01	3.305E-01	5.385E-01	5.855E-02	-0.190
I-133	+	510.53		4.794E-01	3.305E-01	Half-Life too short		
		529.87	*	-2.818E-03	3.305E-01	Half-Life too short		
		706.58		5.600E-02	3.305E-01	Half-Life too short		
		856.28		-3.617E-01	3.305E-01	Half-Life too short		
		875.33		-5.804E-02	3.305E-01	Half-Life too short		
		1236.41		1.634E-01	3.305E-01	Half-Life too short		
		1298.22		-1.571E-01	3.305E-01	Half-Life too short		
CS-134		475.35		1.324E+00	2.041E+00	3.526E+00	2.064E-01	0.375
		563.23		-1.039E-01	3.922E-01	6.259E-01	3.620E-02	-0.166
		569.32		2.363E-01	2.125E-01	3.778E-01	2.196E-02	0.625
		604.70		3.818E-02	4.190E-02	6.503E-02	3.579E-03	0.587
		795.84	*	6.491E-02	5.465E-02	9.969E-02	7.280E-03	0.651
		801.93		-3.148E-01	4.623E-01	7.081E-01	5.234E-02	-0.445
		1038.57		-1.543E+00	4.235E+00	6.704E+00	5.146E-01	-0.230
		1167.94		2.035E+00	3.051E+00	5.310E+00	3.044E-01	0.383
		1365.15		-6.358E-01	1.440E+00	2.117E+00	1.647E-01	-0.300
CS-135		268.24	*	2.501E-01	2.127E-01	3.208E-01	2.451E-02	0.780
I-135		288.45		2.718E+08	2.127E-01	Half-Life too short		
		417.63		-1.001E+08	2.127E-01	Half-Life too short		
		546.56		-4.057E+08	2.127E-01	Half-Life too short		
		836.80		4.483E+08	2.127E-01	Half-Life too short		
		1038.76		-2.467E+08	2.127E-01	Half-Life too short		
		1124.00		-1.140E+08	2.127E-01	Half-Life too short		
		1131.51		-3.988E+07	2.127E-01	Half-Life too short		
		1260.41	*	-1.676E+07	2.127E-01	Half-Life too short		
		1457.56		4.784E+10	2.127E-01	Half-Life too short		

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		1678.03		-1.013E+08	2.127E-01	Half-Life too short		
		1706.46		-3.699E+08	2.127E-01	Half-Life too short		
		1791.20		-5.958E+08	2.127E-01	Half-Life too short		
CS-136		66.91		-9.229E-01	9.169E-01	1.459E+00	2.259E-01	-0.632
	+	86.29		2.979E+00	1.358E+00	2.166E+00	2.933E-01	1.376
		153.22		-2.183E-02	6.775E-01	1.104E+00	7.516E-02	-0.020
		163.89		-3.897E-01	1.101E+00	1.744E+00	1.172E-01	-0.223
		176.55		-9.563E-02	3.961E-01	6.363E-01	3.792E-02	-0.150
		273.65		-9.889E-02	7.411E-01	7.207E-01	4.765E-02	-0.137
		340.57		2.798E-01	1.487E-01	2.454E-01	1.537E-02	1.140
		818.51		6.217E-03	7.708E-02	1.300E-01	9.923E-03	0.048
		1048.07	*	-7.895E-02	1.050E-01	1.573E-01	1.253E-02	-0.502
		1235.34		4.134E-01	6.710E-01	1.152E+00	1.183E-01	0.359
BA-137M		661.65	*	1.640E-02	4.300E-02	7.180E-02	3.668E-03	0.228
CS-137		661.65	*	1.734E-02	4.546E-02	7.590E-02	3.899E-03	0.228
CE-139		165.85	*	-8.042E-03	3.164E-02	5.088E-02	2.594E-03	-0.158
BA-140		162.64		-8.222E-02	7.799E-01	1.251E+00	7.437E-02	-0.066
		304.84		1.130E-01	1.470E+00	2.164E+00	5.911E-01	0.052
		423.70		1.113E-01	2.074E+00	3.447E+00	1.096E+00	0.032
		537.32	*	-2.498E-02	2.620E-01	4.252E-01	1.382E-01	-0.059
LA-140		328.77		7.325E-01	3.019E-01	5.635E-01	3.716E-02	1.300
		432.53		-7.719E-01	2.080E+00	3.345E+00	2.157E-01	-0.231
		487.03		8.126E-02	1.462E-01	2.502E-01	1.653E-02	0.325
		751.79		9.745E-01	1.854E+00	3.127E+00	2.399E-01	0.312
		815.85		-5.779E-02	3.211E-01	5.281E-01	4.590E-02	-0.109
		867.82		1.260E+00	1.413E+00	2.550E+00	2.292E-01	0.494
		919.63		-2.334E+00	3.180E+00	4.923E+00	5.366E-01	-0.474
		925.24		-3.503E-03	1.223E+00	2.047E+00	1.926E-01	-0.002
		1596.49	*	-3.443E-02	8.234E-02	1.271E-01	8.718E-03	-0.271
CE-141		145.44	*	2.638E-02	6.682E-02	1.111E-01	6.265E-03	0.237
CE-143		57.37		-3.687E-04	6.682E-02	Half-Life too short		
		231.56		-1.292E-03	6.682E-02	Half-Life too short		
		293.26	*	4.602E-04	6.682E-02	Half-Life too short		
	+	350.59		1.452E-02	6.682E-02	Half-Life too short		
		490.36		2.291E-04	6.682E-02	Half-Life too short		
		664.57		-4.373E-04	6.682E-02	Half-Life too short		
		721.93		-1.272E-04	6.682E-02	Half-Life too short		
CE-144		80.11		-2.915E+00	2.771E+00	3.826E+00	3.507E-01	-0.762
		133.54	*	3.260E-02	2.372E-01	3.626E-01	5.120E-02	0.090
PM-144		476.78		4.008E-02	7.767E-02	1.280E-01	8.943E-03	0.313
		618.01		5.684E-04	3.363E-02	5.474E-02	3.157E-03	0.010
		696.49	*	-4.723E-03	3.825E-02	6.102E-02	3.432E-03	-0.077
		778.57		2.134E-01	2.543E+00	4.300E+00	2.983E-01	0.050
PR-144		696.49	*	-3.198E-01	2.590E+00	4.132E+00	2.323E-01	-0.077
		1489.15		-7.189E-01	1.127E+01	1.793E+01	1.279E+00	-0.040
PM-146		453.90	*	-2.616E-03	4.773E-02	7.848E-02	6.797E-03	-0.033
		633.02		1.822E-01	1.709E+00	2.796E+00	1.027E+00	0.065
		735.90		1.376E-02	2.024E-01	2.967E-01	8.300E-02	0.046
		747.13		-3.620E-02	1.074E-01	1.668E-01	2.135E-02	-0.217

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	+	91.11		5.157E-01	3.183E-01	5.327E-01	5.237E-02	0.968
		319.41		1.072E+00	3.162E+00	5.410E+00	3.196E-01	0.198
		439.89		1.322E+00	6.120E+00	1.027E+01	6.011E-01	0.129
		531.02	*	-2.531E-01	5.353E-01	8.374E-01	1.131E-01	-0.302
PM-149		285.90	*	1.183E+01	6.847E+01	1.164E+02	1.651E+01	0.102
EU-152		121.78		-5.230E-02	8.338E-02	1.333E-01	1.025E-02	-0.392
		244.69		-4.152E-03	3.958E-01	5.531E-01	3.129E-02	-0.008
		344.27	*	4.622E-02	1.392E-01	1.674E-01	1.110E-02	0.276
		443.98		-8.884E-01	1.086E+00	1.686E+00	9.867E-02	-0.527
		778.89		6.044E-02	2.976E-01	5.082E-01	3.526E-02	0.119
		867.32		7.481E-02	9.104E-01	1.531E+00	1.304E-01	0.049
		964.01		6.297E-01	3.799E-01	6.447E-01	5.493E-02	0.977
		1085.78		5.349E-02	4.731E-01	7.878E-01	5.544E-02	0.068
		1112.02		-5.357E-03	3.881E-01	5.896E-01	3.919E-02	-0.009
		1407.95		1.087E-01	2.201E-01	3.804E-01	2.766E-02	0.286
GD-153		69.67		2.410E-01	2.223E+00	3.286E+00	2.871E-01	0.073
		83.37		4.027E+00	1.930E+01	2.850E+01	2.675E+00	0.141
		97.43	*	1.660E-02	1.005E-01	1.475E-01	1.205E-02	0.113
		103.18		-1.297E-01	1.168E-01	1.834E-01	1.371E-02	-0.707
EU-154		123.07		1.458E-02	5.881E-02	9.448E-02	8.918E-03	0.154
		247.94		6.164E-03	4.286E-01	6.344E-01	6.005E-02	0.010
		591.81		-5.018E-03	7.604E-01	1.121E+00	1.078E-01	-0.004
		723.30		1.059E-01	2.332E-01	3.421E-01	2.488E-02	0.310
		756.87		-4.885E-01	8.741E-01	1.320E+00	1.399E-01	-0.370
		873.19		-2.017E-01	3.289E-01	5.127E-01	6.280E-02	-0.393
		996.32		-2.527E-01	4.485E-01	6.979E-01	1.225E-01	-0.362
		1004.76		-3.937E-03	2.316E-01	3.824E-01	4.301E-02	-0.010
		1274.45	*	5.393E-02	1.527E-01	2.580E-01	2.562E-02	0.209
EU-155		48.70		-3.373E+00	3.922E+00	6.353E+00	5.124E-01	-0.531
		60.01		-2.718E+00	6.493E+00	1.070E+01	9.295E-01	-0.254
	+	86.54		2.928E-01	1.305E-01	2.093E-01	2.034E-02	1.399
		105.31	*	1.035E-01	1.161E-01	1.985E-01	1.464E-02	0.522
TB-160	+	86.79		7.736E-01	3.447E-01	5.453E-01	5.269E-02	1.419
		197.04		-4.799E-01	6.593E-01	1.014E+00	5.398E-02	-0.473
		215.65		-3.872E-01	8.049E-01	1.264E+00	6.907E-02	-0.306
	+	298.57		2.932E-01	1.847E-01	2.194E-01	1.289E-02	1.336
		879.36	*	1.037E-01	1.575E-01	2.782E-01	2.433E-02	0.373
		962.29		4.525E-01	6.980E-01	1.075E+00	9.181E-02	0.421
		966.15		9.075E-01	3.446E-01	5.956E-01	5.063E-02	1.524
		1177.93		3.887E-01	4.361E-01	7.723E-01	4.394E-02	0.503
		1271.85		-3.943E-01	8.469E-01	1.306E+00	8.717E-02	-0.302
HO-166M		80.57		-5.998E-01	3.658E-01	4.860E-01	4.469E-02	-1.234
	+	184.41		1.140E-01	4.947E-02	7.280E-02	3.805E-03	1.567
		280.46		-4.734E-02	1.086E-01	1.545E-01	8.996E-03	-0.306
		410.95		-4.279E-02	2.827E-01	4.643E-01	2.699E-02	-0.092
		711.68	*	6.983E-03	7.199E-02	1.171E-01	6.852E-03	0.060
		752.31		1.850E-01	3.155E-01	5.350E-01	3.477E-02	0.346
		810.29		-2.422E-02	6.105E-02	9.813E-02	7.340E-03	-0.247
TM-171		51.35		3.404E+00	4.617E+01	7.788E+01	6.770E+00	0.044

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		52.39		1.237E+01	2.355E+01	4.038E+01	3.547E+00	0.306
		59.40		-1.468E+01	3.456E+01	5.694E+01	4.947E+00	-0.258
		66.72	*	-2.377E+01	3.483E+01	5.670E+01	4.931E+00	-0.419
LU-176	+	88.36		5.770E-01	2.571E-01	4.184E-01	4.055E-02	1.379
		201.83		4.123E-03	3.252E-02	5.287E-02	2.834E-03	0.078
		306.84	*	-1.004E-02	3.058E-02	4.571E-02	2.693E-03	-0.220
		401.10		2.708E+00	7.553E+00	1.282E+01	7.429E-01	0.211
LU-177		112.95		6.677E-01	1.553E+00	2.605E+00	1.708E-01	0.256
	+	208.36	*	2.512E+00	1.190E+00	1.899E+00	1.027E-01	1.323
LU-177M		52.97		2.470E+00	2.373E+00	4.137E+00	3.647E-01	0.597
		54.07		3.487E-01	1.182E+00	2.010E+00	1.776E-01	0.174
		61.30		1.122E+00	1.877E+00	3.209E+00	2.787E-01	0.350
		121.62		-9.990E-02	4.201E-01	6.839E-01	4.043E-02	-0.146
		147.16		-1.638E-01	7.064E-01	1.143E+00	6.131E-02	-0.143
		171.86		-1.258E-01	5.379E-01	8.651E-01	4.441E-02	-0.145
		218.09		-1.223E-01	9.221E-01	1.475E+00	8.087E-02	-0.083
	+	268.79		2.056E+00	1.288E+00	1.646E+00	9.511E-02	1.249
		319.02		1.126E-01	2.691E-01	4.624E-01	2.730E-02	0.244
		367.43		1.277E+00	9.887E-01	1.774E+00	1.039E-01	0.720
		413.65	*	-5.302E-02	1.955E-01	3.183E-01	1.852E-02	-0.167
HF-181		56.28		-1.067E+00	1.246E+00	2.011E+00	1.771E-01	-0.531
		57.53		-5.325E-01	6.711E-01	1.087E+00	9.525E-02	-0.490
		65.20		3.611E-02	1.136E+00	1.902E+00	1.652E-01	0.019
		133.02		3.433E-02	7.795E-02	1.151E-01	6.459E-03	0.298
		136.25		-2.965E-01	4.865E-01	7.752E-01	4.303E-02	-0.382
		345.85		-8.782E-02	2.344E-01	3.088E-01	1.821E-02	-0.284
		482.03	*	-5.240E-03	4.664E-02	7.611E-02	4.451E-03	-0.069
W-181		56.28		-4.227E-01	4.940E-01	7.972E-01	7.020E-02	-0.530
		57.53		-2.114E-01	2.663E-01	4.313E-01	3.779E-02	-0.490
		65.20	*	1.421E-02	4.470E-01	7.487E-01	6.504E-02	0.019
TA-182		67.75		-2.750E-03	1.314E-01	2.194E-01	1.910E-02	-0.013
		100.10		4.597E-02	1.954E-01	3.262E-01	2.553E-02	0.141
		152.43		-1.565E-01	3.621E-01	5.795E-01	3.063E-02	-0.270
		222.10		3.011E-01	3.746E-01	6.278E-01	3.459E-02	0.480
		1001.68		-1.393E+00	2.406E+00	3.655E+00	2.968E-01	-0.381
	+	1121.28		4.471E-01	2.864E-01	3.736E-01	2.430E-02	1.197
		1189.05		1.555E-01	3.739E-01	6.358E-01	3.689E-02	0.245
		1221.42	*	5.257E-02	2.253E-01	3.765E-01	2.311E-02	0.140
		1230.97		-2.576E-01	5.449E-01	8.480E-01	5.290E-02	-0.304
RE-183		57.98		-1.111E-01	2.570E-01	4.233E-01	3.701E-02	-0.262
		59.32		-6.406E-02	1.407E-01	2.315E-01	2.012E-02	-0.277
		67.20		-1.726E-01	2.405E-01	3.909E-01	3.401E-02	-0.442
		162.32	*	-1.798E-02	1.212E-01	1.941E-01	9.983E-03	-0.093
	+	208.81		2.527E+00	1.198E+00	1.890E+00	1.023E-01	1.337
		291.72		-8.589E-01	1.138E+00	1.547E+00	9.062E-02	-0.555
RE-184		57.98		-4.122E-01	9.538E-01	1.571E+00	1.373E-01	-0.262
		59.32		-2.375E-01	5.216E-01	8.582E-01	7.458E-02	-0.277
		67.20		-6.402E-01	8.922E-01	1.450E+00	1.262E-01	-0.442
		161.27		-1.351E-01	3.984E-01	6.328E-01	3.264E-02	-0.214

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		216.55		-3.727E-02	2.826E-01	4.522E-01	2.474E-02	-0.082
		252.85	*	-5.192E-02	2.544E-01	4.024E-01	2.295E-02	-0.129
		318.01		1.362E-01	4.717E-01	8.045E-01	4.750E-02	0.169
		792.07		4.801E-01	1.178E+00	2.038E+00	1.460E-01	0.236
		903.28		3.757E-01	1.292E+00	1.926E+00	1.746E-01	0.195
		920.93		8.409E-02	5.196E-01	8.773E-01	7.825E-02	0.096
OS-185		59.72		-1.705E-01	3.834E-01	6.312E-01	5.482E-02	-0.270
		61.14		8.223E-02	2.046E-01	3.477E-01	3.020E-02	0.237
		69.30		2.405E-02	3.982E-01	5.873E-01	5.127E-02	0.041
		592.07		2.036E-01	2.930E+00	4.527E+00	2.505E-01	0.045
		646.12	*	-5.078E-02	5.198E-02	7.687E-02	4.012E-03	-0.661
		717.42		-3.162E-01	1.032E+00	1.614E+00	9.589E-02	-0.196
		874.81		-7.871E-01	6.707E-01	9.816E-01	8.500E-02	-0.802
		880.27		1.811E-01	9.049E-01	1.536E+00	1.346E-01	0.118
RE-188		155.03	*	3.650E-02	1.876E-01	3.087E-01	1.620E-02	0.118
		477.96		1.137E+00	3.448E+00	5.603E+00	3.279E-01	0.203
		633.10		3.209E-01	3.409E+00	5.574E+00	2.957E-01	0.058
W-188		63.58		1.208E+01	6.530E+01	1.090E+02	9.465E+00	0.111
		227.08		-3.190E+00	1.441E+01	2.292E+01	1.271E+00	-0.139
		290.67	*	-7.141E+00	8.662E+00	1.184E+01	6.932E-01	-0.603
IR-192	+	295.96		9.248E-01	1.707E-01	2.900E-01	1.729E-02	3.189
		308.46		1.416E-02	1.038E-01	1.757E-01	1.047E-02	0.081
		316.51	*	9.914E-03	3.557E-02	6.066E-02	3.598E-03	0.163
		468.07		3.590E-02	6.995E-02	1.062E-01	7.155E-03	0.338
		604.41		4.220E-01	5.558E-01	8.483E-01	9.489E-02	0.497
		612.46		1.037E+00	8.506E-01	1.361E+00	9.921E-02	0.762
AU-195		65.12		2.070E-02	2.083E-01	3.498E-01	3.038E-02	0.059
		66.83		-8.017E-02	1.145E-01	1.863E-01	1.620E-02	-0.430
	+	75.70		1.185E+00	3.033E-01	5.494E-01	4.907E-02	2.158
		98.88	*	8.823E-02	2.544E-01	4.266E-01	3.404E-02	0.207
	+	129.76		5.995E+00	3.293E+00	5.491E+00	3.121E-01	1.092
TL-200		367.94	*	2.408E-04	3.293E+00	Half-Life too short		
		579.30		2.604E-03	3.293E+00	Half-Life too short		
		828.27		-8.827E-04	3.293E+00	Half-Life too short		
		1205.75		6.968E-04	3.293E+00	Half-Life too short		
TL-201		68.90		-8.717E-01	4.927E+00	7.181E+00	6.264E-01	-0.121
		70.82		2.699E+00	2.698E+00	4.144E+00	3.632E-01	0.651
		80.30		-5.484E+00	4.990E+00	6.867E+00	6.302E-01	-0.799
		135.34		-1.132E+01	2.102E+01	3.363E+01	1.872E+00	-0.337
		167.43	*	-2.963E+00	5.761E+00	9.145E+00	4.667E-01	-0.324
TL-202		68.90		-9.633E-02	5.444E-01	7.935E-01	6.922E-02	-0.121
		70.82		2.974E-01	2.973E-01	4.567E-01	4.002E-02	0.651
		80.30		-6.045E-01	5.500E-01	7.569E-01	6.947E-02	-0.799
		439.56	*	3.317E-02	7.383E-02	1.258E-01	7.359E-03	0.264
HG-203		70.83		1.360E+00	1.362E+00	2.082E+00	2.851E-01	0.653
		72.87		1.887E+00	8.720E-01	1.346E+00	1.795E-01	1.402
		82.60		9.657E-01	1.651E+00	2.113E+00	3.000E-01	0.457
		279.20	*	1.735E-02	5.155E-02	7.754E-02	4.790E-03	0.224
BI-207		72.80		5.164E-01	2.524E-01	3.976E-01	3.507E-02	1.299

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	+	74.97		6.605E-01	1.690E-01	2.791E-01	2.484E-02	2.366
		84.90		2.389E-01	2.517E-01	3.822E-01	3.633E-02	0.625
		569.67		3.215E-02	3.371E-02	5.921E-02	3.335E-03	0.543
		1063.62	*	-3.821E-03	6.054E-02	9.914E-02	7.283E-03	-0.039
		1770.23		7.052E-02	5.167E-01	7.651E-01	4.737E-02	0.092
TL-207		81.07		-4.568E-01	3.174E-01	3.939E-01	3.635E-02	-1.160
		83.78		4.893E-02	1.636E-01	2.425E-01	2.284E-02	0.202
		94.90		3.998E-01	3.015E-01	4.646E-01	3.964E-02	0.860
		122.32		-2.960E-01	1.933E+00	3.158E+00	2.137E-01	-0.094
		144.24		2.394E-01	7.593E-01	1.229E+00	8.507E-02	0.195
		154.21		1.531E-01	4.313E-01	7.148E-01	4.698E-02	0.214
	+	269.46		4.839E-01	3.032E-01	3.901E-01	2.358E-02	1.241
		323.87	*	-1.402E+00	7.568E-01	1.067E+00	1.766E-01	-1.314
	+	338.28		6.311E+00	1.944E+00	2.722E+00	2.883E-01	2.319
		445.03		-9.995E-01	2.562E+00	4.111E+00	4.234E-01	-0.243
PO-209		260.50		2.399E+00	1.078E+01	1.747E+01	1.003E+00	0.137
		262.80		2.159E+01	2.978E+01	4.962E+01	2.854E+00	0.435
		896.60	*	7.958E+00	8.138E+00	1.477E+01	1.341E+00	0.539
BI-210		46.50	*	3.438E-01	5.837E+00	9.745E+00	7.587E-01	0.035
PB-210		46.50	*	3.438E-01	5.837E+00	9.745E+00	7.587E-01	0.035
PO-210		46.50	*	3.438E-01	5.837E+00	9.745E+00	6.538E-01	0.035
PB-211		404.84	*	3.096E-01	1.102E+00	1.833E+00	1.143E+00	0.169
		427.08		-1.857E-01	2.374E+00	3.906E+00	2.414E+00	-0.048
		831.96		8.089E-01	1.495E+00	2.466E+00	1.543E+00	0.328
BI-212	+	727.18	*	6.087E-01	6.280E-01	7.045E-01	5.592E-02	0.864
		785.46		-6.982E-01	2.001E+00	3.257E+00	2.296E-01	-0.214
		1620.62		1.074E+00	1.412E+00	2.629E+00	1.783E-01	0.408
PO-215		81.07		-4.568E-01	3.174E-01	3.939E-01	3.635E-02	-1.160
		83.78		4.893E-02	1.636E-01	2.425E-01	2.284E-02	0.202
		94.90		3.998E-01	3.015E-01	4.646E-01	3.964E-02	0.860
		122.32		-2.960E-01	1.933E+00	3.158E+00	2.137E-01	-0.094
		144.24		2.394E-01	7.593E-01	1.229E+00	8.507E-02	0.195
		154.21		1.531E-01	4.313E-01	7.148E-01	4.698E-02	0.214
	+	269.46		4.839E-01	3.032E-01	3.901E-01	2.358E-02	1.241
		323.87	*	-1.402E+00	7.568E-01	1.067E+00	1.766E-01	-1.314
	+	338.28		6.311E+00	1.944E+00	2.722E+00	2.883E-01	2.319
		445.03		-9.995E-01	2.562E+00	4.111E+00	4.234E-01	-0.243
RN-219	+	271.23		6.209E-01	3.904E-01	4.881E-01	3.952E-02	1.272
		401.81	*	2.857E-02	4.699E-01	7.832E-01	1.065E-01	0.036
RN-220		549.76	*	2.072E+01	2.892E+01	5.002E+01	2.854E+00	0.414
RA-223		81.07		-4.568E-01	3.174E-01	3.939E-01	3.635E-02	-1.160
		83.78		4.893E-02	1.636E-01	2.425E-01	2.284E-02	0.202
		94.90		3.998E-01	3.015E-01	4.646E-01	3.964E-02	0.860
		122.32		-2.960E-01	1.933E+00	3.158E+00	2.137E-01	-0.094
		144.24		2.394E-01	7.593E-01	1.229E+00	8.507E-02	0.195
		154.21		1.531E-01	4.313E-01	7.148E-01	4.698E-02	0.214
	+	269.46		4.839E-01	3.032E-01	3.901E-01	2.358E-02	1.241
		323.87	*	-1.402E+00	7.568E-01	1.067E+00	1.766E-01	-1.314
	+	338.28		6.311E+00	1.944E+00	2.722E+00	2.883E-01	2.319

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		445.03		-9.995E-01	2.562E+00	4.111E+00	4.234E-01	-0.243
AC-227		79.80		-1.086E+00	2.117E+00	3.001E+00	6.518E-01	-0.362
		236.00		1.795E+00	3.886E-01	6.106E-01	6.316E-02	2.940
		256.20	*	1.964E-01	4.209E-01	6.907E-01	9.620E-02	0.284
		286.10		-2.712E-02	1.684E+00	2.834E+00	3.282E-01	-0.010
	+	299.80		3.778E+00	2.448E+00	2.914E+00	4.754E-01	1.297
		304.40		8.375E-01	2.263E+00	3.404E+00	5.898E-01	0.246
		334.20		9.942E-01	2.875E+00	4.296E+00	7.891E-01	0.231
TH-227		79.80		-1.086E+00	2.118E+00	3.001E+00	6.600E-01	-0.362
	+	94.00		5.334E+00	2.881E+00	4.219E+00	9.197E-01	1.264
		236.00		1.795E+00	3.772E-01	6.106E-01	5.454E-02	2.940
		256.20	*	1.964E-01	4.213E-01	6.907E-01	1.165E-01	0.284
		286.10		-2.712E-02	1.684E+00	2.834E+00	2.839E+00	-0.010
	+	299.80		3.778E+00	2.448E+00	2.914E+00	4.754E-01	1.297
		304.40		8.375E-01	2.263E+00	3.404E+00	5.898E-01	0.246
		334.20		9.942E-01	2.875E+00	4.296E+00	7.891E-01	0.231
TH-229		85.43		4.219E-01	2.535E-01	3.927E-01	3.750E-02	1.074
	+	88.47		2.208E-01	1.361E-01	2.396E-01	2.317E-02	0.922
		100.00		5.164E-02	2.045E-01	3.416E-01	2.678E-02	0.151
		193.63	*	2.238E-01	5.837E-01	9.613E-01	5.092E-02	0.233
		210.97		1.097E+00	9.468E-01	1.434E+00	7.788E-02	0.765
PA-231		283.67	*	6.984E-02	1.700E+00	2.871E+00	3.960E-01	0.024
	+	301.29		1.511E+00	9.607E-01	1.171E+00	1.229E-01	1.291
TH-231		81.07		-4.568E-01	3.174E-01	3.939E-01	3.635E-02	-1.160
		83.78		4.893E-02	1.636E-01	2.425E-01	2.284E-02	0.202
		94.90		3.998E-01	3.015E-01	4.646E-01	3.964E-02	0.860
		122.32		-2.960E-01	1.933E+00	3.158E+00	2.137E-01	-0.094
		144.24		2.394E-01	7.593E-01	1.229E+00	8.507E-02	0.195
		154.21		1.531E-01	4.313E-01	7.148E-01	4.698E-02	0.214
	+	269.46		4.839E-01	3.032E-01	3.901E-01	2.358E-02	1.241
		323.87	*	-1.402E+00	7.568E-01	1.067E+00	1.766E-01	-1.314
	+	338.28		6.311E+00	1.944E+00	2.722E+00	2.883E-01	2.319
		445.03		-9.995E-01	2.562E+00	4.111E+00	4.234E-01	-0.243
U-231		84.21		2.889E+00	5.734E+00	8.571E+00	8.101E-01	0.337
	+	92.29		4.319E+00	2.167E+00	3.501E+00	3.134E-01	1.233
		95.87	*	-3.312E-01	1.165E+00	1.669E+00	1.400E-01	-0.198
		108.00		-6.675E-01	1.851E+00	3.009E+00	2.103E-01	-0.222
PA-233	+	75.28		1.928E+01	5.505E+00	8.647E+00	1.341E+00	2.229
	+	86.59		4.762E+00	2.442E+00	3.391E+00	9.211E-01	1.404
	+	300.12		1.053E+00	6.755E-01	8.145E-01	1.097E-01	1.293
		311.98	*	3.335E-02	6.925E-02	1.193E-01	7.462E-03	0.279
		340.50		1.652E+00	8.620E-01	1.302E+00	2.994E-01	1.269
		398.62		-1.414E+00	2.361E+00	3.718E+00	9.612E-01	-0.380
		415.76		-3.588E-01	1.833E+00	2.996E+00	6.170E-01	-0.120
PA-234		63.00		6.551E-01	1.975E+00	3.311E+00	5.144E-01	0.198
		94.67		3.997E-01	2.233E-01	3.448E-01	4.264E-02	1.159
		98.44		3.960E-02	1.100E-01	1.751E-01	9.756E-02	0.226
		99.86		1.429E-01	5.183E-01	8.669E-01	6.810E-02	0.165
		111.00		-1.845E-01	2.034E-01	3.211E-01	3.473E-02	-0.575

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		131.20		9.326E-02	1.295E-01	1.940E-01	1.097E-02	0.481
		152.70		-4.311E-02	3.531E-01	5.733E-01	8.958E-02	-0.075
	+	186.00		4.105E+00	2.165E+00	2.684E+00	8.174E-01	1.529
		226.40		2.752E-02	4.518E-01	7.291E-01	8.335E-02	0.038
		227.20		-1.283E-01	4.919E-01	7.804E-01	4.328E-02	-0.164
		248.90		5.837E-01	8.986E-01	1.481E+00	3.177E-01	0.394
	+	293.70		5.887E+00	1.399E+00	1.810E+00	2.915E-01	3.253
		369.80		-3.000E-01	9.199E-01	1.497E+00	3.119E-01	-0.200
		568.70		1.184E+00	1.084E+00	1.924E+00	1.085E-01	0.615
		569.50		2.811E-01	2.988E-01	5.244E-01	2.954E-02	0.536
		574.00		2.491E-02	1.761E+00	2.711E+00	1.522E-01	0.009
		699.00		1.370E-01	8.054E-01	1.319E+00	2.366E-01	0.104
		706.10		2.961E-01	1.191E+00	1.952E+00	8.615E-01	0.152
		733.00		2.947E-01	5.212E-01	7.701E-01	1.646E-01	0.383
		742.81		-4.739E-01	1.591E+00	2.430E+00	1.627E+00	-0.195
		796.30		1.057E+00	1.079E+00	1.887E+00	5.026E-01	0.560
		805.60		4.143E-01	1.067E+00	1.839E+00	5.579E-01	0.225
		819.60		1.526E+00	1.478E+00	2.506E+00	9.476E-01	0.609
		826.30		-4.605E-01	9.107E-01	1.409E+00	6.280E-01	-0.327
		831.60		3.007E-01	7.393E-01	1.270E+00	3.763E-01	0.237
		876.40		-2.217E-01	9.910E-01	1.574E+00	1.619E+00	-0.141
		880.51		6.938E-02	3.334E-01	5.662E-01	4.964E-02	0.123
		883.24		4.556E-02	3.430E-01	5.764E-01	3.876E-01	0.079
		899.00		-3.230E-01	9.785E-01	1.560E+00	6.836E-01	-0.207
		925.00		-4.511E-01	1.377E+00	2.232E+00	1.983E-01	-0.202
		926.50		8.320E-02	1.973E-01	3.397E-01	8.617E-02	0.245
		946.00	*	-3.888E-01	3.320E-01	4.649E-01	8.739E-02	-0.836
		949.00		4.443E-01	4.722E-01	8.563E-01	7.422E-02	0.519
		980.50		5.972E-01	7.709E-01	1.380E+00	1.152E-01	0.433
		1394.10		1.540E-01	1.251E+00	2.061E+00	1.338E+00	0.075
PA-234M		766.42		9.095E+00	1.407E+01	2.263E+01	1.142E+01	0.402
		1001.03	*	-2.981E+00	5.419E+00	8.244E+00	7.866E-01	-0.362
TH-234		63.29	*	3.952E-01	1.671E+00	2.793E+00	5.032E-01	0.142
	+	92.38		1.380E+00	7.265E-01	1.114E+00	2.032E-01	1.239
U-235	+	89.95		2.216E+00	1.515E+00	2.080E+00	6.464E-01	1.066
	+	93.35		1.660E+00	9.429E-01	1.340E+00	3.763E-01	1.238
		105.00		4.952E-01	1.159E+00	1.933E+00	5.700E-01	0.256
		143.76	*	-1.612E-02	2.376E-01	3.785E-01	6.121E-02	-0.043
		163.35		-1.476E-02	5.218E-01	8.400E-01	1.493E-01	-0.018
	+	185.71		1.521E-01	6.596E-02	9.903E-02	5.185E-03	1.535
		205.31		-5.230E-01	6.701E-01	8.855E-01	1.581E-01	-0.591
NP-236		94.67		3.049E-01	1.673E-01	2.617E-01	2.242E-02	1.165
		98.44		2.994E-02	8.152E-02	1.324E-01	1.064E-02	0.226
		111.00		-1.396E-01	1.534E-01	2.429E-01	1.632E-02	-0.575
		160.31	*	-2.332E-03	9.126E-02	1.472E-01	7.611E-03	-0.016
U-238		63.29	*	3.952E-01	1.671E+00	2.793E+00	5.032E-01	0.142
	+	92.38		1.380E+00	6.926E-01	1.114E+00	9.955E-02	1.239
NP-239		99.55		6.053E-02	1.745E-01	2.926E-01	2.310E-02	0.207
		117.00	*	1.043E-02	2.150E-01	3.547E-01	2.214E-02	0.029

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	209.75		2.017E+00	9.561E-01	1.524E+00	8.261E-02	1.324
		228.18		-7.303E-02	2.548E-01	4.035E-01	2.240E-02	-0.181
	+	277.60		1.427E-01	2.414E-01	3.612E-01	2.100E-02	0.395
		334.30		5.977E-01	1.628E+00	2.441E+00	1.442E-01	0.245
AM-241		59.54	*	-1.100E-01	2.036E-01	3.337E-01	3.105E-02	-0.330
CM-243		99.55		6.228E-02	1.796E-01	3.011E-01	2.377E-02	0.207
		103.76	*	-2.593E-02	1.070E-01	1.750E-01	1.297E-02	-0.148
		117.00		1.073E-02	2.212E-01	3.649E-01	2.278E-02	0.029
	+	209.75		1.989E+00	9.425E-01	1.502E+00	8.143E-02	1.324
		228.18		-7.378E-02	2.574E-01	4.077E-01	2.264E-02	-0.181
	+	277.60		1.439E-01	2.434E-01	3.641E-01	2.117E-02	0.395
AM-246		798.80		-1.388E-01	1.630E-01	2.525E-01	1.838E-02	-0.550
		1036.00		-4.498E-01	3.288E-01	4.512E-01	3.478E-02	-0.997
		1062.04		4.735E-02	2.569E-01	4.317E-01	3.181E-02	0.110
		1078.86	*	-8.136E-02	1.524E-01	2.352E-01	1.679E-02	-0.346
CM-247	+	278.00		5.918E-01	1.001E+00	1.508E+00	8.771E-02	0.392
		287.40		-9.756E-02	1.329E+00	2.229E+00	1.303E-01	-0.044
		402.60	*	1.823E-03	4.210E-02	7.009E-02	4.063E-03	0.026
CF-249		252.85		-1.958E-01	9.594E-01	1.517E+00	8.653E-02	-0.129
		333.44		-1.236E-01	2.230E-01	3.103E-01	1.833E-02	-0.398
		387.95	*	2.064E-02	4.432E-02	7.585E-02	4.389E-03	0.272
CF-251		176.60	*	-3.326E-02	1.456E-01	2.341E-01	1.210E-02	-0.142
		227.00		4.058E-02	4.297E-01	6.946E-01	3.851E-02	0.058
		285.00		8.590E-01	1.909E+00	3.291E+00	1.922E-01	0.261

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385007      *
* Acquisition date : 31-DEC-2009 09:54:41 Detector SN#     :               *
* Detector ID        : GAM23               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:     0 02:00:00.00     Abundance limit : 75.000        *
* Elapsed real time:     0 02:00:01.59     Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        : 17-DEC-2009 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G243385007           Analyst initials: MJH1          *
* Batch Number       : 936285               Sample Quantity : 1.1994E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME :  2-JUN-2009 11:17:00 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.604E+01	2.687E+00	6.165E-01	0.000E+00
CD-109	2.470E+00	1.079E+00	1.645E+00	0.000E+00
SN-126	2.433E-01	1.062E-01	1.630E-01	0.000E+00
TL-208	5.535E-01	1.014E-01	6.281E-02	0.000E+00
BI-211	3.360E+00	5.006E-01	3.424E-01	0.000E+00
PB-212	1.485E+00	1.515E-01	9.657E-02	0.000E+00
PO-212	1.485E+00	1.515E-01	9.657E-02	0.000E+00
BI-214	9.863E-01	1.661E-01	1.221E-01	0.000E+00
PB-214	1.169E+00	1.841E-01	1.266E-01	0.000E+00
PO-214	1.169E+00	1.841E-01	1.266E-01	0.000E+00
PO-216	1.485E+00	1.515E-01	9.657E-02	0.000E+00
PO-218	1.169E+00	1.841E-01	1.266E-01	0.000E+00
RA-224	4.489E+00	1.396E+00	1.099E+00	0.000E+00
RA-226	9.863E-01	1.661E-01	1.221E-01	0.000E+00
AC-228	1.381E+00	3.493E-01	2.536E-01	0.000E+00
RA-228	1.381E+00	3.493E-01	2.536E-01	0.000E+00
TH-228	1.505E+00	1.537E-01	9.792E-02	0.000E+00
TH-230	9.863E-01	1.661E-01	1.221E-01	0.000E+00
TH-232	1.381E+00	3.493E-01	2.536E-01	0.000E+00
U-234	9.863E-01	1.661E-01	1.221E-01	0.000E+00
NP-237	7.143E-01	3.437E-01	4.883E-01	0.000E+00
AM-243	3.680E-01	9.226E-02	1.093E-01	0.000E+00
ANH-511	1.234E-01	8.494E-02	4.955E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)		
BE-7	6.211E-02	3.550E-01	5.882E-01	0.000E+00	NOT IDENT.
NA-22	1.929E-02	5.354E-02	9.224E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.373E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	2.838E-02	3.295E-02	6.439E-02	0.000E+00	NOT IDENT.

TI-44	0.000E+00	6.480E-02	9.331E-02	0.000E+00	FAIL ABUN
SC-46	-4.856E-03	4.518E-02	7.632E-02	0.000E+00	FAIL ABUN
V-48	1.342E-02	6.724E-02	1.164E-01	0.000E+00	NOT IDENT.
CR-51	-1.111E-02	3.618E-01	6.277E-01	0.000E+00	NOT IDENT.
MN-52	-8.963E-02	2.474E-01	3.852E-01	0.000E+00	NOT IDENT.
MN-54	2.448E-02	4.512E-02	8.043E-02	0.000E+00	NOT IDENT.
CO-56	1.087E-02	4.461E-02	7.796E-02	0.000E+00	NOT IDENT.
CO-57	-1.899E-02	2.802E-02	4.689E-02	0.000E+00	NOT IDENT.
CO-58	-9.311E-03	3.796E-02	6.356E-02	0.000E+00	NOT IDENT.
FE-59	-3.842E-02	1.002E-01	1.616E-01	0.000E+00	NOT IDENT.
CO-60	2.089E-03	4.622E-02	7.696E-02	0.000E+00	NOT IDENT.
ZN-65	6.515E-02	1.212E-01	1.871E-01	0.000E+00	NOT IDENT.
GE-68	-6.342E-01	1.261E+00	1.995E+00	0.000E+00	NOT IDENT.
AS-73	1.172E+00	1.157E+00	2.131E+00	0.000E+00	NOT IDENT.
AS-74	2.723E-02	9.428E-02	1.617E-01	0.000E+00	NOT IDENT.
SE-75	1.301E-03	5.521E-02	8.004E-02	0.000E+00	NOT IDENT.
BR-77	-3.555E+00	9.389E+00	1.385E+01	0.000E+00	FAIL ABUN
SR-82	-1.537E-01	4.156E-01	6.934E-01	0.000E+00	NOT IDENT.
RB-83	-3.745E-02	8.704E-02	1.277E-01	0.000E+00	NOT IDENT.
RB-84	-1.627E-03	7.756E-02	1.321E-01	0.000E+00	NOT IDENT.
KR-85	7.296E+00	7.381E+00	1.336E+01	0.000E+00	NOT IDENT.
SR-85	3.694E-02	3.737E-02	6.762E-02	0.000E+00	NOT IDENT.
RB-86	-3.570E-01	7.488E-01	1.187E+00	0.000E+00	NOT IDENT.
Y-88	2.381E-03	3.531E-02	6.008E-02	0.000E+00	NOT IDENT.
ZR-88	9.158E-03	3.287E-02	5.748E-02	0.000E+00	NOT IDENT.
Y-91	4.127E+00	2.182E+01	3.706E+01	0.000E+00	NOT IDENT.
NB-94	-4.604E-03	3.756E-02	6.154E-02	0.000E+00	NOT IDENT.
NB-95	4.513E-02	4.688E-02	8.358E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.647E-01	2.748E-01	0.000E+00	NOT IDENT.
ZR-95	-1.794E-02	7.694E-02	1.238E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.443E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	7.308E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	3.604E+00	9.561E+00	1.633E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.468E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.876E-02	3.823E-02	6.121E-02	0.000E+00	NOT IDENT.
RH-102	1.586E-02	3.064E-02	5.406E-02	0.000E+00	NOT IDENT.
RU-103	-2.252E-02	4.230E-02	6.844E-02	0.000E+00	NOT IDENT.
RH-106	-8.370E-02	3.430E-01	5.600E-01	0.000E+00	FAIL ABUN
RU-106	-8.370E-02	3.429E-01	5.600E-01	0.000E+00	FAIL ABUN
AG-108M	-3.973E-02	3.623E-02	5.693E-02	0.000E+00	NOT IDENT.
AG-110M	1.520E-02	3.993E-02	6.857E-02	0.000E+00	NOT IDENT.
IN-111	-1.074E-01	9.288E-01	1.337E+00	0.000E+00	NOT IDENT.
IN-113M	1.621E-03	4.949E-02	8.523E-02	0.000E+00	NOT IDENT.
SN-113	1.621E-03	4.949E-02	8.523E-02	0.000E+00	NOT IDENT.
IN-114M	-1.270E-01	2.293E-01	3.263E-01	0.000E+00	NOT IDENT.
CD-115	-7.599E+00	7.829E+00	1.208E+01	0.000E+00	NOT IDENT.
SN-117M	-1.516E-02	5.856E-02	9.771E-02	0.000E+00	NOT IDENT.
SB-122	-1.163E+00	1.644E+00	2.597E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.402E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.164E-03	3.163E-02	5.351E-02	0.000E+00	NOT IDENT.
I-124	-3.474E-01	6.874E-01	9.325E-01	0.000E+00	FAIL ABUN
SB-124	-4.434E-03	7.347E-02	1.225E-01	0.000E+00	FAIL ABUN
SB-125	7.792E-02	1.020E-01	1.830E-01	0.000E+00	FAIL ABUN
TE-125M	-6.530E+00	9.746E+00	1.638E+01	0.000E+00	NOT IDENT.
I-126	-1.688E-01	1.925E-01	2.945E-01	0.000E+00	NOT IDENT.
SB-126	-9.216E-02	1.723E-01	2.410E-01	0.000E+00	FAIL ABUN
SB-127	1.583E-01	1.260E+00	2.113E+00	0.000E+00	NOT IDENT.
XE-127	1.050E-02	5.243E-02	8.605E-02	0.000E+00	NOT IDENT.
I-131	-6.320E-02	1.122E-01	1.865E-01	0.000E+00	NOT IDENT.
TE-132	-1.774E-01	5.911E-01	9.729E-01	0.000E+00	NOT IDENT.
BA-133	2.261E-02	5.076E-02	7.920E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	2.352E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.491E-02	5.355E-02	1.002E-01	0.000E+00	NOT IDENT.
CS-135	2.501E-01	2.084E-01	3.265E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.927E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.895E-02	1.029E-01	1.575E-01	0.000E+00	FAIL ABUN
BA-137M	1.640E-02	4.214E-02	7.231E-02	0.000E+00	NOT IDENT.
CS-137	1.734E-02	4.455E-02	7.643E-02	0.000E+00	NOT IDENT.
CE-139	-8.042E-03	3.101E-02	5.207E-02	0.000E+00	NOT IDENT.
BA-140	-2.498E-02	2.568E-01	4.292E-01	0.000E+00	NOT IDENT.
LA-140	-3.443E-02	8.070E-02	1.266E-01	0.000E+00	NOT IDENT.
CE-141	2.638E-02	6.548E-02	1.139E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.406E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	3.260E-02	2.324E-01	3.720E-01	0.000E+00	NOT IDENT.
PM-144	-4.723E-03	3.749E-02	6.141E-02	0.000E+00	NOT IDENT.
PR-144	-3.198E-01	2.539E+00	4.159E+00	0.000E+00	NOT IDENT.
PM-146	-2.616E-03	4.678E-02	7.939E-02	0.000E+00	NOT IDENT.
ND-147	-2.531E-01	5.246E-01	8.455E-01	0.000E+00	FAIL ABUN

PM-149	1.183E+01	6.710E+01	1.183E+02	0.000E+00	NOT IDENT.
EU-152	4.622E-02	1.365E-01	1.699E-01	0.000E+00	NOT IDENT.
GD-153	1.660E-02	9.848E-02	1.518E-01	0.000E+00	NOT IDENT.
EU-154	5.393E-02	1.497E-01	2.578E-01	0.000E+00	NOT IDENT.
EU-155	1.035E-01	1.138E-01	2.042E-01	0.000E+00	FAIL ABUN
TB-160	1.037E-01	1.544E-01	2.792E-01	0.000E+00	FAIL ABUN
HO-166M	6.983E-03	7.055E-02	1.178E-01	0.000E+00	FAIL ABUN
TM-171	-2.377E+01	3.413E+01	5.863E+01	0.000E+00	NOT IDENT.
LU-176	-1.004E-02	2.997E-02	4.645E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.167E+00	1.938E+00	0.000E+00	FAIL ABUN
LU-177M	-5.302E-02	1.916E-01	3.223E-01	0.000E+00	FAIL ABUN
HF-181	-5.240E-03	4.570E-02	7.693E-02	0.000E+00	NOT IDENT.
W-181	1.421E-02	4.381E-01	7.743E-01	0.000E+00	NOT IDENT.
TA-182	5.257E-02	2.208E-01	3.764E-01	0.000E+00	FAIL ABUN
RE-183	-1.798E-02	1.188E-01	1.987E-01	0.000E+00	FAIL ABUN
RE-184	-5.192E-02	2.493E-01	4.098E-01	0.000E+00	NOT IDENT.
OS-185	-5.078E-02	5.094E-02	7.743E-02	0.000E+00	NOT IDENT.
RE-188	3.650E-02	1.838E-01	3.161E-01	0.000E+00	NOT IDENT.
W-188	-7.141E+00	8.489E+00	1.204E+01	0.000E+00	NOT IDENT.
IR-192	9.914E-03	3.486E-02	6.161E-02	0.000E+00	FAIL ABUN
AU-195	8.823E-02	2.493E-01	4.392E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.264E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.963E+00	5.646E+00	9.357E+00	0.000E+00	NOT IDENT.
TL-202	3.317E-02	7.235E-02	1.273E-01	0.000E+00	NOT IDENT.
HG-203	1.735E-02	5.052E-02	7.888E-02	0.000E+00	NOT IDENT.
BI-207	-3.821E-03	5.933E-02	9.927E-02	0.000E+00	FAIL ABUN
TL-207	-1.402E+00	7.417E-01	1.083E+00	0.000E+00	FAIL ABUN
PO-209	7.958E+00	7.976E+00	1.482E+01	0.000E+00	NOT IDENT.
BI-210	3.438E-01	5.720E+00	1.012E+01	0.000E+00	NOT IDENT.
PB-210	3.438E-01	5.720E+00	1.012E+01	0.000E+00	NOT IDENT.
PO-210	3.438E-01	5.720E+00	1.012E+01	0.000E+00	NOT IDENT.
PB-211	3.096E-01	1.080E+00	1.857E+00	0.000E+00	NOT IDENT.
BI-212	6.087E-01	6.154E-01	7.086E-01	0.000E+00	FAIL ABUN
PO-215	-1.402E+00	7.417E-01	1.083E+00	0.000E+00	FAIL ABUN
RN-219	2.857E-02	4.605E-01	7.934E-01	0.000E+00	FAIL ABUN
RN-220	2.072E+01	2.834E+01	5.048E+01	0.000E+00	NOT IDENT.
RA-223	-1.402E+00	7.417E-01	1.083E+00	0.000E+00	FAIL ABUN
AC-227	1.964E-01	4.125E-01	7.034E-01	0.000E+00	FAIL ABUN
TH-227	1.964E-01	4.129E-01	7.034E-01	0.000E+00	FAIL ABUN
TH-229	2.238E-01	5.720E-01	9.820E-01	0.000E+00	FAIL ABUN
PA-231	6.984E-02	1.666E+00	2.920E+00	0.000E+00	FAIL ABUN
TH-231	-1.402E+00	7.417E-01	1.083E+00	0.000E+00	FAIL ABUN
U-231	-3.312E-01	1.141E+00	1.719E+00	0.000E+00	FAIL ABUN
PA-233	3.335E-02	6.786E-02	1.212E-01	0.000E+00	FAIL ABUN
PA-234	-3.888E-01	3.254E-01	4.661E-01	0.000E+00	FAIL ABUN
PA-234M	-2.981E+00	5.311E+00	8.261E+00	0.000E+00	NOT IDENT.
TH-234	3.952E-01	1.638E+00	2.889E+00	0.000E+00	FAIL ABUN
U-235	-1.612E-02	2.328E-01	3.879E-01	0.000E+00	FAIL ABUN
NP-236	-2.332E-03	8.944E-02	1.506E-01	0.000E+00	NOT IDENT.
U-238	3.952E-01	1.638E+00	2.889E+00	0.000E+00	FAIL ABUN
NP-239	1.043E-02	2.107E-01	3.645E-01	0.000E+00	FAIL ABUN
AM-241	-1.100E-01	1.995E-01	3.455E-01	0.000E+00	NOT IDENT.
CM-243	-2.593E-02	1.049E-01	1.801E-01	0.000E+00	FAIL ABUN
AM-246	-8.136E-02	1.494E-01	2.355E-01	0.000E+00	NOT IDENT.
CM-247	1.823E-03	4.126E-02	7.099E-02	0.000E+00	FAIL ABUN
CF-249	2.064E-02	4.344E-02	7.687E-02	0.000E+00	NOT IDENT.
CF-251	-3.326E-02	1.427E-01	2.394E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:55:06.47

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385007.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 09:54:41
Sample ID         : G243385007           Sample quantity  : 1.19940E+02 GRAM
Detector name     : GAM23                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.59  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	885	10.67*	9.972E-01	2.604E+01	2.604E+01	10.53
CD-109	88.03	150	3.72*	5.218E+00	2.419E+00	2.470E+00	44.56
SN-126	64.28	------	9.60	2.723E+00	------ Line Not Found		------
	86.94	150	8.90	5.218E+00	1.011E+00	1.011E+00	60.18
	87.57	150	37.00*	5.218E+00	2.433E-01	2.433E-01	44.56
TL-208	277.35	27	6.80	4.142E+00	2.959E-01	2.959E-01	169.43
	510.84	100	21.60	2.546E+00	5.714E-01	5.714E-01	70.71
	583.14	339	84.20*	2.277E+00	5.535E-01	5.535E-01	18.68
	860.37	------	12.46	1.609E+00	------ Line Not Found		------
BI-211	72.87	------	1.27	3.829E+00	------ Line Not Found		------
	351.07	478	12.94*	3.441E+00	3.360E+00	3.360E+00	15.20
PB-212	74.81	314	10.70	4.041E+00	2.270E+00	2.270E+00	27.23
	77.11	496	18.00	4.295E+00	2.007E+00	2.007E+00	17.86
	87.30	150	8.00	5.218E+00	1.125E+00	1.125E+00	45.67
	238.63	981	44.60*	4.637E+00	1.485E+00	1.485E+00	10.42
	300.09	87	3.41	3.899E+00	2.039E+00	2.039E+00	63.25
PO-212	74.81	314	10.70	4.041E+00	2.270E+00	2.270E+00	27.23
	77.11	496	18.00	4.295E+00	2.007E+00	2.007E+00	17.86
	87.30	150	8.00	5.218E+00	1.125E+00	1.125E+00	45.67
	115.19	------	0.60	6.293E+00	------ Line Not Found		------
	238.63	981	44.60*	4.637E+00	1.485E+00	1.485E+00	10.42
	300.09	87	3.41	3.899E+00	2.039E+00	2.039E+00	63.25
BI-214	609.31	320	46.30*	2.194E+00	9.863E-01	9.863E-01	17.19
	1120.29	58	15.10	1.258E+00	9.525E-01	9.525E-01	64.40
	1764.49	64	15.80	8.743E-01	1.457E+00	1.457E+00	36.04
PB-214	74.81	314	6.21	4.041E+00	3.911E+00	3.911E+00	26.63
	77.11	496	10.50	4.295E+00	3.440E+00	3.440E+00	19.42
	87.30	150	4.67	5.218E+00	1.927E+00	1.927E+00	45.22
	241.98	260	7.49	4.596E+00	2.367E+00	2.367E+00	32.23
	295.21	297	19.20	3.949E+00	1.227E+00	1.227E+00	19.46
	351.92	478	37.20*	3.441E+00	1.169E+00	1.169E+00	16.07
PO-214	74.81	314	6.21	4.041E+00	3.911E+00	3.911E+00	26.63

Sample ID : G243385007 Acquisition date : 31-DEC-2009 09:54:41

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	496	10.50	4.295E+00	3.440E+00	3.440E+00	19.42
	87.30	150	4.67	5.218E+00	1.927E+00	1.927E+00	45.22
	241.98	260	7.49	4.596E+00	2.367E+00	2.367E+00	32.23
	295.21	297	19.20	3.949E+00	1.227E+00	1.227E+00	19.46
	351.92	478	37.20*	3.441E+00	1.169E+00	1.169E+00	16.07
PO-216	74.81	314	10.70	4.041E+00	2.270E+00	2.270E+00	27.23
	77.11	496	18.00	4.295E+00	2.007E+00	2.007E+00	17.86
	87.30	150	8.00	5.218E+00	1.125E+00	1.125E+00	45.67
	238.63	981	44.60*	4.637E+00	1.485E+00	1.485E+00	10.42
	300.09	87	3.41	3.899E+00	2.039E+00	2.039E+00	63.25
PO-218	74.81	314	6.21	4.041E+00	3.911E+00	3.911E+00	26.63
	77.11	496	10.50	4.295E+00	3.440E+00	3.440E+00	19.42
	87.30	150	4.67	5.218E+00	1.927E+00	1.927E+00	45.22
	241.98	260	7.49	4.596E+00	2.367E+00	2.367E+00	32.23
	295.21	297	19.20	3.949E+00	1.227E+00	1.227E+00	19.46
	351.92	478	37.20*	3.441E+00	1.169E+00	1.169E+00	16.07
RA-224	240.98	260	3.95*	4.596E+00	4.489E+00	4.489E+00	31.74
RA-226	609.31	320	46.30*	2.194E+00	9.863E-01	9.863E-01	17.19
	1120.29	58	15.10	1.258E+00	9.525E-01	9.525E-01	64.40
	1764.49	64	15.80	8.743E-01	1.457E+00	1.457E+00	36.04
AC-228	338.32	195	11.40	3.548E+00	1.511E+00	1.511E+00	50.00
	911.07	187	27.70*	1.526E+00	1.381E+00	1.381E+00	25.81
	969.11	82	16.60	1.441E+00	1.067E+00	1.067E+00	52.61
RA-228	338.32	195	11.40	3.548E+00	1.511E+00	1.511E+00	50.00
	911.07	187	27.70*	1.526E+00	1.381E+00	1.381E+00	25.81
	969.11	82	16.60	1.441E+00	1.067E+00	1.067E+00	52.61
TH-228	74.81	314	10.70	4.041E+00	2.270E+00	2.302E+00	25.61
	77.11	496	18.00	4.295E+00	2.007E+00	2.035E+00	17.86
	87.30	150	8.00	5.218E+00	1.125E+00	1.141E+00	44.56
	238.63	981	44.60*	4.637E+00	1.485E+00	1.505E+00	10.42
	300.09	87	3.41	3.899E+00	2.039E+00	2.067E+00	86.06
TH-230	609.31	320	46.30*	2.194E+00	9.863E-01	9.863E-01	17.19
	1120.29	58	15.10	1.258E+00	9.525E-01	9.525E-01	64.40
	1764.49	64	15.80	8.743E-01	1.457E+00	1.457E+00	36.04
TH-232	338.32	195	11.40	3.548E+00	1.511E+00	1.511E+00	29.53
	911.07	187	27.70*	1.526E+00	1.381E+00	1.381E+00	25.81
	969.11	82	16.60	1.441E+00	1.067E+00	1.067E+00	52.61
U-234	609.31	320	46.30*	2.194E+00	9.863E-01	9.863E-01	17.19
	1120.29	58	15.10	1.258E+00	9.525E-01	9.525E-01	64.40
	1764.49	64	15.80	8.743E-01	1.457E+00	1.457E+00	36.04
NP-237	86.50	150	12.60*	5.218E+00	7.143E-01	7.143E-01	49.10
	95.87	------	2.60	5.757E+00	------	Line Not Found	------
AM-243	74.67	314	66.00*	4.041E+00	3.680E-01	3.680E-01	25.58
	86.72	150	0.34	5.218E+00	2.679E+01	2.679E+01	44.56
	117.66	------	0.55	6.314E+00	------	Line Not Found	------
	142.18	------	0.13	6.209E+00	------	Line Not Found	------
ANH-511	511.00	100	100.00*	2.546E+00	1.234E-01	1.234E-01	70.22

Flag: "*" = Keyline

Sample ID : G243385007 Acquisition date : 31-DEC-2009 09:54:41

Total number of lines in spectrum 27
Number of unidentified lines 0
Number of lines tentatively identified by NID 27 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.604E+01	2.604E+01	0.274E+01	10.53	
CD-109	464.00D	1.02	2.419E+00	2.470E+00	1.101E+00	44.56	
SN-126	1.00E+05Y	1.00	2.433E-01	2.433E-01	1.084E-01	44.56	
TL-208	1.41E+10Y	1.00	5.535E-01	5.535E-01	1.034E-01	18.68	
BI-211	7.04E+08Y	1.00	3.360E+00	3.360E+00	0.511E+00	15.20	
PB-212	1.41E+10Y	1.00	1.485E+00	1.485E+00	0.155E+00	10.42	
PO-212	1.41E+10Y	1.00	1.485E+00	1.485E+00	0.155E+00	10.42	
BI-214	1600.00Y	1.00	9.863E-01	9.863E-01	1.695E-01	17.19	
PB-214	1600.00Y	1.00	1.169E+00	1.169E+00	0.188E+00	16.07	
PO-214	1600.00Y	1.00	1.169E+00	1.169E+00	0.188E+00	16.07	
PO-216	1.41E+10Y	1.00	1.485E+00	1.485E+00	0.155E+00	10.42	
PO-218	1600.00Y	1.00	1.169E+00	1.169E+00	0.188E+00	16.07	
RA-224	1.41E+10Y	1.00	4.489E+00	4.489E+00	1.425E+00	31.74	
RA-226	1600.00Y	1.00	9.863E-01	9.863E-01	1.695E-01	17.19	
AC-228	1.41E+10Y	1.00	1.381E+00	1.381E+00	0.356E+00	25.81	
RA-228	1.41E+10Y	1.00	1.381E+00	1.381E+00	0.356E+00	25.81	
TH-228	1.91Y	1.01	1.485E+00	1.505E+00	0.157E+00	10.42	
TH-230	4.47E+09Y	1.00	9.863E-01	9.863E-01	1.695E-01	17.19	
TH-232	1.41E+10Y	1.00	1.381E+00	1.381E+00	0.356E+00	25.81	
U-234	4.47E+09Y	1.00	9.863E-01	9.863E-01	1.695E-01	17.19	
NP-237	2.14E+06Y	1.00	7.143E-01	7.143E-01	3.508E-01	49.10	
AM-243	7380.00Y	1.00	3.680E-01	3.680E-01	0.941E-01	25.58	
ANH-511	1.00E+09Y	1.00	1.234E-01	1.234E-01	0.867E-01	70.22	
	Total Activity :		5.584E+01	5.591E+01			

Grand Total Activity : 5.584E+01 5.591E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G243385007 Acquisition date : 31-DEC-2009 09:54:41

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	89.79	103	292	1.18	179.58	170	13	1.44E-02	60.9	5.41E+00	T
0	92.60	133	311	1.54	185.19	183	7	1.85E-02	49.4	5.58E+00	T
0	128.99	93	201	1.06	257.98	254	7	1.29E-02	54.6	6.32E+00	T
0	185.62	144	217	1.28	371.23	367	9	2.00E-02	43.1	5.49E+00	T
0	209.02	106	172	1.53	418.04	414	8	1.48E-02	47.1	5.09E+00	T
0	269.83	89	180	1.50	539.65	535	11	1.23E-02	62.4	4.23E+00	T
0	463.07	70	52	1.16	926.13	922	10	9.71E-03	45.5	2.76E+00	T
0	727.07	43	96	1.45	1454.14	1449	15	5.98E-03	****	1.88E+00	T
0	1376.31	37	21	0.67	2752.61	2743	17	5.13E-03	66.0	1.05E+00	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 11:55:12.72

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*******************************************************************************
*                            GEL Laboratories LLC                             *
*                              2040 Savage Road                               *
*                            Charleston, SC 29414                             *
*******************************************************************************
*                                                                             *
*                              DETECTOR DATA                                  *
*                                                                             *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385007.CNF;1   *
* Acquisition date  : 31-DEC-2009 09:54:41  Detector SN#     :               *
* Detector ID       : GAM23                 Sensitivity      : 5.00000        *
* Geometry          : CAN                   Energy tolerance: 1.50000        *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000       *
* Elapsed real time: 0 02:00:01.59          Half life ratio : 8.00000        *
*******************************************************************************
*                                                                             *
*                               SAMPLE DATA                                   *
*                                                                             *
* Sample date       : 17-DEC-2009 12:00:00  Nuclide Library : SOLID          *
* Sample ID         : G243385007            Analyst initials: MJH1           *
* Batch Number      : 936285                Sample Quantity : 1.19940E+02 GRAM *
*******************************************************************************
*                                                                             *
*                                 QC DATA                                     *
*                                                                             *
* CALIB. DATE/TIME : 2-JUN-2009 11:17:00.62MS Isotope       :                *
* MSD ID            :                       MSD Isotope      :                *
* LCS ID            : 1032-A                LCS Isotope      :                *
*******************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.604E+01	2.742E+00	6.180E-01	4.623E-02	42.133
CD-109	2.470E+00	1.101E+00	1.596E+00	1.558E-01	1.548
SN-126	2.433E-01	1.084E-01	1.581E-01	1.538E-02	1.539
TL-208	5.535E-01	1.034E-01	6.228E-02	4.043E-03	8.888
BI-211	3.360E+00	5.109E-01	3.375E-01	2.199E-02	9.957
PB-212	1.485E+00	1.546E-01	9.476E-02	6.813E-03	15.666
PO-212	1.485E+00	1.546E-01	9.476E-02	6.813E-03	15.666
BI-214	9.863E-01	1.695E-01	1.211E-01	9.107E-03	8.142
PB-214	1.169E+00	1.879E-01	1.248E-01	1.042E-02	9.365
PO-214	1.169E+00	1.879E-01	1.248E-01	1.042E-02	9.365
PO-216	1.485E+00	1.546E-01	9.476E-02	6.813E-03	15.666
PO-218	1.169E+00	1.879E-01	1.248E-01	1.042E-02	9.365
RA-224	4.489E+00	1.425E+00	1.079E+00	6.077E-02	4.162
RA-226	9.863E-01	1.695E-01	1.211E-01	9.107E-03	8.142
AC-228	1.381E+00	3.565E-01	2.528E-01	2.917E-02	5.463
RA-228	1.381E+00	3.565E-01	2.528E-01	2.917E-02	5.463
TH-228	1.505E+00	1.568E-01	9.609E-02	6.908E-03	15.666
TH-230	9.863E-01	1.695E-01	1.211E-01	9.107E-03	8.142

Sample ID : G243385007 Acquisition date : 31-DEC-2009 09:54:41

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.381E+00	3.565E-01	2.528E-01	2.917E-02	5.463
U-234	9.863E-01	1.695E-01	1.211E-01	9.107E-03	8.142
NP-237	7.143E-01	3.508E-01	4.736E-01	1.079E-01	1.508
AM-243	3.680E-01	9.414E-02	1.058E-01	9.405E-03	3.477
ANH-511	1.234E-01	8.667E-02	4.905E-02	2.849E-03	2.516

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	6.211E-02		3.622E-01	5.818E-01	3.954E-02	0.107
NA-22	1.929E-02		5.463E-02	9.232E-02	6.200E-03	0.209
NA-24	6.070E-02		1.211E-01	Half-Life too short		
AL-26	2.838E-02		3.362E-02	6.471E-02	3.889E-03	0.439
TI-44	3.703E-01	+	6.613E-02	9.041E-02	8.195E-03	4.096
SC-46	-4.856E-03		4.610E-02	7.606E-02	6.795E-03	-0.064
V-48	1.342E-02		6.861E-02	1.161E-01	9.662E-03	0.116
CR-51	-1.111E-02		3.692E-01	6.180E-01	4.052E-02	-0.018
MN-52	-8.963E-02		2.525E-01	3.861E-01	2.793E-02	-0.232
MN-54	2.448E-02		4.604E-02	8.009E-02	6.341E-03	0.306
CO-56	1.087E-02		4.552E-02	7.765E-02	6.317E-03	0.140
CO-57	-1.899E-02		2.859E-02	4.566E-02	2.692E-03	-0.416
CO-58	-9.311E-03		3.874E-02	6.326E-02	4.753E-03	-0.147
FE-59	-3.842E-02		1.023E-01	1.614E-01	1.243E-02	-0.238
CO-60	2.089E-03		4.716E-02	7.707E-02	5.658E-03	0.027
ZN-65	6.515E-02		1.237E-01	1.869E-01	1.234E-02	0.349
GE-68	-6.342E-01		1.287E+00	1.993E+00	1.426E-01	-0.318
AS-73	1.172E+00		1.181E+00	2.056E+00	1.815E-01	0.570
AS-74	2.723E-02		9.620E-02	1.604E-01	8.848E-03	0.170
SE-75	1.301E-03		5.634E-02	7.863E-02	4.577E-03	0.017
BR-77	-3.555E+00		9.580E+00	1.371E+01	7.938E-01	-0.259
SR-82	-1.537E-01		4.241E-01	6.899E-01	4.759E-02	-0.223
RB-83	-3.745E-02		8.881E-02	1.264E-01	7.319E-03	-0.296
RB-84	-1.627E-03		7.914E-02	1.317E-01	1.157E-02	-0.012
KR-85	7.296E+00		7.532E+00	1.322E+01	7.673E-01	0.552
SR-85	3.694E-02		3.813E-02	6.694E-02	3.885E-03	0.552
RB-86	-3.570E-01		7.641E-01	1.186E+00	8.498E-02	-0.301
Y-88	2.381E-03		3.603E-02	6.040E-02	3.556E-03	0.039
ZR-88	9.158E-03		3.354E-02	5.673E-02	3.275E-03	0.161
Y-91	4.127E+00		2.227E+01	3.706E+01	2.211E+00	0.111
NB-94	-4.604E-03		3.833E-02	6.115E-02	3.494E-03	-0.075
NB-95	4.513E-02		4.784E-02	8.315E-02	5.587E-03	0.543
NB-95M	4.518E-01		1.681E-01	2.696E-01	1.989E-02	1.676
ZR-95	-1.794E-02		7.851E-02	1.231E-01	9.448E-03	-0.146
NB-97	1.645E-02		1.757E-02	Half-Life too short		
ZR-97	1.717E+00		3.729E-01	Half-Life too short		
MO-99	3.604E+00		9.756E+00	1.624E+01	2.272E+00	0.222
TC-99M	-1.870E+08		7.488E+08	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-101	-2.876E-02		3.901E-02	5.993E-02	3.195E-03	-0.480
RH-102	1.586E-02		3.126E-02	5.348E-02	3.130E-03	0.297
RU-103	-2.252E-02		4.316E-02	6.774E-02	8.575E-03	-0.332
RH-106	-8.370E-02		3.500E-01	5.557E-01	6.409E-02	-0.151
RU-106	-8.370E-02		3.499E-01	5.557E-01	2.986E-02	-0.151
AG-108M	-3.973E-02		3.697E-02	5.625E-02	3.566E-03	-0.706
AG-110M	1.520E-02		4.075E-02	6.809E-02	3.784E-03	0.223
IN-111	-1.074E-01		9.477E-01	1.313E+00	7.431E-02	-0.082
IN-113M	1.621E-03		5.050E-02	8.412E-02	5.182E-03	0.019
SN-113	1.621E-03		5.050E-02	8.412E-02	5.182E-03	0.019
IN-114M	-1.270E-01		2.340E-01	3.194E-01	1.683E-02	-0.398
CD-115	-7.599E+00		7.989E+00	1.197E+01	6.906E-01	-0.635
SN-117M	-1.516E-02		5.975E-02	9.543E-02	4.959E-03	-0.159
SB-122	-1.163E+00		1.678E+00	2.574E+00	1.456E-01	-0.452
I-123	9.597E-02		7.155E-01	Half-Life too short		
TE-123M	2.164E-03		3.227E-02	5.226E-02	2.758E-03	0.041
I-124	-3.474E-01		7.015E-01	9.250E-01	5.069E-02	-0.376
SB-124	-4.434E-03		7.497E-02	1.230E-01	8.576E-03	-0.036
SB-125	7.792E-02		1.041E-01	1.808E-01	1.100E-02	0.431
TE-125M	-6.530E+00		9.945E+00	1.593E+01	1.420E+00	-0.410
I-126	-1.688E-01		1.964E-01	2.925E-01	1.513E-02	-0.577
SB-126	-9.216E-02		1.758E-01	2.396E-01	1.435E-02	-0.385
SB-127	1.583E-01		1.285E+00	2.099E+00	1.846E-01	0.075
XE-127	1.050E-02		5.350E-02	8.428E-02	4.524E-03	0.125
I-131	-6.320E-02		1.145E-01	1.839E-01	1.200E-02	-0.344
TE-132	-1.774E-01		6.031E-01	9.542E-01	1.339E-01	-0.186
BA-133	2.261E-02		5.180E-02	7.807E-02	9.058E-03	0.290
I-133	-2.818E-03		1.200E-03	Half-Life too short		
CS-134	6.491E-02		5.465E-02	9.969E-02	7.280E-03	0.651
CS-135	2.501E-01		2.127E-01	3.208E-01	2.451E-02	0.780
I-135	-1.676E+07		1.493E+08	Half-Life too short		
CS-136	-7.895E-02		1.050E-01	1.573E-01	1.253E-02	-0.502
BA-137M	1.640E-02		4.300E-02	7.180E-02	3.668E-03	0.228
CS-137	1.734E-02		4.546E-02	7.590E-02	3.899E-03	0.228
CE-139	-8.042E-03		3.164E-02	5.088E-02	2.594E-03	-0.158
BA-140	-2.498E-02		2.620E-01	4.252E-01	1.382E-01	-0.059
LA-140	-3.443E-02		8.234E-02	1.271E-01	8.718E-03	-0.271
CE-141	2.638E-02		6.682E-02	1.111E-01	6.265E-03	0.237
CE-143	4.602E-04		7.173E-05	Half-Life too short		
CE-144	3.260E-02		2.372E-01	3.626E-01	5.120E-02	0.090
PM-144	-4.723E-03		3.825E-02	6.102E-02	3.432E-03	-0.077
PR-144	-3.198E-01		2.590E+00	4.132E+00	2.323E-01	-0.077
PM-146	-2.616E-03		4.773E-02	7.848E-02	6.797E-03	-0.033
ND-147	-2.531E-01		5.353E-01	8.374E-01	1.131E-01	-0.302
PM-149	1.183E+01		6.847E+01	1.164E+02	1.651E+01	0.102
EU-152	4.622E-02		1.392E-01	1.674E-01	1.110E-02	0.276
GD-153	1.660E-02		1.005E-01	1.475E-01	1.205E-02	0.113
EU-154	5.393E-02		1.527E-01	2.580E-01	2.562E-02	0.209

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	1.035E-01		1.161E-01	1.985E-01	1.464E-02	0.522
TB-160	1.037E-01		1.575E-01	2.782E-01	2.433E-02	0.373
HO-166M	6.983E-03		7.199E-02	1.171E-01	6.852E-03	0.060
TM-171	-2.377E+01		3.483E+01	5.670E+01	4.931E+00	-0.419
LU-176	-1.004E-02		3.058E-02	4.571E-02	2.693E-03	-0.220
LU-177	2.512E+00	+	1.190E+00	1.899E+00	1.027E-01	1.323
LU-177M	-5.302E-02		1.955E-01	3.183E-01	1.852E-02	-0.167
HF-181	-5.240E-03		4.664E-02	7.611E-02	4.451E-03	-0.069
W-181	1.421E-02		4.470E-01	7.487E-01	6.504E-02	0.019
TA-182	5.257E-02		2.253E-01	3.765E-01	2.311E-02	0.140
RE-183	-1.798E-02		1.212E-01	1.941E-01	9.983E-03	-0.093
RE-184	-5.192E-02		2.544E-01	4.024E-01	2.295E-02	-0.129
OS-185	-5.078E-02		5.198E-02	7.687E-02	4.012E-03	-0.661
RE-188	3.650E-02		1.876E-01	3.087E-01	1.620E-02	0.118
W-188	-7.141E+00		8.662E+00	1.184E+01	6.932E-01	-0.603
IR-192	9.914E-03		3.557E-02	6.066E-02	3.598E-03	0.163
AU-195	8.823E-02		2.544E-01	4.266E-01	3.404E-02	0.207
TL-200	2.408E-04		1.155E-04	Half-Life too short		
TL-201	-2.963E+00		5.761E+00	9.145E+00	4.667E-01	-0.324
TL-202	3.317E-02		7.383E-02	1.258E-01	7.359E-03	0.264
HG-203	1.735E-02		5.155E-02	7.754E-02	4.790E-03	0.224
BI-207	-3.821E-03		6.054E-02	9.914E-02	7.283E-03	-0.039
TL-207	-1.402E+00		7.568E-01	1.067E+00	1.766E-01	-1.314
PO-209	7.958E+00		8.138E+00	1.477E+01	1.341E+00	0.539
BI-210	3.438E-01		5.837E+00	9.745E+00	7.587E-01	0.035
PB-210	3.438E-01		5.837E+00	9.745E+00	7.587E-01	0.035
PO-210	3.438E-01		5.837E+00	9.745E+00	6.538E-01	0.035
PB-211	3.096E-01		1.102E+00	1.833E+00	1.143E+00	0.169
BI-212	6.087E-01	+	6.280E-01	7.045E-01	5.592E-02	0.864
PO-215	-1.402E+00		7.568E-01	1.067E+00	1.766E-01	-1.314
RN-219	2.857E-02		4.699E-01	7.832E-01	1.065E-01	0.036
RN-220	2.072E+01		2.892E+01	5.002E+01	2.854E+00	0.414
RA-223	-1.402E+00		7.568E-01	1.067E+00	1.766E-01	-1.314
AC-227	1.964E-01		4.209E-01	6.907E-01	9.620E-02	0.284
TH-227	1.964E-01		4.213E-01	6.907E-01	1.165E-01	0.284
TH-229	2.238E-01		5.837E-01	9.613E-01	5.092E-02	0.233
PA-231	6.984E-02		1.700E+00	2.871E+00	3.960E-01	0.024
TH-231	-1.402E+00		7.568E-01	1.067E+00	1.766E-01	-1.314
U-231	-3.312E-01		1.165E+00	1.669E+00	1.400E-01	-0.198
PA-233	3.335E-02		6.925E-02	1.193E-01	7.462E-03	0.279
PA-234	-3.888E-01		3.320E-01	4.649E-01	8.739E-02	-0.836
PA-234M	-2.981E+00		5.419E+00	8.244E+00	7.866E-01	-0.362
TH-234	3.952E-01		1.671E+00	2.793E+00	5.032E-01	0.142
U-235	-1.612E-02		2.376E-01	3.785E-01	6.121E-02	-0.043
NP-236	-2.332E-03		9.126E-02	1.472E-01	7.611E-03	-0.016
U-238	3.952E-01		1.671E+00	2.793E+00	5.032E-01	0.142
NP-239	1.043E-02		2.150E-01	3.547E-01	2.214E-02	0.029
AM-241	-1.100E-01		2.036E-01	3.337E-01	3.105E-02	-0.330

Sample ID : G243385007 Acquisition date : 31-DEC-2009 09:54:41

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-2.593E-02		1.070E-01	1.750E-01	1.297E-02	-0.148
AM-246	-8.136E-02		1.524E-01	2.352E-01	1.679E-02	-0.346
CM-247	1.823E-03		4.210E-02	7.009E-02	4.063E-03	0.026
CF-249	2.064E-02		4.432E-02	7.585E-02	4.389E-03	0.272
CF-251	-3.326E-02		1.456E-01	2.341E-01	1.210E-02	-0.142

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243385007           *
* Acquisition date  : 31-DEC-2009 09:54:41 Detector SN#     :               *
* Detector ID       : GAM23                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.59      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243385007           Analyst initials: MJH1           *
* Batch Number      : 936285               Sample Quantity : 1.1994E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME :  2-JUN-2009 11:17:00 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.604E+01	2.687E+00	3.084E-01	1.371E+00
CD-109	2.470E+00	1.079E+00	8.231E-01	5.504E-01
SN-126	2.433E-01	1.062E-01	8.154E-02	5.419E-02
TL-208	5.535E-01	1.014E-01	3.142E-02	5.171E-02
BI-211	3.360E+00	5.006E-01	1.713E-01	2.554E-01
PB-212	1.485E+00	1.515E-01	4.831E-02	7.732E-02
PO-212	1.485E+00	1.515E-01	4.831E-02	7.732E-02
BI-214	9.863E-01	1.661E-01	6.109E-02	8.476E-02
PB-214	1.169E+00	1.841E-01	6.335E-02	9.394E-02
PO-214	1.169E+00	1.841E-01	6.335E-02	9.394E-02
PO-216	1.485E+00	1.515E-01	4.831E-02	7.732E-02
PO-218	1.169E+00	1.841E-01	6.335E-02	9.394E-02
RA-224	4.489E+00	1.396E+00	5.498E-01	7.124E-01
RA-226	9.863E-01	1.661E-01	6.109E-02	8.476E-02
AC-228	1.381E+00	3.493E-01	1.269E-01	1.782E-01
RA-228	1.381E+00	3.493E-01	1.269E-01	1.782E-01
TH-228	1.505E+00	1.537E-01	4.899E-02	7.840E-02
TH-230	9.863E-01	1.661E-01	6.109E-02	8.476E-02
TH-232	1.381E+00	3.493E-01	1.269E-01	1.782E-01
U-234	9.863E-01	1.661E-01	6.109E-02	8.476E-02
NP-237	7.143E-01	3.437E-01	2.443E-01	1.754E-01
AM-243	3.680E-01	9.226E-02	5.468E-02	4.707E-02
ANH-511	1.234E-01	8.494E-02	2.479E-02	4.333E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	6.211E-02	3.550E-01	2.943E-01	1.811E-01	NOT IDENT.
NA-22	1.929E-02	5.354E-02	4.615E-02	2.732E-02	NOT IDENT.
NA-24	6.070E+04	2.373E+05	0.000E+00	1.211E+05	SHORT HLIF
AL-26	2.838E-02	3.295E-02	3.221E-02	1.681E-02	NOT IDENT.

TI-44	3.703E-01	6.480E-02	4.668E-02	3.306E-02	FAIL ABUN
SC-46	-4.856E-03	4.518E-02	3.818E-02	2.305E-02	FAIL ABUN
V-48	1.342E-02	6.724E-02	5.824E-02	3.431E-02	NOT IDENT.
CR-51	-1.111E-02	3.618E-01	3.140E-01	1.846E-01	NOT IDENT.
MN-52	-8.963E-02	2.474E-01	1.927E-01	1.262E-01	NOT IDENT.
MN-54	2.448E-02	4.512E-02	4.024E-02	2.302E-02	NOT IDENT.
CO-56	1.087E-02	4.461E-02	3.900E-02	2.276E-02	NOT IDENT.
CO-57	-1.899E-02	2.802E-02	2.346E-02	1.430E-02	NOT IDENT.
CO-58	-9.311E-03	3.796E-02	3.180E-02	1.937E-02	NOT IDENT.
FE-59	-3.842E-02	1.002E-01	8.083E-02	5.114E-02	NOT IDENT.
CO-60	2.089E-03	4.622E-02	3.851E-02	2.358E-02	NOT IDENT.
ZN-65	6.515E-02	1.212E-01	9.358E-02	6.184E-02	NOT IDENT.
GE-68	-6.342E-01	1.261E+00	9.981E-01	6.433E-01	NOT IDENT.
AS-73	1.172E+00	1.157E+00	1.066E+00	5.905E-01	NOT IDENT.
AS-74	2.723E-02	9.428E-02	8.092E-02	4.810E-02	NOT IDENT.
SE-75	1.301E-03	5.521E-02	4.004E-02	2.817E-02	NOT IDENT.
BR-77	-3.555E+00	9.389E+00	6.929E+00	4.790E+00	FAIL ABUN
SR-82	-1.537E-01	4.156E-01	3.469E-01	2.121E-01	NOT IDENT.
RB-83	-3.745E-02	8.704E-02	6.388E-02	4.441E-02	NOT IDENT.
RB-84	-1.627E-03	7.756E-02	6.611E-02	3.957E-02	NOT IDENT.
KR-85	7.296E+00	7.381E+00	6.682E+00	3.766E+00	NOT IDENT.
SR-85	3.694E-02	3.737E-02	3.383E-02	1.907E-02	NOT IDENT.
RB-86	-3.570E-01	7.488E-01	5.939E-01	3.820E-01	NOT IDENT.
Y-88	2.381E-03	3.531E-02	3.006E-02	1.802E-02	NOT IDENT.
ZR-88	9.158E-03	3.287E-02	2.876E-02	1.677E-02	NOT IDENT.
Y-91	4.127E+00	2.182E+01	1.854E+01	1.113E+01	NOT IDENT.
NB-94	-4.604E-03	3.756E-02	3.079E-02	1.916E-02	NOT IDENT.
NB-95	4.513E-02	4.688E-02	4.182E-02	2.392E-02	NOT IDENT.
NB-95M	4.518E-01	1.647E-01	1.375E-01	8.405E-02	NOT IDENT.
ZR-95	-1.794E-02	7.694E-02	6.194E-02	3.926E-02	NOT IDENT.
NB-97	1.645E+04	3.443E+04	0.000E+00	1.757E+04	SHORT HLIF
ZR-97	1.717E+06	7.308E+05	0.000E+00	3.729E+05	SHORT HLIF
MO-99	3.604E+00	9.561E+00	8.170E+00	4.878E+00	NOT IDENT.
TC-99M	-1.870E+14	1.468E+15	0.000E+00	7.488E+14	SHORT HLIF
RH-101	-2.876E-02	3.823E-02	3.062E-02	1.950E-02	NOT IDENT.
RH-102	1.586E-02	3.064E-02	2.705E-02	1.563E-02	NOT IDENT.
RU-103	-2.252E-02	4.230E-02	3.424E-02	2.158E-02	NOT IDENT.
RH-106	-8.370E-02	3.430E-01	2.802E-01	1.750E-01	FAIL ABUN
RU-106	-8.370E-02	3.429E-01	2.802E-01	1.749E-01	FAIL ABUN
AG-108M	-3.973E-02	3.623E-02	2.848E-02	1.849E-02	NOT IDENT.
AG-110M	1.520E-02	3.993E-02	3.431E-02	2.037E-02	NOT IDENT.
IN-111	-1.074E-01	9.288E-01	6.691E-01	4.739E-01	NOT IDENT.
IN-113M	1.621E-03	4.949E-02	4.264E-02	2.525E-02	NOT IDENT.
SN-113	1.621E-03	4.949E-02	4.264E-02	2.525E-02	NOT IDENT.
IN-114M	-1.270E-01	2.293E-01	1.633E-01	1.170E-01	NOT IDENT.
CD-115	-7.599E+00	7.829E+00	6.045E+00	3.995E+00	NOT IDENT.
SN-117M	-1.516E-02	5.856E-02	4.888E-02	2.988E-02	NOT IDENT.
SB-122	-1.163E+00	1.644E+00	1.299E+00	8.389E-01	NOT IDENT.
I-123	9.597E+04	1.402E+06	0.000E+00	7.155E+05	SHORT HLIF
TE-123M	2.164E-03	3.163E-02	2.677E-02	1.614E-02	NOT IDENT.
I-124	-3.474E-01	6.874E-01	4.665E-01	3.507E-01	FAIL ABUN
SB-124	-4.434E-03	7.347E-02	6.128E-02	3.748E-02	FAIL ABUN
SB-125	7.792E-02	1.020E-01	9.156E-02	5.205E-02	FAIL ABUN
TE-125M	-6.530E+00	9.746E+00	8.193E+00	4.973E+00	NOT IDENT.
I-126	-1.688E-01	1.925E-01	1.473E-01	9.821E-02	NOT IDENT.
SB-126	-9.216E-02	1.723E-01	1.206E-01	8.790E-02	FAIL ABUN
SB-127	1.583E-01	1.260E+00	1.057E+00	6.427E-01	NOT IDENT.
XE-127	1.050E-02	5.243E-02	4.305E-02	2.675E-02	NOT IDENT.
I-131	-6.320E-02	1.122E-01	9.333E-02	5.723E-02	NOT IDENT.
TE-132	-1.774E-01	5.911E-01	4.867E-01	3.016E-01	NOT IDENT.
BA-133	2.261E-02	5.076E-02	3.962E-02	2.590E-02	FAIL ABUN
I-133	-2.818E+03	2.352E+03	0.000E+00	1.200E+03	SHORT HLIF
CS-134	6.491E-02	5.355E-02	5.012E-02	2.732E-02	NOT IDENT.
CS-135	2.501E-01	2.084E-01	1.633E-01	1.063E-01	NOT IDENT.
I-135	-1.676E+13	2.927E+14	0.000E+00	1.493E+14	SHORT HLIF
CS-136	-7.895E-02	1.029E-01	7.882E-02	5.252E-02	FAIL ABUN
BA-137M	1.640E-02	4.214E-02	3.617E-02	2.150E-02	NOT IDENT.
CS-137	1.734E-02	4.455E-02	3.824E-02	2.273E-02	NOT IDENT.
CE-139	-8.042E-03	3.101E-02	2.605E-02	1.582E-02	NOT IDENT.
BA-140	-2.498E-02	2.568E-01	2.147E-01	1.310E-01	NOT IDENT.
LA-140	-3.443E-02	8.070E-02	6.335E-02	4.117E-02	NOT IDENT.
CE-141	2.638E-02	6.548E-02	5.696E-02	3.341E-02	NOT IDENT.
CE-143	4.602E+02	1.406E+02	0.000E+00	7.173E+01	SHORT HLIF
CE-144	3.260E-02	2.324E-01	1.861E-01	1.186E-01	NOT IDENT.
PM-144	-4.723E-03	3.749E-02	3.072E-02	1.913E-02	NOT IDENT.
PR-144	-3.198E-01	2.539E+00	2.081E+00	1.295E+00	NOT IDENT.
PM-146	-2.616E-03	4.678E-02	3.972E-02	2.387E-02	NOT IDENT.
ND-147	-2.531E-01	5.246E-01	4.230E-01	2.677E-01	FAIL ABUN

PM-149	1.183E+01	6.710E+01	5.920E+01	3.423E+01	NOT IDENT.
EU-152	4.622E-02	1.365E-01	8.499E-02	6.962E-02	NOT IDENT.
GD-153	1.660E-02	9.848E-02	7.596E-02	5.025E-02	NOT IDENT.
EU-154	5.393E-02	1.497E-01	1.290E-01	7.637E-02	NOT IDENT.
EU-155	1.035E-01	1.138E-01	1.022E-01	5.807E-02	FAIL ABUN
TB-160	1.037E-01	1.544E-01	1.397E-01	7.876E-02	FAIL ABUN
HO-166M	6.983E-03	7.055E-02	5.893E-02	3.600E-02	FAIL ABUN
TM-171	-2.377E+01	3.413E+01	2.933E+01	1.741E+01	NOT IDENT.
LU-176	-1.004E-02	2.997E-02	2.324E-02	1.529E-02	FAIL ABUN
LU-177	2.512E+00	1.167E+00	9.697E-01	5.952E-01	FAIL ABUN
LU-177M	-5.302E-02	1.916E-01	1.613E-01	9.777E-02	FAIL ABUN
HF-181	-5.240E-03	4.570E-02	3.849E-02	2.332E-02	NOT IDENT.
W-181	1.421E-02	4.381E-01	3.874E-01	2.235E-01	NOT IDENT.
TA-182	5.257E-02	2.208E-01	1.883E-01	1.126E-01	FAIL ABUN
RE-183	-1.798E-02	1.188E-01	9.939E-02	6.059E-02	FAIL ABUN
RE-184	-5.192E-02	2.493E-01	2.050E-01	1.272E-01	NOT IDENT.
OS-185	-5.078E-02	5.094E-02	3.874E-02	2.599E-02	NOT IDENT.
RE-188	3.650E-02	1.838E-01	1.582E-01	9.379E-02	NOT IDENT.
W-188	-7.141E+00	8.489E+00	6.022E+00	4.331E+00	NOT IDENT.
IR-192	9.914E-03	3.486E-02	3.082E-02	1.779E-02	FAIL ABUN
AU-195	8.823E-02	2.493E-01	2.197E-01	1.272E-01	FAIL ABUN
TL-200	2.408E+02	2.264E+02	0.000E+00	1.155E+02	SHORT HLIF
TL-201	-2.963E+00	5.646E+00	4.681E+00	2.881E+00	NOT IDENT.
TL-202	3.317E-02	7.235E-02	6.367E-02	3.691E-02	NOT IDENT.
HG-203	1.735E-02	5.052E-02	3.946E-02	2.577E-02	NOT IDENT.
BI-207	-3.821E-03	5.933E-02	4.966E-02	3.027E-02	FAIL ABUN
TL-207	-1.402E+00	7.417E-01	5.419E-01	3.784E-01	FAIL ABUN
PO-209	7.958E+00	7.976E+00	7.417E+00	4.069E+00	NOT IDENT.
BI-210	3.438E-01	5.720E+00	5.061E+00	2.918E+00	NOT IDENT.
PB-210	3.438E-01	5.720E+00	5.061E+00	2.918E+00	NOT IDENT.
PO-210	3.438E-01	5.720E+00	5.061E+00	2.918E+00	NOT IDENT.
PB-211	3.096E-01	1.080E+00	9.290E-01	5.512E-01	NOT IDENT.
BI-212	6.087E-01	6.154E-01	3.545E-01	3.140E-01	FAIL ABUN
PO-215	-1.402E+00	7.417E-01	5.419E-01	3.784E-01	FAIL ABUN
RN-219	2.857E-02	4.605E-01	3.969E-01	2.350E-01	FAIL ABUN
RN-220	2.072E+01	2.834E+01	2.525E+01	1.446E+01	NOT IDENT.
RA-223	-1.402E+00	7.417E-01	5.419E-01	3.784E-01	FAIL ABUN
AC-227	1.964E-01	4.125E-01	3.519E-01	2.104E-01	FAIL ABUN
TH-227	1.964E-01	4.129E-01	3.519E-01	2.106E-01	FAIL ABUN
TH-229	2.238E-01	5.720E-01	4.913E-01	2.918E-01	FAIL ABUN
PA-231	6.984E-02	1.666E+00	1.461E+00	8.500E-01	FAIL ABUN
TH-231	-1.402E+00	7.417E-01	5.419E-01	3.784E-01	FAIL ABUN
U-231	-3.312E-01	1.141E+00	8.600E-01	5.823E-01	FAIL ABUN
PA-233	3.335E-02	6.786E-02	6.066E-02	3.462E-02	FAIL ABUN
PA-234	-3.888E-01	3.254E-01	2.332E-01	1.660E-01	FAIL ABUN
PA-234M	-2.981E+00	5.311E+00	4.133E+00	2.710E+00	NOT IDENT.
TH-234	3.952E-01	1.638E+00	1.446E+00	8.356E-01	FAIL ABUN
U-235	-1.612E-02	2.328E-01	1.941E-01	1.188E-01	FAIL ABUN
NP-236	-2.332E-03	8.944E-02	7.537E-02	4.563E-02	NOT IDENT.
U-238	3.952E-01	1.638E+00	1.446E+00	8.356E-01	FAIL ABUN
NP-239	1.043E-02	2.107E-01	1.823E-01	1.075E-01	FAIL ABUN
AM-241	-1.100E-01	1.995E-01	1.729E-01	1.018E-01	NOT IDENT.
CM-243	-2.593E-02	1.049E-01	9.009E-02	5.350E-02	FAIL ABUN
AM-246	-8.136E-02	1.494E-01	1.178E-01	7.620E-02	NOT IDENT.
CM-247	1.823E-03	4.126E-02	3.552E-02	2.105E-02	FAIL ABUN
CF-249	2.064E-02	4.344E-02	3.846E-02	2.216E-02	NOT IDENT.
CF-251	-3.326E-02	1.427E-01	1.198E-01	7.282E-02	NOT IDENT.

GEL Laboratories LLC
2040 SAVAGE ROAD
CHARLESTON ,SC 29417
GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS
46.50	245.7327
46.50	245.7327
46.50	245.7327
48.70	283.8962
49.72	272.5960
51.35	258.7899
52.39	255.6000
52.97	240.3177
53.15	234.9067
53.44	235.9359
54.07	245.3399
56.28	282.0688
56.28	282.0699
57.37	0.0000
57.53	298.2939
57.53	298.2945
57.60	289.1196
57.98	282.8470
57.98	282.8470
59.32	307.4569
59.32	307.4569
59.40	307.4957
59.54	319.5706
59.72	320.5856
60.01	323.5047
61.10	300.9093
61.14	304.6316
61.30	304.7076
63.00	322.2203
63.29	326.0783
63.29	326.0783
63.58	327.1520
64.28	328.4288
65.12	346.5434
65.20	346.5845
65.20	346.5845
66.05	381.5403
66.72	379.1150
66.83	379.1785
66.91	396.0362
67.20	377.5156
67.20	377.5156
67.75	349.7633
67.85	349.8146
68.90	364.2137
68.90	364.2137
69.30	361.4250
69.67	360.1187
70.82	330.6499
70.82	330.6499
70.83	330.6553
72.80	379.8057
72.87	379.8427
72.87	379.8427
74.67	375.8821
74.81	375.9550
74.81	375.9550
74.81	375.9550
74.81	375.9550
74.81	375.9550
74.81	375.9550
74.81	375.9550
74.97	376.0370
75.28	376.1979
75.70	376.4135
77.11	377.1362
77.11	377.1362

77.11	377.1362
77.11	377.1362
77.11	377.1362
77.11	377.1362
77.11	377.1362
78.38	372.0863
79.62	389.4344
79.80	389.5266
79.80	389.5266
80.11	418.6096
80.18	418.6482
80.30	418.7137
80.30	418.7137
80.57	453.8952
81.00	462.9147
81.07	462.9573
81.07	462.9573
81.07	462.9573
81.07	462.9573
82.60	369.0697
83.37	400.5191
83.78	396.1432
83.78	396.1432
83.78	396.1432
83.78	396.1432
84.21	390.2415
84.90	402.8391
85.43	400.0450
86.29	449.5826
86.50	449.7024
86.54	449.7239
86.59	449.7525
86.72	445.2219
86.79	445.2590
86.94	445.3440
87.30	445.5458
87.30	445.5458
87.30	445.5458
87.30	445.5458
87.30	445.5458
87.30	445.5458
87.30	445.5458
87.57	445.6962
87.88	445.8697
88.03	445.9529
88.36	446.1352
88.47	446.1971
89.95	289.0182
91.11	289.4302
92.29	289.8457
92.38	347.8532
92.38	347.8532
93.35	294.0872
94.00	328.3956
94.67	334.8574
94.67	334.8593
94.90	334.9516
94.90	334.9516
94.90	334.9516
94.90	334.9516
95.87	358.6252
95.87	358.6252
96.73	327.9090
97.43	306.4033
98.44	303.6497
98.44	303.6508
98.88	301.8581
99.55	289.4250
99.55	289.4250
99.86	286.6036
100.00	286.6496
100.10	286.6843
103.18	318.0287
103.76	292.7780
105.00	269.6530
105.31	253.0712
108.00	297.1154
109.28	295.5620

111.00	306.9734
111.00	306.9734
111.76	290.4313
112.95	268.0527
115.19	281.5819
116.30	278.9333
117.00	289.0718
117.00	289.0718
117.66	294.2419
121.11	292.3003
121.62	284.4684
121.78	300.4868
122.06	300.5729
122.32	274.6821
122.32	274.6821
122.32	274.6821
122.32	274.6821
123.07	263.8963
127.23	240.9096
129.76	283.3746
131.20	256.3642
133.02	250.3557
133.54	261.2559
135.34	282.2802
136.00	278.4073
136.25	279.4871
136.48	289.6767
140.51	283.6617
140.51	0.0000
142.18	288.1754
142.65	278.1133
143.76	279.4185
144.24	261.1777
144.24	261.1777
144.24	261.1777
144.24	261.1777
145.22	261.4121
145.44	267.5929
147.16	278.2422
152.43	273.3932
152.70	269.3460
153.22	271.5269
154.21	257.3509
154.21	257.3509
154.21	257.3509
154.21	257.3509
155.03	268.8695
156.02	262.9162
158.56	276.9312
159.00	0.0000
159.00	261.5297
160.31	264.9297
161.27	261.0055
162.32	251.9082
162.64	246.7921
163.35	243.8283
163.89	246.0164
165.85	245.3844
167.43	255.0787
171.28	257.9826
171.86	258.1070
172.10	258.1579
176.55	269.5841
176.60	269.5939
181.06	252.6617
184.41	236.4414
185.71	249.3618
186.00	265.4837
190.27	269.7565
192.34	258.0763
193.63	245.5732
197.04	265.3927
198.01	263.4532
198.60	258.2328
200.40	246.8280
201.83	242.8103
202.84	237.3340
205.31	257.3749

208.36	214.9567
208.81	222.5528
209.75	201.4008
209.75	201.4008
210.97	206.7466
215.65	217.1632
216.55	201.0847
218.09	205.6323
222.10	183.4190
223.80	207.5408
226.40	206.8239
227.00	204.7314
227.08	218.9007
227.20	218.9191
228.16	213.6124
228.18	213.6154
228.18	213.6154
231.56	0.0000
235.69	201.5574
236.00	199.8465
236.00	199.8465
238.63	181.0994
238.63	181.0994
238.63	181.0994
238.63	181.0994
239.00	181.1435
240.98	181.3814
241.98	181.5010
241.98	181.5010
241.98	181.5010
244.69	167.4978
245.39	164.0465
247.94	166.3791
248.90	151.3813
249.79	161.4185
252.40	184.9458
252.85	167.2749
252.85	167.2749
254.15	0.0000
256.20	155.4193
256.20	155.4193
260.50	161.4059
260.90	172.5822
262.80	148.2612
264.65	162.4937
268.24	170.0120
268.79	157.5385
269.46	168.3486
269.46	168.3486
269.46	168.3486
269.46	168.3486
271.23	161.3606
273.65	166.0867
276.40	172.3573
277.35	159.7088
277.60	167.3818
277.60	167.3818
278.00	172.5234
278.60	181.5886
279.20	175.6500
279.53	178.6864
280.46	181.7905
281.68	160.8744
283.67	163.4723
284.30	165.3411
285.00	149.1385
285.90	153.7408
286.10	159.1842
286.10	159.1842
287.40	154.7809
288.45	0.0000
290.67	158.7048
290.80	158.7155
291.72	161.8257
293.26	0.0000
293.70	137.7867
295.21	104.5655
295.21	104.5655

295.21	104.5655
295.96	104.6118
296.50	104.6441
297.23	104.6876
298.57	104.7676
299.80	136.7505
299.80	136.7505
300.09	136.7725
300.09	136.7725
300.09	136.7725
300.09	136.7725
300.12	136.7743
301.29	149.0317
302.84	133.9426
303.76	140.1038
303.91	140.1151
304.40	134.0607
304.40	134.0607
304.84	143.2356
306.84	156.9099
308.46	139.2529
311.98	127.5926
316.51	119.6295
318.01	122.4925
319.02	117.9516
319.41	115.2115
320.08	119.8644
323.87	172.7764
323.87	172.7764
323.87	172.7764
323.87	172.7764
325.23	136.8422
328.77	100.9753
333.44	162.5201
334.20	134.7144
334.20	134.7144
334.30	134.7215
338.28	140.5911
338.28	140.5911
338.28	140.5911
338.28	140.5911
338.32	140.5929
338.32	140.5929
338.32	140.5929
340.50	118.0728
340.57	118.0759
344.27	99.6250
345.85	115.9079
350.59	0.0000
351.07	106.8486
351.92	120.3344
351.92	120.3344
351.92	120.3344
355.39	0.0000
356.01	104.9247
364.48	122.6732
366.43	100.1242
367.43	92.6131
367.94	0.0000
369.80	113.5371
374.96	84.4207
383.85	115.2720
387.95	105.9541
388.63	111.7170
391.69	117.6172
391.69	117.6172
392.90	105.2466
398.62	119.9219
400.65	110.4334
401.10	108.5363
401.81	115.2979
402.60	115.3403
404.84	117.3848
410.95	122.5414
411.60	117.7526
413.65	112.0663
414.70	110.1870
415.30	105.3835

415.76	106.3732
417.63	0.0000
418.52	118.1249
423.70	109.6674
427.08	107.8903
427.89	91.3998
432.53	95.4866
433.93	114.0693
439.47	93.8250
439.56	93.8285
439.89	95.7976
443.98	108.6992
444.90	100.9053
445.03	100.9116
445.03	100.9116
445.03	100.9116
445.03	100.9116
453.90	90.4805
463.38	72.0857
468.07	57.7167
473.00	88.2417
475.06	74.4241
475.35	72.4484
476.78	75.4703
477.59	78.4764
477.96	74.5139
482.03	87.5768
484.57	84.6794
487.03	79.7793
490.36	0.0000
492.35	93.9438
497.08	84.1107
507.63	0.0000
510.53	0.0000
510.84	73.4986
511.00	73.5030
511.85	73.5284
511.85	73.5284
513.99	73.5899
513.99	73.5899
520.41	92.3996
520.65	92.4085
527.90	82.0995
528.96	0.0000
529.64	81.1406
529.87	0.0000
531.02	70.0209
537.32	72.2238
543.00	76.4575
546.56	0.0000
549.76	64.3889
552.65	76.7358
555.20	78.8573
563.23	76.0108
563.90	83.2228
568.70	58.6671
569.32	57.6516
569.50	61.7739
569.67	61.7769
573.80	83.7831
574.00	73.4766
574.64	76.6253
578.91	80.9247
579.30	0.0000
583.14	67.2534
585.48	72.4883
591.81	69.6869
592.07	67.4692
593.00	73.7214
595.88	66.5203
600.56	74.1793
602.52	0.0000
602.71	81.6151
602.71	81.6151
603.60	72.9565
604.41	64.2893
604.70	64.2953
609.31	71.3613

609.31	71.3613
609.31	71.3613
609.31	71.3613
610.33	53.9750
612.46	57.5002
614.37	80.7043
618.01	60.7542
621.84	67.1266
621.84	67.1266
631.29	70.5021
633.02	76.8603
633.10	76.8621
634.78	66.3715
635.90	72.7195
636.97	83.2895
645.85	75.0787
646.12	87.7761
656.30	84.8906
657.75	66.8837
657.90	0.0000
661.65	72.2849
661.65	72.2849
664.57	0.0000
666.33	80.9133
666.33	80.9133
675.00	67.2620
677.61	67.3189
685.20	65.3412
692.80	70.8694
695.00	65.5467
696.49	65.5780
696.49	65.5780
697.00	68.8141
697.49	62.3727
698.33	61.3126
698.50	63.4682
699.00	64.5542
702.63	68.9359
706.10	62.5412
706.58	0.0000
706.67	65.7880
709.31	72.3194
711.68	66.9724
713.82	64.8545
717.42	67.0920
720.50	72.7261
721.93	0.0000
722.20	65.0237
722.78	61.4216
722.78	61.4216
722.89	61.4244
722.95	61.4258
723.30	63.2395
724.18	52.4126
727.18	87.9174
733.00	59.8031
735.90	66.8531
739.58	53.3856
742.81	61.0723
744.21	52.3699
747.13	64.4290
751.79	53.5830
752.31	52.4977
753.82	52.5223
755.35	58.0192
756.15	58.0335
756.87	62.4272
763.93	76.8257
765.79	54.9060
766.42	62.6040
766.84	65.9077
776.49	67.0132
778.00	67.0429
778.57	56.9494
778.89	56.9544
783.80	57.0364
785.46	67.1885
792.07	65.4733

795.84	53.5431
796.30	53.5502
798.80	73.9160
801.93	58.2614
805.60	46.2870
810.29	50.0570
810.76	45.4281
815.85	49.2077
817.79	52.9504
818.51	50.1735
819.60	39.0358
826.30	54.0080
828.27	0.0000
831.60	56.8859
831.96	54.0942
834.83	65.3387
836.80	0.0000
846.75	54.3160
848.13	49.6530
856.28	0.0000
856.80	67.6128
860.37	31.9594
867.32	47.0876
867.82	37.6750
871.10	47.1354
873.19	52.8213
874.81	60.3945
875.33	0.0000
876.40	50.9788
879.36	43.4610
880.27	51.0326
880.51	51.9810
881.50	51.9944
883.24	52.9637
884.67	56.7688
889.25	54.9438
896.60	36.0680
898.02	51.2732
899.00	55.0854
903.28	47.2696
911.07	53.8989
911.07	53.8989
911.07	53.8989
919.63	56.3376
920.93	47.7600
925.00	49.7223
925.24	44.9441
926.50	42.0897
935.52	40.2697
937.48	56.5969
944.10	44.2013
946.00	53.8364
949.00	32.7113
962.29	54.6091
964.01	43.0435
966.15	67.9134
968.20	36.4598
969.11	34.8105
969.11	34.8105
969.11	34.8105
977.42	40.6960
980.50	31.9996
983.50	34.9351
989.30	34.9849
996.32	59.3817
1001.03	51.6532
1001.68	53.6102
1004.76	42.9204
1021.30	0.0000
1024.50	0.0000
1034.80	49.1272
1036.00	53.0706
1037.82	44.2456
1038.57	44.2529
1038.76	0.0000
1045.16	41.3677
1046.59	40.3961
1048.07	43.3662

1050.47	41.4189
1050.47	41.4189
1062.04	41.5317
1063.62	46.4932
1076.63	38.6953
1077.35	40.6864
1078.86	43.6777
1085.78	46.7303
1099.22	48.8684
1112.02	46.6762
1112.84	54.8795
1115.52	49.7628
1120.29	52.1079
1120.29	52.1079
1120.29	52.1079
1120.29	52.1079
1120.51	52.1100
1121.28	54.9821
1124.00	0.0000
1129.67	52.5810
1131.51	0.0000
1147.95	0.0000
1167.94	47.5929
1173.22	80.0897
1175.09	61.8663
1177.93	45.6665
1189.05	51.8799
1204.90	54.0955
1205.75	0.0000
1213.00	59.3004
1221.42	51.2126
1230.97	60.5509
1235.34	59.5789
1236.41	0.0000
1238.25	52.4194
1246.25	58.6838
1260.41	0.0000
1271.85	46.5729
1274.45	42.4548
1274.54	42.4564
1291.56	35.3281
1298.22	0.0000
1312.09	34.4301
1325.50	35.5675
1325.50	35.5675
1332.49	31.4270
1333.61	30.3853
1360.21	17.9048
1362.66	0.0000
1365.15	27.6009
1368.21	23.5081
1368.53	0.0000
1376.25	22.1860
1384.27	19.0459
1394.10	19.0811
1395.20	23.3267
1407.95	23.3822
1434.06	27.7689
1436.60	23.5075
1457.56	0.0000
1460.81	20.3931
1489.15	12.9463
1509.49	20.5725
1596.49	17.9033
1620.62	12.2999
1678.03	0.0000
1691.02	10.5300
1691.02	10.5300
1706.46	0.0000
1750.46	0.0000
1764.49	6.7805
1764.49	6.7805
1764.49	6.7805
1764.49	6.7805
1770.23	8.4833
1771.40	27.1514
1791.20	0.0000
1808.65	6.8276

1836.01 9.7949

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243385007

Total Uranium Activity	1.1682E+00	ug/g
Total Uranium Counting Unc.	4.8738E+00	ug/g
Total Uranium Tpu	2.4867E-06	ug/g
Total Uranium Mda	4.3013E+00	ug/g

```
*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                             *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 936285                    SAMPLE ID   : G243385007      *
*   ANALYST       : MJH1                      DETECTOR    : GAM23           *
*   SAMPLE DATE   : 17-DEC-2009 12:00:00.00   COUNT TIME :    0 02:00:00.00 *
*   ANALYSIS DATE: 31-DEC-2009 09:54:41.63    SAMPLE ALQT:  119.940 GRAM    *
*                                                                           *
*****************************************************************************
```

```
GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 7.879E+00
GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.257E+00
GROSS GAMMA MDA     (pCi/GRAM  )  : 2.768E+00
GROSS GAMMA DLC     (pCi/GRAM  )  : 1.338E+00
```

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 12:19:24.51

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385008.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 10:18:51
Sample ID         : G243385008           Sample quantity  : 1.15510E+02 GRAM
Detector name     : GAM15                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.15  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit   : 75.00000             Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID   :                      LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	2	74.03*	228	383	1.58	148.55	143	18	3.17E-02	17.2	3.80E+00
2	2	76.48*	429	386	1.59	153.45	143	18	5.96E-02	10.3	
3	2	86.84*	89	355	1.24	174.16	168	23	1.23E-02	36.0	2.24E+00
4	2	92.26*	120	422	1.60	184.99	168	23	1.66E-02	36.5	
5	0	185.43*	153	293	1.44	371.25	365	11	2.13E-02	24.5	
6	0	208.89	59	316	1.38	418.15	411	11	8.20E-03	59.7	
7	0	238.28*	1002	460	1.37	476.91	469	16	1.39E-01	5.8	
8	0	269.92	108	194	1.33	540.16	534	12	1.49E-02	28.0	
9	0	294.78*	201	167	1.19	589.85	585	10	2.80E-02	14.4	
10	0	299.46*	77	117	1.46	599.21	595	8	1.06E-02	28.0	
11	0	338.05	209	183	1.44	676.37	669	15	2.91E-02	15.8	
12	0	351.44*	412	180	1.33	703.13	696	15	5.72E-02	8.8	
13	0	462.60*	60	91	1.57	925.37	920	11	8.34E-03	34.5	
14	0	510.45*	91	142	2.31	1021.04	1013	18	1.27E-02	36.2	
15	0	582.98*	324	112	1.73	1166.04	1157	19	4.49E-02	9.9	
16	0	609.02*	281	72	1.67	1218.11	1212	11	3.90E-02	8.7	
17	0	727.10*	67	68	1.17	1454.19	1447	13	9.25E-03	28.9	
18	0	860.42*	54	31	1.47	1720.76	1716	11	7.47E-03	25.4	
19	0	911.07*	198	81	1.90	1822.04	1812	18	2.75E-02	13.1	
20	0	969.11	130	49	1.61	1938.10	1932	15	1.80E-02	15.0	
21	0	1120.13*	99	56	0.88	2240.08	2231	20	1.37E-02	21.4	
22	0	1460.72*	1032	32	2.21	2921.17	2913	15	1.43E-01	3.4	
23	0	1588.02	21	8	2.51	3175.74	3166	14	2.92E-03	34.8	
24	0	1592.56	15	5	0.62	3184.83	3179	9	2.01E-03	37.2	
25	0	1730.22	14	13	3.15	3460.14	3453	13	1.94E-03	59.4	
26	0	1764.58*	36	10	3.12	3528.85	3523	13	5.03E-03	26.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 12:19:26

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385008.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MJH1
Sample date : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 10:18:51
Sample ID : G243385008 Sample quantity : 115.51 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.15 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.148E+01	3.200E+00	5.760E-01	4.403E-02	54.648
CD-109	+	88.03	*	1.789E+00	1.304E+00	1.675E+00	1.937E-01	1.068
SN-126		64.28		1.048E+00	9.306E-01	1.553E+00	2.662E-01	0.675
	+	86.94		7.323E-01	6.103E-01	6.989E-01	2.939E-01	1.048
	+	87.57	*	1.762E-01	1.283E-01	1.663E-01	1.919E-02	1.059
TL-208		277.35		5.489E-01	5.218E-01	8.743E-01	9.796E-02	0.628
	+	510.84		5.573E-01	4.075E-01	2.763E-01	2.781E-02	2.017
	+	583.14	*	5.602E-01	1.170E-01	6.597E-02	4.200E-03	8.492
	+	860.37		8.692E-01	4.483E-01	5.380E-01	4.624E-02	1.616
BI-211	+	72.87		1.863E+01	6.750E+00	7.463E+00	8.321E-01	2.497
	+	351.07	*	3.224E+00	6.119E-01	3.789E-01	2.604E-02	8.509
PB-212	+	74.81		2.212E+00	8.274E-01	8.043E-01	1.168E-01	2.750
	+	77.11		2.272E+00	5.336E-01	4.430E-01	4.919E-02	5.129
	+	87.30		8.147E-01	5.992E-01	7.726E-01	1.179E-01	1.055
	+	238.63	*	1.730E+00	2.479E-01	1.190E-01	9.846E-03	14.545
	+	300.09		2.037E+00	1.154E+00	1.526E+00	1.369E-01	1.334
PO-212	+	74.81		2.212E+00	8.274E-01	8.043E-01	1.168E-01	2.750
	+	77.11		2.272E+00	5.336E-01	4.430E-01	4.919E-02	5.129
	+	87.30		8.147E-01	5.992E-01	7.726E-01	1.179E-01	1.055
		115.19		3.392E+00	4.702E+00	7.893E+00	6.039E-01	0.430
	+	238.63	*	1.730E+00	2.479E-01	1.190E-01	9.846E-03	14.545
	+	300.09		2.037E+00	1.154E+00	1.526E+00	1.369E-01	1.334
BI-214	+	609.31	*	9.141E-01	1.721E-01	1.233E-01	9.158E-03	7.411
	+	1120.29		1.678E+00	7.350E-01	5.904E-01	5.447E-02	2.843
	+	1764.49		8.456E-01	4.561E-01	3.743E-01	2.329E-02	2.259
PB-214	+	74.81		3.811E+00	1.409E+00	1.386E+00	1.851E-01	2.750
	+	77.11		3.895E+00	9.617E-01	7.594E-01	1.023E-01	5.129
	+	87.30		1.396E+00	1.023E+00	1.324E+00	1.835E-01	1.055
		241.98		1.139E+00	5.436E-01	8.756E-01	7.827E-02	1.301
	+	295.21		9.392E-01	2.843E-01	2.662E-01	2.462E-02	3.528
	+	351.92	*	1.122E+00	2.207E-01	1.321E-01	1.138E-02	8.493
PO-214	+	74.81		3.811E+00	1.409E+00	1.386E+00	1.851E-01	2.750
	+	77.11		3.895E+00	9.617E-01	7.594E-01	1.023E-01	5.129
	+	87.30		1.396E+00	1.023E+00	1.324E+00	1.835E-01	1.055

Sample ID : G243385008 Acquisition date : 31-DEC-2009 10:18:51

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		241.98		1.139E+00	5.436E-01	8.756E-01	7.827E-02	1.301
	+	295.21		9.392E-01	2.843E-01	2.662E-01	2.462E-02	3.528
	+	351.92	*	1.122E+00	2.207E-01	1.321E-01	1.138E-02	8.493
PO-216	+	74.81		2.212E+00	8.274E-01	8.043E-01	1.168E-01	2.750
	+	77.11		2.272E+00	5.336E-01	4.430E-01	4.919E-02	5.129
	+	87.30		8.147E-01	5.992E-01	7.726E-01	1.179E-01	1.055
	+	238.63	*	1.730E+00	2.479E-01	1.190E-01	9.846E-03	14.545
	+	300.09		2.037E+00	1.154E+00	1.526E+00	1.369E-01	1.334
PO-218	+	74.81		3.811E+00	1.409E+00	1.386E+00	1.851E-01	2.750
	+	77.11		3.895E+00	9.617E-01	7.594E-01	1.023E-01	5.129
	+	87.30		1.396E+00	1.023E+00	1.324E+00	1.835E-01	1.055
		241.98		1.139E+00	5.436E-01	8.756E-01	7.827E-02	1.301
	+	295.21		9.392E-01	2.843E-01	2.662E-01	2.462E-02	3.528
	+	351.92	*	1.122E+00	2.207E-01	1.321E-01	1.138E-02	8.493
RA-226	+	609.31	*	9.141E-01	1.721E-01	1.233E-01	9.158E-03	7.411
	+	1120.29		1.678E+00	7.350E-01	5.904E-01	5.447E-02	2.843
	+	1764.49		8.456E-01	4.561E-01	3.743E-01	2.329E-02	2.259
AC-228	+	338.32		1.812E+00	9.361E-01	4.466E-01	1.825E-01	4.058
	+	911.07	*	1.517E+00	4.306E-01	2.229E-01	2.478E-02	6.803
	+	969.11		1.753E+00	6.631E-01	5.679E-01	1.313E-01	3.086
RA-228	+	338.32		1.812E+00	9.361E-01	4.466E-01	1.825E-01	4.058
	+	911.07	*	1.517E+00	4.306E-01	2.229E-01	2.478E-02	6.803
	+	969.11		1.753E+00	6.631E-01	5.679E-01	1.313E-01	3.086
TH-228	+	74.81		2.242E+00	8.127E-01	8.155E-01	9.108E-02	2.750
	+	77.11		2.304E+00	5.411E-01	4.492E-01	4.988E-02	5.129
	+	87.30		8.261E-01	6.019E-01	7.834E-01	9.025E-02	1.055
	+	238.63	*	1.754E+00	2.513E-01	1.206E-01	9.984E-03	14.545
	+	300.09		2.065E+00	1.680E+00	1.548E+00	9.138E-01	1.334
TH-230	+	609.31	*	9.141E-01	1.721E-01	1.233E-01	9.158E-03	7.411
	+	1120.29		1.678E+00	7.350E-01	5.904E-01	5.447E-02	2.843
	+	1764.49		8.456E-01	4.561E-01	3.743E-01	2.329E-02	2.259
TH-232	+	338.32		1.812E+00	5.845E-01	4.466E-01	2.875E-02	4.058
	+	911.07	*	1.517E+00	4.306E-01	2.229E-01	2.478E-02	6.803
	+	969.11		1.753E+00	6.631E-01	5.679E-01	1.313E-01	3.086
U-234	+	609.31	*	9.141E-01	1.721E-01	1.233E-01	9.158E-03	7.411
	+	1120.29		1.678E+00	7.350E-01	5.904E-01	5.447E-02	2.843
	+	1764.49		8.456E-01	4.561E-01	3.743E-01	2.329E-02	2.259
NP-237	+	86.50	*	5.173E-01	3.917E-01	4.976E-01	1.175E-01	1.040
		95.87		-1.302E+00	1.487E+00	1.982E+00	4.973E-01	-0.657
AM-243	+	74.67	*	3.585E-01	1.299E-01	1.310E-01	1.456E-02	2.736
	+	86.72		1.940E+01	1.413E+01	1.859E+01	2.134E+00	1.044
		117.66		-5.099E+00	5.163E+00	8.050E+00	6.013E-01	-0.633
		142.18		-4.055E+00	2.228E+01	3.584E+01	2.442E+00	-0.113
ANH-511	+	511.00	*	1.204E-01	8.744E-02	5.970E-02	3.371E-03	2.016

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-2.729E-01	4.272E-01	6.658E-01	4.437E-02	-0.410

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22		1274.54	*	-1.577E-02	5.382E-02	8.412E-02	5.773E-03	-0.187
NA-24		1368.53	*	-2.276E-01	5.382E-02	Half-Life too short		
AL-26		1129.67		4.831E-01	2.406E+00	3.598E+00	2.267E-01	0.134
		1808.65	*	1.310E-02	2.943E-02	5.356E-02	3.205E-03	0.245
TI-44		67.85		1.257E-02	8.234E-02	1.272E-01	1.452E-02	0.099
		78.38	*	1.571E-01	6.077E-02	9.496E-02	1.056E-02	1.654
SC-46		889.25	*	2.013E-02	4.772E-02	8.203E-02	6.881E-03	0.245
	+	1120.51		2.845E-01	1.232E-01	1.481E-01	9.508E-03	1.921
V-48		944.10		1.052E+00	9.920E-01	1.801E+00	1.480E-01	0.584
		983.50	*	-3.207E-02	8.095E-02	1.276E-01	1.008E-02	-0.251
		1312.09		-1.500E-01	1.030E-01	1.343E-01	9.803E-03	-1.117
CR-51		320.08	*	-1.435E-01	4.582E-01	7.485E-01	5.398E-02	-0.192
MN-52		744.21		-5.512E-02	2.619E-01	4.303E-01	2.639E-02	-0.128
		848.13		4.950E-01	7.016E+00	1.172E+01	9.033E-01	0.042
		935.52		1.115E-01	2.757E-01	4.715E-01	3.906E-02	0.236
		1246.25		3.199E+00	8.324E+00	1.398E+01	9.118E-01	0.229
		1333.61		1.550E+00	5.686E+00	9.489E+00	7.161E-01	0.163
		1434.06	*	-7.548E-02	2.278E-01	3.610E-01	2.677E-02	-0.209
MN-54		834.83	*	4.879E-03	4.126E-02	6.928E-02	5.193E-03	0.070
CO-56		846.75	*	-5.525E-03	4.692E-02	7.701E-02	5.919E-03	-0.072
		977.42		2.062E+00	3.819E+00	6.032E+00	4.797E-01	0.342
		1037.82		-2.119E-01	4.066E-01	6.321E-01	5.003E-02	-0.335
		1175.09		-1.345E+00	2.943E+00	4.577E+00	2.616E-01	-0.294
		1238.25		1.485E-01	1.222E-01	2.165E-01	1.463E-02	0.686
		1360.21		-4.206E-01	1.180E+00	1.798E+00	1.353E-01	-0.234
		1771.40		-7.229E-01	3.536E-01	3.522E-01	2.179E-02	-2.052
CO-57		122.06	*	-6.302E-03	3.382E-02	5.467E-02	3.931E-03	-0.115
		136.48		2.023E-02	2.665E-01	4.342E-01	3.333E-02	0.047
CO-58		810.76	*	1.689E-02	4.892E-02	8.375E-02	5.983E-03	0.202
FE-59		142.65		-7.919E-01	3.375E+00	5.415E+00	3.687E-01	-0.146
		192.34		-3.231E-02	1.175E+00	1.882E+00	2.321E-01	-0.017
		1099.22	*	-1.586E-03	1.152E-01	1.880E-01	1.423E-02	-0.008
		1291.56		5.352E-04	1.622E-01	2.625E-01	2.215E-02	0.002
CO-60		1173.22		-5.524E-02	6.219E-02	9.261E-02	5.274E-03	-0.596
		1332.49	*	5.679E-02	5.086E-02	9.284E-02	7.007E-03	0.612
ZN-65		1115.52	*	-2.168E-02	1.287E-01	1.811E-01	1.177E-02	-0.120
GE-68		1077.35	*	2.041E-01	1.454E+00	2.415E+00	1.678E-01	0.084
AS-73		53.44	*	-1.251E+00	2.150E+00	3.477E+00	4.751E-01	-0.360
AS-74		595.88	*	2.071E-02	1.138E-01	1.865E-01	1.003E-02	0.111
		634.78		7.463E-02	3.898E-01	6.298E-01	3.266E-02	0.118
SE-75		66.05		-8.146E+00	8.764E+00	1.369E+01	1.776E+00	-0.595
		96.73		-5.435E-01	1.169E+00	1.633E+00	2.342E-01	-0.333
		121.11		1.068E-01	1.799E-01	3.001E-01	3.060E-02	0.356
		136.00		1.472E-02	4.978E-02	8.187E-02	5.701E-03	0.180
		198.60		1.598E-02	2.419E+00	3.780E+00	3.017E-01	0.004
		264.65	*	1.819E-02	6.543E-02	9.733E-02	6.807E-03	0.187
		279.53		-9.608E-02	1.408E-01	2.272E-01	1.658E-02	-0.423
		303.91		1.891E+00	2.848E+00	4.340E+00	4.406E-01	0.436
		400.65		9.564E-02	3.150E-01	5.293E-01	4.780E-02	0.181

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	87.88		2.739E+02	1.996E+02	3.202E+02	3.702E+01	0.855
		200.40		9.466E+01	1.523E+02	2.510E+02	1.716E+01	0.377
	+	239.00		1.965E+02	2.674E+01	3.317E+01	2.308E+00	5.925
		249.79		-5.193E+00	5.974E+01	9.996E+01	6.960E+00	-0.052
		281.68		-1.401E+02	8.259E+01	1.248E+02	8.594E+00	-1.123
		297.23		1.732E+02	8.120E+01	1.003E+02	6.822E+00	1.727
		303.76		1.189E+02	1.728E+02	2.641E+02	1.785E+01	0.450
		439.47		2.270E+02	1.292E+02	2.356E+02	1.346E+01	0.964
		484.57		1.457E+02	2.174E+02	3.713E+02	2.112E+01	0.392
		520.65	*	-2.399E+00	9.722E+00	1.552E+01	8.733E-01	-0.155
		574.64		-2.441E+02	2.303E+02	2.812E+02	1.536E+01	-0.868
		578.91		6.966E+01	8.669E+01	1.319E+02	7.183E+00	0.528
		585.48		9.882E+02	2.086E+02	3.925E+02	2.127E+01	2.518
		755.35		4.263E+01	1.331E+02	2.284E+02	1.438E+01	0.187
		817.79		-3.529E+01	1.158E+02	1.872E+02	1.353E+01	-0.188
SR-82		698.33		-2.443E+00	4.084E+01	6.818E+01	3.754E+00	-0.036
		776.49	*	-4.998E-01	4.242E-01	6.261E-01	4.133E-02	-0.798
		1395.20		-8.844E-01	1.226E+01	2.030E+01	1.518E+00	-0.044
RB-83		520.41	*	-3.412E-02	9.015E-02	1.424E-01	8.014E-03	-0.240
		529.64		4.158E-02	1.317E-01	2.194E-01	1.230E-02	0.190
		552.65		-1.166E-01	2.489E-01	3.880E-01	2.149E-02	-0.301
RB-84		881.50	*	7.502E-04	8.388E-02	1.390E-01	1.148E-02	0.005
KR-85		513.99	*	1.086E+01	1.072E+01	1.651E+01	9.310E-01	0.658
SR-85		513.99	*	5.500E-02	5.429E-02	8.358E-02	4.714E-03	0.658
RB-86		1076.63	*	3.426E-01	8.768E-01	1.495E+00	1.040E-01	0.229
Y-88		898.02		-2.024E-02	4.859E-02	7.695E-02	6.602E-03	-0.263
		1836.01	*	-4.261E-03	3.796E-02	6.081E-02	3.552E-03	-0.070
ZR-88		392.90	*	1.826E-02	3.707E-02	6.311E-02	3.579E-03	0.289
Y-91		1204.90	*	2.649E+00	2.397E+01	3.935E+01	2.380E+00	0.067
NB-94		702.63	*	-5.707E-03	4.109E-02	6.815E-02	3.791E-03	-0.084
		871.10		1.923E-03	4.131E-02	6.774E-02	5.476E-03	0.028
NB-95		765.79	*	2.205E-02	5.148E-02	8.869E-02	5.715E-03	0.249
NB-95M		235.69	*	1.392E+00	2.525E-01	4.147E-01	3.504E-02	3.356
ZR-95		724.18		1.728E-01	1.293E-01	2.125E-01	1.467E-02	0.813
		756.15	*	4.401E-02	7.807E-02	1.368E-01	1.020E-02	0.322
NB-97		657.90	*	-2.514E-02	7.807E-02	Half-Life too short		
		1024.50		9.202E-01	7.807E-02	Half-Life too short		
ZR-97		254.15		9.827E-02	7.807E-02	Half-Life too short		
		355.39		4.033E-01	7.807E-02	Half-Life too short		
		507.63	*	2.193E+00	7.807E-02	Half-Life too short		
		602.52		1.313E+00	7.807E-02	Half-Life too short		
		1021.30		9.750E-01	7.807E-02	Half-Life too short		
		1147.95		5.304E-01	7.807E-02	Half-Life too short		
		1362.66		8.967E-01	7.807E-02	Half-Life too short		
		1750.46		-7.687E-01	7.807E-02	Half-Life too short		
MO-99		140.51		-5.994E+00	2.456E+01	3.934E+01	1.069E+01	-0.152
		181.06		-5.484E+00	1.879E+01	2.583E+01	4.515E+00	-0.212
		366.43		-7.154E+00	8.039E+01	1.323E+02	8.032E+00	-0.054
		739.58	*	-4.317E+00	1.064E+01	1.716E+01	2.384E+00	-0.252

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		778.00		-1.596E+01	2.878E+01	4.546E+01	3.012E+00	-0.351
TC-99M		140.51	*	-4.419E+08	2.878E+01	Half-Life too short		
RH-101		127.23		4.907E-02	4.384E-02	7.426E-02	5.232E-03	0.661
		198.01	*	-1.742E-02	4.448E-02	6.811E-02	4.647E-03	-0.256
		325.23		3.426E-01	2.934E-01	5.160E-01	3.394E-02	0.664
RH-102		418.52		8.859E-02	3.622E-01	6.055E-01	3.454E-02	0.146
		475.06	*	-4.524E-03	3.837E-02	6.220E-02	3.546E-03	-0.073
		631.29		4.323E-02	6.165E-02	1.059E-01	5.511E-03	0.408
		697.49		6.920E-03	9.181E-02	1.549E-01	8.508E-03	0.045
		766.84		1.217E-01	1.344E-01	2.388E-01	1.542E-02	0.510
		1046.59		2.410E-02	1.552E-01	2.581E-01	1.882E-02	0.093
		1112.84		-8.671E-02	3.423E-01	4.395E-01	2.865E-02	-0.197
RU-103		497.08	*	6.222E-03	5.242E-02	8.624E-02	1.085E-02	0.072
	+	610.33		9.667E+00	2.229E+00	3.050E+00	4.649E-01	3.169
RH-106	+	511.85		5.999E-01	4.358E-01	5.348E-01	3.019E-02	1.122
		621.84	*	8.235E-03	3.734E-01	6.032E-01	6.924E-02	0.014
		1050.47		2.204E-01	2.981E+00	4.920E+00	3.567E-01	0.045
RU-106	+	511.85		5.999E-01	4.358E-01	5.348E-01	3.019E-02	1.122
		621.84	*	8.235E-03	3.734E-01	6.032E-01	3.169E-02	0.014
		1050.47		2.204E-01	2.981E+00	4.920E+00	3.567E-01	0.045
AG-108M		433.93	*	-3.176E-02	4.260E-02	6.623E-02	4.118E-03	-0.480
		614.37		-3.186E-03	5.023E-02	6.926E-02	4.036E-03	-0.046
		722.95		-1.173E-02	5.333E-02	7.483E-02	4.734E-03	-0.157
AG-110M		657.75	*	-2.892E-02	4.710E-02	7.175E-02	3.933E-03	-0.403
		677.61		1.069E-01	3.789E-01	6.236E-01	3.508E-02	0.171
		706.67		-8.667E-02	2.565E-01	4.185E-01	2.501E-02	-0.207
		763.93		-2.763E-01	2.056E-01	3.038E-01	2.048E-02	-0.909
		884.67		8.073E-03	6.045E-02	1.013E-01	8.712E-03	0.080
		937.48		-1.768E-01	1.399E-01	2.002E-01	1.721E-02	-0.883
		1384.27		-9.830E-02	2.051E-01	3.226E-01	2.507E-02	-0.305
IN-111		171.28		8.514E-01	9.873E-01	1.651E+00	1.102E-01	0.516
		245.39	*	-9.528E-01	1.106E+00	1.601E+00	1.114E-01	-0.595
IN-113M		391.69	*	-1.879E-02	5.571E-02	8.984E-02	5.450E-03	-0.209
SN-113		391.69	*	-1.879E-02	5.571E-02	8.984E-02	5.450E-03	-0.209
IN-114M		190.27	*	-1.522E-03	2.580E-01	3.612E-01	2.449E-02	-0.004
CD-115		260.90		-2.610E+01	1.163E+02	1.929E+02	1.341E+01	-0.135
		492.35		5.637E+00	3.178E+01	5.255E+01	2.984E+00	0.107
		527.90	*	-9.373E+00	9.797E+00	1.469E+01	8.241E-01	-0.638
SN-117M		156.02		-7.320E-02	2.744E+00	4.432E+00	2.970E-01	-0.017
		158.56	*	2.211E-02	6.664E-02	1.093E-01	7.306E-03	0.202
SB-122		563.90	*	2.967E-01	2.046E+00	3.352E+00	1.844E-01	0.089
		692.80		-9.576E-01	3.894E+01	6.358E+01	3.453E+00	-0.015
I-123		159.00	*	1.569E-01	3.894E+01	Half-Life too short		
		528.96		-4.048E+00	3.894E+01	Half-Life too short		
TE-123M		159.00	*	3.464E-03	3.654E-02	5.929E-02	4.003E-03	0.058
I-124		602.71	*	6.270E-01	7.952E-01	1.203E+00	6.432E-02	0.521
		722.78		-1.130E+00	4.566E+00	6.382E+00	3.724E-01	-0.177
		1325.50		-1.430E+01	3.783E+01	5.815E+01	4.339E+00	-0.246
		1376.25		5.160E+01	3.459E+01	6.474E+01	4.858E+00	0.797

---- Non-Identified Nuclides ----

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		1509.49		5.933E+00	1.577E+01	2.760E+01	1.999E+00	0.215
		1691.02		-2.769E-01	3.435E+00	5.580E+00	3.673E-01	-0.050
SB-124		602.71		4.377E-02	5.551E-02	8.399E-02	4.492E-03	0.521
		645.85		-2.508E-01	6.432E-01	9.990E-01	5.948E-02	-0.251
		709.31		4.173E+00	3.470E+00	6.305E+00	3.564E-01	0.662
		713.82		-8.296E-01	2.016E+00	3.265E+00	3.318E-01	-0.254
		722.78		-1.143E-01	4.620E-01	6.458E-01	3.944E-02	-0.177
	+	968.20		1.780E+01	5.517E+00	8.268E+00	6.639E-01	2.153
		1045.16		-6.233E-02	3.475E+00	5.523E+00	4.035E-01	-0.011
		1325.50		-1.546E+00	4.088E+00	6.284E+00	4.690E-01	-0.246
		1368.21		-1.894E+00	2.390E+00	3.408E+00	4.361E-01	-0.556
		1436.60		-1.681E+00	4.139E+00	6.395E+00	4.739E-01	-0.263
		1691.02	*	-6.609E-03	8.200E-02	1.332E-01	9.355E-03	-0.050
SB-125		427.89	*	-2.100E-02	1.193E-01	1.936E-01	1.154E-02	-0.108
	+	463.38		7.202E-01	4.994E-01	7.076E-01	4.730E-02	1.018
		600.56		-5.875E-02	2.450E-01	3.771E-01	2.386E-02	-0.156
		635.90		-1.668E-02	3.002E-01	4.806E-01	3.014E-02	-0.035
TE-125M		109.28	*	9.437E+00	1.213E+01	2.040E+01	2.027E+00	0.463
I-126		388.63		-1.005E-01	2.387E-01	3.828E-01	2.190E-02	-0.263
		666.33	*	-2.533E-01	2.149E-01	3.071E-01	1.563E-02	-0.825
		753.82		-1.997E-01	1.599E+00	2.641E+00	1.656E-01	-0.076
SB-126		223.80		1.872E+00	4.908E+00	7.984E+00	5.531E-01	0.234
		278.60		1.491E+00	3.047E+00	5.215E+00	3.598E-01	0.286
		296.50		9.462E+00	2.932E+00	3.889E+00	2.648E-01	2.433
		414.70		5.129E-02	8.902E-02	1.519E-01	8.661E-03	0.338
		415.30		5.481E+00	7.408E+00	1.277E+01	7.279E-01	0.429
		555.20		5.644E-01	4.580E+00	7.505E+00	4.151E-01	0.075
		573.80		-1.103E+00	1.325E+00	1.853E+00	1.013E-01	-0.595
		593.00		4.493E-01	1.091E+00	1.823E+00	9.825E-02	0.246
		656.30		-2.244E+00	4.200E+00	6.443E+00	3.263E-01	-0.348
		666.33		-1.056E-01	8.955E-02	1.280E-01	6.513E-03	-0.825
		675.00		1.024E+00	2.245E+00	3.755E+00	1.953E-01	0.273
		695.00		2.985E-02	8.613E-02	1.483E-01	8.100E-03	0.201
		697.00		1.105E-02	3.077E-01	5.174E-01	2.839E-02	0.021
		720.50	*	-1.405E-01	1.850E-01	2.412E-01	1.400E-02	-0.582
		856.80		1.582E-01	6.127E-01	9.041E-01	7.096E-02	0.175
		989.30		1.032E+00	1.442E+00	2.535E+00	1.990E-01	0.407
		1034.80		3.877E+00	1.047E+01	1.779E+01	1.319E+00	0.218
		1213.00		2.368E+00	5.621E+00	9.484E+00	5.822E-01	0.250
SB-127		61.10		-8.320E+01	9.342E+01	1.482E+02	2.037E+01	-0.561
		252.40		-1.019E+00	4.498E+00	7.439E+00	3.097E+00	-0.137
		290.80		-1.704E+01	2.625E+01	3.623E+01	3.427E+00	-0.470
		411.60		-4.064E+00	1.231E+01	1.978E+01	2.783E+00	-0.205
		444.90		-4.584E+00	1.006E+01	1.593E+01	1.655E+00	-0.288
		473.00		1.144E+00	1.755E+00	2.994E+00	3.227E-01	0.382
		543.00		-4.667E+00	1.505E+01	2.373E+01	2.967E+00	-0.197
		603.60		7.334E+00	1.370E+01	2.018E+01	2.049E+00	0.364
		685.20	*	1.105E-01	1.248E+00	2.111E+00	1.842E-01	0.052
		698.50		-6.148E-01	1.520E+01	2.542E+01	3.583E+00	-0.024

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		722.20		-8.071E+00	3.041E+01	4.237E+01	3.710E+00	-0.190
		783.80		2.246E+00	3.472E+00	6.083E+00	6.589E-01	0.369
XE-127		57.60		1.205E+01	1.325E+01	2.267E+01	2.888E+00	0.531
		145.22		7.808E-01	8.464E-01	1.424E+00	9.662E-02	0.548
		172.10		8.715E-02	1.523E-01	2.516E-01	1.681E-02	0.346
		202.84	*	-4.411E-03	7.019E-02	9.760E-02	6.682E-03	-0.045
		374.96		2.135E-02	2.733E-01	4.537E-01	2.697E-02	0.047
I-131		80.18		-8.559E+00	8.005E+00	8.909E+00	9.973E-01	-0.961
		284.30		-2.118E-01	1.709E+00	2.838E+00	2.106E-01	-0.075
		364.48	*	3.712E-02	1.317E-01	2.217E-01	1.493E-02	0.167
		636.97		-2.042E+00	1.654E+00	2.325E+00	1.379E-01	-0.878
		722.89		-1.861E+00	8.102E+00	1.135E+01	6.705E-01	-0.164
TE-132		49.72		-2.363E+01	4.668E+01	7.585E+01	1.121E+01	-0.312
		111.76		-1.116E+01	3.100E+01	4.988E+01	4.984E+00	-0.224
		116.30		6.163E-01	2.834E+01	4.629E+01	4.494E+00	0.013
		228.16	*	1.626E-01	7.007E-01	1.192E+00	1.745E-01	0.136
BA-133		53.15		-5.185E+00	9.460E+00	1.533E+01	2.101E+00	-0.338
		79.62		-1.697E+00	2.224E+00	2.831E+00	4.751E-01	-0.600
		81.00		-1.820E-01	2.205E-01	2.097E-01	3.649E-02	-0.868
		276.40		1.010E+00	5.579E-01	9.031E-01	1.219E-01	1.119
		302.84		1.646E-01	1.960E-01	3.018E-01	3.672E-02	0.545
		356.01	*	-1.790E-02	5.907E-02	8.242E-02	9.705E-03	-0.217
		383.85		-1.189E-01	3.883E-01	6.282E-01	6.830E-02	-0.189
I-133	+	510.53		4.738E-01	3.883E-01	Half-Life too short		
		529.87	*	1.361E-03	3.883E-01	Half-Life too short		
		706.58		-6.796E-02	3.883E-01	Half-Life too short		
		856.28		2.406E-02	3.883E-01	Half-Life too short		
		875.33		-2.824E-02	3.883E-01	Half-Life too short		
		1236.41		5.679E-01	3.883E-01	Half-Life too short		
		1298.22		6.599E-03	3.883E-01	Half-Life too short		
CS-134		475.35		-3.739E-01	2.515E+00	4.067E+00	2.318E-01	-0.092
		563.23		-1.181E-02	4.903E-01	7.933E-01	4.467E-02	-0.015
		569.32		7.688E-02	2.711E-01	4.441E-01	2.516E-02	0.173
		604.70		6.532E-03	5.054E-02	7.135E-02	3.833E-03	0.092
		795.84	*	8.984E-02	5.698E-02	1.060E-01	7.388E-03	0.847
		801.93		5.215E-02	4.759E-01	7.997E-01	5.632E-02	0.065
		1038.57		-1.055E+00	5.076E+00	8.156E+00	6.014E-01	-0.129
		1167.94		3.461E+00	3.452E+00	6.101E+00	3.521E-01	0.567
		1365.15		8.443E-01	1.497E+00	2.605E+00	2.075E-01	0.324
CS-135		268.24	*	2.759E-01	2.545E-01	3.943E-01	3.371E-02	0.700
I-135		288.45		7.729E+08	2.545E-01	Half-Life too short		
		417.63		-1.780E+08	2.545E-01	Half-Life too short		
		546.56		9.067E+07	2.545E-01	Half-Life too short		
		836.80		2.768E+08	2.545E-01	Half-Life too short		
		1038.76		-1.382E+08	2.545E-01	Half-Life too short		
		1124.00		2.922E+09	2.545E-01	Half-Life too short		
		1131.51		-1.715E+08	2.545E-01	Half-Life too short		
		1260.41	*	-1.187E+08	2.545E-01	Half-Life too short		
		1457.56		4.239E+10	2.545E-01	Half-Life too short		

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		1678.03		-3.944E+08	2.545E-01	Half-Life too short		
		1706.46		-5.060E+08	2.545E-01	Half-Life too short		
		1791.20		-3.926E+08	2.545E-01	Half-Life too short		
CS-136		66.91		-7.610E-01	1.299E+00	2.061E+00	3.545E-01	-0.369
	+	86.29		2.160E+00	1.587E+00	2.477E+00	3.690E-01	0.872
		153.22		3.244E-02	8.064E-01	1.307E+00	1.043E-01	0.025
		163.89		1.403E+00	1.318E+00	2.219E+00	1.765E-01	0.632
		176.55		-2.031E-02	4.367E-01	7.013E-01	5.141E-02	-0.029
		273.65		-6.959E-01	6.701E-01	9.052E-01	6.892E-02	-0.769
		340.57		2.318E-01	1.606E-01	2.574E-01	1.735E-02	0.901
		818.51		1.852E-02	8.287E-02	1.406E-01	1.019E-02	0.132
		1048.07	*	8.546E-02	1.314E-01	2.284E-01	1.759E-02	0.374
		1235.34		5.038E-01	7.560E-01	1.290E+00	1.334E-01	0.391
BA-137M		661.65	*	3.222E-02	4.630E-02	7.860E-02	3.955E-03	0.410
CS-137		661.65	*	3.406E-02	4.894E-02	8.309E-02	4.204E-03	0.410
CE-139		165.85	*	-2.620E-02	3.963E-02	6.197E-02	4.121E-03	-0.423
BA-140		162.64		8.093E-01	9.205E-01	1.541E+00	1.125E-01	0.525
		304.84		-2.942E-01	1.602E+00	2.394E+00	6.584E-01	-0.123
		423.70		-9.886E-01	2.240E+00	3.531E+00	1.122E+00	-0.280
		537.32	*	-6.821E-03	2.692E-01	4.363E-01	1.417E-01	-0.016
LA-140		328.77		1.584E-01	3.564E-01	6.061E-01	4.343E-02	0.261
		432.53		4.028E-01	2.442E+00	4.056E+00	2.567E-01	0.099
		487.03		-1.008E-01	1.710E-01	2.668E-01	1.725E-02	-0.378
		751.79		-4.351E-01	1.844E+00	3.016E+00	2.251E-01	-0.144
		815.85		-1.632E-01	3.722E-01	5.937E-01	4.964E-02	-0.275
		867.82		5.753E-01	1.599E+00	2.563E+00	2.183E-01	0.224
		919.63		-1.215E+00	3.235E+00	4.703E+00	4.922E-01	-0.258
		925.24		2.601E-01	1.304E+00	2.194E+00	1.956E-01	0.119
		1596.49	*	-5.463E-02	1.070E-01	1.312E-01	9.147E-03	-0.416
CE-141		145.44	*	3.538E-02	7.840E-02	1.295E-01	9.036E-03	0.273
CE-143		57.37		1.352E-03	7.840E-02	Half-Life too short		
		231.56		7.016E-04	7.840E-02	Half-Life too short		
		293.26	*	5.108E-04	7.840E-02	Half-Life too short		
	+	350.59		1.405E-02	7.840E-02	Half-Life too short		
		490.36		-1.792E-03	7.840E-02	Half-Life too short		
		664.57		-1.821E-04	7.840E-02	Half-Life too short		
		721.93		-3.992E-04	7.840E-02	Half-Life too short		
CE-144		80.11		-4.294E+00	4.075E+00	4.542E+00	5.067E-01	-0.945
		133.54	*	-2.004E-01	2.667E-01	4.165E-01	6.122E-02	-0.481
PM-144		476.78		-2.694E-03	8.870E-02	1.447E-01	9.921E-03	-0.019
		618.01		-5.227E-03	3.761E-02	5.988E-02	3.386E-03	-0.087
		696.49	*	-2.613E-04	4.149E-02	6.956E-02	3.815E-03	-0.004
		778.57		-1.401E+00	2.567E+00	4.056E+00	2.691E-01	-0.345
PR-144		696.49	*	-1.769E-02	2.810E+00	4.711E+00	2.582E-01	-0.004
		1489.15		6.064E-01	1.461E+01	2.449E+01	1.787E+00	0.025
PM-146		453.90	*	4.329E-02	5.511E-02	9.503E-02	8.139E-03	0.455
		633.02		-4.076E-01	1.656E+00	2.557E+00	9.391E-01	-0.159
		735.90		3.589E-02	1.774E-01	3.012E-01	8.412E-02	0.119
		747.13		9.716E-02	1.098E-01	1.956E-01	2.481E-02	0.497

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	+	91.11		6.962E-01	5.138E-01	6.685E-01	7.603E-02	1.042
		319.41		-1.971E-01	3.823E+00	6.343E+00	4.208E-01	-0.031
		439.89		7.945E+00	7.059E+00	1.242E+01	7.099E-01	0.640
		531.02	*	-5.856E-03	6.551E-01	1.064E+00	1.430E-01	-0.006
PM-149		285.90	*	7.309E+01	8.335E+01	1.443E+02	2.112E+01	0.507
EU-152		121.78		-1.987E-03	9.790E-02	1.594E-01	1.390E-02	-0.012
		244.69		-6.353E-02	4.692E-01	6.810E-01	4.741E-02	-0.093
		344.27	*	-2.137E-02	1.953E-01	1.843E-01	1.299E-02	-0.116
		443.98		-8.557E-01	1.227E+00	1.910E+00	1.091E-01	-0.448
		778.89		-5.765E-02	2.887E-01	4.720E-01	3.132E-02	-0.122
		867.32		8.347E-02	1.067E+00	1.601E+00	1.284E-01	0.052
		964.01		5.173E-01	3.866E-01	6.366E-01	5.134E-02	0.813
		1085.78		4.604E-01	4.554E-01	8.234E-01	5.640E-02	0.559
		1112.02		1.134E-01	4.815E-01	6.664E-01	4.351E-02	0.170
		1407.95		1.714E-01	1.983E-01	3.700E-01	2.760E-02	0.463
GD-153		69.67		-8.088E-01	3.025E+00	4.333E+00	4.891E-01	-0.187
		83.37		-6.430E+00	2.800E+01	3.321E+01	3.746E+00	-0.194
		97.43	*	6.758E-02	1.179E-01	1.748E-01	1.677E-02	0.387
		103.18		4.039E-02	1.386E-01	2.297E-01	2.021E-02	0.176
EU-154		123.07		-7.302E-04	6.924E-02	1.128E-01	1.161E-02	-0.006
		247.94		-1.787E-01	4.512E-01	7.429E-01	7.644E-02	-0.241
		591.81		2.841E-02	8.526E-01	1.252E+00	1.194E-01	0.023
		723.30		-7.561E-02	2.322E-01	3.217E-01	2.289E-02	-0.235
		756.87		3.052E-01	8.722E-01	1.501E+00	1.567E-01	0.203
		873.19		-2.560E-01	3.645E-01	5.599E-01	6.661E-02	-0.457
		996.32		-2.694E-01	4.331E-01	6.601E-01	1.147E-01	-0.408
		1004.76		-1.570E-01	2.715E-01	4.196E-01	4.608E-02	-0.374
		1274.45	*	-4.849E-02	1.500E-01	2.334E-01	2.341E-02	-0.208
EU-155		48.70		-4.053E+00	8.129E+00	1.323E+01	1.703E+00	-0.306
		60.01		-1.658E+01	1.039E+01	1.580E+01	1.932E+00	-1.049
	+	86.54		2.121E-01	1.545E-01	2.419E-01	2.789E-02	0.877
		105.31	*	5.737E-02	1.431E-01	2.379E-01	2.060E-02	0.241
TB-160	+	86.79		5.603E-01	4.082E-01	6.405E-01	7.356E-02	0.875
		197.04		8.891E-03	7.080E-01	1.136E+00	7.742E-02	0.008
		215.65		6.591E-01	9.952E-01	1.640E+00	1.132E-01	0.402
	+	298.57		2.930E-01	1.652E-01	2.660E-01	1.808E-02	1.101
		879.36	*	4.124E-02	1.655E-01	2.805E-01	2.306E-02	0.147
		962.29		4.254E-01	7.222E-01	1.098E+00	8.872E-02	0.387
		966.15		1.178E+00	3.321E-01	6.103E-01	4.911E-02	1.929
		1177.93		2.427E-01	4.645E-01	7.925E-01	4.555E-02	0.306
		1271.85		-6.655E-01	8.576E-01	1.254E+00	8.553E-02	-0.531
HO-166M		80.57		-5.673E-01	6.084E-01	5.749E-01	6.421E-02	-0.987
	+	184.41		1.387E-01	6.862E-02	9.050E-02	6.106E-03	1.532
		280.46		-1.904E-01	1.120E-01	1.696E-01	1.169E-02	-1.123
		410.95		1.040E-01	3.134E-01	5.266E-01	3.000E-02	0.197
		711.68	*	1.293E-02	7.701E-02	1.307E-01	7.426E-03	0.099
		752.31		-1.396E-01	3.213E-01	5.159E-01	3.224E-02	-0.271
		810.29		2.734E-02	7.465E-02	1.280E-01	9.101E-03	0.214
TM-171		51.35		-4.599E+01	8.759E+01	1.422E+02	1.964E+01	-0.324

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		52.39		-3.142E-01	4.221E+01	7.027E+01	9.693E+00	-0.004
		59.40		-5.889E+01	5.667E+01	8.943E+01	1.101E+01	-0.659
		66.72	*	-2.920E+01	5.032E+01	8.008E+01	9.209E+00	-0.365
LU-176		88.36		8.141E-01	2.822E-01	4.818E-01	5.528E-02	1.690
		201.83		-1.162E-02	4.192E-02	6.092E-02	4.167E-03	-0.191
		306.84	*	-2.167E-02	3.067E-02	4.896E-02	3.298E-03	-0.442
		401.10		3.106E-01	8.467E+00	1.399E+01	7.950E-01	0.022
LU-177		112.95		-6.060E-01	1.934E+00	3.117E+00	2.440E-01	-0.194
	+	208.36	*	1.600E+00	1.915E+00	2.204E+00	1.515E-01	0.726
LU-177M		52.97		-2.325E+00	4.300E+00	6.971E+00	9.574E-01	-0.334
		54.07		-1.528E+00	2.188E+00	3.515E+00	4.764E-01	-0.435
		61.30		-2.420E+00	2.953E+00	4.712E+00	5.688E-01	-0.514
		121.62		-3.556E-03	4.999E-01	8.145E-01	5.869E-02	-0.004
		147.16		-3.441E-01	8.380E-01	1.332E+00	9.015E-02	-0.258
		171.86		3.465E-01	6.265E-01	1.035E+00	6.908E-02	0.335
		218.09		3.180E-01	1.108E+00	1.795E+00	1.240E-01	0.177
	+	268.79		2.827E+00	1.594E+00	1.957E+00	1.357E-01	1.445
		319.02		1.029E-03	3.196E-01	5.319E-01	3.529E-02	0.002
		367.43		-5.593E-01	1.182E+00	1.898E+00	1.150E-01	-0.295
		413.65	*	-9.554E-02	2.299E-01	3.679E-01	2.097E-02	-0.260
HF-181		56.28		1.040E+00	2.178E+00	3.686E+00	4.814E-01	0.282
		57.53		9.409E-01	1.123E+00	1.918E+00	2.446E-01	0.491
		65.20		-1.126E-01	1.672E+00	2.720E+00	3.165E-01	-0.041
		133.02		-3.235E-02	8.474E-02	1.354E-01	9.392E-03	-0.239
		136.25		1.811E-01	5.717E-01	9.411E-01	6.480E-02	0.192
		345.85		1.761E-01	2.755E-01	3.739E-01	2.374E-02	0.471
		482.03	*	2.461E-02	5.712E-02	9.601E-02	5.466E-03	0.256
W-181		56.28		4.118E-01	8.633E-01	1.461E+00	1.908E-01	0.282
		57.53		3.731E-01	4.454E-01	7.609E-01	9.705E-02	0.490
		65.20	*	-4.430E-02	6.582E-01	1.070E+00	1.246E-01	-0.041
TA-182		67.75		2.842E-02	1.955E-01	3.021E-01	3.448E-02	0.094
		100.10		1.429E-02	2.382E-01	3.914E-01	3.600E-02	0.037
		152.43		1.594E-01	4.333E-01	7.121E-01	4.789E-02	0.224
		222.10		-1.945E-01	4.463E-01	6.953E-01	4.814E-02	-0.280
		1001.68		7.433E-01	2.469E+00	4.198E+00	3.248E-01	0.177
	+	1121.28		7.878E-01	3.411E-01	4.159E-01	2.666E-02	1.894
		1189.05		-5.031E-02	3.957E-01	6.357E-01	3.732E-02	-0.079
		1221.42	*	2.040E-01	2.494E-01	4.345E-01	2.709E-02	0.470
		1230.97		-1.525E-01	6.362E-01	1.010E+00	6.409E-02	-0.151
RE-183		57.98		3.688E-01	4.299E-01	7.350E-01	9.293E-02	0.502
		59.32		-2.359E-01	2.314E-01	3.657E-01	4.507E-02	-0.645
		67.20		-5.300E-03	3.440E-01	5.503E-01	6.306E-02	-0.010
		162.32	*	5.842E-02	1.427E-01	2.344E-01	1.563E-02	0.249
	+	208.81		1.607E+00	1.923E+00	2.252E+00	1.548E-01	0.714
		291.72		7.750E-02	1.427E+00	2.081E+00	1.423E-01	0.037
RE-184		57.98		1.368E+00	1.595E+00	2.727E+00	3.448E-01	0.502
		59.32		-8.744E-01	8.580E-01	1.356E+00	1.671E-01	-0.645
		67.20		-1.966E-02	1.276E+00	2.041E+00	2.339E-01	-0.010
		161.27		-1.903E-02	4.666E-01	7.522E-01	5.018E-02	-0.025

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		216.55		1.231E-01	3.571E-01	5.800E-01	4.005E-02	0.212
		252.85	*	-5.121E-02	2.905E-01	4.837E-01	3.367E-02	-0.106
		318.01		1.332E-01	5.375E-01	9.077E-01	6.031E-02	0.147
		792.07		1.304E+00	1.194E+00	2.158E+00	1.475E-01	0.604
		903.28		-2.780E-01	1.374E+00	1.897E+00	1.613E-01	-0.147
		920.93		2.476E-01	5.043E-01	8.748E-01	7.336E-02	0.283
OS-185		59.72		-8.561E-01	6.169E-01	9.521E-01	1.167E-01	-0.899
		61.14		-2.855E-01	3.253E-01	5.173E-01	6.255E-02	-0.552
		69.30		-2.335E-01	5.461E-01	7.751E-01	8.767E-02	-0.301
		592.07		-3.451E-01	3.367E+00	5.069E+00	2.734E-01	-0.068
		646.12	*	-8.038E-03	5.407E-02	8.584E-02	4.398E-03	-0.094
		717.42		7.463E-01	1.016E+00	1.804E+00	1.040E-01	0.414
		874.81		-4.530E-01	6.867E-01	1.060E+00	8.632E-02	-0.427
		880.27		2.730E-01	9.294E-01	1.582E+00	1.303E-01	0.173
RE-188		155.03	*	1.324E-01	2.150E-01	3.569E-01	2.394E-02	0.371
		477.96		-3.733E+00	4.171E+00	6.376E+00	3.633E-01	-0.586
		633.10		-8.599E-01	3.293E+00	5.095E+00	2.647E-01	-0.169
W-188		63.58		3.329E+01	9.583E+01	1.605E+02	1.895E+01	0.207
		227.08		-1.510E+00	1.652E+01	2.775E+01	1.925E+00	-0.054
		290.67	*	-7.110E+00	1.112E+01	1.537E+01	1.052E+00	-0.463
IR-192	+	295.96		7.083E-01	2.099E-01	3.230E-01	2.225E-02	2.193
		308.46		-3.552E-02	1.159E-01	1.897E-01	1.286E-02	-0.187
		316.51	*	-4.211E-03	4.103E-02	6.788E-02	4.537E-03	-0.062
		468.07		-3.499E-02	9.542E-02	1.297E-01	8.567E-03	-0.270
		604.41		5.818E-02	6.748E-01	9.483E-01	1.055E-01	0.061
		612.46		8.757E-01	9.445E-01	1.453E+00	1.046E-01	0.603
AU-195		65.12		-1.414E-02	3.065E-01	4.989E-01	5.811E-02	-0.028
		66.83		-9.662E-02	1.653E-01	2.630E-01	3.022E-02	-0.367
	+	75.70		1.996E+00	4.689E-01	6.456E-01	7.168E-02	3.092
		98.88	*	3.171E-01	3.039E-01	5.017E-01	4.703E-02	0.632
		129.76		6.210E+00	3.818E+00	6.567E+00	4.592E-01	0.946
TL-200		367.94	*	-7.155E-05	3.818E+00	Half-Life too short		
		579.30		3.985E-03	3.818E+00	Half-Life too short		
		828.27		5.317E-04	3.818E+00	Half-Life too short		
		1205.75		-1.292E-04	3.818E+00	Half-Life too short		
TL-201		68.90		-2.648E+00	6.815E+00	9.696E+00	1.099E+00	-0.273
		70.82		1.981E+00	3.654E+00	5.447E+00	6.116E-01	0.364
		80.30		-8.064E+00	7.360E+00	8.169E+00	9.117E-01	-0.987
		135.34		-1.723E+01	2.519E+01	3.965E+01	2.735E+00	-0.435
		167.43	*	-7.143E+00	7.208E+00	1.108E+01	7.370E-01	-0.645
TL-202		68.90		-2.918E-01	7.508E-01	1.068E+00	1.211E-01	-0.273
		70.82		2.176E-01	4.015E-01	5.985E-01	6.720E-02	0.364
		80.30		-8.863E-01	8.090E-01	8.978E-01	1.002E-01	-0.987
		439.56	*	1.458E-01	8.270E-02	1.508E-01	8.621E-03	0.966
HG-203		70.83		9.989E-01	1.831E+00	2.726E+00	4.195E-01	0.366
	+	72.87		3.641E+00	1.368E+00	1.834E+00	2.747E-01	1.985
		82.60		-8.014E-01	2.459E+00	2.472E+00	3.839E-01	-0.324
		279.20	*	-3.512E-03	5.225E-02	8.713E-02	6.276E-03	-0.040
BI-207	+	72.80		1.086E+00	3.935E-01	5.455E-01	6.084E-02	1.991

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	+	74.97		6.435E-01	2.331E-01	3.661E-01	4.067E-02	1.758
		84.90		4.594E-01	3.003E-01	4.595E-01	5.221E-02	1.000
		569.67		1.908E-02	4.124E-02	6.844E-02	3.751E-03	0.279
		1063.62	*	-2.455E-02	6.909E-02	1.092E-01	7.756E-03	-0.225
		1770.23		2.292E-01	5.214E-01	8.404E-01	5.205E-02	0.273
TL-207		81.07		-3.223E-01	4.768E-01	4.641E-01	5.191E-02	-0.694
		83.78		1.481E-02	2.142E-01	2.857E-01	3.229E-02	0.052
		94.90		2.568E-01	3.378E-01	5.050E-01	5.063E-02	0.508
		122.32		-8.077E-01	2.359E+00	3.787E+00	2.998E-01	-0.213
		144.24		1.014E+00	8.554E-01	1.451E+00	1.168E-01	0.698
		154.21		-3.321E-02	5.131E-01	8.274E-01	6.442E-02	-0.040
	+	269.46		6.652E-01	3.753E-01	4.624E-01	3.307E-02	1.439
		323.87	*	-1.015E-01	8.650E-01	1.429E+00	2.402E-01	-0.071
	+	338.28		7.567E+00	2.530E+00	2.973E+00	3.240E-01	2.545
		445.03		-1.296E+00	2.903E+00	4.603E+00	4.705E-01	-0.282
PO-209		260.50		-4.115E+00	1.250E+01	2.063E+01	1.434E+00	-0.199
		262.80		-3.200E+00	3.845E+01	5.842E+01	4.059E+00	-0.055
		896.60	*	-5.523E+00	8.798E+00	1.360E+01	1.158E+00	-0.406
BI-210		46.50	*	1.034E+01	1.396E+01	2.329E+01	2.419E+00	0.444
PB-210		46.50	*	1.034E+01	1.396E+01	2.329E+01	2.419E+00	0.444
PO-210		46.50	*	1.034E+01	1.395E+01	2.329E+01	2.237E+00	0.444
PB-211		404.84	*	-1.208E+00	1.453E+00	1.921E+00	1.198E+00	-0.629
		427.08		-1.259E-01	2.649E+00	4.337E+00	2.680E+00	-0.029
		831.96		-9.467E-01	1.417E+00	1.974E+00	1.234E+00	-0.480
BI-212	+	727.18	*	9.820E-01	5.726E-01	7.822E-01	6.090E-02	1.255
		785.46		1.612E+00	2.008E+00	3.572E+00	2.406E-01	0.451
		1620.62		1.680E+00	1.537E+00	2.955E+00	2.033E-01	0.569
PO-215		81.07		-3.223E-01	4.768E-01	4.641E-01	5.191E-02	-0.694
		83.78		1.481E-02	2.142E-01	2.857E-01	3.229E-02	0.052
		94.90		2.568E-01	3.378E-01	5.050E-01	5.063E-02	0.508
		122.32		-8.077E-01	2.359E+00	3.787E+00	2.998E-01	-0.213
		144.24		1.014E+00	8.554E-01	1.451E+00	1.168E-01	0.698
		154.21		-3.321E-02	5.131E-01	8.274E-01	6.442E-02	-0.040
	+	269.46		6.652E-01	3.753E-01	4.624E-01	3.307E-02	1.439
		323.87	*	-1.015E-01	8.650E-01	1.429E+00	2.402E-01	-0.071
	+	338.28		7.567E+00	2.530E+00	2.973E+00	3.240E-01	2.545
		445.03		-1.296E+00	2.903E+00	4.603E+00	4.705E-01	-0.282
RN-219	+	271.23		8.535E-01	4.837E-01	5.688E-01	5.088E-02	1.500
		401.81	*	1.554E-01	5.156E-01	8.656E-01	1.174E-01	0.180
RN-220		549.76	*	1.932E+00	3.243E+01	5.289E+01	2.934E+00	0.037
RA-223		81.07		-3.223E-01	4.768E-01	4.641E-01	5.191E-02	-0.694
		83.78		1.481E-02	2.142E-01	2.857E-01	3.229E-02	0.052
		94.90		2.568E-01	3.378E-01	5.050E-01	5.063E-02	0.508
		122.32		-8.077E-01	2.359E+00	3.787E+00	2.998E-01	-0.213
		144.24		1.014E+00	8.554E-01	1.451E+00	1.168E-01	0.698
		154.21		-3.321E-02	5.131E-01	8.274E-01	6.442E-02	-0.040
	+	269.46		6.652E-01	3.753E-01	4.624E-01	3.307E-02	1.439
		323.87	*	-1.015E-01	8.650E-01	1.429E+00	2.402E-01	-0.071
	+	338.28		7.567E+00	2.530E+00	2.973E+00	3.240E-01	2.545

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		445.03		-1.296E+00	2.903E+00	4.603E+00	4.705E-01	-0.282
RA-224		240.98	*	5.778E+00	1.220E+00	2.081E+00	1.448E-01	2.777
AC-227		79.80		-2.257E+00	2.835E+00	3.569E+00	8.078E-01	-0.632
		236.00		3.952E+00	6.343E-01	8.897E-01	9.906E-02	4.442
		256.20	*	-7.000E-02	4.867E-01	8.112E-01	1.175E-01	-0.086
		286.10		1.824E+00	2.030E+00	3.524E+00	4.275E-01	0.518
	+	299.80		3.774E+00	2.204E+00	3.461E+00	5.767E-01	1.090
		304.40		7.477E-01	2.576E+00	3.818E+00	6.735E-01	0.196
		334.20		1.840E+00	3.294E+00	4.941E+00	9.170E-01	0.372
TH-227		79.80		-2.257E+00	2.836E+00	3.569E+00	8.171E-01	-0.632
		94.00		6.307E+00	3.230E+00	4.629E+00	1.039E+00	1.363
		236.00		3.952E+00	5.998E-01	8.897E-01	8.751E-02	4.442
		256.20	*	-7.000E-02	4.868E-01	8.112E-01	1.406E-01	-0.086
		286.10		1.824E+00	2.723E+00	3.524E+00	3.532E+00	0.518
	+	299.80		3.774E+00	2.204E+00	3.461E+00	5.767E-01	1.090
		304.40		7.477E-01	2.576E+00	3.818E+00	6.735E-01	0.196
		334.20		1.840E+00	3.294E+00	4.941E+00	9.170E-01	0.372
TH-229	+	85.43		3.950E-01	2.878E-01	4.585E-01	5.225E-02	0.861
		88.47		4.586E-01	1.615E-01	2.759E-01	3.157E-02	1.662
		100.00		3.072E-02	2.489E-01	4.101E-01	3.778E-02	0.075
		193.63	*	4.606E-02	6.374E-01	1.026E+00	6.978E-02	0.045
		210.97		1.201E+00	1.184E+00	1.752E+00	1.206E-01	0.685
PA-231		283.67	*	-9.704E-01	1.969E+00	3.199E+00	4.565E-01	-0.303
		301.29		1.531E+00	8.324E-01	1.341E+00	1.478E-01	1.142
TH-231		81.07		-3.223E-01	4.768E-01	4.641E-01	5.191E-02	-0.694
		83.78		1.481E-02	2.142E-01	2.857E-01	3.229E-02	0.052
		94.90		2.568E-01	3.378E-01	5.050E-01	5.063E-02	0.508
		122.32		-8.077E-01	2.359E+00	3.787E+00	2.998E-01	-0.213
		144.24		1.014E+00	8.554E-01	1.451E+00	1.168E-01	0.698
		154.21		-3.321E-02	5.131E-01	8.274E-01	6.442E-02	-0.040
	+	269.46		6.652E-01	3.753E-01	4.624E-01	3.307E-02	1.439
		323.87	*	-1.015E-01	8.650E-01	1.429E+00	2.402E-01	-0.071
	+	338.28		7.567E+00	2.530E+00	2.973E+00	3.240E-01	2.545
		445.03		-1.296E+00	2.903E+00	4.603E+00	4.705E-01	-0.282
U-231		84.21		4.218E+00	7.006E+00	1.025E+01	1.160E+00	0.412
	+	92.29		4.680E+00	3.450E+00	4.264E+00	4.494E-01	1.097
		95.87	*	-1.213E+00	1.357E+00	1.846E+00	1.819E-01	-0.657
		108.00		-8.758E-01	2.274E+00	3.659E+00	3.027E-01	-0.239
PA-233	+	75.28		3.246E+01	8.666E+00	1.073E+01	1.810E+00	3.025
	+	86.59		3.449E+00	2.661E+00	3.935E+00	1.097E+00	0.876
	+	300.12		1.052E+00	6.067E-01	9.643E-01	1.340E-01	1.091
		311.98	*	1.321E-02	7.795E-02	1.311E-01	9.191E-03	0.101
		340.50		1.331E+00	8.876E-01	1.353E+00	3.128E-01	0.984
		398.62		-2.716E-01	2.584E+00	4.227E+00	1.092E+00	-0.064
		415.76		1.475E+00	2.120E+00	3.611E+00	7.424E-01	0.408
PA-234		63.00		-1.655E+00	2.943E+00	4.746E+00	8.315E-01	-0.349
		94.67		2.676E-01	2.464E-01	3.715E-01	4.996E-02	0.720
		98.44		1.774E-01	1.623E-01	2.085E-01	1.166E-01	0.851
		99.86		2.918E-01	6.211E-01	1.037E+00	9.571E-02	0.281

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		111.00		-7.502E-02	2.515E-01	4.059E-01	4.728E-02	-0.185
		131.20		-8.679E-02	1.437E-01	2.277E-01	1.586E-02	-0.381
		152.70		1.235E-01	4.209E-01	6.890E-01	1.114E-01	0.179
	+	186.00		4.992E+00	2.889E+00	3.239E+00	9.960E-01	1.541
		226.40		8.988E-03	5.172E-01	8.729E-01	1.062E-01	0.010
		227.20		-2.965E-02	5.658E-01	9.519E-01	6.604E-02	-0.031
		248.90		-6.130E-01	1.057E+00	1.712E+00	3.736E-01	-0.358
	+	293.70		4.508E+00	1.497E+00	2.041E+00	3.364E-01	2.209
		369.80		-5.732E-01	1.168E+00	1.864E+00	3.894E-01	-0.308
		568.70		5.885E-01	1.389E+00	2.298E+00	1.260E-01	0.256
		569.50		1.051E-01	3.715E-01	6.085E-01	3.336E-02	0.173
		574.00		-1.913E+00	2.051E+00	2.836E+00	1.550E-01	-0.675
		699.00		-4.161E-02	8.763E-01	1.464E+00	2.620E-01	-0.028
		706.10		-9.657E-01	1.393E+00	2.099E+00	9.260E-01	-0.460
		733.00		-2.429E-01	5.223E-01	7.056E-01	1.504E-01	-0.344
		742.81		-7.030E-01	1.735E+00	2.692E+00	1.802E+00	-0.261
		796.30		1.113E+00	1.163E+00	2.018E+00	5.359E-01	0.551
		805.60		-1.250E-01	1.236E+00	2.039E+00	6.165E-01	-0.061
		819.60		-5.785E-01	1.512E+00	2.398E+00	9.052E-01	-0.241
		826.30		2.482E-01	9.668E-01	1.635E+00	7.277E-01	0.152
		831.60		-8.189E-01	7.402E-01	1.024E+00	3.023E-01	-0.800
		876.40		1.244E-01	1.007E+00	1.675E+00	1.721E+00	0.074
		880.51		1.910E-01	3.323E-01	5.800E-01	4.779E-02	0.329
		883.24		2.196E-03	3.468E-01	5.745E-01	3.859E-01	0.004
		899.00		-1.671E-01	9.757E-01	1.581E+00	6.911E-01	-0.106
		925.00		2.539E-01	1.441E+00	2.420E+00	2.023E-01	0.105
		926.50		-7.247E-02	2.146E-01	3.410E-01	8.590E-02	-0.212
		946.00	*	-2.813E-01	3.846E-01	5.827E-01	1.082E-01	-0.483
		949.00		2.187E-01	5.362E-01	9.189E-01	7.519E-02	0.238
		980.50		-3.014E-01	8.938E-01	1.419E+00	1.125E-01	-0.212
		1394.10		-3.101E-01	1.456E+00	2.343E+00	1.522E+00	-0.132
PA-234M		766.42		8.786E+00	1.473E+01	2.453E+01	1.237E+01	0.358
		1001.03	*	1.666E+00	5.585E+00	9.497E+00	8.753E-01	0.175
TH-234		63.29	*	-6.882E-01	2.481E+00	4.059E+00	8.010E-01	-0.170
	+	92.38		1.492E+00	1.125E+00	1.353E+00	2.580E-01	1.102
U-235		89.95		3.944E+00	1.934E+00	2.648E+00	8.374E-01	1.489
	+	93.35		1.793E+00	1.406E+00	1.571E+00	4.493E-01	1.141
		105.00		6.542E-01	1.426E+00	2.356E+00	7.030E-01	0.278
		143.76	*	1.472E-01	2.656E-01	4.392E-01	7.328E-02	0.335
		163.35		3.964E-01	6.247E-01	1.030E+00	1.882E-01	0.385
	+	185.71		1.849E-01	9.149E-02	1.201E-01	8.115E-03	1.539
		205.31		-2.000E-01	7.848E-01	1.075E+00	1.973E-01	-0.186
NP-236		94.67		2.044E-01	1.861E-01	2.819E-01	2.839E-02	0.725
		98.44		1.341E-01	9.797E-02	1.576E-01	1.488E-02	0.851
		111.00		-5.674E-02	1.902E-01	3.070E-01	2.454E-02	-0.185
		160.31	*	-1.275E-01	1.065E-01	1.621E-01	1.082E-02	-0.786
U-238		63.29	*	-6.882E-01	2.481E+00	4.059E+00	8.010E-01	-0.170
	+	92.38		1.492E+00	1.100E+00	1.353E+00	1.424E-01	1.102
NP-239		99.55		8.446E-02	2.069E-01	3.447E-01	3.197E-02	0.245

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.00	*	-9.275E-02	2.507E-01	4.025E-01	3.026E-02	-0.230
	+	209.75		1.283E+00	1.535E+00	1.820E+00	1.252E-01	0.705
		228.18		6.985E-02	2.950E-01	5.023E-01	3.486E-02	0.139
		277.60		2.471E-01	2.401E-01	4.199E-01	2.899E-02	0.588
		334.30		1.216E+00	1.867E+00	2.832E+00	1.836E-01	0.430
AM-241		59.54	*	-3.647E-01	3.275E-01	5.139E-01	6.540E-02	-0.710
CM-243		99.55		8.690E-02	2.129E-01	3.547E-01	3.290E-02	0.245
		103.76	*	3.895E-02	1.287E-01	2.134E-01	1.862E-02	0.183
		117.00		-9.542E-02	2.579E-01	4.141E-01	3.113E-02	-0.230
	+	209.75		1.265E+00	1.513E+00	1.794E+00	1.234E-01	0.705
		228.18		7.058E-02	2.981E-01	5.075E-01	3.522E-02	0.139
		277.60		2.491E-01	2.421E-01	4.233E-01	2.923E-02	0.588
AM-246		798.80		-3.185E-01	1.799E-01	2.508E-01	1.739E-02	-1.270
		1036.00		1.509E-01	3.940E-01	6.694E-01	4.954E-02	0.225
		1062.04		-1.740E-01	3.040E-01	4.695E-01	3.344E-02	-0.371
		1078.86	*	-4.582E-02	1.691E-01	2.684E-01	1.860E-02	-0.171
CM-247		278.00		8.668E-01	9.974E-01	1.733E+00	1.196E-01	0.500
		287.40		8.345E-01	1.641E+00	2.744E+00	1.883E-01	0.304
		402.60	*	1.888E-02	4.533E-02	7.672E-02	4.363E-03	0.246
CF-249		252.85		-1.931E-01	1.095E+00	1.824E+00	1.269E-01	-0.106
		333.44		6.426E-03	2.454E-01	3.547E-01	2.303E-02	0.018
		387.95	*	-2.335E-02	4.975E-02	7.952E-02	4.559E-03	-0.294
CF-251		176.60	*	-9.958E-03	1.602E-01	2.571E-01	1.723E-02	-0.039
		227.00		-5.943E-02	5.010E-01	8.406E-01	5.831E-02	-0.071
		285.00		1.745E+00	2.240E+00	3.889E+00	2.673E-01	0.449

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385008     *
* Acquisition date : 31-DEC-2009 10:18:51 Detector SN#     :               *
* Detector ID        : GAM15                Sensitivity      : 5.000       *
* Geometry           : CAN                  Energy tolerance: 1.500        *
* Elapsed live time:     0 02:00:00.00      Abundance limit : 75.000       *
* Elapsed real time:     0 02:00:01.15      Half life ratio :  8.000       *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        : 17-DEC-2009 12:00:00 Nuclide Library : SOLID        *
* Sample ID          : G243385008           Analyst initials: MJH1         *
* Batch Number       : 936285               Sample Quantity : 1.1551E+02 GRAM *
* Recovery           :     1.00000          Carrier Weight :    0.00000    *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :    0.00000                                             *
* CALIB. DATE/TIME : 16-FEB-2009 10:54:12 MS Isotope      :                 *
* MSD DPM            :     0.000           MSD Isotope     :               *
* LCS DPM            :     0.000           LCS Isotope     :               *
* LCSD DPM           :     0.000           LCSD Isotope    :               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.148E+01	3.136E+00	5.738E-01	0.000E+00
CD-109	1.789E+00	1.277E+00	1.715E+00	0.000E+00
SN-126	1.762E-01	1.258E-01	1.702E-01	0.000E+00
TL-208	5.602E-01	1.146E-01	6.632E-02	0.000E+00
BI-211	3.224E+00	5.996E-01	3.828E-01	0.000E+00
PB-212	1.730E+00	2.429E-01	1.206E-01	0.000E+00
PO-212	1.730E+00	2.429E-01	1.206E-01	0.000E+00
BI-214	9.141E-01	1.687E-01	1.239E-01	0.000E+00
PB-214	1.122E+00	2.163E-01	1.334E-01	0.000E+00
PO-214	1.122E+00	2.163E-01	1.334E-01	0.000E+00
PO-216	1.730E+00	2.429E-01	1.206E-01	0.000E+00
PO-218	1.122E+00	2.163E-01	1.334E-01	0.000E+00
RA-226	9.141E-01	1.687E-01	1.239E-01	0.000E+00
AC-228	1.517E+00	4.220E-01	2.231E-01	0.000E+00
RA-228	1.517E+00	4.220E-01	2.231E-01	0.000E+00
TH-228	1.754E+00	2.463E-01	1.223E-01	0.000E+00
TH-230	9.141E-01	1.687E-01	1.239E-01	0.000E+00
TH-232	1.517E+00	4.220E-01	2.231E-01	0.000E+00
U-234	9.141E-01	1.687E-01	1.239E-01	0.000E+00
NP-237	5.173E-01	3.839E-01	5.095E-01	0.000E+00
AM-243	3.585E-01	1.273E-01	1.344E-01	0.000E+00
ANH-511	1.204E-01	8.569E-02	6.009E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)		
BE-7	-2.729E-01	4.186E-01	6.706E-01	0.000E+00	NOT IDENT.
NA-22	-1.577E-02	5.274E-02	8.391E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.669E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.310E-02	2.884E-02	5.324E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.955E-02	9.732E-02	0.000E+00	NOT IDENT.

SC-46	2.013E-02	4.676E-02	8.212E-02	0.000E+00	FAIL ABUN
V-48	-3.207E-02	7.933E-02	1.276E-01	0.000E+00	NOT IDENT.
CR-51	-1.435E-01	4.490E-01	7.568E-01	0.000E+00	NOT IDENT.
MN-52	-7.548E-02	2.233E-01	3.597E-01	0.000E+00	NOT IDENT.
MN-54	4.879E-03	4.043E-02	6.940E-02	0.000E+00	NOT IDENT.
CO-56	-5.525E-03	4.598E-02	7.713E-02	0.000E+00	NOT IDENT.
CO-57	-6.302E-03	3.314E-02	5.580E-02	0.000E+00	NOT IDENT.
CO-58	1.689E-02	4.795E-02	8.392E-02	0.000E+00	NOT IDENT.
FE-59	-1.586E-03	1.129E-01	1.879E-01	0.000E+00	NOT IDENT.
CO-60	5.679E-02	4.984E-02	9.257E-02	0.000E+00	NOT IDENT.
ZN-65	-2.168E-02	1.261E-01	1.809E-01	0.000E+00	NOT IDENT.
GE-68	2.041E-01	1.425E+00	2.413E+00	0.000E+00	NOT IDENT.
AS-73	-1.251E+00	2.107E+00	3.576E+00	0.000E+00	NOT IDENT.
AS-74	2.071E-02	1.115E-01	1.875E-01	0.000E+00	NOT IDENT.
SE-75	1.819E-02	6.412E-02	9.860E-02	0.000E+00	NOT IDENT.
BR-77	-2.399E+00	9.528E+00	1.562E+01	0.000E+00	FAIL ABUN
SR-82	-4.998E-01	4.157E-01	6.277E-01	0.000E+00	NOT IDENT.
RB-83	-3.412E-02	8.835E-02	1.433E-01	0.000E+00	NOT IDENT.
RB-84	7.502E-04	8.220E-02	1.392E-01	0.000E+00	NOT IDENT.
KR-85	1.086E+01	1.051E+01	1.661E+01	0.000E+00	NOT IDENT.
SR-85	5.500E-02	5.321E-02	8.412E-02	0.000E+00	NOT IDENT.
RB-86	3.426E-01	8.593E-01	1.494E+00	0.000E+00	NOT IDENT.
Y-88	-4.261E-03	3.720E-02	6.044E-02	0.000E+00	NOT IDENT.
ZR-88	1.826E-02	3.632E-02	6.368E-02	0.000E+00	NOT IDENT.
Y-91	2.649E+00	2.349E+01	3.928E+01	0.000E+00	NOT IDENT.
NB-94	-5.707E-03	4.027E-02	6.839E-02	0.000E+00	NOT IDENT.
NB-95	2.205E-02	5.045E-02	8.892E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.475E-01	4.205E-01	0.000E+00	NOT IDENT.
ZR-95	4.401E-02	7.651E-02	1.371E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	4.013E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	8.377E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-4.317E+00	1.042E+01	1.720E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.774E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.742E-02	4.359E-02	6.919E-02	0.000E+00	NOT IDENT.
RH-102	-4.524E-03	3.761E-02	6.265E-02	0.000E+00	NOT IDENT.
RU-103	6.222E-03	5.138E-02	8.683E-02	0.000E+00	FAIL ABUN
RH-106	8.235E-03	3.659E-01	6.060E-01	0.000E+00	FAIL ABUN
RU-106	8.235E-03	3.659E-01	6.060E-01	0.000E+00	FAIL ABUN
AG-108M	-3.176E-02	4.175E-02	6.677E-02	0.000E+00	NOT IDENT.
AG-110M	-2.892E-02	4.616E-02	7.205E-02	0.000E+00	NOT IDENT.
IN-111	-9.528E-01	1.084E+00	1.623E+00	0.000E+00	NOT IDENT.
IN-113M	-1.879E-02	5.460E-02	9.067E-02	0.000E+00	NOT IDENT.
SN-113	-1.879E-02	5.460E-02	9.067E-02	0.000E+00	NOT IDENT.
IN-114M	-1.522E-03	2.529E-01	3.671E-01	0.000E+00	NOT IDENT.
CD-115	-9.373E+00	9.602E+00	1.479E+01	0.000E+00	NOT IDENT.
SN-117M	2.211E-02	6.531E-02	1.112E-01	0.000E+00	NOT IDENT.
SB-122	2.967E-01	2.005E+00	3.370E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.622E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	3.464E-03	3.581E-02	6.036E-02	0.000E+00	NOT IDENT.
I-124	6.270E-01	7.793E-01	1.209E+00	0.000E+00	NOT IDENT.
SB-124	-6.609E-03	8.036E-02	1.325E-01	0.000E+00	FAIL ABUN
SB-125	-2.100E-02	1.169E-01	1.952E-01	0.000E+00	FAIL ABUN
TE-125M	9.437E+00	1.189E+01	2.084E+01	0.000E+00	NOT IDENT.
I-126	-2.533E-01	2.106E-01	3.083E-01	0.000E+00	NOT IDENT.
SB-126	-1.405E-01	1.813E-01	2.419E-01	0.000E+00	NOT IDENT.
SB-127	1.105E-01	1.223E+00	2.119E+00	0.000E+00	NOT IDENT.
XE-127	-4.411E-03	6.878E-02	9.912E-02	0.000E+00	NOT IDENT.
I-131	3.712E-02	1.290E-01	2.239E-01	0.000E+00	NOT IDENT.
TE-132	1.626E-01	6.867E-01	1.210E+00	0.000E+00	NOT IDENT.
BA-133	-1.790E-02	5.789E-02	8.325E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.834E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.984E-02	5.584E-02	1.063E-01	0.000E+00	NOT IDENT.
CS-135	2.759E-01	2.494E-01	3.994E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.592E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.546E-02	1.287E-01	2.282E-01	0.000E+00	FAIL ABUN
BA-137M	3.222E-02	4.537E-02	7.892E-02	0.000E+00	NOT IDENT.
CS-137	3.406E-02	4.796E-02	8.342E-02	0.000E+00	NOT IDENT.
CE-139	-2.620E-02	3.884E-02	6.306E-02	0.000E+00	NOT IDENT.
BA-140	-6.821E-03	2.638E-01	4.389E-01	0.000E+00	NOT IDENT.
LA-140	-5.463E-02	1.049E-01	1.306E-01	0.000E+00	NOT IDENT.
CE-141	3.538E-02	7.683E-02	1.319E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.626E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-2.004E-01	2.614E-01	4.247E-01	0.000E+00	NOT IDENT.
PM-144	-2.613E-04	4.066E-02	6.980E-02	0.000E+00	NOT IDENT.
PR-144	-1.769E-02	2.754E+00	4.727E+00	0.000E+00	NOT IDENT.
PM-146	4.329E-02	5.401E-02	9.576E-02	0.000E+00	NOT IDENT.
ND-147	-5.856E-03	6.420E-01	1.071E+00	0.000E+00	FAIL ABUN
PM-149	7.309E+01	8.168E+01	1.460E+02	0.000E+00	NOT IDENT.

EU-152	-2.137E-02	1.914E-01	1.862E-01	0.000E+00	NOT IDENT.
GD-153	6.758E-02	1.155E-01	1.788E-01	0.000E+00	NOT IDENT.
EU-154	-4.849E-02	1.470E-01	2.329E-01	0.000E+00	NOT IDENT.
EU-155	5.737E-02	1.402E-01	2.432E-01	0.000E+00	FAIL ABUN
TB-160	4.124E-02	1.622E-01	2.808E-01	0.000E+00	FAIL ABUN
HO-166M	1.293E-02	7.547E-02	1.311E-01	0.000E+00	FAIL ABUN
TM-171	-2.920E+01	4.931E+01	8.220E+01	0.000E+00	NOT IDENT.
LU-176	-2.167E-02	3.005E-02	4.953E-02	0.000E+00	NOT IDENT.
LU-177	1.600E+00	1.877E+00	2.238E+00	0.000E+00	FAIL ABUN
LU-177M	-9.554E-02	2.253E-01	3.711E-01	0.000E+00	FAIL ABUN
HF-181	2.461E-02	5.597E-02	9.669E-02	0.000E+00	NOT IDENT.
W-181	-4.430E-02	6.450E-01	1.099E+00	0.000E+00	NOT IDENT.
TA-182	2.040E-01	2.444E-01	4.336E-01	0.000E+00	FAIL ABUN
RE-183	5.842E-02	1.398E-01	2.386E-01	0.000E+00	FAIL ABUN
RE-184	-5.121E-02	2.847E-01	4.902E-01	0.000E+00	NOT IDENT.
OS-185	-8.038E-03	5.299E-02	8.620E-02	0.000E+00	NOT IDENT.
RE-188	1.324E-01	2.107E-01	3.634E-01	0.000E+00	NOT IDENT.
W-188	-7.110E+00	1.089E+01	1.556E+01	0.000E+00	NOT IDENT.
IR-192	-4.211E-03	4.021E-02	6.865E-02	0.000E+00	FAIL ABUN
AU-195	3.171E-01	2.978E-01	5.131E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.760E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-7.143E+00	7.063E+00	1.127E+01	0.000E+00	NOT IDENT.
TL-202	1.458E-01	8.105E-02	1.521E-01	0.000E+00	NOT IDENT.
HG-203	-3.512E-03	5.120E-02	8.822E-02	0.000E+00	FAIL ABUN
BI-207	-2.455E-02	6.771E-02	1.091E-01	0.000E+00	FAIL ABUN
TL-207	-1.015E-01	8.477E-01	1.445E+00	0.000E+00	FAIL ABUN
PO-209	-5.523E+00	8.622E+00	1.361E+01	0.000E+00	NOT IDENT.
BI-210	1.034E+01	1.368E+01	2.398E+01	0.000E+00	NOT IDENT.
PB-210	1.034E+01	1.368E+01	2.398E+01	0.000E+00	NOT IDENT.
PO-210	1.034E+01	1.367E+01	2.398E+01	0.000E+00	NOT IDENT.
PB-211	-1.208E+00	1.424E+00	1.938E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.612E-01	7.846E-01	0.000E+00	FAIL ABUN
PO-215	-1.015E-01	8.477E-01	1.445E+00	0.000E+00	FAIL ABUN
RN-219	1.554E-01	5.053E-01	8.733E-01	0.000E+00	FAIL ABUN
RN-220	1.932E+00	3.178E+01	5.319E+01	0.000E+00	NOT IDENT.
RA-223	-1.015E-01	8.477E-01	1.445E+00	0.000E+00	FAIL ABUN
RA-224	0.000E+00	1.196E+00	2.110E+00	0.000E+00	NOT IDENT.
AC-227	-7.000E-02	4.770E-01	8.220E-01	0.000E+00	FAIL ABUN
TH-227	-7.000E-02	4.770E-01	8.220E-01	0.000E+00	FAIL ABUN
TH-229	4.606E-02	6.247E-01	1.043E+00	0.000E+00	FAIL ABUN
PA-231	-9.704E-01	1.930E+00	3.239E+00	0.000E+00	NOT IDENT.
TH-231	-1.015E-01	8.477E-01	1.445E+00	0.000E+00	FAIL ABUN
U-231	-1.213E+00	1.330E+00	1.888E+00	0.000E+00	FAIL ABUN
PA-233	1.321E-02	7.639E-02	1.326E-01	0.000E+00	FAIL ABUN
PA-234	-2.813E-01	3.769E-01	5.830E-01	0.000E+00	FAIL ABUN
PA-234M	1.666E+00	5.473E+00	9.496E+00	0.000E+00	NOT IDENT.
TH-234	-6.882E-01	2.432E+00	4.168E+00	0.000E+00	FAIL ABUN
U-235	1.472E-01	2.603E-01	4.475E-01	0.000E+00	FAIL ABUN
NP-236	-1.275E-01	1.043E-01	1.650E-01	0.000E+00	NOT IDENT.
U-238	-6.882E-01	2.432E+00	4.168E+00	0.000E+00	FAIL ABUN
NP-239	-9.275E-02	2.457E-01	4.109E-01	0.000E+00	FAIL ABUN
AM-241	-3.647E-01	3.209E-01	5.280E-01	0.000E+00	NOT IDENT.
CM-243	3.895E-02	1.262E-01	2.181E-01	0.000E+00	FAIL ABUN
AM-246	-4.582E-02	1.657E-01	2.682E-01	0.000E+00	NOT IDENT.
CM-247	1.888E-02	4.442E-02	7.740E-02	0.000E+00	NOT IDENT.
CF-249	-2.335E-02	4.876E-02	8.026E-02	0.000E+00	NOT IDENT.
CF-251	-9.958E-03	1.570E-01	2.614E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 12:19:25.39

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385008.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 10:18:51
Sample ID         : G243385008           Sample quantity  : 1.15510E+02 GRAM
Detector name     : GAM15                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.15  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1032	10.67*	9.988E-01	3.148E+01	3.148E+01	10.17
CD-109	88.03	89	3.72*	4.424E+00	1.752E+00	1.789E+00	72.86
SN-126	64.28	------	9.60	1.930E+00	------ Line Not Found		------
	86.94	89	8.90	4.424E+00	7.323E-01	7.323E-01	83.33
	87.57	89	37.00*	4.424E+00	1.762E-01	1.762E-01	72.86
TL-208	277.35	------	6.80	3.788E+00	------ Line Not Found		------
	510.84	91	21.60	2.461E+00	5.573E-01	5.573E-01	73.12
	583.14	324	84.20*	2.229E+00	5.602E-01	5.602E-01	20.88
	860.37	54	12.46	1.613E+00	8.692E-01	8.692E-01	51.58
BI-211	72.87	228	1.27	3.130E+00	1.863E+01	1.863E+01	36.23
	351.07	412	12.94*	3.206E+00	3.224E+00	3.224E+00	18.98
PB-212	74.81	228	10.70	3.130E+00	2.212E+00	2.212E+00	37.41
	77.11	429	18.00	3.412E+00	2.272E+00	2.272E+00	23.48
	87.30	89	8.00	4.424E+00	8.147E-01	8.147E-01	73.54
	238.63	1002	44.60*	4.218E+00	1.730E+00	1.730E+00	14.33
	300.09	77	3.41	3.588E+00	2.037E+00	2.037E+00	56.67
PO-212	74.81	228	10.70	3.130E+00	2.212E+00	2.212E+00	37.41
	77.11	429	18.00	3.412E+00	2.272E+00	2.272E+00	23.48
	87.30	89	8.00	4.424E+00	8.147E-01	8.147E-01	73.54
	115.19	------	0.60	5.666E+00	------ Line Not Found		------
	238.63	1002	44.60*	4.218E+00	1.730E+00	1.730E+00	14.33
	300.09	77	3.41	3.588E+00	2.037E+00	2.037E+00	56.67
BI-214	609.31	281	46.30*	2.155E+00	9.141E-01	9.141E-01	18.83
	1120.29	99	15.10	1.263E+00	1.678E+00	1.678E+00	43.79
	1764.49	36	15.80	8.815E-01	8.456E-01	8.456E-01	53.94
PB-214	74.81	228	6.21	3.130E+00	3.811E+00	3.811E+00	36.97
	77.11	429	10.50	3.412E+00	3.895E+00	3.895E+00	24.69
	87.30	89	4.67	4.424E+00	1.396E+00	1.396E+00	73.27
	241.98	------	7.49	4.172E+00	------ Line Not Found		------
	295.21	201	19.20	3.628E+00	9.392E-01	9.392E-01	30.27
	351.92	412	37.20*	3.206E+00	1.122E+00	1.122E+00	19.68
PO-214	74.81	228	6.21	3.130E+00	3.811E+00	3.811E+00	36.97

Sample ID : G243385008 Acquisition date : 31-DEC-2009 10:18:51

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	429	10.50	3.412E+00	3.895E+00	3.895E+00	24.69
	87.30	89	4.67	4.424E+00	1.396E+00	1.396E+00	73.27
	241.98	------	7.49	4.172E+00	------ Line Not Found		------
	295.21	201	19.20	3.628E+00	9.392E-01	9.392E-01	30.27
	351.92	412	37.20*	3.206E+00	1.122E+00	1.122E+00	19.68
PO-216	74.81	228	10.70	3.130E+00	2.212E+00	2.212E+00	37.41
	77.11	429	18.00	3.412E+00	2.272E+00	2.272E+00	23.48
	87.30	89	8.00	4.424E+00	8.147E-01	8.147E-01	73.54
	238.63	1002	44.60*	4.218E+00	1.730E+00	1.730E+00	14.33
	300.09	77	3.41	3.588E+00	2.037E+00	2.037E+00	56.67
PO-218	74.81	228	6.21	3.130E+00	3.811E+00	3.811E+00	36.97
	77.11	429	10.50	3.412E+00	3.895E+00	3.895E+00	24.69
	87.30	89	4.67	4.424E+00	1.396E+00	1.396E+00	73.27
	241.98	------	7.49	4.172E+00	------ Line Not Found		------
	295.21	201	19.20	3.628E+00	9.392E-01	9.392E-01	30.27
	351.92	412	37.20*	3.206E+00	1.122E+00	1.122E+00	19.68
RA-226	609.31	281	46.30*	2.155E+00	9.141E-01	9.141E-01	18.83
	1120.29	99	15.10	1.263E+00	1.678E+00	1.678E+00	43.79
	1764.49	36	15.80	8.815E-01	8.456E-01	8.456E-01	53.94
AC-228	338.32	209	11.40	3.294E+00	1.812E+00	1.812E+00	51.66
	911.07	198	27.70*	1.531E+00	1.517E+00	1.517E+00	28.39
	969.11	130	16.60	1.446E+00	1.753E+00	1.753E+00	37.83
RA-228	338.32	209	11.40	3.294E+00	1.812E+00	1.812E+00	51.66
	911.07	198	27.70*	1.531E+00	1.517E+00	1.517E+00	28.39
	969.11	130	16.60	1.446E+00	1.753E+00	1.753E+00	37.83
TH-228	74.81	228	10.70	3.130E+00	2.212E+00	2.242E+00	36.24
	77.11	429	18.00	3.412E+00	2.272E+00	2.304E+00	23.48
	87.30	89	8.00	4.424E+00	8.147E-01	8.261E-01	72.86
	238.63	1002	44.60*	4.218E+00	1.730E+00	1.754E+00	14.33
	300.09	77	3.41	3.588E+00	2.037E+00	2.065E+00	81.35
TH-230	609.31	281	46.30*	2.155E+00	9.141E-01	9.141E-01	18.83
	1120.29	99	15.10	1.263E+00	1.678E+00	1.678E+00	43.79
	1764.49	36	15.80	8.815E-01	8.456E-01	8.456E-01	53.94
TH-232	338.32	209	11.40	3.294E+00	1.812E+00	1.812E+00	32.26
	911.07	198	27.70*	1.531E+00	1.517E+00	1.517E+00	28.39
	969.11	130	16.60	1.446E+00	1.753E+00	1.753E+00	37.83
U-234	609.31	281	46.30*	2.155E+00	9.141E-01	9.141E-01	18.83
	1120.29	99	15.10	1.263E+00	1.678E+00	1.678E+00	43.79
	1764.49	36	15.80	8.815E-01	8.456E-01	8.456E-01	53.94
NP-237	86.50	89	12.60*	4.424E+00	5.173E-01	5.173E-01	75.73
	95.87	------	2.60	5.041E+00	------ Line Not Found		------
AM-243	74.67	228	66.00*	3.130E+00	3.585E-01	3.585E-01	36.23
	86.72	89	0.34	4.424E+00	1.940E+01	1.940E+01	72.86
	117.66	------	0.55	5.694E+00	------ Line Not Found		------
	142.18	------	0.13	5.637E+00	------ Line Not Found		------
ANH-511	511.00	91	100.00*	2.461E+00	1.204E-01	1.204E-01	72.64

Flag: "*" = Keyline

Sample ID : G243385008 Acquisition date : 31-DEC-2009 10:18:51

Total number of lines in spectrum 26
Number of unidentified lines 3
Number of lines tentatively identified by NID 23 88.46%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.148E+01	3.148E+01	0.320E+01	10.17	
CD-109	464.00D	1.02	1.752E+00	1.789E+00	1.304E+00	72.86	
SN-126	1.00E+05Y	1.00	1.762E-01	1.762E-01	1.283E-01	72.86	
TL-208	1.41E+10Y	1.00	5.602E-01	5.602E-01	1.170E-01	20.88	
BI-211	7.04E+08Y	1.00	3.224E+00	3.224E+00	0.612E+00	18.98	
PB-212	1.41E+10Y	1.00	1.730E+00	1.730E+00	0.248E+00	14.33	
PO-212	1.41E+10Y	1.00	1.730E+00	1.730E+00	0.248E+00	14.33	
BI-214	1600.00Y	1.00	9.141E-01	9.141E-01	1.721E-01	18.83	
PB-214	1600.00Y	1.00	1.122E+00	1.122E+00	0.221E+00	19.68	
PO-214	1600.00Y	1.00	1.122E+00	1.122E+00	0.221E+00	19.68	
PO-216	1.41E+10Y	1.00	1.730E+00	1.730E+00	0.248E+00	14.33	
PO-218	1600.00Y	1.00	1.122E+00	1.122E+00	0.221E+00	19.68	
RA-226	1600.00Y	1.00	9.141E-01	9.141E-01	1.721E-01	18.83	
AC-228	1.41E+10Y	1.00	1.517E+00	1.517E+00	0.431E+00	28.39	
RA-228	1.41E+10Y	1.00	1.517E+00	1.517E+00	0.431E+00	28.39	
TH-228	1.91Y	1.01	1.730E+00	1.754E+00	0.251E+00	14.33	
TH-230	4.47E+09Y	1.00	9.141E-01	9.141E-01	1.721E-01	18.83	
TH-232	1.41E+10Y	1.00	1.517E+00	1.517E+00	0.431E+00	28.39	
U-234	4.47E+09Y	1.00	9.141E-01	9.141E-01	1.721E-01	18.83	
NP-237	2.14E+06Y	1.00	5.173E-01	5.173E-01	3.917E-01	75.73	
AM-243	7380.00Y	1.00	3.585E-01	3.585E-01	1.299E-01	36.23	
ANH-511	1.00E+09Y	1.00	1.204E-01	1.204E-01	0.874E-01	72.64	
	Total Activity :		5.668E+01	5.674E+01			

Grand Total Activity : 5.668E+01 5.674E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G243385008 Acquisition date : 31-DEC-2009 10:18:51

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	92.26	120	422	1.60	184.99	168	23	1.66E-02	73.0	4.82E+00	T
0	185.43	153	293	1.44	371.25	365	11	2.13E-02	49.0	4.98E+00	T
0	208.89	59	316	1.38	418.15	411	11	8.20E-03	****	4.62E+00	T
0	269.92	108	194	1.33	540.16	534	12	1.49E-02	56.0	3.86E+00	T
0	462.60	60	91	1.57	925.37	920	11	8.34E-03	69.0	2.64E+00	T
0	727.10	67	68	1.17	1454.19	1447	13	9.25E-03	57.8	1.87E+00	T
0	1588.02	21	8	2.51	3175.74	3166	14	2.92E-03	69.5	9.39E-01	
0	1592.56	15	5	0.62	3184.83	3179	9	2.01E-03	74.4	9.37E-01	
0	1730.22	14	13	3.15	3460.14	3453	13	1.94E-03	****	8.90E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 12:19:30.34

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*******************************************************************************
*                              GEL Laboratories LLC                           *
*                                2040 Savage Road                             *
*                              Charleston, SC 29414                           *
*******************************************************************************
*                                                                             *
*                                DETECTOR DATA                                *
*                                                                             *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385008.CNF;1   *
* Acquisition date  : 31-DEC-2009 10:18:51  Detector SN#     :                *
* Detector ID       : GAM15                 Sensitivity      : 5.00000       *
* Geometry          : CAN                   Energy tolerance: 1.50000        *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000       *
* Elapsed real time: 0 02:00:01.15          Half life ratio : 8.00000        *
*******************************************************************************
*                                                                             *
*                                 SAMPLE DATA                                 *
*                                                                             *
* Sample date       : 17-DEC-2009 12:00:00  Nuclide Library : SOLID           *
* Sample ID         : G243385008            Analyst initials: MJH1            *
* Batch Number      : 936285                Sample Quantity : 1.15510E+02 GRAM *
*******************************************************************************
*                                                                             *
*                                   QC DATA                                   *
*                                                                             *
* CALIB. DATE/TIME : 16-FEB-2009 10:54:12.9MS Isotope      :                  *
* MSD ID           :                       MSD Isotope     :                  *
* LCS ID           : 1032-A                LCS Isotope     :                  *
*******************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.148E+01	3.200E+00	5.760E-01	4.403E-02	54.648
CD-109	1.789E+00	1.304E+00	1.675E+00	1.937E-01	1.068
SN-126	1.762E-01	1.283E-01	1.663E-01	1.919E-02	1.059
TL-208	5.602E-01	1.170E-01	6.597E-02	4.200E-03	8.492
BI-211	3.224E+00	6.119E-01	3.789E-01	2.604E-02	8.509
PB-212	1.730E+00	2.479E-01	1.190E-01	9.846E-03	14.545
PO-212	1.730E+00	2.479E-01	1.190E-01	9.846E-03	14.545
BI-214	9.141E-01	1.721E-01	1.233E-01	9.158E-03	7.411
PB-214	1.122E+00	2.207E-01	1.321E-01	1.138E-02	8.493
PO-214	1.122E+00	2.207E-01	1.321E-01	1.138E-02	8.493
PO-216	1.730E+00	2.479E-01	1.190E-01	9.846E-03	14.545
PO-218	1.122E+00	2.207E-01	1.321E-01	1.138E-02	8.493
RA-226	9.141E-01	1.721E-01	1.233E-01	9.158E-03	7.411
AC-228	1.517E+00	4.306E-01	2.229E-01	2.478E-02	6.803
RA-228	1.517E+00	4.306E-01	2.229E-01	2.478E-02	6.803
TH-228	1.754E+00	2.513E-01	1.206E-01	9.984E-03	14.545
TH-230	9.141E-01	1.721E-01	1.233E-01	9.158E-03	7.411
TH-232	1.517E+00	4.306E-01	2.229E-01	2.478E-02	6.803

Sample ID : G243385008 Acquisition date : 31-DEC-2009 10:18:51

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-234	9.141E-01	1.721E-01	1.233E-01	9.158E-03	7.411
NP-237	5.173E-01	3.917E-01	4.976E-01	1.175E-01	1.040
AM-243	3.585E-01	1.299E-01	1.310E-01	1.456E-02	2.736
ANH-511	1.204E-01	8.744E-02	5.970E-02	3.371E-03	2.016

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.729E-01		4.272E-01	6.658E-01	4.437E-02	-0.410
NA-22	-1.577E-02		5.382E-02	8.412E-02	5.773E-03	-0.187
NA-24	-2.276E-01		1.362E-01	Half-Life too short		
AL-26	1.310E-02		2.943E-02	5.356E-02	3.205E-03	0.245
TI-44	1.571E-01		6.077E-02	9.496E-02	1.056E-02	1.654
SC-46	2.013E-02		4.772E-02	8.203E-02	6.881E-03	0.245
V-48	-3.207E-02		8.095E-02	1.276E-01	1.008E-02	-0.251
CR-51	-1.435E-01		4.582E-01	7.485E-01	5.398E-02	-0.192
MN-52	-7.548E-02		2.278E-01	3.610E-01	2.677E-02	-0.209
MN-54	4.879E-03		4.126E-02	6.928E-02	5.193E-03	0.070
CO-56	-5.525E-03		4.692E-02	7.701E-02	5.919E-03	-0.072
CO-57	-6.302E-03		3.382E-02	5.467E-02	3.931E-03	-0.115
CO-58	1.689E-02		4.892E-02	8.375E-02	5.983E-03	0.202
FE-59	-1.586E-03		1.152E-01	1.880E-01	1.423E-02	-0.008
CO-60	5.679E-02		5.086E-02	9.284E-02	7.007E-03	0.612
ZN-65	-2.168E-02		1.287E-01	1.811E-01	1.177E-02	-0.120
GE-68	2.041E-01		1.454E+00	2.415E+00	1.678E-01	0.084
AS-73	-1.251E+00		2.150E+00	3.477E+00	4.751E-01	-0.360
AS-74	2.071E-02		1.138E-01	1.865E-01	1.003E-02	0.111
SE-75	1.819E-02		6.543E-02	9.733E-02	6.807E-03	0.187
BR-77	-2.399E+00		9.722E+00	1.552E+01	8.733E-01	-0.155
SR-82	-4.998E-01		4.242E-01	6.261E-01	4.133E-02	-0.798
RB-83	-3.412E-02		9.015E-02	1.424E-01	8.014E-03	-0.240
RB-84	7.502E-04		8.388E-02	1.390E-01	1.148E-02	0.005
KR-85	1.086E+01		1.072E+01	1.651E+01	9.310E-01	0.658
SR-85	5.500E-02		5.429E-02	8.358E-02	4.714E-03	0.658
RB-86	3.426E-01		8.768E-01	1.495E+00	1.040E-01	0.229
Y-88	-4.261E-03		3.796E-02	6.081E-02	3.552E-03	-0.070
ZR-88	1.826E-02		3.707E-02	6.311E-02	3.579E-03	0.289
Y-91	2.649E+00		2.397E+01	3.935E+01	2.380E+00	0.067
NB-94	-5.707E-03		4.109E-02	6.815E-02	3.791E-03	-0.084
NB-95	2.205E-02		5.148E-02	8.869E-02	5.715E-03	0.249
NB-95M	1.392E+00		2.525E-01	4.147E-01	3.504E-02	3.356
ZR-95	4.401E-02		7.807E-02	1.368E-01	1.020E-02	0.322
NB-97	-2.514E-02		2.047E-02	Half-Life too short		
ZR-97	2.193E+00		4.274E-01	Half-Life too short		
MO-99	-4.317E+00		1.064E+01	1.716E+01	2.384E+00	-0.252
TC-99M	-4.419E+08		9.053E+08	Half-Life too short		
RH-101	-1.742E-02		4.448E-02	6.811E-02	4.647E-03	-0.256

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-102	-4.524E-03		3.837E-02	6.220E-02	3.546E-03	-0.073
RU-103	6.222E-03		5.242E-02	8.624E-02	1.085E-02	0.072
RH-106	8.235E-03		3.734E-01	6.032E-01	6.924E-02	0.014
RU-106	8.235E-03		3.734E-01	6.032E-01	3.169E-02	0.014
AG-108M	-3.176E-02		4.260E-02	6.623E-02	4.118E-03	-0.480
AG-110M	-2.892E-02		4.710E-02	7.175E-02	3.933E-03	-0.403
IN-111	-9.528E-01		1.106E+00	1.601E+00	1.114E-01	-0.595
IN-113M	-1.879E-02		5.571E-02	8.984E-02	5.450E-03	-0.209
SN-113	-1.879E-02		5.571E-02	8.984E-02	5.450E-03	-0.209
IN-114M	-1.522E-03		2.580E-01	3.612E-01	2.449E-02	-0.004
CD-115	-9.373E+00		9.797E+00	1.469E+01	8.241E-01	-0.638
SN-117M	2.211E-02		6.664E-02	1.093E-01	7.306E-03	0.202
SB-122	2.967E-01		2.046E+00	3.352E+00	1.844E-01	0.089
I-123	1.569E-01		8.274E-01	Half-Life too short		
TE-123M	3.464E-03		3.654E-02	5.929E-02	4.003E-03	0.058
I-124	6.270E-01		7.952E-01	1.203E+00	6.432E-02	0.521
SB-124	-6.609E-03		8.200E-02	1.332E-01	9.355E-03	-0.050
SB-125	-2.100E-02		1.193E-01	1.936E-01	1.154E-02	-0.108
TE-125M	9.437E+00		1.213E+01	2.040E+01	2.027E+00	0.463
I-126	-2.533E-01		2.149E-01	3.071E-01	1.563E-02	-0.825
SB-126	-1.405E-01		1.850E-01	2.412E-01	1.400E-02	-0.582
SB-127	1.105E-01		1.248E+00	2.111E+00	1.842E-01	0.052
XE-127	-4.411E-03		7.019E-02	9.760E-02	6.682E-03	-0.045
I-131	3.712E-02		1.317E-01	2.217E-01	1.493E-02	0.167
TE-132	1.626E-01		7.007E-01	1.192E+00	1.745E-01	0.136
BA-133	-1.790E-02		5.907E-02	8.242E-02	9.705E-03	-0.217
I-133	1.361E-03		1.446E-03	Half-Life too short		
CS-134	8.984E-02		5.698E-02	1.060E-01	7.388E-03	0.847
CS-135	2.759E-01		2.545E-01	3.943E-01	3.371E-02	0.700
I-135	-1.187E+08		1.832E+08	Half-Life too short		
CS-136	8.546E-02		1.314E-01	2.284E-01	1.759E-02	0.374
BA-137M	3.222E-02		4.630E-02	7.860E-02	3.955E-03	0.410
CS-137	3.406E-02		4.894E-02	8.309E-02	4.204E-03	0.410
CE-139	-2.620E-02		3.963E-02	6.197E-02	4.121E-03	-0.423
BA-140	-6.821E-03		2.692E-01	4.363E-01	1.417E-01	-0.016
LA-140	-5.463E-02		1.070E-01	1.312E-01	9.147E-03	-0.416
CE-141	3.538E-02		7.840E-02	1.295E-01	9.036E-03	0.273
CE-143	5.108E-04		8.294E-05	Half-Life too short		
CE-144	-2.004E-01		2.667E-01	4.165E-01	6.122E-02	-0.481
PM-144	-2.613E-04		4.149E-02	6.956E-02	3.815E-03	-0.004
PR-144	-1.769E-02		2.810E+00	4.711E+00	2.582E-01	-0.004
PM-146	4.329E-02		5.511E-02	9.503E-02	8.139E-03	0.455
ND-147	-5.856E-03		6.551E-01	1.064E+00	1.430E-01	-0.006
PM-149	7.309E+01		8.335E+01	1.443E+02	2.112E+01	0.507
EU-152	-2.137E-02		1.953E-01	1.843E-01	1.299E-02	-0.116
GD-153	6.758E-02		1.179E-01	1.748E-01	1.677E-02	0.387
EU-154	-4.849E-02		1.500E-01	2.334E-01	2.341E-02	-0.208
EU-155	5.737E-02		1.431E-01	2.379E-01	2.060E-02	0.241

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TB-160	4.124E-02		1.655E-01	2.805E-01	2.306E-02	0.147
HO-166M	1.293E-02		7.701E-02	1.307E-01	7.426E-03	0.099
TM-171	-2.920E+01		5.032E+01	8.008E+01	9.209E+00	-0.365
LU-176	-2.167E-02		3.067E-02	4.896E-02	3.298E-03	-0.442
LU-177	1.600E+00	+	1.915E+00	2.204E+00	1.515E-01	0.726
LU-177M	-9.554E-02		2.299E-01	3.679E-01	2.097E-02	-0.260
HF-181	2.461E-02		5.712E-02	9.601E-02	5.466E-03	0.256
W-181	-4.430E-02		6.582E-01	1.070E+00	1.246E-01	-0.041
TA-182	2.040E-01		2.494E-01	4.345E-01	2.709E-02	0.470
RE-183	5.842E-02		1.427E-01	2.344E-01	1.563E-02	0.249
RE-184	-5.121E-02		2.905E-01	4.837E-01	3.367E-02	-0.106
OS-185	-8.038E-03		5.407E-02	8.584E-02	4.398E-03	-0.094
RE-188	1.324E-01		2.150E-01	3.569E-01	2.394E-02	0.371
W-188	-7.110E+00		1.112E+01	1.537E+01	1.052E+00	-0.463
IR-192	-4.211E-03		4.103E-02	6.788E-02	4.537E-03	-0.062
AU-195	3.171E-01		3.039E-01	5.017E-01	4.703E-02	0.632
TL-200	-7.155E-05		1.408E-04	Half-Life too short		
TL-201	-7.143E+00		7.208E+00	1.108E+01	7.370E-01	-0.645
TL-202	1.458E-01		8.270E-02	1.508E-01	8.621E-03	0.966
HG-203	-3.512E-03		5.225E-02	8.713E-02	6.276E-03	-0.040
BI-207	-2.455E-02		6.909E-02	1.092E-01	7.756E-03	-0.225
TL-207	-1.015E-01		8.650E-01	1.429E+00	2.402E-01	-0.071
PO-209	-5.523E+00		8.798E+00	1.360E+01	1.158E+00	-0.406
BI-210	1.034E+01		1.396E+01	2.329E+01	2.419E+00	0.444
PB-210	1.034E+01		1.396E+01	2.329E+01	2.419E+00	0.444
PO-210	1.034E+01		1.395E+01	2.329E+01	2.237E+00	0.444
PB-211	-1.208E+00		1.453E+00	1.921E+00	1.198E+00	-0.629
BI-212	9.820E-01	+	5.726E-01	7.822E-01	6.090E-02	1.255
PO-215	-1.015E-01		8.650E-01	1.429E+00	2.402E-01	-0.071
RN-219	1.554E-01		5.156E-01	8.656E-01	1.174E-01	0.180
RN-220	1.932E+00		3.243E+01	5.289E+01	2.934E+00	0.037
RA-223	-1.015E-01		8.650E-01	1.429E+00	2.402E-01	-0.071
RA-224	5.778E+00		1.220E+00	2.081E+00	1.448E-01	2.777
AC-227	-7.000E-02		4.867E-01	8.112E-01	1.175E-01	-0.086
TH-227	-7.000E-02		4.868E-01	8.112E-01	1.406E-01	-0.086
TH-229	4.606E-02		6.374E-01	1.026E+00	6.978E-02	0.045
PA-231	-9.704E-01		1.969E+00	3.199E+00	4.565E-01	-0.303
TH-231	-1.015E-01		8.650E-01	1.429E+00	2.402E-01	-0.071
U-231	-1.213E+00		1.357E+00	1.846E+00	1.819E-01	-0.657
PA-233	1.321E-02		7.795E-02	1.311E-01	9.191E-03	0.101
PA-234	-2.813E-01		3.846E-01	5.827E-01	1.082E-01	-0.483
PA-234M	1.666E+00		5.585E+00	9.497E+00	8.753E-01	0.175
TH-234	-6.882E-01		2.481E+00	4.059E+00	8.010E-01	-0.170
U-235	1.472E-01		2.656E-01	4.392E-01	7.328E-02	0.335
NP-236	-1.275E-01		1.065E-01	1.621E-01	1.082E-02	-0.786
U-238	-6.882E-01		2.481E+00	4.059E+00	8.010E-01	-0.170
NP-239	-9.275E-02		2.507E-01	4.025E-01	3.026E-02	-0.230
AM-241	-3.647E-01		3.275E-01	5.139E-01	6.540E-02	-0.710

Sample ID : G243385008 Acquisition date : 31-DEC-2009 10:18:51

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	3.895E-02		1.287E-01	2.134E-01	1.862E-02	0.183
AM-246	-4.582E-02		1.691E-01	2.684E-01	1.860E-02	-0.171
CM-247	1.888E-02		4.533E-02	7.672E-02	4.363E-03	0.246
CF-249	-2.335E-02		4.975E-02	7.952E-02	4.559E-03	-0.294
CF-251	-9.958E-03		1.602E-01	2.571E-01	1.723E-02	-0.039

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243385008           *
* Acquisition date  : 31-DEC-2009 10:18:51 Detector SN#     :               *
* Detector ID       : GAM15                Sensitivity     : 5.000          *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.15      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243385008           Analyst initials: MJH1           *
* Batch Number      : 936285               Sample Quantity : 1.1551E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME : 16-FEB-2009 10:54:12 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.148E+01	3.136E+00	2.871E-01	1.600E+00
CD-109	1.789E+00	1.277E+00	8.581E-01	6.518E-01
SN-126	1.762E-01	1.258E-01	8.516E-02	6.417E-02
TL-208	5.602E-01	1.146E-01	3.318E-02	5.848E-02
BI-211	3.224E+00	5.996E-01	1.915E-01	3.059E-01
PB-212	1.730E+00	2.429E-01	6.035E-02	1.239E-01
PO-212	1.730E+00	2.429E-01	6.035E-02	1.239E-01
BI-214	9.141E-01	1.687E-01	6.201E-02	8.605E-02
PB-214	1.122E+00	2.163E-01	6.674E-02	1.104E-01
PO-214	1.122E+00	2.163E-01	6.674E-02	1.104E-01
PO-216	1.730E+00	2.429E-01	6.035E-02	1.239E-01
PO-218	1.122E+00	2.163E-01	6.674E-02	1.104E-01
RA-226	9.141E-01	1.687E-01	6.201E-02	8.605E-02
AC-228	1.517E+00	4.220E-01	1.116E-01	2.153E-01
RA-228	1.517E+00	4.220E-01	1.116E-01	2.153E-01
TH-228	1.754E+00	2.463E-01	6.119E-02	1.257E-01
TH-230	9.141E-01	1.687E-01	6.201E-02	8.605E-02
TH-232	1.517E+00	4.220E-01	1.116E-01	2.153E-01
U-234	9.141E-01	1.687E-01	6.201E-02	8.605E-02
NP-237	5.173E-01	3.839E-01	2.549E-01	1.959E-01
AM-243	3.585E-01	1.273E-01	6.722E-02	6.494E-02
ANH-511	1.204E-01	8.569E-02	3.006E-02	4.372E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	-2.729E-01	4.186E-01	3.355E-01	2.136E-01	NOT IDENT.
NA-22	-1.577E-02	5.274E-02	4.198E-02	2.691E-02	NOT IDENT.
NA-24	-2.276E+05	2.669E+05	0.000E+00	1.362E+05	SHORT HLIF
AL-26	1.310E-02	2.884E-02	2.664E-02	1.471E-02	NOT IDENT.
TI-44	1.571E-01	5.955E-02	4.869E-02	3.038E-02	NOT IDENT.

SC-46	2.013E-02	4.676E-02	4.109E-02	2.386E-02	FAIL ABUN
V-48	-3.207E-02	7.933E-02	6.383E-02	4.047E-02	NOT IDENT.
CR-51	-1.435E-01	4.490E-01	3.786E-01	2.291E-01	NOT IDENT.
MN-52	-7.548E-02	2.233E-01	1.800E-01	1.139E-01	NOT IDENT.
MN-54	4.879E-03	4.043E-02	3.472E-02	2.063E-02	NOT IDENT.
CO-56	-5.525E-03	4.598E-02	3.859E-02	2.346E-02	NOT IDENT.
CO-57	-6.302E-03	3.314E-02	2.792E-02	1.691E-02	NOT IDENT.
CO-58	1.689E-02	4.795E-02	4.198E-02	2.446E-02	NOT IDENT.
FE-59	-1.586E-03	1.129E-01	9.398E-02	5.761E-02	NOT IDENT.
CO-60	5.679E-02	4.984E-02	4.631E-02	2.543E-02	NOT IDENT.
ZN-65	-2.168E-02	1.261E-01	9.051E-02	6.435E-02	NOT IDENT.
GE-68	2.041E-01	1.425E+00	1.207E+00	7.270E-01	NOT IDENT.
AS-73	-1.251E+00	2.107E+00	1.789E+00	1.075E+00	NOT IDENT.
AS-74	2.071E-02	1.115E-01	9.379E-02	5.689E-02	NOT IDENT.
SE-75	1.819E-02	6.412E-02	4.933E-02	3.271E-02	NOT IDENT.
BR-77	-2.399E+00	9.528E+00	7.815E+00	4.861E+00	FAIL ABUN
SR-82	-4.998E-01	4.157E-01	3.140E-01	2.121E-01	NOT IDENT.
RB-83	-3.412E-02	8.835E-02	7.171E-02	4.508E-02	NOT IDENT.
RB-84	7.502E-04	8.220E-02	6.963E-02	4.194E-02	NOT IDENT.
KR-85	1.086E+01	1.051E+01	8.311E+00	5.361E+00	NOT IDENT.
SR-85	5.500E-02	5.321E-02	4.208E-02	2.715E-02	NOT IDENT.
RB-86	3.426E-01	8.593E-01	7.473E-01	4.384E-01	NOT IDENT.
Y-88	-4.261E-03	3.720E-02	3.024E-02	1.898E-02	NOT IDENT.
ZR-88	1.826E-02	3.632E-02	3.186E-02	1.853E-02	NOT IDENT.
Y-91	2.649E+00	2.349E+01	1.965E+01	1.198E+01	NOT IDENT.
NB-94	-5.707E-03	4.027E-02	3.421E-02	2.055E-02	NOT IDENT.
NB-95	2.205E-02	5.045E-02	4.448E-02	2.574E-02	NOT IDENT.
NB-95M	1.392E+00	2.475E-01	2.104E-01	1.263E-01	NOT IDENT.
ZR-95	4.401E-02	7.651E-02	6.862E-02	3.903E-02	NOT IDENT.
NB-97	-2.514E+04	4.013E+04	0.000E+00	2.047E+04	SHORT HLIF
ZR-97	2.193E+06	8.377E+05	0.000E+00	4.274E+05	SHORT HLIF
MO-99	-4.317E+00	1.042E+01	8.608E+00	5.319E+00	NOT IDENT.
TC-99M	-4.419E+14	1.774E+15	0.000E+00	9.053E+14	SHORT HLIF
RH-101	-1.742E-02	4.359E-02	3.462E-02	2.224E-02	NOT IDENT.
RH-102	-4.524E-03	3.761E-02	3.134E-02	1.919E-02	NOT IDENT.
RU-103	6.222E-03	5.138E-02	4.344E-02	2.621E-02	FAIL ABUN
RH-106	8.235E-03	3.659E-01	3.032E-01	1.867E-01	FAIL ABUN
RU-106	8.235E-03	3.659E-01	3.032E-01	1.867E-01	FAIL ABUN
AG-108M	-3.176E-02	4.175E-02	3.340E-02	2.130E-02	NOT IDENT.
AG-110M	-2.892E-02	4.616E-02	3.604E-02	2.355E-02	NOT IDENT.
IN-111	-9.528E-01	1.084E+00	8.118E-01	5.530E-01	NOT IDENT.
IN-113M	-1.879E-02	5.460E-02	4.536E-02	2.785E-02	NOT IDENT.
SN-113	-1.879E-02	5.460E-02	4.536E-02	2.785E-02	NOT IDENT.
IN-114M	-1.522E-03	2.529E-01	1.837E-01	1.290E-01	NOT IDENT.
CD-115	-9.373E+00	9.602E+00	7.397E+00	4.899E+00	NOT IDENT.
SN-117M	2.211E-02	6.531E-02	5.565E-02	3.332E-02	NOT IDENT.
SB-122	2.967E-01	2.005E+00	1.686E+00	1.023E+00	NOT IDENT.
I-123	1.569E+05	1.622E+06	0.000E+00	8.274E+05	SHORT HLIF
TE-123M	3.464E-03	3.581E-02	3.020E-02	1.827E-02	NOT IDENT.
I-124	6.270E-01	7.793E-01	6.049E-01	3.976E-01	NOT IDENT.
SB-124	-6.609E-03	8.036E-02	6.628E-02	4.100E-02	FAIL ABUN
SB-125	-2.100E-02	1.169E-01	9.768E-02	5.964E-02	FAIL ABUN
TE-125M	9.437E+00	1.189E+01	1.043E+01	6.065E+00	NOT IDENT.
I-126	-2.533E-01	2.106E-01	1.542E-01	1.074E-01	NOT IDENT.
SB-126	-1.405E-01	1.813E-01	1.210E-01	9.250E-02	NOT IDENT.
SB-127	1.105E-01	1.223E+00	1.060E+00	6.241E-01	NOT IDENT.
XE-127	-4.411E-03	6.878E-02	4.959E-02	3.509E-02	NOT IDENT.
I-131	3.712E-02	1.290E-01	1.120E-01	6.583E-02	NOT IDENT.
TE-132	1.626E-01	6.867E-01	6.052E-01	3.504E-01	NOT IDENT.
BA-133	-1.790E-02	5.789E-02	4.165E-02	2.954E-02	NOT IDENT.
I-133	1.361E+03	2.834E+03	0.000E+00	1.446E+03	SHORT HLIF
CS-134	8.984E-02	5.584E-02	5.316E-02	2.849E-02	NOT IDENT.
CS-135	2.759E-01	2.494E-01	1.998E-01	1.272E-01	NOT IDENT.
I-135	-1.187E+14	3.592E+14	0.000E+00	1.832E+14	SHORT HLIF
CS-136	8.546E-02	1.287E-01	1.142E-01	6.569E-02	FAIL ABUN
BA-137M	3.222E-02	4.537E-02	3.948E-02	2.315E-02	NOT IDENT.
CS-137	3.406E-02	4.796E-02	4.174E-02	2.447E-02	NOT IDENT.
CE-139	-2.620E-02	3.884E-02	3.155E-02	1.982E-02	NOT IDENT.
BA-140	-6.821E-03	2.638E-01	2.196E-01	1.346E-01	NOT IDENT.
LA-140	-5.463E-02	1.049E-01	6.534E-02	5.350E-02	NOT IDENT.
CE-141	3.538E-02	7.683E-02	6.599E-02	3.920E-02	NOT IDENT.
CE-143	5.108E+02	1.626E+02	0.000E+00	8.294E+01	SHORT HLIF
CE-144	-2.004E-01	2.614E-01	2.125E-01	1.334E-01	NOT IDENT.
PM-144	-2.613E-04	4.066E-02	3.492E-02	2.075E-02	NOT IDENT.
PR-144	-1.769E-02	2.754E+00	2.365E+00	1.405E+00	NOT IDENT.
PM-146	4.329E-02	5.401E-02	4.791E-02	2.755E-02	NOT IDENT.
ND-147	-5.856E-03	6.420E-01	5.357E-01	3.276E-01	FAIL ABUN
PM-149	7.309E+01	8.168E+01	7.306E+01	4.167E+01	NOT IDENT.

EU-152	-2.137E-02	1.914E-01	9.316E-02	9.763E-02	NOT IDENT.
GD-153	6.758E-02	1.155E-01	8.944E-02	5.895E-02	NOT IDENT.
EU-154	-4.849E-02	1.470E-01	1.165E-01	7.500E-02	NOT IDENT.
EU-155	5.737E-02	1.402E-01	1.217E-01	7.155E-02	FAIL ABUN
TB-160	4.124E-02	1.622E-01	1.405E-01	8.273E-02	FAIL ABUN
HO-166M	1.293E-02	7.547E-02	6.558E-02	3.851E-02	FAIL ABUN
TM-171	-2.920E+01	4.931E+01	4.112E+01	2.516E+01	NOT IDENT.
LU-176	-2.167E-02	3.005E-02	2.478E-02	1.533E-02	NOT IDENT.
LU-177	1.600E+00	1.877E+00	1.120E+00	9.575E-01	FAIL ABUN
LU-177M	-9.554E-02	2.253E-01	1.857E-01	1.149E-01	FAIL ABUN
HF-181	2.461E-02	5.597E-02	4.838E-02	2.856E-02	NOT IDENT.
W-181	-4.430E-02	6.450E-01	5.498E-01	3.291E-01	NOT IDENT.
TA-182	2.040E-01	2.444E-01	2.169E-01	1.247E-01	FAIL ABUN
RE-183	5.842E-02	1.398E-01	1.194E-01	7.133E-02	FAIL ABUN
RE-184	-5.121E-02	2.847E-01	2.452E-01	1.453E-01	NOT IDENT.
OS-185	-8.038E-03	5.299E-02	4.313E-02	2.703E-02	NOT IDENT.
RE-188	1.324E-01	2.107E-01	1.818E-01	1.075E-01	NOT IDENT.
W-188	-7.110E+00	1.089E+01	7.784E+00	5.558E+00	NOT IDENT.
IR-192	-4.211E-03	4.021E-02	3.434E-02	2.052E-02	FAIL ABUN
AU-195	3.171E-01	2.978E-01	2.567E-01	1.520E-01	FAIL ABUN
TL-200	-7.155E+01	2.760E+02	0.000E+00	1.408E+02	SHORT HLIF
TL-201	-7.143E+00	7.063E+00	5.638E+00	3.604E+00	NOT IDENT.
TL-202	1.458E-01	8.105E-02	7.607E-02	4.135E-02	NOT IDENT.
HG-203	-3.512E-03	5.120E-02	4.414E-02	2.612E-02	FAIL ABUN
BI-207	-2.455E-02	6.771E-02	5.458E-02	3.454E-02	FAIL ABUN
TL-207	-1.015E-01	8.477E-01	7.229E-01	4.325E-01	FAIL ABUN
PO-209	-5.523E+00	8.622E+00	6.811E+00	4.399E+00	NOT IDENT.
BI-210	1.034E+01	1.368E+01	1.200E+01	6.979E+00	NOT IDENT.
PB-210	1.034E+01	1.368E+01	1.200E+01	6.979E+00	NOT IDENT.
PO-210	1.034E+01	1.367E+01	1.200E+01	6.976E+00	NOT IDENT.
PB-211	-1.208E+00	1.424E+00	9.697E-01	7.267E-01	NOT IDENT.
BI-212	9.820E-01	5.612E-01	3.925E-01	2.863E-01	FAIL ABUN
PO-215	-1.015E-01	8.477E-01	7.229E-01	4.325E-01	FAIL ABUN
RN-219	1.554E-01	5.053E-01	4.369E-01	2.578E-01	FAIL ABUN
RN-220	1.932E+00	3.178E+01	2.661E+01	1.622E+01	NOT IDENT.
RA-223	-1.015E-01	8.477E-01	7.229E-01	4.325E-01	FAIL ABUN
RA-224	5.778E+00	1.196E+00	1.056E+00	6.100E-01	NOT IDENT.
AC-227	-7.000E-02	4.770E-01	4.112E-01	2.434E-01	FAIL ABUN
TH-227	-7.000E-02	4.770E-01	4.112E-01	2.434E-01	FAIL ABUN
TH-229	4.606E-02	6.247E-01	5.217E-01	3.187E-01	FAIL ABUN
PA-231	-9.704E-01	1.930E+00	1.620E+00	9.845E-01	NOT IDENT.
TH-231	-1.015E-01	8.477E-01	7.229E-01	4.325E-01	FAIL ABUN
U-231	-1.213E+00	1.330E+00	9.447E-01	6.784E-01	FAIL ABUN
PA-233	1.321E-02	7.639E-02	6.635E-02	3.897E-02	FAIL ABUN
PA-234	-2.813E-01	3.769E-01	2.917E-01	1.923E-01	FAIL ABUN
PA-234M	1.666E+00	5.473E+00	4.751E+00	2.792E+00	NOT IDENT.
TH-234	-6.882E-01	2.432E+00	2.085E+00	1.241E+00	FAIL ABUN
U-235	1.472E-01	2.603E-01	2.239E-01	1.328E-01	FAIL ABUN
NP-236	-1.275E-01	1.043E-01	8.255E-02	5.324E-02	NOT IDENT.
U-238	-6.882E-01	2.432E+00	2.085E+00	1.241E+00	FAIL ABUN
NP-239	-9.275E-02	2.457E-01	2.056E-01	1.254E-01	FAIL ABUN
AM-241	-3.647E-01	3.209E-01	2.642E-01	1.637E-01	NOT IDENT.
CM-243	3.895E-02	1.262E-01	1.091E-01	6.437E-02	FAIL ABUN
AM-246	-4.582E-02	1.657E-01	1.342E-01	8.454E-02	NOT IDENT.
CM-247	1.888E-02	4.442E-02	3.872E-02	2.266E-02	NOT IDENT.
CF-249	-2.335E-02	4.876E-02	4.015E-02	2.488E-02	NOT IDENT.
CF-251	-9.958E-03	1.570E-01	1.308E-01	8.009E-02	NOT IDENT.

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                          CHARLESTON ,SC 29417                             *
*                   GAMMA SPECTROSCOPY BACKGROUND REPORT                    *
*****************************************************************************
```

ENERGY	MDA COUNTS
46.50	218.9526
46.50	218.9526
46.50	218.9526
48.70	254.6962
49.72	247.5804
51.35	252.9978
52.39	238.2467
52.97	261.2759
53.15	261.3530
53.44	265.2796
54.07	276.0207
56.28	260.7577
56.28	260.7587
57.37	0.0000
57.53	258.3995
57.53	258.4005
57.60	255.5564
57.98	255.7071
57.98	255.7071
59.32	331.0911
59.32	331.0911
59.40	331.1319
59.54	331.2023
59.72	340.8965
60.01	346.8110
61.10	306.0051
61.14	306.0233
61.30	306.0967
63.00	317.4879
63.29	313.7614
63.29	313.7614
63.58	291.6815
64.28	284.2461
65.12	325.2498
65.20	325.2872
65.20	325.2872
66.05	368.3352
66.72	353.1638
66.83	353.2207
66.91	353.2610
67.20	339.5368
67.20	339.5368
67.75	329.0665
67.85	329.1130
68.90	358.1481
68.90	358.1481
69.30	361.4649
69.67	355.4164
70.82	332.5616
70.82	332.5616
70.83	332.5668
72.80	352.2491
72.87	352.2821
72.87	352.2821
74.67	336.4604
74.81	336.5232
74.81	336.5232
74.81	336.5232
74.81	336.5232
74.81	336.5232
74.81	336.5232
74.81	336.5232
74.97	336.5952
75.28	336.7339
75.70	336.9210
77.11	337.5464
77.11	337.5464

77.11	337.5464
77.11	337.5464
77.11	337.5464
77.11	337.5464
77.11	337.5464
78.38	321.7420
79.62	369.2534
79.80	369.3390
79.80	369.3390
80.11	389.9031
80.18	389.9378
80.30	389.9980
80.30	389.9980
80.57	387.4960
81.00	387.7083
81.07	375.8730
81.07	375.8730
81.07	375.8730
81.07	375.8730
82.60	388.4919
83.37	378.2844
83.78	367.2308
83.78	367.2308
83.78	367.2308
83.78	367.2308
84.21	351.1410
84.90	346.6711
85.43	354.8536
86.29	332.5284
86.50	332.6138
86.54	332.6303
86.59	332.6507
86.72	332.7030
86.79	332.7310
86.94	332.7921
87.30	332.9387
87.30	332.9387
87.30	332.9387
87.30	332.9387
87.30	332.9387
87.30	332.9387
87.30	332.9387
87.57	333.0470
87.88	333.1718
88.03	333.2330
88.36	333.3655
88.47	333.4101
89.95	334.0013
91.11	334.4625
92.29	334.9276
92.38	334.9632
92.38	334.9632
93.35	310.0416
94.00	313.4925
94.67	304.0807
94.67	304.0819
94.90	304.1626
94.90	304.1626
94.90	304.1626
94.90	304.1626
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95.87	348.0034
96.73	325.7688
97.43	285.6772
98.44	257.1886
98.44	257.1886
98.88	265.5916
99.55	287.1711
99.55	287.1711
99.86	287.2707
100.00	305.5252
100.10	307.5845
103.18	289.3444
103.76	291.5599
105.00	293.9886
105.31	292.0515
108.00	324.5348
109.28	284.0988

111.00	329.6611
111.00	329.6611
111.76	325.8255
112.95	324.1765
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116.30	297.5010
117.00	300.8036
117.00	300.8036
117.66	331.9298
121.11	277.2215
121.62	293.9215
121.78	293.9681
122.06	301.2971
122.32	308.6232
122.32	308.6232
122.32	308.6232
122.32	308.6232
123.07	298.4875
127.23	302.8212
129.76	281.6505
131.20	340.5301
133.02	307.6310
133.54	306.7344
135.34	304.1026
136.00	269.6626
136.25	267.6263
136.48	276.0806
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140.51	0.0000
142.18	288.0692
142.65	291.3580
143.76	267.3436
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144.24	248.4289
144.24	248.4289
144.24	248.4289
145.22	250.7620
145.44	275.1511
147.16	297.8271
152.43	274.7057
152.70	276.9006
153.22	286.6129
154.21	283.6559
154.21	283.6559
154.21	283.6559
154.21	283.6559
155.03	255.0425
156.02	275.5501
158.56	260.0878
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162.32	267.3437
162.64	252.3804
163.35	262.1987
163.89	248.3402
165.85	297.1940
167.43	306.2016
171.28	241.1790
171.86	244.5373
172.10	242.4194
176.55	241.1018
176.60	241.1103
181.06	266.7975
184.41	252.4042
185.71	243.2483
186.00	227.5476
190.27	235.3048
192.34	231.9306
193.63	225.5505
197.04	238.2490
198.01	252.7680
198.60	245.1448
200.40	234.4095
201.83	265.6421
202.84	255.2010
205.31	257.4281

208.36	273.9967
208.81	274.0832
209.75	283.1702
209.75	283.1702
210.97	245.9793
215.65	223.5336
216.55	230.3811
218.09	213.8316
222.10	221.1516
223.80	203.4234
226.40	228.7721
227.00	238.7750
227.08	238.7879
227.20	238.8057
228.16	229.0403
228.18	229.0434
228.18	229.0434
231.56	0.0000
235.69	237.1242
236.00	232.6402
236.00	232.6402
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238.63	218.8122
238.63	218.8122
238.63	218.8122
239.00	218.8637
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241.98	218.3730
241.98	218.3730
241.98	218.3730
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245.39	217.5450
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248.90	202.8826
249.79	190.1948
252.40	191.4205
252.85	184.1449
252.85	184.1449
254.15	0.0000
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256.20	189.1167
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260.90	189.6623
262.80	190.9345
264.65	181.4797
268.24	209.6141
268.79	205.0579
269.46	213.7793
269.46	213.7793
269.46	213.7793
269.46	213.7793
271.23	211.5317
273.65	242.7603
276.40	156.6447
277.35	172.5223
277.60	179.4697
277.60	179.4697
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278.60	186.0889
279.20	188.9471
279.53	199.2222
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281.68	207.8593
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284.30	165.2331
285.00	151.2916
285.90	156.9750
286.10	157.9279
286.10	157.9279
287.40	161.0589
288.45	0.0000
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290.80	195.2057
291.72	190.6200
293.26	0.0000
293.70	167.3704
295.21	150.2910
295.21	150.2910

295.21	150.2910
295.96	150.3535
296.50	150.4004
297.23	150.4609
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299.80	153.8149
300.09	152.2710
300.09	152.2710
300.09	152.2710
300.09	152.2710
300.12	152.2729
301.29	135.0924
302.84	127.3469
303.76	128.9842
303.91	128.9958
304.40	135.3233
304.40	135.3233
304.84	147.0485
306.84	154.0979
308.46	141.9324
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319.41	138.0120
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323.87	159.3289
323.87	159.3289
323.87	159.3289
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334.20	134.2903
334.30	134.2971
338.28	123.0375
338.28	123.0375
338.28	123.0375
338.28	123.0375
338.32	123.0406
338.32	123.0406
338.32	123.0406
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340.57	113.8785
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345.85	96.4929
350.59	0.0000
351.07	108.3564
351.92	108.4016
351.92	108.4016
351.92	108.4016
355.39	0.0000
356.01	117.9968
364.48	115.8914
366.43	124.7750
367.43	136.5393
367.94	0.0000
369.80	147.4351
374.96	147.8001
383.85	127.7831
387.95	122.1185
388.63	121.1727
391.69	121.3454
391.69	121.3454
392.90	100.6839
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401.81	109.0251
402.60	103.1164
404.84	145.8982
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432.53	100.4761
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443.98	113.0869
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445.03	108.0867
445.03	108.0867
445.03	108.0867
445.03	108.0867
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468.07	101.9910
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475.06	104.3284
475.35	105.3638
476.78	103.3783
477.59	116.7220
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487.03	108.9437
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497.08	95.9641
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510.53	0.0000
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511.00	94.4108
511.85	94.4419
511.85	94.4419
513.99	98.6738
513.99	98.6738
520.41	98.9174
520.65	96.8440
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529.64	80.4552
529.87	0.0000
531.02	83.6328
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546.56	0.0000
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552.65	88.5220
555.20	75.9463
563.23	99.4413
563.90	94.1736
568.70	79.4971
569.32	79.5154
569.50	77.3985
569.67	72.1022
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574.00	98.2316
574.64	106.2207
578.91	72.6943
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583.14	67.1205
585.48	56.8685
591.81	76.3323
592.07	80.1544
593.00	72.6982
595.88	83.4710
600.56	98.8507
602.52	0.0000
602.71	76.8754
602.71	76.8754
603.60	82.2632
604.41	93.0196
604.70	93.0291
609.31	66.2977

609.31	66.2977
609.31	66.2977
609.31	66.2977
610.33	75.2842
612.46	66.3684
614.37	66.4121
618.01	69.0094
621.84	64.7798
621.84	64.7798
631.29	50.9048
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633.10	62.8569
634.78	53.1332
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636.97	77.0444
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646.12	75.0998
656.30	89.5454
657.75	92.8650
657.90	0.0000
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661.65	71.1033
664.57	0.0000
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666.33	89.8336
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677.61	63.7703
685.20	60.6155
692.80	65.3636
695.00	67.2508
696.49	74.6554
696.49	74.6554
697.00	76.5106
697.49	72.8346
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698.50	80.2350
699.00	78.4026
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713.82	78.7589
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720.50	74.8079
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722.78	63.7095
722.78	63.7095
722.89	63.7123
722.95	63.7137
723.30	70.0928
724.18	60.5506
727.18	57.4152
733.00	70.2969
735.90	60.6294
739.58	71.9024
742.81	71.0366
744.21	73.8712
747.13	52.4089
751.79	60.9150
752.31	65.6108
753.82	60.9520
755.35	53.4734
756.15	48.7944
756.87	52.5592
763.93	92.1681
765.79	70.5750
766.42	70.5872
766.84	67.7725
776.49	69.8492
778.00	61.3805
778.57	59.5009
778.89	52.8953
783.80	55.8070
785.46	49.2091
792.07	53.0936

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796.30	57.9023
798.80	92.1393
801.93	58.9449
805.60	63.7640
810.29	59.0824
810.76	59.0912
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818.51	51.5764
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826.30	49.7730
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831.60	63.2648
831.96	53.6849
834.83	51.8082
836.80	0.0000
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848.13	53.9207
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856.80	54.5976
860.37	51.1993
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873.19	60.0966
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875.33	0.0000
876.40	49.4758
879.36	48.5433
880.27	48.5555
880.51	43.7027
881.50	53.4278
883.24	51.5087
884.67	51.5281
889.25	48.6694
896.60	55.5887
898.02	53.6572
899.00	49.7684
903.28	53.5904
911.07	39.1545
911.07	39.1545
911.07	39.1545
919.63	48.3959
920.93	38.2716
925.00	49.1170
925.24	49.1201
926.50	54.0489
935.52	52.2021
937.48	68.9789
944.10	35.5334
946.00	62.2130
949.00	45.4591
962.29	54.3906
964.01	44.2105
966.15	42.5328
968.20	93.6182
969.11	81.4378
969.11	81.4378
969.11	81.4378
977.42	40.3039
980.50	51.7863
983.50	50.8278
989.30	40.9183
996.32	51.9841
1001.03	41.0334
1001.68	42.0410
1004.76	60.1025
1021.30	0.0000
1024.50	0.0000
1034.80	46.4043
1036.00	50.4537
1037.82	60.5713
1038.57	56.5423
1038.76	0.0000
1045.16	56.6289
1046.59	56.6471
1048.07	46.5465

1050.47	52.6475
1050.47	52.6475
1062.04	61.9233
1063.62	58.8992
1076.63	38.7035
1077.35	41.7657
1078.86	46.8741
1085.78	31.6383
1099.22	53.2314
1112.02	42.2360
1112.84	47.5250
1115.52	52.8348
1120.29	55.5359
1120.29	55.5359
1120.29	55.5359
1120.29	55.5359
1120.51	55.5381
1121.28	55.5469
1124.00	0.0000
1129.67	51.0126
1131.51	0.0000
1147.95	0.0000
1167.94	52.9922
1173.22	74.8975
1175.09	64.5203
1177.93	52.0630
1189.05	59.4910
1204.90	58.6409
1205.75	0.0000
1213.00	55.5922
1221.42	51.4863
1230.97	72.6415
1235.34	69.5449
1236.41	0.0000
1238.25	64.3161
1246.25	53.8596
1260.41	0.0000
1271.85	46.7070
1274.45	43.5442
1274.54	43.5442
1291.56	44.7583
1298.22	0.0000
1312.09	53.4973
1325.50	39.6904
1325.50	39.6904
1332.49	24.7061
1333.61	32.2327
1360.21	28.0767
1362.66	0.0000
1365.15	21.6178
1368.21	38.9341
1368.53	0.0000
1376.25	24.9120
1384.27	34.4023
1394.10	27.9450
1395.20	24.2245
1407.95	15.8764
1434.06	22.5209
1436.60	20.6542
1457.56	0.0000
1460.81	16.5009
1489.15	20.8491
1509.49	20.9242
1596.49	20.2727
1620.62	11.6309
1678.03	0.0000
1691.02	11.7652
1691.02	11.7652
1706.46	0.0000
1750.46	0.0000
1764.49	11.9025
1764.49	11.9025
1764.49	11.9025
1764.49	11.9025
1770.23	6.9492
1771.40	34.7522
1791.20	0.0000
1808.65	5.9916

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243385008

Total Uranium Activity	-1.9793E+00	ug/g
Total Uranium Counting Unc.	7.2348E+00	ug/g
Total Uranium Tpu	3.6912E-06	ug/g
Total Uranium Mda	6.2039E+00	ug/g

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*                                                                             *
*                          GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                              *
*                             CHARLESTON ,SC 29417                            *
*                              GROSS GAMMA REPORT                             *
*                                                                             *
*                                                                             *
*******************************************************************************
*                                                                             *
*   BATCH ID      : 936285                    SAMPLE ID  : G243385008         *
*   ANALYST       : MJH1                      DETECTOR   : GAM15              *
*   SAMPLE DATE   : 17-DEC-2009 12:00:00.00   COUNT TIME :    0 02:00:00.00   *
*   ANALYSIS DATE: 31-DEC-2009 10:18:51.62    SAMPLE ALQT:  115.510 GRAM      *
*                                                                             *
*******************************************************************************


        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 8.613E+00
        GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.455E+00
        GROSS GAMMA MDA     (pCi/GRAM  )  : 3.504E+00
        GROSS GAMMA DLC     (pCi/GRAM  )  : 1.693E+00
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VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 12:54:58.98

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385009.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 10:54:11
Sample ID         : G243385009           Sample quantity  : 1.48420E+02 GRAM
Detector name     : GAM01                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.16  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	2	74.90	376	430	1.18	150.56	146	15	5.22E-02	10.5	9.25E-01
2	2	77.13*	573	341	1.07	155.03	146	15	7.96E-02	6.9	
3	0	87.31	108	746	1.22	175.39	169	10	1.50E-02	48.3	
4	0	89.85	115	320	1.18	180.45	179	5	1.59E-02	25.3	
5	0	93.06*	144	461	1.42	186.88	183	8	2.00E-02	28.9	
6	0	186.16*	207	379	1.14	373.06	369	11	2.87E-02	20.1	
7	0	209.53	63	318	1.06	419.80	416	9	8.72E-03	52.6	
8	3	238.86*	1081	230	1.18	478.46	474	16	1.50E-01	3.9	8.36E-01
9	3	241.89	217	280	1.53	484.52	474	16	3.01E-02	16.7	
10	0	270.22	106	166	1.18	541.17	537	8	1.48E-02	23.1	
11	0	278.13	62	246	1.34	556.98	551	12	8.68E-03	52.0	
12	0	295.40	401	179	1.43	591.51	588	10	5.57E-02	8.0	
13	0	300.28	67	169	1.18	601.27	598	9	9.29E-03	37.1	
14	0	338.44	240	177	1.24	677.58	671	11	3.33E-02	12.5	
15	0	352.08*	683	159	1.32	704.85	698	14	9.49E-02	5.6	
16	0	463.67	66	101	0.98	927.98	922	11	9.16E-03	32.0	
17	0	511.30*	49	173	1.71	1023.22	1017	14	6.79E-03	67.4	
18	0	583.17*	357	133	1.39	1166.92	1159	16	4.96E-02	9.1	
19	0	609.31*	385	97	1.49	1219.18	1213	13	5.34E-02	7.6	
20	0	727.43	115	111	1.84	1455.36	1448	17	1.59E-02	23.3	
21	0	769.18	40	67	1.37	1538.83	1531	12	5.53E-03	44.5	
22	0	794.97	45	54	2.06	1590.39	1585	11	6.20E-03	35.5	
23	0	860.65	59	51	0.88	1721.70	1715	16	8.14E-03	30.4	
24	0	910.74*	257	57	1.75	1821.84	1813	17	3.57E-02	8.8	
25	1	964.50	64	38	1.88	1929.32	1920	30	8.85E-03	22.5	8.49E-01
26	1	968.45*	133	30	1.75	1937.21	1920	30	1.85E-02	12.5	
27	0	1120.08*	96	59	1.76	2240.32	2231	18	1.34E-02	21.6	
28	0	1376.63*	43	14	1.84	2753.12	2745	18	6.03E-03	25.4	
29	0	1460.32*	839	18	1.69	2920.41	2911	18	1.17E-01	3.7	
30	0	1729.04	16	6	1.15	3457.47	3452	12	2.22E-03	39.5	
31	0	1764.07*	66	0	2.44	3527.46	3521	13	9.14E-03	13.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 12:55:01

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385009.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MJH1
Sample date : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 10:54:11
Sample ID : G243385009 Sample quantity : 148.42 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA1 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.16 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.062E+01	2.114E+00	3.915E-01	2.782E-02	52.676
CD-109	+	88.03	*	1.458E+00	1.416E+00	1.332E+00	1.226E-01	1.095
SN-126		64.28		5.697E-01	5.425E-01	9.056E-01	1.361E-01	0.629
	+	86.94		5.970E-01	6.279E-01	5.542E-01	2.298E-01	1.077
	+	87.57	*	1.436E-01	1.394E-01	1.318E-01	1.209E-02	1.089
HG-203		70.83		1.079E+00	1.144E+00	1.711E+00	2.297E-01	0.631
		72.87		7.066E-01	6.872E-01	1.027E+00	1.339E-01	0.688
		82.60		2.539E-01	1.314E+00	1.732E+00	2.402E-01	0.147
	+	279.20	*	6.351E-02	6.615E-02	5.495E-02	3.408E-03	1.156
TL-208	+	277.35		5.863E-01	6.127E-01	5.622E-01	5.950E-02	1.043
	+	510.84		2.350E-01	3.176E-01	2.165E-01	2.167E-02	1.085
	+	583.14	*	4.916E-01	9.438E-02	5.635E-02	3.570E-03	8.725
	+	860.37		7.672E-01	4.703E-01	3.827E-01	2.892E-02	2.005
BI-211		72.87		3.615E+00	3.497E+00	5.252E+00	4.399E-01	0.688
	+	351.07	*	4.053E+00	5.201E-01	3.127E-01	1.980E-02	12.960
PB-212	+	74.81		2.171E+00	5.310E-01	5.370E-01	6.760E-02	4.042
	+	77.11		1.865E+00	3.022E-01	3.026E-01	2.578E-02	6.163
	+	87.30		6.641E-01	6.482E-01	7.245E-01	9.821E-02	0.917
	+	238.63	*	1.379E+00	1.469E-01	9.772E-02	7.120E-03	14.115
	+	300.09		1.328E+00	9.914E-01	1.124E+00	9.305E-02	1.182
PO-212	+	74.81		2.171E+00	5.310E-01	5.370E-01	6.760E-02	4.042
	+	77.11		1.865E+00	3.022E-01	3.026E-01	2.578E-02	6.163
	+	87.30		6.641E-01	6.482E-01	7.245E-01	9.821E-02	0.917
		115.19		-1.270E+00	3.631E+00	5.680E+00	3.694E-01	-0.224
	+	238.63	*	1.379E+00	1.469E-01	9.772E-02	7.120E-03	14.115
	+	300.09		1.328E+00	9.914E-01	1.124E+00	9.305E-02	1.182
BI-214	+	609.31	*	9.999E-01	1.682E-01	1.037E-01	7.687E-03	9.643
	+	1120.29		1.322E+00	5.824E-01	4.474E-01	3.979E-02	2.956
	+	1764.49		1.259E+00	3.469E-01	2.900E-01	1.726E-02	4.340
PB-214	+	74.81		3.740E+00	8.897E-01	9.253E-01	1.039E-01	4.042
	+	77.11		3.198E+00	5.726E-01	5.188E-01	5.930E-02	6.163
	+	87.30		1.138E+00	1.108E+00	1.241E+00	1.485E-01	0.917
	+	241.98		1.660E+00	5.699E-01	5.886E-01	4.730E-02	2.821
	+	295.21		1.395E+00	2.528E-01	2.086E-01	1.786E-02	6.690

Sample ID : G243385009 Acquisition date : 31-DEC-2009 10:54:11

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	351.92	*	1.410E+00	1.953E-01	1.090E-01	8.942E-03	12.932
PO-214	+	74.81		3.740E+00	8.897E-01	9.253E-01	1.039E-01	4.042
	+	77.11		3.198E+00	5.726E-01	5.188E-01	5.930E-02	6.163
	+	87.30		1.138E+00	1.108E+00	1.241E+00	1.485E-01	0.917
	+	241.98		1.660E+00	5.699E-01	5.886E-01	4.730E-02	2.821
	+	295.21		1.395E+00	2.528E-01	2.086E-01	1.786E-02	6.690
	+	351.92	*	1.410E+00	1.953E-01	1.090E-01	8.942E-03	12.932
PO-216	+	74.81		2.171E+00	5.310E-01	5.370E-01	6.760E-02	4.042
	+	77.11		1.865E+00	3.022E-01	3.026E-01	2.578E-02	6.163
	+	87.30		6.641E-01	6.482E-01	7.245E-01	9.821E-02	0.917
	+	238.63	*	1.379E+00	1.469E-01	9.772E-02	7.120E-03	14.115
	+	300.09		1.328E+00	9.914E-01	1.124E+00	9.305E-02	1.182
PO-218	+	74.81		3.740E+00	8.897E-01	9.253E-01	1.039E-01	4.042
	+	77.11		3.198E+00	5.726E-01	5.188E-01	5.930E-02	6.163
	+	87.30		1.138E+00	1.108E+00	1.241E+00	1.485E-01	0.917
	+	241.98		1.660E+00	5.699E-01	5.886E-01	4.730E-02	2.821
	+	295.21		1.395E+00	2.528E-01	2.086E-01	1.786E-02	6.690
	+	351.92	*	1.410E+00	1.953E-01	1.090E-01	8.942E-03	12.932
RA-224	+	240.98	*	3.148E+00	1.066E+00	1.112E+00	6.398E-02	2.830
RA-226	+	609.31	*	9.999E-01	1.682E-01	1.037E-01	7.687E-03	9.643
	+	1120.29		1.322E+00	5.824E-01	4.474E-01	3.979E-02	2.956
	+	1764.49		1.259E+00	3.469E-01	2.900E-01	1.726E-02	4.340
AC-228	+	338.32		1.563E+00	7.480E-01	3.724E-01	1.518E-01	4.198
	+	911.07	*	1.595E+00	3.244E-01	2.110E-01	2.132E-02	7.561
	+	969.11		1.460E+00	4.943E-01	3.335E-01	7.584E-02	4.377
RA-228	+	338.32		1.563E+00	7.480E-01	3.724E-01	1.518E-01	4.198
	+	911.07	*	1.595E+00	3.244E-01	2.110E-01	2.132E-02	7.561
	+	969.11		1.460E+00	4.943E-01	3.335E-01	7.584E-02	4.377
TH-228	+	74.81		2.201E+00	4.982E-01	5.445E-01	4.632E-02	4.042
	+	77.11		1.891E+00	3.065E-01	3.069E-01	2.614E-02	6.163
	+	87.30		6.734E-01	6.538E-01	7.346E-01	6.724E-02	0.917
	+	238.63	*	1.399E+00	1.490E-01	9.908E-02	7.220E-03	14.115
	+	300.09		1.347E+00	1.276E+00	1.139E+00	6.715E-01	1.182
TH-230	+	609.31	*	9.998E-01	1.682E-01	1.037E-01	7.687E-03	9.643
	+	1120.29		1.322E+00	5.824E-01	4.474E-01	3.979E-02	2.956
	+	1764.49		1.259E+00	3.469E-01	2.900E-01	1.726E-02	4.340
TH-232	+	338.32		1.563E+00	4.019E-01	3.724E-01	2.141E-02	4.198
	+	911.07	*	1.595E+00	3.244E-01	2.110E-01	2.132E-02	7.561
	+	969.11		1.460E+00	4.943E-01	3.335E-01	7.584E-02	4.377
U-234	+	609.31	*	9.998E-01	1.682E-01	1.037E-01	7.687E-03	9.643
	+	1120.29		1.322E+00	5.824E-01	4.474E-01	3.979E-02	2.956
	+	1764.49		1.259E+00	3.469E-01	2.900E-01	1.726E-02	4.340
NP-237	+	86.50	*	4.217E-01	4.185E-01	3.937E-01	8.876E-02	1.071
		95.87		-3.932E-01	1.024E+00	1.418E+00	3.468E-01	-0.277
AM-243	+	74.67	*	3.519E-01	7.955E-02	8.736E-02	7.363E-03	4.028
	+	86.72		1.581E+01	1.535E+01	1.472E+01	1.341E+00	1.074
		117.66		-3.019E+00	3.747E+00	5.718E+00	3.637E-01	-0.528
		142.18		8.468E+00	1.641E+01	2.833E+01	1.613E+00	0.299
ANH-511	+	511.00	*	5.076E-02	6.847E-02	4.679E-02	2.591E-03	1.085

Sample ID : G243385009 Acquisition date : 31-DEC-2009 10:54:11

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	7.144E-02	3.032E-01	4.955E-01	3.239E-02	0.144
NA-22		1274.54	*	-1.626E-02	4.139E-02	6.610E-02	4.237E-03	-0.246
NA-24		1368.53	*	1.285E-03	4.139E-02	Half-Life too short		
AL-26		1129.67		-6.652E-01	1.849E+00	2.865E+00	1.680E-01	-0.232
		1808.65	*	2.177E-02	3.023E-02	5.618E-02	3.239E-03	0.388
TI-44		67.85		-3.641E-02	4.649E-02	7.274E-02	6.049E-03	-0.501
	+	78.38	*	3.442E-01	5.577E-02	7.815E-02	6.703E-03	4.404
SC-46		889.25	*	7.428E-03	3.556E-02	5.942E-02	4.176E-03	0.125
	+	1120.51		2.242E-01	9.762E-02	1.247E-01	7.402E-03	1.798
V-48		944.10		1.297E-01	8.059E-01	1.335E+00	9.275E-02	0.097
		983.50	*	-6.372E-02	6.314E-02	8.985E-02	6.092E-03	-0.709
		1312.09		-3.568E-02	7.218E-02	1.129E-01	7.612E-03	-0.316
CR-51		320.08	*	1.083E-01	3.365E-01	5.621E-01	3.638E-02	0.193
MN-52		744.21		1.461E-01	1.885E-01	3.332E-01	1.912E-02	0.438
		848.13		-3.875E-01	5.333E+00	8.677E+00	5.772E-01	-0.045
		935.52		1.283E-01	2.184E-01	3.762E-01	2.627E-02	0.341
		1246.25		2.978E+00	5.759E+00	1.011E+01	6.209E-01	0.295
		1333.61		1.466E+00	4.116E+00	7.147E+00	4.953E-01	0.205
		1434.06	*	1.993E-02	1.801E-01	3.033E-01	2.074E-02	0.066
MN-54		834.83	*	2.476E-02	3.965E-02	6.832E-02	4.463E-03	0.362
CO-56		846.75	*	3.997E-02	3.441E-02	6.289E-02	4.176E-03	0.636
		977.42		1.426E+00	2.642E+00	4.071E+00	2.771E-01	0.350
		1037.82		-1.747E-01	2.965E-01	4.463E-01	3.165E-02	-0.391
		1175.09		5.897E-01	2.023E+00	3.490E+00	1.927E-01	0.169
		1238.25		1.204E-01	9.214E-02	1.685E-01	1.082E-02	0.715
		1360.21		-2.674E-01	8.135E-01	1.282E+00	8.860E-02	-0.209
		1771.40		-7.628E-02	2.162E-01	3.249E-01	1.924E-02	-0.235
CO-57		122.06	*	1.238E-02	2.516E-02	4.077E-02	2.504E-03	0.304
		136.48		-1.959E-02	1.927E-01	3.221E-01	2.163E-02	-0.061
CO-58		810.76	*	-2.581E-03	3.609E-02	5.892E-02	3.739E-03	-0.044
FE-59		142.65		5.409E-01	2.553E+00	4.301E+00	2.445E-01	0.126
		192.34		6.239E-01	9.819E-01	1.571E+00	1.832E-01	0.397
		1099.22	*	2.861E-03	8.554E-02	1.383E-01	9.749E-03	0.021
		1291.56		-3.786E-02	1.056E-01	1.682E-01	1.350E-02	-0.225
CO-60		1173.22		5.384E-03	4.020E-02	6.836E-02	3.764E-03	0.079
		1332.49	*	3.169E-02	3.707E-02	6.787E-02	4.703E-03	0.467
ZN-65		1115.52	*	3.941E-02	9.146E-02	1.356E-01	8.120E-03	0.291
GE-68		1077.35	*	4.203E-01	1.191E+00	1.997E+00	1.247E-01	0.210
AS-73		53.44	*	4.762E-01	9.025E-01	1.502E+00	1.278E-01	0.317
AS-74		595.88	*	3.280E-02	8.601E-02	1.480E-01	7.919E-03	0.222
		634.78		6.162E-02	3.386E-01	5.729E-01	2.973E-02	0.108
SE-75		66.05		-6.817E+00	5.043E+00	7.663E+00	7.811E-01	-0.890
		96.73		-5.310E-01	8.403E-01	1.148E+00	1.520E-01	-0.463
		121.11		9.805E-02	1.338E-01	2.188E-01	2.073E-02	0.448
		136.00		1.582E-04	3.605E-02	6.053E-02	3.566E-03	0.003
		198.60		1.837E+00	1.657E+00	2.892E+00	1.998E-01	0.635
		264.65	*	9.897E-03	4.335E-02	6.740E-02	3.966E-03	0.147
	+	279.53		1.715E-01	1.787E-01	1.765E-01	1.114E-02	0.972
		303.91		-4.116E-01	2.289E+00	3.249E+00	3.109E-01	-0.127

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		400.65		-2.008E-01	2.626E-01	4.024E-01	3.570E-02	-0.499
BR-77	+	87.88		2.249E+02	2.183E+02	2.424E+02	2.229E+01	0.928
		200.40		1.811E+01	1.093E+02	1.841E+02	1.021E+01	0.098
	+	239.00		1.578E+02	1.524E+01	2.516E+01	1.445E+00	6.271
		249.79		-6.137E+01	4.398E+01	6.720E+01	3.887E+00	-0.913
		281.68		-4.407E+01	6.900E+01	9.473E+01	5.540E+00	-0.465
		297.23		2.302E+02	6.140E+01	8.769E+01	5.129E+00	2.625
		303.76		-6.294E+01	1.436E+02	1.997E+02	1.167E+01	-0.315
		439.47		-1.312E+01	9.435E+01	1.503E+02	8.288E+00	-0.087
		484.57		1.218E+02	1.666E+02	2.816E+02	1.562E+01	0.432
		520.65	*	-5.050E+00	7.285E+00	1.090E+01	6.025E-01	-0.463
		574.64		-2.699E+01	1.463E+02	2.356E+02	1.277E+01	-0.115
		578.91		8.662E+00	6.367E+01	9.436E+01	5.101E+00	0.092
		585.48		7.108E+02	1.712E+02	3.165E+02	1.705E+01	2.246
		755.35		-7.672E+01	1.205E+02	1.879E+02	1.096E+01	-0.408
		817.79		-2.439E+01	8.637E+01	1.377E+02	8.787E+00	-0.177
SR-82		698.33		-2.310E+00	3.040E+01	5.012E+01	2.682E+00	-0.046
		776.49	*	-9.977E-02	3.372E-01	5.400E-01	3.249E-02	-0.185
		1395.20		-3.696E+00	9.278E+00	1.442E+01	9.931E-01	-0.256
RB-83		520.41	*	-5.011E-02	6.670E-02	9.917E-02	5.482E-03	-0.505
		529.64		7.137E-02	9.908E-02	1.753E-01	9.671E-03	0.407
		552.65		-1.981E-01	1.831E-01	2.812E-01	1.540E-02	-0.704
RB-84		881.50	*	-1.386E-02	6.370E-02	1.017E-01	7.077E-03	-0.136
KR-85		513.99	*	8.138E+00	8.133E+00	1.244E+01	6.888E-01	0.654
SR-85		513.99	*	4.122E-02	4.119E-02	6.303E-02	3.489E-03	0.654
RB-86		1076.63	*	5.355E-01	7.282E-01	1.268E+00	7.924E-02	0.422
Y-88		898.02		-1.001E-03	4.083E-02	6.653E-02	4.763E-03	-0.015
		1836.01	*	5.907E-03	2.966E-02	5.047E-02	2.857E-03	0.117
ZR-88		392.90	*	4.464E-03	3.229E-02	5.279E-02	2.854E-03	0.085
Y-91		1204.90	*	3.745E+00	1.750E+01	2.989E+01	1.727E+00	0.125
NB-94		702.63	*	1.633E-02	3.098E-02	5.361E-02	2.888E-03	0.305
		871.10		2.515E-02	3.119E-02	5.523E-02	3.789E-03	0.455
NB-95		765.79	*	3.530E-02	4.828E-02	7.464E-02	4.422E-03	0.473
NB-95M		235.69	*	1.014E-01	1.345E-01	2.049E-01	1.532E-02	0.495
ZR-95		724.18		1.189E-01	1.135E-01	1.799E-01	1.199E-02	0.661
		756.15	*	1.295E-02	6.829E-02	1.146E-01	8.101E-03	0.113
NB-97		657.90	*	1.030E-02	6.829E-02	Half-Life too short		
		1024.50		-3.636E-01	6.829E-02	Half-Life too short		
ZR-97		254.15		6.257E-01	6.829E-02	Half-Life too short		
		355.39		-3.548E-01	6.829E-02	Half-Life too short		
		507.63	*	-8.159E-02	6.829E-02	Half-Life too short		
		602.52		-1.993E+00	6.829E-02	Half-Life too short		
		1021.30		-1.959E-02	6.829E-02	Half-Life too short		
		1147.95		2.268E+00	6.829E-02	Half-Life too short		
		1362.66		-1.211E+00	6.829E-02	Half-Life too short		
		1750.46		-2.043E-01	6.829E-02	Half-Life too short		
MO-99		140.51		-6.036E+00	1.884E+01	3.109E+01	8.372E+00	-0.194
		181.06		-1.812E+00	1.320E+01	1.939E+01	3.299E+00	-0.093
		366.43		-2.194E+01	6.095E+01	9.671E+01	5.414E+00	-0.227

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		739.58	*	-6.362E+00	7.578E+00	1.137E+01	1.562E+00	-0.560
		778.00		-1.219E+01	2.289E+01	3.570E+01	2.153E+00	-0.341
TC-99M		140.51	*	-4.733E+08	2.289E+01	Half-Life too short		
RH-101		127.23		1.974E-03	3.280E-02	5.207E-02	3.119E-03	0.038
		198.01	*	1.635E-02	3.072E-02	5.254E-02	2.904E-03	0.311
		325.23		-2.336E-01	2.288E-01	3.522E-01	2.042E-02	-0.663
RH-102		418.52		4.025E-01	2.886E-01	5.087E-01	2.785E-02	0.791
		475.06	*	-3.728E-02	2.858E-02	4.065E-02	2.255E-03	-0.917
		631.29		-2.319E-02	5.377E-02	8.665E-02	4.510E-03	-0.268
		697.49		3.272E-03	7.059E-02	1.176E-01	6.286E-03	0.028
		766.84		9.816E-02	1.315E-01	2.026E-01	1.202E-02	0.485
		1046.59		-1.481E-02	1.165E-01	1.858E-01	1.197E-02	-0.080
		1112.84		-4.990E-02	2.428E-01	3.252E-01	1.949E-02	-0.153
RU-103		497.08	*	-5.546E-03	3.984E-02	6.299E-02	7.893E-03	-0.088
	+	610.33		1.058E+01	2.269E+00	2.765E+00	4.213E-01	3.825
RH-106	+	511.85		2.530E-01	3.412E-01	4.250E-01	2.353E-02	0.595
		621.84	*	1.572E-01	2.952E-01	5.133E-01	5.889E-02	0.306
		1050.47		-6.558E-01	2.503E+00	3.938E+00	2.527E-01	-0.167
RU-106	+	511.85		2.530E-01	3.412E-01	4.250E-01	2.353E-02	0.595
		621.84	*	1.572E-01	2.948E-01	5.133E-01	2.694E-02	0.306
		1050.47		-6.558E-01	2.503E+00	3.938E+00	2.527E-01	-0.167
AG-108M		433.93	*	-2.004E-02	3.202E-02	4.840E-02	2.917E-03	-0.414
		614.37		-7.506E-03	3.809E-02	5.405E-02	3.144E-03	-0.139
		722.95		1.058E-02	4.669E-02	6.884E-02	4.178E-03	0.154
AG-110M		657.75	*	7.025E-03	3.393E-02	5.741E-02	3.155E-03	0.122
		677.61		3.249E-02	2.749E-01	4.618E-01	2.574E-02	0.070
		706.67		3.227E-02	1.979E-01	3.326E-01	1.926E-02	0.097
		763.93		-4.212E-02	1.922E-01	2.678E-01	1.676E-02	-0.157
		884.67		-2.069E-02	4.611E-02	7.166E-02	5.249E-03	-0.289
		937.48		-1.211E-01	1.120E-01	1.610E-01	1.184E-02	-0.752
		1384.27		2.046E-01	1.648E-01	2.908E-01	2.093E-02	0.704
IN-111		171.28		-2.676E-01	7.297E-01	1.211E+00	6.495E-02	-0.221
		245.39	*	7.423E-01	8.583E-01	1.315E+00	7.586E-02	0.564
IN-113M		391.69	*	1.029E-02	4.662E-02	7.663E-02	4.458E-03	0.134
SN-113		391.69	*	1.029E-02	4.662E-02	7.663E-02	4.458E-03	0.134
IN-114M		190.27	*	8.293E-02	1.956E-01	2.957E-01	1.621E-02	0.280
CD-115		260.90		-2.595E+00	8.473E+01	1.399E+02	8.138E+00	-0.019
		492.35		1.027E+01	2.306E+01	3.834E+01	2.127E+00	0.268
		527.90	*	1.581E-03	7.130E+00	1.202E+01	6.634E-01	0.000
SN-117M		156.02		6.551E-01	2.064E+00	3.526E+00	1.932E-01	0.186
		158.56	*	-4.892E-03	5.041E-02	8.480E-02	4.614E-03	-0.058
SB-122		563.90	*	3.896E-01	1.472E+00	2.520E+00	1.373E-01	0.155
		692.80		-3.120E+00	3.006E+01	4.946E+01	2.624E+00	-0.063
I-123		159.00	*	2.894E-01	3.006E+01	Half-Life too short		
		528.96		8.572E+01	3.006E+01	Half-Life too short		
TE-123M		159.00	*	6.194E-03	2.773E-02	4.719E-02	2.604E-03	0.131
I-124		602.71	*	-5.124E-01	6.273E-01	8.331E-01	4.437E-02	-0.615
		722.78		9.312E-01	3.932E+00	5.808E+00	3.227E-01	0.160
		1325.50		-9.304E+00	2.493E+01	3.936E+01	2.702E+00	-0.236

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	1376.25		6.815E+01	3.495E+01	5.011E+01	3.458E+00	1.360
		1509.49		6.508E+00	1.041E+01	1.898E+01	1.275E+00	0.343
		1691.02		-2.761E+00	2.885E+00	3.643E+00	2.267E-01	-0.758
SB-124		602.71		-3.563E-02	4.362E-02	5.794E-02	3.087E-03	-0.615
		645.85		-4.438E-01	4.690E-01	7.169E-01	4.274E-02	-0.619
		709.31		-9.803E-02	2.648E+00	4.376E+00	2.382E-01	-0.022
		713.82		-9.103E-02	1.543E+00	2.544E+00	2.552E-01	-0.036
		722.78		9.387E-02	3.964E-01	5.855E-01	3.420E-02	0.160
	+	968.20		1.483E+01	3.857E+00	6.856E+00	4.697E-01	2.162
		1045.16		1.471E+00	2.355E+00	4.062E+00	2.620E-01	0.362
		1325.50		-1.002E+00	2.684E+00	4.238E+00	2.909E-01	-0.236
		1368.21		2.564E-01	1.607E+00	2.470E+00	3.076E-01	0.104
		1436.60		1.180E+00	3.074E+00	5.406E+00	3.696E-01	0.218
		1691.02	*	-6.566E-02	6.863E-02	8.661E-02	5.793E-03	-0.758
SB-125		427.89	*	2.557E-02	8.847E-02	1.458E-01	8.388E-03	0.175
	+	463.38		6.165E-01	3.972E-01	5.284E-01	3.457E-02	1.167
		600.56		8.658E-03	1.709E-01	2.872E-01	1.812E-02	0.030
		635.90		-1.437E-02	2.747E-01	4.565E-01	2.864E-02	-0.031
TE-125M		109.28	*	-3.123E+00	9.076E+00	1.423E+01	1.270E+00	-0.220
I-126		388.63		3.114E-02	1.928E-01	3.160E-01	1.716E-02	0.099
		666.33	*	-4.616E-02	1.642E-01	2.670E-01	1.358E-02	-0.173
		753.82		3.017E-01	1.347E+00	2.269E+00	1.320E-01	0.133
SB-126		223.80		-3.182E+00	3.418E+00	5.427E+00	3.080E-01	-0.586
	+	278.60		3.632E+00	3.782E+00	4.047E+00	2.366E-01	0.898
	+	296.50		1.302E+01	2.214E+00	3.468E+00	2.029E-01	3.754
		414.70		-3.380E-02	6.882E-02	1.072E-01	5.861E-03	-0.315
		415.30		9.075E-01	5.761E+00	9.414E+00	5.148E-01	0.096
		555.20		7.124E-01	3.417E+00	5.837E+00	3.192E-01	0.122
		573.80		4.173E-01	9.579E-01	1.657E+00	8.981E-02	0.252
		593.00		-1.880E-01	8.389E-01	1.381E+00	7.404E-02	-0.136
		656.30		-7.898E-01	3.009E+00	4.903E+00	2.490E-01	-0.161
		666.33		-1.924E-02	6.842E-02	1.113E-01	5.661E-03	-0.173
		675.00		-3.661E-01	1.678E+00	2.735E+00	1.411E-01	-0.134
		695.00		2.226E-02	6.605E-02	1.128E-01	6.003E-03	0.197
		697.00		1.103E-01	2.323E-01	4.005E-01	2.139E-02	0.275
		720.50	*	-8.198E-04	1.452E-01	2.086E-01	1.155E-02	-0.004
		856.80		-7.166E-02	4.729E-01	6.556E-01	4.412E-02	-0.109
		989.30		6.874E-01	1.140E+00	1.968E+00	1.329E-01	0.349
		1034.80		-2.434E+00	7.858E+00	1.225E+01	7.976E-01	-0.199
		1213.00		-3.094E+00	4.034E+00	6.243E+00	3.652E-01	-0.496
SB-127		61.10		-6.249E+01	5.085E+01	7.782E+01	8.314E+00	-0.803
		252.40		2.631E+00	3.388E+00	5.540E+00	2.297E+00	0.475
		290.80		-5.032E+00	1.908E+01	2.698E+01	2.369E+00	-0.186
		411.60		-1.397E+00	1.004E+01	1.608E+01	2.248E+00	-0.087
		444.90		2.739E+00	7.785E+00	1.286E+01	1.323E+00	0.213
		473.00		3.927E-01	1.262E+00	2.076E+00	2.222E-01	0.189
		543.00		-8.748E+00	1.330E+01	2.126E+01	2.652E+00	-0.412
		603.60		-6.020E-01	9.867E+00	1.427E+01	1.448E+00	-0.042
		685.20	*	7.406E-01	1.030E+00	1.811E+00	1.572E-01	0.409

---- Non-Identified Nuclides ----

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		698.50		-2.097E+00	1.148E+01	1.876E+01	2.633E+00	-0.112
		722.20		5.795E+00	2.590E+01	3.822E+01	3.280E+00	0.152
		783.80		3.461E+00	2.777E+00	5.031E+00	5.262E-01	0.688
XE-127		57.60		-1.471E+00	6.270E+00	1.008E+01	8.605E-01	-0.146
		145.22		6.397E-02	6.453E-01	1.082E+00	6.102E-02	0.059
		172.10		-2.048E-02	1.118E-01	1.867E-01	1.003E-02	-0.110
		202.84	*	-5.577E-02	4.347E-02	6.849E-02	3.806E-03	-0.814
		374.96		-2.017E-03	1.908E-01	3.098E-01	1.716E-02	-0.007
I-131		80.18		7.273E-01	4.375E+00	6.324E+00	5.513E-01	0.115
		284.30		3.889E-01	1.419E+00	2.204E+00	1.429E-01	0.176
		364.48	*	3.178E-02	1.014E-01	1.683E-01	1.060E-02	0.189
		636.97		5.285E-01	1.384E+00	2.376E+00	1.410E-01	0.222
		722.89		2.160E+00	6.993E+00	1.041E+01	5.861E-01	0.207
TE-132		49.72		-1.338E+01	1.723E+01	2.703E+01	2.745E+00	-0.495
		111.76		1.013E+01	2.360E+01	3.820E+01	3.463E+00	0.265
		116.30		-8.091E+00	2.147E+01	3.351E+01	2.970E+00	-0.241
		228.16	*	3.714E-01	5.099E-01	8.720E-01	1.229E-01	0.426
BA-133		53.15		2.364E+00	3.928E+00	6.557E+00	5.574E-01	0.361
		79.62		9.420E-01	1.365E+00	2.016E+00	3.072E-01	0.467
		81.00		-1.122E-01	1.191E-01	1.445E-01	2.301E-02	-0.777
		276.40		4.313E-01	4.190E-01	6.436E-01	8.356E-02	0.670
		302.84		8.109E-02	1.604E-01	2.395E-01	2.797E-02	0.339
		356.01	*	-3.811E-02	4.733E-02	6.208E-02	7.133E-03	-0.614
		383.85		-1.775E-01	2.850E-01	4.410E-01	4.718E-02	-0.402
I-133	+	510.53		2.038E-01	2.850E-01	Half-Life too short		
		529.87	*	9.522E-04	2.850E-01	Half-Life too short		
		706.58		6.590E-04	2.850E-01	Half-Life too short		
		856.28		-1.204E-02	2.850E-01	Half-Life too short		
		875.33		1.125E-02	2.850E-01	Half-Life too short		
		1236.41		5.568E-01	2.850E-01	Half-Life too short		
		1298.22		-5.940E-02	2.850E-01	Half-Life too short		
CS-134		475.35		-2.197E+00	1.839E+00	2.640E+00	1.464E-01	-0.832
		563.23		4.307E-02	3.563E-01	6.036E-01	3.367E-02	0.071
		569.32		-4.324E-02	1.995E-01	3.249E-01	1.825E-02	-0.133
		604.70		-1.698E-02	3.646E-02	5.038E-02	2.697E-03	-0.337
	+	795.84	*	8.925E-02	6.354E-02	8.897E-02	5.581E-03	1.003
		801.93		-8.856E-02	4.072E-01	6.180E-01	3.897E-02	-0.143
		1038.57		-9.253E-01	3.768E+00	5.926E+00	3.845E-01	-0.156
		1167.94		3.915E-01	2.057E+00	3.524E+00	1.956E-01	0.111
		1365.15		8.088E-01	1.044E+00	1.924E+00	1.423E-01	0.420
CS-135		268.24	*	1.971E-01	1.710E-01	2.667E-01	2.049E-02	0.739
I-135		288.45		1.047E+08	1.710E-01	Half-Life too short		
		417.63		3.399E+08	1.710E-01	Half-Life too short		
		546.56		6.924E+08	1.710E-01	Half-Life too short		
		836.80		1.377E+09	1.710E-01	Half-Life too short		
		1038.76		-2.106E+08	1.710E-01	Half-Life too short		
		1124.00		1.007E+09	1.710E-01	Half-Life too short		
		1131.51		5.608E+08	1.710E-01	Half-Life too short		
		1260.41	*	-7.150E+07	1.710E-01	Half-Life too short		

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		1457.56		2.956E+10	1.710E-01	Half-Life too short		
		1678.03		3.641E+08	1.710E-01	Half-Life too short		
		1706.46		4.978E+07	1.710E-01	Half-Life too short		
		1791.20		3.949E+08	1.710E-01	Half-Life too short		
CS-136		66.91		-9.457E-01	7.512E-01	1.132E+00	1.729E-01	-0.835
	+	86.29		1.763E+00	1.719E+00	1.874E+00	2.466E-01	0.941
		153.22		3.955E-01	5.920E-01	1.024E+00	7.165E-02	0.386
		163.89		-1.062E-01	9.611E-01	1.614E+00	1.115E-01	-0.066
		176.55		9.110E-02	3.273E-01	5.563E-01	3.426E-02	0.164
		273.65		-2.791E-02	6.144E-01	6.390E-01	4.248E-02	-0.044
		340.57		3.719E-01	1.352E-01	2.290E-01	1.399E-02	1.624
		818.51		-2.601E-02	6.415E-02	1.009E-01	6.454E-03	-0.258
		1048.07	*	-5.517E-02	1.048E-01	1.596E-01	1.104E-02	-0.346
		1235.34		7.721E-01	5.677E-01	1.039E+00	1.052E-01	0.743
BA-137M		661.65	*	-7.808E-04	3.558E-02	5.912E-02	2.986E-03	-0.013
CS-137		661.65	*	-8.254E-04	3.761E-02	6.250E-02	3.174E-03	-0.013
CE-139		165.85	*	-5.263E-03	2.834E-02	4.742E-02	2.533E-03	-0.111
BA-140		162.64		1.825E-01	6.638E-01	1.131E+00	6.964E-02	0.161
		304.84		3.875E-01	1.314E+00	1.930E+00	5.268E-01	0.201
		423.70		-1.574E+00	1.843E+00	2.675E+00	8.488E-01	-0.589
		537.32	*	-9.580E-02	2.362E-01	3.826E-01	1.242E-01	-0.250
LA-140		328.77		5.058E-01	2.839E-01	5.047E-01	3.272E-02	1.002
		432.53		-8.116E-02	1.788E+00	2.873E+00	1.764E-01	-0.028
		487.03		-2.617E-02	1.292E-01	2.035E-01	1.291E-02	-0.129
		751.79		3.801E-01	1.523E+00	2.572E+00	1.826E-01	0.148
		815.85		7.420E-02	2.758E-01	4.656E-01	3.564E-02	0.159
		867.82		-1.052E+00	1.419E+00	1.771E+00	1.310E-01	-0.594
		919.63		-2.507E+00	2.399E+00	3.260E+00	3.069E-01	-0.769
		925.24		3.177E-01	1.020E+00	1.716E+00	1.317E-01	0.185
		1596.49	*	-1.338E-01	8.861E-02	1.089E-01	7.096E-03	-1.229
CE-141		145.44	*	2.508E-02	5.690E-02	9.789E-02	5.753E-03	0.256
CE-143		57.37		-3.571E-04	5.690E-02	Half-Life too short		
		231.56		-1.787E-03	5.690E-02	Half-Life too short		
		293.26	*	3.011E-04	5.690E-02	Half-Life too short		
	+	350.59		1.788E-02	5.690E-02	Half-Life too short		
		490.36		-1.116E-04	5.690E-02	Half-Life too short		
		664.57		4.278E-04	5.690E-02	Half-Life too short		
		721.93		1.673E-04	5.690E-02	Half-Life too short		
CE-144		80.11		3.243E-01	2.219E+00	3.205E+00	2.778E-01	0.101
		133.54	*	-8.279E-02	2.034E-01	3.148E-01	4.478E-02	-0.263
PM-144		476.78		-2.403E-03	6.384E-02	1.021E-01	6.872E-03	-0.024
		618.01		6.095E-03	2.889E-02	4.911E-02	2.773E-03	0.124
		696.49	*	1.693E-02	3.171E-02	5.493E-02	2.933E-03	0.308
		778.57		-6.649E-01	2.025E+00	3.226E+00	1.948E-01	-0.206
PR-144		696.49	*	1.147E+00	2.147E+00	3.720E+00	1.985E-01	0.308
		1489.15		-1.791E+01	1.154E+01	1.351E+01	9.128E-01	-1.325
PM-146		453.90	*	3.725E-02	4.540E-02	7.706E-02	6.507E-03	0.483
		633.02		-2.090E-01	1.374E+00	2.262E+00	8.310E-01	-0.092
		735.90		-8.628E-02	1.496E-01	2.055E-01	5.723E-02	-0.420

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		747.13		-7.214E-02	8.929E-02	1.359E-01	1.697E-02	-0.531
ND-147	+	91.11		4.721E-01	2.435E-01	4.740E-01	4.465E-02	0.996
		319.41		7.621E-01	2.795E+00	4.657E+00	2.708E-01	0.164
		439.89		-1.760E+00	5.058E+00	7.919E+00	4.369E-01	-0.222
		531.02	*	1.090E-01	4.957E-01	8.482E-01	1.137E-01	0.128
PM-149		285.90	*	1.873E+01	6.390E+01	1.068E+02	1.515E+01	0.175
EU-152		121.78		4.261E-02	7.352E-02	1.195E-01	9.412E-03	0.356
		244.69		4.665E-01	3.594E-01	5.661E-01	3.265E-02	0.824
		344.27	*	-7.877E-02	9.971E-02	1.483E-01	9.599E-03	-0.531
		443.98		-1.991E-03	9.356E-01	1.506E+00	8.316E-02	-0.001
		778.89		-4.691E-02	2.371E-01	3.832E-01	2.314E-02	-0.122
		867.32		-5.030E-01	8.496E-01	1.084E+00	7.399E-02	-0.464
	+	964.01		8.019E-01	3.645E-01	6.104E-01	4.192E-02	1.314
		1085.78		1.167E-01	3.663E-01	6.125E-01	3.789E-02	0.191
		1112.02		-5.760E-02	3.592E-01	4.854E-01	2.912E-02	-0.119
		1407.95		2.024E-01	1.725E-01	3.283E-01	2.256E-02	0.617
GD-153		69.67		1.260E+00	1.718E+00	2.722E+00	2.266E-01	0.463
		83.37		6.630E+00	1.658E+01	2.411E+01	2.137E+00	0.275
		97.43	*	3.741E-02	8.358E-02	1.219E-01	9.650E-03	0.307
		103.18		-7.932E-02	1.031E-01	1.586E-01	1.167E-02	-0.500
EU-154		123.07		-1.887E-02	5.262E-02	8.202E-02	7.869E-03	-0.230
		247.94		-1.346E-01	3.545E-01	5.486E-01	5.226E-02	-0.245
		591.81		4.531E-03	5.825E-01	9.765E-01	9.299E-02	0.005
		723.30		8.102E-02	1.979E-01	2.974E-01	2.048E-02	0.272
		756.87		1.317E-01	7.691E-01	1.288E+00	1.309E-01	0.102
		873.19		-1.555E-02	2.907E-01	4.731E-01	5.246E-02	-0.033
		996.32		5.936E-02	3.360E-01	5.557E-01	9.405E-02	0.107
		1004.76		4.317E-02	2.080E-01	3.445E-01	3.543E-02	0.125
		1274.45	*	-4.424E-02	1.159E-01	1.852E-01	1.801E-02	-0.239
EU-155		48.70		-1.601E+00	2.751E+00	4.367E+00	3.436E-01	-0.367
		60.01		-6.402E+00	5.443E+00	8.377E+00	7.109E-01	-0.764
	+	86.54		1.729E-01	1.678E-01	1.829E-01	1.679E-02	0.945
		105.31	*	6.910E-02	1.066E-01	1.746E-01	1.276E-02	0.396
TB-160	+	86.79		4.568E-01	4.435E-01	4.868E-01	4.436E-02	0.938
		197.04		-1.595E-01	5.229E-01	8.642E-01	4.772E-02	-0.185
		215.65		4.408E-01	7.407E-01	1.227E+00	6.912E-02	0.359
		298.57		1.558E-01	1.607E-01	1.884E-01	1.102E-02	0.827
		879.36	*	2.455E-02	1.254E-01	2.093E-01	1.452E-02	0.117
		962.29		1.169E+00	5.460E-01	1.033E+00	7.103E-02	1.131
		966.15		1.254E+00	2.759E-01	5.479E-01	3.758E-02	2.289
		1177.93		1.040E-01	3.289E-01	5.684E-01	3.152E-02	0.183
		1271.85		3.629E-01	6.436E-01	1.139E+00	7.260E-02	0.319
HO-166M		80.57		-2.093E-01	2.955E-01	4.073E-01	3.540E-02	-0.514
		184.41		1.223E-01	3.916E-02	6.495E-02	3.536E-03	1.883
		280.46		-4.953E-02	9.041E-02	1.251E-01	7.317E-03	-0.396
		410.95		1.345E-01	2.492E-01	4.170E-01	2.276E-02	0.323
		711.68	*	-1.744E-02	5.720E-02	9.228E-02	5.041E-03	-0.189
		752.31		9.978E-02	2.629E-01	4.486E-01	2.605E-02	0.222
		810.29		-1.889E-02	5.614E-02	8.924E-02	5.634E-03	-0.212

---- Non-Identified Nuclides ----

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TM-171		51.35		8.022E+00	3.382E+01	5.570E+01	4.664E+00	0.144
		52.39		-1.404E-01	1.727E+01	2.812E+01	2.379E+00	-0.005
		59.40		2.784E+00	2.786E+01	4.542E+01	3.865E+00	0.061
		66.72	*	-3.354E+01	2.874E+01	4.417E+01	3.674E+00	-0.759
LU-176	+	88.36		3.406E-01	3.307E-01	3.644E-01	3.333E-02	0.935
		201.83		-3.794E-02	2.738E-02	4.294E-02	2.384E-03	-0.883
		306.84	*	-6.407E-03	2.499E-02	3.898E-02	2.276E-03	-0.164
		401.10		-1.017E+00	6.782E+00	1.087E+01	5.904E-01	-0.094
LU-177		112.95		1.552E+00	1.487E+00	2.429E+00	1.613E-01	0.639
	+	208.36	*	1.257E+00	1.324E+00	1.661E+00	9.288E-02	0.757
LU-177M		52.97		9.857E-01	1.769E+00	2.949E+00	2.504E-01	0.334
		54.07		6.455E-01	9.179E-01	1.537E+00	1.311E-01	0.420
		61.30		-1.575E-01	1.542E+00	2.491E+00	2.101E-01	-0.063
		121.62		3.241E-01	3.715E-01	6.117E-01	3.761E-02	0.530
		147.16		-4.038E-01	6.075E-01	1.002E+00	5.624E-02	-0.403
		171.86		-3.215E-02	4.581E-01	7.690E-01	4.129E-02	-0.042
		218.09		3.205E-01	8.165E-01	1.384E+00	7.813E-02	0.232
	+	268.79		2.075E+00	9.662E-01	1.460E+00	8.518E-02	1.421
		319.02		5.195E-03	2.380E-01	3.904E-01	2.270E-02	0.013
		367.43		-1.982E-01	8.439E-01	1.350E+00	7.548E-02	-0.147
		413.65	*	-2.957E-01	1.798E-01	2.552E-01	1.395E-02	-1.158
HF-181		56.28		-5.028E-01	9.851E-01	1.564E+00	1.337E-01	-0.321
		57.53		-1.346E-01	5.292E-01	8.505E-01	7.258E-02	-0.158
		65.20		-1.000E+00	9.736E-01	1.509E+00	1.258E-01	-0.663
		133.02		-5.457E-02	6.539E-02	9.928E-02	5.820E-03	-0.550
		136.25		-2.599E-02	4.161E-01	6.967E-01	4.040E-02	-0.037
		345.85		5.705E-02	2.084E-01	3.048E-01	1.742E-02	0.187
		482.03	*	-8.749E-03	4.404E-02	6.952E-02	3.857E-03	-0.126
W-181		56.28		-1.995E-01	3.904E-01	6.199E-01	5.297E-02	-0.322
		57.53		-5.350E-02	2.099E-01	3.373E-01	2.878E-02	-0.159
		65.20	*	-3.937E-01	3.831E-01	5.938E-01	4.950E-02	-0.663
TA-182		67.75		-1.046E-01	1.104E-01	1.713E-01	1.425E-02	-0.610
		100.10		4.853E-02	1.741E-01	2.779E-01	2.123E-02	0.175
		152.43		1.451E-01	3.213E-01	5.520E-01	3.053E-02	0.263
		222.10		-1.114E-01	3.147E-01	5.155E-01	2.921E-02	-0.216
		1001.68		8.178E-02	1.980E+00	3.172E+00	2.123E-01	0.026
	+	1121.28		6.208E-01	2.703E-01	3.376E-01	2.002E-02	1.839
		1189.05		2.981E-01	2.746E-01	5.065E-01	2.857E-02	0.589
		1221.42	*	2.126E-02	1.795E-01	3.038E-01	1.800E-02	0.070
		1230.97		-4.494E-01	4.573E-01	6.952E-01	4.176E-02	-0.646
RE-183		57.98		-1.727E-02	2.068E-01	3.348E-01	2.855E-02	-0.052
		59.32		8.150E-03	1.134E-01	1.846E-01	1.571E-02	0.044
		67.20		-2.263E-01	1.982E-01	3.047E-01	2.535E-02	-0.743
		162.32	*	3.391E-02	1.029E-01	1.757E-01	9.464E-03	0.193
	+	208.81		1.260E+00	1.326E+00	1.685E+00	9.423E-02	0.748
		291.72		-2.294E-01	9.886E-01	1.401E+00	8.198E-02	-0.164
RE-184		57.98		-6.406E-02	7.672E-01	1.242E+00	1.059E-01	-0.052
		59.32		3.021E-02	4.203E-01	6.844E-01	5.825E-02	0.044
		67.20		-8.394E-01	7.350E-01	1.130E+00	9.400E-02	-0.743

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		161.27		9.398E-02	3.435E-01	5.855E-01	3.163E-02	0.161
		216.55		1.482E-01	2.596E-01	4.431E-01	2.498E-02	0.335
		252.85	*	2.039E-01	2.110E-01	3.664E-01	2.123E-02	0.557
		318.01		-1.528E-01	4.158E-01	6.655E-01	3.871E-02	-0.230
		792.07		9.064E-01	9.757E-01	1.565E+00	9.632E-02	0.579
		903.28		9.255E-01	1.084E+00	1.711E+00	1.214E-01	0.541
		920.93		-3.657E-01	4.020E-01	5.823E-01	4.096E-02	-0.628
OS-185		59.72		6.082E-02	3.043E-01	4.979E-01	4.231E-02	0.122
		61.14		-2.126E-01	1.762E-01	2.710E-01	2.288E-02	-0.784
		69.30		1.426E-01	3.036E-01	4.764E-01	3.964E-02	0.299
		592.07		-3.279E-02	2.354E+00	3.939E+00	2.113E-01	-0.008
		646.12	*	-4.849E-02	4.004E-02	5.955E-02	3.057E-03	-0.814
		717.42		-1.937E-01	8.219E-01	1.333E+00	7.345E-02	-0.145
		874.81		1.313E-01	5.654E-01	9.464E-01	6.525E-02	0.139
		880.27		-3.781E-01	7.118E-01	1.095E+00	7.606E-02	-0.345
RE-188		155.03	*	1.025E-01	1.654E-01	2.856E-01	1.568E-02	0.359
		477.96		1.510E+00	2.865E+00	4.791E+00	2.658E-01	0.315
		633.10		-4.359E-01	2.741E+00	4.517E+00	2.347E-01	-0.097
W-188		63.58		8.178E+01	5.568E+01	9.475E+01	7.928E+00	0.863
		227.08		2.483E+00	1.210E+01	2.003E+01	1.140E+00	0.124
		290.67	*	-1.725E+00	8.067E+00	1.146E+01	6.705E-01	-0.151
IR-192	+	295.96		1.052E+00	1.793E-01	2.861E-01	1.700E-02	3.678
		308.46		5.745E-04	9.064E-02	1.488E-01	8.783E-03	0.004
		316.51	*	-1.947E-02	3.235E-02	5.101E-02	2.984E-03	-0.382
		468.07		-2.923E-02	7.218E-02	9.639E-02	6.232E-03	-0.303
		604.41		-2.520E-01	4.871E-01	6.679E-01	7.422E-02	-0.377
		612.46		1.214E+00	7.302E-01	1.238E+00	8.896E-02	0.981
AU-195		65.12		-1.685E-01	1.784E-01	2.777E-01	2.315E-02	-0.607
		66.83		-1.166E-01	9.445E-02	1.446E-01	1.203E-02	-0.806
	+	75.70		1.134E+00	2.563E-01	4.645E-01	3.931E-02	2.441
		98.88	*	6.360E-02	2.235E-01	3.572E-01	2.773E-02	0.178
		129.76		4.228E+00	2.923E+00	4.887E+00	2.899E-01	0.865
TL-200		367.94	*	-7.016E-05	2.923E+00	Half-Life too short		
		579.30		1.108E-03	2.923E+00	Half-Life too short		
		828.27		-8.472E-04	2.923E+00	Half-Life too short		
		1205.75		2.872E-04	2.923E+00	Half-Life too short		
TL-201		68.90		5.140E-01	3.643E+00	5.922E+00	4.925E-01	0.087
		70.82		2.163E+00	2.286E+00	3.436E+00	2.864E-01	0.629
		80.30		-2.510E+00	4.209E+00	5.841E+00	5.069E-01	-0.430
		135.34		-3.859E-01	1.762E+01	2.989E+01	1.738E+00	-0.013
		167.43	*	1.539E+00	5.146E+00	8.769E+00	4.686E-01	0.176
TL-202		68.90		5.639E-02	3.998E-01	6.497E-01	5.404E-02	0.087
		70.82		2.367E-01	2.501E-01	3.760E-01	3.134E-02	0.629
		80.30		-2.747E-01	4.607E-01	6.393E-01	5.548E-02	-0.430
		439.56	*	-9.147E-03	5.996E-02	9.541E-02	5.262E-03	-0.096
BI-207		72.80		1.631E-01	2.025E-01	3.017E-01	2.527E-02	0.541
	+	74.97		6.316E-01	1.428E-01	2.292E-01	1.934E-02	2.756
		84.90		2.656E-01	2.131E-01	3.199E-01	2.870E-02	0.830
		569.67		-2.979E-03	3.065E-02	5.032E-02	2.734E-03	-0.059

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		1063.62	*	-4.632E-03	5.003E-02	7.994E-02	5.064E-03	-0.058
		1770.23		-1.323E+00	6.453E-01	6.672E-01	3.955E-02	-1.984
TL-207		81.07		-2.441E-01	2.609E-01	3.192E-01	2.784E-02	-0.765
		83.78		3.812E-02	1.420E-01	2.053E-01	1.825E-02	0.186
		94.90		4.619E-01	2.458E-01	3.806E-01	3.124E-02	1.214
		122.32		-1.563E-01	1.782E+00	2.815E+00	1.965E-01	-0.056
		144.24		2.857E-02	6.578E-01	1.101E+00	7.839E-02	0.026
		154.21		1.532E-01	3.879E-01	6.646E-01	4.500E-02	0.230
	+	269.46		4.883E-01	2.275E-01	3.511E-01	2.140E-02	1.391
		323.87	*	-1.077E+00	6.890E-01	9.851E-01	1.627E-01	-1.093
	+	338.28		6.528E+00	1.774E+00	2.403E+00	2.524E-01	2.717
		445.03		8.893E-01	2.243E+00	3.716E+00	3.759E-01	0.239
PO-209		260.50		2.404E+00	8.974E+00	1.505E+01	8.752E-01	0.160
		262.80		-1.972E+01	2.542E+01	4.025E+01	2.342E+00	-0.490
		896.60	*	-7.137E-01	7.491E+00	1.212E+01	8.600E-01	-0.059
BI-210		46.50	*	-8.362E-01	4.109E+00	6.654E+00	5.271E-01	-0.126
PB-210		46.50	*	-8.362E-01	4.109E+00	6.654E+00	5.271E-01	-0.126
PO-210		46.50	*	-8.362E-01	4.109E+00	6.654E+00	4.568E-01	-0.126
PB-211		404.84	*	3.246E-01	9.973E-01	1.614E+00	1.006E+00	0.201
		427.08		-9.516E-01	2.121E+00	3.175E+00	1.961E+00	-0.300
		831.96		-1.362E+00	1.484E+00	1.783E+00	1.113E+00	-0.764
BI-212	+	727.18	*	1.362E+00	6.434E-01	7.301E-01	5.519E-02	1.866
		785.46		1.795E+00	1.620E+00	2.927E+00	1.784E-01	0.613
		1620.62		1.605E+00	1.170E+00	2.337E+00	1.506E-01	0.687
PO-215		81.07		-2.441E-01	2.609E-01	3.192E-01	2.784E-02	-0.765
		83.78		3.812E-02	1.420E-01	2.053E-01	1.825E-02	0.186
		94.90		4.619E-01	2.458E-01	3.806E-01	3.124E-02	1.214
		122.32		-1.563E-01	1.782E+00	2.815E+00	1.965E-01	-0.056
		144.24		2.857E-02	6.578E-01	1.101E+00	7.839E-02	0.026
		154.21		1.532E-01	3.879E-01	6.646E-01	4.500E-02	0.230
	+	269.46		4.883E-01	2.275E-01	3.511E-01	2.140E-02	1.391
		323.87	*	-1.077E+00	6.890E-01	9.851E-01	1.627E-01	-1.093
	+	338.28		6.528E+00	1.774E+00	2.403E+00	2.524E-01	2.717
		445.03		8.893E-01	2.243E+00	3.716E+00	3.759E-01	0.239
RN-219	+	271.23		6.265E-01	2.939E-01	4.423E-01	3.596E-02	1.416
		401.81	*	6.231E-03	4.188E-01	6.787E-01	9.131E-02	0.009
RN-220		549.76	*	2.064E+00	2.511E+01	4.249E+01	2.329E+00	0.049
RA-223		81.07		-2.441E-01	2.609E-01	3.192E-01	2.784E-02	-0.765
		83.78		3.812E-02	1.420E-01	2.053E-01	1.825E-02	0.186
		94.90		4.619E-01	2.458E-01	3.806E-01	3.124E-02	1.214
		122.32		-1.563E-01	1.782E+00	2.815E+00	1.965E-01	-0.056
		144.24		2.857E-02	6.578E-01	1.101E+00	7.839E-02	0.026
		154.21		1.532E-01	3.879E-01	6.646E-01	4.500E-02	0.230
	+	269.46		4.883E-01	2.275E-01	3.511E-01	2.140E-02	1.391
		323.87	*	-1.077E+00	6.890E-01	9.851E-01	1.627E-01	-1.093
	+	338.28		6.528E+00	1.774E+00	2.403E+00	2.524E-01	2.717
		445.03		8.893E-01	2.243E+00	3.716E+00	3.759E-01	0.239
AC-227		79.80		5.026E-01	1.737E+00	2.522E+00	5.426E-01	0.199
		236.00		3.124E-01	2.566E-01	3.979E-01	4.144E-02	0.785

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		256.20	*	-4.419E-01	3.635E-01	5.540E-01	7.734E-02	-0.798
		286.10		5.788E-01	1.540E+00	2.584E+00	2.994E-01	0.224
	+	299.80		2.462E+00	1.870E+00	2.490E+00	4.059E-01	0.989
		304.40		3.393E-01	2.030E+00	2.960E+00	5.125E-01	0.115
		334.20		8.001E-01	2.555E+00	3.745E+00	6.861E-01	0.214
TH-227		79.80		5.026E-01	1.737E+00	2.522E+00	5.496E-01	0.199
	+	94.00		4.758E+00	2.935E+00	3.671E+00	7.953E-01	1.296
		236.00		3.124E-01	2.561E-01	3.979E-01	3.586E-02	0.785
		256.20	*	-4.419E-01	3.659E-01	5.540E-01	9.362E-02	-0.798
		286.10		5.788E-01	1.644E+00	2.584E+00	2.588E+00	0.224
	+	299.80		2.462E+00	1.870E+00	2.490E+00	4.059E-01	0.989
		304.40		3.393E-01	2.030E+00	2.960E+00	5.125E-01	0.115
		334.20		8.001E-01	2.555E+00	3.745E+00	6.861E-01	0.214
TH-229		85.43		4.107E-01	2.185E-01	3.335E-01	3.004E-02	1.232
	+	88.47		1.961E-01	1.903E-01	2.084E-01	1.902E-02	0.941
		100.00		6.530E-02	1.822E-01	2.920E-01	2.233E-02	0.224
		193.63	*	2.431E-01	4.914E-01	8.392E-01	4.617E-02	0.290
	+	210.97		9.980E-01	1.051E+00	1.360E+00	7.625E-02	0.734
PA-231		283.67	*	-2.752E-01	1.715E+00	2.449E+00	3.380E-01	-0.112
	+	301.29		9.847E-01	7.377E-01	1.019E+00	1.068E-01	0.966
TH-231		81.07		-2.441E-01	2.609E-01	3.192E-01	2.784E-02	-0.765
		83.78		3.812E-02	1.420E-01	2.053E-01	1.825E-02	0.186
		94.90		4.619E-01	2.458E-01	3.806E-01	3.124E-02	1.214
		122.32		-1.563E-01	1.782E+00	2.815E+00	1.965E-01	-0.056
		144.24		2.857E-02	6.578E-01	1.101E+00	7.839E-02	0.026
		154.21		1.532E-01	3.879E-01	6.646E-01	4.500E-02	0.230
	+	269.46		4.883E-01	2.275E-01	3.511E-01	2.140E-02	1.391
		323.87	*	-1.077E+00	6.890E-01	9.851E-01	1.627E-01	-1.093
	+	338.28		6.528E+00	1.774E+00	2.403E+00	2.524E-01	2.717
		445.03		8.893E-01	2.243E+00	3.716E+00	3.759E-01	0.239
U-231		84.21		4.366E+00	4.968E+00	7.367E+00	6.573E-01	0.593
	+	92.29		3.878E+00	2.263E+00	3.236E+00	2.766E-01	1.198
		95.87	*	-3.678E-01	9.536E-01	1.327E+00	1.073E-01	-0.277
		108.00		-1.357E+00	1.689E+00	2.591E+00	1.807E-01	-0.524
PA-233	+	75.28		1.843E+01	4.779E+00	6.944E+00	1.059E+00	2.654
	+	86.59		2.811E+00	2.821E+00	2.980E+00	8.040E-01	0.943
	+	300.12		6.863E-01	5.174E-01	7.013E-01	9.438E-02	0.979
		311.98	*	2.232E-02	5.939E-02	9.962E-02	6.164E-03	0.224
		340.50		2.071E+00	8.416E-01	1.204E+00	2.763E-01	1.720
		398.62		3.723E-01	2.095E+00	3.431E+00	8.843E-01	0.109
		415.76		7.058E-01	1.624E+00	2.695E+00	5.524E-01	0.262
PA-234		63.00		6.952E-01	1.688E+00	2.786E+00	4.282E-01	0.250
		94.67		4.420E-01	1.848E-01	2.841E-01	3.448E-02	1.556
		98.44		4.867E-02	9.427E-02	1.459E-01	8.123E-02	0.334
		99.86		1.905E-01	4.625E-01	7.427E-01	5.691E-02	0.256
		111.00		-2.930E-02	1.872E-01	2.959E-01	3.209E-02	-0.099
		131.20		5.038E-03	1.101E-01	1.745E-01	1.029E-02	0.029
		152.70		2.275E-01	3.136E-01	5.406E-01	8.493E-02	0.421
	+	186.00		4.971E+00	2.510E+00	2.573E+00	7.845E-01	1.932

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		226.40		-7.985E-02	3.822E-01	6.202E-01	7.136E-02	-0.129
		227.20		1.196E-01	4.152E-01	6.898E-01	3.926E-02	0.173
		248.90		-1.104E+00	7.919E-01	1.154E+00	2.479E-01	-0.957
		293.70		4.407E+00	1.121E+00	1.594E+00	2.566E-01	2.765
		369.80		-1.587E-01	8.166E-01	1.309E+00	2.718E-01	-0.121
		568.70		-5.029E-01	1.040E+00	1.664E+00	9.042E-02	-0.302
		569.50		-6.730E-02	2.757E-01	4.482E-01	2.435E-02	-0.150
		574.00		5.480E-01	1.461E+00	2.516E+00	1.364E-01	0.218
		699.00		-3.555E-01	6.824E-01	1.078E+00	1.924E-01	-0.330
		706.10		-2.384E-02	9.684E-01	1.602E+00	7.064E-01	-0.015
		733.00		2.899E-01	3.755E-01	5.872E-01	1.246E-01	0.494
		742.81		4.600E-01	1.266E+00	2.101E+00	1.406E+00	0.219
	+	796.30		1.736E+00	1.314E+00	1.672E+00	4.411E-01	1.038
		805.60		5.996E-01	9.688E-01	1.657E+00	4.982E-01	0.362
		819.60		-2.657E-01	1.111E+00	1.772E+00	6.662E-01	-0.150
		826.30		3.214E-01	7.835E-01	1.317E+00	5.844E-01	0.244
		831.60		-8.067E-01	6.639E-01	8.889E-01	2.605E-01	-0.908
		876.40		-1.521E-01	8.122E-01	1.278E+00	1.312E+00	-0.119
		880.51		-8.331E-02	2.564E-01	4.041E-01	2.808E-02	-0.206
		883.24		-4.443E-02	2.561E-01	4.077E-01	2.733E-01	-0.109
		899.00		-2.544E-01	8.391E-01	1.317E+00	5.719E-01	-0.193
		925.00		2.723E-01	1.107E+00	1.852E+00	1.300E-01	0.147
		926.50		4.865E-02	1.697E-01	2.842E-01	7.041E-02	0.171
		946.00	*	5.997E-02	2.862E-01	4.759E-01	8.592E-02	0.126
		949.00		1.284E-01	4.067E-01	6.847E-01	4.746E-02	0.188
		980.50		-2.147E-01	6.221E-01	9.657E-01	6.561E-02	-0.222
		1394.10		-1.450E-02	9.738E-01	1.611E+00	1.046E+00	-0.009
PA-234M		766.42		1.112E+01	1.471E+01	2.115E+01	1.065E+01	0.526
		1001.03	*	-1.092E+00	4.541E+00	7.055E+00	5.895E-01	-0.155
TH-234		63.29	*	1.404E+00	1.434E+00	2.382E+00	4.258E-01	0.589
	+	92.38		1.231E+00	7.448E-01	1.024E+00	1.847E-01	1.203
U-235	+	89.95		2.023E+00	1.202E+00	1.900E+00	5.877E-01	1.065
	+	93.35		1.480E+00	9.498E-01	1.206E+00	3.371E-01	1.228
		105.00		1.097E+00	1.077E+00	1.715E+00	5.052E-01	0.640
		143.76	*	-3.524E-02	2.037E-01	3.382E-01	5.499E-02	-0.104
		163.35		7.374E-02	4.528E-01	7.680E-01	1.371E-01	0.096
	+	185.71		1.841E-01	7.477E-02	9.441E-02	5.148E-03	1.950
		205.31		8.204E-01	5.411E-01	8.385E-01	1.502E-01	0.978
NP-236		94.67		3.371E-01	1.370E-01	2.157E-01	1.776E-02	1.563
		98.44		3.680E-02	6.832E-02	1.103E-01	8.612E-03	0.334
		111.00		-2.216E-02	1.416E-01	2.238E-01	1.514E-02	-0.099
		160.31	*	-2.375E-02	7.669E-02	1.279E-01	6.927E-03	-0.186
U-238		63.29	*	1.404E+00	1.434E+00	2.382E+00	4.258E-01	0.589
	+	92.38		1.231E+00	7.186E-01	1.024E+00	8.737E-02	1.203
NP-239		99.55		8.113E-02	1.543E-01	2.490E-01	1.915E-02	0.326
		117.00	*	-2.207E-01	1.911E-01	2.864E-01	1.833E-02	-0.771
	+	209.75		1.005E+00	1.059E+00	1.366E+00	7.647E-02	0.736
		228.18		1.550E-01	2.126E-01	3.652E-01	2.080E-02	0.424
	+	277.60		2.827E-01	2.944E-01	3.120E-01	1.824E-02	0.906

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		4.823E-01	1.447E+00	2.127E+00	1.227E-01	0.227
AM-241		59.54	*	2.558E-02	1.618E-01	2.644E-01	2.417E-02	0.097
CM-243		99.55		8.348E-02	1.588E-01	2.562E-01	1.971E-02	0.326
		103.76	*	6.528E-02	9.351E-02	1.536E-01	1.123E-02	0.425
		117.00		-2.271E-01	1.965E-01	2.947E-01	1.885E-02	-0.771
	+	209.75		9.911E-01	1.043E+00	1.346E+00	7.538E-02	0.736
		228.18		1.566E-01	2.148E-01	3.689E-01	2.102E-02	0.424
	+	277.60		2.850E-01	2.968E-01	3.145E-01	1.838E-02	0.906
AM-246		798.80		-9.726E-02	1.449E-01	1.858E-01	1.154E-02	-0.523
		1036.00		2.088E-02	2.732E-01	4.459E-01	2.900E-02	0.047
		1062.04		-1.037E-01	2.180E-01	3.324E-01	2.109E-02	-0.312
		1078.86	*	-2.088E-02	1.377E-01	2.183E-01	1.361E-02	-0.096
CM-247	+	278.00		1.173E+00	1.221E+00	1.309E+00	7.654E-02	0.895
		287.40		-2.591E-02	1.241E+00	2.041E+00	1.194E-01	-0.013
		402.60	*	1.846E-02	3.789E-02	6.326E-02	3.438E-03	0.292
CF-249		252.85		7.688E-01	7.953E-01	1.381E+00	8.004E-02	0.557
		333.44		5.959E-03	1.903E-01	2.732E-01	1.576E-02	0.022
		387.95	*	1.725E-02	3.939E-02	6.574E-02	3.573E-03	0.262
CF-251		176.60	*	5.181E-02	1.192E-01	2.038E-01	1.100E-02	0.254
		227.00		5.396E-02	3.663E-01	6.046E-01	3.441E-02	0.089
		285.00		1.634E+00	1.714E+00	2.960E+00	1.732E-01	0.552

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385009     *
* Acquisition date : 31-DEC-2009 10:54:11 Detector SN#     :               *
* Detector ID        : GAM01               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:     0 02:00:00.00     Abundance limit : 75.000        *
* Elapsed real time:     0 02:00:01.16     Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date        : 17-DEC-2009 12:00:00 Nuclide Library : SOLID        *
* Sample ID          : G243385009           Analyst initials: MJH1         *
* Batch Number       : 936285               Sample Quantity : 1.4842E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000    *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
* Standard Weight  :    0.00000                                             *
* CALIB. DATE/TIME : 29-JAN-2009 10:38:56 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.062E+01	2.072E+00	3.940E-01	0.000E+00
CD-109	1.458E+00	1.388E+00	1.432E+00	0.000E+00
SN-126	1.436E-01	1.366E-01	1.417E-01	0.000E+00
HG-203	6.351E-02	6.482E-02	5.755E-02	0.000E+00
TL-208	4.916E-01	9.250E-02	5.800E-02	0.000E+00
BI-211	4.053E+00	5.097E-01	3.258E-01	0.000E+00
PB-212	1.379E+00	1.440E-01	1.027E-01	0.000E+00
PO-212	1.379E+00	1.440E-01	1.027E-01	0.000E+00
BI-214	9.999E-01	1.648E-01	1.066E-01	0.000E+00
PB-214	1.410E+00	1.914E-01	1.136E-01	0.000E+00
PO-214	1.410E+00	1.914E-01	1.136E-01	0.000E+00
PO-216	1.379E+00	1.440E-01	1.027E-01	0.000E+00
PO-218	1.410E+00	1.914E-01	1.136E-01	0.000E+00
RA-224	3.148E+00	1.045E+00	1.169E+00	0.000E+00
RA-226	9.999E-01	1.648E-01	1.066E-01	0.000E+00
AC-228	1.595E+00	3.180E-01	2.148E-01	0.000E+00
RA-228	1.595E+00	3.180E-01	2.148E-01	0.000E+00
TH-228	1.399E+00	1.460E-01	1.042E-01	0.000E+00
TH-230	9.998E-01	1.648E-01	1.066E-01	0.000E+00
TH-232	1.595E+00	3.180E-01	2.148E-01	0.000E+00
U-234	9.998E-01	1.648E-01	1.066E-01	0.000E+00
NP-237	4.217E-01	4.102E-01	4.234E-01	0.000E+00
AM-243	3.519E-01	7.796E-02	9.426E-02	0.000E+00
ANH-511	5.076E-02	6.710E-02	4.831E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)		
BE-7	7.144E-02	2.972E-01	5.125E-01	0.000E+00	NOT IDENT.
NA-22	-1.626E-02	4.057E-02	6.675E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.938E+05	0.000E+00	0.000E+00	SHORT HLIF

AL-26	2.177E-02	2.963E-02	5.623E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.466E-02	8.423E-02	0.000E+00	FAIL ABUN
SC-46	7.428E-03	3.485E-02	6.054E-02	0.000E+00	FAIL ABUN
V-48	-6.372E-02	6.188E-02	9.132E-02	0.000E+00	NOT IDENT.
CR-51	1.083E-01	3.298E-01	5.869E-01	0.000E+00	NOT IDENT.
MN-52	1.993E-02	1.765E-01	3.054E-01	0.000E+00	NOT IDENT.
MN-54	2.476E-02	3.886E-02	6.972E-02	0.000E+00	NOT IDENT.
CO-56	3.997E-02	3.373E-02	6.415E-02	0.000E+00	NOT IDENT.
CO-57	1.238E-02	2.465E-02	4.352E-02	0.000E+00	NOT IDENT.
CO-58	-2.581E-03	3.537E-02	6.017E-02	0.000E+00	NOT IDENT.
FE-59	2.861E-03	8.383E-02	1.402E-01	0.000E+00	NOT IDENT.
CO-60	3.169E-02	3.633E-02	6.846E-02	0.000E+00	NOT IDENT.
ZN-65	3.941E-02	8.964E-02	1.374E-01	0.000E+00	NOT IDENT.
GE-68	4.203E-01	1.167E+00	2.025E+00	0.000E+00	NOT IDENT.
AS-73	4.762E-01	8.845E-01	1.632E+00	0.000E+00	NOT IDENT.
AS-74	3.280E-02	8.429E-02	1.523E-01	0.000E+00	NOT IDENT.
SE-75	9.897E-03	4.248E-02	7.068E-02	0.000E+00	FAIL ABUN
BR-77	-5.050E+00	7.140E+00	1.125E+01	0.000E+00	FAIL ABUN
SR-82	-9.977E-02	3.305E-01	5.520E-01	0.000E+00	NOT IDENT.
RB-83	-5.011E-02	6.536E-02	1.024E-01	0.000E+00	NOT IDENT.
RB-84	-1.386E-02	6.243E-02	1.037E-01	0.000E+00	NOT IDENT.
KR-85	8.138E+00	7.970E+00	1.285E+01	0.000E+00	NOT IDENT.
SR-85	4.122E-02	4.037E-02	6.507E-02	0.000E+00	NOT IDENT.
RB-86	5.355E-01	7.136E-01	1.286E+00	0.000E+00	NOT IDENT.
Y-88	5.907E-03	2.907E-02	5.050E-02	0.000E+00	NOT IDENT.
ZR-88	4.464E-03	3.164E-02	5.486E-02	0.000E+00	NOT IDENT.
Y-91	3.745E+00	1.715E+01	3.023E+01	0.000E+00	NOT IDENT.
NB-94	1.633E-02	3.036E-02	5.494E-02	0.000E+00	NOT IDENT.
NB-95	3.530E-02	4.731E-02	7.632E-02	0.000E+00	NOT IDENT.
NB-95M	1.014E-01	1.319E-01	2.155E-01	0.000E+00	NOT IDENT.
ZR-95	1.295E-02	6.693E-02	1.173E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.918E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	6.864E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-6.362E+00	7.427E+00	1.163E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.447E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.635E-02	3.011E-02	5.546E-02	0.000E+00	NOT IDENT.
RH-102	-3.728E-02	2.801E-02	4.205E-02	0.000E+00	NOT IDENT.
RU-103	-5.546E-03	3.904E-02	6.509E-02	0.000E+00	FAIL ABUN
RH-106	1.572E-01	2.893E-01	5.275E-01	0.000E+00	FAIL ABUN
RU-106	1.572E-01	2.889E-01	5.275E-01	0.000E+00	FAIL ABUN
AG-108M	-2.004E-02	3.138E-02	5.017E-02	0.000E+00	NOT IDENT.
AG-110M	7.025E-03	3.325E-02	5.893E-02	0.000E+00	NOT IDENT.
IN-111	7.423E-01	8.411E-01	1.381E+00	0.000E+00	NOT IDENT.
IN-113M	1.029E-02	4.568E-02	7.962E-02	0.000E+00	NOT IDENT.
SN-113	1.029E-02	4.568E-02	7.962E-02	0.000E+00	NOT IDENT.
IN-114M	8.293E-02	1.917E-01	3.125E-01	0.000E+00	NOT IDENT.
CD-115	1.581E-03	6.987E+00	1.240E+01	0.000E+00	NOT IDENT.
SN-117M	-4.892E-03	4.940E-02	8.998E-02	0.000E+00	NOT IDENT.
SB-122	3.896E-01	1.443E+00	2.596E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.269E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	6.194E-03	2.718E-02	5.007E-02	0.000E+00	NOT IDENT.
I-124	-5.124E-01	6.147E-01	8.569E-01	0.000E+00	FAIL ABUN
SB-124	-6.566E-02	6.726E-02	8.684E-02	0.000E+00	FAIL ABUN
SB-125	2.557E-02	8.670E-02	1.512E-01	0.000E+00	FAIL ABUN
TE-125M	-3.123E+00	8.895E+00	1.522E+01	0.000E+00	NOT IDENT.
I-126	-4.616E-02	1.609E-01	2.739E-01	0.000E+00	NOT IDENT.
SB-126	-8.198E-04	1.423E-01	2.136E-01	0.000E+00	FAIL ABUN
SB-127	7.406E-01	1.009E+00	1.856E+00	0.000E+00	NOT IDENT.
XE-127	-5.577E-02	4.260E-02	7.226E-02	0.000E+00	NOT IDENT.
I-131	3.178E-02	9.933E-02	1.752E-01	0.000E+00	NOT IDENT.
TE-132	3.714E-01	4.997E-01	9.176E-01	0.000E+00	NOT IDENT.
BA-133	-3.811E-02	4.639E-02	6.465E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.235E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.925E-02	6.227E-02	9.089E-02	0.000E+00	FAIL ABUN
CS-135	1.971E-01	1.676E-01	2.796E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.788E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.517E-02	1.027E-01	1.620E-01	0.000E+00	FAIL ABUN
BA-137M	-7.808E-04	3.486E-02	6.067E-02	0.000E+00	NOT IDENT.
CS-137	-8.254E-04	3.685E-02	6.414E-02	0.000E+00	NOT IDENT.
CE-139	-5.263E-03	2.777E-02	5.026E-02	0.000E+00	NOT IDENT.
BA-140	-9.580E-02	2.314E-01	3.946E-01	0.000E+00	NOT IDENT.
LA-140	-1.338E-01	8.683E-02	1.094E-01	0.000E+00	NOT IDENT.
CE-141	2.508E-02	5.576E-02	1.041E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.068E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-8.279E-02	1.993E-01	3.353E-01	0.000E+00	NOT IDENT.
PM-144	1.693E-02	3.107E-02	5.630E-02	0.000E+00	NOT IDENT.
PR-144	1.147E+00	2.104E+00	3.813E+00	0.000E+00	NOT IDENT.
PM-146	3.725E-02	4.449E-02	7.980E-02	0.000E+00	NOT IDENT.

ND-147	1.090E-01	4.858E-01	8.751E-01	0.000E+00	FAIL ABUN
PM-149	1.873E+01	6.262E+01	1.118E+02	0.000E+00	NOT IDENT.
EU-152	-7.877E-02	9.771E-02	1.546E-01	0.000E+00	FAIL ABUN
GD-153	3.741E-02	8.191E-02	1.308E-01	0.000E+00	NOT IDENT.
EU-154	-4.424E-02	1.136E-01	1.870E-01	0.000E+00	NOT IDENT.
EU-155	6.910E-02	1.045E-01	1.870E-01	0.000E+00	FAIL ABUN
TB-160	2.455E-02	1.228E-01	2.133E-01	0.000E+00	FAIL ABUN
HO-166M	-1.744E-02	5.606E-02	9.453E-02	0.000E+00	NOT IDENT.
TM-171	-3.354E+01	2.817E+01	4.777E+01	0.000E+00	NOT IDENT.
LU-176	-6.407E-03	2.449E-02	4.074E-02	0.000E+00	FAIL ABUN
LU-177	1.257E+00	1.297E+00	1.752E+00	0.000E+00	FAIL ABUN
LU-177M	-2.957E-01	1.762E-01	2.649E-01	0.000E+00	FAIL ABUN
HF-181	-8.749E-03	4.316E-02	7.188E-02	0.000E+00	NOT IDENT.
W-181	-3.937E-01	3.754E-01	6.426E-01	0.000E+00	NOT IDENT.
TA-182	2.126E-02	1.759E-01	3.072E-01	0.000E+00	FAIL ABUN
RE-183	3.391E-02	1.008E-01	1.863E-01	0.000E+00	FAIL ABUN
RE-184	2.039E-01	2.067E-01	3.846E-01	0.000E+00	NOT IDENT.
OS-185	-4.849E-02	3.924E-02	6.114E-02	0.000E+00	NOT IDENT.
RE-188	1.025E-01	1.621E-01	3.031E-01	0.000E+00	NOT IDENT.
W-188	-1.725E+00	7.906E+00	1.199E+01	0.000E+00	NOT IDENT.
IR-192	-1.947E-02	3.170E-02	5.328E-02	0.000E+00	FAIL ABUN
AU-195	6.360E-02	2.190E-01	3.831E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.084E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.539E+00	5.043E+00	9.293E+00	0.000E+00	NOT IDENT.
TL-202	-9.147E-03	5.876E-02	9.888E-02	0.000E+00	NOT IDENT.
BI-207	-4.632E-03	4.903E-02	8.109E-02	0.000E+00	FAIL ABUN
TL-207	-1.077E+00	6.753E-01	1.028E+00	0.000E+00	FAIL ABUN
PO-209	-7.137E-01	7.341E+00	1.235E+01	0.000E+00	NOT IDENT.
BI-210	-8.362E-01	4.027E+00	7.253E+00	0.000E+00	NOT IDENT.
PB-210	-8.362E-01	4.027E+00	7.253E+00	0.000E+00	NOT IDENT.
PO-210	-8.362E-01	4.027E+00	7.253E+00	0.000E+00	NOT IDENT.
PB-211	3.246E-01	9.774E-01	1.676E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	6.306E-01	7.475E-01	0.000E+00	FAIL ABUN
PO-215	-1.077E+00	6.753E-01	1.028E+00	0.000E+00	FAIL ABUN
RN-219	6.231E-03	4.104E-01	7.048E-01	0.000E+00	FAIL ABUN
RN-220	2.064E+00	2.461E+01	4.380E+01	0.000E+00	NOT IDENT.
RA-223	-1.077E+00	6.753E-01	1.028E+00	0.000E+00	FAIL ABUN
AC-227	-4.419E-01	3.562E-01	5.814E-01	0.000E+00	FAIL ABUN
TH-227	-4.419E-01	3.586E-01	5.814E-01	0.000E+00	FAIL ABUN
TH-229	2.431E-01	4.815E-01	8.865E-01	0.000E+00	FAIL ABUN
PA-231	-2.752E-01	1.680E+00	2.564E+00	0.000E+00	FAIL ABUN
TH-231	-1.077E+00	6.753E-01	1.028E+00	0.000E+00	FAIL ABUN
U-231	-3.678E-01	9.345E-01	1.423E+00	0.000E+00	FAIL ABUN
PA-233	2.232E-02	5.820E-02	1.041E-01	0.000E+00	FAIL ABUN
PA-234	5.997E-02	2.804E-01	4.841E-01	0.000E+00	FAIL ABUN
PA-234M	-1.092E+00	4.450E+00	7.167E+00	0.000E+00	NOT IDENT.
TH-234	1.404E+00	1.405E+00	2.580E+00	0.000E+00	FAIL ABUN
U-235	-3.524E-02	1.996E-01	3.597E-01	0.000E+00	FAIL ABUN
NP-236	-2.375E-02	7.515E-02	1.357E-01	0.000E+00	NOT IDENT.
U-238	1.404E+00	1.405E+00	2.580E+00	0.000E+00	FAIL ABUN
NP-239	-2.207E-01	1.872E-01	3.060E-01	0.000E+00	FAIL ABUN
AM-241	2.558E-02	1.586E-01	2.867E-01	0.000E+00	NOT IDENT.
CM-243	6.528E-02	9.164E-02	1.645E-01	0.000E+00	FAIL ABUN
AM-246	-2.088E-02	1.350E-01	2.214E-01	0.000E+00	NOT IDENT.
CM-247	1.846E-02	3.713E-02	6.570E-02	0.000E+00	FAIL ABUN
CF-249	1.725E-02	3.860E-02	6.832E-02	0.000E+00	NOT IDENT.
CF-251	5.181E-02	1.168E-01	2.158E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 12:55:00.29

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385009.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 10:54:11
Sample ID         : G243385009           Sample quantity  : 1.48420E+02 GRAM
Detector name     : GAM01                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.16  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	839	10.67*	9.645E-01	2.062E+01	2.062E+01	10.25
CD-109	88.03	108	3.72*	5.146E+00	1.428E+00	1.458E+00	97.09
SN-126	64.28	------	9.60	2.844E+00	------ Line Not Found		------
	86.94	108	8.90	5.146E+00	5.970E-01	5.970E-01	105.18
	87.57	108	37.00*	5.146E+00	1.436E-01	1.436E-01	97.09
HG-203	70.83	------	4.75	3.646E+00	------ Line Not Found		------
	72.87	------	8.00	3.875E+00	------ Line Not Found		------
	82.60	------	3.55	4.801E+00	------ Line Not Found		------
	279.20	62	77.30*	3.964E+00	5.157E-02	6.351E-02	104.15
TL-208	277.35	62	6.80	3.964E+00	5.863E-01	5.863E-01	104.51
	510.84	49	21.60	2.436E+00	2.350E-01	2.350E-01	135.14
	583.14	357	84.20*	2.182E+00	4.916E-01	4.916E-01	19.20
	860.37	59	12.46	1.551E+00	7.672E-01	7.672E-01	61.30
BI-211	72.87	------	1.27	3.875E+00	------ Line Not Found		------
	351.07	683	12.94*	3.295E+00	4.053E+00	4.053E+00	12.83
PB-212	74.81	376	10.70	4.092E+00	2.171E+00	2.171E+00	24.46
	77.11	573	18.00	4.316E+00	1.865E+00	1.865E+00	16.20
	87.30	108	8.00	5.146E+00	6.641E-01	6.641E-01	97.60
	238.63	1081	44.60*	4.445E+00	1.379E+00	1.379E+00	10.65
	300.09	67	3.41	3.735E+00	1.328E+00	1.328E+00	74.64
PO-212	74.81	376	10.70	4.092E+00	2.171E+00	2.171E+00	24.46
	77.11	573	18.00	4.316E+00	1.865E+00	1.865E+00	16.20
	87.30	108	8.00	5.146E+00	6.641E-01	6.641E-01	97.60
	115.19	------	0.60	6.067E+00	------ Line Not Found		------
	238.63	1081	44.60*	4.445E+00	1.379E+00	1.379E+00	10.65
	300.09	67	3.41	3.735E+00	1.328E+00	1.328E+00	74.64
BI-214	609.31	385	46.30*	2.102E+00	9.998E-01	9.999E-01	16.82
	1120.29	96	15.10	1.219E+00	1.322E+00	1.322E+00	44.04
	1764.49	66	15.80	8.369E-01	1.259E+00	1.259E+00	27.55
PB-214	74.81	376	6.21	4.092E+00	3.740E+00	3.740E+00	23.79
	77.11	573	10.50	4.316E+00	3.198E+00	3.198E+00	17.91
	87.30	108	4.67	5.146E+00	1.138E+00	1.138E+00	97.39

Sample ID : G243385009 Acquisition date : 31-DEC-2009 10:54:11

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	241.98	217	7.49	4.404E+00	1.660E+00	1.660E+00	34.32
	295.21	401	19.20	3.783E+00	1.395E+00	1.395E+00	18.12
	351.92	683	37.20*	3.295E+00	1.410E+00	1.410E+00	13.85
PO-214	74.81	376	6.21	4.092E+00	3.740E+00	3.740E+00	23.79
	77.11	573	10.50	4.316E+00	3.198E+00	3.198E+00	17.91
	87.30	108	4.67	5.146E+00	1.138E+00	1.138E+00	97.39
	241.98	217	7.49	4.404E+00	1.660E+00	1.660E+00	34.32
	295.21	401	19.20	3.783E+00	1.395E+00	1.395E+00	18.12
	351.92	683	37.20*	3.295E+00	1.410E+00	1.410E+00	13.85
PO-216	74.81	376	10.70	4.092E+00	2.171E+00	2.171E+00	24.46
	77.11	573	18.00	4.316E+00	1.865E+00	1.865E+00	16.20
	87.30	108	8.00	5.146E+00	6.641E-01	6.641E-01	97.60
	238.63	1081	44.60*	4.445E+00	1.379E+00	1.379E+00	10.65
	300.09	67	3.41	3.735E+00	1.328E+00	1.328E+00	74.64
PO-218	74.81	376	6.21	4.092E+00	3.740E+00	3.740E+00	23.79
	77.11	573	10.50	4.316E+00	3.198E+00	3.198E+00	17.91
	87.30	108	4.67	5.146E+00	1.138E+00	1.138E+00	97.39
	241.98	217	7.49	4.404E+00	1.660E+00	1.660E+00	34.32
	295.21	401	19.20	3.783E+00	1.395E+00	1.395E+00	18.12
	351.92	683	37.20*	3.295E+00	1.410E+00	1.410E+00	13.85
RA-224	240.98	217	3.95*	4.404E+00	3.148E+00	3.148E+00	33.86
RA-226	609.31	385	46.30*	2.102E+00	9.998E-01	9.999E-01	16.82
	1120.29	96	15.10	1.219E+00	1.322E+00	1.322E+00	44.04
	1764.49	66	15.80	8.369E-01	1.259E+00	1.259E+00	27.55
AC-228	338.32	240	11.40	3.400E+00	1.563E+00	1.563E+00	47.84
	911.07	257	27.70*	1.473E+00	1.595E+00	1.595E+00	20.34
	969.11	133	16.60	1.393E+00	1.460E+00	1.460E+00	33.87
RA-228	338.32	240	11.40	3.400E+00	1.563E+00	1.563E+00	47.84
	911.07	257	27.70*	1.473E+00	1.595E+00	1.595E+00	20.34
	969.11	133	16.60	1.393E+00	1.460E+00	1.460E+00	33.87
TH-228	74.81	376	10.70	4.092E+00	2.171E+00	2.201E+00	22.63
	77.11	573	18.00	4.316E+00	1.865E+00	1.891E+00	16.20
	87.30	108	8.00	5.146E+00	6.641E-01	6.734E-01	97.09
	238.63	1081	44.60*	4.445E+00	1.379E+00	1.399E+00	10.65
	300.09	67	3.41	3.735E+00	1.328E+00	1.347E+00	94.74
TH-230	609.31	385	46.30*	2.102E+00	9.998E-01	9.998E-01	16.82
	1120.29	96	15.10	1.219E+00	1.322E+00	1.322E+00	44.04
	1764.49	66	15.80	8.369E-01	1.259E+00	1.259E+00	27.55
TH-232	338.32	240	11.40	3.400E+00	1.563E+00	1.563E+00	25.71
	911.07	257	27.70*	1.473E+00	1.595E+00	1.595E+00	20.34
	969.11	133	16.60	1.393E+00	1.460E+00	1.460E+00	33.87
U-234	609.31	385	46.30*	2.102E+00	9.998E-01	9.998E-01	16.82
	1120.29	96	15.10	1.219E+00	1.322E+00	1.322E+00	44.04
	1764.49	66	15.80	8.369E-01	1.259E+00	1.259E+00	27.55
NP-237	86.50	108	12.60*	5.146E+00	4.217E-01	4.217E-01	99.26
	95.87	------	2.60	5.609E+00	------ Line Not Found		------
AM-243	74.67	376	66.00*	4.092E+00	3.519E-01	3.519E-01	22.61
	86.72	108	0.34	5.146E+00	1.581E+01	1.581E+01	97.09
	117.66	------	0.55	6.083E+00	------ Line Not Found		------

Sample ID : G243385009 Acquisition date : 31-DEC-2009 10:54:11

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	142.18	------	0.13	5.960E+00	------	Line Not Found	------
ANH-511	511.00	49	100.00*	2.436E+00	5.076E-02	5.076E-02	134.88

Flag: "*" = Keyline

Sample ID : G243385009 Acquisition date : 31-DEC-2009 10:54:11

Total number of lines in spectrum 31
Number of unidentified lines 2
Number of lines tentatively identified by NID 29 93.55%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.062E+01	2.062E+01	0.211E+01	10.25	
CD-109	464.00D	1.02	1.428E+00	1.458E+00	1.416E+00	97.09	
SN-126	1.00E+05Y	1.00	1.436E-01	1.436E-01	1.394E-01	97.09	
HG-203	46.60D	1.23	5.157E-02	6.351E-02	6.615E-02	104.15	
TL-208	1.41E+10Y	1.00	4.916E-01	4.916E-01	0.944E-01	19.20	
BI-211	7.04E+08Y	1.00	4.053E+00	4.053E+00	0.520E+00	12.83	
PB-212	1.41E+10Y	1.00	1.379E+00	1.379E+00	0.147E+00	10.65	
PO-212	1.41E+10Y	1.00	1.379E+00	1.379E+00	0.147E+00	10.65	
BI-214	1600.00Y	1.00	9.998E-01	9.999E-01	1.682E-01	16.82	
PB-214	1600.00Y	1.00	1.410E+00	1.410E+00	0.195E+00	13.85	
PO-214	1600.00Y	1.00	1.410E+00	1.410E+00	0.195E+00	13.85	
PO-216	1.41E+10Y	1.00	1.379E+00	1.379E+00	0.147E+00	10.65	
PO-218	1600.00Y	1.00	1.410E+00	1.410E+00	0.195E+00	13.85	
RA-224	1.41E+10Y	1.00	3.148E+00	3.148E+00	1.066E+00	33.86	
RA-226	1600.00Y	1.00	9.998E-01	9.999E-01	1.682E-01	16.82	
AC-228	1.41E+10Y	1.00	1.595E+00	1.595E+00	0.324E+00	20.34	
RA-228	1.41E+10Y	1.00	1.595E+00	1.595E+00	0.324E+00	20.34	
TH-228	1.91Y	1.01	1.379E+00	1.399E+00	0.149E+00	10.65	
TH-230	4.47E+09Y	1.00	9.998E-01	9.998E-01	1.682E-01	16.82	
TH-232	1.41E+10Y	1.00	1.595E+00	1.595E+00	0.324E+00	20.34	
U-234	4.47E+09Y	1.00	9.998E-01	9.998E-01	1.682E-01	16.82	
NP-237	2.14E+06Y	1.00	4.217E-01	4.217E-01	4.185E-01	99.26	
AM-243	7380.00Y	1.00	3.519E-01	3.519E-01	0.796E-01	22.61	
ANH-511	1.00E+09Y	1.00	5.076E-02	5.076E-02	6.847E-02	134.88	
	Total Activity :		4.929E+01	4.935E+01			

Grand Total Activity : 4.929E+01 4.935E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G243385009 Acquisition date : 31-DEC-2009 10:54:11

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	89.85	115	320	1.18	180.45	179	5	1.59E-02	50.7	5.30E+00	T
0	93.06	144	461	1.42	186.88	183	8	2.00E-02	57.8	5.48E+00	T
0	186.16	207	379	1.14	373.06	369	11	2.87E-02	40.2	5.26E+00	T
0	209.53	63	318	1.06	419.80	416	9	8.72E-03	****	4.88E+00	T
0	270.22	106	166	1.18	541.17	537	8	1.48E-02	46.2	4.05E+00	T
0	463.67	66	101	0.98	927.98	922	11	9.16E-03	64.1	2.64E+00	T
0	727.43	115	111	1.84	1455.36	1448	17	1.59E-02	46.6	1.80E+00	T
0	769.18	40	67	1.37	1538.83	1531	12	5.53E-03	89.0	1.72E+00	
0	794.97	45	54	2.06	1590.39	1585	11	6.20E-03	70.9	1.67E+00	T
1	964.50	64	38	1.88	1929.32	1920	30	8.85E-03	44.9	1.40E+00	T
0	1376.63	43	14	1.84	2753.12	2745	18	6.03E-03	50.8	1.01E+00	T
0	1729.04	16	6	1.15	3457.47	3452	12	2.22E-03	79.1	8.48E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 12:55:04.86

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*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
*                                                                            *
*                                DETECTOR DATA                               *
*                                                                            *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385009.CNF;1  *
* Acquisition date  : 31-DEC-2009 10:54:11  Detector SN#     :               *
* Detector ID       : GAM01                 Sensitivity      : 5.00000      *
* Geometry          : CAN                   Energy tolerance: 1.50000       *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000      *
* Elapsed real time: 0 02:00:01.16          Half life ratio : 8.00000       *
*****************************************************************************
*                                                                            *
*                                 SAMPLE DATA                                *
*                                                                            *
* Sample date       : 17-DEC-2009 12:00:00  Nuclide Library : SOLID          *
* Sample ID         : G243385009            Analyst initials: MJH1           *
* Batch Number      : 936285                Sample Quantity : 1.48420E+02 GRAM *
*****************************************************************************
*                                                                            *
*                                   QC DATA                                  *
*                                                                            *
* CALIB. DATE/TIME : 29-JAN-2009 10:38:56.1MS Isotope      :                 *
* MSD ID           :                      MSD Isotope     :                 *
* LCS ID           : 1032-A               LCS Isotope     :                 *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.062E+01	2.114E+00	3.915E-01	2.782E-02	52.676
CD-109	1.458E+00	1.416E+00	1.332E+00	1.226E-01	1.095
SN-126	1.436E-01	1.394E-01	1.318E-01	1.209E-02	1.089
HG-203	6.351E-02	6.615E-02	5.495E-02	3.408E-03	1.156
TL-208	4.916E-01	9.438E-02	5.635E-02	3.570E-03	8.725
BI-211	4.053E+00	5.201E-01	3.127E-01	1.980E-02	12.960
PB-212	1.379E+00	1.469E-01	9.772E-02	7.120E-03	14.115
PO-212	1.379E+00	1.469E-01	9.772E-02	7.120E-03	14.115
BI-214	9.999E-01	1.682E-01	1.037E-01	7.687E-03	9.643
PB-214	1.410E+00	1.953E-01	1.090E-01	8.942E-03	12.932
PO-214	1.410E+00	1.953E-01	1.090E-01	8.942E-03	12.932
PO-216	1.379E+00	1.469E-01	9.772E-02	7.120E-03	14.115
PO-218	1.410E+00	1.953E-01	1.090E-01	8.942E-03	12.932
RA-224	3.148E+00	1.066E+00	1.112E+00	6.398E-02	2.830
RA-226	9.999E-01	1.682E-01	1.037E-01	7.687E-03	9.643
AC-228	1.595E+00	3.244E-01	2.110E-01	2.132E-02	7.561
RA-228	1.595E+00	3.244E-01	2.110E-01	2.132E-02	7.561
TH-228	1.399E+00	1.490E-01	9.908E-02	7.220E-03	14.115

Sample ID : G243385009 Acquisition date : 31-DEC-2009 10:54:11

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	9.998E-01	1.682E-01	1.037E-01	7.687E-03	9.643
TH-232	1.595E+00	3.244E-01	2.110E-01	2.132E-02	7.561
U-234	9.998E-01	1.682E-01	1.037E-01	7.687E-03	9.643
NP-237	4.217E-01	4.185E-01	3.937E-01	8.876E-02	1.071
AM-243	3.519E-01	7.955E-02	8.736E-02	7.363E-03	4.028
ANH-511	5.076E-02	6.847E-02	4.679E-02	2.591E-03	1.085

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	7.144E-02		3.032E-01	4.955E-01	3.239E-02	0.144
NA-22	-1.626E-02		4.139E-02	6.610E-02	4.237E-03	-0.246
NA-24	1.285E-03		9.886E-02	Half-Life too short		
AL-26	2.177E-02		3.023E-02	5.618E-02	3.239E-03	0.388
TI-44	3.442E-01	+	5.577E-02	7.815E-02	6.703E-03	4.404
SC-46	7.428E-03		3.556E-02	5.942E-02	4.176E-03	0.125
V-48	-6.372E-02		6.314E-02	8.985E-02	6.092E-03	-0.709
CR-51	1.083E-01		3.365E-01	5.621E-01	3.638E-02	0.193
MN-52	1.993E-02		1.801E-01	3.033E-01	2.074E-02	0.066
MN-54	2.476E-02		3.965E-02	6.832E-02	4.463E-03	0.362
CO-56	3.997E-02		3.441E-02	6.289E-02	4.176E-03	0.636
CO-57	1.238E-02		2.516E-02	4.077E-02	2.504E-03	0.304
CO-58	-2.581E-03		3.609E-02	5.892E-02	3.739E-03	-0.044
FE-59	2.861E-03		8.554E-02	1.383E-01	9.749E-03	0.021
CO-60	3.169E-02		3.707E-02	6.787E-02	4.703E-03	0.467
ZN-65	3.941E-02		9.146E-02	1.356E-01	8.120E-03	0.291
GE-68	4.203E-01		1.191E+00	1.997E+00	1.247E-01	0.210
AS-73	4.762E-01		9.025E-01	1.502E+00	1.278E-01	0.317
AS-74	3.280E-02		8.601E-02	1.480E-01	7.919E-03	0.222
SE-75	9.897E-03		4.335E-02	6.740E-02	3.966E-03	0.147
BR-77	-5.050E+00		7.285E+00	1.090E+01	6.025E-01	-0.463
SR-82	-9.977E-02		3.372E-01	5.400E-01	3.249E-02	-0.185
RB-83	-5.011E-02		6.670E-02	9.917E-02	5.482E-03	-0.505
RB-84	-1.386E-02		6.370E-02	1.017E-01	7.077E-03	-0.136
KR-85	8.138E+00		8.133E+00	1.244E+01	6.888E-01	0.654
SR-85	4.122E-02		4.119E-02	6.303E-02	3.489E-03	0.654
RB-86	5.355E-01		7.282E-01	1.268E+00	7.924E-02	0.422
Y-88	5.907E-03		2.966E-02	5.047E-02	2.857E-03	0.117
ZR-88	4.464E-03		3.229E-02	5.279E-02	2.854E-03	0.085
Y-91	3.745E+00		1.750E+01	2.989E+01	1.727E+00	0.125
NB-94	1.633E-02		3.098E-02	5.361E-02	2.888E-03	0.305
NB-95	3.530E-02		4.828E-02	7.464E-02	4.422E-03	0.473
NB-95M	1.014E-01		1.345E-01	2.049E-01	1.532E-02	0.495
ZR-95	1.295E-02		6.829E-02	1.146E-01	8.101E-03	0.113
NB-97	1.030E-02		1.489E-02	Half-Life too short		
ZR-97	-8.159E-02		3.502E-01	Half-Life too short		
MO-99	-6.362E+00		7.578E+00	1.137E+01	1.562E+00	-0.560

Sample ID : G243385009 Acquisition date : 31-DEC-2009 10:54:11

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M	-4.733E+08		7.384E+08	Half-Life too short		
RH-101	1.635E-02		3.072E-02	5.254E-02	2.904E-03	0.311
RH-102	-3.728E-02		2.858E-02	4.065E-02	2.255E-03	-0.917
RU-103	-5.546E-03		3.984E-02	6.299E-02	7.893E-03	-0.088
RH-106	1.572E-01		2.952E-01	5.133E-01	5.889E-02	0.306
RU-106	1.572E-01		2.948E-01	5.133E-01	2.694E-02	0.306
AG-108M	-2.004E-02		3.202E-02	4.840E-02	2.917E-03	-0.414
AG-110M	7.025E-03		3.393E-02	5.741E-02	3.155E-03	0.122
IN-111	7.423E-01		8.583E-01	1.315E+00	7.586E-02	0.564
IN-113M	1.029E-02		4.662E-02	7.663E-02	4.458E-03	0.134
SN-113	1.029E-02		4.662E-02	7.663E-02	4.458E-03	0.134
IN-114M	8.293E-02		1.956E-01	2.957E-01	1.621E-02	0.280
CD-115	1.581E-03		7.130E+00	1.202E+01	6.634E-01	0.000
SN-117M	-4.892E-03		5.041E-02	8.480E-02	4.614E-03	-0.058
SB-122	3.896E-01		1.472E+00	2.520E+00	1.373E-01	0.155
I-123	2.894E-01		6.477E-01	Half-Life too short		
TE-123M	6.194E-03		2.773E-02	4.719E-02	2.604E-03	0.131
I-124	-5.124E-01		6.273E-01	8.331E-01	4.437E-02	-0.615
SB-124	-6.566E-02		6.863E-02	8.661E-02	5.793E-03	-0.758
SB-125	2.557E-02		8.847E-02	1.458E-01	8.388E-03	0.175
TE-125M	-3.123E+00		9.076E+00	1.423E+01	1.270E+00	-0.220
I-126	-4.616E-02		1.642E-01	2.670E-01	1.358E-02	-0.173
SB-126	-8.198E-04		1.452E-01	2.086E-01	1.155E-02	-0.004
SB-127	7.406E-01		1.030E+00	1.811E+00	1.572E-01	0.409
XE-127	-5.577E-02		4.347E-02	6.849E-02	3.806E-03	-0.814
I-131	3.178E-02		1.014E-01	1.683E-01	1.060E-02	0.189
TE-132	3.714E-01		5.099E-01	8.720E-01	1.229E-01	0.426
BA-133	-3.811E-02		4.733E-02	6.208E-02	7.133E-03	-0.614
I-133	9.522E-04		1.140E-03	Half-Life too short		
CS-134	8.925E-02	+	6.354E-02	8.897E-02	5.581E-03	1.003
CS-135	1.971E-01		1.710E-01	2.667E-01	2.049E-02	0.739
I-135	-7.150E+07		1.423E+08	Half-Life too short		
CS-136	-5.517E-02		1.048E-01	1.596E-01	1.104E-02	-0.346
BA-137M	-7.808E-04		3.558E-02	5.912E-02	2.986E-03	-0.013
CS-137	-8.254E-04		3.761E-02	6.250E-02	3.174E-03	-0.013
CE-139	-5.263E-03		2.834E-02	4.742E-02	2.533E-03	-0.111
BA-140	-9.580E-02		2.362E-01	3.826E-01	1.242E-01	-0.250
LA-140	-1.338E-01		8.861E-02	1.089E-01	7.096E-03	-1.229
CE-141	2.508E-02		5.690E-02	9.789E-02	5.753E-03	0.256
CE-143	3.011E-04		5.450E-05	Half-Life too short		
CE-144	-8.279E-02		2.034E-01	3.148E-01	4.478E-02	-0.263
PM-144	1.693E-02		3.171E-02	5.493E-02	2.933E-03	0.308
PR-144	1.147E+00		2.147E+00	3.720E+00	1.985E-01	0.308
PM-146	3.725E-02		4.540E-02	7.706E-02	6.507E-03	0.483
ND-147	1.090E-01		4.957E-01	8.482E-01	1.137E-01	0.128
PM-149	1.873E+01		6.390E+01	1.068E+02	1.515E+01	0.175
EU-152	-7.877E-02		9.971E-02	1.483E-01	9.599E-03	-0.531
GD-153	3.741E-02		8.358E-02	1.219E-01	9.650E-03	0.307

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	-4.424E-02		1.159E-01	1.852E-01	1.801E-02	-0.239
EU-155	6.910E-02		1.066E-01	1.746E-01	1.276E-02	0.396
TB-160	2.455E-02		1.254E-01	2.093E-01	1.452E-02	0.117
HO-166M	-1.744E-02		5.720E-02	9.228E-02	5.041E-03	-0.189
TM-171	-3.354E+01		2.874E+01	4.417E+01	3.674E+00	-0.759
LU-176	-6.407E-03		2.499E-02	3.898E-02	2.276E-03	-0.164
LU-177	1.257E+00	+	1.324E+00	1.661E+00	9.288E-02	0.757
LU-177M	-2.957E-01		1.798E-01	2.552E-01	1.395E-02	-1.158
HF-181	-8.749E-03		4.404E-02	6.952E-02	3.857E-03	-0.126
W-181	-3.937E-01		3.831E-01	5.938E-01	4.950E-02	-0.663
TA-182	2.126E-02		1.795E-01	3.038E-01	1.800E-02	0.070
RE-183	3.391E-02		1.029E-01	1.757E-01	9.464E-03	0.193
RE-184	2.039E-01		2.110E-01	3.664E-01	2.123E-02	0.557
OS-185	-4.849E-02		4.004E-02	5.955E-02	3.057E-03	-0.814
RE-188	1.025E-01		1.654E-01	2.856E-01	1.568E-02	0.359
W-188	-1.725E+00		8.067E+00	1.146E+01	6.705E-01	-0.151
IR-192	-1.947E-02		3.235E-02	5.101E-02	2.984E-03	-0.382
AU-195	6.360E-02		2.235E-01	3.572E-01	2.773E-02	0.178
TL-200	-7.016E-05		1.063E-04	Half-Life too short		
TL-201	1.539E+00		5.146E+00	8.769E+00	4.686E-01	0.176
TL-202	-9.147E-03		5.996E-02	9.541E-02	5.262E-03	-0.096
BI-207	-4.632E-03		5.003E-02	7.994E-02	5.064E-03	-0.058
TL-207	-1.077E+00		6.890E-01	9.851E-01	1.627E-01	-1.093
PO-209	-7.137E-01		7.491E+00	1.212E+01	8.600E-01	-0.059
BI-210	-8.362E-01		4.109E+00	6.654E+00	5.271E-01	-0.126
PB-210	-8.362E-01		4.109E+00	6.654E+00	5.271E-01	-0.126
PO-210	-8.362E-01		4.109E+00	6.654E+00	4.568E-01	-0.126
PB-211	3.246E-01		9.973E-01	1.614E+00	1.006E+00	0.201
BI-212	1.362E+00	+	6.434E-01	7.301E-01	5.519E-02	1.866
PO-215	-1.077E+00		6.890E-01	9.851E-01	1.627E-01	-1.093
RN-219	6.231E-03		4.188E-01	6.787E-01	9.131E-02	0.009
RN-220	2.064E+00		2.511E+01	4.249E+01	2.329E+00	0.049
RA-223	-1.077E+00		6.890E-01	9.851E-01	1.627E-01	-1.093
AC-227	-4.419E-01		3.635E-01	5.540E-01	7.734E-02	-0.798
TH-227	-4.419E-01		3.659E-01	5.540E-01	9.362E-02	-0.798
TH-229	2.431E-01		4.914E-01	8.392E-01	4.617E-02	0.290
PA-231	-2.752E-01		1.715E+00	2.449E+00	3.380E-01	-0.112
TH-231	-1.077E+00		6.890E-01	9.851E-01	1.627E-01	-1.093
U-231	-3.678E-01		9.536E-01	1.327E+00	1.073E-01	-0.277
PA-233	2.232E-02		5.939E-02	9.962E-02	6.164E-03	0.224
PA-234	5.997E-02		2.862E-01	4.759E-01	8.592E-02	0.126
PA-234M	-1.092E+00		4.541E+00	7.055E+00	5.895E-01	-0.155
TH-234	1.404E+00		1.434E+00	2.382E+00	4.258E-01	0.589
U-235	-3.524E-02		2.037E-01	3.382E-01	5.499E-02	-0.104
NP-236	-2.375E-02		7.669E-02	1.279E-01	6.927E-03	-0.186
U-238	1.404E+00		1.434E+00	2.382E+00	4.258E-01	0.589
NP-239	-2.207E-01		1.911E-01	2.864E-01	1.833E-02	-0.771
AM-241	2.558E-02		1.618E-01	2.644E-01	2.417E-02	0.097

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	6.528E-02		9.351E-02	1.536E-01	1.123E-02	0.425
AM-246	-2.088E-02		1.377E-01	2.183E-01	1.361E-02	-0.096
CM-247	1.846E-02		3.789E-02	6.326E-02	3.438E-03	0.292
CF-249	1.725E-02		3.939E-02	6.574E-02	3.573E-03	0.262
CF-251	5.181E-02		1.192E-01	2.038E-01	1.100E-02	0.254

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243385009           *
* Acquisition date  : 31-DEC-2009 10:54:11 Detector SN#     :               *
* Detector ID       : GAM01                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.16      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243385009           Analyst initials: MJH1           *
* Batch Number      : 936285               Sample Quantity : 1.4842E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME : 29-JAN-2009 10:38:56 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.062E+01	2.072E+00	1.971E-01	1.057E+00
CD-109	1.458E+00	1.388E+00	7.163E-01	7.080E-01
SN-126	1.436E-01	1.366E-01	7.091E-02	6.971E-02
HG-203	6.351E-02	6.482E-02	2.879E-02	3.307E-02
TL-208	4.916E-01	9.250E-02	2.902E-02	4.719E-02
BI-211	4.053E+00	5.097E-01	1.630E-01	2.600E-01
PB-212	1.379E+00	1.440E-01	5.139E-02	7.345E-02
PO-212	1.379E+00	1.440E-01	5.139E-02	7.345E-02
BI-214	9.999E-01	1.648E-01	5.334E-02	8.410E-02
PB-214	1.410E+00	1.914E-01	5.681E-02	9.765E-02
PO-214	1.410E+00	1.914E-01	5.681E-02	9.765E-02
PO-216	1.379E+00	1.440E-01	5.139E-02	7.345E-02
PO-218	1.410E+00	1.914E-01	5.681E-02	9.765E-02
RA-224	3.148E+00	1.045E+00	5.848E-01	5.330E-01
RA-226	9.999E-01	1.648E-01	5.334E-02	8.410E-02
AC-228	1.595E+00	3.180E-01	1.075E-01	1.622E-01
RA-228	1.595E+00	3.180E-01	1.075E-01	1.622E-01
TH-228	1.399E+00	1.460E-01	5.211E-02	7.448E-02
TH-230	9.998E-01	1.648E-01	5.334E-02	8.410E-02
TH-232	1.595E+00	3.180E-01	1.075E-01	1.622E-01
U-234	9.998E-01	1.648E-01	5.334E-02	8.410E-02
NP-237	4.217E-01	4.102E-01	2.118E-01	2.093E-01
AM-243	3.519E-01	7.796E-02	4.716E-02	3.978E-02
ANH-511	5.076E-02	6.710E-02	2.417E-02	3.423E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	7.144E-02	2.972E-01	2.564E-01	1.516E-01	NOT IDENT.
NA-22	-1.626E-02	4.057E-02	3.340E-02	2.070E-02	NOT IDENT.
NA-24	1.285E+03	1.938E+05	0.000E+00	9.886E+04	SHORT HLIF

AL-26	2.177E-02	2.963E-02	2.813E-02	1.512E-02	NOT IDENT.
TI-44	3.442E-01	5.466E-02	4.214E-02	2.789E-02	FAIL ABUN
SC-46	7.428E-03	3.485E-02	3.029E-02	1.778E-02	FAIL ABUN
V-48	-6.372E-02	6.188E-02	4.568E-02	3.157E-02	NOT IDENT.
CR-51	1.083E-01	3.298E-01	2.936E-01	1.683E-01	NOT IDENT.
MN-52	1.993E-02	1.765E-01	1.528E-01	9.003E-02	NOT IDENT.
MN-54	2.476E-02	3.886E-02	3.488E-02	1.983E-02	NOT IDENT.
CO-56	3.997E-02	3.373E-02	3.209E-02	1.721E-02	NOT IDENT.
CO-57	1.238E-02	2.465E-02	2.177E-02	1.258E-02	NOT IDENT.
CO-58	-2.581E-03	3.537E-02	3.010E-02	1.805E-02	NOT IDENT.
FE-59	2.861E-03	8.383E-02	7.015E-02	4.277E-02	NOT IDENT.
CO-60	3.169E-02	3.633E-02	3.425E-02	1.853E-02	NOT IDENT.
ZN-65	3.941E-02	8.964E-02	6.876E-02	4.573E-02	NOT IDENT.
GE-68	4.203E-01	1.167E+00	1.013E+00	5.956E-01	NOT IDENT.
AS-73	4.762E-01	8.845E-01	8.166E-01	4.513E-01	NOT IDENT.
AS-74	3.280E-02	8.429E-02	7.618E-02	4.301E-02	NOT IDENT.
SE-75	9.897E-03	4.248E-02	3.536E-02	2.167E-02	FAIL ABUN
BR-77	-5.050E+00	7.140E+00	5.628E+00	3.643E+00	FAIL ABUN
SR-82	-9.977E-02	3.305E-01	2.762E-01	1.686E-01	NOT IDENT.
RB-83	-5.011E-02	6.536E-02	5.121E-02	3.335E-02	NOT IDENT.
RB-84	-1.386E-02	6.243E-02	5.187E-02	3.185E-02	NOT IDENT.
KR-85	8.138E+00	7.970E+00	6.428E+00	4.067E+00	NOT IDENT.
SR-85	4.122E-02	4.037E-02	3.256E-02	2.060E-02	NOT IDENT.
RB-86	5.355E-01	7.136E-01	6.432E-01	3.641E-01	NOT IDENT.
Y-88	5.907E-03	2.907E-02	2.526E-02	1.483E-02	NOT IDENT.
ZR-88	4.464E-03	3.164E-02	2.744E-02	1.614E-02	NOT IDENT.
Y-91	3.745E+00	1.715E+01	1.512E+01	8.749E+00	NOT IDENT.
NB-94	1.633E-02	3.036E-02	2.749E-02	1.549E-02	NOT IDENT.
NB-95	3.530E-02	4.731E-02	3.818E-02	2.414E-02	NOT IDENT.
NB-95M	1.014E-01	1.319E-01	1.078E-01	6.727E-02	NOT IDENT.
ZR-95	1.295E-02	6.693E-02	5.866E-02	3.415E-02	NOT IDENT.
NB-97	1.030E+04	2.918E+04	0.000E+00	1.489E+04	SHORT HLIF
ZR-97	-8.159E+04	6.864E+05	0.000E+00	3.502E+05	SHORT HLIF
MO-99	-6.362E+00	7.427E+00	5.821E+00	3.789E+00	NOT IDENT.
TC-99M	-4.733E+14	1.447E+15	0.000E+00	7.384E+14	SHORT HLIF
RH-101	1.635E-02	3.011E-02	2.775E-02	1.536E-02	NOT IDENT.
RH-102	-3.728E-02	2.801E-02	2.104E-02	1.429E-02	NOT IDENT.
RU-103	-5.546E-03	3.904E-02	3.256E-02	1.992E-02	FAIL ABUN
RH-106	1.572E-01	2.893E-01	2.639E-01	1.476E-01	FAIL ABUN
RU-106	1.572E-01	2.889E-01	2.639E-01	1.474E-01	FAIL ABUN
AG-108M	-2.004E-02	3.138E-02	2.510E-02	1.601E-02	NOT IDENT.
AG-110M	7.025E-03	3.325E-02	2.948E-02	1.696E-02	NOT IDENT.
IN-111	7.423E-01	8.411E-01	6.911E-01	4.292E-01	NOT IDENT.
IN-113M	1.029E-02	4.568E-02	3.984E-02	2.331E-02	NOT IDENT.
SN-113	1.029E-02	4.568E-02	3.984E-02	2.331E-02	NOT IDENT.
IN-114M	8.293E-02	1.917E-01	1.563E-01	9.782E-02	NOT IDENT.
CD-115	1.581E-03	6.987E+00	6.205E+00	3.565E+00	NOT IDENT.
SN-117M	-4.892E-03	4.940E-02	4.502E-02	2.521E-02	NOT IDENT.
SB-122	3.896E-01	1.443E+00	1.299E+00	7.361E-01	NOT IDENT.
I-123	2.894E+05	1.269E+06	0.000E+00	6.477E+05	SHORT HLIF
TE-123M	6.194E-03	2.718E-02	2.505E-02	1.386E-02	NOT IDENT.
I-124	-5.124E-01	6.147E-01	4.287E-01	3.136E-01	FAIL ABUN
SB-124	-6.566E-02	6.726E-02	4.345E-02	3.431E-02	FAIL ABUN
SB-125	2.557E-02	8.670E-02	7.564E-02	4.424E-02	FAIL ABUN
TE-125M	-3.123E+00	8.895E+00	7.615E+00	4.538E+00	NOT IDENT.
I-126	-4.616E-02	1.609E-01	1.370E-01	8.209E-02	NOT IDENT.
SB-126	-8.198E-04	1.423E-01	1.069E-01	7.262E-02	FAIL ABUN
SB-127	7.406E-01	1.009E+00	9.288E-01	5.149E-01	NOT IDENT.
XE-127	-5.577E-02	4.260E-02	3.615E-02	2.173E-02	NOT IDENT.
I-131	3.178E-02	9.933E-02	8.767E-02	5.068E-02	NOT IDENT.
TE-132	3.714E-01	4.997E-01	4.591E-01	2.549E-01	NOT IDENT.
BA-133	-3.811E-02	4.639E-02	3.234E-02	2.367E-02	NOT IDENT.
I-133	9.522E+02	2.235E+03	0.000E+00	1.140E+03	SHORT HLIF
CS-134	8.925E-02	6.227E-02	4.547E-02	3.177E-02	FAIL ABUN
CS-135	1.971E-01	1.676E-01	1.399E-01	8.550E-02	NOT IDENT.
I-135	-7.150E+13	2.788E+14	0.000E+00	1.423E+14	SHORT HLIF
CS-136	-5.517E-02	1.027E-01	8.104E-02	5.238E-02	FAIL ABUN
BA-137M	-7.808E-04	3.486E-02	3.035E-02	1.779E-02	NOT IDENT.
CS-137	-8.254E-04	3.685E-02	3.209E-02	1.880E-02	NOT IDENT.
CE-139	-5.263E-03	2.777E-02	2.515E-02	1.417E-02	NOT IDENT.
BA-140	-9.580E-02	2.314E-01	1.974E-01	1.181E-01	NOT IDENT.
LA-140	-1.338E-01	8.683E-02	5.471E-02	4.430E-02	NOT IDENT.
CE-141	2.508E-02	5.576E-02	5.207E-02	2.845E-02	NOT IDENT.
CE-143	3.011E+02	1.068E+02	0.000E+00	5.450E+01	SHORT HLIF
CE-144	-8.279E-02	1.993E-01	1.678E-01	1.017E-01	NOT IDENT.
PM-144	1.693E-02	3.107E-02	2.817E-02	1.585E-02	NOT IDENT.
PR-144	1.147E+00	2.104E+00	1.908E+00	1.074E+00	NOT IDENT.
PM-146	3.725E-02	4.449E-02	3.992E-02	2.270E-02	NOT IDENT.

ND-147	1.090E-01	4.858E-01	4.378E-01	2.478E-01	FAIL ABUN
PM-149	1.873E+01	6.262E+01	5.592E+01	3.195E+01	NOT IDENT.
EU-152	-7.877E-02	9.771E-02	7.736E-02	4.985E-02	FAIL ABUN
GD-153	3.741E-02	8.191E-02	6.543E-02	4.179E-02	NOT IDENT.
EU-154	-4.424E-02	1.136E-01	9.357E-02	5.793E-02	NOT IDENT.
EU-155	6.910E-02	1.045E-01	9.355E-02	5.332E-02	FAIL ABUN
TB-160	2.455E-02	1.228E-01	1.067E-01	6.268E-02	FAIL ABUN
HO-166M	-1.744E-02	5.606E-02	4.729E-02	2.860E-02	NOT IDENT.
TM-171	-3.354E+01	2.817E+01	2.390E+01	1.437E+01	NOT IDENT.
LU-176	-6.407E-03	2.449E-02	2.038E-02	1.250E-02	FAIL ABUN
LU-177	1.257E+00	1.297E+00	8.765E-01	6.618E-01	FAIL ABUN
LU-177M	-2.957E-01	1.762E-01	1.325E-01	8.992E-02	FAIL ABUN
HF-181	-8.749E-03	4.316E-02	3.596E-02	2.202E-02	NOT IDENT.
W-181	-3.937E-01	3.754E-01	3.215E-01	1.915E-01	NOT IDENT.
TA-182	2.126E-02	1.759E-01	1.537E-01	8.977E-02	FAIL ABUN
RE-183	3.391E-02	1.008E-01	9.320E-02	5.143E-02	FAIL ABUN
RE-184	2.039E-01	2.067E-01	1.924E-01	1.055E-01	NOT IDENT.
OS-185	-4.849E-02	3.924E-02	3.059E-02	2.002E-02	NOT IDENT.
RE-188	1.025E-01	1.621E-01	1.517E-01	8.271E-02	NOT IDENT.
W-188	-1.725E+00	7.906E+00	5.999E+00	4.034E+00	NOT IDENT.
IR-192	-1.947E-02	3.170E-02	2.665E-02	1.617E-02	FAIL ABUN
AU-195	6.360E-02	2.190E-01	1.916E-01	1.118E-01	FAIL ABUN
TL-200	-7.016E+01	2.084E+02	0.000E+00	1.063E+02	SHORT HLIF
TL-201	1.539E+00	5.043E+00	4.649E+00	2.573E+00	NOT IDENT.
TL-202	-9.147E-03	5.876E-02	4.947E-02	2.998E-02	NOT IDENT.
BI-207	-4.632E-03	4.903E-02	4.057E-02	2.502E-02	FAIL ABUN
TL-207	-1.077E+00	6.753E-01	5.144E-01	3.445E-01	FAIL ABUN
PO-209	-7.137E-01	7.341E+00	6.177E+00	3.746E+00	NOT IDENT.
BI-210	-8.362E-01	4.027E+00	3.629E+00	2.055E+00	NOT IDENT.
PB-210	-8.362E-01	4.027E+00	3.629E+00	2.055E+00	NOT IDENT.
PO-210	-8.362E-01	4.027E+00	3.629E+00	2.055E+00	NOT IDENT.
PB-211	3.246E-01	9.774E-01	8.385E-01	4.987E-01	NOT IDENT.
BI-212	1.362E+00	6.306E-01	3.740E-01	3.217E-01	FAIL ABUN
PO-215	-1.077E+00	6.753E-01	5.144E-01	3.445E-01	FAIL ABUN
RN-219	6.231E-03	4.104E-01	3.526E-01	2.094E-01	FAIL ABUN
RN-220	2.064E+00	2.461E+01	2.191E+01	1.256E+01	NOT IDENT.
RA-223	-1.077E+00	6.753E-01	5.144E-01	3.445E-01	FAIL ABUN
AC-227	-4.419E-01	3.562E-01	2.909E-01	1.817E-01	FAIL ABUN
TH-227	-4.419E-01	3.586E-01	2.909E-01	1.830E-01	FAIL ABUN
TH-229	2.431E-01	4.815E-01	4.435E-01	2.457E-01	FAIL ABUN
PA-231	-2.752E-01	1.680E+00	1.283E+00	8.574E-01	FAIL ABUN
TH-231	-1.077E+00	6.753E-01	5.144E-01	3.445E-01	FAIL ABUN
U-231	-3.678E-01	9.345E-01	7.122E-01	4.768E-01	FAIL ABUN
PA-233	2.232E-02	5.820E-02	5.206E-02	2.970E-02	FAIL ABUN
PA-234	5.997E-02	2.804E-01	2.422E-01	1.431E-01	FAIL ABUN
PA-234M	-1.092E+00	4.450E+00	3.586E+00	2.271E+00	NOT IDENT.
TH-234	1.404E+00	1.405E+00	1.291E+00	7.170E-01	FAIL ABUN
U-235	-3.524E-02	1.996E-01	1.800E-01	1.019E-01	FAIL ABUN
NP-236	-2.375E-02	7.515E-02	6.787E-02	3.834E-02	NOT IDENT.
U-238	1.404E+00	1.405E+00	1.291E+00	7.170E-01	FAIL ABUN
NP-239	-2.207E-01	1.872E-01	1.531E-01	9.553E-02	FAIL ABUN
AM-241	2.558E-02	1.586E-01	1.435E-01	8.092E-02	NOT IDENT.
CM-243	6.528E-02	9.164E-02	8.232E-02	4.676E-02	FAIL ABUN
AM-246	-2.088E-02	1.350E-01	1.107E-01	6.886E-02	NOT IDENT.
CM-247	1.846E-02	3.713E-02	3.287E-02	1.895E-02	FAIL ABUN
CF-249	1.725E-02	3.860E-02	3.418E-02	1.970E-02	NOT IDENT.
CF-251	5.181E-02	1.168E-01	1.079E-01	5.960E-02	NOT IDENT.

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                           CHARLESTON ,SC 29417                            *
*                     GAMMA SPECTROSCOPY BACKGROUND REPORT                  *
*****************************************************************************
```

ENERGY	MDA COUNTS
46.50	273.4432
46.50	273.4432
46.50	273.4432
48.70	271.6182
49.72	284.5590
51.35	256.5333
52.39	265.3568
52.97	256.3206
53.15	256.4110
53.44	261.7495
54.07	253.7509
56.28	294.5109
56.28	294.5131
57.37	0.0000
57.53	300.4392
57.53	300.4407
57.60	300.4787
57.98	298.5957
57.98	298.5957
59.32	316.1397
59.32	316.1397
59.40	316.1864
59.54	315.2161
59.72	315.3198
60.01	388.0489
61.10	406.7275
61.14	406.7570
61.30	352.0618
63.00	351.0145
63.29	326.8642
63.29	326.8642
63.58	312.2143
64.28	327.4324
65.12	421.2956
65.20	421.3541
65.20	421.3541
66.05	431.5381
66.72	405.4287
66.83	405.5043
66.91	405.5605
67.20	399.3702
67.20	399.3702
67.75	397.6102
67.85	393.4138
68.90	371.6793
68.90	371.6793
69.30	357.8195
69.67	359.3242
70.82	358.3989
70.82	358.3989
70.83	358.4041
72.80	412.7656
72.87	412.8125
72.87	412.8125
74.67	397.8319
74.81	397.9201
74.81	397.9201
74.81	397.9201
74.81	397.9201
74.81	397.9201
74.81	397.9201
74.81	397.9201
74.97	398.0215
75.28	398.2185
75.70	398.4813
77.11	399.3634
77.11	399.3634

77.11	399.3634
77.11	399.3634
77.11	399.3634
77.11	399.3634
77.11	399.3634
78.38	375.7522
79.62	350.3936
79.80	365.1604
79.80	365.1604
80.11	365.3330
80.18	365.3723
80.30	414.3817
80.30	414.3817
80.57	414.5522
81.00	424.6205
81.07	424.6661
81.07	424.6661
81.07	424.6661
81.07	424.6661
82.60	401.6334
83.37	398.2677
83.78	408.3523
83.78	408.3523
83.78	408.3523
83.78	408.3523
84.21	382.3545
84.90	382.7438
85.43	397.8362
86.29	460.8853
86.50	461.0263
86.54	461.0519
86.59	461.0861
86.72	461.1726
86.79	461.2186
86.94	461.3190
87.30	642.8876
87.30	642.8876
87.30	642.8876
87.30	642.8876
87.30	642.8876
87.30	642.8876
87.30	642.8876
87.57	458.4417
87.88	458.6453
88.03	458.7450
88.36	458.9613
88.47	459.0334
89.95	615.5432
91.11	371.2563
92.29	371.8699
92.38	371.9160
92.38	371.9160
93.35	299.2648
94.00	282.8919
94.67	291.4793
94.67	291.4807
94.90	293.2389
94.90	293.2389
94.90	293.2389
94.90	293.2389
95.87	332.0002
95.87	332.0002
96.73	337.3997
97.43	287.5612
98.44	285.7188
98.44	285.7188
98.88	298.1709
99.55	282.7887
99.55	282.7887
99.86	286.2604
100.00	286.3138
100.10	287.4714
103.18	323.4492
103.76	276.4872
105.00	273.5530
105.31	293.9330
108.00	334.4920
109.28	319.1849

111.00	327.8091
111.00	327.8091
111.76	317.8996
112.95	289.9398
115.19	329.4966
116.30	311.6725
117.00	329.0742
117.00	329.0742
117.66	308.7502
121.11	268.6784
121.62	266.5414
121.78	279.2310
122.06	279.3224
122.32	305.8524
122.32	305.8524
122.32	305.8524
122.32	305.8524
123.07	313.0252
127.23	327.2440
129.76	298.0294
131.20	334.5176
133.02	330.5359
133.54	306.2715
135.34	282.6644
136.00	281.9932
136.25	284.6974
136.48	284.7693
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140.51	0.0000
142.18	297.0913
142.65	299.0019
143.76	314.3654
144.24	305.6881
144.24	305.6881
144.24	305.6881
144.24	305.6881
145.22	291.8518
145.44	291.9173
147.16	321.6823
152.43	302.0383
152.70	294.9888
153.22	293.3620
154.21	314.1821
154.21	314.1821
154.21	314.1821
154.21	314.1821
155.03	304.6137
156.02	304.0213
158.56	310.1651
159.00	0.0000
159.00	305.8156
160.31	307.1065
161.27	297.5066
162.32	281.6145
162.64	279.0028
163.35	292.7038
163.89	296.4594
165.85	295.2136
167.43	281.1913
171.28	293.1032
171.86	278.7364
172.10	281.5217
176.55	264.4453
176.60	257.1632
181.06	265.1677
184.41	248.3322
185.71	305.9926
186.00	291.5403
190.27	268.8188
192.34	265.1107
193.63	260.1617
197.04	269.2797
198.01	244.4115
198.60	226.8661
200.40	250.4923
201.83	293.6807
202.84	286.4657
205.31	198.9756

208.36	278.9682
208.81	273.0689
209.75	266.5230
209.75	266.5230
210.97	267.5388
215.65	234.9305
216.55	239.6830
218.09	231.4745
222.10	219.8895
223.80	223.9796
226.40	213.9742
227.00	208.3651
227.08	208.3785
227.20	208.3969
228.16	202.8385
228.18	202.8418
228.18	202.8418
231.56	0.0000
235.69	243.6609
236.00	240.6516
236.00	240.6516
238.63	271.6538
238.63	271.6538
238.63	271.6538
238.63	271.6538
239.00	271.7294
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241.98	272.3340
241.98	272.3340
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245.39	172.8809
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248.90	205.0499
249.79	205.1841
252.40	154.1786
252.85	151.3190
252.85	151.3190
254.15	0.0000
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256.20	203.2158
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262.80	191.4691
264.65	160.4165
268.24	167.8772
268.79	164.8008
269.46	171.7476
269.46	171.7476
269.46	171.7476
269.46	171.7476
271.23	200.4545
273.65	177.1628
276.40	178.2840
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277.60	166.7849
277.60	166.7849
278.00	166.8287
278.60	166.8958
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279.53	154.9458
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281.68	175.7518
283.67	175.9876
284.30	163.9004
285.00	152.7358
285.90	173.6675
286.10	171.7039
286.10	171.7039
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290.80	176.8168
291.72	167.3591
293.26	0.0000
293.70	159.5972
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295.21	166.1436

295.21	166.1436
295.96	167.8231
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297.23	147.9639
298.57	148.0926
299.80	148.2100
299.80	148.2100
300.09	148.2371
300.09	148.2371
300.09	148.2371
300.09	148.2371
300.12	148.2394
301.29	160.3784
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303.76	175.0892
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304.40	151.0540
304.84	151.0977
306.84	157.4960
308.46	144.9976
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319.02	130.7499
319.41	121.6571
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323.87	189.0822
323.87	189.0822
323.87	189.0822
325.23	189.2383
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334.20	145.6593
334.30	145.6680
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338.28	150.7302
338.28	150.7302
338.28	150.7302
338.32	150.7324
338.32	150.7324
338.32	150.7324
340.50	118.2762
340.57	118.2814
344.27	152.8765
345.85	130.1822
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351.92	129.1904
351.92	129.1904
351.92	129.1904
355.39	0.0000
356.01	135.9166
364.48	114.5000
366.43	122.9605
367.43	113.6453
367.94	0.0000
369.80	117.9710
374.96	121.4481
383.85	118.8797
387.95	112.8156
388.63	121.2961
391.69	131.0007
391.69	131.0007
392.90	133.2002
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402.60	117.9426
404.84	126.5900
410.95	116.3198
411.60	124.8981
413.65	146.4029
414.70	115.4734
415.30	106.9534

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433.93	99.3209
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439.56	89.8529
439.89	94.1991
443.98	96.5574
444.90	92.2580
445.03	92.2645
445.03	92.2645
445.03	92.2645
445.03	92.2645
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468.07	94.8190
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475.06	106.7998
475.35	102.4098
476.78	84.8462
477.59	82.6733
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482.03	104.9340
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511.00	93.9982
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511.85	94.0328
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513.99	89.6387
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520.65	88.7762
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529.87	0.0000
531.02	79.4664
537.32	89.6390
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546.56	0.0000
549.76	81.0061
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563.90	80.5643
568.70	96.3175
569.32	87.1653
569.50	87.1722
569.67	82.5908
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574.00	79.9780
574.64	83.7773
578.91	73.6875
579.30	0.0000
583.14	77.5031
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591.81	74.0664
592.07	74.0742
593.00	80.5854
595.88	77.8948
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602.71	100.7294
602.71	100.7294
603.60	79.0608
604.41	89.9406
604.70	89.9500
609.31	73.6420

609.31	73.6420
609.31	73.6420
609.31	73.6420
610.33	63.7238
612.46	55.9995
614.37	66.9373
618.01	64.5359
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621.84	61.8202
631.29	79.9033
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633.10	77.1353
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636.97	69.7110
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646.12	81.2927
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657.90	0.0000
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661.65	78.9047
664.57	0.0000
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666.33	77.1339
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677.61	57.3677
685.20	54.6468
692.80	67.2913
695.00	59.6462
696.49	59.6780
696.49	59.6780
697.00	60.6513
697.49	65.4766
698.33	67.4211
698.50	70.3142
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713.82	65.8468
717.42	63.0195
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721.93	0.0000
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722.78	66.3731
722.78	66.3731
722.89	66.3764
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723.30	69.6230
724.18	76.1226
727.18	63.2306
733.00	43.8607
735.90	59.9319
739.58	58.6099
742.81	49.8732
744.21	46.9605
747.13	71.4887
751.79	56.8870
752.31	56.8969
753.82	60.8511
755.35	76.5946
756.15	60.8980
756.87	63.8606
763.93	77.1381
765.79	67.3307
766.42	73.9160
766.84	77.2107
776.49	57.3486
778.00	57.3755
778.57	53.4291
778.89	53.4344
783.80	45.5901
785.46	44.6232
792.07	41.4042

795.84	46.4285
796.30	43.1186
798.80	58.0898
801.93	57.3175
805.60	48.9007
810.29	56.9680
810.76	51.9784
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818.51	52.1041
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831.96	74.4553
834.83	65.4570
836.80	0.0000
846.75	33.3529
848.13	47.5221
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856.80	52.3781
860.37	39.5789
867.32	47.4574
867.82	54.2448
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873.19	50.9363
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875.33	0.0000
876.40	49.9642
879.36	41.8438
880.27	50.0216
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881.50	47.9971
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884.67	50.0862
889.25	41.9649
896.60	54.3625
898.02	52.3323
899.00	55.4265
903.28	41.1074
911.07	53.5603
911.07	53.5603
911.07	53.5603
919.63	49.3315
920.93	48.5456
925.00	42.3974
925.24	43.4345
926.50	44.4844
935.52	39.4120
937.48	64.3386
944.10	43.6652
946.00	43.6878
949.00	39.5604
962.29	42.8398
964.01	42.8598
966.15	42.8848
968.20	42.9089
969.11	42.9199
969.11	42.9199
969.11	42.9199
977.42	26.2299
980.50	37.8026
983.50	51.4955
989.30	38.9449
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1001.68	42.2422
1004.76	45.4471
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1036.00	38.3625
1037.82	49.0412
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1038.76	0.0000
1045.16	38.4521
1046.59	50.2221
1048.07	55.5852

1050.47	58.8269
1050.47	58.8269
1062.04	47.2012
1063.62	44.0009
1076.63	36.6081
1077.35	39.8455
1078.86	45.2484
1085.78	36.6928
1099.22	43.3125
1112.02	48.8804
1112.84	45.2698
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1120.29	48.9792
1120.29	48.9792
1120.29	48.9792
1120.51	48.9836
1121.28	48.9924
1124.00	0.0000
1129.67	62.1823
1131.51	0.0000
1147.95	0.0000
1167.94	35.7817
1173.22	43.1751
1175.09	43.1943
1177.93	44.1426
1189.05	35.0374
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1205.75	0.0000
1213.00	58.4114
1221.42	50.1636
1230.97	69.8212
1235.34	54.0493
1236.41	0.0000
1238.25	57.8147
1246.25	40.1690
1260.41	0.0000
1271.85	31.9442
1274.45	43.2429
1274.54	43.2448
1291.56	33.9697
1298.22	0.0000
1312.09	36.9656
1325.50	28.5168
1325.50	28.5168
1332.49	22.8477
1333.61	26.6613
1360.21	22.0239
1362.66	0.0000
1365.15	15.3372
1368.21	18.7042
1368.53	0.0000
1376.25	17.2939
1384.27	14.8485
1394.10	18.3228
1395.20	23.1494
1407.95	16.4404
1434.06	18.4720
1436.60	14.5905
1457.56	0.0000
1460.81	11.7290
1489.15	29.4873
1509.49	11.8413
1596.49	35.1097
1620.62	8.0609
1678.03	0.0000
1691.02	16.3268
1691.02	16.3268
1706.46	0.0000
1750.46	0.0000
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1764.49	10.6306
1764.49	10.6306
1764.49	10.6306
1770.23	40.3473
1771.40	13.4517
1791.20	0.0000
1808.65	8.3301

1836.01 8.3682

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243385009

Total Uranium Activity	4.1612E+00	ug/g
Total Uranium Counting Unc.	4.1819E+00	ug/g
Total Uranium Tpu	2.1336E-06	ug/g
Total Uranium Mda	3.8404E+00	ug/g

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*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                           *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 936285                    SAMPLE ID  : G243385009       *
*   ANALYST       : MJH1                      DETECTOR   : GAM01            *
*   SAMPLE DATE   : 17-DEC-2009 12:00:00.00   COUNT TIME :    0 02:00:00.00 *
*   ANALYSIS DATE: 31-DEC-2009 10:54:11.27    SAMPLE ALQT:  148.420 GRAM    *
*                                                                           *
*****************************************************************************


         GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 7.664E+00
         GROSS GAMMA ERROR  (pCi/GRAM  )   : 1.301E+00
         GROSS GAMMA MDA    (pCi/GRAM  )   : 3.201E+00
         GROSS GAMMA DLC    (pCi/GRAM  )   : 1.550E+00
```

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 12:55:56.46

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385010.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 10:54:36
Sample ID         : G243385010           Sample quantity  : 1.54320E+02 GRAM
Detector name     : GAM04                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.17  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.28*	66	227	1.31	126.60	124	6	9.17E-03	38.9	
2	4	74.82	279	339	1.19	149.68	145	16	3.87E-02	12.4	7.32E-01
3	4	77.09*	423	253	0.95	154.23	145	16	5.88E-02	8.1	
4	0	87.21	184	287	1.50	174.47	172	6	2.56E-02	16.3	
5	4	89.89	118	195	0.93	179.82	178	14	1.65E-02	19.0	1.01E+00
6	4	92.74*	243	375	1.36	185.52	178	14	3.38E-02	15.8	
7	0	129.02	62	238	0.79	258.10	255	7	8.61E-03	43.2	
8	0	185.95*	192	353	1.05	371.95	367	11	2.67E-02	20.8	
9	0	209.52	127	303	1.49	419.11	415	11	1.76E-02	28.1	
10	0	238.46*	979	491	1.12	477.00	471	11	1.36E-01	5.5	
11	0	241.93	155	227	1.49	483.93	482	7	2.16E-02	19.3	
12	0	295.13*	298	151	1.08	590.34	586	9	4.14E-02	9.5	
13	0	300.02	55	178	0.74	600.12	596	9	7.69E-03	45.6	
14	0	329.05	13	191	0.60	658.19	651	9	1.74E-03	202.8	
15	0	338.15	218	181	1.14	676.38	669	13	3.03E-02	14.4	
16	0	351.90*	491	254	1.39	703.89	697	15	6.82E-02	8.5	
17	0	463.52	50	103	1.33	927.13	923	11	6.93E-03	42.4	
18	0	510.86*	117	77	2.68	1021.81	1016	11	1.62E-02	20.9	
19	0	583.15*	340	70	1.45	1166.40	1158	14	4.72E-02	7.6	
20	0	609.32*	377	120	1.22	1218.74	1214	12	5.24E-02	7.8	
21	0	661.78*	179	73	1.53	1323.66	1316	13	2.48E-02	12.7	
22	0	727.49	77	58	1.12	1455.07	1451	11	1.06E-02	22.4	
23	0	794.65	66	38	1.97	1589.38	1583	13	9.22E-03	22.9	
24	0	860.45	35	36	1.05	1720.97	1716	10	4.85E-03	36.8	
25	0	911.23*	234	51	1.67	1822.53	1817	15	3.25E-02	9.6	
26	0	934.66	40	36	1.65	1869.38	1864	11	5.54E-03	33.8	
27	0	969.35	131	62	1.75	1938.76	1933	13	1.82E-02	15.5	
28	0	1120.29*	55	40	1.70	2240.60	2235	10	7.70E-03	25.9	
29	0	1238.84	38	63	1.55	2477.65	2472	13	5.34E-03	45.9	
30	0	1460.84	913	18	2.12	2921.56	2913	18	1.27E-01	3.5	
31	0	1730.37	12	9	1.27	3460.48	3456	8	1.63E-03	57.3	
32	0	1764.62*	72	4	2.46	3528.96	3521	15	9.96E-03	14.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 12:55:59

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385010.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MJH1
Sample date : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 10:54:36
Sample ID : G243385010 Sample quantity : 154.32 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA4 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.17 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.938E+01	1.928E+00	4.015E-01	2.854E-02	48.265
CD-109	+	88.03	*	2.451E+00	8.505E-01	1.021E+00	1.227E-01	2.400
SN-126	+	64.28		8.097E-01	6.449E-01	7.815E-01	1.346E-01	1.036
	+	86.94		1.003E+00	5.347E-01	4.814E-01	2.030E-01	2.084
	+	87.57	*	2.413E-01	8.374E-02	1.097E-01	1.315E-02	2.200
BA-137M	+	661.65	*	2.190E-01	5.661E-02	4.946E-02	2.412E-03	4.428
CS-137	+	661.65	*	2.315E-01	5.986E-02	5.228E-02	2.565E-03	4.428
TL-208		277.35		1.714E-01	2.911E-01	5.048E-01	5.578E-02	0.339
	+	510.84		4.824E-01	2.074E-01	1.704E-01	1.711E-02	2.831
	+	583.14	*	3.997E-01	6.553E-02	4.046E-02	2.546E-03	9.877
	+	860.37		3.909E-01	2.892E-01	3.264E-01	2.723E-02	1.197
BI-211		72.87		3.097E+00	3.059E+00	4.821E+00	5.527E-01	0.642
	+	351.07	*	2.546E+00	4.667E-01	2.625E-01	1.773E-02	9.698
PB-212	+	74.81		1.740E+00	5.011E-01	4.828E-01	7.137E-02	3.603
	+	77.11		1.456E+00	2.881E-01	2.665E-01	3.057E-02	5.464
	+	87.30		1.116E+00	4.031E-01	5.173E-01	8.069E-02	2.158
	+	238.63	*	1.106E+00	1.510E-01	8.611E-02	6.915E-03	12.847
	+	300.09		9.679E-01	8.868E-01	9.683E-01	8.525E-02	1.000
PO-212	+	74.81		1.740E+00	5.011E-01	4.828E-01	7.137E-02	3.603
	+	77.11		1.456E+00	2.881E-01	2.665E-01	3.057E-02	5.464
	+	87.30		1.116E+00	4.031E-01	5.173E-01	8.069E-02	2.158
		115.19		-1.265E+00	2.800E+00	4.517E+00	3.399E-01	-0.280
	+	238.63	*	1.106E+00	1.510E-01	8.611E-02	6.915E-03	12.847
	+	300.09		9.679E-01	8.868E-01	9.683E-01	8.525E-02	1.000
BI-214	+	609.31	*	8.365E-01	1.447E-01	9.279E-02	6.819E-03	9.015
	+	1120.29		6.575E-01	3.457E-01	4.271E-01	3.979E-02	1.540
	+	1764.49		1.158E+00	3.318E-01	2.299E-01	1.402E-02	5.038
PB-214	+	74.81		2.997E+00	8.463E-01	8.319E-01	1.135E-01	3.603
	+	77.11		2.496E+00	5.293E-01	4.569E-01	6.292E-02	5.464
	+	87.30		1.912E+00	6.797E-01	8.861E-01	1.262E-01	2.158
	+	241.98		1.055E+00	4.173E-01	4.429E-01	3.859E-02	2.382
	+	295.21		9.136E-01	1.931E-01	1.696E-01	1.540E-02	5.388
	+	351.92	*	8.855E-01	1.688E-01	9.150E-02	7.805E-03	9.678
PO-214	+	74.81		2.997E+00	8.463E-01	8.319E-01	1.135E-01	3.603

Sample ID : G243385010 Acquisition date : 31-DEC-2009 10:54:36

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		2.496E+00	5.293E-01	4.569E-01	6.292E-02	5.464
	+	87.30		1.912E+00	6.797E-01	8.861E-01	1.262E-01	2.158
	+	241.98		1.055E+00	4.173E-01	4.429E-01	3.859E-02	2.382
	+	295.21		9.136E-01	1.931E-01	1.696E-01	1.540E-02	5.388
	+	351.92	*	8.855E-01	1.688E-01	9.150E-02	7.805E-03	9.678
PO-216	+	74.81		1.740E+00	5.011E-01	4.828E-01	7.137E-02	3.603
	+	77.11		1.456E+00	2.881E-01	2.665E-01	3.057E-02	5.464
	+	87.30		1.116E+00	4.031E-01	5.173E-01	8.069E-02	2.158
	+	238.63	*	1.106E+00	1.510E-01	8.611E-02	6.915E-03	12.847
	+	300.09		9.679E-01	8.868E-01	9.683E-01	8.525E-02	1.000
PO-218	+	74.81		2.997E+00	8.463E-01	8.319E-01	1.135E-01	3.603
	+	77.11		2.496E+00	5.293E-01	4.569E-01	6.292E-02	5.464
	+	87.30		1.912E+00	6.797E-01	8.861E-01	1.262E-01	2.158
	+	241.98		1.055E+00	4.173E-01	4.429E-01	3.859E-02	2.382
	+	295.21		9.136E-01	1.931E-01	1.696E-01	1.540E-02	5.388
	+	351.92	*	8.855E-01	1.688E-01	9.150E-02	7.805E-03	9.678
RA-224	+	240.98	*	2.000E+00	7.832E-01	1.279E+00	8.528E-02	1.564
RA-226	+	609.31	*	8.365E-01	1.447E-01	9.279E-02	6.819E-03	9.015
	+	1120.29		6.575E-01	3.457E-01	4.271E-01	3.979E-02	1.540
	+	1764.49		1.158E+00	3.318E-01	2.299E-01	1.402E-02	5.038
AC-228	+	338.32		1.246E+00	6.230E-01	2.919E-01	1.192E-01	4.269
	+	911.07	*	1.244E+00	2.747E-01	1.331E-01	1.451E-02	9.345
	+	969.11		1.235E+00	4.774E-01	3.478E-01	8.021E-02	3.551
RA-228	+	338.32		1.246E+00	6.230E-01	2.919E-01	1.192E-01	4.269
	+	911.07	*	1.244E+00	2.747E-01	1.331E-01	1.451E-02	9.345
	+	969.11		1.235E+00	4.774E-01	3.478E-01	8.021E-02	3.551
TH-228	+	74.81		1.764E+00	4.810E-01	4.896E-01	5.633E-02	3.603
	+	77.11		1.476E+00	2.922E-01	2.702E-01	3.100E-02	5.464
	+	87.30		1.132E+00	3.927E-01	5.245E-01	6.279E-02	2.158
	+	238.63	*	1.122E+00	1.531E-01	8.731E-02	7.012E-03	12.847
	+	300.09		9.814E-01	1.066E+00	9.819E-01	5.795E-01	1.000
TH-230	+	609.31	*	8.365E-01	1.447E-01	9.279E-02	6.819E-03	9.015
	+	1120.29		6.575E-01	3.457E-01	4.271E-01	3.979E-02	1.540
	+	1764.49		1.158E+00	3.318E-01	2.299E-01	1.401E-02	5.038
TH-232	+	338.32		1.246E+00	3.680E-01	2.919E-01	1.835E-02	4.269
	+	911.07	*	1.244E+00	2.747E-01	1.331E-01	1.451E-02	9.345
	+	969.11		1.235E+00	4.774E-01	3.478E-01	8.021E-02	3.551
TH-234	+	63.29	*	2.046E+00	1.641E+00	2.207E+00	4.366E-01	0.927
	+	92.38		2.001E+00	7.403E-01	6.090E-01	1.172E-01	3.285
U-234	+	609.31	*	8.365E-01	1.447E-01	9.279E-02	6.819E-03	9.015
	+	1120.29		6.575E-01	3.457E-01	4.271E-01	3.979E-02	1.540
	+	1764.49		1.158E+00	3.318E-01	2.299E-01	1.401E-02	5.038
NP-237	+	86.50	*	7.087E-01	2.861E-01	3.379E-01	8.050E-02	2.097
		95.87		-2.433E-01	8.193E-01	1.196E+00	3.013E-01	-0.203
U-238	+	63.29	*	2.046E+00	1.641E+00	2.207E+00	4.366E-01	0.927
	+	92.38		2.001E+00	6.685E-01	6.090E-01	6.613E-02	3.285
AM-243	+	74.67	*	2.820E-01	7.684E-02	7.865E-02	9.007E-03	3.586
	+	86.72		2.658E+01	9.221E+00	1.262E+01	1.505E+00	2.106
		117.66		-5.105E-01	2.892E+00	4.722E+00	3.447E-01	-0.108

Sample ID : G243385010 Acquisition date : 31-DEC-2009 10:54:36

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		142.18		1.914E+00	1.385E+01	2.268E+01	1.484E+00	0.084
ANH-511	+	511.00	*	1.042E-01	4.395E-02	3.682E-02	2.059E-03	2.830

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	1.588E-01	2.441E-01	4.184E-01	2.771E-02	0.379
NA-22		1274.54	*	-2.227E-02	3.544E-02	5.512E-02	3.604E-03	-0.404
NA-24		1368.53	*	2.552E-02	3.544E-02	Half-Life too short		
AL-26		1129.67		-1.083E+00	1.435E+00	2.117E+00	1.366E-01	-0.511
		1808.65	*	2.715E-03	2.572E-02	4.268E-02	2.531E-03	0.064
TI-44		67.85		4.299E-03	4.309E-02	7.291E-02	8.479E-03	0.059
	+	78.38	*	2.687E-01	5.317E-02	6.193E-02	7.122E-03	4.338
SC-46		889.25	*	5.091E-04	2.987E-02	4.928E-02	3.985E-03	0.010
	+	1120.51		1.115E-01	5.814E-02	9.820E-02	6.432E-03	1.135
V-48		944.10		6.779E-03	6.905E-01	1.133E+00	9.055E-02	0.006
		983.50	*	1.136E-02	5.088E-02	8.525E-02	6.605E-03	0.133
		1312.09		-1.478E-02	6.484E-02	1.054E-01	7.102E-03	-0.140
CR-51		320.08	*	-3.505E-01	2.761E-01	4.230E-01	2.979E-02	-0.829
MN-52		744.21		9.843E-02	1.543E-01	2.723E-01	1.616E-02	0.361
		848.13		-5.884E+00	4.510E+00	6.345E+00	4.720E-01	-0.927
	+	935.52		3.607E-01	2.457E-01	3.466E-01	2.787E-02	1.041
		1246.25		-4.090E+00	5.343E+00	7.131E+00	4.539E-01	-0.574
		1333.61		-1.720E+00	3.250E+00	5.008E+00	3.432E-01	-0.343
		1434.06	*	4.860E-02	1.602E-01	2.774E-01	1.893E-02	0.175
MN-54		834.83	*	1.465E-02	2.994E-02	5.167E-02	3.740E-03	0.283
CO-56		846.75	*	-4.458E-02	2.991E-02	4.089E-02	3.034E-03	-1.090
		977.42		7.222E-01	2.422E+00	3.983E+00	3.102E-01	0.181
		1037.82		-2.400E-02	2.424E-01	3.896E-01	3.067E-02	-0.062
		1175.09		-3.316E-02	1.811E+00	2.909E+00	1.733E-01	-0.011
	+	1238.25		1.277E-01	1.177E-01	1.508E-01	1.004E-02	0.847
		1360.21		2.235E-01	7.695E-01	1.331E+00	9.125E-02	0.168
		1771.40		-6.074E-01	2.887E-01	3.033E-01	1.842E-02	-2.002
CO-57		122.06	*	8.917E-03	1.964E-02	3.293E-02	2.286E-03	0.271
		136.48		-4.325E-02	1.606E-01	2.591E-01	1.927E-02	-0.167
CO-58		810.76	*	-7.826E-03	2.761E-02	4.438E-02	3.064E-03	-0.176
FE-59		142.65		1.758E-01	2.107E+00	3.442E+00	2.250E-01	0.051
		192.34		-1.006E+00	7.510E-01	1.102E+00	1.341E-01	-0.913
		1099.22	*	-2.624E-02	7.156E-02	1.108E-01	8.466E-03	-0.237
		1291.56		2.113E-02	8.509E-02	1.467E-01	1.185E-02	0.144
CO-60		1173.22		3.202E-03	3.433E-02	5.586E-02	3.322E-03	0.057
		1332.49	*	-1.288E-02	3.009E-02	4.722E-02	3.236E-03	-0.273
ZN-65		1115.52	*	6.941E-03	8.041E-02	1.137E-01	7.519E-03	0.061
GE-68		1077.35	*	2.539E-01	1.133E+00	1.878E+00	1.312E-01	0.135
AS-73		53.44	*	2.495E-02	1.165E+00	1.982E+00	2.593E-01	0.013
AS-74		595.88	*	2.611E-02	6.726E-02	1.118E-01	5.902E-03	0.234
		634.78		-5.816E-02	2.675E-01	4.176E-01	2.113E-02	-0.139
SE-75		66.05		-2.504E+00	5.006E+00	7.358E+00	9.656E-01	-0.340

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		-2.281E-01	6.602E-01	9.616E-01	1.395E-01	-0.237
		121.11		5.239E-02	1.032E-01	1.735E-01	1.741E-02	0.302
		136.00		-9.983E-03	3.009E-02	4.842E-02	3.245E-03	-0.206
		198.60		5.881E-01	1.496E+00	2.441E+00	1.884E-01	0.241
		264.65	*	-8.970E-03	3.221E-02	5.367E-02	3.610E-03	-0.167
		279.53		-8.377E-02	8.260E-02	1.313E-01	9.269E-03	-0.638
		303.91		5.210E-01	1.724E+00	2.615E+00	2.618E-01	0.199
		400.65		-1.049E-01	2.021E-01	3.211E-01	2.891E-02	-0.327
BR-77	+	87.88		3.780E+02	1.312E+02	2.009E+02	2.414E+01	1.882
		200.40		-1.811E+00	9.752E+01	1.560E+02	1.018E+01	-0.012
	+	239.00		1.266E+02	1.632E+01	2.219E+01	1.479E+00	5.703
		249.79		-9.895E-01	3.515E+01	5.960E+01	3.979E+00	-0.017
		281.68		1.726E+01	4.794E+01	8.242E+01	5.473E+00	0.209
		297.23		6.946E+01	4.777E+01	6.018E+01	3.960E+00	1.154
		303.76		3.216E+01	1.054E+02	1.598E+02	1.046E+01	0.201
		439.47		-8.826E+00	8.124E+01	1.321E+02	7.494E+00	-0.067
		484.57		3.199E+01	1.215E+02	2.023E+02	1.141E+01	0.158
		520.65	*	-3.392E+00	6.141E+00	9.482E+00	5.280E-01	-0.358
		574.64		1.874E+01	1.191E+02	1.877E+02	1.010E+01	0.100
		578.91		-1.608E+01	5.414E+01	7.303E+01	3.915E+00	-0.220
		585.48		5.056E+02	1.325E+02	2.432E+02	1.296E+01	2.079
		755.35		1.641E+01	8.832E+01	1.498E+02	9.119E+00	0.110
		817.79		4.007E+01	6.669E+01	1.175E+02	8.204E+00	0.341
SR-82		698.33		4.274E+00	2.512E+01	4.272E+01	2.278E+00	0.100
		776.49	*	-1.027E-01	2.880E-01	4.631E-01	2.955E-02	-0.222
		1395.20		-2.266E+00	7.752E+00	1.227E+01	8.401E-01	-0.185
RB-83		520.41	*	-3.666E-02	5.788E-02	8.882E-02	4.947E-03	-0.413
		529.64		-5.585E-02	7.810E-02	1.177E-01	6.523E-03	-0.475
		552.65		-4.437E-02	1.524E-01	2.391E-01	1.308E-02	-0.186
RB-84		881.50	*	2.141E-02	5.266E-02	9.042E-02	7.200E-03	0.237
KR-85		513.99	*	4.574E+00	6.589E+00	1.000E+01	5.586E-01	0.457
SR-85		513.99	*	2.317E-02	3.337E-02	5.066E-02	2.829E-03	0.457
RB-86		1076.63	*	2.060E-01	6.812E-01	1.138E+00	7.956E-02	0.181
Y-88		898.02		4.883E-03	3.055E-02	5.115E-02	4.232E-03	0.095
		1836.01	*	6.827E-03	2.081E-02	3.682E-02	2.148E-03	0.185
ZR-88		392.90	*	-8.678E-03	2.352E-02	3.783E-02	2.129E-03	-0.229
Y-91		1204.90	*	1.576E+01	1.505E+01	2.675E+01	1.640E+00	0.589
NB-94		702.63	*	4.223E-03	2.554E-02	4.339E-02	2.337E-03	0.097
		871.10		1.952E-03	2.553E-02	4.245E-02	3.310E-03	0.046
NB-95		765.79	*	-2.131E-02	3.468E-02	5.481E-02	3.416E-03	-0.389
NB-95M		235.69	*	1.059E-01	1.031E-01	1.559E-01	1.279E-02	0.679
ZR-95		724.18		-2.918E-02	8.169E-02	1.136E-01	7.662E-03	-0.257
		756.15	*	-5.604E-03	5.421E-02	8.953E-02	6.519E-03	-0.063
NB-97		657.90	*	3.373E-03	5.421E-02	Half-Life too short		
		1024.50		-9.590E-01	5.421E-02	Half-Life too short		
ZR-97		254.15		7.250E-01	5.421E-02	Half-Life too short		
		355.39		4.033E-01	5.421E-02	Half-Life too short		
		507.63	*	1.874E-01	5.421E-02	Half-Life too short		
		602.52		4.608E-01	5.421E-02	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1021.30		-7.833E-01	5.421E-02	Half-Life too short		
		1147.95		1.058E+00	5.421E-02	Half-Life too short		
		1362.66		1.451E-01	5.421E-02	Half-Life too short		
		1750.46		5.407E-02	5.421E-02	Half-Life too short		
MO-99		140.51		-1.139E+01	1.602E+01	2.428E+01	6.586E+00	-0.469
		181.06		-6.927E+00	1.119E+01	1.527E+01	2.651E+00	-0.454
		366.43		-3.372E+01	4.898E+01	7.735E+01	4.624E+00	-0.436
		739.58	*	-2.573E+00	6.503E+00	1.043E+01	1.441E+00	-0.247
		778.00		-3.930E+00	1.832E+01	2.981E+01	1.909E+00	-0.132
TC-99M		140.51	*	-8.935E+08	1.832E+01	Half-Life too short		
RH-101		127.23		-9.136E-03	2.690E-02	3.860E-02	2.621E-03	-0.237
		198.01	*	7.501E-03	2.785E-02	4.518E-02	2.942E-03	0.166
		325.23		-3.044E-02	2.101E-01	3.059E-01	1.958E-02	-0.100
RH-102		418.52		-7.161E-02	2.240E-01	3.598E-01	2.037E-02	-0.199
		475.06	*	6.009E-03	2.334E-02	3.883E-02	2.196E-03	0.155
		631.29		2.987E-02	4.223E-02	7.207E-02	3.661E-03	0.414
		697.49		1.435E-02	5.853E-02	1.001E-01	5.329E-03	0.143
		766.84		-3.348E-03	8.918E-02	1.481E-01	9.250E-03	-0.023
		1046.59		-1.063E-02	9.344E-02	1.499E-01	1.089E-02	-0.071
		1112.84		1.913E-01	1.723E-01	3.012E-01	1.997E-02	0.635
RU-103		497.08	*	-1.382E-02	2.888E-02	4.477E-02	5.625E-03	-0.309
	+	610.33		8.850E+00	1.932E+00	2.387E+00	3.630E-01	3.707
RH-106	+	511.85		5.193E-01	2.190E-01	3.463E-01	1.936E-02	1.500
		621.84	*	8.457E-04	2.538E-01	4.060E-01	4.638E-02	0.002
		1050.47		4.664E-02	1.858E+00	3.028E+00	2.189E-01	0.015
RU-106	+	511.85		5.193E-01	2.190E-01	3.463E-01	1.936E-02	1.500
		621.84	*	8.457E-04	2.538E-01	4.060E-01	2.086E-02	0.002
		1050.47		4.664E-02	1.858E+00	3.028E+00	2.189E-01	0.015
AG-108M		433.93	*	2.245E-03	2.542E-02	4.199E-02	2.595E-03	0.053
		614.37		1.277E-02	3.549E-02	5.171E-02	2.961E-03	0.247
		722.95		-1.704E-02	3.657E-02	5.004E-02	3.080E-03	-0.341
AG-110M		657.75	*	2.700E-03	3.104E-02	4.601E-02	2.458E-03	0.059
		677.61		1.181E-01	2.409E-01	4.209E-01	2.304E-02	0.281
		706.67		4.059E-02	1.531E-01	2.623E-01	1.524E-02	0.155
		763.93		-8.757E-02	1.336E-01	2.099E-01	1.373E-02	-0.417
		884.67		-7.069E-03	3.834E-02	6.191E-02	5.146E-03	-0.114
		937.48		2.288E-02	9.793E-02	1.440E-01	1.205E-02	0.159
		1384.27		-4.201E-02	1.335E-01	2.124E-01	1.519E-02	-0.198
IN-111		171.28		-1.028E-01	6.059E-01	9.703E-01	6.185E-02	-0.106
		245.39	*	5.464E-02	6.785E-01	9.591E-01	6.400E-02	0.057
IN-113M		391.69	*	-2.318E-02	3.483E-02	5.481E-02	3.303E-03	-0.423
SN-113		391.69	*	-2.318E-02	3.483E-02	5.481E-02	3.303E-03	-0.423
IN-114M		190.27	*	8.459E-02	1.482E-01	2.205E-01	1.427E-02	0.384
CD-115		260.90		-3.165E+00	6.640E+01	1.122E+02	7.490E+00	-0.028
		492.35		6.210E+00	1.847E+01	3.093E+01	1.742E+00	0.201
		527.90	*	-3.086E+00	5.721E+00	8.790E+00	4.877E-01	-0.351
SN-117M		156.02		-6.868E-01	1.596E+00	2.533E+00	1.625E-01	-0.271
		158.56	*	1.258E-02	3.704E-02	6.113E-02	3.910E-03	0.206
SB-122		563.90	*	1.264E+00	1.216E+00	2.128E+00	1.155E-01	0.594

---- Non-Identified Nuclides ----

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		692.80		5.747E+00	2.539E+01	4.337E+01	2.282E+00	0.132
I-123		159.00	*	-4.207E-02	2.539E+01	Half-Life too short		
		528.96		-3.986E+01	2.539E+01	Half-Life too short		
TE-123M		159.00	*	-9.002E-04	2.074E-02	3.355E-02	2.169E-03	-0.027
I-124		602.71	*	1.417E-01	4.555E-01	7.252E-01	3.803E-02	0.195
		722.78		-2.617E+00	3.294E+00	4.316E+00	2.438E-01	-0.606
		1325.50		-5.668E+00	2.363E+01	3.824E+01	2.605E+00	-0.148
		1376.25		1.081E+01	2.202E+01	3.866E+01	2.649E+00	0.280
		1509.49		3.050E+00	9.885E+00	1.710E+01	1.153E+00	0.178
		1691.02		2.235E+00	2.215E+00	4.383E+00	2.778E-01	0.510
SB-124		602.71		9.851E-03	3.168E-02	5.043E-02	2.646E-03	0.195
		645.85		-1.478E-01	3.800E-01	6.081E-01	3.548E-02	-0.243
		709.31		-1.025E+00	1.990E+00	3.173E+00	1.737E-01	-0.323
		713.82		2.715E-01	1.191E+00	2.034E+00	2.046E-01	0.134
		722.78		-2.638E-01	3.321E-01	4.350E-01	2.579E-02	-0.606
	+	968.20		1.255E+01	4.013E+00	6.009E+00	4.716E-01	2.088
		1045.16		-2.697E-01	1.931E+00	3.088E+00	2.247E-01	-0.087
		1325.50		-6.102E-01	2.544E+00	4.117E+00	2.805E-01	-0.148
		1368.21		5.667E-02	1.352E+00	2.262E+00	2.809E-01	0.025
		1436.60		1.121E+00	3.088E+00	5.376E+00	3.668E-01	0.209
		1691.02	*	5.315E-02	5.269E-02	1.042E-01	7.081E-03	0.510
SB-125		427.89	*	1.583E-02	6.946E-02	1.161E-01	6.872E-03	0.136
	+	463.38		4.020E-01	3.421E-01	4.242E-01	2.820E-02	0.948
		600.56		7.096E-03	1.463E-01	2.355E-01	1.470E-02	0.030
		635.90		-9.184E-02	2.133E-01	3.253E-01	2.006E-02	-0.282
TE-125M		109.28	*	1.246E+00	6.931E+00	1.154E+01	1.145E+00	0.108
I-126		388.63		4.854E-02	1.511E-01	2.552E-01	1.447E-02	0.190
		666.33	*	1.120E-01	1.389E-01	2.234E-01	1.102E-02	0.501
		753.82		1.048E+00	1.006E+00	1.834E+00	1.113E-01	0.571
SB-126		223.80		1.655E+00	2.973E+00	4.875E+00	3.229E-01	0.339
		278.60		-5.200E-01	1.777E+00	2.951E+00	1.962E-01	-0.176
	+	296.50		8.523E+00	1.721E+00	2.662E+00	1.752E-01	3.202
		414.70		8.311E-03	5.384E-02	8.964E-02	5.072E-03	0.093
		415.30		-5.848E-01	4.494E+00	7.327E+00	4.146E-01	-0.080
		555.20		-1.185E+00	2.753E+00	4.251E+00	2.320E-01	-0.279
		573.80		1.271E-01	7.439E-01	1.216E+00	6.545E-02	0.105
		593.00		-2.246E-01	6.639E-01	1.030E+00	5.452E-02	-0.218
		656.30		-7.368E-01	2.763E+00	3.923E+00	1.928E-01	-0.188
		666.33		4.667E-02	5.789E-02	9.310E-02	4.592E-03	0.501
		675.00		-5.099E-01	1.471E+00	2.401E+00	1.210E-01	-0.212
		695.00		-1.763E-02	5.701E-02	9.317E-02	4.928E-03	-0.189
		697.00		6.944E-02	1.915E-01	3.307E-01	1.758E-02	0.210
		720.50	*	2.334E-02	1.069E-01	1.777E-01	9.985E-03	0.131
		856.80		-9.926E-02	3.972E-01	5.481E-01	4.151E-02	-0.181
		989.30		-3.959E-01	9.029E-01	1.396E+00	1.076E-01	-0.284
		1034.80		-1.950E+00	6.831E+00	1.075E+01	7.916E-01	-0.181
		1213.00		1.683E+00	3.721E+00	6.245E+00	3.856E-01	0.270
SB-127		61.10		1.304E+01	5.417E+01	8.359E+01	1.148E+01	0.156
		252.40		-5.269E-01	2.602E+00	4.353E+00	1.810E+00	-0.121

---- Non-Identified Nuclides ----

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		290.80		6.258E+00	1.420E+01	2.181E+01	2.029E+00	0.287
		411.60		8.956E-01	8.088E+00	1.342E+01	1.886E+00	0.067
		444.90		6.297E+00	6.037E+00	1.062E+01	1.102E+00	0.593
		473.00		-4.143E-01	1.075E+00	1.698E+00	1.827E-01	-0.244
		543.00		4.060E+00	1.055E+01	1.744E+01	2.176E+00	0.233
		603.60		9.022E-01	8.607E+00	1.218E+01	1.232E+00	0.074
		685.20	*	-1.434E-01	8.251E-01	1.364E+00	1.178E-01	-0.105
		698.50		-2.250E-01	9.480E+00	1.586E+01	2.226E+00	-0.014
		722.20		3.211E+00	2.072E+01	3.073E+01	2.656E+00	0.104
		783.80		2.565E+00	2.282E+00	4.138E+00	4.428E-01	0.620
XE-127		57.60		3.310E+00	6.868E+00	1.188E+01	1.488E+00	0.279
		145.22		-9.097E-02	5.329E-01	8.614E-01	5.606E-02	-0.106
		172.10		1.941E-02	9.255E-02	1.510E-01	9.631E-03	0.129
		202.84	*	-2.437E-02	3.870E-02	5.989E-02	3.915E-03	-0.407
		374.96		1.038E-01	1.518E-01	2.626E-01	1.540E-02	0.395
I-131		80.18		1.736E+00	3.468E+00	5.355E+00	6.207E-01	0.324
		284.30		-4.114E-01	1.028E+00	1.692E+00	1.218E-01	-0.243
		364.48	*	2.873E-02	8.253E-02	1.401E-01	9.310E-03	0.205
		636.97		-5.492E-01	1.096E+00	1.659E+00	9.649E-02	-0.331
		722.89		-2.676E+00	5.566E+00	7.599E+00	4.348E-01	-0.352
TE-132		49.72		-5.224E+00	2.494E+01	4.206E+01	5.784E+00	-0.124
		111.76		-3.022E+00	1.819E+01	2.980E+01	2.964E+00	-0.101
		116.30		5.054E-02	1.676E+01	2.761E+01	2.651E+00	0.002
		228.16	*	3.284E-01	4.249E-01	7.007E-01	1.016E-01	0.469
BA-133		53.15		3.054E+00	5.110E+00	8.900E+00	1.165E+00	0.343
		79.62		4.629E-01	1.060E+00	1.630E+00	2.778E-01	0.284
		81.00		-6.133E-02	8.583E-02	1.227E-01	2.168E-02	-0.500
		276.40		3.836E-01	2.902E-01	5.143E-01	6.876E-02	0.746
		302.84		2.084E-03	1.214E-01	1.800E-01	2.169E-02	0.012
		356.01	*	-4.965E-03	4.047E-02	5.854E-02	6.858E-03	-0.085
		383.85		-2.127E-03	2.420E-01	4.002E-01	4.338E-02	-0.005
I-133	+	510.53		4.184E-01	2.420E-01	Half-Life too short		
		529.87	*	-7.575E-04	2.420E-01	Half-Life too short		
		706.58		3.381E-02	2.420E-01	Half-Life too short		
		856.28		-6.082E-02	2.420E-01	Half-Life too short		
		875.33		1.805E-02	2.420E-01	Half-Life too short		
		1236.41		3.364E-01	2.420E-01	Half-Life too short		
		1298.22		7.150E-02	2.420E-01	Half-Life too short		
CS-134		475.35		4.346E-01	1.519E+00	2.533E+00	1.432E-01	0.172
		563.23		1.427E-01	2.894E-01	4.856E-01	2.699E-02	0.294
		569.32		-3.455E-02	1.470E-01	2.313E-01	1.293E-02	-0.149
		604.70		-1.998E-02	3.221E-02	4.161E-02	2.193E-03	-0.480
	+	795.84	*	1.134E-01	5.245E-02	7.017E-02	4.729E-03	1.616
		801.93		-6.181E-02	3.217E-01	4.928E-01	3.355E-02	-0.125
		1038.57		-1.665E+00	3.099E+00	4.717E+00	3.457E-01	-0.353
		1167.94		-2.208E-01	1.841E+00	2.920E+00	1.755E-01	-0.076
		1365.15		-8.245E-01	9.712E-01	1.407E+00	1.033E-01	-0.586
CS-135		268.24	*	-7.689E-02	1.286E-01	2.075E-01	1.730E-02	-0.371
I-135		288.45		1.073E+08	1.286E-01	Half-Life too short		

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		417.63		-8.171E+08	1.286E-01	Half-Life too short		
		546.56		-4.041E+08	1.286E-01	Half-Life too short		
		836.80		4.904E+08	1.286E-01	Half-Life too short		
		1038.76		-6.243E+07	1.286E-01	Half-Life too short		
		1124.00		2.015E+09	1.286E-01	Half-Life too short		
		1131.51		-6.536E+07	1.286E-01	Half-Life too short		
		1260.41	*	9.639E+07	1.286E-01	Half-Life too short		
		1457.56		1.678E+10	1.286E-01	Half-Life too short		
		1678.03		1.084E+08	1.286E-01	Half-Life too short		
		1706.46		3.408E+08	1.286E-01	Half-Life too short		
		1791.20		-1.783E+08	1.286E-01	Half-Life too short		
CS-136		66.91		-4.381E-01	7.806E-01	1.141E+00	1.977E-01	-0.384
	+	86.29		2.962E+00	1.066E+00	1.553E+00	2.367E-01	1.908
		153.22		5.697E-01	4.715E-01	8.064E-01	6.243E-02	0.706
		163.89		4.294E-01	7.655E-01	1.273E+00	9.810E-02	0.337
		176.55		-2.136E-01	2.657E-01	4.095E-01	2.889E-02	-0.522
		273.65		-5.761E-01	3.559E-01	5.497E-01	4.057E-02	-1.048
		340.57		1.292E-01	1.029E-01	1.655E-01	1.093E-02	0.781
		818.51		1.605E-02	4.815E-02	8.271E-02	5.790E-03	0.194
		1048.07	*	2.112E-02	7.996E-02	1.338E-01	1.028E-02	0.158
		1235.34		4.761E-01	5.376E-01	8.556E-01	8.801E-02	0.556
CE-139		165.85	*	-1.955E-02	2.320E-02	3.589E-02	2.281E-03	-0.545
BA-140		162.64		2.238E-01	5.472E-01	9.036E-01	6.357E-02	0.248
		304.84		5.134E-02	9.960E-01	1.480E+00	4.063E-01	0.035
		423.70		-5.133E-01	1.398E+00	2.219E+00	7.049E-01	-0.231
		537.32	*	5.917E-02	1.893E-01	3.090E-01	1.003E-01	0.191
LA-140	+	328.77		8.317E-02	3.375E-01	4.073E-01	2.856E-02	0.204
		432.53		-7.078E-01	1.606E+00	2.456E+00	1.545E-01	-0.288
		487.03		-2.036E-02	9.425E-02	1.505E-01	9.665E-03	-0.135
		751.79		-3.686E-01	1.186E+00	1.919E+00	1.399E-01	-0.192
		815.85		5.988E-02	2.147E-01	3.665E-01	2.987E-02	0.163
		867.82		7.815E-01	9.633E-01	1.721E+00	1.420E-01	0.454
		919.63		9.901E-01	1.958E+00	3.142E+00	3.221E-01	0.315
		925.24		1.759E-01	7.223E-01	1.221E+00	1.059E-01	0.144
		1596.49	*	3.339E-02	6.143E-02	1.101E-01	7.249E-03	0.303
CE-141		145.44	*	-1.125E-02	4.800E-02	7.736E-02	5.193E-03	-0.145
CE-143		57.37		2.735E-04	4.800E-02	Half-Life too short		
		231.56		-7.737E-04	4.800E-02	Half-Life too short		
		293.26	*	2.053E-04	4.800E-02	Half-Life too short		
	+	350.59		1.123E-02	4.800E-02	Half-Life too short		
		490.36		-6.421E-04	4.800E-02	Half-Life too short		
		664.57		1.096E-03	4.800E-02	Half-Life too short		
		721.93		5.761E-04	4.800E-02	Half-Life too short		
CE-144		80.11		9.177E-01	1.763E+00	2.725E+00	3.148E-01	0.337
		133.54	*	3.014E-02	1.633E-01	2.571E-01	3.748E-02	0.117
PM-144		476.78		5.260E-02	5.401E-02	9.442E-02	6.439E-03	0.557
		618.01		5.268E-04	2.597E-02	4.163E-02	2.310E-03	0.013
		696.49	*	1.109E-02	2.710E-02	4.692E-02	2.493E-03	0.236
		778.57		-3.342E-01	1.669E+00	2.720E+00	1.745E-01	-0.123

---- Non-Identified Nuclides ----

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PR-144		696.49	*	7.513E-01	1.835E+00	3.177E+00	1.687E-01	0.236
		1489.15		-3.196E+00	8.536E+00	1.310E+01	8.868E-01	-0.244
PM-146		453.90	*	9.637E-03	3.438E-02	5.744E-02	4.902E-03	0.168
		633.02		3.943E-01	1.121E+00	1.836E+00	6.740E-01	0.215
		735.90		6.069E-02	1.137E-01	1.969E-01	5.491E-02	0.308
		747.13		-1.432E-02	6.699E-02	1.094E-01	1.377E-02	-0.131
ND-147	+	91.11		4.746E-01	1.888E-01	3.922E-01	4.599E-02	1.210
		319.41		-3.256E+00	2.366E+00	3.598E+00	2.320E-01	-0.905
		439.89		7.980E-01	4.191E+00	6.972E+00	3.956E-01	0.114
		531.02	*	-3.443E-02	3.834E-01	6.151E-01	8.250E-02	-0.056
PM-149		285.90	*	-5.360E+00	4.789E+01	8.017E+01	1.165E+01	-0.067
EU-152		121.78		2.747E-02	5.725E-02	9.610E-02	8.189E-03	0.286
		244.69		-7.150E-02	2.860E-01	3.931E-01	2.622E-02	-0.182
		344.27	*	-9.774E-03	7.832E-02	1.251E-01	8.657E-03	-0.078
		443.98		4.971E-01	7.488E-01	1.287E+00	7.303E-02	0.386
		778.89		-1.229E-01	2.017E-01	3.152E-01	2.022E-02	-0.390
		867.32		6.091E-01	6.072E-01	1.085E+00	8.400E-02	0.561
		964.01		2.299E-01	2.690E-01	4.220E-01	3.323E-02	0.545
		1085.78		-2.876E-01	3.319E-01	4.821E-01	3.329E-02	-0.597
		1112.02		1.486E-01	2.425E-01	4.192E-01	2.784E-02	0.354
		1407.95		1.149E-01	1.456E-01	2.668E-01	1.825E-02	0.431
GD-153		69.67		-4.081E-01	1.597E+00	2.539E+00	2.932E-01	-0.161
		83.37		1.066E+01	1.308E+01	2.038E+01	2.385E+00	0.523
		97.43	*	-1.785E-02	6.779E-02	9.927E-02	9.744E-03	-0.180
		103.18		-4.804E-02	8.538E-02	1.378E-01	1.226E-02	-0.349
EU-154		123.07		2.511E-02	3.983E-02	6.720E-02	6.802E-03	0.374
		247.94		1.114E-01	2.914E-01	4.711E-01	4.757E-02	0.236
		591.81		-7.183E-02	4.754E-01	7.517E-01	7.131E-02	-0.096
		723.30		-5.851E-02	1.539E-01	2.131E-01	1.484E-02	-0.275
		756.87		-1.335E-01	5.907E-01	9.637E-01	9.942E-02	-0.139
		873.19		-4.695E-02	2.295E-01	3.701E-01	4.331E-02	-0.127
		996.32		-3.412E-01	3.231E-01	4.586E-01	7.942E-02	-0.744
		1004.76		-1.887E-01	1.830E-01	2.631E-01	2.868E-02	-0.717
		1274.45	*	-5.306E-02	9.780E-02	1.535E-01	1.505E-02	-0.346
EU-155		48.70		-3.405E+00	4.229E+00	6.900E+00	7.950E-01	-0.493
		60.01		6.690E+00	5.976E+00	9.619E+00	1.169E+00	0.695
	+	86.54		2.905E-01	1.009E-01	1.546E-01	1.851E-02	1.880
		105.31	*	8.640E-02	8.533E-02	1.468E-01	1.280E-02	0.588
TB-160	+	86.79		7.678E-01	2.664E-01	4.156E-01	4.959E-02	1.847
		197.04		1.604E-01	4.671E-01	7.608E-01	4.951E-02	0.211
		215.65		-5.841E-02	6.302E-01	9.496E-01	6.262E-02	-0.062
	+	298.57		1.393E-01	1.273E-01	1.613E-01	1.060E-02	0.863
		879.36	*	-7.485E-04	1.051E-01	1.730E-01	1.372E-02	-0.004
		962.29		6.441E-02	4.586E-01	6.923E-01	5.459E-02	0.093
		966.15		5.099E-01	2.131E-01	3.724E-01	2.928E-02	1.369
		1177.93		1.178E-01	3.032E-01	5.077E-01	3.033E-02	0.232
		1271.85		-8.461E-03	5.280E-01	8.820E-01	5.743E-02	-0.010
HO-166M		80.57		-2.260E-02	2.293E-01	3.427E-01	3.966E-02	-0.066
		184.41		9.788E-02	3.138E-02	5.209E-02	3.355E-03	1.879

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		280.46		-6.571E-02	6.483E-02	1.030E-01	6.842E-03	-0.638
		410.95		1.261E-01	1.972E-01	3.383E-01	1.913E-02	0.373
		711.68	*	-2.257E-02	4.428E-02	7.060E-02	3.886E-03	-0.320
		752.31		5.403E-02	1.989E-01	3.402E-01	2.057E-02	0.159
		810.29		-7.404E-03	4.155E-02	6.757E-02	4.642E-03	-0.110
TM-171		51.35		8.276E+00	4.832E+01	8.288E+01	1.073E+01	0.100
		52.39		2.103E+01	2.321E+01	4.085E+01	5.343E+00	0.515
		59.40		-1.531E+01	3.179E+01	5.014E+01	6.114E+00	-0.305
		66.72	*	-5.893E+00	2.946E+01	4.415E+01	5.162E+00	-0.133
LU-176	+	88.36		5.724E-01	1.986E-01	2.992E-01	3.566E-02	1.913
		201.83		-6.532E-03	2.360E-02	3.722E-02	2.431E-03	-0.175
		306.84	*	-1.102E-03	1.822E-02	3.045E-02	1.988E-03	-0.036
		401.10		-3.068E+00	5.319E+00	8.417E+00	4.749E-01	-0.365
LU-177		112.95		5.341E-01	1.131E+00	1.903E+00	1.474E-01	0.281
	+	208.36	*	2.249E+00	1.271E+00	1.395E+00	9.157E-02	1.612
LU-177M		52.97		2.495E+00	2.315E+00	4.092E+00	5.357E-01	0.610
		54.07		-6.923E-01	1.148E+00	1.889E+00	2.464E-01	-0.366
		61.30		5.318E-01	1.712E+00	2.651E+00	3.198E-01	0.201
		121.62		1.467E-01	2.912E-01	4.895E-01	3.409E-02	0.300
		147.16		2.412E-01	4.812E-01	8.021E-01	5.204E-02	0.301
		171.86		7.102E-02	3.790E-01	6.176E-01	3.939E-02	0.115
		218.09		1.680E-01	6.848E-01	1.105E+00	7.299E-02	0.152
		268.79		3.564E-01	6.466E-01	1.104E+00	7.364E-02	0.323
		319.02		-2.264E-01	1.994E-01	3.093E-01	1.994E-02	-0.732
		367.43		-5.624E-01	7.016E-01	1.098E+00	6.550E-02	-0.512
		413.65	*	-6.067E-02	1.380E-01	2.200E-01	1.244E-02	-0.276
HF-181		56.28		-2.543E-01	1.126E+00	1.890E+00	2.410E-01	-0.135
		57.53		3.300E-01	5.774E-01	1.003E+00	1.256E-01	0.329
		65.20		-6.123E-01	9.976E-01	1.457E+00	1.717E-01	-0.420
		133.02		2.988E-02	5.364E-02	8.116E-02	5.417E-03	0.368
		136.25		-1.060E-01	3.471E-01	5.592E-01	3.702E-02	-0.189
		345.85		3.717E-03	1.662E-01	2.440E-01	1.516E-02	0.015
		482.03	*	1.898E-04	3.121E-02	5.087E-02	2.872E-03	0.004
W-181		56.28		-9.925E-02	4.464E-01	7.492E-01	9.551E-02	-0.132
		57.53		1.306E-01	2.290E-01	3.976E-01	4.983E-02	0.328
		65.20	*	-2.409E-01	3.925E-01	5.733E-01	6.758E-02	-0.420
TA-182		67.75		4.087E-03	1.021E-01	1.723E-01	2.005E-02	0.024
		100.10		-2.428E-03	1.388E-01	2.301E-01	2.154E-02	-0.011
		152.43		1.989E-01	2.565E-01	4.316E-01	2.780E-02	0.461
		222.10		7.065E-02	2.748E-01	4.434E-01	2.935E-02	0.159
		1001.68		1.688E+00	1.791E+00	3.145E+00	2.396E-01	0.537
	+	1121.28		3.087E-01	1.610E-01	2.766E-01	1.809E-02	1.116
		1189.05		1.138E-01	2.563E-01	4.311E-01	2.603E-02	0.264
		1221.42	*	-9.459E-02	1.591E-01	2.523E-01	1.570E-02	-0.375
		1230.97		1.843E-01	4.002E-01	6.707E-01	4.211E-02	0.275
RE-183		57.98		3.760E-02	2.291E-01	3.912E-01	4.871E-02	0.096
		59.32		-6.833E-02	1.295E-01	2.037E-01	2.487E-02	-0.335
		67.20		-8.292E-02	1.935E-01	3.051E-01	3.558E-02	-0.272
		162.32	*	3.425E-02	8.278E-02	1.368E-01	8.717E-03	0.250

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	+	208.81		2.254E+00	1.274E+00	1.417E+00	9.304E-02	1.590
		291.72		9.061E-02	7.544E-01	1.131E+00	7.467E-02	0.080
RE-184		57.98		1.395E-01	8.500E-01	1.451E+00	1.807E-01	0.096
		59.32		-2.533E-01	4.801E-01	7.552E-01	9.219E-02	-0.335
		67.20		-3.075E-01	7.177E-01	1.131E+00	1.320E-01	-0.272
		161.27		-5.279E-02	2.629E-01	4.217E-01	2.690E-02	-0.125
		216.55		9.315E-02	2.147E-01	3.500E-01	2.309E-02	0.266
		252.85	*	-7.392E-02	1.721E-01	2.853E-01	1.905E-02	-0.259
		318.01		-7.470E-03	3.493E-01	5.840E-01	3.770E-02	-0.013
		792.07		8.945E-01	8.113E-01	1.340E+00	8.847E-02	0.668
		903.28		-7.382E-02	7.556E-01	1.195E+00	9.808E-02	-0.062
		920.93		4.040E-01	2.996E-01	5.676E-01	4.608E-02	0.712
OS-185		59.72		2.194E-01	3.574E-01	5.628E-01	6.847E-02	0.390
		61.14		4.795E-02	1.882E-01	2.906E-01	3.510E-02	0.165
		69.30		-1.211E-02	2.709E-01	4.554E-01	5.266E-02	-0.027
		592.07		-4.885E-01	1.941E+00	3.039E+00	1.610E-01	-0.161
		646.12	*	2.806E-04	3.202E-02	5.307E-02	2.645E-03	0.005
		717.42		3.991E-01	6.909E-01	1.201E+00	6.702E-02	0.332
		874.81		1.557E-01	4.383E-01	7.497E-01	5.890E-02	0.208
		880.27		2.518E-01	5.814E-01	1.002E+00	7.957E-02	0.251
RE-188		155.03	*	8.370E-02	1.266E-01	2.120E-01	1.361E-02	0.395
		477.96		-2.068E-01	2.394E+00	3.876E+00	2.190E-01	-0.053
		633.10		7.416E-01	2.218E+00	3.656E+00	1.853E-01	0.203
W-188	+	63.58		8.127E+01	6.392E+01	9.579E+01	1.140E+01	0.848
		227.08		-3.717E+00	1.016E+01	1.580E+01	1.048E+00	-0.235
		290.67	*	2.860E+00	6.003E+00	9.247E+00	6.111E-01	0.309
IR-192	+	295.96		6.891E-01	1.393E-01	2.215E-01	1.477E-02	3.111
		308.46		-2.663E-02	7.104E-02	1.164E-01	7.656E-03	-0.229
		316.51	*	2.693E-02	2.623E-02	4.647E-02	3.017E-03	0.580
		468.07		1.872E-02	5.280E-02	7.869E-02	5.167E-03	0.238
		604.41		-1.291E-01	4.173E-01	5.607E-01	6.209E-02	-0.230
		612.46		6.801E-01	6.880E-01	1.061E+00	7.549E-02	0.641
AU-195		65.12		-1.036E-01	1.829E-01	2.681E-01	3.161E-02	-0.386
		66.83		-1.802E-02	9.687E-02	1.453E-01	1.698E-02	-0.124
	+	75.70		9.087E-01	2.476E-01	3.882E-01	4.447E-02	2.341
		98.88	*	3.003E-02	1.758E-01	2.938E-01	2.810E-02	0.102
	+	129.76		3.019E+00	2.614E+00	3.758E+00	2.532E-01	0.803
TL-200		367.94	*	-4.087E-05	2.614E+00	Half-Life too short		
		579.30		-2.447E-04	2.614E+00	Half-Life too short		
		828.27		3.982E-04	2.614E+00	Half-Life too short		
		1205.75		3.695E-04	2.614E+00	Half-Life too short		
TL-201		68.90		1.635E+00	3.336E+00	5.722E+00	6.626E-01	0.286
		70.82		8.910E-01	2.066E+00	3.192E+00	3.673E-01	0.279
		80.30		1.458E+00	3.195E+00	4.922E+00	5.690E-01	0.296
		135.34		-8.303E+00	1.504E+01	2.393E+01	1.588E+00	-0.347
		167.43	*	-3.826E-02	4.160E+00	6.725E+00	4.275E-01	-0.006
TL-202		68.90		1.794E-01	3.660E-01	6.278E-01	7.269E-02	0.286
		70.82		9.749E-02	2.260E-01	3.492E-01	4.019E-02	0.279
		80.30		1.596E-01	3.497E-01	5.387E-01	6.227E-02	0.296

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		439.56	*	-5.963E-03	5.165E-02	8.396E-02	4.762E-03	-0.071
HG-203		70.83		4.467E-01	1.029E+00	1.589E+00	2.478E-01	0.281
		72.87		6.054E-01	6.010E-01	9.425E-01	1.434E-01	0.642
		82.60		-9.837E-01	9.908E-01	1.388E+00	2.198E-01	-0.708
		279.20	*	-8.164E-03	3.037E-02	5.049E-02	3.516E-03	-0.162
BI-207		72.80		1.655E-01	1.780E-01	2.799E-01	3.209E-02	0.591
	+	74.97		5.062E-01	1.379E-01	1.995E-01	2.284E-02	2.538
		84.90		2.694E-01	1.645E-01	2.630E-01	3.103E-02	1.024
		569.67		-2.377E-03	2.282E-02	3.636E-02	1.964E-03	-0.065
		1063.62	*	9.127E-03	4.333E-02	7.194E-02	5.116E-03	0.127
		1770.23		-9.347E-02	4.254E-01	5.501E-01	3.342E-02	-0.170
TL-207		81.07		-1.368E-01	1.884E-01	2.705E-01	3.135E-02	-0.506
		83.78		1.106E-01	1.128E-01	1.766E-01	2.072E-02	0.626
		94.90		1.850E-01	1.972E-01	3.078E-01	3.172E-02	0.601
		122.32		9.784E-01	1.345E+00	2.280E+00	1.754E-01	0.429
		144.24		1.208E-01	5.341E-01	8.774E-01	6.862E-02	0.138
		154.21		1.124E-01	3.063E-01	5.060E-01	3.815E-02	0.222
		269.46		2.259E-01	1.538E-01	2.724E-01	1.879E-02	0.829
		323.87	*	6.797E-01	5.898E-01	9.325E-01	1.561E-01	0.729
	+	338.28		5.203E+00	1.603E+00	1.981E+00	2.141E-01	2.626
		445.03		1.915E+00	1.743E+00	3.077E+00	3.138E-01	0.622
PO-209		260.50		8.741E-03	7.037E+00	1.192E+01	7.960E-01	0.001
		262.80		-1.168E+00	1.945E+01	3.281E+01	2.191E+00	-0.036
		896.60	*	-1.462E+00	5.478E+00	8.739E+00	7.172E-01	-0.167
BI-210		46.50	*	-3.191E-01	6.729E+00	1.120E+01	9.765E-01	-0.028
PB-210		46.50	*	-3.191E-01	6.729E+00	1.120E+01	9.765E-01	-0.028
PO-210		46.50	*	-3.191E-01	6.729E+00	1.120E+01	8.704E-01	-0.028
PB-211		404.84	*	-3.500E-02	7.323E-01	1.203E+00	7.498E-01	-0.029
		427.08		1.018E-01	1.604E+00	2.646E+00	1.635E+00	0.038
		831.96		-5.325E-01	9.896E-01	1.454E+00	9.087E-01	-0.366
BI-212	+	727.18	*	7.767E-01	3.527E-01	5.295E-01	4.047E-02	1.467
		785.46		1.517E+00	1.376E+00	2.500E+00	1.627E-01	0.607
		1620.62		2.174E-01	1.016E+00	1.728E+00	1.128E-01	0.126
PO-215		81.07		-1.368E-01	1.884E-01	2.705E-01	3.135E-02	-0.506
		83.78		1.106E-01	1.128E-01	1.766E-01	2.072E-02	0.626
		94.90		1.850E-01	1.972E-01	3.078E-01	3.172E-02	0.601
		122.32		9.784E-01	1.345E+00	2.280E+00	1.754E-01	0.429
		144.24		1.208E-01	5.341E-01	8.774E-01	6.862E-02	0.138
		154.21		1.124E-01	3.063E-01	5.060E-01	3.815E-02	0.222
		269.46		2.259E-01	1.538E-01	2.724E-01	1.879E-02	0.829
		323.87	*	6.797E-01	5.898E-01	9.325E-01	1.561E-01	0.729
	+	338.28		5.203E+00	1.603E+00	1.981E+00	2.141E-01	2.626
		445.03		1.915E+00	1.743E+00	3.077E+00	3.138E-01	0.622
RN-219		271.23		2.315E-01	2.005E-01	3.549E-01	3.103E-02	0.652
		401.81	*	6.400E-02	3.221E-01	5.385E-01	7.291E-02	0.119
RN-220		549.76	*	1.655E+01	2.000E+01	3.462E+01	1.897E+00	0.478
RA-223		81.07		-1.368E-01	1.884E-01	2.705E-01	3.135E-02	-0.506
		83.78		1.106E-01	1.128E-01	1.766E-01	2.072E-02	0.626
		94.90		1.850E-01	1.972E-01	3.078E-01	3.172E-02	0.601

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		122.32		9.784E-01	1.345E+00	2.280E+00	1.754E-01	0.429
		144.24		1.208E-01	5.341E-01	8.774E-01	6.862E-02	0.138
		154.21		1.124E-01	3.063E-01	5.060E-01	3.815E-02	0.222
		269.46		2.259E-01	1.538E-01	2.724E-01	1.879E-02	0.829
		323.87	*	6.797E-01	5.898E-01	9.325E-01	1.561E-01	0.729
	+	338.28		5.203E+00	1.603E+00	1.981E+00	2.141E-01	2.626
		445.03		1.915E+00	1.743E+00	3.077E+00	3.138E-01	0.622
AC-227		79.80		8.948E-01	1.366E+00	2.109E+00	4.815E-01	0.424
		236.00		2.467E-01	1.990E-01	3.028E-01	3.317E-02	0.815
		256.20	*	-1.851E-01	2.828E-01	4.605E-01	6.607E-02	-0.402
		286.10		-3.120E-01	1.160E+00	1.924E+00	2.308E-01	-0.162
	+	299.80		1.794E+00	1.663E+00	2.146E+00	3.556E-01	0.836
		304.40		7.480E-01	1.541E+00	2.364E+00	4.152E-01	0.316
		334.20		6.447E-02	1.865E+00	2.749E+00	5.087E-01	0.023
TH-227		79.80		8.948E-01	1.367E+00	2.109E+00	4.870E-01	0.424
	+	94.00		7.731E+00	3.011E+00	2.990E+00	6.754E-01	2.585
		236.00		2.467E-01	1.986E-01	3.028E-01	2.916E-02	0.815
		256.20	*	-1.851E-01	2.833E-01	4.605E-01	7.930E-02	-0.402
		286.10		-3.120E-01	1.201E+00	1.924E+00	1.928E+00	-0.162
	+	299.80		1.794E+00	1.663E+00	2.146E+00	3.556E-01	0.836
		304.40		7.480E-01	1.541E+00	2.364E+00	4.152E-01	0.316
		334.20		6.447E-02	1.865E+00	2.749E+00	5.087E-01	0.023
TH-229		85.43		2.834E-01	1.681E-01	2.680E-01	3.172E-02	1.057
	+	88.47		3.295E-01	1.143E-01	1.714E-01	2.037E-02	1.923
		100.00		9.280E-04	1.453E-01	2.411E-01	2.261E-02	0.004
		193.63	*	-8.872E-02	3.967E-01	6.286E-01	4.080E-02	-0.141
	+	210.97		1.785E+00	1.009E+00	1.054E+00	6.927E-02	1.694
PA-231		283.67	*	6.993E-03	1.170E+00	1.972E+00	2.791E-01	0.004
	+	301.29		7.175E-01	6.590E-01	8.424E-01	9.176E-02	0.852
TH-231		81.07		-1.368E-01	1.884E-01	2.705E-01	3.135E-02	-0.506
		83.78		1.106E-01	1.128E-01	1.766E-01	2.072E-02	0.626
		94.90		1.850E-01	1.972E-01	3.078E-01	3.172E-02	0.601
		122.32		9.784E-01	1.345E+00	2.280E+00	1.754E-01	0.429
		144.24		1.208E-01	5.341E-01	8.774E-01	6.862E-02	0.138
		154.21		1.124E-01	3.063E-01	5.060E-01	3.815E-02	0.222
		269.46		2.259E-01	1.538E-01	2.724E-01	1.879E-02	0.829
		323.87	*	6.797E-01	5.898E-01	9.325E-01	1.561E-01	0.729
	+	338.28		5.203E+00	1.603E+00	1.981E+00	2.141E-01	2.626
		445.03		1.915E+00	1.743E+00	3.077E+00	3.138E-01	0.622
U-231		84.21		7.445E+00	3.897E+00	6.277E+00	7.379E-01	1.186
	+	92.29		6.302E+00	2.106E+00	2.787E+00	3.032E-01	2.261
		95.87	*	-2.276E-01	7.646E-01	1.119E+00	1.131E-01	-0.203
		108.00		-8.625E-01	1.324E+00	2.121E+00	1.756E-01	-0.407
PA-233	+	75.28		1.477E+01	4.440E+00	5.881E+00	1.006E+00	2.512
	+	86.59		4.725E+00	2.032E+00	2.521E+00	7.072E-01	1.874
	+	300.12		5.001E-01	4.612E-01	5.935E-01	8.181E-02	0.843
		311.98	*	-1.772E-02	4.882E-02	8.001E-02	5.456E-03	-0.222
		340.50		8.246E-01	5.702E-01	8.819E-01	2.036E-01	0.935
		398.62		5.287E-01	1.679E+00	2.821E+00	7.285E-01	0.187

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.76		-5.649E-01	1.280E+00	2.029E+00	4.169E-01	-0.278
PA-234	+	63.00		2.384E+00	1.900E+00	2.879E+00	5.058E-01	0.828
		94.67		2.229E-01	1.438E-01	2.275E-01	3.108E-02	0.980
		98.44		1.151E-02	7.387E-02	1.175E-01	6.575E-02	0.098
		99.86		1.418E-02	3.686E-01	6.126E-01	5.758E-02	0.023
		111.00		-9.071E-02	1.420E-01	2.269E-01	2.636E-02	-0.400
		131.20		1.679E-02	8.879E-02	1.315E-01	8.820E-03	0.128
		152.70		3.333E-01	2.489E-01	4.207E-01	6.754E-02	0.792
	+	186.00		4.097E+00	2.119E+00	2.054E+00	6.302E-01	1.995
		226.40		-4.161E-01	3.326E-01	4.839E-01	5.807E-02	-0.860
		227.20		-1.332E-01	3.469E-01	5.388E-01	3.575E-02	-0.247
		248.90		4.396E-01	6.456E-01	1.053E+00	2.289E-01	0.417
	+	293.70		4.385E+00	1.103E+00	1.272E+00	2.084E-01	3.448
		369.80		8.154E-03	6.584E-01	1.093E+00	2.280E-01	0.007
		568.70		-6.343E-02	7.425E-01	1.186E+00	6.409E-02	-0.054
		569.50		-6.548E-02	2.056E-01	3.209E-01	1.733E-02	-0.204
		574.00		2.284E-01	1.133E+00	1.858E+00	9.998E-02	0.123
		699.00		1.186E-01	5.433E-01	9.267E-01	1.653E-01	0.128
		706.10		4.410E-02	7.885E-01	1.327E+00	5.850E-01	0.033
		733.00		-5.127E-02	3.242E-01	4.609E-01	9.798E-02	-0.111
		742.81		-1.649E-01	1.025E+00	1.676E+00	1.122E+00	-0.098
		796.30		1.304E+00	8.684E-01	1.377E+00	3.649E-01	0.947
		805.60		2.721E-01	7.381E-01	1.262E+00	3.810E-01	0.216
		819.60		-3.159E-01	8.881E-01	1.400E+00	5.278E-01	-0.226
		826.30		2.051E-01	5.964E-01	1.012E+00	4.501E-01	0.203
		831.60		-3.652E-01	5.035E-01	7.543E-01	2.222E-01	-0.484
		876.40		-8.612E-03	6.283E-01	1.034E+00	1.063E+00	-0.008
		880.51		9.183E-02	2.120E-01	3.653E-01	2.904E-02	0.251
		883.24		9.445E-02	2.310E-01	3.821E-01	2.566E-01	0.247
		899.00		-1.416E-01	6.279E-01	1.002E+00	4.373E-01	-0.141
		925.00		5.515E-02	8.068E-01	1.336E+00	1.082E-01	0.041
		926.50		-8.467E-02	1.303E-01	1.943E-01	4.876E-02	-0.436
		946.00	*	7.654E-03	2.389E-01	3.928E-01	7.259E-02	0.019
		949.00		-6.820E-02	3.441E-01	5.512E-01	4.391E-02	-0.124
		980.50		-2.523E-01	5.837E-01	9.062E-01	7.039E-02	-0.278
		1394.10		1.037E-01	8.385E-01	1.416E+00	9.186E-01	0.073
PA-234M		766.42		-4.252E+00	9.363E+00	1.459E+01	7.352E+00	-0.291
		1001.03	*	3.989E+00	4.035E+00	7.108E+00	6.480E-01	0.561
U-235	+	89.95		2.034E+00	1.006E+00	1.586E+00	5.038E-01	1.283
	+	93.35		2.405E+00	1.028E+00	1.043E+00	2.995E-01	2.305
		105.00		6.105E-01	8.630E-01	1.440E+00	4.297E-01	0.424
		143.76	*	5.435E-02	1.645E-01	2.713E-01	4.496E-02	0.200
		163.35		2.957E-01	3.596E-01	5.996E-01	1.090E-01	0.493
	+	185.71		1.517E-01	6.391E-02	7.618E-02	4.912E-03	1.992
		205.31		4.433E-01	4.630E-01	6.916E-01	1.261E-01	0.641
NP-236		94.67		1.698E-01	1.081E-01	1.726E-01	1.787E-02	0.984
		98.44		8.678E-03	5.563E-02	8.883E-02	8.561E-03	0.098
		111.00		-6.861E-02	1.072E-01	1.716E-01	1.363E-02	-0.400
		160.31	*	-1.955E-02	5.955E-02	9.488E-02	6.058E-03	-0.206

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		4.082E-02	1.222E-01	2.056E-01	1.943E-02	0.199
		117.00	*	2.531E-04	1.447E-01	2.383E-01	1.753E-02	0.001
	+	209.75		1.798E+00	1.017E+00	1.169E+00	7.678E-02	1.539
		228.18		1.376E-01	1.771E-01	2.935E-01	1.948E-02	0.469
		277.60		6.282E-02	1.399E-01	2.414E-01	1.606E-02	0.260
		334.30		-1.588E-03	1.055E+00	1.549E+00	9.797E-02	-0.001
AM-241		59.54	*	3.032E-02	1.922E-01	2.956E-01	3.731E-02	0.103
CM-243		99.55		4.201E-02	1.257E-01	2.116E-01	1.999E-02	0.199
		103.76	*	1.301E-02	7.760E-02	1.294E-01	1.141E-02	0.101
		117.00		2.604E-04	1.488E-01	2.451E-01	1.804E-02	0.001
	+	209.75		1.773E+00	1.002E+00	1.152E+00	7.568E-02	1.539
		228.18		1.390E-01	1.789E-01	2.965E-01	1.968E-02	0.469
		277.60		6.333E-02	1.410E-01	2.433E-01	1.619E-02	0.260
AM-246		798.80		-4.319E-02	1.155E-01	1.571E-01	1.053E-02	-0.275
		1036.00		1.009E-01	2.315E-01	3.953E-01	2.906E-02	0.255
		1062.04		1.586E-02	1.797E-01	2.947E-01	2.100E-02	0.054
		1078.86	*	4.287E-02	1.273E-01	2.134E-01	1.487E-02	0.201
CM-247		278.00		7.973E-02	5.816E-01	9.884E-01	6.573E-02	0.081
		287.40		-3.043E-01	9.220E-01	1.523E+00	1.009E-01	-0.200
		402.60	*	-2.187E-04	2.860E-02	4.715E-02	2.661E-03	-0.005
CF-249		252.85		-2.787E-01	6.489E-01	1.076E+00	7.184E-02	-0.259
		333.44		-9.652E-02	1.581E-01	2.029E-01	1.285E-02	-0.476
		387.95	*	2.232E-02	3.198E-02	5.525E-02	3.140E-03	0.404
CF-251		176.60	*	-7.526E-02	9.754E-02	1.506E-01	9.642E-03	-0.500
		227.00		-1.098E-01	3.086E-01	4.801E-01	3.185E-02	-0.229
		285.00		-5.192E-01	1.337E+00	2.203E+00	1.461E-01	-0.236

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385010      *
* Acquisition date : 31-DEC-2009 10:54:36 Detector SN#     :               *
* Detector ID        : GAM04                Sensitivity     : 5.000        *
* Geometry           : CAN                  Energy tolerance: 1.500        *
* Elapsed live time:     0 02:00:00.00      Abundance limit : 75.000       *
* Elapsed real time:     0 02:00:01.17      Half life ratio :  8.000       *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        : 17-DEC-2009 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G243385010           Analyst initials: MJH1          *
* Batch Number       : 936285               Sample Quantity : 1.5432E+02 GRAM *
* Recovery           :     1.00000          Carrier Weight :    0.00000    *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :    0.00000                                             *
* CALIB. DATE/TIME :   5-MAY-2009 14:25:41 MS Isotope      :                *
* MSD DPM          :     0.000             MSD Isotope     :                *
* LCS DPM          :     0.000             LCS Isotope     :                *
* LCSD DPM         :     0.000             LCSD Isotope    :                *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.938E+01	1.890E+00	4.048E-01	0.000E+00
CD-109	2.451E+00	8.335E-01	1.107E+00	0.000E+00
SN-126	2.413E-01	8.207E-02	1.189E-01	0.000E+00
BA-137M	2.190E-01	5.548E-02	5.095E-02	0.000E+00
CS-137	2.315E-01	5.866E-02	5.386E-02	0.000E+00
TL-208	3.997E-01	6.422E-02	4.182E-02	0.000E+00
BI-211	2.546E+00	4.573E-01	2.749E-01	0.000E+00
PB-212	1.106E+00	1.480E-01	9.108E-02	0.000E+00
PO-212	1.106E+00	1.480E-01	9.108E-02	0.000E+00
BI-214	8.365E-01	1.418E-01	9.580E-02	0.000E+00
PB-214	8.855E-01	1.654E-01	9.583E-02	0.000E+00
PO-214	8.855E-01	1.654E-01	9.583E-02	0.000E+00
PO-216	1.106E+00	1.480E-01	9.108E-02	0.000E+00
PO-218	8.855E-01	1.654E-01	9.583E-02	0.000E+00
RA-224	2.000E+00	7.675E-01	1.353E+00	0.000E+00
RA-226	8.365E-01	1.418E-01	9.580E-02	0.000E+00
AC-228	1.244E+00	2.692E-01	1.360E-01	0.000E+00
RA-228	1.244E+00	2.692E-01	1.360E-01	0.000E+00
TH-228	1.122E+00	1.500E-01	9.235E-02	0.000E+00
TH-230	8.365E-01	1.418E-01	9.579E-02	0.000E+00
TH-232	1.244E+00	2.692E-01	1.360E-01	0.000E+00
TH-234	2.046E+00	1.608E+00	2.411E+00	0.000E+00
U-234	8.365E-01	1.418E-01	9.579E-02	0.000E+00
NP-237	7.087E-01	2.804E-01	3.664E-01	0.000E+00
U-238	2.046E+00	1.608E+00	2.411E+00	0.000E+00
AM-243	2.820E-01	7.530E-02	8.560E-02	0.000E+00
ANH-511	1.042E-01	4.307E-02	3.819E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)

BE-7	1.588E-01	2.392E-01	4.347E-01	0.000E+00	NOT IDENT.
NA-22	-2.227E-02	3.473E-02	5.578E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.555E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	2.715E-03	2.520E-02	4.278E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.210E-02	6.733E-02	0.000E+00	FAIL ABUN
SC-46	5.091E-04	2.927E-02	5.036E-02	0.000E+00	FAIL ABUN
V-48	1.136E-02	4.987E-02	8.689E-02	0.000E+00	NOT IDENT.
CR-51	-3.505E-01	2.706E-01	4.441E-01	0.000E+00	NOT IDENT.
MN-52	4.860E-02	1.570E-01	2.798E-01	0.000E+00	FAIL ABUN
MN-54	1.465E-02	2.934E-02	5.290E-02	0.000E+00	NOT IDENT.
CO-56	-4.458E-02	2.931E-02	4.185E-02	0.000E+00	FAIL ABUN
CO-57	8.917E-03	1.925E-02	3.542E-02	0.000E+00	NOT IDENT.
CO-58	-7.826E-03	2.706E-02	4.547E-02	0.000E+00	NOT IDENT.
FE-59	-2.624E-02	7.013E-02	1.126E-01	0.000E+00	NOT IDENT.
CO-60	-1.288E-02	2.949E-02	4.773E-02	0.000E+00	NOT IDENT.
ZN-65	6.941E-03	7.880E-02	1.154E-01	0.000E+00	NOT IDENT.
GE-68	2.539E-01	1.111E+00	1.910E+00	0.000E+00	NOT IDENT.
AS-73	2.495E-02	1.141E+00	2.174E+00	0.000E+00	NOT IDENT.
AS-74	2.611E-02	6.591E-02	1.155E-01	0.000E+00	NOT IDENT.
SE-75	-8.970E-03	3.157E-02	5.662E-02	0.000E+00	NOT IDENT.
BR-77	-3.392E+00	6.018E+00	9.829E+00	0.000E+00	FAIL ABUN
SR-82	-1.027E-01	2.822E-01	4.750E-01	0.000E+00	NOT IDENT.
RB-83	-3.666E-02	5.672E-02	9.208E-02	0.000E+00	NOT IDENT.
RB-84	2.141E-02	5.161E-02	9.243E-02	0.000E+00	NOT IDENT.
KR-85	4.574E+00	6.457E+00	1.037E+01	0.000E+00	NOT IDENT.
SR-85	2.317E-02	3.271E-02	5.253E-02	0.000E+00	NOT IDENT.
RB-86	2.060E-01	6.675E-01	1.157E+00	0.000E+00	NOT IDENT.
Y-88	6.827E-03	2.040E-02	3.688E-02	0.000E+00	NOT IDENT.
ZR-88	-8.678E-03	2.305E-02	3.950E-02	0.000E+00	NOT IDENT.
Y-91	1.576E+01	1.474E+01	2.712E+01	0.000E+00	NOT IDENT.
NB-94	4.223E-03	2.503E-02	4.463E-02	0.000E+00	NOT IDENT.
NB-95	-2.131E-02	3.399E-02	5.624E-02	0.000E+00	NOT IDENT.
NB-95M	1.059E-01	1.011E-01	1.650E-01	0.000E+00	NOT IDENT.
ZR-95	-5.604E-03	5.313E-02	9.189E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.717E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.905E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-2.573E+00	6.373E+00	1.072E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.231E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	7.501E-03	2.729E-02	4.802E-02	0.000E+00	NOT IDENT.
RH-102	6.009E-03	2.287E-02	4.035E-02	0.000E+00	NOT IDENT.
RU-103	-1.382E-02	2.830E-02	4.647E-02	0.000E+00	FAIL ABUN
RH-106	8.457E-04	2.487E-01	4.189E-01	0.000E+00	FAIL ABUN
RU-106	8.457E-04	2.487E-01	4.189E-01	0.000E+00	FAIL ABUN
AG-108M	2.245E-03	2.491E-02	4.374E-02	0.000E+00	NOT IDENT.
AG-110M	2.700E-03	3.041E-02	4.740E-02	0.000E+00	NOT IDENT.
IN-111	5.464E-02	6.649E-01	1.014E+00	0.000E+00	NOT IDENT.
IN-113M	-2.318E-02	3.413E-02	5.725E-02	0.000E+00	NOT IDENT.
SN-113	-2.318E-02	3.413E-02	5.725E-02	0.000E+00	NOT IDENT.
IN-114M	8.459E-02	1.453E-01	2.345E-01	0.000E+00	NOT IDENT.
CD-115	-3.086E+00	5.606E+00	9.109E+00	0.000E+00	NOT IDENT.
SN-117M	1.258E-02	3.630E-02	6.532E-02	0.000E+00	NOT IDENT.
SB-122	1.264E+00	1.192E+00	2.202E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	9.496E+05	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-9.002E-04	2.032E-02	3.585E-02	0.000E+00	NOT IDENT.
I-124	1.417E-01	4.464E-01	7.489E-01	0.000E+00	NOT IDENT.
SB-124	5.315E-02	5.163E-02	1.046E-01	0.000E+00	FAIL ABUN
SB-125	1.583E-02	6.808E-02	1.210E-01	0.000E+00	FAIL ABUN
TE-125M	1.246E+00	6.793E+00	1.245E+01	0.000E+00	NOT IDENT.
I-126	1.120E-01	1.361E-01	2.301E-01	0.000E+00	NOT IDENT.
SB-126	2.334E-02	1.047E-01	1.826E-01	0.000E+00	FAIL ABUN
SB-127	-1.434E-01	8.086E-01	1.404E+00	0.000E+00	NOT IDENT.
XE-127	-2.437E-02	3.793E-02	6.361E-02	0.000E+00	NOT IDENT.
I-131	2.873E-02	8.088E-02	1.466E-01	0.000E+00	NOT IDENT.
TE-132	3.284E-01	4.164E-01	7.420E-01	0.000E+00	NOT IDENT.
BA-133	-4.965E-03	3.966E-02	6.129E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.689E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.140E-02	7.193E-02	0.000E+00	FAIL ABUN
CS-135	-7.689E-02	1.261E-01	2.188E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.146E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.112E-02	7.836E-02	1.362E-01	0.000E+00	FAIL ABUN
CE-139	-1.955E-02	2.274E-02	3.831E-02	0.000E+00	NOT IDENT.
BA-140	5.917E-02	1.855E-01	3.201E-01	0.000E+00	NOT IDENT.
LA-140	3.339E-02	6.020E-02	1.107E-01	0.000E+00	FAIL ABUN
CE-141	-1.125E-02	4.704E-02	8.284E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	8.052E+01	0.000E+00	0.000E+00	SHORT HLIF
CE-144	3.014E-02	1.600E-01	2.759E-01	0.000E+00	NOT IDENT.
PM-144	1.109E-02	2.656E-02	4.827E-02	0.000E+00	NOT IDENT.
PR-144	7.513E-01	1.798E+00	3.269E+00	0.000E+00	NOT IDENT.

PM-146	9.637E-03	3.369E-02	5.976E-02	0.000E+00	NOT IDENT.
ND-147	-3.443E-02	3.757E-01	6.373E-01	0.000E+00	FAIL ABUN
PM-149	-5.360E+00	4.693E+01	8.441E+01	0.000E+00	NOT IDENT.
EU-152	-9.774E-03	7.675E-02	1.311E-01	0.000E+00	NOT IDENT.
GD-153	-1.785E-02	6.643E-02	1.073E-01	0.000E+00	NOT IDENT.
EU-154	-5.306E-02	9.584E-02	1.553E-01	0.000E+00	NOT IDENT.
EU-155	8.640E-02	8.363E-02	1.585E-01	0.000E+00	FAIL ABUN
TB-160	-7.485E-04	1.030E-01	1.769E-01	0.000E+00	FAIL ABUN
HO-166M	-2.257E-02	4.340E-02	7.259E-02	0.000E+00	NOT IDENT.
TM-171	-5.893E+00	2.887E+01	4.818E+01	0.000E+00	NOT IDENT.
LU-176	-1.102E-03	1.785E-02	3.201E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.246E+00	1.481E+00	0.000E+00	FAIL ABUN
LU-177M	-6.067E-02	1.352E-01	2.294E-01	0.000E+00	NOT IDENT.
HF-181	1.898E-04	3.058E-02	5.284E-02	0.000E+00	NOT IDENT.
W-181	-2.409E-01	3.847E-01	6.260E-01	0.000E+00	NOT IDENT.
TA-182	-9.459E-02	1.560E-01	2.557E-01	0.000E+00	FAIL ABUN
RE-183	3.425E-02	8.112E-02	1.461E-01	0.000E+00	FAIL ABUN
RE-184	-7.392E-02	1.687E-01	3.013E-01	0.000E+00	NOT IDENT.
OS-185	2.806E-04	3.138E-02	5.470E-02	0.000E+00	NOT IDENT.
RE-188	8.370E-02	1.240E-01	2.266E-01	0.000E+00	NOT IDENT.
W-188	2.860E+00	5.883E+00	9.732E+00	0.000E+00	FAIL ABUN
IR-192	2.693E-02	2.570E-02	4.881E-02	0.000E+00	FAIL ABUN
AU-195	3.003E-02	1.722E-01	3.176E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.606E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-3.826E-02	4.077E+00	7.177E+00	0.000E+00	NOT IDENT.
TL-202	-5.963E-03	5.062E-02	8.742E-02	0.000E+00	NOT IDENT.
HG-203	-8.164E-03	2.976E-02	5.320E-02	0.000E+00	NOT IDENT.
BI-207	9.127E-03	4.246E-02	7.317E-02	0.000E+00	FAIL ABUN
TL-207	6.797E-01	5.780E-01	9.787E-01	0.000E+00	FAIL ABUN
PO-209	-1.462E+00	5.369E+00	8.929E+00	0.000E+00	NOT IDENT.
BI-210	-3.191E-01	6.594E+00	1.233E+01	0.000E+00	NOT IDENT.
PB-210	-3.191E-01	6.594E+00	1.233E+01	0.000E+00	NOT IDENT.
PO-210	-3.191E-01	6.594E+00	1.233E+01	0.000E+00	NOT IDENT.
PB-211	-3.500E-02	7.177E-01	1.255E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.457E-01	5.441E-01	0.000E+00	FAIL ABUN
PO-215	6.797E-01	5.780E-01	9.787E-01	0.000E+00	FAIL ABUN
RN-219	6.400E-02	3.157E-01	5.621E-01	0.000E+00	NOT IDENT.
RN-220	1.655E+01	1.960E+01	3.584E+01	0.000E+00	NOT IDENT.
RA-223	6.797E-01	5.780E-01	9.787E-01	0.000E+00	FAIL ABUN
AC-227	-1.851E-01	2.771E-01	4.862E-01	0.000E+00	FAIL ABUN
TH-227	-1.851E-01	2.776E-01	4.862E-01	0.000E+00	FAIL ABUN
TH-229	-8.872E-02	3.888E-01	6.684E-01	0.000E+00	FAIL ABUN
PA-231	6.993E-03	1.146E+00	2.077E+00	0.000E+00	FAIL ABUN
TH-231	6.797E-01	5.780E-01	9.787E-01	0.000E+00	FAIL ABUN
U-231	-2.276E-01	7.493E-01	1.210E+00	0.000E+00	FAIL ABUN
PA-233	-1.772E-02	4.785E-02	8.405E-02	0.000E+00	FAIL ABUN
PA-234	7.654E-03	2.341E-01	4.008E-01	0.000E+00	FAIL ABUN
PA-234M	3.989E+00	3.954E+00	7.241E+00	0.000E+00	NOT IDENT.
U-235	5.435E-02	1.612E-01	2.906E-01	0.000E+00	FAIL ABUN
NP-236	-1.955E-02	5.836E-02	1.014E-01	0.000E+00	NOT IDENT.
NP-239	2.531E-04	1.418E-01	2.565E-01	0.000E+00	FAIL ABUN
AM-241	3.032E-02	1.883E-01	3.234E-01	0.000E+00	NOT IDENT.
CM-243	1.301E-02	7.605E-02	1.398E-01	0.000E+00	FAIL ABUN
AM-246	4.287E-02	1.248E-01	2.169E-01	0.000E+00	NOT IDENT.
CM-247	-2.187E-04	2.803E-02	4.921E-02	0.000E+00	NOT IDENT.
CF-249	2.232E-02	3.134E-02	5.772E-02	0.000E+00	NOT IDENT.
CF-251	-7.526E-02	9.559E-02	1.605E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 12:55:57.35

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*****************************************************************************
*                              GEL Laboratories LLC                         *
*                                2040 Savage Road                           *
*                              Charleston, SC 29414                         *
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Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385010.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 10:54:36
Sample ID         : G243385010           Sample quantity  : 1.54320E+02 GRAM
Detector name     : GAM04                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.17  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 936285                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	913	10.67*	1.075E+00	1.938E+01	1.938E+01	9.95
CD-109	88.03	184	3.72*	5.014E+00	2.400E+00	2.451E+00	34.70
SN-126	64.28	66	9.60	2.066E+00	8.097E-01	8.097E-01	79.64
	86.94	184	8.90	5.014E+00	1.003E+00	1.003E+00	53.29
	87.57	184	37.00*	5.014E+00	2.413E-01	2.413E-01	34.70
BA-137M	661.65	179	89.98*	2.208E+00	2.188E-01	2.190E-01	25.85
CS-137	661.65	179	85.12*	2.208E+00	2.313E-01	2.315E-01	25.85
TL-208	277.35	------	6.80	4.326E+00	------ Line Not Found		------
	510.84	117	21.60	2.730E+00	4.824E-01	4.824E-01	42.99
	583.14	340	84.20*	2.455E+00	3.997E-01	3.997E-01	16.40
	860.37	35	12.46	1.744E+00	3.909E-01	3.909E-01	73.99
BI-211	72.87	------	1.27	3.384E+00	------ Line Not Found		------
	351.07	491	12.94*	3.626E+00	2.546E+00	2.546E+00	18.33
PB-212	74.81	279	10.70	3.640E+00	1.740E+00	1.740E+00	28.80
	77.11	423	18.00	3.926E+00	1.456E+00	1.456E+00	19.79
	87.30	184	8.00	5.014E+00	1.116E+00	1.116E+00	36.11
	238.63	979	44.60*	4.828E+00	1.106E+00	1.106E+00	13.65
	300.09	55	3.41	4.083E+00	9.679E-01	9.679E-01	91.62
PO-212	74.81	279	10.70	3.640E+00	1.740E+00	1.740E+00	28.80
	77.11	423	18.00	3.926E+00	1.456E+00	1.456E+00	19.79
	87.30	184	8.00	5.014E+00	1.116E+00	1.116E+00	36.11
	115.19	------	0.60	6.408E+00	------ Line Not Found		------
	238.63	979	44.60*	4.828E+00	1.106E+00	1.106E+00	13.65
	300.09	55	3.41	4.083E+00	9.679E-01	9.679E-01	91.62
BI-214	609.31	377	46.30*	2.367E+00	8.365E-01	8.365E-01	17.30
	1120.29	55	15.10	1.358E+00	6.575E-01	6.575E-01	52.57
	1764.49	72	15.80	9.529E-01	1.158E+00	1.158E+00	28.65
PB-214	74.81	279	6.21	3.640E+00	2.997E+00	2.997E+00	28.23
	77.11	423	10.50	3.926E+00	2.496E+00	2.496E+00	21.20
	87.30	184	4.67	5.014E+00	1.912E+00	1.912E+00	35.54
	241.98	155	7.49	4.778E+00	1.055E+00	1.055E+00	39.55
	295.21	298	19.20	4.133E+00	9.136E-01	9.136E-01	21.13

Sample ID : G243385010 Acquisition date : 31-DEC-2009 10:54:36

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	351.92	491	37.20*	3.626E+00	8.855E-01	8.855E-01	19.06
PO-214	74.81	279	6.21	3.640E+00	2.997E+00	2.997E+00	28.23
	77.11	423	10.50	3.926E+00	2.496E+00	2.496E+00	21.20
	87.30	184	4.67	5.014E+00	1.912E+00	1.912E+00	35.54
	241.98	155	7.49	4.778E+00	1.055E+00	1.055E+00	39.55
	295.21	298	19.20	4.133E+00	9.136E-01	9.136E-01	21.13
	351.92	491	37.20*	3.626E+00	8.855E-01	8.855E-01	19.06
PO-216	74.81	279	10.70	3.640E+00	1.740E+00	1.740E+00	28.80
	77.11	423	18.00	3.926E+00	1.456E+00	1.456E+00	19.79
	87.30	184	8.00	5.014E+00	1.116E+00	1.116E+00	36.11
	238.63	979	44.60*	4.828E+00	1.106E+00	1.106E+00	13.65
	300.09	55	3.41	4.083E+00	9.679E-01	9.679E-01	91.62
PO-218	74.81	279	6.21	3.640E+00	2.997E+00	2.997E+00	28.23
	77.11	423	10.50	3.926E+00	2.496E+00	2.496E+00	21.20
	87.30	184	4.67	5.014E+00	1.912E+00	1.912E+00	35.54
	241.98	155	7.49	4.778E+00	1.055E+00	1.055E+00	39.55
	295.21	298	19.20	4.133E+00	9.136E-01	9.136E-01	21.13
	351.92	491	37.20*	3.626E+00	8.855E-01	8.855E-01	19.06
RA-224	240.98	155	3.95*	4.778E+00	2.000E+00	2.000E+00	39.15
RA-226	609.31	377	46.30*	2.367E+00	8.365E-01	8.365E-01	17.30
	1120.29	55	15.10	1.358E+00	6.575E-01	6.575E-01	52.57
	1764.49	72	15.80	9.529E-01	1.158E+00	1.158E+00	28.65
AC-228	338.32	218	11.40	3.736E+00	1.246E+00	1.246E+00	50.00
	911.07	234	27.70*	1.652E+00	1.244E+00	1.244E+00	22.08
	969.11	131	16.60	1.558E+00	1.235E+00	1.235E+00	38.65
RA-228	338.32	218	11.40	3.736E+00	1.246E+00	1.246E+00	50.00
	911.07	234	27.70*	1.652E+00	1.244E+00	1.244E+00	22.08
	969.11	131	16.60	1.558E+00	1.235E+00	1.235E+00	38.65
TH-228	74.81	279	10.70	3.640E+00	1.740E+00	1.764E+00	27.27
	77.11	423	18.00	3.926E+00	1.456E+00	1.476E+00	19.79
	87.30	184	8.00	5.014E+00	1.116E+00	1.132E+00	34.70
	238.63	979	44.60*	4.828E+00	1.106E+00	1.122E+00	13.65
	300.09	55	3.41	4.083E+00	9.679E-01	9.814E-01	108.63
TH-230	609.31	377	46.30*	2.367E+00	8.365E-01	8.365E-01	17.30
	1120.29	55	15.10	1.358E+00	6.575E-01	6.575E-01	52.57
	1764.49	72	15.80	9.529E-01	1.158E+00	1.158E+00	28.65
TH-232	338.32	218	11.40	3.736E+00	1.246E+00	1.246E+00	29.53
	911.07	234	27.70*	1.652E+00	1.244E+00	1.244E+00	22.08
	969.11	131	16.60	1.558E+00	1.235E+00	1.235E+00	38.65
TH-234	63.29	66	3.80*	2.066E+00	2.046E+00	2.046E+00	80.23
	92.38	243	5.41	5.466E+00	2.001E+00	2.001E+00	37.00
U-234	609.31	377	46.30*	2.367E+00	8.365E-01	8.365E-01	17.30
	1120.29	55	15.10	1.358E+00	6.575E-01	6.575E-01	52.57
	1764.49	72	15.80	9.529E-01	1.158E+00	1.158E+00	28.65
NP-237	86.50	184	12.60*	5.014E+00	7.087E-01	7.087E-01	40.37
	95.87	------	2.60	5.678E+00	------	Line Not Found	------
U-238	63.29	66	3.80*	2.066E+00	2.046E+00	2.046E+00	80.23
	92.38	243	5.41	5.466E+00	2.001E+00	2.001E+00	33.41
AM-243	74.67	279	66.00*	3.640E+00	2.820E-01	2.820E-01	27.24

Sample ID : G243385010 Acquisition date : 31-DEC-2009 10:54:36

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	184	0.34	5.014E+00	2.658E+01	2.658E+01	34.70
	117.66	------	0.55	6.445E+00	------	Line Not Found	------
	142.18	------	0.13	6.417E+00	------	Line Not Found	------
ANH-511	511.00	117	100.00*	2.730E+00	1.042E-01	1.042E-01	42.17

Flag: "*" = Keyline

Sample ID : G243385010 Acquisition date : 31-DEC-2009 10:54:36

Total number of lines in spectrum 32
Number of unidentified lines 1
Number of lines tentatively identified by NID 31 96.88%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.938E+01	1.938E+01	0.193E+01	9.95	
CD-109	464.00D	1.02	2.400E+00	2.451E+00	0.851E+00	34.70	
SN-126	1.00E+05Y	1.00	2.413E-01	2.413E-01	0.837E-01	34.70	
BA-137M	30.17Y	1.00	2.188E-01	2.190E-01	0.566E-01	25.85	
CS-137	30.17Y	1.00	2.313E-01	2.315E-01	0.599E-01	25.85	
TL-208	1.41E+10Y	1.00	3.997E-01	3.997E-01	0.655E-01	16.40	
BI-211	7.04E+08Y	1.00	2.546E+00	2.546E+00	0.467E+00	18.33	
PB-212	1.41E+10Y	1.00	1.106E+00	1.106E+00	0.151E+00	13.65	
PO-212	1.41E+10Y	1.00	1.106E+00	1.106E+00	0.151E+00	13.65	
BI-214	1600.00Y	1.00	8.365E-01	8.365E-01	1.447E-01	17.30	
PB-214	1600.00Y	1.00	8.855E-01	8.855E-01	1.688E-01	19.06	
PO-214	1600.00Y	1.00	8.855E-01	8.855E-01	1.688E-01	19.06	
PO-216	1.41E+10Y	1.00	1.106E+00	1.106E+00	0.151E+00	13.65	
PO-218	1600.00Y	1.00	8.855E-01	8.855E-01	1.688E-01	19.06	
RA-224	1.41E+10Y	1.00	2.000E+00	2.000E+00	0.783E+00	39.15	
RA-226	1600.00Y	1.00	8.365E-01	8.365E-01	1.447E-01	17.30	
AC-228	1.41E+10Y	1.00	1.244E+00	1.244E+00	0.275E+00	22.08	
RA-228	1.41E+10Y	1.00	1.244E+00	1.244E+00	0.275E+00	22.08	
TH-228	1.91Y	1.01	1.106E+00	1.122E+00	0.153E+00	13.65	
TH-230	4.47E+09Y	1.00	8.365E-01	8.365E-01	1.447E-01	17.30	
TH-232	1.41E+10Y	1.00	1.244E+00	1.244E+00	0.275E+00	22.08	
TH-234	4.47E+09Y	1.00	2.046E+00	2.046E+00	1.641E+00	80.23	
U-234	4.47E+09Y	1.00	8.365E-01	8.365E-01	1.447E-01	17.30	
NP-237	2.14E+06Y	1.00	7.087E-01	7.087E-01	2.861E-01	40.37	
U-238	4.47E+09Y	1.00	2.046E+00	2.046E+00	1.641E+00	80.23	
AM-243	7380.00Y	1.00	2.820E-01	2.820E-01	0.768E-01	27.24	
ANH-511	1.00E+09Y	1.00	1.042E-01	1.042E-01	0.439E-01	42.17	
	Total Activity :		4.676E+01	4.683E+01			

Grand Total Activity : 4.676E+01 4.683E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G243385010
Acquisition date : 31-DEC-2009 10:54:36

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	89.89	118	195	0.93	179.82	178	14	1.65E-02	37.9	5.25E+00	T
0	129.02	62	238	0.79	258.10	255	7	8.61E-03	86.3	6.50E+00	T
0	185.95	192	353	1.05	371.95	367	11	2.67E-02	41.6	5.70E+00	T
0	209.52	127	303	1.49	419.11	415	11	1.76E-02	56.1	5.28E+00	T
0	329.05	13	191	0.60	658.19	651	9	1.74E-03	****	3.81E+00	T
0	463.52	50	103	1.33	927.13	923	11	6.93E-03	84.8	2.95E+00	T
0	727.49	77	58	1.12	1455.07	1451	11	1.06E-02	44.8	2.03E+00	T
0	794.65	66	38	1.97	1589.38	1583	13	9.22E-03	45.8	1.88E+00	T
0	934.66	40	36	1.65	1869.38	1864	11	5.54E-03	67.7	1.61E+00	T
0	1238.84	38	63	1.55	2477.65	2472	13	5.34E-03	91.9	1.24E+00	T
0	1730.37	12	9	1.27	3460.48	3456	8	1.63E-03	****	9.62E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 12:56:01.98

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*******************************************************************************
*                              GEL Laboratories LLC                           *
*                                2040 Savage Road                             *
*                              Charleston, SC 29414                           *
*******************************************************************************
*                                                                             *
*                                DETECTOR DATA                                *
*                                                                             *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385010.CNF;1   *
* Acquisition date  : 31-DEC-2009 10:54:36  Detector SN#     :                *
* Detector ID       : GAM04                 Sensitivity      : 5.00000       *
* Geometry          : CAN                   Energy tolerance: 1.50000        *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000       *
* Elapsed real time: 0 02:00:01.17          Half life ratio : 8.00000        *
*******************************************************************************
*                                                                             *
*                                 SAMPLE DATA                                 *
*                                                                             *
* Sample date       : 17-DEC-2009 12:00:00  Nuclide Library : SOLID           *
* Sample ID         : G243385010            Analyst initials: MJH1            *
* Batch Number      : 936285                Sample Quantity : 1.54320E+02 GRAM *
*******************************************************************************
*                                                                             *
*                                   QC DATA                                   *
*                                                                             *
* CALIB. DATE/TIME : 5-MAY-2009 14:25:41.36MS Isotope      :                  *
* MSD ID           :                       MSD Isotope     :                  *
* LCS ID           : 1032-A                LCS Isotope     :                  *
*******************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.938E+01	1.928E+00	4.015E-01	2.854E-02	48.265
CD-109	2.451E+00	8.505E-01	1.021E+00	1.227E-01	2.400
SN-126	2.413E-01	8.374E-02	1.097E-01	1.315E-02	2.200
BA-137M	2.190E-01	5.661E-02	4.946E-02	2.412E-03	4.428
CS-137	2.315E-01	5.986E-02	5.228E-02	2.565E-03	4.428
TL-208	3.997E-01	6.553E-02	4.046E-02	2.546E-03	9.877
BI-211	2.546E+00	4.667E-01	2.625E-01	1.773E-02	9.698
PB-212	1.106E+00	1.510E-01	8.611E-02	6.915E-03	12.847
PO-212	1.106E+00	1.510E-01	8.611E-02	6.915E-03	12.847
BI-214	8.365E-01	1.447E-01	9.279E-02	6.819E-03	9.015
PB-214	8.855E-01	1.688E-01	9.150E-02	7.805E-03	9.678
PO-214	8.855E-01	1.688E-01	9.150E-02	7.805E-03	9.678
PO-216	1.106E+00	1.510E-01	8.611E-02	6.915E-03	12.847
PO-218	8.855E-01	1.688E-01	9.150E-02	7.805E-03	9.678
RA-224	2.000E+00	7.832E-01	1.279E+00	8.528E-02	1.564
RA-226	8.365E-01	1.447E-01	9.279E-02	6.819E-03	9.015
AC-228	1.244E+00	2.747E-01	1.331E-01	1.451E-02	9.345
RA-228	1.244E+00	2.747E-01	1.331E-01	1.451E-02	9.345

Sample ID : G243385010 Acquisition date : 31-DEC-2009 10:54:36

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.122E+00	1.531E-01	8.731E-02	7.012E-03	12.847
TH-230	8.365E-01	1.447E-01	9.279E-02	6.819E-03	9.015
TH-232	1.244E+00	2.747E-01	1.331E-01	1.451E-02	9.345
TH-234	2.046E+00	1.641E+00	2.207E+00	4.366E-01	0.927
U-234	8.365E-01	1.447E-01	9.279E-02	6.819E-03	9.015
NP-237	7.087E-01	2.861E-01	3.379E-01	8.050E-02	2.097
U-238	2.046E+00	1.641E+00	2.207E+00	4.366E-01	0.927
AM-243	2.820E-01	7.684E-02	7.865E-02	9.007E-03	3.586
ANH-511	1.042E-01	4.395E-02	3.682E-02	2.059E-03	2.830

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.588E-01		2.441E-01	4.184E-01	2.771E-02	0.379
NA-22	-2.227E-02		3.544E-02	5.512E-02	3.604E-03	-0.404
NA-24	2.552E-02		7.934E-02	Half-Life too short		
AL-26	2.715E-03		2.572E-02	4.268E-02	2.531E-03	0.064
TI-44	2.687E-01	+	5.317E-02	6.193E-02	7.122E-03	4.338
SC-46	5.091E-04		2.987E-02	4.928E-02	3.985E-03	0.010
V-48	1.136E-02		5.088E-02	8.525E-02	6.605E-03	0.133
CR-51	-3.505E-01		2.761E-01	4.230E-01	2.979E-02	-0.829
MN-52	4.860E-02		1.602E-01	2.774E-01	1.893E-02	0.175
MN-54	1.465E-02		2.994E-02	5.167E-02	3.740E-03	0.283
CO-56	-4.458E-02		2.991E-02	4.089E-02	3.034E-03	-1.090
CO-57	8.917E-03		1.964E-02	3.293E-02	2.286E-03	0.271
CO-58	-7.826E-03		2.761E-02	4.438E-02	3.064E-03	-0.176
FE-59	-2.624E-02		7.156E-02	1.108E-01	8.466E-03	-0.237
CO-60	-1.288E-02		3.009E-02	4.722E-02	3.236E-03	-0.273
ZN-65	6.941E-03		8.041E-02	1.137E-01	7.519E-03	0.061
GE-68	2.539E-01		1.133E+00	1.878E+00	1.312E-01	0.135
AS-73	2.495E-02		1.165E+00	1.982E+00	2.593E-01	0.013
AS-74	2.611E-02		6.726E-02	1.118E-01	5.902E-03	0.234
SE-75	-8.970E-03		3.221E-02	5.367E-02	3.610E-03	-0.167
BR-77	-3.392E+00		6.141E+00	9.482E+00	5.280E-01	-0.358
SR-82	-1.027E-01		2.880E-01	4.631E-01	2.955E-02	-0.222
RB-83	-3.666E-02		5.788E-02	8.882E-02	4.947E-03	-0.413
RB-84	2.141E-02		5.266E-02	9.042E-02	7.200E-03	0.237
KR-85	4.574E+00		6.589E+00	1.000E+01	5.586E-01	0.457
SR-85	2.317E-02		3.337E-02	5.066E-02	2.829E-03	0.457
RB-86	2.060E-01		6.812E-01	1.138E+00	7.956E-02	0.181
Y-88	6.827E-03		2.081E-02	3.682E-02	2.148E-03	0.185
ZR-88	-8.678E-03		2.352E-02	3.783E-02	2.129E-03	-0.229
Y-91	1.576E+01		1.505E+01	2.675E+01	1.640E+00	0.589
NB-94	4.223E-03		2.554E-02	4.339E-02	2.337E-03	0.097
NB-95	-2.131E-02		3.468E-02	5.481E-02	3.416E-03	-0.389
NB-95M	1.059E-01		1.031E-01	1.559E-01	1.279E-02	0.679
ZR-95	-5.604E-03		5.421E-02	8.953E-02	6.519E-03	-0.063

Sample ID : G243385010 Acquisition date : 31-DEC-2009 10:54:36

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	3.373E-03		1.386E-02	Half-Life too short		
ZR-97	1.874E-01		2.502E-01	Half-Life too short		
MO-99	-2.573E+00		6.503E+00	1.043E+01	1.441E+00	-0.247
TC-99M	-8.935E+08		6.281E+08	Half-Life too short		
RH-101	7.501E-03		2.785E-02	4.518E-02	2.942E-03	0.166
RH-102	6.009E-03		2.334E-02	3.883E-02	2.196E-03	0.155
RU-103	-1.382E-02		2.888E-02	4.477E-02	5.625E-03	-0.309
RH-106	8.457E-04		2.538E-01	4.060E-01	4.638E-02	0.002
RU-106	8.457E-04		2.538E-01	4.060E-01	2.086E-02	0.002
AG-108M	2.245E-03		2.542E-02	4.199E-02	2.595E-03	0.053
AG-110M	2.700E-03		3.104E-02	4.601E-02	2.458E-03	0.059
IN-111	5.464E-02		6.785E-01	9.591E-01	6.400E-02	0.057
IN-113M	-2.318E-02		3.483E-02	5.481E-02	3.303E-03	-0.423
SN-113	-2.318E-02		3.483E-02	5.481E-02	3.303E-03	-0.423
IN-114M	8.459E-02		1.482E-01	2.205E-01	1.427E-02	0.384
CD-115	-3.086E+00		5.721E+00	8.790E+00	4.877E-01	-0.351
SN-117M	1.258E-02		3.704E-02	6.113E-02	3.910E-03	0.206
SB-122	1.264E+00		1.216E+00	2.128E+00	1.155E-01	0.594
I-123	-4.207E-02		4.845E-01	Half-Life too short		
TE-123M	-9.002E-04		2.074E-02	3.355E-02	2.169E-03	-0.027
I-124	1.417E-01		4.555E-01	7.252E-01	3.803E-02	0.195
SB-124	5.315E-02		5.269E-02	1.042E-01	7.081E-03	0.510
SB-125	1.583E-02		6.946E-02	1.161E-01	6.872E-03	0.136
TE-125M	1.246E+00		6.931E+00	1.154E+01	1.145E+00	0.108
I-126	1.120E-01		1.389E-01	2.234E-01	1.102E-02	0.501
SB-126	2.334E-02		1.069E-01	1.777E-01	9.985E-03	0.131
SB-127	-1.434E-01		8.251E-01	1.364E+00	1.178E-01	-0.105
XE-127	-2.437E-02		3.870E-02	5.989E-02	3.915E-03	-0.407
I-131	2.873E-02		8.253E-02	1.401E-01	9.310E-03	0.205
TE-132	3.284E-01		4.249E-01	7.007E-01	1.016E-01	0.469
BA-133	-4.965E-03		4.047E-02	5.854E-02	6.858E-03	-0.085
I-133	-7.575E-04		8.618E-04	Half-Life too short		
CS-134	1.134E-01	+	5.245E-02	7.017E-02	4.729E-03	1.616
CS-135	-7.689E-02		1.286E-01	2.075E-01	1.730E-02	-0.371
I-135	9.639E+07		1.095E+08	Half-Life too short		
CS-136	2.112E-02		7.996E-02	1.338E-01	1.028E-02	0.158
CE-139	-1.955E-02		2.320E-02	3.589E-02	2.281E-03	-0.545
BA-140	5.917E-02		1.893E-01	3.090E-01	1.003E-01	0.191
LA-140	3.339E-02		6.143E-02	1.101E-01	7.249E-03	0.303
CE-141	-1.125E-02		4.800E-02	7.736E-02	5.193E-03	-0.145
CE-143	2.053E-04		4.108E-05	Half-Life too short		
CE-144	3.014E-02		1.633E-01	2.571E-01	3.748E-02	0.117
PM-144	1.109E-02		2.710E-02	4.692E-02	2.493E-03	0.236
PR-144	7.513E-01		1.835E+00	3.177E+00	1.687E-01	0.236
PM-146	9.637E-03		3.438E-02	5.744E-02	4.902E-03	0.168
ND-147	-3.443E-02		3.834E-01	6.151E-01	8.250E-02	-0.056
PM-149	-5.360E+00		4.789E+01	8.017E+01	1.165E+01	-0.067
EU-152	-9.774E-03		7.832E-02	1.251E-01	8.657E-03	-0.078

Sample ID : G243385010 Acquisition date : 31-DEC-2009 10:54:36

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-1.785E-02		6.779E-02	9.927E-02	9.744E-03	-0.180
EU-154	-5.306E-02		9.780E-02	1.535E-01	1.505E-02	-0.346
EU-155	8.640E-02		8.533E-02	1.468E-01	1.280E-02	0.588
TB-160	-7.485E-04		1.051E-01	1.730E-01	1.372E-02	-0.004
HO-166M	-2.257E-02		4.428E-02	7.060E-02	3.886E-03	-0.320
TM-171	-5.893E+00		2.946E+01	4.415E+01	5.162E+00	-0.133
LU-176	-1.102E-03		1.822E-02	3.045E-02	1.988E-03	-0.036
LU-177	2.249E+00	+	1.271E+00	1.395E+00	9.157E-02	1.612
LU-177M	-6.067E-02		1.380E-01	2.200E-01	1.244E-02	-0.276
HF-181	1.898E-04		3.121E-02	5.087E-02	2.872E-03	0.004
W-181	-2.409E-01		3.925E-01	5.733E-01	6.758E-02	-0.420
TA-182	-9.459E-02		1.591E-01	2.523E-01	1.570E-02	-0.375
RE-183	3.425E-02		8.278E-02	1.368E-01	8.717E-03	0.250
RE-184	-7.392E-02		1.721E-01	2.853E-01	1.905E-02	-0.259
OS-185	2.806E-04		3.202E-02	5.307E-02	2.645E-03	0.005
RE-188	8.370E-02		1.266E-01	2.120E-01	1.361E-02	0.395
W-188	2.860E+00		6.003E+00	9.247E+00	6.111E-01	0.309
IR-192	2.693E-02		2.623E-02	4.647E-02	3.017E-03	0.580
AU-195	3.003E-02		1.758E-01	2.938E-01	2.810E-02	0.102
TL-200	-4.087E-05		8.195E-05	Half-Life too short		
TL-201	-3.826E-02		4.160E+00	6.725E+00	4.275E-01	-0.006
TL-202	-5.963E-03		5.165E-02	8.396E-02	4.762E-03	-0.071
HG-203	-8.164E-03		3.037E-02	5.049E-02	3.516E-03	-0.162
BI-207	9.127E-03		4.333E-02	7.194E-02	5.116E-03	0.127
TL-207	6.797E-01		5.898E-01	9.325E-01	1.561E-01	0.729
PO-209	-1.462E+00		5.478E+00	8.739E+00	7.172E-01	-0.167
BI-210	-3.191E-01		6.729E+00	1.120E+01	9.765E-01	-0.028
PB-210	-3.191E-01		6.729E+00	1.120E+01	9.765E-01	-0.028
PO-210	-3.191E-01		6.729E+00	1.120E+01	8.704E-01	-0.028
PB-211	-3.500E-02		7.323E-01	1.203E+00	7.498E-01	-0.029
BI-212	7.767E-01	+	3.527E-01	5.295E-01	4.047E-02	1.467
PO-215	6.797E-01		5.898E-01	9.325E-01	1.561E-01	0.729
RN-219	6.400E-02		3.221E-01	5.385E-01	7.291E-02	0.119
RN-220	1.655E+01		2.000E+01	3.462E+01	1.897E+00	0.478
RA-223	6.797E-01		5.898E-01	9.325E-01	1.561E-01	0.729
AC-227	-1.851E-01		2.828E-01	4.605E-01	6.607E-02	-0.402
TH-227	-1.851E-01		2.833E-01	4.605E-01	7.930E-02	-0.402
TH-229	-8.872E-02		3.967E-01	6.286E-01	4.080E-02	-0.141
PA-231	6.993E-03		1.170E+00	1.972E+00	2.791E-01	0.004
TH-231	6.797E-01		5.898E-01	9.325E-01	1.561E-01	0.729
U-231	-2.276E-01		7.646E-01	1.119E+00	1.131E-01	-0.203
PA-233	-1.772E-02		4.882E-02	8.001E-02	5.456E-03	-0.222
PA-234	7.654E-03		2.389E-01	3.928E-01	7.259E-02	0.019
PA-234M	3.989E+00		4.035E+00	7.108E+00	6.480E-01	0.561
U-235	5.435E-02		1.645E-01	2.713E-01	4.496E-02	0.200
NP-236	-1.955E-02		5.955E-02	9.488E-02	6.058E-03	-0.206
NP-239	2.531E-04		1.447E-01	2.383E-01	1.753E-02	0.001
AM-241	3.032E-02		1.922E-01	2.956E-01	3.731E-02	0.103

Sample ID : G243385010 Acquisition date : 31-DEC-2009 10:54:36

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.301E-02		7.760E-02	1.294E-01	1.141E-02	0.101
AM-246	4.287E-02		1.273E-01	2.134E-01	1.487E-02	0.201
CM-247	-2.187E-04		2.860E-02	4.715E-02	2.661E-03	-0.005
CF-249	2.232E-02		3.198E-02	5.525E-02	3.140E-03	0.404
CF-251	-7.526E-02		9.754E-02	1.506E-01	9.642E-03	-0.500

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243385010           *
* Acquisition date  : 31-DEC-2009 10:54:36 Detector SN#     :               *
* Detector ID       : GAM04                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.17      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G243385010           Analyst initials: MJH1           *
* Batch Number      : 936285               Sample Quantity : 1.5432E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME :  5-MAY-2009 14:25:41 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.938E+01	1.890E+00	2.025E-01	9.642E-01
CD-109	2.451E+00	8.335E-01	5.539E-01	4.253E-01
SN-126	2.413E-01	8.207E-02	5.950E-02	4.187E-02
BA-137M	2.190E-01	5.548E-02	2.549E-02	2.831E-02
CS-137	2.315E-01	5.866E-02	2.695E-02	2.993E-02
TL-208	3.997E-01	6.422E-02	2.092E-02	3.277E-02
BI-211	2.546E+00	4.573E-01	1.375E-01	2.333E-01
PB-212	1.106E+00	1.480E-01	4.557E-02	7.549E-02
PO-212	1.106E+00	1.480E-01	4.557E-02	7.549E-02
BI-214	8.365E-01	1.418E-01	4.793E-02	7.235E-02
PB-214	8.855E-01	1.654E-01	4.794E-02	8.439E-02
PO-214	8.855E-01	1.654E-01	4.794E-02	8.439E-02
PO-216	1.106E+00	1.480E-01	4.557E-02	7.549E-02
PO-218	8.855E-01	1.654E-01	4.794E-02	8.439E-02
RA-224	2.000E+00	7.675E-01	6.768E-01	3.916E-01
RA-226	8.365E-01	1.418E-01	4.793E-02	7.235E-02
AC-228	1.244E+00	2.692E-01	6.803E-02	1.373E-01
RA-228	1.244E+00	2.692E-01	6.803E-02	1.373E-01
TH-228	1.122E+00	1.500E-01	4.620E-02	7.655E-02
TH-230	8.365E-01	1.418E-01	4.793E-02	7.235E-02
TH-232	1.244E+00	2.692E-01	6.803E-02	1.373E-01
TH-234	2.046E+00	1.608E+00	1.206E+00	8.205E-01
U-234	8.365E-01	1.418E-01	4.793E-02	7.235E-02
NP-237	7.087E-01	2.804E-01	1.833E-01	1.431E-01
U-238	2.046E+00	1.608E+00	1.206E+00	8.205E-01
AM-243	2.820E-01	7.530E-02	4.282E-02	3.842E-02
ANH-511	1.042E-01	4.307E-02	1.911E-02	2.197E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU

BE-7	1.588E-01	2.392E-01	2.175E-01	1.220E-01	NOT IDENT.
NA-22	-2.227E-02	3.473E-02	2.791E-02	1.772E-02	NOT IDENT.
NA-24	2.552E+04	1.555E+05	0.000E+00	7.934E+04	SHORT HLIF
AL-26	2.715E-03	2.520E-02	2.140E-02	1.286E-02	NOT IDENT.
TI-44	2.687E-01	5.210E-02	3.368E-02	2.658E-02	FAIL ABUN
SC-46	5.091E-04	2.927E-02	2.520E-02	1.494E-02	FAIL ABUN
V-48	1.136E-02	4.987E-02	4.347E-02	2.544E-02	NOT IDENT.
CR-51	-3.505E-01	2.706E-01	2.222E-01	1.381E-01	NOT IDENT.
MN-52	4.860E-02	1.570E-01	1.400E-01	8.008E-02	FAIL ABUN
MN-54	1.465E-02	2.934E-02	2.647E-02	1.497E-02	NOT IDENT.
CO-56	-4.458E-02	2.931E-02	2.094E-02	1.495E-02	FAIL ABUN
CO-57	8.917E-03	1.925E-02	1.772E-02	9.819E-03	NOT IDENT.
CO-58	-7.826E-03	2.706E-02	2.275E-02	1.381E-02	NOT IDENT.
FE-59	-2.624E-02	7.013E-02	5.632E-02	3.578E-02	NOT IDENT.
CO-60	-1.288E-02	2.949E-02	2.388E-02	1.505E-02	NOT IDENT.
ZN-65	6.941E-03	7.880E-02	5.776E-02	4.020E-02	NOT IDENT.
GE-68	2.539E-01	1.111E+00	9.554E-01	5.666E-01	NOT IDENT.
AS-73	2.495E-02	1.141E+00	1.088E+00	5.824E-01	NOT IDENT.
AS-74	2.611E-02	6.591E-02	5.778E-02	3.363E-02	NOT IDENT.
SE-75	-8.970E-03	3.157E-02	2.833E-02	1.611E-02	NOT IDENT.
BR-77	-3.392E+00	6.018E+00	4.918E+00	3.070E+00	FAIL ABUN
SR-82	-1.027E-01	2.822E-01	2.376E-01	1.440E-01	NOT IDENT.
RB-83	-3.666E-02	5.672E-02	4.607E-02	2.894E-02	NOT IDENT.
RB-84	2.141E-02	5.161E-02	4.624E-02	2.633E-02	NOT IDENT.
KR-85	4.574E+00	6.457E+00	5.189E+00	3.295E+00	NOT IDENT.
SR-85	2.317E-02	3.271E-02	2.628E-02	1.669E-02	NOT IDENT.
RB-86	2.060E-01	6.675E-01	5.788E-01	3.406E-01	NOT IDENT.
Y-88	6.827E-03	2.040E-02	1.845E-02	1.041E-02	NOT IDENT.
ZR-88	-8.678E-03	2.305E-02	1.976E-02	1.176E-02	NOT IDENT.
Y-91	1.576E+01	1.474E+01	1.357E+01	7.523E+00	NOT IDENT.
NB-94	4.223E-03	2.503E-02	2.233E-02	1.277E-02	NOT IDENT.
NB-95	-2.131E-02	3.399E-02	2.814E-02	1.734E-02	NOT IDENT.
NB-95M	1.059E-01	1.011E-01	8.253E-02	5.157E-02	NOT IDENT.
ZR-95	-5.604E-03	5.313E-02	4.597E-02	2.711E-02	NOT IDENT.
NB-97	3.373E+03	2.717E+04	0.000E+00	1.386E+04	SHORT HLIF
ZR-97	1.874E+05	4.905E+05	0.000E+00	2.502E+05	SHORT HLIF
MO-99	-2.573E+00	6.373E+00	5.361E+00	3.251E+00	NOT IDENT.
TC-99M	-8.935E+14	1.231E+15	0.000E+00	6.281E+14	SHORT HLIF
RH-101	7.501E-03	2.729E-02	2.402E-02	1.392E-02	NOT IDENT.
RH-102	6.009E-03	2.287E-02	2.019E-02	1.167E-02	NOT IDENT.
RU-103	-1.382E-02	2.830E-02	2.325E-02	1.444E-02	FAIL ABUN
RH-106	8.457E-04	2.487E-01	2.096E-01	1.269E-01	FAIL ABUN
RU-106	8.457E-04	2.487E-01	2.096E-01	1.269E-01	FAIL ABUN
AG-108M	2.245E-03	2.491E-02	2.188E-02	1.271E-02	NOT IDENT.
AG-110M	2.700E-03	3.041E-02	2.371E-02	1.552E-02	NOT IDENT.
IN-111	5.464E-02	6.649E-01	5.072E-01	3.393E-01	NOT IDENT.
IN-113M	-2.318E-02	3.413E-02	2.864E-02	1.741E-02	NOT IDENT.
SN-113	-2.318E-02	3.413E-02	2.864E-02	1.741E-02	NOT IDENT.
IN-114M	8.459E-02	1.453E-01	1.173E-01	7.412E-02	NOT IDENT.
CD-115	-3.086E+00	5.606E+00	4.557E+00	2.860E+00	NOT IDENT.
SN-117M	1.258E-02	3.630E-02	3.268E-02	1.852E-02	NOT IDENT.
SB-122	1.264E+00	1.192E+00	1.102E+00	6.080E-01	NOT IDENT.
I-123	-4.207E+04	9.496E+05	0.000E+00	4.845E+05	SHORT HLIF
TE-123M	-9.002E-04	2.032E-02	1.794E-02	1.037E-02	NOT IDENT.
I-124	1.417E-01	4.464E-01	3.747E-01	2.278E-01	NOT IDENT.
SB-124	5.315E-02	5.163E-02	5.235E-02	2.634E-02	FAIL ABUN
SB-125	1.583E-02	6.808E-02	6.052E-02	3.473E-02	FAIL ABUN
TE-125M	1.246E+00	6.793E+00	6.228E+00	3.466E+00	NOT IDENT.
I-126	1.120E-01	1.361E-01	1.151E-01	6.945E-02	NOT IDENT.
SB-126	2.334E-02	1.047E-01	9.137E-02	5.343E-02	FAIL ABUN
SB-127	-1.434E-01	8.086E-01	7.023E-01	4.125E-01	NOT IDENT.
XE-127	-2.437E-02	3.793E-02	3.182E-02	1.935E-02	NOT IDENT.
I-131	2.873E-02	8.088E-02	7.334E-02	4.126E-02	NOT IDENT.
TE-132	3.284E-01	4.164E-01	3.712E-01	2.124E-01	NOT IDENT.
BA-133	-4.965E-03	3.966E-02	3.066E-02	2.023E-02	NOT IDENT.
I-133	-7.575E+02	1.689E+03	0.000E+00	8.618E+02	SHORT HLIF
CS-134	1.134E-01	5.140E-02	3.599E-02	2.622E-02	FAIL ABUN
CS-135	-7.689E-02	1.261E-01	1.095E-01	6.432E-02	NOT IDENT.
I-135	9.639E+13	2.146E+14	0.000E+00	1.095E+14	SHORT HLIF
CS-136	2.112E-02	7.836E-02	6.812E-02	3.998E-02	FAIL ABUN
CE-139	-1.955E-02	2.274E-02	1.917E-02	1.160E-02	NOT IDENT.
BA-140	5.917E-02	1.855E-01	1.601E-01	9.463E-02	NOT IDENT.
LA-140	3.339E-02	6.020E-02	5.538E-02	3.072E-02	FAIL ABUN
CE-141	-1.125E-02	4.704E-02	4.144E-02	2.400E-02	NOT IDENT.
CE-143	2.053E+02	8.052E+01	0.000E+00	4.108E+01	SHORT HLIF
CE-144	3.014E-02	1.600E-01	1.380E-01	8.165E-02	NOT IDENT.
PM-144	1.109E-02	2.656E-02	2.415E-02	1.355E-02	NOT IDENT.
PR-144	7.513E-01	1.798E+00	1.635E+00	9.176E-01	NOT IDENT.

PM-146	9.637E-03	3.369E-02	2.990E-02	1.719E-02	NOT IDENT.
ND-147	-3.443E-02	3.757E-01	3.188E-01	1.917E-01	FAIL ABUN
PM-149	-5.360E+00	4.693E+01	4.223E+01	2.395E+01	NOT IDENT.
EU-152	-9.774E-03	7.675E-02	6.558E-02	3.916E-02	NOT IDENT.
GD-153	-1.785E-02	6.643E-02	5.371E-02	3.389E-02	NOT IDENT.
EU-154	-5.306E-02	9.584E-02	7.770E-02	4.890E-02	NOT IDENT.
EU-155	8.640E-02	8.363E-02	7.929E-02	4.267E-02	FAIL ABUN
TB-160	-7.485E-04	1.030E-01	8.850E-02	5.254E-02	FAIL ABUN
HO-166M	-2.257E-02	4.340E-02	3.632E-02	2.214E-02	NOT IDENT.
TM-171	-5.893E+00	2.887E+01	2.410E+01	1.473E+01	NOT IDENT.
LU-176	-1.102E-03	1.785E-02	1.601E-02	9.109E-03	FAIL ABUN
LU-177	2.249E+00	1.246E+00	7.409E-01	6.355E-01	FAIL ABUN
LU-177M	-6.067E-02	1.352E-01	1.148E-01	6.900E-02	NOT IDENT.
HF-181	1.898E-04	3.058E-02	2.644E-02	1.560E-02	NOT IDENT.
W-181	-2.409E-01	3.847E-01	3.132E-01	1.963E-01	NOT IDENT.
TA-182	-9.459E-02	1.560E-01	1.279E-01	7.957E-02	FAIL ABUN
RE-183	3.425E-02	8.112E-02	7.309E-02	4.139E-02	FAIL ABUN
RE-184	-7.392E-02	1.687E-01	1.508E-01	8.606E-02	NOT IDENT.
OS-185	2.806E-04	3.138E-02	2.737E-02	1.601E-02	NOT IDENT.
RE-188	8.370E-02	1.240E-01	1.134E-01	6.328E-02	NOT IDENT.
W-188	2.860E+00	5.883E+00	4.869E+00	3.002E+00	FAIL ABUN
IR-192	2.693E-02	2.570E-02	2.442E-02	1.311E-02	FAIL ABUN
AU-195	3.003E-02	1.722E-01	1.589E-01	8.788E-02	FAIL ABUN
TL-200	-4.087E+01	1.606E+02	0.000E+00	8.195E+01	SHORT HLIF
TL-201	-3.826E-02	4.077E+00	3.590E+00	2.080E+00	NOT IDENT.
TL-202	-5.963E-03	5.062E-02	4.374E-02	2.582E-02	NOT IDENT.
HG-203	-8.164E-03	2.976E-02	2.661E-02	1.518E-02	NOT IDENT.
BI-207	9.127E-03	4.246E-02	3.661E-02	2.167E-02	FAIL ABUN
TL-207	6.797E-01	5.780E-01	4.896E-01	2.949E-01	FAIL ABUN
PO-209	-1.462E+00	5.369E+00	4.467E+00	2.739E+00	NOT IDENT.
BI-210	-3.191E-01	6.594E+00	6.169E+00	3.364E+00	NOT IDENT.
PB-210	-3.191E-01	6.594E+00	6.169E+00	3.364E+00	NOT IDENT.
PO-210	-3.191E-01	6.594E+00	6.169E+00	3.364E+00	NOT IDENT.
PB-211	-3.500E-02	7.177E-01	6.281E-01	3.662E-01	NOT IDENT.
BI-212	7.767E-01	3.457E-01	2.722E-01	1.764E-01	FAIL ABUN
PO-215	6.797E-01	5.780E-01	4.896E-01	2.949E-01	FAIL ABUN
RN-219	6.400E-02	3.157E-01	2.812E-01	1.611E-01	NOT IDENT.
RN-220	1.655E+01	1.960E+01	1.793E+01	9.998E+00	NOT IDENT.
RA-223	6.797E-01	5.780E-01	4.896E-01	2.949E-01	FAIL ABUN
AC-227	-1.851E-01	2.771E-01	2.432E-01	1.414E-01	FAIL ABUN
TH-227	-1.851E-01	2.776E-01	2.432E-01	1.417E-01	FAIL ABUN
TH-229	-8.872E-02	3.888E-01	3.344E-01	1.983E-01	FAIL ABUN
PA-231	6.993E-03	1.146E+00	1.039E+00	5.849E-01	FAIL ABUN
TH-231	6.797E-01	5.780E-01	4.896E-01	2.949E-01	FAIL ABUN
U-231	-2.276E-01	7.493E-01	6.055E-01	3.823E-01	FAIL ABUN
PA-233	-1.772E-02	4.785E-02	4.205E-02	2.441E-02	FAIL ABUN
PA-234	7.654E-03	2.341E-01	2.005E-01	1.194E-01	FAIL ABUN
PA-234M	3.989E+00	3.954E+00	3.623E+00	2.017E+00	NOT IDENT.
U-235	5.435E-02	1.612E-01	1.454E-01	8.227E-02	FAIL ABUN
NP-236	-1.955E-02	5.836E-02	5.071E-02	2.977E-02	NOT IDENT.
NP-239	2.531E-04	1.418E-01	1.283E-01	7.233E-02	FAIL ABUN
AM-241	3.032E-02	1.883E-01	1.618E-01	9.608E-02	NOT IDENT.
CM-243	1.301E-02	7.605E-02	6.992E-02	3.880E-02	FAIL ABUN
AM-246	4.287E-02	1.248E-01	1.085E-01	6.366E-02	NOT IDENT.
CM-247	-2.187E-04	2.803E-02	2.462E-02	1.430E-02	NOT IDENT.
CF-249	2.232E-02	3.134E-02	2.888E-02	1.599E-02	NOT IDENT.
CF-251	-7.526E-02	9.559E-02	8.032E-02	4.877E-02	NOT IDENT.

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                          CHARLESTON ,SC 29417                             *
*                   GAMMA SPECTROSCOPY BACKGROUND REPORT                    *
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ENERGY	MDA COUNTS
46.50	157.8919
46.50	157.8919
46.50	157.8919
48.70	192.4231
49.72	182.6528
51.35	189.5598
52.39	165.8048
52.97	161.7235
53.15	174.8527
53.44	190.6626
54.07	195.3517
56.28	187.7398
56.28	187.7414
57.37	0.0000
57.53	173.3965
57.53	173.3975
57.60	177.8303
57.98	193.8682
57.98	193.8682
59.32	229.2034
59.32	229.2034
59.40	229.2502
59.54	209.6901
59.72	197.8366
60.01	184.6953
61.10	213.1854
61.14	213.2068
61.30	213.2928
63.00	233.8298
63.29	234.8898
63.29	234.8898
63.58	221.2039
64.28	213.5240
65.12	255.6738
65.20	255.7231
65.20	255.7231
66.05	248.1526
66.72	248.5471
66.83	248.6131
66.91	267.5807
67.20	259.6494
67.20	259.6494
67.75	250.9590
67.85	251.0184
68.90	243.4871
68.90	243.4871
69.30	268.1747
69.67	279.6506
70.82	261.8394
70.82	261.8394
70.83	261.8452
72.80	280.8224
72.87	280.8662
72.87	280.8662
74.67	276.0284
74.81	276.1142
74.81	276.1142
74.81	276.1142
74.81	276.1142
74.81	276.1142
74.81	276.1142
74.81	276.1142
74.97	276.2106
75.28	276.3989
75.70	276.6531
77.11	277.4997
77.11	277.4997

77.11	277.4997
77.11	277.4997
77.11	277.4997
77.11	277.4997
77.11	277.4997
78.38	278.2560
79.62	219.6693
79.80	219.7525
79.80	219.7525
80.11	229.6382
80.18	229.6715
80.30	229.7288
80.30	229.7288
80.57	252.1492
81.00	281.6568
81.07	281.6969
81.07	281.6969
81.07	281.6969
81.07	281.6969
82.60	313.3696
83.37	269.0244
83.78	273.4585
83.78	273.4585
83.78	273.4585
83.78	273.4585
84.21	231.5907
84.90	243.1598
85.43	265.9312
86.29	346.7314
86.50	346.8759
86.54	346.9041
86.59	346.9379
86.72	347.0280
86.79	347.0749
86.94	357.0591
87.30	337.5434
87.30	337.5434
87.30	337.5434
87.30	337.5434
87.30	337.5434
87.30	337.5434
87.30	337.5434
87.57	327.8324
87.88	279.9587
88.03	280.0418
88.36	280.2246
88.47	280.2850
89.95	383.3130
91.11	250.4246
92.29	250.9926
92.38	251.0355
92.38	251.0355
93.35	251.4988
94.00	251.8090
94.67	232.0679
94.67	232.0704
94.90	245.0689
94.90	245.0689
94.90	245.0689
94.90	245.0689
95.87	258.4355
95.87	258.4355
96.73	251.6586
97.43	244.7836
98.44	229.6577
98.44	229.6577
98.88	239.6597
99.55	233.2066
99.55	233.2066
99.86	243.9433
100.00	244.0051
100.10	244.0514
103.18	273.5260
103.76	248.5625
105.00	236.4543
105.31	224.8998
108.00	260.1837
109.28	227.4239

111.00	251.6836
111.00	251.6836
111.76	254.9571
112.95	239.6839
115.19	257.4027
116.30	240.0183
117.00	226.3904
117.00	226.3904
117.66	229.6148
121.11	212.8960
121.62	221.0708
121.78	223.1270
122.06	223.2257
122.32	211.3005
122.32	211.3005
122.32	211.3005
122.32	211.3005
123.07	215.5599
127.23	240.6684
129.76	241.5982
131.20	228.4172
133.02	212.2414
133.54	228.6048
135.34	249.2323
136.00	243.3385
136.25	243.4280
136.48	241.4628
140.51	267.5722
140.51	0.0000
142.18	242.4203
142.65	247.7417
143.76	234.6895
144.24	237.9526
144.24	237.9526
144.24	237.9526
144.24	237.9526
145.22	256.9281
145.44	255.9700
147.16	211.9148
152.43	215.5389
152.70	193.6380
153.22	202.1529
154.21	227.5913
154.21	227.5913
154.21	227.5913
154.21	227.5913
155.03	204.7437
156.02	226.0404
158.56	186.7139
159.00	0.0000
159.00	203.7098
160.31	216.7469
161.27	211.7248
162.32	209.8916
162.64	217.4017
163.35	196.3724
163.89	205.0056
165.85	243.8553
167.43	219.8033
171.28	231.5874
171.86	216.7333
172.10	216.7970
176.55	223.3803
176.60	223.3951
181.06	232.7372
184.41	194.4481
185.71	217.1117
186.00	217.1846
190.27	179.3288
192.34	242.9732
193.63	210.2993
197.04	235.4280
198.01	239.0054
198.60	231.4108
200.40	235.2047
201.83	232.2442
202.84	250.3029
205.31	190.7451

208.36	241.7410
208.81	241.8574
209.75	216.3240
209.75	216.3240
210.97	216.6067
215.65	203.0219
216.55	191.9244
218.09	191.1049
222.10	182.8168
223.80	169.4863
226.40	216.6994
227.00	192.8653
227.08	192.8808
227.20	192.9049
228.16	161.1006
228.18	161.1035
228.18	161.1035
231.56	0.0000
235.69	162.3170
236.00	167.5476
236.00	167.5476
238.63	268.4237
238.63	268.4237
238.63	268.4237
238.63	268.4237
239.00	457.3513
240.98	458.2335
241.98	196.3292
241.98	196.3292
241.98	196.3292
244.69	162.0036
245.39	146.4232
247.94	151.4405
248.90	135.2543
249.79	154.0403
252.40	151.7868
252.85	158.8735
252.85	158.8735
254.15	0.0000
256.20	160.2505
256.20	160.2505
260.50	142.3244
260.90	142.3760
262.80	139.9666
264.65	146.4118
268.24	185.1675
268.79	163.8834
269.46	147.0488
269.46	147.0488
269.46	147.0488
269.46	147.0488
271.23	169.5956
273.65	228.1055
276.40	137.1948
277.35	151.6683
277.60	153.4971
277.60	153.4971
278.00	159.8350
278.60	162.6144
279.20	154.6100
279.53	169.0411
280.46	165.5792
281.68	133.3233
283.67	140.7704
284.30	145.3633
285.00	146.3527
285.90	137.4253
286.10	141.0656
286.10	141.0656
287.40	139.4121
288.45	0.0000
290.67	123.4596
290.80	123.4720
291.72	127.9287
293.26	0.0000
293.70	131.0559
295.21	141.4268
295.21	141.4268

295.21	141.4268
295.96	153.1882
296.50	153.2549
297.23	153.3497
298.57	153.5189
299.80	141.9667
299.80	141.9667
300.09	142.0022
300.09	142.0022
300.09	142.0022
300.09	142.0022
300.12	142.0046
301.29	131.8843
302.84	130.5840
303.76	118.9371
303.91	118.9510
304.40	113.1219
304.40	113.1219
304.84	121.9812
306.84	118.6837
308.46	126.2091
311.98	128.4142
316.51	105.7008
318.01	127.1770
319.02	142.1418
319.41	143.1155
320.08	140.4012
323.87	110.4165
323.87	110.4165
323.87	110.4165
323.87	110.4165
325.23	153.8512
328.77	124.3176
333.44	133.4067
334.20	109.7959
334.20	109.7959
334.30	109.8030
338.28	120.6953
338.28	120.6953
338.28	120.6953
338.28	120.6953
338.32	120.6992
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338.32	120.6992
340.50	113.3423
340.57	113.3478
344.27	120.1558
345.85	116.8291
350.59	0.0000
351.07	118.9938
351.92	119.0681
351.92	119.0681
351.92	119.0681
355.39	0.0000
356.01	128.4035
364.48	102.8513
366.43	113.5815
367.43	115.5890
367.94	0.0000
369.80	102.2751
374.96	94.8986
383.85	109.1255
387.95	97.7066
388.63	99.7059
391.69	112.6469
391.69	112.6469
392.90	103.9151
398.62	100.3782
400.65	111.3533
401.10	112.3718
401.81	97.6329
402.60	98.6694
404.84	102.7686
410.95	98.2190
411.60	108.1867
413.65	105.3482
414.70	89.5084
415.30	93.5224

415.76	98.5257
417.63	0.0000
418.52	97.7039
423.70	96.0278
427.08	89.2159
427.89	81.2385
432.53	93.5463
433.93	85.5733
439.47	91.9289
439.56	91.9345
439.89	82.8596
443.98	76.9892
444.90	66.8973
445.03	66.9023
445.03	66.9023
445.03	66.9023
445.03	66.9023
453.90	82.5511
463.38	86.0944
468.07	64.1339
473.00	86.5840
475.06	80.4958
475.35	79.4767
476.78	71.2784
477.59	69.2451
477.96	81.6652
482.03	71.4953
484.57	67.4488
487.03	69.6223
490.36	0.0000
492.35	62.5369
497.08	70.0190
507.63	0.0000
510.53	0.0000
510.84	78.9808
511.00	78.9883
511.85	75.8639
511.85	75.8639
513.99	86.0799
513.99	86.0799
520.41	92.0977
520.65	86.8172
527.90	72.2749
528.96	0.0000
529.64	72.3434
529.87	0.0000
531.02	62.8135
537.32	59.8196
543.00	59.9990
546.56	0.0000
549.76	55.9102
552.65	69.9928
555.20	64.6930
563.23	68.2083
563.90	59.5671
568.70	64.0541
569.32	66.2478
569.50	68.4256
569.67	64.0865
573.80	63.1313
574.00	62.0498
574.64	64.7134
578.91	71.5858
579.30	0.0000
583.14	54.6768
585.48	59.5581
591.81	63.6977
592.07	65.9015
593.00	64.8337
595.88	59.4218
600.56	76.1005
602.52	0.0000
602.71	70.6602
602.71	70.6602
603.60	74.2260
604.41	81.3266
604.70	90.1789
609.31	80.8529

609.31	80.8529
609.31	80.8529
609.31	80.8529
610.33	80.8930
612.46	76.3166
614.37	67.5038
618.01	67.8431
621.84	63.5075
621.84	63.5075
631.29	50.3600
633.02	58.2413
633.10	58.2429
634.78	61.6518
635.90	63.9267
636.97	63.9580
645.85	61.2896
646.12	54.9879
656.30	66.4118
657.75	64.9444
657.90	0.0000
661.65	75.3464
661.65	75.3464
664.57	0.0000
666.33	48.5169
666.33	48.5169
675.00	68.4906
677.61	57.5982
685.20	58.7062
692.80	63.5016
695.00	70.0105
696.49	62.6817
696.49	62.6817
697.00	59.0078
697.49	60.8647
698.33	61.8082
698.50	65.5034
699.00	60.9034
702.63	60.9984
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706.58	0.0000
706.67	54.6225
709.31	60.2456
711.68	59.3781
713.82	52.0023
717.42	50.2216
720.50	57.9429
721.93	0.0000
722.20	57.4662
722.78	76.1239
722.78	76.1239
722.89	66.8043
722.95	66.8061
723.30	66.8166
724.18	68.3955
727.18	60.6995
733.00	56.1650
735.90	47.7976
739.58	56.3174
742.81	53.5725
744.21	45.1395
747.13	51.7841
751.79	53.7687
752.31	46.2318
753.82	38.7068
755.35	50.0666
756.15	56.6982
756.87	56.7144
763.93	74.8861
765.79	79.6852
766.42	74.9594
766.84	74.0238
776.49	59.0650
778.00	48.6144
778.57	49.5790
778.89	58.1674
783.80	43.9482
785.46	44.9323
792.07	38.3389

795.84	39.9953
796.30	40.0024
798.80	49.6510
801.93	52.9174
805.60	42.3935
810.29	42.4692
810.76	44.4075
815.85	37.7232
817.79	33.8789
818.51	34.8565
819.60	43.5883
826.30	37.8717
828.27	0.0000
831.60	60.3259
831.96	56.4410
834.83	52.6052
836.80	0.0000
846.75	60.6649
848.13	58.7388
856.28	0.0000
856.80	52.3776
860.37	39.3340
867.32	29.5752
867.82	33.5244
871.10	40.4745
873.19	45.4441
874.81	38.5506
875.33	0.0000
876.40	41.5396
879.36	42.5738
880.27	37.6354
880.51	37.6391
881.50	39.6338
883.24	39.6582
884.67	45.6305
889.25	42.7239
896.60	41.8380
898.02	38.8696
899.00	42.8709
903.28	42.1583
911.07	29.0347
911.07	29.0347
911.07	29.0347
919.63	28.6900
920.93	20.0918
925.00	32.1922
925.24	30.1824
926.50	43.2803
935.52	40.3848
937.48	40.4111
944.10	45.5647
946.00	43.5669
949.00	43.6110
962.29	53.8456
964.01	49.2655
966.15	49.2998
968.20	76.5527
969.11	63.3018
969.11	63.3018
969.11	63.3018
977.42	40.9512
980.50	46.1173
983.50	35.9041
989.30	42.1381
996.32	61.8047
1001.03	38.1707
1001.68	40.2426
1004.76	59.9074
1021.30	0.0000
1024.50	0.0000
1034.80	45.8799
1036.00	34.4228
1037.82	40.7043
1038.57	45.9336
1038.76	0.0000
1045.16	41.8438
1046.59	43.9544
1048.07	37.6928

1050.47	41.9121
1050.47	41.9121
1062.04	38.9060
1063.62	42.0820
1076.63	48.5853
1077.35	50.7094
1078.86	47.5620
1085.78	51.8974
1099.22	44.6619
1112.02	34.1563
1112.84	26.6919
1115.52	42.7402
1120.29	59.9184
1120.29	59.9184
1120.29	59.9184
1120.29	59.9184
1120.51	76.6882
1121.28	69.5703
1124.00	0.0000
1129.67	54.7179
1131.51	0.0000
1147.95	0.0000
1167.94	37.9651
1173.22	39.1078
1175.09	45.6504
1177.93	45.6873
1189.05	44.7376
1204.90	37.2622
1205.75	0.0000
1213.00	48.3291
1221.42	60.5510
1230.97	50.7752
1235.34	55.2539
1236.41	0.0000
1238.25	63.1975
1246.25	48.4903
1260.41	0.0000
1271.85	33.4761
1274.45	42.8049
1274.54	44.6660
1291.56	25.2367
1298.22	0.0000
1312.09	37.5863
1325.50	33.0005
1325.50	33.0005
1332.49	29.2814
1333.61	28.3447
1360.21	21.8760
1362.66	0.0000
1365.15	29.5216
1368.21	22.8730
1368.53	0.0000
1376.25	29.6024
1384.27	28.7048
1394.10	17.2639
1395.20	21.1066
1407.95	18.2849
1434.06	18.3993
1436.60	20.3480
1457.56	0.0000
1460.81	16.5670
1489.15	16.6763
1509.49	16.7537
1596.49	13.0624
1620.62	15.1508
1678.03	0.0000
1691.02	5.1257
1691.02	5.1257
1706.46	0.0000
1750.46	0.0000
1764.49	9.3651
1764.49	9.3651
1764.49	9.3651
1764.49	9.3651
1770.23	12.5010
1771.40	44.8057
1791.20	0.0000
1808.65	11.5461

1836.01 5.2763

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243385010

Total Uranium Activity	6.1106E+00	ug/g
Total Uranium Counting Unc.	4.7850E+00	ug/g
Total Uranium Tpu	2.4413E-06	ug/g
Total Uranium Mda	3.5892E+00	ug/g

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*                                                                           *
*                          GEL Laboratories LLC                             *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 936285                    SAMPLE ID  : G243385010       *
*   ANALYST       : MJH1                      DETECTOR   : GAM04            *
*   SAMPLE DATE   : 17-DEC-2009 12:00:00.00   COUNT TIME :    0 02:00:00.00 *
*   ANALYSIS DATE: 31-DEC-2009 10:54:36.37    SAMPLE ALQT:  154.320 GRAM    *
*                                                                           *
*****************************************************************************


        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 6.560E+00
        GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.155E+00
        GROSS GAMMA MDA     (pCi/GRAM  )  : 2.289E+00
        GROSS GAMMA DLC     (pCi/GRAM  )  : 1.099E+00
```

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 12:57:17.29

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385011.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 10:55:03
Sample ID         : G243385011           Sample quantity  : 1.31240E+02 GRAM
Detector name     : GAM05                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.78  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit   : 75.00000             Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID   :                      LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.43*	75	438	0.97	93.85	90	8	1.04E-02	55.3	
2	0	63.22*	184	554	1.31	127.41	124	8	2.56E-02	24.0	
3	2	74.72*	896	633	1.45	150.41	143	20	1.24E-01	6.4	5.17E+00
4	2	77.04*	1249	455	1.23	155.05	143	20	1.74E-01	4.3	
5	2	84.22	106	657	1.43	169.41	165	28	1.47E-02	42.3	2.23E+00
6	2	87.11*	364	542	1.27	175.19	165	28	5.06E-02	12.2	
7	2	89.82	237	434	1.09	180.62	165	28	3.29E-02	16.2	
8	2	92.87*	312	504	1.53	186.71	165	28	4.33E-02	15.5	
9	0	185.82*	227	483	1.13	372.59	366	14	3.16E-02	22.0	
10	0	209.12	157	319	1.03	419.17	414	11	2.18E-02	23.5	
11	3	238.57*	1315	168	1.22	478.07	470	20	1.83E-01	3.3	1.92E+00
12	3	241.54	402	270	2.01	484.01	470	20	5.58E-02	12.4	
13	0	277.26*	142	189	1.41	555.43	548	14	1.97E-02	22.5	
14	0	295.28*	462	162	1.28	591.46	586	12	6.42E-02	7.4	
15	0	300.23	103	122	1.16	601.35	598	9	1.44E-02	21.5	
16	0	328.03	42	123	1.18	656.94	653	7	5.77E-03	47.0	
17	0	338.24	259	114	1.56	677.35	673	9	3.59E-02	9.7	
18	0	351.79*	686	235	1.30	704.44	696	15	9.53E-02	6.2	
19	0	462.75	145	140	1.70	926.29	918	18	2.02E-02	20.8	
20	0	510.52*	144	128	1.68	1021.78	1013	17	1.99E-02	22.5	
21	0	582.98*	410	130	1.60	1166.63	1160	16	5.70E-02	8.0	
22	0	609.08*	497	112	1.59	1218.81	1211	16	6.90E-02	6.6	
23	0	727.58	77	100	1.89	1455.67	1449	14	1.07E-02	30.0	
24	1	767.77	61	51	2.08	1536.01	1531	45	8.54E-03	24.4	2.71E+00
25	1	771.96	82	53	2.08	1544.38	1531	45	1.14E-02	19.9	
26	0	795.21	45	56	0.71	1590.84	1584	12	6.20E-03	36.9	
27	0	859.84	72	41	1.77	1720.01	1713	14	1.00E-02	22.3	
28	0	910.95*	278	49	1.66	1822.16	1815	14	3.86E-02	8.1	
29	2	964.13	63	33	2.41	1928.44	1922	29	8.71E-03	23.3	1.89E+00
30	2	968.58	153	38	1.87	1937.33	1922	29	2.12E-02	11.2	
31	0	1120.03*	102	63	1.74	2239.96	2233	15	1.41E-02	20.2	
32	0	1237.67	64	50	1.32	2475.00	2470	13	8.85E-03	25.9	
33	0	1376.97	36	17	1.25	2753.30	2748	11	4.93E-03	27.8	
34	0	1460.04*	712	34	1.88	2919.23	2909	19	9.88E-02	4.3	
35	0	1763.53*	94	8	1.18	3525.40	3517	16	1.31E-02	12.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 12:57:20

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385011.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MJH1
Sample date : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 10:55:03
Sample ID : G243385011 Sample quantity : 131.24 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA5 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.78 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.900E+01	2.003E+00	5.661E-01	3.520E-02	33.569
CD-109	+	88.03	*	3.640E+00	9.277E-01	1.034E+00	7.876E-02	3.519
SN-126	+	64.28		6.797E-01	3.422E-01	4.302E-01	6.411E-02	1.580
	+	86.94		1.490E+00	7.123E-01	4.220E-01	1.737E-01	3.530
	+	87.57	*	3.584E-01	9.134E-02	1.017E-01	7.745E-03	3.523
TL-208	+	277.35		1.398E+00	6.539E-01	6.309E-01	8.093E-02	2.216
	+	510.84		7.466E-01	3.451E-01	2.357E-01	2.476E-02	3.168
	+	583.14	*	6.169E-01	1.084E-01	6.935E-02	5.103E-03	8.896
	+	860.37		1.043E+00	4.773E-01	5.540E-01	5.621E-02	1.883
BI-210	+	46.50	*	6.950E-01	7.710E-01	8.945E-01	6.978E-02	0.777
PB-210	+	46.50	*	6.950E-01	7.710E-01	8.945E-01	6.978E-02	0.777
PO-210	+	46.50	*	6.950E-01	7.705E-01	8.945E-01	6.017E-02	0.777
BI-211		72.87		1.294E+01	2.664E+00	4.311E+00	3.394E-01	3.002
	+	351.07	*	4.312E+00	6.371E-01	3.319E-01	2.630E-02	12.992
PB-212	+	74.81		2.980E+00	5.247E-01	3.906E-01	4.762E-02	7.628
	+	77.11		2.478E+00	2.889E-01	2.332E-01	1.815E-02	10.622
	+	87.30		1.657E+00	4.538E-01	4.700E-01	5.909E-02	3.526
	+	238.63	*	1.767E+00	2.227E-01	1.001E-01	1.080E-02	17.649
	+	300.09		2.166E+00	9.587E-01	1.224E+00	1.301E-01	1.770
PO-212	+	74.81		2.980E+00	5.247E-01	3.906E-01	4.762E-02	7.628
	+	77.11		2.478E+00	2.889E-01	2.332E-01	1.815E-02	10.622
	+	87.30		1.657E+00	4.538E-01	4.700E-01	5.909E-02	3.526
		115.19		-2.559E+00	3.676E+00	5.807E+00	7.390E-01	-0.441
	+	238.63	*	1.767E+00	2.227E-01	1.001E-01	1.080E-02	17.649
	+	300.09		2.166E+00	9.587E-01	1.224E+00	1.301E-01	1.770
BI-214	+	609.31	*	1.414E+00	2.222E-01	1.237E-01	1.037E-02	11.430
	+	1120.29		1.530E+00	6.342E-01	5.174E-01	4.942E-02	2.958
	+	1764.49		1.979E+00	5.185E-01	2.576E-01	1.489E-02	7.683
PB-214	+	74.81		5.134E+00	8.554E-01	6.731E-01	7.255E-02	7.628
	+	77.11		4.247E+00	5.917E-01	3.999E-01	4.355E-02	10.622
	+	87.30		2.839E+00	7.561E-01	8.052E-01	8.727E-02	3.526
	+	241.98		3.244E+00	8.821E-01	6.030E-01	6.795E-02	5.380
	+	295.21		1.698E+00	3.116E-01	2.226E-01	2.434E-02	7.626
	+	351.92	*	1.500E+00	2.350E-01	1.157E-01	1.095E-02	12.963

Sample ID : G243385011 Acquisition date : 31-DEC-2009 10:55:03

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		5.134E+00	8.554E-01	6.731E-01	7.255E-02	7.628
	+	77.11		4.247E+00	5.917E-01	3.999E-01	4.355E-02	10.622
	+	87.30		2.839E+00	7.561E-01	8.052E-01	8.727E-02	3.526
	+	241.98		3.244E+00	8.821E-01	6.030E-01	6.795E-02	5.380
	+	295.21		1.698E+00	3.116E-01	2.226E-01	2.434E-02	7.626
	+	351.92	*	1.500E+00	2.350E-01	1.157E-01	1.095E-02	12.963
PO-216	+	74.81		2.980E+00	5.247E-01	3.906E-01	4.762E-02	7.628
	+	77.11		2.478E+00	2.889E-01	2.332E-01	1.815E-02	10.622
	+	87.30		1.657E+00	4.538E-01	4.700E-01	5.909E-02	3.526
	+	238.63	*	1.767E+00	2.227E-01	1.001E-01	1.080E-02	17.649
	+	300.09		2.166E+00	9.587E-01	1.224E+00	1.301E-01	1.770
PO-218	+	74.81		5.134E+00	8.554E-01	6.731E-01	7.255E-02	7.628
	+	77.11		4.247E+00	5.917E-01	3.999E-01	4.355E-02	10.622
	+	87.30		2.839E+00	7.561E-01	8.052E-01	8.727E-02	3.526
	+	241.98		3.244E+00	8.821E-01	6.030E-01	6.795E-02	5.380
	+	295.21		1.698E+00	3.116E-01	2.226E-01	2.434E-02	7.626
	+	351.92	*	1.500E+00	2.350E-01	1.157E-01	1.095E-02	12.963
RA-224	+	240.98	*	6.151E+00	1.637E+00	1.139E+00	1.115E-01	5.398
RA-226	+	609.31	*	1.414E+00	2.222E-01	1.237E-01	1.037E-02	11.430
	+	1120.29		1.530E+00	6.342E-01	5.174E-01	4.942E-02	2.958
	+	1764.49		1.979E+00	5.185E-01	2.576E-01	1.489E-02	7.683
AC-228	+	338.32		1.786E+00	8.121E-01	4.306E-01	1.770E-01	4.148
	+	911.07	*	1.900E+00	3.885E-01	2.578E-01	3.190E-02	7.370
	+	969.11		1.843E+00	5.999E-01	4.033E-01	9.525E-02	4.571
RA-228	+	338.32		1.786E+00	8.121E-01	4.306E-01	1.770E-01	4.148
	+	911.07	*	1.900E+00	3.885E-01	2.578E-01	3.190E-02	7.370
	+	969.11		1.843E+00	5.999E-01	4.033E-01	9.525E-02	4.571
TH-228	+	74.81		3.021E+00	4.522E-01	3.961E-01	3.133E-02	7.628
	+	77.11		2.512E+00	2.930E-01	2.365E-01	1.841E-02	10.622
	+	87.30		1.681E+00	4.284E-01	4.766E-01	3.631E-02	3.526
	+	238.63	*	1.792E+00	2.259E-01	1.015E-01	1.095E-02	17.649
	+	300.09		2.196E+00	1.609E+00	1.241E+00	7.360E-01	1.770
TH-230	+	609.31	*	1.414E+00	2.222E-01	1.237E-01	1.037E-02	11.430
	+	1120.29		1.530E+00	6.342E-01	5.174E-01	4.942E-02	2.958
	+	1764.49		1.979E+00	5.185E-01	2.576E-01	1.489E-02	7.683
TH-232	+	338.32		1.786E+00	3.742E-01	4.306E-01	3.376E-02	4.148
	+	911.07	*	1.900E+00	3.885E-01	2.578E-01	3.190E-02	7.370
	+	969.11		1.843E+00	5.999E-01	4.033E-01	9.525E-02	4.571
TH-234	+	63.29	*	1.717E+00	8.802E-01	1.060E+00	1.883E-01	1.620
	+	92.38		2.126E+00	7.630E-01	7.059E-01	1.268E-01	3.012
U-234	+	609.31	*	1.414E+00	2.222E-01	1.237E-01	1.037E-02	11.430
	+	1120.29		1.530E+00	6.342E-01	5.174E-01	4.942E-02	2.958
	+	1764.49		1.979E+00	5.185E-01	2.576E-01	1.489E-02	7.683
NP-237	+	86.50	*	1.052E+00	3.451E-01	2.977E-01	6.550E-02	3.534
		95.87		7.832E-01	1.001E+00	1.461E+00	3.619E-01	0.536
U-238	+	63.29	*	1.717E+00	8.802E-01	1.060E+00	1.883E-01	1.620
	+	92.38		2.126E+00	6.841E-01	7.059E-01	5.906E-02	3.012
AM-243	+	74.67	*	4.831E-01	7.209E-02	6.331E-02	4.959E-03	7.630
	+	86.72		3.946E+01	1.006E+01	1.117E+01	8.521E-01	3.532

Sample ID : G243385011 Acquisition date : 31-DEC-2009 10:55:03

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		1.857E+00	3.841E+00	6.357E+00	8.417E-01	0.292
		142.18		-1.005E+01	1.933E+01	3.059E+01	3.801E+00	-0.328
ANH-511	+	511.00	*	1.613E-01	7.331E-02	5.092E-02	3.259E-03	3.167

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-4.574E-02	3.628E-01	5.870E-01	4.205E-02	-0.078
NA-22		1274.54	*	-3.474E-02	4.986E-02	7.421E-02	4.322E-03	-0.468
NA-24		1368.53	*	-3.057E-01	4.986E-02	Half-Life too short		
AL-26		1129.67		5.491E-01	1.870E+00	3.077E+00	2.061E-01	0.178
		1808.65	*	1.355E-02	3.837E-02	6.692E-02	3.840E-03	0.203
TI-44		67.85		2.670E-03	4.279E-02	4.503E-02	3.604E-03	0.059
	+	78.38	*	4.572E-01	5.332E-02	6.967E-02	5.406E-03	6.562
SC-46		889.25	*	-5.132E-03	4.391E-02	7.183E-02	7.215E-03	-0.071
	+	1120.51		2.595E-01	1.062E-01	1.502E-01	1.033E-02	1.728
V-48		944.10		-1.368E-01	9.222E-01	1.498E+00	1.449E-01	-0.091
		983.50	*	7.102E-03	8.076E-02	1.339E-01	1.226E-02	0.053
		1312.09		3.689E-02	8.446E-02	1.436E-01	8.328E-03	0.257
CR-51		320.08	*	2.419E-01	3.837E-01	6.581E-01	5.820E-02	0.368
MN-52		744.21		5.735E-02	2.401E-01	4.084E-01	3.171E-02	0.140
		848.13		7.575E+00	6.679E+00	1.207E+01	1.132E+00	0.627
		935.52		3.656E-01	2.751E-01	4.981E-01	4.869E-02	0.734
		1246.25		3.324E-01	7.354E+00	1.108E+01	6.442E-01	0.030
		1333.61		-5.511E-01	4.601E+00	7.301E+00	4.226E-01	-0.075
		1434.06	*	3.677E-02	2.027E-01	3.474E-01	2.035E-02	0.106
MN-54		834.83	*	9.274E-03	4.349E-02	7.339E-02	6.724E-03	0.126
CO-56		846.75	*	3.155E-02	4.441E-02	7.794E-02	7.289E-03	0.405
		977.42		-2.746E+00	4.057E+00	5.167E+00	4.776E-01	-0.531
		1037.82		-2.935E-01	3.453E-01	5.137E-01	4.532E-02	-0.571
		1175.09		7.183E-01	2.423E+00	4.058E+00	2.354E-01	0.177
	+	1238.25		2.666E-01	1.391E-01	2.066E-01	1.277E-02	1.290
		1360.21		-4.331E-02	1.035E+00	1.657E+00	9.629E-02	-0.026
		1771.40		-7.705E-01	3.445E-01	3.389E-01	1.957E-02	-2.273
CO-57		122.06	*	-2.310E-02	2.698E-02	4.149E-02	5.887E-03	-0.557
		136.48		-7.058E-02	2.221E-01	3.551E-01	4.757E-02	-0.199
CO-58		810.76	*	-2.625E-03	4.246E-02	7.021E-02	6.179E-03	-0.037
FE-59		142.65		-3.001E-01	2.859E+00	4.607E+00	5.705E-01	-0.065
		192.34		2.884E-01	1.164E+00	1.650E+00	2.366E-01	0.175
		1099.22	*	2.740E-02	1.077E-01	1.801E-01	1.458E-02	0.152
		1291.56		-3.131E-02	1.225E-01	1.914E-01	1.421E-02	-0.164
CO-60		1173.22		3.137E-02	4.920E-02	8.499E-02	4.930E-03	0.369
		1332.49	*	-4.815E-05	4.041E-02	6.520E-02	3.773E-03	-0.001
ZN-65		1115.52	*	-4.308E-02	1.266E-01	1.691E-01	1.181E-02	-0.255
GE-68		1077.35	*	5.823E-01	1.419E+00	2.412E+00	1.853E-01	0.241
AS-73		53.44	*	-5.186E-02	2.401E-01	3.959E-01	2.980E-02	-0.131
AS-74		595.88	*	-8.814E-03	1.053E-01	1.690E-01	1.111E-02	-0.052
		634.78		1.344E-01	4.077E-01	6.733E-01	4.438E-02	0.200

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75		66.05		-8.414E-01	3.024E+00	4.332E+00	4.322E-01	-0.194
		96.73		3.684E-01	7.836E-01	1.147E+00	1.603E-01	0.321
		121.11		-3.564E-02	1.386E-01	2.230E-01	3.504E-02	-0.160
		136.00		-1.886E-02	4.154E-02	6.599E-02	8.605E-03	-0.286
		198.60		4.378E-01	2.091E+00	3.330E+00	3.599E-01	0.131
		264.65	*	-3.421E-02	5.015E-02	8.125E-02	7.757E-03	-0.421
		279.53		8.226E-02	1.296E-01	1.955E-01	1.872E-02	0.421
		303.91		-1.355E-01	2.472E+00	3.561E+00	4.129E-01	-0.038
		400.65		-8.356E-03	2.877E-01	4.726E-01	4.325E-02	-0.018
BR-77	+	87.88		5.613E+02	1.431E+02	2.272E+02	1.729E+01	2.471
		200.40		-6.550E+01	1.367E+02	2.139E+02	2.136E+01	-0.306
	+	239.00		2.022E+02	2.382E+01	2.952E+01	2.893E+00	6.850
		249.79		-1.407E+01	5.116E+01	8.476E+01	8.218E+00	-0.166
		281.68		1.851E+01	7.234E+01	1.071E+02	9.888E+00	0.173
		297.23		3.811E+02	7.237E+01	1.035E+02	9.243E+00	3.681
		303.76		-5.011E+00	1.512E+02	2.182E+02	1.916E+01	-0.023
		439.47		-1.161E+01	1.233E+02	2.010E+02	1.225E+01	-0.058
		484.57		-1.052E+02	1.897E+02	2.971E+02	1.873E+01	-0.354
		520.65	*	3.162E+00	8.156E+00	1.365E+01	8.776E-01	0.232
		574.64		-7.634E+01	1.860E+02	2.828E+02	1.853E+01	-0.270
		578.91		2.700E+01	8.398E+01	1.210E+02	7.938E+00	0.223
		585.48		1.080E+03	2.236E+02	3.989E+02	2.619E+01	2.709
		755.35		9.074E+01	1.364E+02	2.389E+02	1.894E+01	0.380
		817.79		-6.040E+01	1.026E+02	1.609E+02	1.430E+01	-0.375
SR-82		698.33		-1.913E+01	3.826E+01	6.175E+01	4.380E+00	-0.310
		776.49	*	3.902E-02	3.986E-01	6.697E-01	5.526E-02	0.058
		1395.20		-1.093E+01	1.268E+01	1.892E+01	1.104E+00	-0.577
RB-83		520.41	*	-2.823E-03	7.653E-02	1.241E-01	7.977E-03	-0.023
		529.64		6.053E-02	1.224E-01	2.058E-01	1.328E-02	0.294
		552.65		-1.032E-01	2.321E-01	3.633E-01	2.366E-02	-0.284
RB-84		881.50	*	2.951E-02	8.008E-02	1.339E-01	1.328E-02	0.220
KR-85		513.99	*	1.978E+01	8.910E+00	1.498E+01	9.603E-01	1.320
SR-85		513.99	*	1.002E-01	4.513E-02	7.588E-02	4.864E-03	1.320
RB-86		1076.63	*	7.769E-01	8.559E-01	1.519E+00	1.169E-01	0.511
Y-88		898.02		-1.028E-02	4.708E-02	7.625E-02	7.797E-03	-0.135
		1836.01	*	1.765E-02	3.090E-02	5.741E-02	3.285E-03	0.307
ZR-88		392.90	*	-8.009E-04	3.313E-02	5.449E-02	3.173E-03	-0.015
Y-91		1204.90	*	6.515E-01	2.205E+01	3.592E+01	2.087E+00	0.018
NB-94		702.63	*	1.329E-03	3.829E-02	6.431E-02	4.602E-03	0.021
		871.10		7.723E-03	4.066E-02	6.843E-02	6.669E-03	0.113
NB-95		765.79	*	6.542E-02	5.901E-02	9.373E-02	7.581E-03	0.698
NB-95M		235.69	*	5.314E-01	1.728E-01	2.756E-01	3.015E-02	1.928
ZR-95		724.18		1.568E-01	1.293E-01	2.073E-01	1.724E-02	0.757
		756.15	*	5.347E-02	8.246E-02	1.441E-01	1.280E-02	0.371
NB-97		657.90	*	5.513E-03	8.246E-02	Half-Life too short		
		1024.50		-4.554E-01	8.246E-02	Half-Life too short		
ZR-97		254.15		8.139E-01	8.246E-02	Half-Life too short		
		355.39		2.213E-01	8.246E-02	Half-Life too short		
		507.63	*	1.854E+00	8.246E-02	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		602.52		-1.243E+00	8.246E-02	Half-Life too short		
		1021.30		2.773E+00	8.246E-02	Half-Life too short		
		1147.95		-1.729E+00	8.246E-02	Half-Life too short		
		1362.66		1.264E-01	8.246E-02	Half-Life too short		
		1750.46		-1.032E+00	8.246E-02	Half-Life too short		
MO-99		140.51		-1.132E+00	2.135E+01	3.399E+01	9.915E+00	-0.033
		181.06		-2.046E+00	1.725E+01	2.399E+01	4.549E+00	-0.085
		366.43		-4.025E+01	7.184E+01	1.148E+02	7.875E+00	-0.351
		739.58	*	5.261E+00	9.758E+00	1.694E+01	2.487E+00	0.311
		778.00		3.463E+00	2.772E+01	4.667E+01	3.862E+00	0.074
TC-99M		140.51	*	-8.891E+07	2.772E+01	Half-Life too short		
RH-101		127.23		1.821E-02	3.600E-02	5.938E-02	8.174E-03	0.307
		198.01	*	1.599E-02	3.840E-02	6.164E-02	6.156E-03	0.259
		325.23		-4.686E-02	2.802E-01	3.990E-01	3.283E-02	-0.117
RH-102		418.52		-2.275E-01	3.471E-01	5.318E-01	3.180E-02	-0.428
		475.06	*	-4.882E-03	3.388E-02	5.478E-02	3.432E-03	-0.089
		631.29		9.847E-03	6.384E-02	1.041E-01	6.860E-03	0.095
		697.49		-1.172E-02	9.023E-02	1.498E-01	1.061E-02	-0.078
	+	766.84		2.964E-01	1.467E-01	2.557E-01	2.072E-02	1.159
		1046.59		-8.264E-02	1.404E-01	2.120E-01	1.740E-02	-0.390
		1112.84		2.143E-01	2.939E-01	4.517E-01	3.174E-02	0.474
RU-103		497.08	*	-2.737E-02	4.829E-02	7.517E-02	9.702E-03	-0.364
	+	610.33		1.496E+01	3.080E+00	3.380E+00	5.317E-01	4.425
RH-106	+	511.85		8.037E-01	3.654E-01	4.849E-01	3.105E-02	1.657
		621.84	*	-4.464E-03	3.605E-01	5.801E-01	7.047E-02	-0.008
		1050.47		-8.594E-01	2.648E+00	4.196E+00	3.416E-01	-0.205
RU-106	+	511.85		8.037E-01	3.654E-01	4.849E-01	3.105E-02	1.657
		621.84	*	-4.464E-03	3.605E-01	5.801E-01	3.824E-02	-0.008
		1050.47		-8.594E-01	2.648E+00	4.196E+00	3.416E-01	-0.205
AG-108M		433.93	*	3.534E-03	3.719E-02	6.136E-02	4.015E-03	0.058
		614.37		3.955E-02	4.986E-02	7.531E-02	5.292E-03	0.525
		722.95		-2.081E-02	5.364E-02	7.392E-02	5.794E-03	-0.281
AG-110M		657.75	*	8.048E-03	4.089E-02	6.672E-02	4.612E-03	0.121
		677.61		3.863E-01	3.355E-01	6.094E-01	4.329E-02	0.634
		706.67		1.760E-01	2.365E-01	4.167E-01	3.123E-02	0.423
		763.93		2.293E-02	2.098E-01	3.053E-01	2.540E-02	0.075
		884.67		-2.114E-02	5.905E-02	9.454E-02	9.652E-03	-0.224
		937.48		-3.501E-02	1.334E-01	2.149E-01	2.155E-02	-0.163
		1384.27		9.351E-02	1.880E-01	3.032E-01	1.874E-02	0.308
IN-111		171.28		-6.390E-01	8.300E-01	1.286E+00	1.279E-01	-0.497
		245.39	*	-4.619E-01	9.897E-01	1.403E+00	1.367E-01	-0.329
IN-113M		391.69	*	-3.765E-02	4.957E-02	7.779E-02	4.826E-03	-0.484
SN-113		391.69	*	-3.765E-02	4.957E-02	7.779E-02	4.826E-03	-0.484
IN-114M		190.27	*	-6.911E-02	2.288E-01	3.136E-01	3.132E-02	-0.220
CD-115		260.90		-4.258E+01	1.022E+02	1.679E+02	1.606E+01	-0.254
		492.35		2.719E+00	3.024E+01	4.960E+01	3.142E+00	0.055
		527.90	*	-3.113E+00	9.146E+00	1.449E+01	9.348E-01	-0.215
SN-117M		156.02		-1.486E+00	2.452E+00	3.853E+00	4.249E-01	-0.386
		158.56	*	3.040E-02	5.793E-02	9.524E-02	1.024E-02	0.319

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SB-122		563.90	*	-3.180E-01	1.812E+00	2.896E+00	1.892E-01	-0.110
		692.80		1.001E+01	4.041E+01	6.631E+01	4.651E+00	0.151
I-123		159.00	*	1.562E+00	4.041E+01	Half-Life too short		
		528.96		7.097E+01	4.041E+01	Half-Life too short		
TE-123M		159.00	*	3.341E-02	3.157E-02	5.273E-02	5.665E-03	0.634
I-124		602.71	*	-6.296E-01	7.785E-01	9.860E-01	6.491E-02	-0.639
		722.78		-2.119E+00	4.599E+00	6.278E+00	4.676E-01	-0.338
		1325.50		1.400E+01	2.871E+01	4.946E+01	2.864E+00	0.283
	+	1376.25		6.057E+01	3.386E+01	5.951E+01	3.465E+00	1.018
		1509.49		1.288E+01	1.501E+01	2.759E+01	1.622E+00	0.467
		1691.02		2.249E-01	4.092E+00	5.524E+00	3.224E-01	0.041
SB-124		602.71		-4.378E-02	5.413E-02	6.856E-02	4.515E-03	-0.639
		645.85		-1.703E-01	6.064E-01	9.522E-01	6.905E-02	-0.179
		709.31		-6.503E-01	3.141E+00	5.177E+00	3.754E-01	-0.126
		713.82		-1.930E-01	1.859E+00	3.087E+00	3.440E-01	-0.063
		722.78		-2.136E-01	4.636E-01	6.328E-01	4.849E-02	-0.338
	+	968.20		1.872E+01	4.544E+00	8.147E+00	7.631E-01	2.298
		1045.16		9.204E-01	2.820E+00	4.661E+00	3.836E-01	0.197
		1325.50		1.507E+00	3.090E+00	5.324E+00	3.083E-01	0.283
		1368.21		-2.152E+00	1.978E+00	2.520E+00	2.993E-01	-0.854
		1436.60		-1.456E+00	3.499E+00	5.333E+00	3.124E-01	-0.273
		1691.02	*	5.348E-03	9.728E-02	1.313E-01	8.313E-03	0.041
SB-125		427.89	*	-6.219E-02	1.060E-01	1.674E-01	1.049E-02	-0.372
	+	463.38		1.459E+00	6.159E-01	6.666E-01	4.746E-02	2.189
		600.56		2.097E-01	2.213E-01	3.626E-01	2.681E-02	0.578
		635.90		2.053E-01	3.222E-01	5.444E-01	4.071E-02	0.377
TE-125M		109.28	*	-9.632E+00	9.856E+00	1.523E+01	1.957E+00	-0.632
I-126		388.63		1.427E-01	2.096E-01	3.592E-01	2.138E-02	0.397
		666.33	*	3.721E-02	1.982E-01	3.229E-01	2.144E-02	0.115
		753.82		9.137E-01	1.559E+00	2.719E+00	2.150E-01	0.336
SB-126		223.80		4.571E-01	4.102E+00	6.940E+00	6.877E-01	0.066
	+	278.60		8.661E+00	3.978E+00	4.505E+00	4.186E-01	1.922
	+	296.50		1.584E+01	2.734E+00	3.809E+00	3.406E-01	4.159
		414.70		2.292E-02	8.454E-02	1.411E-01	8.406E-03	0.162
		415.30		7.559E-01	6.912E+00	1.143E+01	6.814E-01	0.066
		555.20		-2.130E+00	4.412E+00	6.881E+00	4.485E-01	-0.310
		573.80		-9.072E-01	1.197E+00	1.825E+00	1.195E-01	-0.497
		593.00		-3.313E-01	1.013E+00	1.592E+00	1.047E-01	-0.208
		656.30		-1.130E+00	3.943E+00	6.188E+00	4.072E-01	-0.183
		666.33		1.551E-02	8.258E-02	1.346E-01	8.936E-03	0.115
		675.00		7.081E-01	2.148E+00	3.691E+00	2.495E-01	0.192
		695.00		1.101E-02	9.019E-02	1.466E-01	1.033E-02	0.075
		697.00		1.232E-02	2.942E-01	4.945E-01	3.498E-02	0.025
		720.50	*	4.172E-02	1.733E-01	2.568E-01	1.904E-02	0.162
		856.80		7.590E-01	5.399E-01	9.001E-01	8.563E-02	0.843
		989.30		5.792E-03	1.448E+00	2.382E+00	2.163E-01	0.002
		1034.80		4.116E+00	8.614E+00	1.483E+01	1.245E+00	0.278
		1213.00		-5.953E-01	5.656E+00	9.104E+00	5.292E-01	-0.065
SB-127		61.10		1.340E+01	2.464E+01	3.655E+01	3.844E+00	0.367

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		252.40		-2.940E+00	4.042E+00	6.230E+00	2.627E+00	-0.472
		290.80		3.938E+00	2.069E+01	3.040E+01	3.398E+00	0.130
		411.60		7.985E+00	1.191E+01	2.023E+01	2.867E+00	0.395
		444.90		4.819E+00	9.253E+00	1.563E+01	1.661E+00	0.308
		473.00		8.206E-01	1.571E+00	2.652E+00	2.940E-01	0.309
		543.00		-1.136E+01	1.624E+01	2.485E+01	3.218E+00	-0.457
		603.60		-1.901E+01	1.331E+01	1.528E+01	1.661E+00	-1.244
		685.20	*	1.064E-01	1.192E+00	2.014E+00	1.968E-01	0.053
		698.50		-6.765E+00	1.433E+01	2.314E+01	3.423E+00	-0.292
		722.20		-1.252E+01	3.121E+01	4.292E+01	4.253E+00	-0.292
		783.80		2.905E+00	3.360E+00	5.938E+00	7.086E-01	0.489
XE-127		57.60		2.083E+00	2.347E+00	3.862E+00	3.109E-01	0.539
		145.22		-4.255E-01	7.608E-01	1.201E+00	1.458E-01	-0.354
		172.10		-2.241E-02	1.290E-01	2.058E-01	2.047E-02	-0.109
		202.84	*	-8.910E-03	5.752E-02	8.409E-02	8.393E-03	-0.106
		374.96		1.240E-01	2.182E-01	3.716E-01	2.425E-02	0.334
I-131		80.18		6.548E-02	5.035E+00	5.246E+00	4.081E-01	0.012
		284.30		-2.635E-01	1.505E+00	2.349E+00	2.255E-01	-0.112
		364.48	*	-4.291E-03	1.177E-01	1.942E-01	1.456E-02	-0.022
		636.97		-2.509E-01	1.727E+00	2.746E+00	1.977E-01	-0.091
		722.89		-3.376E+00	8.159E+00	1.121E+01	8.409E-01	-0.301
TE-132		49.72		-3.519E+00	3.725E+00	5.187E+00	4.847E-01	-0.678
		111.76		-6.011E+00	2.387E+01	3.855E+01	5.196E+00	-0.156
		116.30		-2.222E+00	2.241E+01	3.636E+01	5.205E+00	-0.061
		228.16	*	-6.084E-02	5.837E-01	9.783E-01	1.589E-01	-0.062
BA-133		53.15		-3.746E-01	1.030E+00	1.690E+00	1.266E-01	-0.222
		79.62		2.822E+00	1.569E+00	1.780E+00	2.625E-01	1.585
		81.00		-3.089E-02	1.197E-01	1.221E-01	1.880E-02	-0.253
	+	276.40		1.381E+00	6.543E-01	7.302E-01	1.087E-01	1.892
		302.84		9.833E-02	1.714E-01	2.577E-01	3.456E-02	0.381
		356.01	*	-3.178E-02	5.499E-02	7.491E-02	9.250E-03	-0.424
		383.85		-1.658E-01	3.347E-01	5.345E-01	5.915E-02	-0.310
I-133	+	510.53		6.477E-01	3.347E-01	Half-Life too short		
		529.87	*	1.635E-03	3.347E-01	Half-Life too short		
		706.58		1.391E-01	3.347E-01	Half-Life too short		
		856.28		1.540E-01	3.347E-01	Half-Life too short		
		875.33		-4.920E-02	3.347E-01	Half-Life too short		
	+	1236.41		7.705E-01	3.347E-01	Half-Life too short		
		1298.22		3.393E-02	3.347E-01	Half-Life too short		
CS-134		475.35		-4.868E-01	2.263E+00	3.642E+00	2.282E-01	-0.134
		563.23		2.427E-01	4.179E-01	7.051E-01	4.683E-02	0.344
		569.32		-5.896E-03	2.334E-01	3.769E-01	2.525E-02	-0.016
		604.70		-4.799E-02	4.562E-02	5.568E-02	3.682E-03	-0.862
	+	795.84	*	9.861E-02	7.335E-02	1.013E-01	8.724E-03	0.973
		801.93		-6.236E-02	4.751E-01	7.227E-01	6.282E-02	-0.086
		1038.57		-2.117E+00	4.315E+00	6.708E+00	5.592E-01	-0.316
		1167.94		-1.940E+00	3.000E+00	4.580E+00	2.708E-01	-0.424
		1365.15		1.547E+00	1.228E+00	2.335E+00	1.490E-01	0.662
CS-135		268.24	*	2.013E-01	1.791E-01	3.117E-01	3.334E-02	0.646

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-135		288.45		1.098E+09	1.791E-01	Half-Life too short		
		417.63		-6.096E+08	1.791E-01	Half-Life too short		
		546.56		7.212E+08	1.791E-01	Half-Life too short		
		836.80		1.936E+09	1.791E-01	Half-Life too short		
		1038.76		-5.780E+08	1.791E-01	Half-Life too short		
		1124.00		3.117E+09	1.791E-01	Half-Life too short		
		1131.51		-3.641E+08	1.791E-01	Half-Life too short		
		1260.41	*	9.995E+07	1.791E-01	Half-Life too short		
		1457.56		3.954E+10	1.791E-01	Half-Life too short		
		1678.03		-3.682E+08	1.791E-01	Half-Life too short		
		1706.46		-3.164E+08	1.791E-01	Half-Life too short		
		1791.20		2.079E+07	1.791E-01	Half-Life too short		
CS-136		66.91		-2.341E-01	5.150E-01	6.796E-01	1.027E-01	-0.344
	+	86.29		4.399E+00	1.197E+00	1.691E+00	2.065E-01	2.601
		153.22		3.755E-01	7.184E-01	1.180E+00	1.430E-01	0.318
		163.89		-2.618E-01	1.080E+00	1.722E+00	1.902E-01	-0.152
		176.55		-8.073E-02	4.114E-01	6.556E-01	6.814E-02	-0.123
		273.65		-1.343E+00	5.776E-01	6.888E-01	6.817E-02	-1.950
		340.57		4.733E-01	1.635E-01	2.718E-01	2.187E-02	1.741
		818.51		2.513E-03	7.545E-02	1.258E-01	1.120E-02	0.020
		1048.07	*	-9.534E-02	1.171E-01	1.755E-01	1.503E-02	-0.543
		1235.34		1.403E+00	7.933E-01	1.299E+00	1.298E-01	1.081
BA-137M		661.65	*	4.241E-03	4.181E-02	6.768E-02	4.450E-03	0.063
CS-137		661.65	*	4.483E-03	4.419E-02	7.154E-02	4.720E-03	0.063
CE-139		165.85	*	1.217E-03	3.169E-02	5.111E-02	5.075E-03	0.024
BA-140		162.64		-4.375E-01	7.778E-01	1.222E+00	1.310E-01	-0.358
		304.84		-4.658E-01	1.472E+00	2.071E+00	5.813E-01	-0.225
		423.70		9.805E-01	2.081E+00	3.476E+00	1.106E+00	0.282
		537.32	*	1.330E-01	2.774E-01	4.610E-01	1.505E-01	0.289
LA-140	+	328.77		3.324E-01	3.140E-01	5.378E-01	4.646E-02	0.618
		432.53		-2.500E-01	2.174E+00	3.539E+00	2.351E-01	-0.071
		487.03		1.149E-01	1.480E-01	2.539E-01	1.784E-02	0.452
		751.79		-1.640E+00	1.818E+00	2.798E+00	2.483E-01	-0.586
		815.85		-2.164E-01	3.271E-01	5.087E-01	5.000E-02	-0.426
		867.82		1.653E-01	1.672E+00	2.594E+00	2.620E-01	0.064
		919.63		1.090E+00	3.119E+00	5.201E+00	6.115E-01	0.210
		925.24		-7.219E-01	1.250E+00	1.948E+00	2.020E-01	-0.370
		1596.49	*	-2.766E-02	9.424E-02	1.497E-01	8.796E-03	-0.185
CE-141		145.44	*	-2.738E-02	6.863E-02	1.092E-01	1.334E-02	-0.251
CE-143		57.37		1.973E-04	6.863E-02	Half-Life too short		
		231.56		4.048E-04	6.863E-02	Half-Life too short		
		293.26	*	5.363E-04	6.863E-02	Half-Life too short		
	+	350.59		1.903E-02	6.863E-02	Half-Life too short		
		490.36		3.512E-04	6.863E-02	Half-Life too short		
		664.57		2.423E-04	6.863E-02	Half-Life too short		
		721.93		-3.064E-04	6.863E-02	Half-Life too short		
CE-144		80.11		2.309E-01	2.555E+00	2.678E+00	2.069E-01	0.086
		133.54	*	-1.059E-01	2.230E-01	3.536E-01	6.546E-02	-0.299
PM-144		476.78		-7.817E-04	7.755E-02	1.265E-01	9.288E-03	-0.006

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		-5.423E-03	3.852E-02	5.961E-02	4.112E-03	-0.091
		696.49	*	1.419E-03	4.002E-02	6.724E-02	4.754E-03	0.021
		778.57		6.141E-02	2.473E+00	4.130E+00	3.422E-01	0.015
PR-144		696.49	*	9.610E-02	2.710E+00	4.553E+00	3.218E-01	0.021
		1489.15		-7.584E+00	1.271E+01	1.919E+01	1.127E+00	-0.395
PM-146		453.90	*	5.905E-03	5.274E-02	8.204E-02	7.280E-03	0.072
		633.02		-2.288E-01	1.664E+00	2.643E+00	9.769E-01	-0.087
		735.90		-1.937E-01	1.854E-01	2.532E-01	7.170E-02	-0.765
		747.13		1.508E-02	9.875E-02	1.670E-01	2.263E-02	0.090
ND-147	+	91.11		7.490E-01	2.517E-01	4.548E-01	4.045E-02	1.647
		319.41		-6.198E-01	3.362E+00	5.532E+00	4.642E-01	-0.112
		439.89		-1.232E+00	6.539E+00	1.059E+01	6.460E-01	-0.116
		531.02	*	6.198E-01	6.122E-01	1.057E+00	1.460E-01	0.587
PM-149		285.90	*	-2.958E+01	6.887E+01	1.123E+02	1.779E+01	-0.263
EU-152		121.78		-8.161E-02	7.906E-02	1.201E-01	1.797E-02	-0.679
		244.69		2.287E-01	4.159E-01	6.269E-01	6.112E-02	0.365
		344.27	*	8.411E-02	1.353E-01	1.809E-01	1.488E-02	0.465
		443.98		7.127E-01	1.132E+00	1.926E+00	1.178E-01	0.370
		778.89		2.579E-02	2.878E-01	4.832E-01	4.004E-02	0.053
		867.32		-3.258E-01	1.166E+00	1.676E+00	1.623E-01	-0.194
	+	964.01		8.694E-01	4.137E-01	6.404E-01	6.034E-02	1.358
		1085.78		-1.029E-02	4.498E-01	7.336E-01	5.524E-02	-0.014
		1112.02		1.258E-01	4.150E-01	6.277E-01	4.421E-02	0.200
		1407.95		-2.722E-02	2.301E-01	3.797E-01	2.218E-02	-0.072
GD-153		69.67		1.683E-02	1.155E+00	1.674E+00	1.331E-01	0.010
	+	83.37		1.807E+01	1.535E+01	2.044E+01	1.569E+00	0.884
		97.43	*	8.116E-02	8.006E-02	1.201E-01	1.113E-02	0.676
		103.18		-1.088E-01	1.036E-01	1.618E-01	1.673E-02	-0.672
EU-154		123.07		-6.024E-02	5.686E-02	8.614E-02	1.373E-02	-0.699
		247.94		3.901E-01	4.167E-01	6.673E-01	8.221E-02	0.585
		591.81		-9.234E-02	7.547E-01	1.133E+00	1.162E-01	-0.081
		723.30		-3.149E-02	2.280E-01	3.239E-01	2.749E-02	-0.097
		756.87		7.245E-01	9.110E-01	1.604E+00	1.846E-01	0.452
		873.19		8.447E-02	3.462E-01	5.853E-01	7.659E-02	0.144
		996.32		-3.386E-01	4.334E-01	6.512E-01	1.168E-01	-0.520
		1004.76		-1.007E-01	2.518E-01	3.976E-01	4.698E-02	-0.253
		1274.45	*	-9.840E-02	1.394E-01	2.069E-01	1.935E-02	-0.476
EU-155		48.70		5.530E-01	5.298E-01	8.101E-01	5.646E-02	0.683
		60.01		-2.731E-01	2.404E+00	3.482E+00	2.883E-01	-0.078
	+	86.54		4.314E-01	1.101E-01	1.653E-01	1.277E-02	2.610
		105.31	*	1.404E-01	1.075E-01	1.819E-01	1.970E-02	0.772
TB-160	+	86.79		1.140E+00	2.906E-01	4.355E-01	3.321E-02	2.618
		197.04		-2.583E-01	6.494E-01	1.007E+00	1.005E-01	-0.257
		215.65		3.696E-01	8.564E-01	1.391E+00	1.384E-01	0.266
		298.57		3.985E-01	1.689E-01	2.170E-01	1.931E-02	1.837
		879.36	*	1.696E-02	1.589E-01	2.595E-01	2.564E-02	0.065
		962.29		1.058E+00	6.767E-01	1.123E+00	1.060E-01	0.942
		966.15		1.516E+00	3.379E-01	6.393E-01	6.005E-02	2.372
		1177.93		-3.207E-01	4.051E-01	6.055E-01	3.513E-02	-0.530

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		1271.85		-7.369E-02	7.585E-01	1.214E+00	7.055E-02	-0.061
HO-166M		80.57		-5.706E-02	3.290E-01	3.380E-01	2.610E-02	-0.169
	+	184.41		1.596E-01	7.196E-02	7.580E-02	7.564E-03	2.105
		280.46		1.487E-02	9.703E-02	1.425E-01	1.319E-02	0.104
		410.95		3.003E-01	2.916E-01	5.059E-01	3.003E-02	0.594
		711.68	*	-1.428E-02	6.883E-02	1.134E-01	8.261E-03	-0.126
		752.31		-4.438E-03	2.994E-01	4.992E-01	3.936E-02	-0.009
		810.29		2.246E-03	6.366E-02	1.062E-01	9.315E-03	0.021
TM-171		51.35		-2.650E+00	8.181E+00	1.244E+01	9.051E-01	-0.213
		52.39		-9.084E-01	4.196E+00	6.921E+00	5.121E-01	-0.131
		59.40		8.127E+00	1.253E+01	1.871E+01	1.551E+00	0.434
		66.72	*	-1.104E+01	1.838E+01	2.597E+01	2.087E+00	-0.425
LU-176	+	88.36		8.499E-01	2.166E-01	3.535E-01	2.711E-02	2.405
		201.83		-3.635E-03	3.292E-02	5.238E-02	5.229E-03	-0.069
		306.84	*	-3.062E-04	2.832E-02	4.448E-02	3.874E-03	-0.007
		401.10		6.572E-01	7.486E+00	1.239E+01	7.277E-01	0.053
LU-177		112.95		1.111E-01	1.458E+00	2.383E+00	2.922E-01	0.047
	+	208.36	*	3.303E+00	1.589E+00	1.995E+00	1.989E-01	1.656
LU-177M		52.97		-1.854E-01	4.576E-01	7.499E-01	5.601E-02	-0.247
		54.07		-5.075E-02	2.653E-01	4.377E-01	3.329E-02	-0.116
		61.30		9.985E-01	7.907E-01	1.200E+00	9.868E-02	0.832
		121.62		-4.491E-01	4.039E-01	6.114E-01	8.613E-02	-0.734
		147.16		1.127E-01	7.370E-01	1.198E+00	1.431E-01	0.094
		171.86		-2.473E-01	5.305E-01	8.350E-01	8.303E-02	-0.296
		218.09		5.393E-01	9.396E-01	1.616E+00	1.606E-01	0.334
		268.79		1.029E+00	9.325E-01	1.587E+00	1.499E-01	0.649
		319.02		-1.314E-01	2.804E-01	4.539E-01	3.813E-02	-0.290
		367.43		1.653E-01	9.882E-01	1.649E+00	1.125E-01	0.100
		413.65	*	-1.430E-02	2.124E-01	3.477E-01	2.070E-02	-0.041
HF-181		56.28		-9.967E-03	3.370E-01	5.585E-01	4.401E-02	-0.018
		57.53		1.731E-01	1.973E-01	3.246E-01	2.611E-02	0.533
		65.20		5.815E-01	5.843E-01	8.758E-01	7.080E-02	0.664
		133.02		-4.433E-02	7.145E-02	1.128E-01	1.496E-02	-0.393
		136.25		-1.545E-01	4.772E-01	7.627E-01	9.898E-02	-0.203
		345.85		-8.695E-02	2.406E-01	3.357E-01	2.550E-02	-0.259
		482.03	*	-2.787E-02	4.848E-02	7.586E-02	4.775E-03	-0.367
W-181		56.28		-3.789E-03	1.336E-01	2.214E-01	1.745E-02	-0.017
		57.53		6.864E-02	7.824E-02	1.287E-01	1.035E-02	0.533
		65.20	*	2.288E-01	2.299E-01	3.446E-01	2.786E-02	0.664
TA-182		67.75		4.484E-03	8.675E-02	1.064E-01	8.515E-03	0.042
		100.10		1.362E-02	1.634E-01	2.681E-01	2.617E-02	0.051
		152.43		3.056E-01	3.907E-01	6.467E-01	7.376E-02	0.473
		222.10		-2.354E-01	3.732E-01	6.117E-01	6.066E-02	-0.385
		1001.68		1.815E+00	2.290E+00	4.024E+00	3.583E-01	0.451
	+	1121.28		7.185E-01	2.939E-01	4.129E-01	2.834E-02	1.740
		1189.05		5.273E-01	3.677E-01	6.693E-01	3.886E-02	0.788
		1221.42	*	8.506E-02	2.296E-01	3.848E-01	2.237E-02	0.221
		1230.97		3.166E-01	6.014E-01	8.937E-01	5.197E-02	0.354
RE-183		57.98		7.711E-02	8.319E-02	1.318E-01	1.068E-02	0.585

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		59.32		4.415E-02	5.067E-02	7.624E-02	6.311E-03	0.579
		67.20		-4.495E-02	1.400E-01	1.863E-01	1.495E-02	-0.241
		162.32	*	-8.469E-02	1.199E-01	1.869E-01	1.931E-02	-0.453
	+	208.81		3.310E+00	1.593E+00	2.000E+00	1.993E-01	1.655
		291.72		-9.066E-02	1.143E+00	1.647E+00	1.490E-01	-0.055
RE-184		57.98		2.861E-01	3.086E-01	4.890E-01	3.961E-02	0.585
		59.32		1.636E-01	1.878E-01	2.826E-01	2.339E-02	0.579
		67.20		-1.667E-01	5.193E-01	6.910E-01	5.543E-02	-0.241
		161.27		-1.674E-01	3.930E-01	6.217E-01	6.497E-02	-0.269
		216.55		2.492E-01	2.897E-01	5.027E-01	4.999E-02	0.496
		252.85	*	-2.349E-01	2.564E-01	4.107E-01	3.968E-02	-0.572
		318.01		-2.149E-01	4.816E-01	7.806E-01	6.579E-02	-0.275
		792.07		7.675E-01	1.572E+00	2.009E+00	1.706E-01	0.382
		903.28		4.845E-01	1.346E+00	1.999E+00	2.026E-01	0.242
		920.93		1.595E-01	5.254E-01	8.906E-01	8.856E-02	0.179
OS-185		59.72		-1.034E-02	1.403E-01	2.036E-01	1.689E-02	-0.051
		61.14		5.535E-02	8.601E-02	1.280E-01	1.054E-02	0.432
		69.30		-8.307E-03	2.036E-01	2.946E-01	2.346E-02	-0.028
		592.07		-3.176E-01	3.059E+00	4.602E+00	3.026E-01	-0.069
		646.12	*	-1.249E-02	5.200E-02	8.194E-02	5.398E-03	-0.152
		717.42		-8.807E-02	1.031E+00	1.714E+00	1.263E-01	-0.051
		874.81		-3.312E-01	6.675E-01	1.053E+00	1.033E-01	-0.314
		880.27		-2.430E-01	9.153E-01	1.445E+00	1.430E-01	-0.168
RE-188		155.03	*	-1.175E-01	1.974E-01	3.107E-01	3.458E-02	-0.378
		477.96		-2.459E-01	3.485E+00	5.662E+00	3.554E-01	-0.043
		633.10		-3.179E-01	3.331E+00	5.319E+00	3.506E-01	-0.060
W-188	+	63.58		6.821E+01	3.327E+01	4.879E+01	3.971E+00	1.398
		227.08		4.406E+00	1.351E+01	2.303E+01	2.278E+00	0.191
		290.67	*	1.661E+00	8.728E+00	1.283E+01	1.163E+00	0.130
IR-192	+	295.96		1.281E+00	2.214E-01	3.142E-01	2.832E-02	4.076
		308.46		1.329E-02	1.027E-01	1.721E-01	1.500E-02	0.077
		316.51	*	-1.009E-02	3.623E-02	5.930E-02	5.033E-03	-0.170
		468.07		7.842E-04	8.353E-02	1.181E-01	8.348E-03	0.007
		604.41		-6.816E-01	6.123E-01	7.351E-01	8.653E-02	-0.927
		612.46		2.235E+00	1.052E+00	1.717E+00	1.407E-01	1.301
AU-195		65.12		1.218E-01	1.069E-01	1.610E-01	1.302E-02	0.757
		66.83		-3.210E-02	6.518E-02	8.600E-02	6.908E-03	-0.373
	+	75.70		1.556E+00	2.323E-01	4.000E-01	3.124E-02	3.891
		98.88	*	1.605E-01	2.222E-01	3.462E-01	3.301E-02	0.464
		129.76		5.161E+00	3.253E+00	5.448E+00	7.383E-01	0.947
TL-200		367.94	*	-1.125E-05	3.253E+00	Half-Life too short		
		579.30		2.400E-03	3.253E+00	Half-Life too short		
		828.27		-4.592E-04	3.253E+00	Half-Life too short		
		1205.75		-3.711E-04	3.253E+00	Half-Life too short		
TL-201		68.90		1.785E-01	2.700E+00	3.656E+00	2.915E-01	0.049
		70.82		6.533E-01	1.493E+00	2.197E+00	1.741E-01	0.297
		80.30		-3.940E-01	4.655E+00	4.816E+00	3.720E-01	-0.082
		135.34		-1.962E+01	2.116E+01	3.278E+01	4.281E+00	-0.599
		167.43	*	-4.691E-01	5.797E+00	9.299E+00	9.232E-01	-0.050

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		1.959E-02	2.962E-01	4.011E-01	3.198E-02	0.049
		70.82		7.148E-02	1.633E-01	2.404E-01	1.905E-02	0.297
		80.30		-4.312E-02	5.095E-01	5.270E-01	4.072E-02	-0.082
		439.56	*	-8.671E-03	7.837E-02	1.276E-01	7.776E-03	-0.068
HG-203		70.83		3.278E-01	7.440E-01	1.094E+00	1.442E-01	0.300
		72.87		2.531E+00	5.791E-01	8.428E-01	1.073E-01	3.002
		82.60		3.334E-01	1.385E+00	1.464E+00	1.930E-01	0.228
		279.20	*	4.784E-02	4.901E-02	7.530E-02	7.160E-03	0.635
BI-207		72.80		6.899E-01	1.521E-01	2.468E-01	1.943E-02	2.796
	+	74.97		8.670E-01	1.294E-01	1.969E-01	1.541E-02	4.404
	+	84.90		2.344E-01	1.992E-01	2.846E-01	2.178E-02	0.824
		569.67		-3.785E-03	3.623E-02	5.817E-02	3.807E-03	-0.065
		1063.62	*	4.653E-03	5.869E-02	9.684E-02	7.669E-03	0.048
		1770.23		-1.811E-01	5.300E-01	6.584E-01	3.803E-02	-0.275
TL-207		81.07		-6.995E-02	2.643E-01	2.696E-01	2.079E-02	-0.259
	+	83.78		1.546E-01	1.314E-01	1.715E-01	1.315E-02	0.901
		94.90		8.191E-01	2.518E-01	3.952E-01	3.483E-02	2.073
		122.32		-1.577E+00	1.877E+00	2.887E+00	4.206E-01	-0.546
		144.24		1.242E-01	7.414E-01	1.207E+00	1.565E-01	0.103
		154.21		-5.369E-02	4.603E-01	7.397E-01	8.797E-02	-0.073
		269.46		3.878E-01	2.266E-01	3.829E-01	3.676E-02	1.013
		323.87	*	9.076E-02	8.224E-01	1.196E+00	2.097E-01	0.076
	+	338.28		7.459E+00	1.695E+00	2.623E+00	3.089E-01	2.844
		445.03		1.295E+00	2.651E+00	4.472E+00	4.676E-01	0.290
PO-209		260.50		-5.004E+00	1.078E+01	1.767E+01	1.690E+00	-0.283
		262.80		5.792E+00	2.944E+01	4.973E+01	4.742E+00	0.116
		896.60	*	-1.970E+00	8.303E+00	1.342E+01	1.364E+00	-0.147
PB-211		404.84	*	-1.131E+00	1.300E+00	1.687E+00	1.052E+00	-0.670
		427.08		4.351E-01	2.325E+00	3.835E+00	2.371E+00	0.113
		831.96		-2.091E+00	1.881E+00	1.918E+00	1.203E+00	-1.090
BI-212	+	727.18	*	1.009E+00	6.117E-01	7.630E-01	6.921E-02	1.323
		785.46		9.987E-01	2.195E+00	3.321E+00	2.786E-01	0.301
		1620.62		1.660E+00	1.553E+00	2.931E+00	1.720E-01	0.566
PO-215		81.07		-6.995E-02	2.643E-01	2.696E-01	2.079E-02	-0.259
	+	83.78		1.546E-01	1.314E-01	1.715E-01	1.315E-02	0.901
		94.90		8.191E-01	2.518E-01	3.952E-01	3.483E-02	2.073
		122.32		-1.577E+00	1.877E+00	2.887E+00	4.206E-01	-0.546
		144.24		1.242E-01	7.414E-01	1.207E+00	1.565E-01	0.103
		154.21		-5.369E-02	4.603E-01	7.397E-01	8.797E-02	-0.073
		269.46		3.878E-01	2.266E-01	3.829E-01	3.676E-02	1.013
		323.87	*	9.076E-02	8.224E-01	1.196E+00	2.097E-01	0.076
	+	338.28		7.459E+00	1.695E+00	2.623E+00	3.089E-01	2.844
		445.03		1.295E+00	2.651E+00	4.472E+00	4.676E-01	0.290
RN-219		271.23		3.786E-01	3.038E-01	4.719E-01	5.183E-02	0.802
		401.81	*	1.351E-01	4.625E-01	7.738E-01	1.055E-01	0.175
RN-220		549.76	*	3.698E+00	3.179E+01	5.197E+01	3.381E+00	0.071
RA-223		81.07		-6.995E-02	2.643E-01	2.696E-01	2.079E-02	-0.259
	+	83.78		1.546E-01	1.314E-01	1.715E-01	1.315E-02	0.901
		94.90		8.191E-01	2.518E-01	3.952E-01	3.483E-02	2.073

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		122.32		-1.577E+00	1.877E+00	2.887E+00	4.206E-01	-0.546
		144.24		1.242E-01	7.414E-01	1.207E+00	1.565E-01	0.103
		154.21		-5.369E-02	4.603E-01	7.397E-01	8.797E-02	-0.073
		269.46		3.878E-01	2.266E-01	3.829E-01	3.676E-02	1.013
		323.87	*	9.076E-02	8.224E-01	1.196E+00	2.097E-01	0.076
	+	338.28		7.459E+00	1.695E+00	2.623E+00	3.089E-01	2.844
		445.03		1.295E+00	2.651E+00	4.472E+00	4.676E-01	0.290
AC-227		79.80		8.551E-01	1.994E+00	2.131E+00	4.510E-01	0.401
		236.00		1.921E+00	4.188E-01	6.078E-01	7.975E-02	3.161
		256.20	*	2.683E-01	4.207E-01	7.211E-01	1.149E-01	0.372
		286.10		-4.572E-01	1.656E+00	2.724E+00	3.693E-01	-0.168
	+	299.80		4.014E+00	1.864E+00	2.738E+00	4.823E-01	1.466
		304.40		8.310E-02	2.232E+00	3.238E+00	5.991E-01	0.026
		334.20		1.037E+00	3.024E+00	4.220E+00	8.072E-01	0.246
TH-227		79.80		8.551E-01	1.995E+00	2.131E+00	4.570E-01	0.401
	+	94.00		8.215E+00	3.113E+00	3.533E+00	7.698E-01	2.325
		236.00		1.921E+00	4.066E-01	6.078E-01	7.317E-02	3.161
		256.20	*	2.683E-01	4.214E-01	7.211E-01	1.339E-01	0.372
		286.10		-4.572E-01	1.717E+00	2.724E+00	2.736E+00	-0.168
	+	299.80		4.014E+00	1.864E+00	2.738E+00	4.823E-01	1.466
		304.40		8.310E-02	2.232E+00	3.238E+00	5.991E-01	0.026
		334.20		1.037E+00	3.024E+00	4.220E+00	8.072E-01	0.246
TH-229	+	85.43		2.314E-01	1.966E-01	3.031E-01	2.317E-02	0.764
	+	88.47		3.199E-01	1.069E-01	2.026E-01	1.558E-02	1.579
		100.00		1.992E-02	1.709E-01	2.807E-01	2.735E-02	0.071
		193.63	*	-5.186E-01	5.725E-01	8.757E-01	8.746E-02	-0.592
		210.97		1.734E+00	1.016E+00	1.532E+00	1.526E-01	1.132
PA-231		283.67	*	4.078E-02	1.753E+00	2.668E+00	4.141E-01	0.015
	+	301.29		1.606E+00	7.181E-01	1.121E+00	1.389E-01	1.433
TH-231		81.07		-6.995E-02	2.643E-01	2.696E-01	2.079E-02	-0.259
	+	83.78		1.546E-01	1.314E-01	1.715E-01	1.315E-02	0.901
		94.90		8.191E-01	2.518E-01	3.952E-01	3.483E-02	2.073
		122.32		-1.577E+00	1.877E+00	2.887E+00	4.206E-01	-0.546
		144.24		1.242E-01	7.414E-01	1.207E+00	1.565E-01	0.103
		154.21		-5.369E-02	4.603E-01	7.397E-01	8.797E-02	-0.073
		269.46		3.878E-01	2.266E-01	3.829E-01	3.676E-02	1.013
		323.87	*	9.076E-02	8.224E-01	1.196E+00	2.097E-01	0.076
	+	338.28		7.459E+00	1.695E+00	2.623E+00	3.089E-01	2.844
		445.03		1.295E+00	2.651E+00	4.472E+00	4.676E-01	0.290
U-231	+	84.21		5.495E+00	4.669E+00	6.115E+00	4.686E-01	0.899
	+	92.29		6.697E+00	2.155E+00	2.993E+00	2.499E-01	2.238
		95.87	*	7.326E-01	9.208E-01	1.367E+00	1.228E-01	0.536
		108.00		-7.446E-01	1.757E+00	2.823E+00	3.182E-01	-0.264
PA-233	+	75.28		2.530E+01	4.958E+00	6.159E+00	9.185E-01	4.108
	+	86.59		7.015E+00	2.524E+00	2.686E+00	7.122E-01	2.612
	+	300.12		1.119E+00	5.094E-01	7.650E-01	1.149E-01	1.463
		311.98	*	9.440E-03	6.706E-02	1.124E-01	9.925E-03	0.084
		340.50		2.620E+00	1.032E+00	1.426E+00	3.356E-01	1.838
		398.62		4.741E-02	2.351E+00	3.875E+00	1.002E+00	0.012

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.76		-3.645E-01	1.955E+00	3.174E+00	6.549E-01	-0.115
PA-234	+	63.00		2.001E+00	1.010E+00	1.426E+00	2.175E-01	1.403
		94.67		6.454E-01	1.949E-01	2.920E-01	3.652E-02	2.211
		98.44		1.214E-01	1.154E-01	1.425E-01	7.967E-02	0.852
		99.86		6.975E-02	4.330E-01	7.123E-01	6.921E-02	0.098
		111.00		9.093E-02	1.917E-01	3.135E-01	4.572E-02	0.290
		131.20		5.643E-02	1.181E-01	1.945E-01	2.612E-02	0.290
		152.70		3.058E-01	3.820E-01	6.283E-01	1.168E-01	0.487
	+	186.00		5.745E+00	3.111E+00	2.815E+00	8.899E-01	2.041
		226.40		9.831E-02	4.315E-01	7.329E-01	1.031E-01	0.134
		227.20		1.335E-01	4.609E-01	7.848E-01	7.761E-02	0.170
		248.90		2.339E-01	8.966E-01	1.482E+00	3.387E-01	0.158
		293.70		6.178E+00	1.517E+00	1.950E+00	3.412E-01	3.168
		369.80		-5.205E-01	9.609E-01	1.526E+00	3.220E-01	-0.341
		568.70		1.796E-01	1.154E+00	1.889E+00	1.236E-01	0.095
		569.50		-2.844E-02	3.219E-01	5.174E-01	3.386E-02	-0.055
		574.00		-1.416E+00	1.833E+00	2.790E+00	1.828E-01	-0.507
		699.00		-3.444E-01	8.190E-01	1.326E+00	2.446E-01	-0.260
		706.10		1.001E+00	1.260E+00	2.095E+00	9.290E-01	0.478
		733.00		2.311E-01	4.606E-01	6.998E-01	1.527E-01	0.330
		742.81		-1.650E-02	1.542E+00	2.573E+00	1.727E+00	-0.006
	+	796.30		1.919E+00	1.509E+00	1.995E+00	5.394E-01	0.961
		805.60		8.853E-01	1.136E+00	1.957E+00	6.002E-01	0.452
		819.60		9.267E-02	1.351E+00	2.258E+00	8.604E-01	0.041
		826.30		4.402E-01	9.388E-01	1.588E+00	7.116E-01	0.277
		831.60		-1.149E+00	7.731E-01	9.701E-01	2.909E-01	-1.184
		876.40		-1.121E+00	1.514E+00	1.449E+00	1.491E+00	-0.774
		880.51		-7.424E-02	3.350E-01	5.315E-01	5.262E-02	-0.140
		883.24		1.852E-01	3.508E-01	5.697E-01	3.840E-01	0.325
		899.00		-1.827E-01	9.785E-01	1.585E+00	6.981E-01	-0.115
		925.00		-9.163E-01	1.396E+00	2.159E+00	2.137E-01	-0.424
		926.50		-5.791E-02	2.099E-01	3.369E-01	8.669E-02	-0.172
		946.00	*	-8.398E-02	3.382E-01	5.434E-01	1.047E-01	-0.155
		949.00		2.154E-01	5.087E-01	8.702E-01	8.365E-02	0.248
		980.50		-7.872E-02	8.924E-01	1.386E+00	1.276E-01	-0.057
		1394.10		-6.249E-01	1.384E+00	2.080E+00	1.347E+00	-0.300
PA-234M	+	766.42		3.120E+01	2.195E+01	2.629E+01	1.332E+01	1.187
		1001.03	*	3.752E+00	5.197E+00	9.081E+00	9.279E-01	0.413
U-235	+	89.95		3.210E+00	1.434E+00	1.767E+00	5.419E-01	1.817
	+	93.35		2.556E+00	1.068E+00	1.129E+00	3.160E-01	2.265
		105.00		1.268E+00	1.119E+00	1.788E+00	5.454E-01	0.709
		143.76	*	9.785E-03	2.276E-01	3.688E-01	7.217E-02	0.027
		163.35		-2.793E-01	5.139E-01	8.039E-01	1.596E-01	-0.347
	+	185.71		2.128E-01	9.594E-02	1.037E-01	1.035E-02	2.052
		205.31		8.823E-02	6.653E-01	9.336E-01	1.842E-01	0.095
NP-236		94.67		4.914E-01	1.413E-01	2.216E-01	1.944E-02	2.217
		98.44		9.179E-02	7.107E-02	1.077E-01	1.018E-02	0.852
		111.00		6.878E-02	1.449E-01	2.371E-01	2.814E-02	0.290
		160.31	*	3.108E-02	8.854E-02	1.447E-01	1.527E-02	0.215

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		3.298E-02	1.497E-01	2.385E-01	2.304E-02	0.138
		117.00	*	1.688E-01	1.935E-01	3.235E-01	4.238E-02	0.522
	+	209.75		2.641E+00	1.271E+00	1.575E+00	1.570E-01	1.677
		228.18		-2.895E-02	2.443E-01	4.092E-01	4.044E-02	-0.071
	+	277.60		6.742E-01	3.097E-01	3.598E-01	3.349E-02	1.874
		334.30		-1.201E-01	1.666E+00	2.386E+00	1.900E-01	-0.050
AM-241		59.54	*	3.813E-02	7.305E-02	1.085E-01	9.711E-03	0.351
CM-243		99.55		3.393E-02	1.540E-01	2.454E-01	2.371E-02	0.138
		103.76	*	-7.326E-03	9.510E-02	1.550E-01	1.619E-02	-0.047
		117.00		1.736E-01	1.990E-01	3.327E-01	4.360E-02	0.522
	+	209.75		2.603E+00	1.253E+00	1.552E+00	1.547E-01	1.677
		228.18		-2.925E-02	2.468E-01	4.135E-01	4.086E-02	-0.071
	+	277.60		6.796E-01	3.122E-01	3.627E-01	3.376E-02	1.874
AM-246		798.80		-3.760E-02	1.796E-01	2.505E-01	2.153E-02	-0.150
		1036.00		-4.083E-02	3.226E-01	5.219E-01	4.372E-02	-0.078
		1062.04		-2.009E-02	2.726E-01	4.431E-01	3.521E-02	-0.045
		1078.86	*	-8.521E-04	1.607E-01	2.626E-01	2.010E-02	-0.003
CM-247	+	278.00		2.796E+00	1.284E+00	1.476E+00	1.373E-01	1.894
		287.40		1.274E-01	1.319E+00	2.211E+00	2.019E-01	0.058
		402.60	*	1.142E-02	4.065E-02	6.804E-02	4.004E-03	0.168
CF-249		252.85		-8.857E-01	9.667E-01	1.548E+00	1.496E-01	-0.572
		333.44		1.587E-01	2.443E-01	3.264E-01	2.608E-02	0.486
		387.95	*	5.026E-02	4.312E-02	7.584E-02	4.536E-03	0.663
CF-251		176.60	*	1.002E-02	1.492E-01	2.404E-01	2.394E-02	0.042
		227.00		1.389E-01	4.104E-01	7.000E-01	6.923E-02	0.198
		285.00		-6.283E-01	1.893E+00	3.022E+00	2.773E-01	-0.208

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385011     *
* Acquisition date : 31-DEC-2009 10:55:03 Detector SN#     :               *
* Detector ID        : GAM05                Sensitivity      : 5.000       *
* Geometry           : CAN                  Energy tolerance: 1.500        *
* Elapsed live time:    0 02:00:00.00       Abundance limit : 75.000       *
* Elapsed real time:    0 02:00:01.78       Half life ratio :  8.000       *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        : 17-DEC-2009 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G243385011           Analyst initials: MJH1          *
* Batch Number       : 936285               Sample Quantity : 1.3124E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000    *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :    0.00000                                             *
* CALIB. DATE/TIME : 11-JUN-2009 16:41:00 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope      :               *
* LCS DPM          :    0.000             LCS Isotope      :               *
* LCSD DPM         :    0.000             LCSD Isotope     :               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.900E+01	1.963E+00	5.667E-01	0.000E+00
CD-109	3.640E+00	9.091E-01	1.085E+00	0.000E+00
SN-126	3.584E-01	8.951E-02	1.067E-01	0.000E+00
TL-208	6.169E-01	1.063E-01	7.052E-02	0.000E+00
BI-210	6.950E-01	7.556E-01	9.474E-01	0.000E+00
PB-210	6.950E-01	7.556E-01	9.474E-01	0.000E+00
PO-210	6.950E-01	7.551E-01	9.474E-01	0.000E+00
BI-211	4.312E+00	6.244E-01	3.403E-01	0.000E+00
PB-212	1.767E+00	2.183E-01	1.033E-01	0.000E+00
PO-212	1.767E+00	2.183E-01	1.033E-01	0.000E+00
BI-214	1.414E+00	2.177E-01	1.257E-01	0.000E+00
PB-214	1.500E+00	2.303E-01	1.186E-01	0.000E+00
PO-214	1.500E+00	2.303E-01	1.186E-01	0.000E+00
PO-216	1.767E+00	2.183E-01	1.033E-01	0.000E+00
PO-218	1.500E+00	2.303E-01	1.186E-01	0.000E+00
RA-224	6.151E+00	1.604E+00	1.176E+00	0.000E+00
RA-226	1.414E+00	2.177E-01	1.257E-01	0.000E+00
AC-228	1.900E+00	3.807E-01	2.601E-01	0.000E+00
RA-228	1.900E+00	3.807E-01	2.601E-01	0.000E+00
TH-228	1.792E+00	2.214E-01	1.048E-01	0.000E+00
TH-230	1.414E+00	2.177E-01	1.257E-01	0.000E+00
TH-232	1.900E+00	3.807E-01	2.601E-01	0.000E+00
TH-234	1.717E+00	8.626E-01	1.117E+00	0.000E+00
U-234	1.414E+00	2.177E-01	1.257E-01	0.000E+00
NP-237	1.052E+00	3.382E-01	3.123E-01	0.000E+00
U-238	1.717E+00	8.626E-01	1.117E+00	0.000E+00
AM-243	4.831E-01	7.065E-02	6.656E-02	0.000E+00
ANH-511	1.613E-01	7.185E-02	5.189E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)

BE-7	-4.574E-02	3.555E-01	5.989E-01	0.000E+00	NOT IDENT.
NA-22	-3.474E-02	4.886E-02	7.446E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.442E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.355E-02	3.761E-02	6.674E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.225E-02	7.319E-02	0.000E+00	FAIL ABUN
SC-46	-5.132E-03	4.303E-02	7.252E-02	0.000E+00	FAIL ABUN
V-48	7.102E-03	7.914E-02	1.349E-01	0.000E+00	NOT IDENT.
CR-51	2.419E-01	3.760E-01	6.758E-01	0.000E+00	NOT IDENT.
MN-52	3.677E-02	1.987E-01	3.479E-01	0.000E+00	NOT IDENT.
MN-54	9.274E-03	4.262E-02	7.418E-02	0.000E+00	NOT IDENT.
CO-56	3.155E-02	4.352E-02	7.876E-02	0.000E+00	FAIL ABUN
CO-57	-2.310E-02	2.644E-02	4.328E-02	0.000E+00	NOT IDENT.
CO-58	-2.625E-03	4.161E-02	7.100E-02	0.000E+00	NOT IDENT.
FE-59	2.740E-02	1.056E-01	1.811E-01	0.000E+00	NOT IDENT.
CO-60	-4.815E-05	3.960E-02	6.538E-02	0.000E+00	NOT IDENT.
ZN-65	-4.308E-02	1.241E-01	1.700E-01	0.000E+00	NOT IDENT.
GE-68	5.823E-01	1.390E+00	2.427E+00	0.000E+00	NOT IDENT.
AS-73	-5.186E-02	2.353E-01	4.183E-01	0.000E+00	NOT IDENT.
AS-74	-8.814E-03	1.032E-01	1.717E-01	0.000E+00	NOT IDENT.
SE-75	-3.421E-02	4.915E-02	8.371E-02	0.000E+00	NOT IDENT.
BR-77	3.162E+00	7.993E+00	1.390E+01	0.000E+00	FAIL ABUN
SR-82	3.902E-02	3.906E-01	6.777E-01	0.000E+00	NOT IDENT.
RB-83	-2.823E-03	7.500E-02	1.264E-01	0.000E+00	NOT IDENT.
RB-84	2.951E-02	7.848E-02	1.352E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	8.732E+00	1.527E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.423E-02	7.732E-02	0.000E+00	NOT IDENT.
RB-86	7.769E-01	8.388E-01	1.529E+00	0.000E+00	NOT IDENT.
Y-88	1.765E-02	3.028E-02	5.725E-02	0.000E+00	NOT IDENT.
ZR-88	-8.009E-04	3.246E-02	5.577E-02	0.000E+00	NOT IDENT.
Y-91	6.515E-01	2.161E+01	3.607E+01	0.000E+00	NOT IDENT.
NB-94	1.329E-03	3.753E-02	6.519E-02	0.000E+00	NOT IDENT.
NB-95	6.542E-02	5.783E-02	9.487E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.694E-01	2.845E-01	0.000E+00	NOT IDENT.
ZR-95	5.347E-02	8.082E-02	1.459E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.559E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	7.606E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	5.261E+00	9.563E+00	1.716E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.643E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.599E-02	3.763E-02	6.380E-02	0.000E+00	NOT IDENT.
RH-102	-4.882E-03	3.321E-02	5.590E-02	0.000E+00	FAIL ABUN
RU-103	-2.737E-02	4.732E-02	7.664E-02	0.000E+00	FAIL ABUN
RH-106	-4.464E-03	3.533E-01	5.893E-01	0.000E+00	FAIL ABUN
RU-106	-4.464E-03	3.533E-01	5.893E-01	0.000E+00	FAIL ABUN
AG-108M	3.534E-03	3.645E-02	6.270E-02	0.000E+00	NOT IDENT.
AG-110M	8.048E-03	4.007E-02	6.771E-02	0.000E+00	NOT IDENT.
IN-111	-4.619E-01	9.699E-01	1.447E+00	0.000E+00	NOT IDENT.
IN-113M	-3.765E-02	4.858E-02	7.962E-02	0.000E+00	NOT IDENT.
SN-113	-3.765E-02	4.858E-02	7.962E-02	0.000E+00	NOT IDENT.
IN-114M	-6.911E-02	2.242E-01	3.249E-01	0.000E+00	NOT IDENT.
CD-115	-3.113E+00	8.963E+00	1.476E+01	0.000E+00	NOT IDENT.
SN-117M	3.040E-02	5.677E-02	9.894E-02	0.000E+00	NOT IDENT.
SB-122	-3.180E-01	1.776E+00	2.946E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.446E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	3.341E-02	3.093E-02	5.477E-02	0.000E+00	NOT IDENT.
I-124	-6.296E-01	7.629E-01	1.002E+00	0.000E+00	FAIL ABUN
SB-124	5.348E-03	9.534E-02	1.311E-01	0.000E+00	FAIL ABUN
SB-125	-6.219E-02	1.039E-01	1.711E-01	0.000E+00	FAIL ABUN
TE-125M	-9.632E+00	9.659E+00	1.591E+01	0.000E+00	NOT IDENT.
I-126	3.721E-02	1.942E-01	3.276E-01	0.000E+00	NOT IDENT.
SB-126	4.172E-02	1.698E-01	2.602E-01	0.000E+00	FAIL ABUN
SB-127	1.064E-01	1.168E+00	2.042E+00	0.000E+00	NOT IDENT.
XE-127	-8.910E-03	5.637E-02	8.700E-02	0.000E+00	NOT IDENT.
I-131	-4.291E-03	1.154E-01	1.990E-01	0.000E+00	NOT IDENT.
TE-132	-6.084E-02	5.720E-01	1.010E+00	0.000E+00	NOT IDENT.
BA-133	-3.178E-02	5.389E-02	7.679E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	2.731E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	9.861E-02	7.189E-02	1.025E-01	0.000E+00	FAIL ABUN
CS-135	2.013E-01	1.756E-01	3.210E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.146E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-9.534E-02	1.148E-01	1.767E-01	0.000E+00	FAIL ABUN
BA-137M	4.241E-03	4.097E-02	6.867E-02	0.000E+00	NOT IDENT.
CS-137	4.483E-03	4.331E-02	7.259E-02	0.000E+00	NOT IDENT.
CE-139	1.217E-03	3.106E-02	5.306E-02	0.000E+00	NOT IDENT.
BA-140	1.330E-01	2.719E-01	4.695E-01	0.000E+00	NOT IDENT.
LA-140	-2.766E-02	9.235E-02	1.496E-01	0.000E+00	FAIL ABUN
CE-141	-2.738E-02	6.725E-02	1.136E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.615E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-1.059E-01	2.185E-01	3.683E-01	0.000E+00	NOT IDENT.
PM-144	1.419E-03	3.922E-02	6.816E-02	0.000E+00	NOT IDENT.
PR-144	9.610E-02	2.656E+00	4.616E+00	0.000E+00	NOT IDENT.
PM-146	5.905E-03	5.169E-02	8.377E-02	0.000E+00	NOT IDENT.
ND-147	6.198E-01	6.000E-01	1.076E+00	0.000E+00	FAIL ABUN
PM-149	-2.958E+01	6.749E+01	1.155E+02	0.000E+00	NOT IDENT.
EU-152	8.411E-02	1.326E-01	1.856E-01	0.000E+00	FAIL ABUN
GD-153	8.116E-02	7.845E-02	1.257E-01	0.000E+00	FAIL ABUN
EU-154	-9.840E-02	1.366E-01	2.076E-01	0.000E+00	NOT IDENT.
EU-155	1.404E-01	1.054E-01	1.902E-01	0.000E+00	FAIL ABUN
TB-160	1.696E-02	1.557E-01	2.620E-01	0.000E+00	FAIL ABUN
HO-166M	-1.428E-02	6.745E-02	1.149E-01	0.000E+00	FAIL ABUN
TM-171	-1.104E+01	1.802E+01	2.735E+01	0.000E+00	NOT IDENT.
LU-176	-3.062E-04	2.775E-02	4.571E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.557E+00	2.063E+00	0.000E+00	FAIL ABUN
LU-177M	-1.430E-02	2.081E-01	3.556E-01	0.000E+00	NOT IDENT.
HF-181	-2.787E-02	4.752E-02	7.739E-02	0.000E+00	NOT IDENT.
W-181	2.288E-01	2.253E-01	3.630E-01	0.000E+00	NOT IDENT.
TA-182	8.506E-02	2.250E-01	3.864E-01	0.000E+00	FAIL ABUN
RE-183	-8.469E-02	1.175E-01	1.941E-01	0.000E+00	FAIL ABUN
RE-184	-2.349E-01	2.513E-01	4.234E-01	0.000E+00	NOT IDENT.
OS-185	-1.249E-02	5.096E-02	8.318E-02	0.000E+00	NOT IDENT.
RE-188	-1.175E-01	1.935E-01	3.228E-01	0.000E+00	NOT IDENT.
W-188	1.661E+00	8.553E+00	1.319E+01	0.000E+00	FAIL ABUN
IR-192	-1.009E-02	3.550E-02	6.091E-02	0.000E+00	FAIL ABUN
AU-195	1.605E-01	2.178E-01	3.624E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.393E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-4.691E-01	5.681E+00	9.652E+00	0.000E+00	NOT IDENT.
TL-202	-8.671E-03	7.680E-02	1.303E-01	0.000E+00	NOT IDENT.
HG-203	4.784E-02	4.803E-02	7.751E-02	0.000E+00	NOT IDENT.
BI-207	4.653E-03	5.752E-02	9.747E-02	0.000E+00	FAIL ABUN
TL-207	9.076E-02	8.059E-01	1.228E+00	0.000E+00	FAIL ABUN
PO-209	-1.970E+00	8.137E+00	1.354E+01	0.000E+00	NOT IDENT.
PB-211	-1.131E+00	1.274E+00	1.726E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.994E-01	7.729E-01	0.000E+00	FAIL ABUN
PO-215	9.076E-02	8.059E-01	1.228E+00	0.000E+00	FAIL ABUN
RN-219	1.351E-01	4.532E-01	7.917E-01	0.000E+00	NOT IDENT.
RN-220	3.698E+00	3.116E+01	5.290E+01	0.000E+00	NOT IDENT.
RA-223	9.076E-02	8.059E-01	1.228E+00	0.000E+00	FAIL ABUN
AC-227	2.683E-01	4.123E-01	7.433E-01	0.000E+00	FAIL ABUN
TH-227	2.683E-01	4.130E-01	7.433E-01	0.000E+00	FAIL ABUN
TH-229	-5.186E-01	5.610E-01	9.068E-01	0.000E+00	FAIL ABUN
PA-231	4.078E-02	1.718E+00	2.746E+00	0.000E+00	FAIL ABUN
TH-231	9.076E-02	8.059E-01	1.228E+00	0.000E+00	FAIL ABUN
U-231	7.326E-01	9.024E-01	1.431E+00	0.000E+00	FAIL ABUN
PA-233	9.440E-03	6.572E-02	1.155E-01	0.000E+00	FAIL ABUN
PA-234	-8.398E-02	3.314E-01	5.481E-01	0.000E+00	FAIL ABUN
PA-234M	3.752E+00	5.093E+00	9.150E+00	0.000E+00	FAIL ABUN
U-235	9.785E-03	2.230E-01	3.837E-01	0.000E+00	FAIL ABUN
NP-236	3.108E-02	8.677E-02	1.503E-01	0.000E+00	NOT IDENT.
NP-239	1.688E-01	1.896E-01	3.376E-01	0.000E+00	FAIL ABUN
AM-241	3.813E-02	7.159E-02	1.145E-01	0.000E+00	NOT IDENT.
CM-243	-7.326E-03	9.320E-02	1.621E-01	0.000E+00	FAIL ABUN
AM-246	-8.521E-04	1.575E-01	2.643E-01	0.000E+00	NOT IDENT.
CM-247	1.142E-02	3.984E-02	6.961E-02	0.000E+00	FAIL ABUN
CF-249	5.026E-02	4.226E-02	7.764E-02	0.000E+00	NOT IDENT.
CF-251	1.002E-02	1.462E-01	2.493E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 12:57:18.30

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385011.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 10:55:03
Sample ID         : G243385011           Sample quantity  : 1.31240E+02 GRAM
Detector name     : GAM05                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.78  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	712	10.67*	1.004E+00	1.900E+01	1.900E+01	10.54
CD-109	88.03	364	3.72*	7.861E+00	3.564E+00	3.640E+00	25.49
SN-126	64.28	184	9.60	8.065E+00	6.797E-01	6.797E-01	50.35
	86.94	364	8.90	7.861E+00	1.490E+00	1.490E+00	47.81
	87.57	364	37.00*	7.861E+00	3.584E-01	3.584E-01	25.49
TL-208	277.35	142	6.80	4.262E+00	1.398E+00	1.398E+00	46.77
	510.84	144	21.60	2.545E+00	7.466E-01	7.466E-01	46.22
	583.14	410	84.20*	2.260E+00	6.169E-01	6.169E-01	17.58
	860.37	72	12.46	1.591E+00	1.043E+00	1.043E+00	45.75
BI-210	46.50	75	4.05*	7.627E+00	6.941E-01	6.950E-01	110.95
PB-210	46.50	75	4.05*	7.627E+00	6.941E-01	6.950E-01	110.95
PO-210	46.50	75	4.05*	7.627E+00	6.941E-01	6.950E-01	110.88
BI-211	72.87	------	1.27	8.052E+00	------ Line Not Found		------
	351.07	686	12.94*	3.517E+00	4.312E+00	4.312E+00	14.78
PB-212	74.81	896	10.70	8.037E+00	2.980E+00	2.980E+00	17.61
	77.11	1249	18.00	8.013E+00	2.478E+00	2.478E+00	11.66
	87.30	364	8.00	7.861E+00	1.657E+00	1.657E+00	27.38
	238.63	1315	44.60*	4.773E+00	1.767E+00	1.767E+00	12.61
	300.09	103	3.41	4.003E+00	2.166E+00	2.166E+00	44.26
PO-212	74.81	896	10.70	8.037E+00	2.980E+00	2.980E+00	17.61
	77.11	1249	18.00	8.013E+00	2.478E+00	2.478E+00	11.66
	87.30	364	8.00	7.861E+00	1.657E+00	1.657E+00	27.38
	115.19	------	0.60	7.241E+00	------ Line Not Found		------
	238.63	1315	44.60*	4.773E+00	1.767E+00	1.767E+00	12.61
	300.09	103	3.41	4.003E+00	2.166E+00	2.166E+00	44.26
BI-214	609.31	497	46.30*	2.172E+00	1.414E+00	1.414E+00	15.72
	1120.29	102	15.10	1.258E+00	1.530E+00	1.530E+00	41.44
	1764.49	94	15.80	8.615E-01	1.979E+00	1.979E+00	26.20
PB-214	74.81	896	6.21	8.037E+00	5.134E+00	5.134E+00	16.66
	77.11	1249	10.50	8.013E+00	4.247E+00	4.247E+00	13.93
	87.30	364	4.67	7.861E+00	2.839E+00	2.839E+00	26.63
	241.98	402	7.49	4.730E+00	3.244E+00	3.244E+00	27.19

Sample ID : G243385011 Acquisition date : 31-DEC-2009 10:55:03

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	295.21	462	19.20	4.057E+00	1.698E+00	1.698E+00	18.36
	351.92	686	37.20*	3.517E+00	1.500E+00	1.500E+00	15.67
PO-214	74.81	896	6.21	8.037E+00	5.134E+00	5.134E+00	16.66
	77.11	1249	10.50	8.013E+00	4.247E+00	4.247E+00	13.93
	87.30	364	4.67	7.861E+00	2.839E+00	2.839E+00	26.63
	241.98	402	7.49	4.730E+00	3.244E+00	3.244E+00	27.19
	295.21	462	19.20	4.057E+00	1.698E+00	1.698E+00	18.36
	351.92	686	37.20*	3.517E+00	1.500E+00	1.500E+00	15.67
PO-216	74.81	896	10.70	8.037E+00	2.980E+00	2.980E+00	17.61
	77.11	1249	18.00	8.013E+00	2.478E+00	2.478E+00	11.66
	87.30	364	8.00	7.861E+00	1.657E+00	1.657E+00	27.38
	238.63	1315	44.60*	4.773E+00	1.767E+00	1.767E+00	12.61
	300.09	103	3.41	4.003E+00	2.166E+00	2.166E+00	44.26
PO-218	74.81	896	6.21	8.037E+00	5.134E+00	5.134E+00	16.66
	77.11	1249	10.50	8.013E+00	4.247E+00	4.247E+00	13.93
	87.30	364	4.67	7.861E+00	2.839E+00	2.839E+00	26.63
	241.98	402	7.49	4.730E+00	3.244E+00	3.244E+00	27.19
	295.21	462	19.20	4.057E+00	1.698E+00	1.698E+00	18.36
	351.92	686	37.20*	3.517E+00	1.500E+00	1.500E+00	15.67
RA-224	240.98	402	3.95*	4.730E+00	6.151E+00	6.151E+00	26.61
RA-226	609.31	497	46.30*	2.172E+00	1.414E+00	1.414E+00	15.72
	1120.29	102	15.10	1.258E+00	1.530E+00	1.530E+00	41.44
	1764.49	94	15.80	8.615E-01	1.979E+00	1.979E+00	26.20
AC-228	338.32	259	11.40	3.633E+00	1.786E+00	1.786E+00	45.46
	911.07	278	27.70*	1.510E+00	1.900E+00	1.900E+00	20.45
	969.11	153	16.60	1.430E+00	1.843E+00	1.843E+00	32.55
RA-228	338.32	259	11.40	3.633E+00	1.786E+00	1.786E+00	45.46
	911.07	278	27.70*	1.510E+00	1.900E+00	1.900E+00	20.45
	969.11	153	16.60	1.430E+00	1.843E+00	1.843E+00	32.55
TH-228	74.81	896	10.70	8.037E+00	2.980E+00	3.021E+00	14.97
	77.11	1249	18.00	8.013E+00	2.478E+00	2.512E+00	11.66
	87.30	364	8.00	7.861E+00	1.657E+00	1.681E+00	25.49
	238.63	1315	44.60*	4.773E+00	1.767E+00	1.792E+00	12.61
	300.09	103	3.41	4.003E+00	2.166E+00	2.196E+00	73.25
TH-230	609.31	497	46.30*	2.172E+00	1.414E+00	1.414E+00	15.72
	1120.29	102	15.10	1.258E+00	1.530E+00	1.530E+00	41.44
	1764.49	94	15.80	8.615E-01	1.979E+00	1.979E+00	26.20
TH-232	338.32	259	11.40	3.633E+00	1.786E+00	1.786E+00	20.95
	911.07	278	27.70*	1.510E+00	1.900E+00	1.900E+00	20.45
	969.11	153	16.60	1.430E+00	1.843E+00	1.843E+00	32.55
TH-234	63.29	184	3.80*	8.065E+00	1.717E+00	1.717E+00	51.26
	92.38	312	5.41	7.750E+00	2.126E+00	2.126E+00	35.89
U-234	609.31	497	46.30*	2.172E+00	1.414E+00	1.414E+00	15.72
	1120.29	102	15.10	1.258E+00	1.530E+00	1.530E+00	41.44
	1764.49	94	15.80	8.615E-01	1.979E+00	1.979E+00	26.20
NP-237	86.50	364	12.60*	7.861E+00	1.052E+00	1.052E+00	32.79
	95.87	------	2.60	7.687E+00	------ Line Not Found		------
U-238	63.29	184	3.80*	8.065E+00	1.717E+00	1.717E+00	51.26
	92.38	312	5.41	7.750E+00	2.126E+00	2.126E+00	32.18

Sample ID : G243385011 Acquisition date : 31-DEC-2009 10:55:03

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	896	66.00*	8.037E+00	4.831E-01	4.831E-01	14.92
	86.72	364	0.34	7.861E+00	3.946E+01	3.946E+01	25.49
	117.66	------	0.55	7.181E+00	------	Line Not Found	------
	142.18	------	0.13	6.593E+00	------	Line Not Found	------
ANH-511	511.00	144	100.00*	2.545E+00	1.613E-01	1.613E-01	45.46

Flag: "*" = Keyline

Sample ID : G243385011 Acquisition date : 31-DEC-2009 10:55:03

Total number of lines in spectrum 35
Number of unidentified lines 1
Number of lines tentatively identified by NID 34 97.14%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.900E+01	1.900E+01	0.200E+01	10.54	
CD-109	464.00D	1.02	3.564E+00	3.640E+00	0.928E+00	25.49	
SN-126	1.00E+05Y	1.00	3.584E-01	3.584E-01	0.913E-01	25.49	
TL-208	1.41E+10Y	1.00	6.169E-01	6.169E-01	1.084E-01	17.58	
BI-210	22.26Y	1.00	6.941E-01	6.950E-01	7.710E-01	110.95	
PB-210	22.26Y	1.00	6.941E-01	6.950E-01	7.710E-01	110.95	
PO-210	22.26Y	1.00	6.941E-01	6.950E-01	7.705E-01	110.88	
BI-211	7.04E+08Y	1.00	4.312E+00	4.312E+00	0.637E+00	14.78	
PB-212	1.41E+10Y	1.00	1.767E+00	1.767E+00	0.223E+00	12.61	
PO-212	1.41E+10Y	1.00	1.767E+00	1.767E+00	0.223E+00	12.61	
BI-214	1600.00Y	1.00	1.414E+00	1.414E+00	0.222E+00	15.72	
PB-214	1600.00Y	1.00	1.500E+00	1.500E+00	0.235E+00	15.67	
PO-214	1600.00Y	1.00	1.500E+00	1.500E+00	0.235E+00	15.67	
PO-216	1.41E+10Y	1.00	1.767E+00	1.767E+00	0.223E+00	12.61	
PO-218	1600.00Y	1.00	1.500E+00	1.500E+00	0.235E+00	15.67	
RA-224	1.41E+10Y	1.00	6.151E+00	6.151E+00	1.637E+00	26.61	
RA-226	1600.00Y	1.00	1.414E+00	1.414E+00	0.222E+00	15.72	
AC-228	1.41E+10Y	1.00	1.900E+00	1.900E+00	0.388E+00	20.45	
RA-228	1.41E+10Y	1.00	1.900E+00	1.900E+00	0.388E+00	20.45	
TH-228	1.91Y	1.01	1.767E+00	1.792E+00	0.226E+00	12.61	
TH-230	4.47E+09Y	1.00	1.414E+00	1.414E+00	0.222E+00	15.72	
TH-232	1.41E+10Y	1.00	1.900E+00	1.900E+00	0.388E+00	20.45	
TH-234	4.47E+09Y	1.00	1.717E+00	1.717E+00	0.880E+00	51.26	
U-234	4.47E+09Y	1.00	1.414E+00	1.414E+00	0.222E+00	15.72	
NP-237	2.14E+06Y	1.00	1.052E+00	1.052E+00	0.345E+00	32.79	
U-238	4.47E+09Y	1.00	1.717E+00	1.717E+00	0.880E+00	51.26	
AM-243	7380.00Y	1.00	4.831E-01	4.831E-01	0.721E-01	14.92	
ANH-511	1.00E+09Y	1.00	1.613E-01	1.613E-01	0.733E-01	45.46	
	Total Activity :		6.414E+01	6.424E+01			

Grand Total Activity : 6.414E+01 6.424E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G243385011 Acquisition date : 31-DEC-2009 10:55:03

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	84.22	106	657	1.43	169.41	165	28	1.47E-02	84.6	7.91E+00	T
2	89.82	237	434	1.09	180.62	165	28	3.29E-02	32.5	7.81E+00	T
0	185.82	227	483	1.13	372.59	366	14	3.16E-02	44.0	5.66E+00	T
0	209.12	157	319	1.03	419.17	414	11	2.18E-02	47.1	5.24E+00	T
0	328.03	42	123	1.18	656.94	653	7	5.77E-03	94.1	3.73E+00	T
0	462.75	145	140	1.70	926.29	918	18	2.02E-02	41.6	2.78E+00	T
0	727.58	77	100	1.89	1455.67	1449	14	1.07E-02	59.9	1.85E+00	T
1	767.77	61	51	2.08	1536.01	1531	45	8.54E-03	48.8	1.76E+00	T
1	771.96	82	53	2.08	1544.38	1531	45	1.14E-02	39.9	1.75E+00	
0	795.21	45	56	0.71	1590.84	1584	12	6.20E-03	73.9	1.71E+00	T
2	964.13	63	33	2.41	1928.44	1922	29	8.71E-03	46.6	1.44E+00	T
0	1237.67	64	50	1.32	2475.00	2470	13	8.85E-03	51.8	1.15E+00	T
0	1376.97	36	17	1.25	2753.30	2748	11	4.93E-03	55.6	1.05E+00	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 12:57:24.12

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G243385011.CNF;1 *
* Acquisition date  : 31-DEC-2009 10:55:03  Detector SN#     :             *
* Detector ID       : GAM05                 Sensitivity      : 5.00000     *
* Geometry          : CAN                   Energy tolerance: 1.50000      *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000     *
* Elapsed real time: 0 02:00:01.78          Half life ratio : 8.00000      *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00  Nuclide Library : SOLID        *
* Sample ID         : G243385011            Analyst initials: MJH1         *
* Batch Number      : 936285                Sample Quantity : 1.31240E+02 GRAM *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME : 11-JUN-2009 16:41:00.5MS Isotope      :                *
* MSD ID           :                       MSD Isotope     :                *
* LCS ID           : 1032-A                LCS Isotope     :                *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.900E+01	2.003E+00	5.661E-01	3.520E-02	33.569
CD-109	3.640E+00	9.277E-01	1.034E+00	7.876E-02	3.519
SN-126	3.584E-01	9.134E-02	1.017E-01	7.745E-03	3.523
TL-208	6.169E-01	1.084E-01	6.935E-02	5.103E-03	8.896
BI-210	6.950E-01	7.710E-01	8.945E-01	6.978E-02	0.777
PB-210	6.950E-01	7.710E-01	8.945E-01	6.978E-02	0.777
PO-210	6.950E-01	7.705E-01	8.945E-01	6.017E-02	0.777
BI-211	4.312E+00	6.371E-01	3.319E-01	2.630E-02	12.992
PB-212	1.767E+00	2.227E-01	1.001E-01	1.080E-02	17.649
PO-212	1.767E+00	2.227E-01	1.001E-01	1.080E-02	17.649
BI-214	1.414E+00	2.222E-01	1.237E-01	1.037E-02	11.430
PB-214	1.500E+00	2.350E-01	1.157E-01	1.095E-02	12.963
PO-214	1.500E+00	2.350E-01	1.157E-01	1.095E-02	12.963
PO-216	1.767E+00	2.227E-01	1.001E-01	1.080E-02	17.649
PO-218	1.500E+00	2.350E-01	1.157E-01	1.095E-02	12.963
RA-224	6.151E+00	1.637E+00	1.139E+00	1.115E-01	5.398
RA-226	1.414E+00	2.222E-01	1.237E-01	1.037E-02	11.430
AC-228	1.900E+00	3.885E-01	2.578E-01	3.190E-02	7.370

Sample ID : G243385011 Acquisition date : 31-DEC-2009 10:55:03

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.900E+00	3.885E-01	2.578E-01	3.190E-02	7.370
TH-228	1.792E+00	2.259E-01	1.015E-01	1.095E-02	17.649
TH-230	1.414E+00	2.222E-01	1.237E-01	1.037E-02	11.430
TH-232	1.900E+00	3.885E-01	2.578E-01	3.190E-02	7.370
TH-234	1.717E+00	8.802E-01	1.060E+00	1.883E-01	1.620
U-234	1.414E+00	2.222E-01	1.237E-01	1.037E-02	11.430
NP-237	1.052E+00	3.451E-01	2.977E-01	6.550E-02	3.534
U-238	1.717E+00	8.802E-01	1.060E+00	1.883E-01	1.620
AM-243	4.831E-01	7.209E-02	6.331E-02	4.959E-03	7.630
ANH-511	1.613E-01	7.331E-02	5.092E-02	3.259E-03	3.167

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-4.574E-02		3.628E-01	5.870E-01	4.205E-02	-0.078
NA-22	-3.474E-02		4.986E-02	7.421E-02	4.322E-03	-0.468
NA-24	-3.057E-01		1.246E-01	Half-Life too short		
AL-26	1.355E-02		3.837E-02	6.692E-02	3.840E-03	0.203
TI-44	4.572E-01	+	5.332E-02	6.967E-02	5.406E-03	6.562
SC-46	-5.132E-03		4.391E-02	7.183E-02	7.215E-03	-0.071
V-48	7.102E-03		8.076E-02	1.339E-01	1.226E-02	0.053
CR-51	2.419E-01		3.837E-01	6.581E-01	5.820E-02	0.368
MN-52	3.677E-02		2.027E-01	3.474E-01	2.035E-02	0.106
MN-54	9.274E-03		4.349E-02	7.339E-02	6.724E-03	0.126
CO-56	3.155E-02		4.441E-02	7.794E-02	7.289E-03	0.405
CO-57	-2.310E-02		2.698E-02	4.149E-02	5.887E-03	-0.557
CO-58	-2.625E-03		4.246E-02	7.021E-02	6.179E-03	-0.037
FE-59	2.740E-02		1.077E-01	1.801E-01	1.458E-02	0.152
CO-60	-4.815E-05		4.041E-02	6.520E-02	3.773E-03	-0.001
ZN-65	-4.308E-02		1.266E-01	1.691E-01	1.181E-02	-0.255
GE-68	5.823E-01		1.419E+00	2.412E+00	1.853E-01	0.241
AS-73	-5.186E-02		2.401E-01	3.959E-01	2.980E-02	-0.131
AS-74	-8.814E-03		1.053E-01	1.690E-01	1.111E-02	-0.052
SE-75	-3.421E-02		5.015E-02	8.125E-02	7.757E-03	-0.421
BR-77	3.162E+00		8.156E+00	1.365E+01	8.776E-01	0.232
SR-82	3.902E-02		3.986E-01	6.697E-01	5.526E-02	0.058
RB-83	-2.823E-03		7.653E-02	1.241E-01	7.977E-03	-0.023
RB-84	2.951E-02		8.008E-02	1.339E-01	1.328E-02	0.220
KR-85	1.978E+01		8.910E+00	1.498E+01	9.603E-01	1.320
SR-85	1.002E-01		4.513E-02	7.588E-02	4.864E-03	1.320
RB-86	7.769E-01		8.559E-01	1.519E+00	1.169E-01	0.511
Y-88	1.765E-02		3.090E-02	5.741E-02	3.285E-03	0.307
ZR-88	-8.009E-04		3.313E-02	5.449E-02	3.173E-03	-0.015
Y-91	6.515E-01		2.205E+01	3.592E+01	2.087E+00	0.018
NB-94	1.329E-03		3.829E-02	6.431E-02	4.602E-03	0.021
NB-95	6.542E-02		5.901E-02	9.373E-02	7.581E-03	0.698
NB-95M	5.314E-01		1.728E-01	2.756E-01	3.015E-02	1.928

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	5.347E-02		8.246E-02	1.441E-01	1.280E-02	0.371
NB-97	5.513E-03		1.816E-02	Half-Life too short		
ZR-97	1.854E+00		3.881E-01	Half-Life too short		
MO-99	5.261E+00		9.758E+00	1.694E+01	2.487E+00	0.311
TC-99M	-8.891E+07		8.384E+08	Half-Life too short		
RH-101	1.599E-02		3.840E-02	6.164E-02	6.156E-03	0.259
RH-102	-4.882E-03		3.388E-02	5.478E-02	3.432E-03	-0.089
RU-103	-2.737E-02		4.829E-02	7.517E-02	9.702E-03	-0.364
RH-106	-4.464E-03		3.605E-01	5.801E-01	7.047E-02	-0.008
RU-106	-4.464E-03		3.605E-01	5.801E-01	3.824E-02	-0.008
AG-108M	3.534E-03		3.719E-02	6.136E-02	4.015E-03	0.058
AG-110M	8.048E-03		4.089E-02	6.672E-02	4.612E-03	0.121
IN-111	-4.619E-01		9.897E-01	1.403E+00	1.367E-01	-0.329
IN-113M	-3.765E-02		4.957E-02	7.779E-02	4.826E-03	-0.484
SN-113	-3.765E-02		4.957E-02	7.779E-02	4.826E-03	-0.484
IN-114M	-6.911E-02		2.288E-01	3.136E-01	3.132E-02	-0.220
CD-115	-3.113E+00		9.146E+00	1.449E+01	9.348E-01	-0.215
SN-117M	3.040E-02		5.793E-02	9.524E-02	1.024E-02	0.319
SB-122	-3.180E-01		1.812E+00	2.896E+00	1.892E-01	-0.110
I-123	1.562E+00		7.378E-01	Half-Life too short		
TE-123M	3.341E-02		3.157E-02	5.273E-02	5.665E-03	0.634
I-124	-6.296E-01		7.785E-01	9.860E-01	6.491E-02	-0.639
SB-124	5.348E-03		9.728E-02	1.313E-01	8.313E-03	0.041
SB-125	-6.219E-02		1.060E-01	1.674E-01	1.049E-02	-0.372
TE-125M	-9.632E+00		9.856E+00	1.523E+01	1.957E+00	-0.632
I-126	3.721E-02		1.982E-01	3.229E-01	2.144E-02	0.115
SB-126	4.172E-02		1.733E-01	2.568E-01	1.904E-02	0.162
SB-127	1.064E-01		1.192E+00	2.014E+00	1.968E-01	0.053
XE-127	-8.910E-03		5.752E-02	8.409E-02	8.393E-03	-0.106
I-131	-4.291E-03		1.177E-01	1.942E-01	1.456E-02	-0.022
TE-132	-6.084E-02		5.837E-01	9.783E-01	1.589E-01	-0.062
BA-133	-3.178E-02		5.499E-02	7.491E-02	9.250E-03	-0.424
I-133	1.635E-03		1.393E-03	Half-Life too short		
CS-134	9.861E-02	+	7.335E-02	1.013E-01	8.724E-03	0.973
CS-135	2.013E-01		1.791E-01	3.117E-01	3.334E-02	0.646
I-135	9.995E+07		1.605E+08	Half-Life too short		
CS-136	-9.534E-02		1.171E-01	1.755E-01	1.503E-02	-0.543
BA-137M	4.241E-03		4.181E-02	6.768E-02	4.450E-03	0.063
CS-137	4.483E-03		4.419E-02	7.154E-02	4.720E-03	0.063
CE-139	1.217E-03		3.169E-02	5.111E-02	5.075E-03	0.024
BA-140	1.330E-01		2.774E-01	4.610E-01	1.505E-01	0.289
LA-140	-2.766E-02		9.424E-02	1.497E-01	8.796E-03	-0.185
CE-141	-2.738E-02		6.863E-02	1.092E-01	1.334E-02	-0.251
CE-143	5.363E-04		8.240E-05	Half-Life too short		
CE-144	-1.059E-01		2.230E-01	3.536E-01	6.546E-02	-0.299
PM-144	1.419E-03		4.002E-02	6.724E-02	4.754E-03	0.021
PR-144	9.610E-02		2.710E+00	4.553E+00	3.218E-01	0.021
PM-146	5.905E-03		5.274E-02	8.204E-02	7.280E-03	0.072

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	6.198E-01		6.122E-01	1.057E+00	1.460E-01	0.587
PM-149	-2.958E+01		6.887E+01	1.123E+02	1.779E+01	-0.263
EU-152	8.411E-02		1.353E-01	1.809E-01	1.488E-02	0.465
GD-153	8.116E-02		8.006E-02	1.201E-01	1.113E-02	0.676
EU-154	-9.840E-02		1.394E-01	2.069E-01	1.935E-02	-0.476
EU-155	1.404E-01		1.075E-01	1.819E-01	1.970E-02	0.772
TB-160	1.696E-02		1.589E-01	2.595E-01	2.564E-02	0.065
HO-166M	-1.428E-02		6.883E-02	1.134E-01	8.261E-03	-0.126
TM-171	-1.104E+01		1.838E+01	2.597E+01	2.087E+00	-0.425
LU-176	-3.062E-04		2.832E-02	4.448E-02	3.874E-03	-0.007
LU-177	3.303E+00	+	1.589E+00	1.995E+00	1.989E-01	1.656
LU-177M	-1.430E-02		2.124E-01	3.477E-01	2.070E-02	-0.041
HF-181	-2.787E-02		4.848E-02	7.586E-02	4.775E-03	-0.367
W-181	2.288E-01		2.299E-01	3.446E-01	2.786E-02	0.664
TA-182	8.506E-02		2.296E-01	3.848E-01	2.237E-02	0.221
RE-183	-8.469E-02		1.199E-01	1.869E-01	1.931E-02	-0.453
RE-184	-2.349E-01		2.564E-01	4.107E-01	3.968E-02	-0.572
OS-185	-1.249E-02		5.200E-02	8.194E-02	5.398E-03	-0.152
RE-188	-1.175E-01		1.974E-01	3.107E-01	3.458E-02	-0.378
W-188	1.661E+00		8.728E+00	1.283E+01	1.163E+00	0.130
IR-192	-1.009E-02		3.623E-02	5.930E-02	5.033E-03	-0.170
AU-195	1.605E-01		2.222E-01	3.462E-01	3.301E-02	0.464
TL-200	-1.125E-05		1.221E-04	Half-Life too short		
TL-201	-4.691E-01		5.797E+00	9.299E+00	9.232E-01	-0.050
TL-202	-8.671E-03		7.837E-02	1.276E-01	7.776E-03	-0.068
HG-203	4.784E-02		4.901E-02	7.530E-02	7.160E-03	0.635
BI-207	4.653E-03		5.869E-02	9.684E-02	7.669E-03	0.048
TL-207	9.076E-02		8.224E-01	1.196E+00	2.097E-01	0.076
PO-209	-1.970E+00		8.303E+00	1.342E+01	1.364E+00	-0.147
PB-211	-1.131E+00		1.300E+00	1.687E+00	1.052E+00	-0.670
BI-212	1.009E+00	+	6.117E-01	7.630E-01	6.921E-02	1.323
PO-215	9.076E-02		8.224E-01	1.196E+00	2.097E-01	0.076
RN-219	1.351E-01		4.625E-01	7.738E-01	1.055E-01	0.175
RN-220	3.698E+00		3.179E+01	5.197E+01	3.381E+00	0.071
RA-223	9.076E-02		8.224E-01	1.196E+00	2.097E-01	0.076
AC-227	2.683E-01		4.207E-01	7.211E-01	1.149E-01	0.372
TH-227	2.683E-01		4.214E-01	7.211E-01	1.339E-01	0.372
TH-229	-5.186E-01		5.725E-01	8.757E-01	8.746E-02	-0.592
PA-231	4.078E-02		1.753E+00	2.668E+00	4.141E-01	0.015
TH-231	9.076E-02		8.224E-01	1.196E+00	2.097E-01	0.076
U-231	7.326E-01		9.208E-01	1.367E+00	1.228E-01	0.536
PA-233	9.440E-03		6.706E-02	1.124E-01	9.925E-03	0.084
PA-234	-8.398E-02		3.382E-01	5.434E-01	1.047E-01	-0.155
PA-234M	3.752E+00		5.197E+00	9.081E+00	9.279E-01	0.413
U-235	9.785E-03		2.276E-01	3.688E-01	7.217E-02	0.027
NP-236	3.108E-02		8.854E-02	1.447E-01	1.527E-02	0.215
NP-239	1.688E-01		1.935E-01	3.235E-01	4.238E-02	0.522
AM-241	3.813E-02		7.305E-02	1.085E-01	9.711E-03	0.351

Sample ID : G243385011 Acquisition date : 31-DEC-2009 10:55:03

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-7.326E-03		9.510E-02	1.550E-01	1.619E-02	-0.047
AM-246	-8.521E-04		1.607E-01	2.626E-01	2.010E-02	-0.003
CM-247	1.142E-02		4.065E-02	6.804E-02	4.004E-03	0.168
CF-249	5.026E-02		4.312E-02	7.584E-02	4.536E-03	0.663
CF-251	1.002E-02		1.492E-01	2.404E-01	2.394E-02	0.042

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration    : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G243385011           *
* Acquisition date : 31-DEC-2009 10:55:03 Detector SN#     :               *
* Detector ID      : GAM05                Sensitivity     : 5.000          *
* Geometry         : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.78     Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date      : 17-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID        : G243385011           Analyst initials: MJH1           *
* Batch Number     : 936285               Sample Quantity : 1.3124E+02 GRAM *
* Recovery         :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME : 11-JUN-2009 16:41:00 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.900E+01	1.963E+00	2.835E-01	1.002E+00
CD-109	3.640E+00	9.091E-01	5.426E-01	4.638E-01
SN-126	3.584E-01	8.951E-02	5.336E-02	4.567E-02
TL-208	6.169E-01	1.063E-01	3.528E-02	5.422E-02
BI-210	6.950E-01	7.556E-01	4.740E-01	3.855E-01
PB-210	6.950E-01	7.556E-01	4.740E-01	3.855E-01
PO-210	6.950E-01	7.551E-01	4.740E-01	3.853E-01
BI-211	4.312E+00	6.244E-01	1.703E-01	3.186E-01
PB-212	1.767E+00	2.183E-01	5.169E-02	1.114E-01
PO-212	1.767E+00	2.183E-01	5.169E-02	1.114E-01
BI-214	1.414E+00	2.177E-01	6.287E-02	1.111E-01
PB-214	1.500E+00	2.303E-01	5.935E-02	1.175E-01
PO-214	1.500E+00	2.303E-01	5.935E-02	1.175E-01
PO-216	1.767E+00	2.183E-01	5.169E-02	1.114E-01
PO-218	1.500E+00	2.303E-01	5.935E-02	1.175E-01
RA-224	6.151E+00	1.604E+00	5.882E-01	8.183E-01
RA-226	1.414E+00	2.177E-01	6.287E-02	1.111E-01
AC-228	1.900E+00	3.807E-01	1.302E-01	1.942E-01
RA-228	1.900E+00	3.807E-01	1.302E-01	1.942E-01
TH-228	1.792E+00	2.214E-01	5.242E-02	1.129E-01
TH-230	1.414E+00	2.177E-01	6.287E-02	1.111E-01
TH-232	1.900E+00	3.807E-01	1.302E-01	1.942E-01
TH-234	1.717E+00	8.626E-01	5.589E-01	4.401E-01
U-234	1.414E+00	2.177E-01	6.287E-02	1.111E-01
NP-237	1.052E+00	3.382E-01	1.562E-01	1.725E-01
U-238	1.717E+00	8.626E-01	5.589E-01	4.401E-01
AM-243	4.831E-01	7.065E-02	3.330E-02	3.605E-02
ANH-511	1.613E-01	7.185E-02	2.596E-02	3.666E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU

BE-7	-4.574E-02	3.555E-01	2.996E-01	1.814E-01	NOT IDENT.
NA-22	-3.474E-02	4.886E-02	3.725E-02	2.493E-02	NOT IDENT.
NA-24	-3.057E+05	2.442E+05	0.000E+00	1.246E+05	SHORT HLIF
AL-26	1.355E-02	3.761E-02	3.339E-02	1.919E-02	NOT IDENT.
TI-44	4.572E-01	5.225E-02	3.662E-02	2.666E-02	FAIL ABUN
SC-46	-5.132E-03	4.303E-02	3.628E-02	2.195E-02	FAIL ABUN
V-48	7.102E-03	7.914E-02	6.751E-02	4.038E-02	NOT IDENT.
CR-51	2.419E-01	3.760E-01	3.381E-01	1.918E-01	NOT IDENT.
MN-52	3.677E-02	1.987E-01	1.741E-01	1.014E-01	NOT IDENT.
MN-54	9.274E-03	4.262E-02	3.711E-02	2.174E-02	NOT IDENT.
CO-56	3.155E-02	4.352E-02	3.940E-02	2.221E-02	FAIL ABUN
CO-57	-2.310E-02	2.644E-02	2.165E-02	1.349E-02	NOT IDENT.
CO-58	-2.625E-03	4.161E-02	3.552E-02	2.123E-02	NOT IDENT.
FE-59	2.740E-02	1.056E-01	9.063E-02	5.385E-02	NOT IDENT.
CO-60	-4.815E-05	3.960E-02	3.271E-02	2.020E-02	NOT IDENT.
ZN-65	-4.308E-02	1.241E-01	8.507E-02	6.332E-02	NOT IDENT.
GE-68	5.823E-01	1.390E+00	1.214E+00	7.093E-01	NOT IDENT.
AS-73	-5.186E-02	2.353E-01	2.093E-01	1.200E-01	NOT IDENT.
AS-74	-8.814E-03	1.032E-01	8.592E-02	5.266E-02	NOT IDENT.
SE-75	-3.421E-02	4.915E-02	4.188E-02	2.508E-02	NOT IDENT.
BR-77	3.162E+00	7.993E+00	6.956E+00	4.078E+00	FAIL ABUN
SR-82	3.902E-02	3.906E-01	3.390E-01	1.993E-01	NOT IDENT.
RB-83	-2.823E-03	7.500E-02	6.323E-02	3.826E-02	NOT IDENT.
RB-84	2.951E-02	7.848E-02	6.763E-02	4.004E-02	NOT IDENT.
KR-85	1.978E+01	8.732E+00	7.637E+00	4.455E+00	NOT IDENT.
SR-85	1.002E-01	4.423E-02	3.868E-02	2.256E-02	NOT IDENT.
RB-86	7.769E-01	8.388E-01	7.648E-01	4.279E-01	NOT IDENT.
Y-88	1.765E-02	3.028E-02	2.864E-02	1.545E-02	NOT IDENT.
ZR-88	-8.009E-04	3.246E-02	2.790E-02	1.656E-02	NOT IDENT.
Y-91	6.515E-01	2.161E+01	1.805E+01	1.103E+01	NOT IDENT.
NB-94	1.329E-03	3.753E-02	3.261E-02	1.915E-02	NOT IDENT.
NB-95	6.542E-02	5.783E-02	4.746E-02	2.951E-02	NOT IDENT.
NB-95M	5.314E-01	1.694E-01	1.423E-01	8.641E-02	NOT IDENT.
ZR-95	5.347E-02	8.082E-02	7.299E-02	4.123E-02	NOT IDENT.
NB-97	5.513E+03	3.559E+04	0.000E+00	1.816E+04	SHORT HLIF
ZR-97	1.854E+06	7.606E+05	0.000E+00	3.881E+05	SHORT HLIF
MO-99	5.261E+00	9.563E+00	8.585E+00	4.879E+00	NOT IDENT.
TC-99M	-8.891E+13	1.643E+15	0.000E+00	8.384E+14	SHORT HLIF
RH-101	1.599E-02	3.763E-02	3.192E-02	1.920E-02	NOT IDENT.
RH-102	-4.882E-03	3.321E-02	2.796E-02	1.694E-02	FAIL ABUN
RU-103	-2.737E-02	4.732E-02	3.834E-02	2.415E-02	FAIL ABUN
RH-106	-4.464E-03	3.533E-01	2.948E-01	1.803E-01	FAIL ABUN
RU-106	-4.464E-03	3.533E-01	2.948E-01	1.803E-01	FAIL ABUN
AG-108M	3.534E-03	3.645E-02	3.137E-02	1.859E-02	NOT IDENT.
AG-110M	8.048E-03	4.007E-02	3.387E-02	2.044E-02	NOT IDENT.
IN-111	-4.619E-01	9.699E-01	7.239E-01	4.949E-01	NOT IDENT.
IN-113M	-3.765E-02	4.858E-02	3.984E-02	2.479E-02	NOT IDENT.
SN-113	-3.765E-02	4.858E-02	3.984E-02	2.479E-02	NOT IDENT.
IN-114M	-6.911E-02	2.242E-01	1.625E-01	1.144E-01	NOT IDENT.
CD-115	-3.113E+00	8.963E+00	7.384E+00	4.573E+00	NOT IDENT.
SN-117M	3.040E-02	5.677E-02	4.950E-02	2.897E-02	NOT IDENT.
SB-122	-3.180E-01	1.776E+00	1.474E+00	9.062E-01	NOT IDENT.
I-123	1.562E+06	1.446E+06	0.000E+00	7.378E+05	SHORT HLIF
TE-123M	3.341E-02	3.093E-02	2.740E-02	1.578E-02	NOT IDENT.
I-124	-6.296E-01	7.629E-01	5.013E-01	3.892E-01	FAIL ABUN
SB-124	5.348E-03	9.534E-02	6.561E-02	4.864E-02	FAIL ABUN
SB-125	-6.219E-02	1.039E-01	8.558E-02	5.302E-02	FAIL ABUN
TE-125M	-9.632E+00	9.659E+00	7.962E+00	4.928E+00	NOT IDENT.
I-126	3.721E-02	1.942E-01	1.639E-01	9.908E-02	NOT IDENT.
SB-126	4.172E-02	1.698E-01	1.302E-01	8.663E-02	FAIL ABUN
SB-127	1.064E-01	1.168E+00	1.022E+00	5.961E-01	NOT IDENT.
XE-127	-8.910E-03	5.637E-02	4.353E-02	2.876E-02	NOT IDENT.
I-131	-4.291E-03	1.154E-01	9.955E-02	5.887E-02	NOT IDENT.
TE-132	-6.084E-02	5.720E-01	5.054E-01	2.918E-01	NOT IDENT.
BA-133	-3.178E-02	5.389E-02	3.842E-02	2.749E-02	FAIL ABUN
I-133	1.635E+03	2.731E+03	0.000E+00	1.393E+03	SHORT HLIF
CS-134	9.861E-02	7.189E-02	5.127E-02	3.668E-02	FAIL ABUN
CS-135	2.013E-01	1.756E-01	1.606E-01	8.957E-02	NOT IDENT.
I-135	9.995E+13	3.146E+14	0.000E+00	1.605E+14	SHORT HLIF
CS-136	-9.534E-02	1.148E-01	8.840E-02	5.856E-02	FAIL ABUN
BA-137M	4.241E-03	4.097E-02	3.436E-02	2.090E-02	NOT IDENT.
CS-137	4.483E-03	4.331E-02	3.632E-02	2.210E-02	NOT IDENT.
CE-139	1.217E-03	3.106E-02	2.654E-02	1.584E-02	NOT IDENT.
BA-140	1.330E-01	2.719E-01	2.349E-01	1.387E-01	NOT IDENT.
LA-140	-2.766E-02	9.235E-02	7.484E-02	4.712E-02	FAIL ABUN
CE-141	-2.738E-02	6.725E-02	5.681E-02	3.431E-02	NOT IDENT.
CE-143	5.363E+02	1.615E+02	0.000E+00	8.240E+01	SHORT HLIF

CE-144	-1.059E-01	2.185E-01	1.843E-01	1.115E-01	NOT IDENT.
PM-144	1.419E-03	3.922E-02	3.410E-02	2.001E-02	NOT IDENT.
PR-144	9.610E-02	2.656E+00	2.309E+00	1.355E+00	NOT IDENT.
PM-146	5.905E-03	5.169E-02	4.191E-02	2.637E-02	NOT IDENT.
ND-147	6.198E-01	6.000E-01	5.384E-01	3.061E-01	FAIL ABUN
PM-149	-2.958E+01	6.749E+01	5.779E+01	3.443E+01	NOT IDENT.
EU-152	8.411E-02	1.326E-01	9.286E-02	6.767E-02	FAIL ABUN
GD-153	8.116E-02	7.845E-02	6.289E-02	4.003E-02	FAIL ABUN
EU-154	-9.840E-02	1.366E-01	1.039E-01	6.970E-02	NOT IDENT.
EU-155	1.404E-01	1.054E-01	9.514E-02	5.376E-02	FAIL ABUN
TB-160	1.696E-02	1.557E-01	1.311E-01	7.943E-02	FAIL ABUN
HO-166M	-1.428E-02	6.745E-02	5.749E-02	3.441E-02	FAIL ABUN
TM-171	-1.104E+01	1.802E+01	1.368E+01	9.191E+00	NOT IDENT.
LU-176	-3.062E-04	2.775E-02	2.287E-02	1.416E-02	FAIL ABUN
LU-177	3.303E+00	1.557E+00	1.032E+00	7.946E-01	FAIL ABUN
LU-177M	-1.430E-02	2.081E-01	1.779E-01	1.062E-01	NOT IDENT.
HF-181	-2.787E-02	4.752E-02	3.872E-02	2.424E-02	NOT IDENT.
W-181	2.288E-01	2.253E-01	1.816E-01	1.149E-01	NOT IDENT.
TA-182	8.506E-02	2.250E-01	1.933E-01	1.148E-01	FAIL ABUN
RE-183	-8.469E-02	1.175E-01	9.712E-02	5.994E-02	FAIL ABUN
RE-184	-2.349E-01	2.513E-01	2.118E-01	1.282E-01	NOT IDENT.
OS-185	-1.249E-02	5.096E-02	4.161E-02	2.600E-02	NOT IDENT.
RE-188	-1.175E-01	1.935E-01	1.615E-01	9.872E-02	NOT IDENT.
W-188	1.661E+00	8.553E+00	6.601E+00	4.364E+00	FAIL ABUN
IR-192	-1.009E-02	3.550E-02	3.047E-02	1.811E-02	FAIL ABUN
AU-195	1.605E-01	2.178E-01	1.813E-01	1.111E-01	FAIL ABUN
TL-200	-1.125E+01	2.393E+02	0.000E+00	1.221E+02	SHORT HLIF
TL-201	-4.691E-01	5.681E+00	4.829E+00	2.899E+00	NOT IDENT.
TL-202	-8.671E-03	7.680E-02	6.520E-02	3.918E-02	NOT IDENT.
HG-203	4.784E-02	4.803E-02	3.878E-02	2.451E-02	NOT IDENT.
BI-207	4.653E-03	5.752E-02	4.876E-02	2.935E-02	FAIL ABUN
TL-207	9.076E-02	8.059E-01	6.142E-01	4.112E-01	FAIL ABUN
PO-209	-1.970E+00	8.137E+00	6.775E+00	4.151E+00	NOT IDENT.
PB-211	-1.131E+00	1.274E+00	8.634E-01	6.502E-01	NOT IDENT.
BI-212	1.009E+00	5.994E-01	3.867E-01	3.058E-01	FAIL ABUN
PO-215	9.076E-02	8.059E-01	6.142E-01	4.112E-01	FAIL ABUN
RN-219	1.351E-01	4.532E-01	3.961E-01	2.312E-01	NOT IDENT.
RN-220	3.698E+00	3.116E+01	2.646E+01	1.590E+01	NOT IDENT.
RA-223	9.076E-02	8.059E-01	6.142E-01	4.112E-01	FAIL ABUN
AC-227	2.683E-01	4.123E-01	3.719E-01	2.103E-01	FAIL ABUN
TH-227	2.683E-01	4.130E-01	3.719E-01	2.107E-01	FAIL ABUN
TH-229	-5.186E-01	5.610E-01	4.537E-01	2.862E-01	FAIL ABUN
PA-231	4.078E-02	1.718E+00	1.374E+00	8.767E-01	FAIL ABUN
TH-231	9.076E-02	8.059E-01	6.142E-01	4.112E-01	FAIL ABUN
U-231	7.326E-01	9.024E-01	7.161E-01	4.604E-01	FAIL ABUN
PA-233	9.440E-03	6.572E-02	5.778E-02	3.353E-02	FAIL ABUN
PA-234	-8.398E-02	3.314E-01	2.742E-01	1.691E-01	FAIL ABUN
PA-234M	3.752E+00	5.093E+00	4.578E+00	2.598E+00	FAIL ABUN
U-235	9.785E-03	2.230E-01	1.920E-01	1.138E-01	FAIL ABUN
NP-236	3.108E-02	8.677E-02	7.518E-02	4.427E-02	NOT IDENT.
NP-239	1.688E-01	1.896E-01	1.689E-01	9.674E-02	FAIL ABUN
AM-241	3.813E-02	7.159E-02	5.729E-02	3.653E-02	NOT IDENT.
CM-243	-7.326E-03	9.320E-02	8.108E-02	4.755E-02	FAIL ABUN
AM-246	-8.521E-04	1.575E-01	1.322E-01	8.033E-02	NOT IDENT.
CM-247	1.142E-02	3.984E-02	3.483E-02	2.033E-02	FAIL ABUN
CF-249	5.026E-02	4.226E-02	3.884E-02	2.156E-02	NOT IDENT.
CF-251	1.002E-02	1.462E-01	1.247E-01	7.461E-02	NOT IDENT.

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*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                           CHARLESTON ,SC 29417                            *
*                     GAMMA SPECTROSCOPY BACKGROUND REPORT                  *
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46.50	431.0172
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46.50	431.0172
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49.72	473.4652
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52.39	454.4438
52.97	480.7775
53.15	480.9156
53.44	474.4157
54.07	499.8849
56.28	526.6922
56.28	526.6943
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57.53	484.9037
57.53	484.9046
57.60	484.9553
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57.98	493.8940
59.32	503.9375
59.32	503.9375
59.40	514.8533
59.54	514.9607
59.72	547.6811
60.01	547.9170
61.10	595.4418
61.14	595.4769
61.30	573.8453
63.00	584.6220
63.29	596.5637
63.29	596.5637
63.58	589.9872
64.28	627.8680
65.12	617.6727
65.20	617.7426
65.20	617.7426
66.05	624.7477
66.72	642.5719
66.83	638.7533
66.91	638.8254
67.20	639.0828
67.20	639.0828
67.75	625.1820
67.85	623.9615
68.90	624.8640
68.90	624.8640
69.30	627.5654
69.67	627.8844
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70.82	619.4044
70.83	619.4139
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72.87	636.1190
72.87	636.1190
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74.81	637.7429
74.81	637.7429
74.81	637.7429
74.81	637.7429
74.81	637.7429
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74.81	637.7429
74.97	637.8755
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77.11	639.6419

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77.11	639.6419
77.11	639.6419
77.11	639.6419
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80.30	606.3301
80.57	606.5342
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81.07	606.9122
81.07	606.9122
81.07	606.9122
81.07	606.9122
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83.78	491.4266
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84.90	492.0948
85.43	492.4092
86.29	492.9184
86.50	493.0419
86.54	493.0662
86.59	493.0962
86.72	493.1729
86.79	493.2122
86.94	493.3021
87.30	493.5136
87.30	493.5136
87.30	493.5136
87.30	493.5136
87.30	493.5136
87.30	493.5136
87.30	493.5136
87.57	493.6708
87.88	493.8524
88.03	493.9403
88.36	494.1331
88.47	494.1968
89.95	495.0559
91.11	495.7260
92.29	496.4017
92.38	496.4522
92.38	496.4522
93.35	497.0044
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94.67	433.3682
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94.90	410.7513
94.90	410.7513
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95.87	427.4536
96.73	401.8378
97.43	366.3309
98.44	348.8119
98.44	348.8119
98.88	376.4328
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99.55	389.3386
99.86	388.7422
100.00	388.8018
100.10	388.8455
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103.76	408.8310
105.00	376.5410
105.31	367.4272
108.00	443.6039
109.28	452.4408

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111.00	372.7137
111.76	414.3344
112.95	383.8024
115.19	401.2624
116.30	385.1002
117.00	330.3163
117.00	330.3163
117.66	335.7293
121.11	349.3843
121.62	376.6880
121.78	373.6150
122.06	366.4101
122.32	367.5453
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122.32	367.5453
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135.34	382.6310
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144.24	361.1703
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147.16	382.3825
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152.70	370.2422
153.22	373.6237
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154.21	391.1267
154.21	391.1267
154.21	391.1267
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163.35	330.2034
163.89	316.2672
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171.86	319.3645
172.10	310.7033
176.55	359.9090
176.60	345.7021
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186.00	318.4199
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202.84	319.7180
205.31	298.5227

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209.75	259.9964
210.97	279.9545
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227.20	253.9875
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228.18	268.6728
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236.00	267.5986
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238.63	256.7761
238.63	256.7761
238.63	256.7761
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241.98	257.3181
241.98	257.3181
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256.20	212.4692
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260.90	239.9354
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264.65	250.6860
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268.79	227.5106
269.46	210.6594
269.46	210.6594
269.46	210.6594
269.46	210.6594
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277.35	188.9435
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277.60	188.9706
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295.21	170.0640

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323.87	167.8885
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338.28	179.7584
338.28	179.7584
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374.96	134.7841
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391.69	150.7012
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401.81	131.4731
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439.89	137.7133
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445.03	114.6704
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475.35	121.2366
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511.85	88.5797
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513.99	76.4839
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568.70	92.5671
569.32	100.0379
569.50	100.0425
569.67	100.0494
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574.00	115.1244
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602.71	116.6276
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609.31	87.3954
609.31	87.3954
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614.37	75.6550
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621.84	79.0934
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696.49	87.8333
697.00	88.7715
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753.82	63.9492
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778.89	62.5142
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911.07	65.7323
911.07	65.7323
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920.93	55.0760
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969.11	51.7493
969.11	51.7493
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1050.47	56.7998
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1085.78	51.1149
1099.22	56.3942
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1120.29	54.5937
1120.29	54.5937
1120.29	54.5937
1120.51	54.5959
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1147.95	0.0000
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1173.22	45.8351
1175.09	48.9794
1177.93	64.6489
1189.05	48.0758
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1236.41	0.0000
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1260.41	0.0000
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1274.45	52.1004
1274.54	52.1004
1291.56	35.2048
1298.22	0.0000
1312.09	32.1326
1325.50	23.6239
1325.50	23.6239
1332.49	27.9561
1333.61	30.1134
1360.21	25.9414
1362.66	0.0000
1365.15	14.0643
1368.21	35.4266
1368.53	0.0000
1376.25	22.3016
1384.27	23.1623
1394.10	32.6306
1395.20	40.0965
1407.95	39.2563
1434.06	19.7205
1436.60	19.7300
1457.56	0.0000
1460.81	20.7585
1489.15	24.6552
1509.49	20.9358
1596.49	26.0753
1620.62	16.4830
1678.03	0.0000
1691.02	9.8064
1691.02	9.8064
1706.46	0.0000
1750.46	0.0000
1764.49	6.9434
1764.49	6.9434
1764.49	6.9434
1764.49	6.9434
1770.23	12.1616
1771.40	40.7111
1791.20	0.0000
1808.65	13.9805

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G243385011

Total Uranium Activity	5.1126E+00	ug/g
Total Uranium Counting Unc.	2.5682E+00	ug/g
Total Uranium Tpu	1.3103E-06	ug/g
Total Uranium Mda	1.6652E+00	ug/g

```
*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                             *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 936285                    SAMPLE ID   : G243385011      *
*   ANALYST       : MJH1                      DETECTOR    : GAM05           *
*   SAMPLE DATE   : 17-DEC-2009 12:00:00.00   COUNT TIME  :    0 02:00:00.00 *
*   ANALYSIS DATE: 31-DEC-2009 10:55:03.89    SAMPLE ALQT:  131.240 GRAM    *
*                                                                           *
*****************************************************************************
```

```
GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 9.575E+00
GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.326E+00
GROSS GAMMA MDA     (pCi/GRAM  )  : 4.657E+00
GROSS GAMMA DLC     (pCi/GRAM  )  : 2.273E+00
```

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 15:19:05.41

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003352.CNF;1
Sample date       : 24-DEC-2009 00:00:00 Acquisition date : 31-DEC-2009 13:18:17
Sample ID         : G1202003352          Sample quantity  : 1.58180E+02 GRAM
Detector name     : GAM06                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:00.49  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 936285                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	185.47*	22	107	0.98	370.95	366	11	3.06E-03	103.0	
2	0	802.70*	15	10	2.77	1605.40	1598	14	2.05E-03	61.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 15:19:07

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003352.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MJH1
Sample date : 24-DEC-2009 00:00:00 Acquisition date : 31-DEC-2009 13:18:17
Sample ID : G1202003352 Sample quantity : 158.18 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA6 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:00.49 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	1.912E-02	1.549E-01	2.590E-01	1.711E-02	0.074
NA-22		1274.54	*	4.031E-03	1.556E-02	2.721E-02	1.681E-03	0.148
NA-24		1368.53	*	8.983E-05	1.556E-02	Half-Life too short		
AL-26		1129.67		-4.635E-01	7.122E-01	9.844E-01	6.131E-02	-0.471
		1808.65	*	3.164E-03	1.507E-02	2.681E-02	1.540E-03	0.118
K-40		1460.81	*	9.522E-02	2.288E-01	4.067E-01	2.690E-02	0.234
TI-44		67.85		-1.942E-02	1.945E-02	2.984E-02	2.663E-03	-0.651
		78.38	*	9.539E-03	1.472E-02	2.556E-02	2.350E-03	0.373
SC-46		889.25	*	5.611E-03	1.708E-02	3.015E-02	2.161E-03	0.186
		1120.51		1.050E-03	2.232E-02	3.700E-02	2.327E-03	0.028
V-48		944.10		1.452E-01	3.041E-01	5.485E-01	3.915E-02	0.265
		983.50	*	-1.894E-02	2.500E-02	3.496E-02	2.448E-03	-0.542
		1312.09		-1.090E-02	2.557E-02	3.663E-02	2.286E-03	-0.298
CR-51		320.08	*	-8.895E-02	1.755E-01	2.807E-01	1.849E-02	-0.317
MN-52		744.21		-2.572E-02	4.681E-02	6.736E-02	3.842E-03	-0.382
		848.13		1.284E+00	1.384E+00	2.628E+00	1.770E-01	0.489
		935.52		2.219E-02	4.034E-02	7.446E-02	5.335E-03	0.298
		1246.25		9.346E-01	1.283E+00	2.392E+00	1.459E-01	0.391
		1333.61		1.086E+00	9.828E-01	1.982E+00	1.245E-01	0.548
		1434.06	*	-8.773E-03	4.288E-02	6.478E-02	4.077E-03	-0.135
MN-54		834.83	*	6.435E-03	1.659E-02	2.951E-02	1.948E-03	0.218
CO-56		846.75	*	1.523E-02	1.920E-02	3.584E-02	2.409E-03	0.425
		977.42		5.104E-01	1.301E+00	2.314E+00	1.625E-01	0.221
		1037.82		-3.868E-02	1.204E-01	1.837E-01	1.348E-02	-0.211
		1175.09		-5.531E-01	8.314E-01	1.129E+00	6.685E-02	-0.490
		1238.25		-4.760E-04	3.265E-02	5.315E-02	3.417E-03	-0.009
		1360.21		-6.872E-02	5.510E-01	8.689E-01	5.467E-02	-0.079
		1771.40		-8.213E-02	1.507E-01	2.125E-01	1.241E-02	-0.386
CO-57		122.06	*	1.394E-03	1.201E-02	1.993E-02	1.217E-03	0.070
		136.48		-1.144E-01	1.083E-01	1.630E-01	1.095E-02	-0.702
CO-58		810.76	*	2.024E-02	2.033E-02	3.766E-02	2.404E-03	0.537
FE-59		142.65		-3.609E-01	1.252E+00	2.005E+00	1.144E-01	-0.180
		192.34		1.282E-01	4.301E-01	6.905E-01	8.082E-02	0.186
		1099.22	*	-1.153E-02	3.157E-02	4.709E-02	3.454E-03	-0.245

Sample ID : G1202003352 Acquisition date : 31-DEC-2009 13:18:17

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1291.56		-5.042E-02	5.318E-02	6.511E-02	5.038E-03	-0.774
CO-60		1173.22		8.043E-03	1.749E-02	3.162E-02	1.871E-03	0.254
		1332.49	*	7.955E-03	1.971E-02	3.502E-02	2.200E-03	0.227
ZN-65		1115.52	*	-3.545E-02	4.524E-02	6.331E-02	4.010E-03	-0.560
GE-68		1077.35	*	2.486E-01	6.195E-01	1.094E+00	7.172E-02	0.227
AS-73		53.44	*	2.697E-01	3.940E-01	6.950E-01	6.355E-02	0.388
AS-74		595.88	*	-1.984E-02	3.895E-02	5.890E-02	3.132E-03	-0.337
		634.78		-1.393E-01	1.542E-01	2.157E-01	1.102E-02	-0.646
SE-75		66.05		-1.236E+00	2.207E+00	3.366E+00	3.603E-01	-0.367
		96.73		-1.548E-01	3.210E-01	5.100E-01	6.896E-02	-0.304
		121.11		5.211E-03	6.280E-02	1.040E-01	9.841E-03	0.050
		136.00		-1.240E-02	1.960E-02	3.059E-02	1.803E-03	-0.405
		198.60		-6.563E-01	1.049E+00	1.514E+00	1.056E-01	-0.434
		264.65	*	2.481E-03	2.424E-02	3.911E-02	2.346E-03	0.063
		279.53		5.541E-03	5.611E-02	9.537E-02	6.127E-03	0.058
		303.91		-7.641E-01	9.750E-01	1.504E+00	1.450E-01	-0.508
		400.65		9.378E-02	1.397E-01	2.470E-01	2.212E-02	0.380
BR-77		87.88		-3.781E+00	8.620E+00	1.387E+01	1.369E+00	-0.273
		200.40		-4.798E-01	9.955E+00	1.603E+01	9.031E-01	-0.030
		239.00		-3.950E-01	6.729E-01	1.012E+00	5.924E-02	-0.390
		249.79		3.878E+00	4.217E+00	7.289E+00	4.297E-01	0.532
		281.68		3.604E-01	5.625E+00	9.530E+00	5.688E-01	0.038
		297.23		-3.490E-01	2.927E+00	4.872E+00	2.910E-01	-0.072
		303.76		-6.884E+00	9.607E+00	1.497E+01	8.937E-01	-0.460
		439.47		8.023E-01	8.999E+00	1.503E+01	8.454E-01	0.053
		484.57		-4.647E+00	1.344E+01	2.111E+01	1.188E+00	-0.220
		520.65	*	-4.455E-01	6.681E-01	9.999E-01	5.571E-02	-0.446
		574.64		-5.253E+00	1.327E+01	2.050E+01	1.109E+00	-0.256
		578.91		-3.140E+00	5.248E+00	7.841E+00	4.228E-01	-0.400
		585.48		1.076E+01	9.723E+00	1.807E+01	9.692E-01	0.595
		755.35		-2.919E+00	8.328E+00	1.241E+01	7.211E-01	-0.235
		817.79		2.428E+00	7.754E+00	1.367E+01	8.783E-01	0.178
SR-82		698.33		-2.101E+00	1.611E+01	2.552E+01	1.345E+00	-0.082
		776.49	*	4.215E-02	1.443E-01	2.536E-01	1.525E-02	0.166
		1395.20		8.980E-01	4.404E+00	7.525E+00	4.739E-01	0.119
RB-83		520.41	*	-2.516E-02	3.772E-02	5.645E-02	3.145E-03	-0.446
		529.64		1.923E-02	4.954E-02	8.561E-02	4.753E-03	0.225
		552.65		-8.482E-02	1.128E-01	1.662E-01	9.117E-03	-0.510
RB-84		881.50	*	1.078E-02	2.688E-02	4.812E-02	3.409E-03	0.224
KR-85		513.99	*	-9.857E+00	6.455E+00	9.322E+00	5.206E-01	-1.057
SR-85		513.99	*	-4.668E-02	3.057E-02	4.414E-02	2.465E-03	-1.057
RB-86		1076.63	*	1.941E-01	3.053E-01	5.587E-01	3.664E-02	0.347
Y-88		898.02		1.913E-02	1.888E-02	3.669E-02	2.682E-03	0.521
		1836.01	*	-1.172E-02	2.089E-02	2.842E-02	1.615E-03	-0.412
ZR-88		392.90	*	4.607E-03	1.510E-02	2.592E-02	1.439E-03	0.178
Y-91		1204.90	*	2.692E+00	6.470E+00	1.159E+01	6.952E-01	0.232
NB-94		702.63	*	-6.136E-03	1.845E-02	2.822E-02	1.499E-03	-0.217
		871.10		2.742E-03	1.633E-02	2.804E-02	1.956E-03	0.098
NB-95		765.79	*	7.957E-04	1.905E-02	3.080E-02	1.821E-03	0.026

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M		235.69	*	-1.416E-02	6.397E-02	1.009E-01	7.625E-03	-0.140
ZR-95		724.18		1.537E-02	3.710E-02	6.430E-02	4.255E-03	0.239
		756.15	*	-2.006E-02	3.144E-02	4.396E-02	3.099E-03	-0.456
NB-97		657.90	*	7.964E-06	3.144E-02	Half-Life too short		
		1024.50		1.047E-03	3.144E-02	Half-Life too short		
ZR-97		254.15		-5.147E-04	3.144E-02	Half-Life too short		
		355.39		-9.017E-04	3.144E-02	Half-Life too short		
		507.63	*	-1.375E-03	3.144E-02	Half-Life too short		
		602.52		1.485E-03	3.144E-02	Half-Life too short		
		1021.30		5.424E-04	3.144E-02	Half-Life too short		
		1147.95		-2.857E-04	3.144E-02	Half-Life too short		
		1362.66		-1.650E-03	3.144E-02	Half-Life too short		
		1750.46		5.564E-04	3.144E-02	Half-Life too short		
MO-99		140.51		1.893E+00	2.093E+00	3.540E+00	9.533E-01	0.535
		181.06		-5.485E-02	1.554E+00	2.196E+00	3.743E-01	-0.025
		366.43		-1.290E-01	7.228E+00	1.203E+01	6.901E-01	-0.011
		739.58	*	6.888E-02	8.184E-01	1.337E+00	1.835E-01	0.052
		778.00		1.508E+00	2.328E+00	4.309E+00	2.599E-01	0.350
TC-99M		140.51	*	1.553E+01	2.328E+00	Half-Life too short		
RH-101		127.23		-1.245E-03	1.483E-02	2.420E-02	1.445E-03	-0.051
		198.01	*	-1.004E-02	2.013E-02	2.944E-02	1.653E-03	-0.341
		325.23		1.069E-01	1.245E-01	2.234E-01	1.324E-02	0.478
RH-102		418.52		-1.711E-03	1.443E-01	2.389E-01	1.338E-02	-0.007
		475.06	*	-5.542E-03	1.519E-02	2.381E-02	1.341E-03	-0.233
		631.29		-2.071E-02	3.069E-02	4.465E-02	2.291E-03	-0.464
		697.49		1.639E-02	4.329E-02	7.359E-02	3.874E-03	0.223
		766.84		-5.664E-03	5.059E-02	7.955E-02	4.710E-03	-0.071
		1046.59		1.414E-02	4.896E-02	8.573E-02	5.761E-03	0.165
		1112.84		1.878E-02	1.047E-01	1.781E-01	1.129E-02	0.105
RU-103		497.08	*	-3.725E-03	2.031E-02	3.261E-02	4.095E-03	-0.114
		610.33		-3.377E-01	4.427E-01	6.443E-01	9.806E-02	-0.524
RH-106		511.85		-1.971E-01	1.561E-01	2.827E-01	1.580E-02	-0.697
		621.84	*	-4.094E-02	1.777E-01	2.789E-01	3.193E-02	-0.147
		1050.47		-4.110E-01	1.097E+00	1.672E+00	1.120E-01	-0.246
RU-106		511.85		-1.971E-01	1.561E-01	2.827E-01	1.580E-02	-0.697
		621.84	*	-4.094E-02	1.776E-01	2.789E-01	1.446E-02	-0.147
		1050.47		-4.110E-01	1.097E+00	1.672E+00	1.120E-01	-0.246
AG-108M		433.93	*	-3.367E-03	1.892E-02	3.069E-02	1.882E-03	-0.110
		614.37		4.235E-03	1.942E-02	3.259E-02	1.879E-03	0.130
		722.95		-2.161E-02	2.117E-02	2.769E-02	1.666E-03	-0.780
CD-109		88.03	*	-1.494E-01	3.579E-01	5.770E-01	5.697E-02	-0.259
AG-110M		657.75	*	4.783E-03	1.638E-02	2.782E-02	1.502E-03	0.172
		677.61		1.727E-02	1.575E-01	2.591E-01	1.421E-02	0.067
		706.67		7.423E-03	1.174E-01	1.910E-01	1.093E-02	0.039
		763.93		2.077E-02	8.281E-02	1.384E-01	8.644E-03	0.150
		884.67		-7.706E-03	2.269E-02	3.534E-02	2.634E-03	-0.218
		937.48		9.751E-03	4.736E-02	8.185E-02	6.165E-03	0.119
		1384.27		-2.506E-02	8.211E-02	1.222E-01	8.097E-03	-0.205
IN-111		171.28		-3.341E-02	7.836E-02	1.228E-01	6.675E-03	-0.272

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		245.39	*	-6.170E-02	1.008E-01	1.531E-01	9.000E-03	-0.403
IN-113M		391.69	*	-2.357E-02	2.261E-02	3.297E-02	1.962E-03	-0.715
SN-113		391.69	*	-2.357E-02	2.261E-02	3.297E-02	1.962E-03	-0.715
IN-114M		190.27	*	7.893E-03	8.973E-02	1.284E-01	7.146E-03	0.061
CD-115		260.90		2.469E+00	6.731E+00	1.115E+01	6.611E-01	0.222
		492.35		-4.556E-01	1.917E+00	3.057E+00	1.717E-01	-0.149
		527.90	*	-3.443E-01	5.336E-01	7.905E-01	4.392E-02	-0.436
SN-117M		156.02		-3.762E-01	7.864E-01	1.235E+00	6.821E-02	-0.305
		158.56	*	4.856E-03	2.157E-02	3.333E-02	1.831E-03	0.146
SB-122		563.90	*	1.060E-01	1.436E-01	2.593E-01	1.413E-02	0.409
		692.80		-2.023E+00	4.267E+00	6.284E+00	3.281E-01	-0.322
I-123		159.00	*	1.441E-04	4.267E+00	Half-Life too short		
		528.96		-3.741E-03	4.267E+00	Half-Life too short		
TE-123M		159.00	*	9.875E-03	1.544E-02	2.454E-02	1.367E-03	0.402
I-124		602.71	*	3.452E-02	1.205E-01	2.025E-01	1.070E-02	0.170
		722.78		-6.441E-01	6.309E-01	8.255E-01	4.540E-02	-0.780
		1325.50		-2.599E-01	3.666E+00	5.818E+00	3.647E-01	-0.045
		1376.25		-1.731E-01	3.640E+00	5.818E+00	3.663E-01	-0.030
		1509.49		5.115E-01	2.004E+00	3.491E+00	2.184E-01	0.147
		1691.02		-3.163E-01	6.011E-01	8.223E-01	4.945E-02	-0.385
SB-124		602.71		6.444E-03	2.250E-02	3.781E-02	1.999E-03	0.170
		645.85		-1.307E-01	2.476E-01	3.671E-01	2.160E-02	-0.356
		709.31		2.038E-01	1.553E+00	2.549E+00	1.370E-01	0.080
		713.82		-1.248E-01	9.526E-01	1.508E+00	1.507E-01	-0.083
		722.78		-1.743E-01	1.708E-01	2.234E-01	1.293E-02	-0.780
		968.20		3.649E-01	1.296E+00	2.194E+00	1.549E-01	0.166
		1045.16		-3.611E-01	1.015E+00	1.544E+00	1.039E-01	-0.234
		1325.50		-7.511E-02	1.060E+00	1.682E+00	1.054E-01	-0.045
		1368.21		1.113E+00	8.060E-01	1.708E+00	2.070E-01	0.652
		1436.60		-1.210E+00	1.788E+00	2.278E+00	1.433E-01	-0.531
		1691.02	*	-2.019E-02	3.838E-02	5.250E-02	3.409E-03	-0.385
SB-125		427.89	*	2.373E-02	5.274E-02	9.143E-02	5.365E-03	0.260
		463.38		-3.155E-02	1.512E-01	2.433E-01	1.611E-02	-0.130
		600.56		-3.962E-02	1.084E-01	1.683E-01	1.056E-02	-0.235
		635.90		-9.247E-02	1.514E-01	2.223E-01	1.380E-02	-0.416
TE-125M		109.28	*	2.914E+00	4.228E+00	6.703E+00	6.082E-01	0.435
I-126		388.63		2.970E-02	7.058E-02	1.227E-01	6.836E-03	0.242
		666.33	*	3.150E-02	6.420E-02	1.114E-01	5.546E-03	0.283
		753.82		1.654E-01	4.017E-01	7.012E-01	4.064E-02	0.236
SB-126		223.80		-6.970E-02	1.523E+00	2.443E+00	1.411E-01	-0.029
		278.60		-1.247E-01	8.647E-01	1.441E+00	8.597E-02	-0.087
		296.50		-1.112E-01	4.736E-01	7.809E-01	4.664E-02	-0.142
		414.70		-6.833E-03	2.520E-02	4.042E-02	2.262E-03	-0.169
		415.30		-1.136E+00	2.063E+00	3.185E+00	1.782E-01	-0.357
		555.20		9.653E-01	1.479E+00	2.616E+00	1.433E-01	0.369
		573.80		-1.418E-01	4.073E-01	6.346E-01	3.435E-02	-0.223
		593.00		2.930E-01	3.183E-01	5.843E-01	3.115E-02	0.501
		656.30		6.940E-01	1.058E+00	1.894E+00	9.422E-02	0.366
		666.33		1.294E-02	2.637E-02	4.574E-02	2.278E-03	0.283

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		675.00		-4.173E-01	6.897E-01	1.001E+00	5.065E-02	-0.417
		695.00		-9.427E-05	3.354E-02	5.206E-02	2.728E-03	-0.002
		697.00		-4.574E-02	1.155E-01	1.694E-01	8.909E-03	-0.270
		720.50	*	-1.092E-02	4.734E-02	7.318E-02	4.009E-03	-0.149
		856.80		-2.947E-02	1.237E-01	1.963E-01	1.340E-02	-0.150
		989.30		2.711E-01	4.442E-01	8.085E-01	5.643E-02	0.335
		1034.80		-8.440E-03	2.459E+00	4.057E+00	2.750E-01	-0.002
		1213.00		3.306E-01	1.174E+00	2.042E+00	1.229E-01	0.162
SN-126		64.28		7.800E-02	2.395E-01	3.995E-01	6.149E-02	0.195
		86.94		5.444E-02	1.438E-01	2.421E-01	1.007E-01	0.225
		87.57	*	1.093E-03	3.456E-02	5.751E-02	5.660E-03	0.019
SB-127		61.10		-1.365E+00	6.674E+00	1.101E+01	1.076E+00	-0.124
		252.40		1.053E-01	6.432E-01	1.043E+00	4.288E-01	0.101
		290.80		-2.341E-01	3.163E+00	5.294E+00	3.680E-01	-0.044
		411.60		1.461E-01	1.607E+00	2.692E+00	3.475E-01	0.054
		444.90		7.094E-02	1.325E+00	2.203E+00	1.931E-01	0.032
		473.00		-1.813E-01	2.343E-01	3.463E-01	3.198E-02	-0.524
		543.00		2.473E+00	2.264E+00	4.204E+00	4.713E-01	0.588
		603.60		-4.781E-01	1.951E+00	3.085E+00	2.625E-01	-0.155
		685.20	*	3.983E-02	1.862E-01	3.108E-01	2.066E-02	0.128
		698.50		-1.216E-01	2.247E+00	3.599E+00	4.638E-01	-0.034
		722.20		-5.125E+00	3.929E+00	4.762E+00	3.116E-01	-1.076
		783.80		2.622E-01	4.149E-01	7.655E-01	6.817E-02	0.342
XE-127		57.60		1.316E+00	2.475E+00	4.315E+00	3.971E-01	0.305
		145.22		6.733E-03	2.953E-01	4.837E-01	2.741E-02	0.014
		172.10		-2.989E-02	5.204E-02	8.046E-02	4.379E-03	-0.372
		202.84	*	3.242E-03	2.243E-02	3.665E-02	2.071E-03	0.088
		374.96		-4.470E-02	8.825E-02	1.385E-01	7.863E-03	-0.323
I-131		80.18		-2.784E-02	1.019E+00	1.693E+00	1.576E-01	-0.016
		284.30		9.940E-03	4.610E-01	7.781E-01	5.096E-02	0.013
		364.48	*	-3.303E-02	3.588E-02	5.430E-02	3.461E-03	-0.608
		636.97		2.600E-01	4.420E-01	7.772E-01	4.520E-02	0.334
		722.89		-1.896E+00	1.857E+00	2.430E+00	1.342E-01	-0.780
TE-132		49.72		-1.970E+00	2.146E+00	3.342E+00	3.102E-01	-0.590
		111.76		-1.792E+00	2.840E+00	4.451E+00	3.396E-01	-0.403
		116.30		-1.030E+00	2.690E+00	4.300E+00	3.141E-01	-0.240
		228.16	*	8.767E-03	7.725E-02	1.254E-01	1.653E-02	0.070
BA-133		53.15		1.112E+00	1.798E+00	3.160E+00	2.884E-01	0.352
		79.62		1.764E-01	5.428E-01	9.231E-01	1.440E-01	0.191
		81.00		-3.015E-02	4.155E-02	6.500E-02	1.058E-02	-0.464
		276.40		1.968E-04	2.038E-01	3.251E-01	4.239E-02	0.001
		302.84		2.241E-02	6.889E-02	1.193E-01	1.401E-02	0.188
		356.01	*	-1.055E-02	2.652E-02	4.266E-02	4.931E-03	-0.247
		383.85		-9.291E-02	1.607E-01	2.498E-01	2.691E-02	-0.372
I-133		510.53		-3.921E-04	1.607E-01	Half-Life too short		
		529.87	*	4.782E-06	1.607E-01	Half-Life too short		
		706.58		2.176E-05	1.607E-01	Half-Life too short		
		856.28		4.445E-05	1.607E-01	Half-Life too short		
		875.33		-1.243E-04	1.607E-01	Half-Life too short		

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		1236.41		1.606E-04	1.607E-01	Half-Life too short		
		1298.22		1.150E-04	1.607E-01	Half-Life too short		
CS-134		475.35		-6.706E-02	9.627E-01	1.571E+00	8.846E-02	-0.043
		563.23		5.192E-02	1.696E-01	2.898E-01	1.617E-02	0.179
		569.32		2.583E-02	1.091E-01	1.836E-01	1.030E-02	0.141
		604.70		7.659E-03	2.189E-02	3.697E-02	1.963E-03	0.207
		795.84	*	-6.385E-03	2.308E-02	3.090E-02	1.945E-03	-0.207
	+	801.93		2.462E-01	3.009E-01	4.630E-01	2.933E-02	0.532
		1038.57		-4.588E-02	1.533E+00	2.512E+00	1.698E-01	-0.018
		1167.94		-5.187E-01	1.067E+00	1.553E+00	9.249E-02	-0.334
		1365.15		3.120E-02	7.605E-01	1.244E+00	8.489E-02	0.025
CS-135		268.24	*	2.633E-02	8.993E-02	1.474E-01	1.146E-02	0.179
I-135		288.45		-4.950E+01	8.993E-02	Half-Life too short		
		417.63		-5.818E+01	8.993E-02	Half-Life too short		
		546.56		-2.899E+01	8.993E-02	Half-Life too short		
		836.80		-1.886E+01	8.993E-02	Half-Life too short		
		1038.76		-4.473E-02	8.993E-02	Half-Life too short		
		1124.00		-1.669E+01	8.993E-02	Half-Life too short		
		1131.51		-4.468E+00	8.993E-02	Half-Life too short		
		1260.41	*	-2.950E+00	8.993E-02	Half-Life too short		
		1457.56		-8.934E+00	8.993E-02	Half-Life too short		
		1678.03		7.311E+00	8.993E-02	Half-Life too short		
		1706.46		3.353E+01	8.993E-02	Half-Life too short		
		1791.20		6.670E+00	8.993E-02	Half-Life too short		
CS-136		66.91		-1.908E-01	2.509E-01	3.746E-01	5.847E-02	-0.509
		86.29		1.667E-01	3.016E-01	5.188E-01	7.064E-02	0.321
		153.22		1.769E-01	2.134E-01	3.702E-01	2.601E-02	0.478
		163.89		-4.770E-02	3.825E-01	6.171E-01	4.289E-02	-0.077
		176.55		3.466E-02	1.262E-01	2.095E-01	1.302E-02	0.165
		273.65		-6.272E-02	1.630E-01	2.501E-01	1.687E-02	-0.251
		340.57		8.205E-03	4.826E-02	8.188E-02	5.099E-03	0.100
		818.51		7.128E-03	2.798E-02	4.623E-02	2.976E-03	0.154
		1048.07	*	8.466E-04	3.078E-02	5.109E-02	3.663E-03	0.017
		1235.34		4.419E-02	1.573E-01	2.716E-01	2.755E-02	0.163
BA-137M		661.65	*	-1.921E-02	1.785E-02	2.327E-02	1.149E-03	-0.826
CS-137		661.65	*	-2.031E-02	1.887E-02	2.460E-02	1.222E-03	-0.826
CE-139		165.85	*	-4.116E-03	1.498E-02	2.386E-02	1.290E-03	-0.173
BA-140		162.64		-8.553E-03	2.639E-01	4.288E-01	2.662E-02	-0.020
		304.84		-3.117E-02	4.198E-01	7.002E-01	1.913E-01	-0.045
		423.70		-2.365E-01	7.030E-01	1.113E+00	3.535E-01	-0.212
		537.32	*	-1.011E-02	8.571E-02	1.377E-01	4.473E-02	-0.073
LA-140		328.77		-1.343E-01	1.115E-01	1.660E-01	1.096E-02	-0.809
		432.53		-3.365E-01	8.152E-01	1.288E+00	8.043E-02	-0.261
		487.03		-1.164E-02	4.542E-02	7.201E-02	4.616E-03	-0.162
		751.79		-1.039E-01	5.125E-01	7.894E-01	5.587E-02	-0.132
		815.85		-1.138E-01	1.191E-01	1.696E-01	1.304E-02	-0.671
		867.82		1.395E-01	4.485E-01	7.877E-01	5.908E-02	0.177
		919.63		1.426E-02	9.110E-01	1.519E+00	1.449E-01	0.009
		925.24		1.974E-01	3.462E-01	6.354E-01	4.978E-02	0.311

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		1596.49	*	-1.261E-02	3.453E-02	5.258E-02	3.244E-03	-0.240
CE-141		145.44	*	8.955E-03	2.590E-02	4.347E-02	2.564E-03	0.206
CE-143		57.37		1.010E+00	1.124E+01	1.898E+01	1.957E+00	0.053
		231.56		-2.436E+01	3.194E+01	4.639E+01	1.434E+01	-0.525
		293.26	*	5.659E-01	1.708E+00	2.789E+00	5.716E-01	0.203
		350.59		-1.053E+01	2.198E+01	3.401E+01	1.032E+01	-0.310
		490.36		-1.700E+00	3.318E+01	5.419E+01	1.673E+01	-0.031
		664.57		3.219E+00	1.493E+01	2.490E+01	7.845E+00	0.129
		721.93		-2.161E+01	1.675E+01	1.847E+01	5.240E+00	-1.170
CE-144		80.11		1.970E-01	8.694E-01	1.470E+00	1.365E-01	0.134
		133.54	*	1.197E-02	9.862E-02	1.632E-01	2.321E-02	0.073
PM-144		476.78		-2.048E-03	3.615E-02	5.912E-02	4.019E-03	-0.035
		618.01		5.079E-04	1.603E-02	2.617E-02	1.463E-03	0.019
		696.49	*	-6.057E-03	2.231E-02	3.333E-02	1.752E-03	-0.182
		778.57		4.208E-01	1.053E+00	1.881E+00	1.136E-01	0.224
PR-144		696.49	*	-4.088E-01	1.506E+00	2.250E+00	1.182E-01	-0.182
		1489.15		-1.221E+00	7.364E+00	1.137E+01	7.131E-01	-0.107
PM-146		453.90	*	1.263E-03	2.417E-02	4.014E-02	3.416E-03	0.031
		633.02		1.220E-01	7.087E-01	1.179E+00	4.329E-01	0.103
		735.90		8.992E-03	7.529E-02	1.236E-01	3.442E-02	0.073
		747.13		4.246E-03	4.195E-02	6.875E-02	8.576E-03	0.062
ND-147		91.11		-2.848E-02	8.877E-02	1.427E-01	1.422E-02	-0.200
		319.41		-8.119E-01	1.162E+00	1.823E+00	1.083E-01	-0.445
		439.89		-5.565E-01	2.057E+00	3.297E+00	1.855E-01	-0.169
		531.02	*	2.254E-02	1.754E-01	2.926E-01	3.925E-02	0.077
PM-149		285.90	*	1.700E+00	5.028E+00	8.682E+00	1.235E+00	0.196
EU-152		121.78		4.114E-03	3.549E-02	5.889E-02	4.625E-03	0.070
		244.69		-1.026E-01	1.953E-01	2.989E-01	1.756E-02	-0.343
		344.27	*	-3.534E-02	5.415E-02	8.473E-02	5.583E-03	-0.417
		443.98		-2.941E-01	5.181E-01	7.961E-01	4.481E-02	-0.369
		778.89		5.635E-02	1.245E-01	2.239E-01	1.352E-02	0.252
		867.32		1.291E-01	4.155E-01	7.288E-01	5.055E-02	0.177
		964.01		1.042E-01	1.489E-01	2.719E-01	1.923E-02	0.383
		1085.78		-3.907E-02	1.696E-01	2.643E-01	1.720E-02	-0.148
		1112.02		8.909E-02	1.439E-01	2.646E-01	1.679E-02	0.337
		1407.95		-6.626E-02	7.966E-02	8.968E-02	5.647E-03	-0.739
GD-153		69.67		-2.127E-01	6.712E-01	1.094E+00	9.764E-02	-0.194
		83.37		-2.639E+00	6.069E+00	9.766E+00	9.281E-01	-0.270
		97.43	*	-1.976E-03	3.303E-02	5.443E-02	4.549E-03	-0.036
		103.18		5.493E-02	4.615E-02	8.287E-02	6.366E-03	0.663
EU-154		123.07		-1.586E-03	2.519E-02	4.121E-02	3.946E-03	-0.038
		247.94		-1.134E-01	2.203E-01	3.367E-01	3.231E-02	-0.337
		591.81		-7.789E-02	3.453E-01	5.443E-01	5.174E-02	-0.143
		723.30		-7.457E-02	8.610E-02	1.163E-01	7.954E-03	-0.641
		756.87		-2.500E-01	3.813E-01	5.325E-01	5.406E-02	-0.469
		873.19		-3.629E-02	1.306E-01	2.055E-01	2.293E-02	-0.177
		996.32		-4.315E-02	1.758E-01	2.769E-01	4.712E-02	-0.156
		1004.76		-1.262E-01	9.803E-02	1.115E-01	1.165E-02	-1.131
		1274.45	*	1.131E-02	4.363E-02	7.631E-02	7.304E-03	0.148

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155		48.70		5.605E-01	1.352E+00	2.344E+00	1.962E-01	0.239
		60.01		-4.898E-01	2.325E+00	3.835E+00	3.513E-01	-0.128
		86.54		1.492E-02	4.158E-02	7.073E-02	6.952E-03	0.211
		105.31	*	-2.914E-02	4.994E-02	7.864E-02	5.965E-03	-0.370
TB-160		86.79		1.099E-02	1.044E-01	1.746E-01	1.707E-02	0.063
		197.04		-2.113E-02	3.123E-01	4.718E-01	2.647E-02	-0.045
		215.65		-1.309E-01	4.031E-01	6.328E-01	3.626E-02	-0.207
		298.57		-1.345E-02	4.958E-02	8.121E-02	4.850E-03	-0.166
		879.36	*	2.738E-02	5.462E-02	9.995E-02	7.059E-03	0.274
		962.29		-2.834E-02	2.529E-01	4.121E-01	2.917E-02	-0.069
		966.15		3.075E-02	9.648E-02	1.675E-01	1.184E-02	0.184
		1177.93		-3.422E-02	1.307E-01	2.003E-01	1.188E-02	-0.171
		1271.85		-1.467E-01	2.758E-01	3.840E-01	2.364E-02	-0.382
HO-166M		80.57		-5.116E-02	1.152E-01	1.854E-01	1.727E-02	-0.276
	+	184.41		1.401E-02	2.888E-02	3.546E-02	1.959E-03	0.395
		280.46		1.047E-02	4.740E-02	8.130E-02	4.852E-03	0.129
		410.95		2.183E-02	1.323E-01	2.119E-01	1.184E-02	0.103
		711.68	*	1.498E-02	3.668E-02	6.244E-02	3.369E-03	0.240
		752.31		-3.765E-02	1.212E-01	1.820E-01	1.052E-02	-0.207
		810.29		2.900E-02	3.249E-02	6.104E-02	3.877E-03	0.475
TM-171		51.35		-8.182E+00	1.611E+01	2.600E+01	2.331E+00	-0.315
		52.39		2.407E+00	7.820E+00	1.346E+01	1.222E+00	0.179
		59.40		-1.714E+00	1.253E+01	2.080E+01	1.911E+00	-0.082
		66.72	*	-6.750E+00	1.331E+01	2.038E+01	1.820E+00	-0.331
LU-176		88.36		-1.041E-01	8.919E-02	1.358E-01	1.331E-02	-0.767
		201.83		-1.178E-02	1.592E-02	2.417E-02	1.364E-03	-0.487
		306.84	*	-2.705E-03	1.252E-02	2.060E-02	1.229E-03	-0.131
		401.10		2.613E+00	3.896E+00	6.885E+00	3.834E-01	0.380
LU-177		112.95		-7.845E-02	3.538E-01	5.733E-01	3.886E-02	-0.137
		208.36	*	-2.591E-01	2.669E-01	3.955E-01	2.248E-02	-0.655
LU-177M		52.97		4.824E-01	7.795E-01	1.371E+00	1.250E-01	0.352
		54.07		1.735E-01	4.127E-01	7.152E-01	6.558E-02	0.243
		61.30		4.011E-02	6.560E-01	1.104E+00	1.004E-01	0.036
		121.62		2.371E-02	1.755E-01	2.917E-01	1.787E-02	0.081
		147.16		-5.996E-02	3.060E-01	4.924E-01	2.777E-02	-0.122
		171.86		-1.391E-01	2.340E-01	3.612E-01	1.965E-02	-0.385
		218.09		-5.211E-01	4.808E-01	7.035E-01	4.041E-02	-0.741
		268.79		9.603E-02	4.389E-01	7.150E-01	4.254E-02	0.134
		319.02		-9.826E-02	1.414E-01	2.218E-01	1.318E-02	-0.443
		367.43		4.387E-01	5.116E-01	9.197E-01	5.269E-02	0.477
		413.65	*	4.031E-02	8.311E-02	1.457E-01	8.148E-03	0.277
HF-181		56.28		-2.955E-01	4.189E-01	6.633E-01	6.107E-02	-0.445
		57.53		6.310E-02	2.150E-01	3.685E-01	3.392E-02	0.171
		65.20		7.593E-03	3.910E-01	6.230E-01	5.581E-02	0.012
		133.02		1.142E-03	2.784E-02	4.581E-02	2.683E-03	0.025
		136.25		-1.605E-01	2.103E-01	3.246E-01	1.883E-02	-0.495
		345.85		-3.587E-02	9.298E-02	1.495E-01	8.747E-03	-0.240
		482.03	*	1.113E-02	2.095E-02	3.663E-02	2.061E-03	0.304
W-181		56.28		-1.252E-01	1.777E-01	2.814E-01	2.590E-02	-0.445

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		57.53		2.668E-02	9.124E-02	1.564E-01	1.440E-02	0.171
		65.20	*	3.198E-03	1.647E-01	2.624E-01	2.350E-02	0.012
TA-182		67.75		-4.326E-02	4.447E-02	6.842E-02	6.106E-03	-0.632
		100.10		-2.083E-02	7.519E-02	1.216E-01	9.759E-03	-0.171
		152.43		1.675E-01	1.565E-01	2.759E-01	1.537E-02	0.607
		222.10		-5.899E-03	1.886E-01	3.028E-01	1.746E-02	-0.019
		1001.68		3.199E-01	7.734E-01	1.392E+00	9.648E-02	0.230
		1121.28		2.096E-02	6.803E-02	1.064E-01	6.688E-03	0.197
		1189.05		-1.717E-02	1.539E-01	2.470E-01	1.472E-02	-0.070
		1221.42	*	3.017E-02	6.137E-02	1.129E-01	6.818E-03	0.267
		1230.97		3.488E-02	1.759E-01	2.998E-01	1.818E-02	0.116
RE-183		57.98		5.974E-02	8.862E-02	1.558E-01	1.433E-02	0.384
		59.32		-7.827E-03	4.813E-02	7.971E-02	7.327E-03	-0.098
		67.20		-5.556E-02	8.494E-02	1.278E-01	1.141E-02	-0.435
		162.32	*	2.414E-04	5.375E-02	8.759E-02	4.771E-03	0.003
		208.81		-4.704E-01	4.813E-01	7.119E-01	4.049E-02	-0.661
		291.72		1.476E-01	4.968E-01	8.556E-01	5.111E-02	0.173
RE-184		57.98		2.300E-01	3.412E-01	5.998E-01	5.519E-02	0.384
		59.32		-3.011E-02	1.852E-01	3.066E-01	2.819E-02	-0.098
		67.20		-2.139E-01	3.269E-01	4.920E-01	4.392E-02	-0.435
		161.27		4.149E-02	1.826E-01	3.026E-01	1.652E-02	0.137
		216.55		-4.340E-02	1.449E-01	2.277E-01	1.306E-02	-0.191
		252.85	*	9.592E-03	1.290E-01	2.080E-01	1.229E-02	0.046
		318.01		4.796E-02	2.403E-01	4.102E-01	2.439E-02	0.117
		792.07		1.568E-01	3.941E-01	7.073E-01	4.363E-02	0.222
		903.28		-4.149E-01	4.423E-01	5.910E-01	4.284E-02	-0.702
		920.93		-1.585E-01	2.149E-01	3.052E-01	2.199E-02	-0.519
OS-185		59.72		-4.815E-02	1.339E-01	2.184E-01	2.004E-02	-0.221
		61.14		-6.439E-03	6.983E-02	1.162E-01	1.057E-02	-0.055
		69.30		-9.205E-02	1.191E-01	1.869E-01	1.668E-02	-0.492
		592.07		-2.927E-02	1.320E+00	2.144E+00	1.144E-01	-0.014
		646.12	*	-8.409E-03	2.217E-02	3.381E-02	1.705E-03	-0.249
		717.42		6.527E-02	4.776E-01	7.856E-01	4.281E-02	0.083
		874.81		-1.646E-01	2.518E-01	3.637E-01	2.551E-02	-0.453
		880.27		2.185E-01	3.233E-01	6.058E-01	4.285E-02	0.361
RE-188		155.03	*	-3.004E-02	8.137E-02	1.290E-01	7.142E-03	-0.233
		477.96		9.126E-02	1.530E+00	2.539E+00	1.429E-01	0.036
		633.10		2.938E-01	1.339E+00	2.247E+00	1.151E-01	0.131
W-188		63.58		-1.312E+00	2.335E+01	3.800E+01	3.421E+00	-0.035
		227.08		5.570E+00	6.384E+00	1.102E+01	6.383E-01	0.506
		290.67	*	-1.595E-01	3.975E+00	6.671E+00	3.985E-01	-0.024
IR-192		295.96		-3.489E-02	5.558E-02	8.304E-02	5.034E-03	-0.420
		308.46		8.628E-03	4.700E-02	8.027E-02	4.838E-03	0.107
		316.51	*	1.981E-02	1.770E-02	3.252E-02	1.944E-03	0.609
		468.07		2.308E-02	3.193E-02	5.720E-02	3.742E-03	0.403
		604.41		1.367E-01	2.755E-01	4.719E-01	5.234E-02	0.290
		612.46		-4.036E-01	3.630E-01	4.931E-01	3.526E-02	-0.818
AU-195		65.12		3.300E-03	7.760E-02	1.239E-01	1.110E-02	0.027
		66.83		-2.320E-02	4.294E-02	6.555E-02	5.854E-03	-0.354

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		75.70		-1.717E-02	7.344E-02	1.204E-01	1.092E-02	-0.143
		98.88	*	3.199E-02	9.482E-02	1.611E-01	1.317E-02	0.199
		129.76		-1.063E+00	1.295E+00	1.983E+00	1.174E-01	-0.536
TL-200		367.94	*	2.383E+00	2.067E+00	3.818E+00	2.186E-01	0.624
		579.30		-9.309E+00	1.585E+01	2.376E+01	1.281E+00	-0.392
		828.27		-1.640E+01	1.866E+01	2.593E+01	1.694E+00	-0.633
		1205.75		-7.667E-01	8.621E+00	1.426E+01	8.559E-01	-0.054
TL-201		68.90		-3.309E-01	3.663E-01	5.685E-01	5.072E-02	-0.582
		70.82		1.557E-02	2.024E-01	3.398E-01	3.037E-02	0.046
		80.30		-1.711E-02	3.803E-01	6.309E-01	5.867E-02	-0.027
		135.34		1.085E-01	2.273E+00	3.739E+00	2.175E-01	0.029
		167.43	*	1.786E-01	6.489E-01	1.078E+00	5.837E-02	0.166
TL-202		68.90		-1.085E-01	1.201E-01	1.864E-01	1.663E-02	-0.582
		70.82		5.089E-03	6.616E-02	1.111E-01	9.928E-03	0.046
		80.30		-5.594E-03	1.244E-01	2.063E-01	1.919E-02	-0.027
		439.56	*	7.100E-04	2.557E-02	4.241E-02	2.386E-03	0.017
HG-203		70.83		3.207E-02	3.935E-01	6.607E-01	9.124E-02	0.049
		72.87		7.421E-02	2.261E-01	3.855E-01	5.181E-02	0.192
		82.60		-1.979E-01	4.226E-01	6.777E-01	9.676E-02	-0.292
		279.20	*	-3.527E-03	1.963E-02	3.262E-02	2.060E-03	-0.108
BI-207		72.80		3.574E-02	7.320E-02	1.262E-01	1.133E-02	0.283
		74.97		-8.217E-03	4.190E-02	6.887E-02	6.228E-03	-0.119
		84.90		2.335E-02	7.948E-02	1.347E-01	1.296E-02	0.173
		569.67		5.221E-03	1.757E-02	2.975E-02	1.615E-03	0.175
		1063.62	*	-8.191E-03	2.023E-02	2.986E-02	1.980E-03	-0.274
		1770.23		-1.529E-01	3.249E-01	4.714E-01	2.753E-02	-0.324
TL-207		81.07		-6.755E-02	9.129E-02	1.434E-01	1.340E-02	-0.471
		83.78		-5.424E-03	5.220E-02	8.613E-02	8.212E-03	-0.063
		94.90		-2.220E-01	1.096E-01	1.516E-01	1.320E-02	-1.464
		122.32		7.624E-04	8.542E-01	1.405E+00	9.767E-02	0.001
		144.24		6.852E-02	3.380E-01	5.611E-01	4.005E-02	0.122
		154.21		-5.330E-02	2.037E-01	3.258E-01	2.218E-02	-0.164
		269.46		5.707E-02	1.041E-01	1.745E-01	1.083E-02	0.327
		323.87	*	4.719E-01	3.706E-01	6.748E-01	1.118E-01	0.699
		338.28		-1.302E-01	6.323E-01	1.007E+00	1.065E-01	-0.129
		445.03		4.487E-02	1.202E+00	1.995E+00	2.029E-01	0.022
TL-208		277.35		2.098E-02	2.052E-01	3.306E-01	3.521E-02	0.063
		510.84		-7.623E-02	1.451E-01	2.735E-01	2.745E-02	-0.279
		583.14	*	-1.188E-02	2.246E-02	3.515E-02	2.221E-03	-0.338
		860.37		-9.529E-02	1.197E-01	1.656E-01	1.266E-02	-0.575
PO-209		260.50		2.898E+00	5.203E+00	8.766E+00	5.198E-01	0.331
		262.80		-1.268E+00	1.508E+01	2.391E+01	1.419E+00	-0.053
		896.60	*	2.106E+00	3.632E+00	6.639E+00	4.810E-01	0.317
BI-210		46.50	*	1.197E+00	2.116E+00	3.701E+00	3.047E-01	0.323
PB-210		46.50	*	1.197E+00	2.116E+00	3.701E+00	3.047E-01	0.323
PO-210		46.50	*	1.197E+00	2.116E+00	3.701E+00	2.673E-01	0.323
BI-211		72.87		4.175E-01	1.271E+00	2.169E+00	1.947E-01	0.192
		351.07	*	-4.573E-02	1.256E-01	1.989E-01	1.284E-02	-0.230
PB-211		404.84	*	-2.121E-01	5.749E-01	8.536E-01	5.320E-01	-0.248

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		427.08		-4.466E-02	1.187E+00	1.958E+00	1.210E+00	-0.023
		831.96		1.219E-01	5.646E-01	9.701E-01	6.055E-01	0.126
BI-212		727.18	*	-3.692E-03	1.467E-01	2.281E-01	1.716E-02	-0.016
		785.46		-2.443E-01	7.932E-01	1.260E+00	7.691E-02	-0.194
		1620.62		-3.577E-01	6.454E-01	8.892E-01	5.454E-02	-0.402
PB-212		74.81		-4.410E-02	1.457E-01	2.376E-01	3.088E-02	-0.186
		77.11		4.671E-03	8.312E-02	1.390E-01	1.269E-02	0.034
		87.30		3.541E-02	1.595E-01	2.688E-01	3.766E-02	0.132
		238.63	*	-2.516E-02	3.836E-02	5.740E-02	4.231E-03	-0.438
		300.09		-1.480E-01	3.700E-01	5.981E-01	5.006E-02	-0.247
PO-212		74.81		-4.410E-02	1.457E-01	2.376E-01	3.088E-02	-0.186
		77.11		4.671E-03	8.312E-02	1.390E-01	1.269E-02	0.034
		87.30		3.541E-02	1.595E-01	2.688E-01	3.766E-02	0.132
		115.19		7.890E-01	1.666E+00	2.842E+00	1.876E-01	0.278
		238.63	*	-2.516E-02	3.836E-02	5.740E-02	4.231E-03	-0.438
		300.09		-1.480E-01	3.700E-01	5.981E-01	5.006E-02	-0.247
BI-214		609.31	*	-3.349E-02	4.675E-02	6.892E-02	5.086E-03	-0.486
		1120.29		8.238E-04	1.377E-01	2.265E-01	2.069E-02	0.004
		1764.49		-1.013E-01	1.636E-01	2.662E-01	1.559E-02	-0.381
PB-214		74.81		-7.598E-02	2.510E-01	4.093E-01	4.783E-02	-0.186
		77.11		8.008E-03	1.425E-01	2.383E-01	2.834E-02	0.034
		87.30		6.067E-02	2.732E-01	4.604E-01	5.747E-02	0.132
		241.98		1.144E-02	2.100E-01	3.383E-01	2.745E-02	0.034
		295.21		-3.907E-02	8.085E-02	1.232E-01	1.066E-02	-0.317
		351.92	*	-1.551E-03	4.379E-02	7.144E-02	5.927E-03	-0.022
PO-214		74.81		-7.598E-02	2.510E-01	4.093E-01	4.783E-02	-0.186
		77.11		8.008E-03	1.425E-01	2.383E-01	2.834E-02	0.034
		87.30		6.067E-02	2.732E-01	4.604E-01	5.747E-02	0.132
		241.98		1.144E-02	2.100E-01	3.383E-01	2.745E-02	0.034
		295.21		-3.907E-02	8.085E-02	1.232E-01	1.066E-02	-0.317
		351.92	*	-1.551E-03	4.379E-02	7.144E-02	5.927E-03	-0.022
PO-215		81.07		-6.755E-02	9.129E-02	1.434E-01	1.340E-02	-0.471
		83.78		-5.424E-03	5.220E-02	8.613E-02	8.212E-03	-0.063
		94.90		-2.220E-01	1.096E-01	1.516E-01	1.320E-02	-1.464
		122.32		7.624E-04	8.542E-01	1.405E+00	9.767E-02	0.001
		144.24		6.852E-02	3.380E-01	5.611E-01	4.005E-02	0.122
		154.21		-5.330E-02	2.037E-01	3.258E-01	2.218E-02	-0.164
		269.46		5.707E-02	1.041E-01	1.745E-01	1.083E-02	0.327
		323.87	*	4.719E-01	3.706E-01	6.748E-01	1.118E-01	0.699
		338.28		-1.302E-01	6.323E-01	1.007E+00	1.065E-01	-0.129
		445.03		4.487E-02	1.202E+00	1.995E+00	2.029E-01	0.022
PO-216		74.81		-4.410E-02	1.457E-01	2.376E-01	3.088E-02	-0.186
		77.11		4.671E-03	8.312E-02	1.390E-01	1.269E-02	0.034
		87.30		3.541E-02	1.595E-01	2.688E-01	3.766E-02	0.132
		238.63	*	-2.516E-02	3.836E-02	5.740E-02	4.231E-03	-0.438
		300.09		-1.480E-01	3.700E-01	5.981E-01	5.006E-02	-0.247
PO-218		74.81		-7.598E-02	2.510E-01	4.093E-01	4.783E-02	-0.186
		77.11		8.008E-03	1.425E-01	2.383E-01	2.834E-02	0.034
		87.30		6.067E-02	2.732E-01	4.604E-01	5.747E-02	0.132

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		241.98		1.144E-02	2.100E-01	3.383E-01	2.745E-02	0.034
		295.21		-3.907E-02	8.085E-02	1.232E-01	1.066E-02	-0.317
		351.92	*	-1.551E-03	4.379E-02	7.144E-02	5.927E-03	-0.022
RN-219		271.23		-7.093E-04	1.325E-01	2.114E-01	1.737E-02	-0.003
		401.81	*	1.897E-01	2.394E-01	4.258E-01	5.753E-02	0.445
RN-220		549.76	*	4.587E+00	1.457E+01	2.481E+01	1.363E+00	0.185
RA-223		81.07		-6.755E-02	9.129E-02	1.434E-01	1.340E-02	-0.471
		83.78		-5.424E-03	5.220E-02	8.613E-02	8.212E-03	-0.063
		94.90		-2.220E-01	1.096E-01	1.516E-01	1.320E-02	-1.464
		122.32		7.624E-04	8.542E-01	1.405E+00	9.767E-02	0.001
		144.24		6.852E-02	3.380E-01	5.611E-01	4.005E-02	0.122
		154.21		-5.330E-02	2.037E-01	3.258E-01	2.218E-02	-0.164
		269.46		5.707E-02	1.041E-01	1.745E-01	1.083E-02	0.327
		323.87	*	4.719E-01	3.706E-01	6.748E-01	1.118E-01	0.699
		338.28		-1.302E-01	6.323E-01	1.007E+00	1.065E-01	-0.129
		445.03		4.487E-02	1.202E+00	1.995E+00	2.029E-01	0.022
RA-224		240.98	*	-9.800E-02	3.996E-01	6.290E-01	3.686E-02	-0.156
RA-226		609.31	*	-3.349E-02	4.675E-02	6.892E-02	5.086E-03	-0.486
		1120.29		8.238E-04	1.377E-01	2.265E-01	2.069E-02	0.004
		1764.49		-1.013E-01	1.636E-01	2.662E-01	1.559E-02	-0.381
AC-227		79.80		1.408E-01	6.896E-01	1.163E+00	2.533E-01	0.121
		236.00		-5.101E-04	1.295E-01	2.079E-01	2.177E-02	-0.002
		256.20	*	-9.154E-02	2.120E-01	3.243E-01	4.544E-02	-0.282
		286.10		3.907E-01	8.975E-01	1.561E+00	1.818E-01	0.250
		299.80		-3.812E-01	7.076E-01	1.125E+00	1.840E-01	-0.339
		304.40		-2.504E-01	9.254E-01	1.513E+00	2.625E-01	-0.166
		334.20		-4.164E-01	1.393E+00	2.271E+00	4.171E-01	-0.183
TH-227		79.80		1.408E-01	6.896E-01	1.163E+00	2.564E-01	0.121
		94.00		8.952E-01	9.101E-01	1.569E+00	3.431E-01	0.571
		236.00		-5.101E-04	1.295E-01	2.079E-01	1.888E-02	-0.002
		256.20	*	-9.154E-02	2.121E-01	3.243E-01	5.494E-02	-0.282
		286.10		3.907E-01	9.781E-01	1.561E+00	1.564E+00	0.250
		299.80		-3.812E-01	7.076E-01	1.125E+00	1.840E-01	-0.339
		304.40		-2.504E-01	9.254E-01	1.513E+00	2.625E-01	-0.166
		334.20		-4.164E-01	1.393E+00	2.271E+00	4.171E-01	-0.183
AC-228		338.32		-3.018E-02	1.520E-01	2.415E-01	9.847E-02	-0.125
		911.07	*	3.840E-03	6.966E-02	1.250E-01	1.277E-02	0.031
		969.11		1.210E-02	1.394E-01	2.296E-01	5.235E-02	0.053
RA-228		338.32		-3.018E-02	1.520E-01	2.415E-01	9.847E-02	-0.125
		911.07	*	3.840E-03	6.966E-02	1.250E-01	1.277E-02	0.031
		969.11		1.210E-02	1.394E-01	2.296E-01	5.235E-02	0.053
TH-228		74.81		-4.443E-02	1.468E-01	2.394E-01	2.180E-02	-0.186
		77.11		4.707E-03	8.375E-02	1.401E-01	1.279E-02	0.034
		87.30		3.568E-02	1.607E-01	2.708E-01	2.658E-02	0.132
		238.63	*	-2.535E-02	3.865E-02	5.784E-02	4.263E-03	-0.438
		300.09		-1.491E-01	3.828E-01	6.026E-01	3.553E-01	-0.247
TH-229		85.43		6.198E-02	7.746E-02	1.354E-01	1.308E-02	0.458
		88.47		-5.947E-02	5.130E-02	7.814E-02	7.647E-03	-0.761
		100.00		-1.711E-02	8.214E-02	1.336E-01	1.074E-02	-0.128

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		193.63	*	-8.680E-02	2.650E-01	4.171E-01	2.331E-02	-0.208
		210.97		2.137E-01	4.040E-01	6.789E-01	3.871E-02	0.315
TH-230		609.31	*	-3.349E-02	4.675E-02	6.892E-02	5.086E-03	-0.486
		1120.29		8.238E-04	1.377E-01	2.265E-01	2.069E-02	0.004
		1764.49		-1.013E-01	1.636E-01	2.662E-01	1.559E-02	-0.381
PA-231		283.67	*	1.823E-01	8.952E-01	1.532E+00	2.122E-01	0.119
		301.29		5.565E-03	2.614E-01	4.404E-01	4.646E-02	0.013
TH-231		81.07		-6.755E-02	9.129E-02	1.434E-01	1.340E-02	-0.471
		83.78		-5.424E-03	5.220E-02	8.613E-02	8.212E-03	-0.063
		94.90		-2.220E-01	1.096E-01	1.516E-01	1.320E-02	-1.464
		122.32		7.624E-04	8.542E-01	1.405E+00	9.767E-02	0.001
		144.24		6.852E-02	3.380E-01	5.611E-01	4.005E-02	0.122
		154.21		-5.330E-02	2.037E-01	3.258E-01	2.218E-02	-0.164
		269.46		5.707E-02	1.041E-01	1.745E-01	1.083E-02	0.327
		323.87	*	4.719E-01	3.706E-01	6.748E-01	1.118E-01	0.699
		338.28		-1.302E-01	6.323E-01	1.007E+00	1.065E-01	-0.129
		445.03		4.487E-02	1.202E+00	1.995E+00	2.029E-01	0.022
U-231		84.21		-2.117E-01	6.476E-01	1.051E+00	1.005E-01	-0.201
		92.29		-7.197E-02	3.020E-01	4.874E-01	4.439E-02	-0.148
		95.87	*	-3.249E-01	1.510E-01	2.052E-01	1.759E-02	-1.583
		108.00		-1.410E-02	2.637E-01	4.335E-01	3.124E-02	-0.033
TH-232		338.32		-3.018E-02	1.515E-01	2.415E-01	1.420E-02	-0.125
		911.07	*	3.840E-03	6.966E-02	1.250E-01	1.277E-02	0.031
		969.11		1.210E-02	1.394E-01	2.296E-01	5.235E-02	0.053
PA-233		75.28		-3.309E-01	1.227E+00	2.004E+00	3.126E-01	-0.165
		86.59		2.406E-01	6.800E-01	1.152E+00	3.133E-01	0.209
		300.12		-7.764E-02	1.912E-01	3.086E-01	4.170E-02	-0.252
		311.98	*	2.864E-03	3.427E-02	5.798E-02	3.657E-03	0.049
		340.50		6.371E-02	3.493E-01	5.927E-01	1.362E-01	0.107
		398.62		-5.353E-01	1.223E+00	1.927E+00	4.972E-01	-0.278
		415.76		-9.696E-01	8.777E-01	1.215E+00	2.495E-01	-0.798
PA-234		63.00		-3.869E-01	7.522E-01	1.180E+00	1.856E-01	-0.328
		94.67		-7.506E-02	7.438E-02	1.130E-01	1.411E-02	-0.664
		98.44		1.632E-02	4.063E-02	6.768E-02	3.772E-02	0.241
		99.86		-2.449E-02	2.095E-01	3.434E-01	2.766E-02	-0.071
		111.00		-6.862E-03	9.421E-02	1.411E-01	1.546E-02	-0.049
		131.20		-2.364E-02	4.961E-02	7.826E-02	4.611E-03	-0.302
		152.70		1.504E-01	1.636E-01	2.826E-01	4.444E-02	0.532
	+	186.00		5.044E-01	1.051E+00	1.231E+00	3.755E-01	0.410
		226.40		1.737E-01	2.253E-01	3.839E-01	4.437E-02	0.452
		227.20		2.007E-01	2.324E-01	4.008E-01	2.322E-02	0.501
		248.90		1.409E-01	4.950E-01	8.111E-01	1.745E-01	0.174
		293.70		1.156E-01	3.841E-01	6.255E-01	1.010E-01	0.185
		369.80		3.014E-01	5.028E-01	8.784E-01	1.827E-01	0.343
		568.70		1.529E-01	5.689E-01	9.603E-01	5.216E-02	0.159
		569.50		3.635E-02	1.547E-01	2.600E-01	1.412E-02	0.140
		574.00		-3.325E-01	8.900E-01	1.382E+00	7.477E-02	-0.241
		699.00		-1.618E-01	4.199E-01	6.383E-01	1.138E-01	-0.253
		706.10		-1.379E-01	6.263E-01	9.736E-01	4.291E-01	-0.142

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		733.00		7.009E-02	1.782E-01	3.060E-01	6.489E-02	0.229
		742.81		4.835E-01	7.298E-01	1.189E+00	7.956E-01	0.407
		796.30		-1.412E-01	4.507E-01	5.943E-01	1.568E-01	-0.238
		805.60		-1.754E-01	6.732E-01	9.174E-01	2.760E-01	-0.191
		819.60		1.549E-01	6.924E-01	1.134E+00	4.265E-01	0.137
		826.30		-7.391E-02	3.765E-01	6.049E-01	2.685E-01	-0.122
		831.60		1.514E-01	2.915E-01	5.238E-01	1.536E-01	0.289
		876.40		-2.952E-01	4.788E-01	5.132E-01	5.269E-01	-0.575
		880.51		8.599E-02	1.241E-01	2.331E-01	1.649E-02	0.369
		883.24		-2.489E-02	1.297E-01	2.061E-01	1.382E-01	-0.121
		899.00		1.566E-01	4.241E-01	7.409E-01	3.220E-01	0.211
		925.00		2.301E-01	5.465E-01	9.788E-01	7.041E-02	0.235
		926.50		6.849E-02	8.375E-02	1.565E-01	3.885E-02	0.438
		946.00	*	2.479E-02	1.436E-01	2.459E-01	4.459E-02	0.101
		949.00		1.264E-01	1.905E-01	3.570E-01	2.543E-02	0.354
		980.50		-1.594E-01	3.408E-01	5.094E-01	3.572E-02	-0.313
		1394.10		2.527E-01	6.415E-01	1.107E+00	7.173E-01	0.228
PA-234M		766.42		-1.731E+00	5.708E+00	8.571E+00	4.316E+00	-0.202
		1001.03	*	1.212E+00	1.850E+00	3.473E+00	2.968E-01	0.349
TH-234		63.29	*	-2.663E-01	6.407E-01	1.014E+00	1.843E-01	-0.263
		92.38		-3.043E-02	2.730E-01	4.439E-01	8.129E-02	-0.069
U-234		609.31	*	-3.349E-02	4.675E-02	6.892E-02	5.086E-03	-0.486
		1120.29		8.238E-04	1.377E-01	2.265E-01	2.069E-02	0.004
		1764.49		-1.013E-01	1.636E-01	2.662E-01	1.559E-02	-0.381
U-235		89.95		-5.191E-01	5.218E-01	7.661E-01	2.384E-01	-0.678
		93.35		-5.275E-02	3.270E-01	5.297E-01	1.490E-01	-0.100
		105.00		-4.368E-03	4.837E-01	7.985E-01	2.359E-01	-0.005
		143.76	*	-4.304E-03	1.086E-01	1.772E-01	2.881E-02	-0.024
		163.35		1.895E-02	2.477E-01	4.057E-01	7.249E-02	0.047
	+	185.71		1.868E-02	3.851E-02	4.620E-02	2.556E-03	0.404
		205.31		1.154E-01	2.730E-01	4.546E-01	8.155E-02	0.254
NP-236		94.67		-5.625E-02	5.623E-02	8.590E-02	7.508E-03	-0.655
		98.44		1.234E-02	2.995E-02	5.116E-02	4.210E-03	0.241
		111.00		-5.191E-03	7.126E-02	1.067E-01	7.409E-03	-0.049
		160.31	*	9.777E-03	4.586E-02	7.074E-02	3.871E-03	0.138
NP-237		86.50	*	3.681E-02	1.020E-01	1.731E-01	3.951E-02	0.213
		95.87		-9.988E-01	5.183E-01	6.310E-01	1.553E-01	-1.583
U-238		63.29	*	-2.663E-01	6.407E-01	1.014E+00	1.843E-01	-0.263
		92.38		-3.043E-02	2.730E-01	4.439E-01	4.036E-02	-0.069
NP-239		99.55		1.086E-02	6.841E-02	1.146E-01	9.275E-03	0.095
		117.00	*	-2.289E-02	9.226E-02	1.490E-01	9.626E-03	-0.154
		209.75		-1.654E-01	3.943E-01	6.133E-01	3.492E-02	-0.270
		228.18		1.256E-02	1.261E-01	2.045E-01	1.186E-02	0.061
		277.60		-1.252E-02	1.024E-01	1.614E-01	9.629E-03	-0.078
		334.30		-2.152E-01	7.903E-01	1.293E+00	7.626E-02	-0.166
AM-241		59.54	*	-2.376E-02	7.462E-02	1.221E-01	1.194E-02	-0.195
AM-243		74.67	*	-7.915E-03	2.364E-02	3.847E-02	3.474E-03	-0.206
		86.72		4.799E-01	3.851E+00	6.450E+00	6.300E-01	0.074
		117.66		-2.516E-01	1.821E+00	2.966E+00	1.901E-01	-0.085

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		142.18		-4.705E+00	9.152E+00	1.441E+01	8.226E-01	-0.327
CM-243		99.55		1.117E-02	7.036E-02	1.179E-01	9.539E-03	0.095
		103.76	*	3.715E-02	4.335E-02	7.622E-02	5.809E-03	0.487
		117.00		-2.354E-02	9.487E-02	1.532E-01	9.899E-03	-0.154
		209.75		-1.630E-01	3.885E-01	6.043E-01	3.441E-02	-0.270
		228.18		1.268E-02	1.274E-01	2.066E-01	1.198E-02	0.061
		277.60		-1.262E-02	1.032E-01	1.627E-01	9.703E-03	-0.078
AM-246		798.80		3.183E-02	6.379E-02	1.047E-01	6.529E-03	0.304
		1036.00		-8.598E-02	1.266E-01	1.742E-01	1.180E-02	-0.494
		1062.04		-7.460E-02	1.041E-01	1.436E-01	9.533E-03	-0.520
		1078.86	*	3.461E-02	7.062E-02	1.267E-01	8.294E-03	0.273
CM-247		278.00		1.524E-01	3.925E-01	6.827E-01	4.072E-02	0.223
		287.40		8.452E-02	7.141E-01	1.214E+00	7.251E-02	0.070
		402.60	*	1.276E-02	2.068E-02	3.646E-02	2.031E-03	0.350
CF-249		252.85		3.713E-02	4.994E-01	8.052E-01	4.756E-02	0.046
		333.44		5.176E-02	1.039E-01	1.807E-01	1.066E-02	0.286
		387.95	*	3.246E-03	2.056E-02	3.479E-02	1.940E-03	0.093
CF-251		176.60	*	1.956E-02	6.494E-02	1.080E-01	5.910E-03	0.181
		227.00		1.876E-01	2.072E-01	3.583E-01	2.076E-02	0.523
		285.00		1.844E-01	9.980E-01	1.706E+00	1.019E-01	0.108
ANH-511		511.00	*	-1.710E-02	3.127E-02	5.898E-02	3.297E-03	-0.290

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003352    *
* Acquisition date : 31-DEC-2009 13:18:17 Detector SN#     :               *
* Detector ID        : GAM06                Sensitivity      : 5.000       *
* Geometry           : CAN                  Energy tolerance: 1.500        *
* Elapsed live time:     0 02:00:00.00      Abundance limit : 75.000       *
* Elapsed real time:     0 02:00:00.49      Half life ratio :  8.000       *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        : 24-DEC-2009 00:00:00 Nuclide Library : SOLID        *
* Sample ID          : G1202003352          Analyst initials: MJH1         *
* Batch Number       : 936285               Sample Quantity : 1.5818E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000    *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME :  4-FEB-2009 13:05:54 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)	
BE-7	1.912E-02	1.518E-01	2.699E-01	0.000E+00 NOT IDENT.
NA-22	4.031E-03	1.525E-02	2.758E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	8.657E+01	0.000E+00	0.000E+00 SHORT HLIF
AL-26	3.164E-03	1.477E-02	2.689E-02	0.000E+00 NOT IDENT.
K-40	9.522E-02	2.242E-01	4.105E-01	0.000E+00 NOT IDENT.
TI-44	9.539E-03	1.443E-02	2.794E-02	0.000E+00 NOT IDENT.
SC-46	5.611E-03	1.673E-02	3.087E-02	0.000E+00 NOT IDENT.
V-48	-1.894E-02	2.450E-02	3.569E-02	0.000E+00 NOT IDENT.
CR-51	-8.895E-02	1.719E-01	2.957E-01	0.000E+00 NOT IDENT.
MN-52	-8.773E-03	4.203E-02	6.542E-02	0.000E+00 NOT IDENT.
MN-54	6.435E-03	1.625E-02	3.028E-02	0.000E+00 NOT IDENT.
CO-56	1.523E-02	1.881E-02	3.675E-02	0.000E+00 NOT IDENT.
CO-57	1.394E-03	1.177E-02	2.154E-02	0.000E+00 NOT IDENT.
CO-58	2.024E-02	1.992E-02	3.867E-02	0.000E+00 NOT IDENT.
FE-59	-1.153E-02	3.093E-02	4.793E-02	0.000E+00 NOT IDENT.
CO-60	7.955E-03	1.931E-02	3.544E-02	0.000E+00 NOT IDENT.
ZN-65	-3.545E-02	4.433E-02	6.441E-02	0.000E+00 NOT IDENT.
GE-68	2.486E-01	6.071E-01	1.114E+00	0.000E+00 NOT IDENT.
AS-73	2.697E-01	3.861E-01	7.669E-01	0.000E+00 NOT IDENT.
AS-74	-1.984E-02	3.817E-02	6.101E-02	0.000E+00 NOT IDENT.
SE-75	2.481E-03	2.375E-02	4.142E-02	0.000E+00 NOT IDENT.
BR-77	-4.455E-01	6.547E-01	1.040E+00	0.000E+00 NOT IDENT.
SR-82	4.215E-02	1.414E-01	2.607E-01	0.000E+00 NOT IDENT.
RB-83	-2.516E-02	3.696E-02	5.869E-02	0.000E+00 NOT IDENT.
RB-84	1.078E-02	2.634E-02	4.929E-02	0.000E+00 NOT IDENT.
KR-85	-9.857E+00	6.326E+00	9.695E+00	0.000E+00 NOT IDENT.

SR-85	-4.668E-02	2.996E-02	4.591E-02	0.000E+00	NOT IDENT.
RB-86	1.941E-01	2.992E-01	5.690E-01	0.000E+00	NOT IDENT.
Y-88	-1.172E-02	2.047E-02	2.849E-02	0.000E+00	NOT IDENT.
ZR-88	4.607E-03	1.480E-02	2.716E-02	0.000E+00	NOT IDENT.
Y-91	2.692E+00	6.341E+00	1.177E+01	0.000E+00	NOT IDENT.
NB-94	-6.136E-03	1.808E-02	2.910E-02	0.000E+00	NOT IDENT.
NB-95	7.957E-04	1.867E-02	3.168E-02	0.000E+00	NOT IDENT.
NB-95M	-1.416E-02	6.269E-02	1.072E-01	0.000E+00	NOT IDENT.
ZR-95	-2.006E-02	3.081E-02	4.523E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.674E+01	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	8.865E+02	0.000E+00	0.000E+00	SHORT HLIF
MO-99	6.888E-02	8.020E-01	1.377E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.648E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.004E-02	1.973E-02	3.141E-02	0.000E+00	NOT IDENT.
RH-102	-5.542E-03	1.489E-02	2.482E-02	0.000E+00	NOT IDENT.
RU-103	-3.725E-03	1.990E-02	3.394E-02	0.000E+00	NOT IDENT.
RH-106	-4.094E-02	1.741E-01	2.886E-01	0.000E+00	NOT IDENT.
RU-106	-4.094E-02	1.741E-01	2.886E-01	0.000E+00	NOT IDENT.
AG-108M	-3.367E-03	1.854E-02	3.207E-02	0.000E+00	NOT IDENT.
CD-109	-1.494E-01	3.508E-01	6.288E-01	0.000E+00	NOT IDENT.
AG-110M	4.783E-03	1.606E-02	2.873E-02	0.000E+00	NOT IDENT.
IN-111	-6.170E-02	9.878E-02	1.624E-01	0.000E+00	NOT IDENT.
IN-113M	-2.357E-02	2.216E-02	3.454E-02	0.000E+00	NOT IDENT.
SN-113	-2.357E-02	2.216E-02	3.454E-02	0.000E+00	NOT IDENT.
IN-114M	7.893E-03	8.794E-02	1.372E-01	0.000E+00	NOT IDENT.
CD-115	-3.443E-01	5.230E-01	8.215E-01	0.000E+00	NOT IDENT.
SN-117M	4.856E-03	2.113E-02	3.578E-02	0.000E+00	NOT IDENT.
SB-122	1.060E-01	1.407E-01	2.690E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.207E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	9.875E-03	1.513E-02	2.634E-02	0.000E+00	NOT IDENT.
I-124	3.452E-02	1.181E-01	2.097E-01	0.000E+00	NOT IDENT.
SB-124	-2.019E-02	3.761E-02	5.276E-02	0.000E+00	NOT IDENT.
SB-125	2.373E-02	5.169E-02	9.558E-02	0.000E+00	NOT IDENT.
TE-125M	2.914E+00	4.144E+00	7.265E+00	0.000E+00	NOT IDENT.
I-126	3.150E-02	6.292E-02	1.150E-01	0.000E+00	NOT IDENT.
SB-126	-1.092E-02	4.639E-02	7.539E-02	0.000E+00	NOT IDENT.
SN-126	1.093E-03	3.387E-02	6.269E-02	0.000E+00	NOT IDENT.
SB-127	3.983E-02	1.824E-01	3.207E-01	0.000E+00	NOT IDENT.
XE-127	3.242E-03	2.198E-02	3.909E-02	0.000E+00	NOT IDENT.
I-131	-3.303E-02	3.516E-02	5.701E-02	0.000E+00	NOT IDENT.
TE-132	8.767E-03	7.571E-02	1.334E-01	0.000E+00	NOT IDENT.
BA-133	-1.055E-02	2.599E-02	4.482E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	6.826E+00	0.000E+00	0.000E+00	SHORT HLIF
CS-134	-6.385E-03	2.261E-02	3.174E-02	0.000E+00	FAIL ABUN
CS-135	2.633E-02	8.813E-02	1.561E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.305E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.466E-04	3.016E-02	5.208E-02	0.000E+00	NOT IDENT.
BA-137M	-1.921E-02	1.750E-02	2.403E-02	0.000E+00	NOT IDENT.
CS-137	-2.031E-02	1.850E-02	2.540E-02	0.000E+00	NOT IDENT.
CE-139	-4.116E-03	1.468E-02	2.558E-02	0.000E+00	NOT IDENT.
BA-140	-1.011E-02	8.399E-02	1.431E-01	0.000E+00	NOT IDENT.
LA-140	-1.261E-02	3.384E-02	5.293E-02	0.000E+00	NOT IDENT.
CE-141	8.955E-03	2.538E-02	4.677E-02	0.000E+00	NOT IDENT.
CE-143	5.659E-01	1.674E+00	2.945E+00	0.000E+00	NOT IDENT.
CE-144	1.197E-02	9.664E-02	1.760E-01	0.000E+00	NOT IDENT.
PM-144	-6.057E-03	2.186E-02	3.437E-02	0.000E+00	NOT IDENT.
PR-144	-4.088E-01	1.476E+00	2.320E+00	0.000E+00	NOT IDENT.
PM-146	1.263E-03	2.368E-02	4.189E-02	0.000E+00	NOT IDENT.
ND-147	2.254E-02	1.719E-01	3.041E-01	0.000E+00	NOT IDENT.
PM-149	1.700E+00	4.927E+00	9.176E+00	0.000E+00	NOT IDENT.
EU-152	-3.534E-02	5.307E-02	8.909E-02	0.000E+00	NOT IDENT.
GD-153	-1.976E-03	3.237E-02	5.917E-02	0.000E+00	NOT IDENT.
EU-154	1.131E-02	4.276E-02	7.734E-02	0.000E+00	NOT IDENT.
EU-155	-2.914E-02	4.894E-02	8.532E-02	0.000E+00	NOT IDENT.
TB-160	2.738E-02	5.353E-02	1.024E-01	0.000E+00	NOT IDENT.
HO-166M	1.498E-02	3.594E-02	6.435E-02	0.000E+00	FAIL ABUN
TM-171	-6.750E+00	1.304E+01	2.237E+01	0.000E+00	NOT IDENT.
LU-176	-2.705E-03	1.227E-02	2.172E-02	0.000E+00	NOT IDENT.
LU-177	-2.591E-01	2.615E-01	4.215E-01	0.000E+00	NOT IDENT.
LU-177M	4.031E-02	8.145E-02	1.524E-01	0.000E+00	NOT IDENT.
HF-181	1.113E-02	2.053E-02	3.817E-02	0.000E+00	NOT IDENT.
W-181	3.198E-03	1.614E-01	2.881E-01	0.000E+00	NOT IDENT.
TA-182	3.017E-02	6.014E-02	1.146E-01	0.000E+00	NOT IDENT.
RE-183	2.414E-04	5.267E-02	9.397E-02	0.000E+00	NOT IDENT.
RE-184	9.592E-03	1.264E-01	2.206E-01	0.000E+00	NOT IDENT.
OS-185	-8.409E-03	2.173E-02	3.494E-02	0.000E+00	NOT IDENT.
RE-188	-3.004E-02	7.974E-02	1.385E-01	0.000E+00	NOT IDENT.
W-188	-1.595E-01	3.895E+00	7.047E+00	0.000E+00	NOT IDENT.

IR-192	1.981E-02	1.735E-02	3.427E-02	0.000E+00	NOT IDENT.
AU-195	3.199E-02	9.292E-02	1.750E-01	0.000E+00	NOT IDENT.
TL-200	2.383E+00	2.026E+00	4.007E+00	0.000E+00	NOT IDENT.
TL-201	1.786E-01	6.360E-01	1.156E+00	0.000E+00	NOT IDENT.
TL-202	7.100E-04	2.506E-02	4.430E-02	0.000E+00	NOT IDENT.
HG-203	-3.527E-03	1.924E-02	3.450E-02	0.000E+00	NOT IDENT.
BI-207	-8.191E-03	1.983E-02	3.042E-02	0.000E+00	NOT IDENT.
TL-207	4.719E-01	3.632E-01	7.108E-01	0.000E+00	NOT IDENT.
TL-208	-1.188E-02	2.201E-02	3.643E-02	0.000E+00	NOT IDENT.
PO-209	2.106E+00	3.560E+00	6.797E+00	0.000E+00	NOT IDENT.
BI-210	1.197E+00	2.074E+00	4.098E+00	0.000E+00	NOT IDENT.
PB-210	1.197E+00	2.074E+00	4.098E+00	0.000E+00	NOT IDENT.
PO-210	1.197E+00	2.073E+00	4.098E+00	0.000E+00	NOT IDENT.
BI-211	-4.573E-02	1.231E-01	2.090E-01	0.000E+00	NOT IDENT.
PB-211	-2.121E-01	5.634E-01	8.936E-01	0.000E+00	NOT IDENT.
BI-212	-3.692E-03	1.438E-01	2.350E-01	0.000E+00	NOT IDENT.
PB-212	-2.516E-02	3.759E-02	6.096E-02	0.000E+00	NOT IDENT.
PO-212	-2.516E-02	3.759E-02	6.096E-02	0.000E+00	NOT IDENT.
BI-214	-3.349E-02	4.582E-02	7.134E-02	0.000E+00	NOT IDENT.
PB-214	-1.551E-03	4.292E-02	7.508E-02	0.000E+00	NOT IDENT.
PO-214	-1.551E-03	4.292E-02	7.508E-02	0.000E+00	NOT IDENT.
PO-215	4.719E-01	3.632E-01	7.108E-01	0.000E+00	NOT IDENT.
PO-216	-2.516E-02	3.759E-02	6.096E-02	0.000E+00	NOT IDENT.
PO-218	-1.551E-03	4.292E-02	7.508E-02	0.000E+00	NOT IDENT.
RN-219	1.897E-01	2.346E-01	4.459E-01	0.000E+00	NOT IDENT.
RN-220	4.587E+00	1.428E+01	2.575E+01	0.000E+00	NOT IDENT.
RA-223	4.719E-01	3.632E-01	7.108E-01	0.000E+00	NOT IDENT.
RA-224	-9.800E-02	3.916E-01	6.678E-01	0.000E+00	NOT IDENT.
RA-226	-3.349E-02	4.582E-02	7.134E-02	0.000E+00	NOT IDENT.
AC-227	-9.154E-02	2.077E-01	3.438E-01	0.000E+00	NOT IDENT.
TH-227	-9.154E-02	2.079E-01	3.438E-01	0.000E+00	NOT IDENT.
AC-228	3.840E-03	6.827E-02	1.279E-01	0.000E+00	NOT IDENT.
RA-228	3.840E-03	6.827E-02	1.279E-01	0.000E+00	NOT IDENT.
TH-228	-2.535E-02	3.787E-02	6.142E-02	0.000E+00	NOT IDENT.
TH-229	-8.680E-02	2.597E-01	4.454E-01	0.000E+00	NOT IDENT.
TH-230	-3.349E-02	4.581E-02	7.134E-02	0.000E+00	NOT IDENT.
PA-231	1.823E-01	8.773E-01	1.619E+00	0.000E+00	NOT IDENT.
TH-231	4.719E-01	3.632E-01	7.108E-01	0.000E+00	NOT IDENT.
U-231	-3.249E-01	1.480E-01	2.232E-01	0.000E+00	NOT IDENT.
TH-232	3.840E-03	6.827E-02	1.279E-01	0.000E+00	NOT IDENT.
PA-233	2.864E-03	3.359E-02	6.113E-02	0.000E+00	NOT IDENT.
PA-234	2.479E-02	1.408E-01	2.514E-01	0.000E+00	FAIL ABUN
PA-234M	1.212E+00	1.813E+00	3.544E+00	0.000E+00	NOT IDENT.
TH-234	-2.663E-01	6.279E-01	1.114E+00	0.000E+00	NOT IDENT.
U-234	-3.349E-02	4.581E-02	7.134E-02	0.000E+00	NOT IDENT.
U-235	-4.304E-03	1.064E-01	1.907E-01	0.000E+00	FAIL ABUN
NP-236	9.777E-03	4.494E-02	7.592E-02	0.000E+00	NOT IDENT.
NP-237	3.681E-02	9.999E-02	1.887E-01	0.000E+00	NOT IDENT.
U-238	-2.663E-01	6.279E-01	1.114E+00	0.000E+00	NOT IDENT.
NP-239	-2.289E-02	9.041E-02	1.612E-01	0.000E+00	NOT IDENT.
AM-241	-2.376E-02	7.313E-02	1.344E-01	0.000E+00	NOT IDENT.
AM-243	-7.915E-03	2.317E-02	4.210E-02	0.000E+00	NOT IDENT.
CM-243	3.715E-02	4.248E-02	8.272E-02	0.000E+00	NOT IDENT.
AM-246	3.461E-02	6.921E-02	1.290E-01	0.000E+00	NOT IDENT.
CM-247	1.276E-02	2.027E-02	3.817E-02	0.000E+00	NOT IDENT.
CF-249	3.246E-03	2.015E-02	3.646E-02	0.000E+00	NOT IDENT.
CF-251	1.956E-02	6.365E-02	1.156E-01	0.000E+00	NOT IDENT.
ANH-511	-1.710E-02	3.065E-02	6.135E-02	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 15:19:06.30

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*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003352.CNF;1
Sample date       : 24-DEC-2009 00:00:00 Acquisition date : 31-DEC-2009 13:18:17
Sample ID         : G1202003352          Sample quantity  : 1.58180E+02 GRAM
Detector name     : GAM06                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:00.49  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 936285                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Nuclide Line Activity Report

Flag: "*" = Keyline

Sample ID : G1202003352 Acquisition date : 31-DEC-2009 13:18:17

Total number of lines in spectrum	2	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	2	100.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G1202003352 Acquisition date : 31-DEC-2009 13:18:17

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.47	22	107	0.98	370.95	366	11	3.06E-03	****	5.18E+00	T
0	802.70	15	10	2.77	1605.40	1598	14	2.05E-03	****	1.64E+00	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 15:19:10.97

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*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
*                                                                            *
*                                DETECTOR DATA                               *
*                                                                            *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003352.CNF;1 *
* Acquisition date  : 31-DEC-2009 13:18:17  Detector SN#     :              *
* Detector ID       : GAM06                 Sensitivity      : 5.00000      *
* Geometry          : CAN                   Energy tolerance: 1.50000       *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000      *
* Elapsed real time: 0 02:00:00.49          Half life ratio : 8.00000       *
*****************************************************************************
*                                                                            *
*                                 SAMPLE DATA                                *
*                                                                            *
* Sample date       : 24-DEC-2009 00:00:00  Nuclide Library : SOLID         *
* Sample ID         : G1202003352           Analyst initials: MJH1          *
* Batch Number      : 936285                Sample Quantity : 1.58180E+02 GRAM *
*****************************************************************************
*                                                                            *
*                                   QC DATA                                  *
*                                                                            *
* CALIB. DATE/TIME : 4-FEB-2009 13:05:54.47MS Isotope      :                 *
* MSD ID           :                       MSD Isotope     :                 *
* LCS ID           : 1032-A                LCS Isotope     :                 *
*****************************************************************************
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Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.912E-02		1.549E-01	2.590E-01	1.711E-02	0.074
NA-22	4.031E-03		1.556E-02	2.721E-02	1.681E-03	0.148
NA-24	8.983E-05		4.417E-05	Half-Life too short		
AL-26	3.164E-03		1.507E-02	2.681E-02	1.540E-03	0.118
K-40	9.522E-02		2.288E-01	4.067E-01	2.690E-02	0.234
TI-44	9.539E-03		1.472E-02	2.556E-02	2.350E-03	0.373
SC-46	5.611E-03		1.708E-02	3.015E-02	2.161E-03	0.186
V-48	-1.894E-02		2.500E-02	3.496E-02	2.448E-03	-0.542
CR-51	-8.895E-02		1.755E-01	2.807E-01	1.849E-02	-0.317
MN-52	-8.773E-03		4.288E-02	6.478E-02	4.077E-03	-0.135
MN-54	6.435E-03		1.659E-02	2.951E-02	1.948E-03	0.218
CO-56	1.523E-02		1.920E-02	3.584E-02	2.409E-03	0.425
CO-57	1.394E-03		1.201E-02	1.993E-02	1.217E-03	0.070
CO-58	2.024E-02		2.033E-02	3.766E-02	2.404E-03	0.537
FE-59	-1.153E-02		3.157E-02	4.709E-02	3.454E-03	-0.245
CO-60	7.955E-03		1.971E-02	3.502E-02	2.200E-03	0.227
ZN-65	-3.545E-02		4.524E-02	6.331E-02	4.010E-03	-0.560

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GE-68	2.486E-01		6.195E-01	1.094E+00	7.172E-02	0.227
AS-73	2.697E-01		3.940E-01	6.950E-01	6.355E-02	0.388
AS-74	-1.984E-02		3.895E-02	5.890E-02	3.132E-03	-0.337
SE-75	2.481E-03		2.424E-02	3.911E-02	2.346E-03	0.063
BR-77	-4.455E-01		6.681E-01	9.999E-01	5.571E-02	-0.446
SR-82	4.215E-02		1.443E-01	2.536E-01	1.525E-02	0.166
RB-83	-2.516E-02		3.772E-02	5.645E-02	3.145E-03	-0.446
RB-84	1.078E-02		2.688E-02	4.812E-02	3.409E-03	0.224
KR-85	-9.857E+00		6.455E+00	9.322E+00	5.206E-01	-1.057
SR-85	-4.668E-02		3.057E-02	4.414E-02	2.465E-03	-1.057
RB-86	1.941E-01		3.053E-01	5.587E-01	3.664E-02	0.347
Y-88	-1.172E-02		2.089E-02	2.842E-02	1.615E-03	-0.412
ZR-88	4.607E-03		1.510E-02	2.592E-02	1.439E-03	0.178
Y-91	2.692E+00		6.470E+00	1.159E+01	6.952E-01	0.232
NB-94	-6.136E-03		1.845E-02	2.822E-02	1.499E-03	-0.217
NB-95	7.957E-04		1.905E-02	3.080E-02	1.821E-03	0.026
NB-95M	-1.416E-02		6.397E-02	1.009E-01	7.625E-03	-0.140
ZR-95	-2.006E-02		3.144E-02	4.396E-02	3.099E-03	-0.456
NB-97	7.964E-06		1.364E-05	Half-Life too short		
ZR-97	-1.375E-03		4.523E-04	Half-Life too short		
MO-99	6.888E-02		8.184E-01	1.337E+00	1.835E-01	0.052
TC-99M	1.553E+01		8.410E+00	Half-Life too short		
RH-101	-1.004E-02		2.013E-02	2.944E-02	1.653E-03	-0.341
RH-102	-5.542E-03		1.519E-02	2.381E-02	1.341E-03	-0.233
RU-103	-3.725E-03		2.031E-02	3.261E-02	4.095E-03	-0.114
RH-106	-4.094E-02		1.777E-01	2.789E-01	3.193E-02	-0.147
RU-106	-4.094E-02		1.776E-01	2.789E-01	1.446E-02	-0.147
AG-108M	-3.367E-03		1.892E-02	3.069E-02	1.882E-03	-0.110
CD-109	-1.494E-01		3.579E-01	5.770E-01	5.697E-02	-0.259
AG-110M	4.783E-03		1.638E-02	2.782E-02	1.502E-03	0.172
IN-111	-6.170E-02		1.008E-01	1.531E-01	9.000E-03	-0.403
IN-113M	-2.357E-02		2.261E-02	3.297E-02	1.962E-03	-0.715
SN-113	-2.357E-02		2.261E-02	3.297E-02	1.962E-03	-0.715
IN-114M	7.893E-03		8.973E-02	1.284E-01	7.146E-03	0.061
CD-115	-3.443E-01		5.336E-01	7.905E-01	4.392E-02	-0.436
SN-117M	4.856E-03		2.157E-02	3.333E-02	1.831E-03	0.146
SB-122	1.060E-01		1.436E-01	2.593E-01	1.413E-02	0.409
I-123	1.441E-04		1.126E-04	Half-Life too short		
TE-123M	9.875E-03		1.544E-02	2.454E-02	1.367E-03	0.402
I-124	3.452E-02		1.205E-01	2.025E-01	1.070E-02	0.170
SB-124	-2.019E-02		3.838E-02	5.250E-02	3.409E-03	-0.385
SB-125	2.373E-02		5.274E-02	9.143E-02	5.365E-03	0.260
TE-125M	2.914E+00		4.228E+00	6.703E+00	6.082E-01	0.435
I-126	3.150E-02		6.420E-02	1.114E-01	5.546E-03	0.283
SB-126	-1.092E-02		4.734E-02	7.318E-02	4.009E-03	-0.149
SN-126	1.093E-03		3.456E-02	5.751E-02	5.660E-03	0.019
SB-127	3.983E-02		1.862E-01	3.108E-01	2.066E-02	0.128
XE-127	3.242E-03		2.243E-02	3.665E-02	2.071E-03	0.088

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-131	-3.303E-02		3.588E-02	5.430E-02	3.461E-03	-0.608
TE-132	8.767E-03		7.725E-02	1.254E-01	1.653E-02	0.070
BA-133	-1.055E-02		2.652E-02	4.266E-02	4.931E-03	-0.247
I-133	4.782E-06		3.482E-06	Half-Life too short		
CS-134	-6.385E-03		2.308E-02	3.090E-02	1.945E-03	-0.207
CS-135	2.633E-02		8.993E-02	1.474E-01	1.146E-02	0.179
I-135	-2.950E+00		6.656E+00	Half-Life too short		
CS-136	8.466E-04		3.078E-02	5.109E-02	3.663E-03	0.017
BA-137M	-1.921E-02		1.785E-02	2.327E-02	1.149E-03	-0.826
CS-137	-2.031E-02		1.887E-02	2.460E-02	1.222E-03	-0.826
CE-139	-4.116E-03		1.498E-02	2.386E-02	1.290E-03	-0.173
BA-140	-1.011E-02		8.571E-02	1.377E-01	4.473E-02	-0.073
LA-140	-1.261E-02		3.453E-02	5.258E-02	3.244E-03	-0.240
CE-141	8.955E-03		2.590E-02	4.347E-02	2.564E-03	0.206
CE-143	5.659E-01		1.708E+00	2.789E+00	5.716E-01	0.203
CE-144	1.197E-02		9.862E-02	1.632E-01	2.321E-02	0.073
PM-144	-6.057E-03		2.231E-02	3.333E-02	1.752E-03	-0.182
PR-144	-4.088E-01		1.506E+00	2.250E+00	1.182E-01	-0.182
PM-146	1.263E-03		2.417E-02	4.014E-02	3.416E-03	0.031
ND-147	2.254E-02		1.754E-01	2.926E-01	3.925E-02	0.077
PM-149	1.700E+00		5.028E+00	8.682E+00	1.235E+00	0.196
EU-152	-3.534E-02		5.415E-02	8.473E-02	5.583E-03	-0.417
GD-153	-1.976E-03		3.303E-02	5.443E-02	4.549E-03	-0.036
EU-154	1.131E-02		4.363E-02	7.631E-02	7.304E-03	0.148
EU-155	-2.914E-02		4.994E-02	7.864E-02	5.965E-03	-0.370
TB-160	2.738E-02		5.462E-02	9.995E-02	7.059E-03	0.274
HO-166M	1.498E-02		3.668E-02	6.244E-02	3.369E-03	0.240
TM-171	-6.750E+00		1.331E+01	2.038E+01	1.820E+00	-0.331
LU-176	-2.705E-03		1.252E-02	2.060E-02	1.229E-03	-0.131
LU-177	-2.591E-01		2.669E-01	3.955E-01	2.248E-02	-0.655
LU-177M	4.031E-02		8.311E-02	1.457E-01	8.148E-03	0.277
HF-181	1.113E-02		2.095E-02	3.663E-02	2.061E-03	0.304
W-181	3.198E-03		1.647E-01	2.624E-01	2.350E-02	0.012
TA-182	3.017E-02		6.137E-02	1.129E-01	6.818E-03	0.267
RE-183	2.414E-04		5.375E-02	8.759E-02	4.771E-03	0.003
RE-184	9.592E-03		1.290E-01	2.080E-01	1.229E-02	0.046
OS-185	-8.409E-03		2.217E-02	3.381E-02	1.705E-03	-0.249
RE-188	-3.004E-02		8.137E-02	1.290E-01	7.142E-03	-0.233
W-188	-1.595E-01		3.975E+00	6.671E+00	3.985E-01	-0.024
IR-192	1.981E-02		1.770E-02	3.252E-02	1.944E-03	0.609
AU-195	3.199E-02		9.482E-02	1.611E-01	1.317E-02	0.199
TL-200	2.383E+00		2.067E+00	3.818E+00	2.186E-01	0.624
TL-201	1.786E-01		6.489E-01	1.078E+00	5.837E-02	0.166
TL-202	7.100E-04		2.557E-02	4.241E-02	2.386E-03	0.017
HG-203	-3.527E-03		1.963E-02	3.262E-02	2.060E-03	-0.108
BI-207	-8.191E-03		2.023E-02	2.986E-02	1.980E-03	-0.274
TL-207	4.719E-01		3.706E-01	6.748E-01	1.118E-01	0.699
TL-208	-1.188E-02		2.246E-02	3.515E-02	2.221E-03	-0.338

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-209	2.106E+00		3.632E+00	6.639E+00	4.810E-01	0.317
BI-210	1.197E+00		2.116E+00	3.701E+00	3.047E-01	0.323
PB-210	1.197E+00		2.116E+00	3.701E+00	3.047E-01	0.323
PO-210	1.197E+00		2.116E+00	3.701E+00	2.673E-01	0.323
BI-211	-4.573E-02		1.256E-01	1.989E-01	1.284E-02	-0.230
PB-211	-2.121E-01		5.749E-01	8.536E-01	5.320E-01	-0.248
BI-212	-3.692E-03		1.467E-01	2.281E-01	1.716E-02	-0.016
PB-212	-2.516E-02		3.836E-02	5.740E-02	4.231E-03	-0.438
PO-212	-2.516E-02		3.836E-02	5.740E-02	4.231E-03	-0.438
BI-214	-3.349E-02		4.675E-02	6.892E-02	5.086E-03	-0.486
PB-214	-1.551E-03		4.379E-02	7.144E-02	5.927E-03	-0.022
PO-214	-1.551E-03		4.379E-02	7.144E-02	5.927E-03	-0.022
PO-215	4.719E-01		3.706E-01	6.748E-01	1.118E-01	0.699
PO-216	-2.516E-02		3.836E-02	5.740E-02	4.231E-03	-0.438
PO-218	-1.551E-03		4.379E-02	7.144E-02	5.927E-03	-0.022
RN-219	1.897E-01		2.394E-01	4.258E-01	5.753E-02	0.445
RN-220	4.587E+00		1.457E+01	2.481E+01	1.363E+00	0.185
RA-223	4.719E-01		3.706E-01	6.748E-01	1.118E-01	0.699
RA-224	-9.800E-02		3.996E-01	6.290E-01	3.686E-02	-0.156
RA-226	-3.349E-02		4.675E-02	6.892E-02	5.086E-03	-0.486
AC-227	-9.154E-02		2.120E-01	3.243E-01	4.544E-02	-0.282
TH-227	-9.154E-02		2.121E-01	3.243E-01	5.494E-02	-0.282
AC-228	3.840E-03		6.966E-02	1.250E-01	1.277E-02	0.031
RA-228	3.840E-03		6.966E-02	1.250E-01	1.277E-02	0.031
TH-228	-2.535E-02		3.865E-02	5.784E-02	4.263E-03	-0.438
TH-229	-8.680E-02		2.650E-01	4.171E-01	2.331E-02	-0.208
TH-230	-3.349E-02		4.675E-02	6.892E-02	5.086E-03	-0.486
PA-231	1.823E-01		8.952E-01	1.532E+00	2.122E-01	0.119
TH-231	4.719E-01		3.706E-01	6.748E-01	1.118E-01	0.699
U-231	-3.249E-01		1.510E-01	2.052E-01	1.759E-02	-1.583
TH-232	3.840E-03		6.966E-02	1.250E-01	1.277E-02	0.031
PA-233	2.864E-03		3.427E-02	5.798E-02	3.657E-03	0.049
PA-234	2.479E-02		1.436E-01	2.459E-01	4.459E-02	0.101
PA-234M	1.212E+00		1.850E+00	3.473E+00	2.968E-01	0.349
TH-234	-2.663E-01		6.407E-01	1.014E+00	1.843E-01	-0.263
U-234	-3.349E-02		4.675E-02	6.892E-02	5.086E-03	-0.486
U-235	-4.304E-03		1.086E-01	1.772E-01	2.881E-02	-0.024
NP-236	9.777E-03		4.586E-02	7.074E-02	3.871E-03	0.138
NP-237	3.681E-02		1.020E-01	1.731E-01	3.951E-02	0.213
U-238	-2.663E-01		6.407E-01	1.014E+00	1.843E-01	-0.263
NP-239	-2.289E-02		9.226E-02	1.490E-01	9.626E-03	-0.154
AM-241	-2.376E-02		7.462E-02	1.221E-01	1.194E-02	-0.195
AM-243	-7.915E-03		2.364E-02	3.847E-02	3.474E-03	-0.206
CM-243	3.715E-02		4.335E-02	7.622E-02	5.809E-03	0.487
AM-246	3.461E-02		7.062E-02	1.267E-01	8.294E-03	0.273
CM-247	1.276E-02		2.068E-02	3.646E-02	2.031E-03	0.350
CF-249	3.246E-03		2.056E-02	3.479E-02	1.940E-03	0.093
CF-251	1.956E-02		6.494E-02	1.080E-01	5.910E-03	0.181

Sample ID : G1202003352 Acquisition date : 31-DEC-2009 13:18:17

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	-1.710E-02		3.127E-02	5.898E-02	3.297E-03	-0.290

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202003352          *
* Acquisition date  : 31-DEC-2009 13:18:17 Detector SN#     :               *
* Detector ID       : GAM06                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:00.49      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 24-DEC-2009 00:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202003352          Analyst initials: MJH1           *
* Batch Number      : 936285               Sample Quantity : 1.5818E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME :  4-FEB-2009 13:05:54 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act Error	DLC (pCi/GRAM)	TPU

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.912E-02	1.518E-01	1.350E-01	7.744E-02 NOT IDENT.
NA-22	4.031E-03	1.525E-02	1.380E-02	7.778E-03 NOT IDENT.
NA-24	8.983E+01	8.657E+01	0.000E+00	4.417E+01 SHORT HLIF
AL-26	3.164E-03	1.477E-02	1.345E-02	7.536E-03 NOT IDENT.
K-40	9.522E-02	2.242E-01	2.054E-01	1.144E-01 NOT IDENT.
TI-44	9.539E-03	1.443E-02	1.398E-02	7.360E-03 NOT IDENT.
SC-46	5.611E-03	1.673E-02	1.545E-02	8.538E-03 NOT IDENT.
V-48	-1.894E-02	2.450E-02	1.786E-02	1.250E-02 NOT IDENT.
CR-51	-8.895E-02	1.719E-01	1.479E-01	8.773E-02 NOT IDENT.
MN-52	-8.773E-03	4.203E-02	3.273E-02	2.144E-02 NOT IDENT.
MN-54	6.435E-03	1.625E-02	1.515E-02	8.293E-03 NOT IDENT.
CO-56	1.523E-02	1.881E-02	1.839E-02	9.598E-03 NOT IDENT.
CO-57	1.394E-03	1.177E-02	1.077E-02	6.004E-03 NOT IDENT.
CO-58	2.024E-02	1.992E-02	1.935E-02	1.016E-02 NOT IDENT.
FE-59	-1.153E-02	3.093E-02	2.398E-02	1.578E-02 NOT IDENT.
CO-60	7.955E-03	1.931E-02	1.773E-02	9.854E-03 NOT IDENT.
ZN-65	-3.545E-02	4.433E-02	3.222E-02	2.262E-02 NOT IDENT.
GE-68	2.486E-01	6.071E-01	5.575E-01	3.098E-01 NOT IDENT.
AS-73	2.697E-01	3.861E-01	3.837E-01	1.970E-01 NOT IDENT.
AS-74	-1.984E-02	3.817E-02	3.052E-02	1.948E-02 NOT IDENT.
SE-75	2.481E-03	2.375E-02	2.072E-02	1.212E-02 NOT IDENT.
BR-77	-4.455E-01	6.547E-01	5.201E-01	3.340E-01 NOT IDENT.
SR-82	4.215E-02	1.414E-01	1.304E-01	7.216E-02 NOT IDENT.
RB-83	-2.516E-02	3.696E-02	2.936E-02	1.886E-02 NOT IDENT.
RB-84	1.078E-02	2.634E-02	2.466E-02	1.344E-02 NOT IDENT.
KR-85	-9.857E+00	6.326E+00	4.850E+00	3.228E+00 NOT IDENT.

SR-85	-4.668E-02	2.996E-02	2.297E-02	1.528E-02	NOT IDENT.
RB-86	1.941E-01	2.992E-01	2.847E-01	1.526E-01	NOT IDENT.
Y-88	-1.172E-02	2.047E-02	1.425E-02	1.045E-02	NOT IDENT.
ZR-88	4.607E-03	1.480E-02	1.359E-02	7.549E-03	NOT IDENT.
Y-91	2.692E+00	6.341E+00	5.887E+00	3.235E+00	NOT IDENT.
NB-94	-6.136E-03	1.808E-02	1.456E-02	9.223E-03	NOT IDENT.
NB-95	7.957E-04	1.867E-02	1.585E-02	9.526E-03	NOT IDENT.
NB-95M	-1.416E-02	6.269E-02	5.363E-02	3.199E-02	NOT IDENT.
ZR-95	-2.006E-02	3.081E-02	2.263E-02	1.572E-02	NOT IDENT.
NB-97	7.964E+00	2.674E+01	0.000E+00	1.364E+01	SHORT HLIF
ZR-97	-1.375E+03	8.865E+02	0.000E+00	4.523E+02	SHORT HLIF
MO-99	6.888E-02	8.020E-01	6.887E-01	4.092E-01	NOT IDENT.
TC-99M	1.553E+07	1.648E+07	0.000E+00	8.410E+06	SHORT HLIF
RH-101	-1.004E-02	1.973E-02	1.572E-02	1.007E-02	NOT IDENT.
RH-102	-5.542E-03	1.489E-02	1.242E-02	7.595E-03	NOT IDENT.
RU-103	-3.725E-03	1.990E-02	1.698E-02	1.015E-02	NOT IDENT.
RH-106	-4.094E-02	1.741E-01	1.444E-01	8.885E-02	NOT IDENT.
RU-106	-4.094E-02	1.741E-01	1.444E-01	8.882E-02	NOT IDENT.
AG-108M	-3.367E-03	1.854E-02	1.604E-02	9.461E-03	NOT IDENT.
CD-109	-1.494E-01	3.508E-01	3.146E-01	1.790E-01	NOT IDENT.
AG-110M	4.783E-03	1.606E-02	1.437E-02	8.192E-03	NOT IDENT.
IN-111	-6.170E-02	9.878E-02	8.127E-02	5.040E-02	NOT IDENT.
IN-113M	-2.357E-02	2.216E-02	1.728E-02	1.130E-02	NOT IDENT.
SN-113	-2.357E-02	2.216E-02	1.728E-02	1.130E-02	NOT IDENT.
IN-114M	7.893E-03	8.794E-02	6.864E-02	4.487E-02	NOT IDENT.
CD-115	-3.443E-01	5.230E-01	4.110E-01	2.668E-01	NOT IDENT.
SN-117M	4.856E-03	2.113E-02	1.790E-02	1.078E-02	NOT IDENT.
SB-122	1.060E-01	1.407E-01	1.346E-01	7.179E-02	NOT IDENT.
I-123	1.441E+02	2.207E+02	0.000E+00	1.126E+02	SHORT HLIF
TE-123M	9.875E-03	1.513E-02	1.318E-02	7.719E-03	NOT IDENT.
I-124	3.452E-02	1.181E-01	1.049E-01	6.026E-02	NOT IDENT.
SB-124	-2.019E-02	3.761E-02	2.639E-02	1.919E-02	NOT IDENT.
SB-125	2.373E-02	5.169E-02	4.782E-02	2.637E-02	NOT IDENT.
TE-125M	2.914E+00	4.144E+00	3.635E+00	2.114E+00	NOT IDENT.
I-126	3.150E-02	6.292E-02	5.752E-02	3.210E-02	NOT IDENT.
SB-126	-1.092E-02	4.639E-02	3.772E-02	2.367E-02	NOT IDENT.
SN-126	1.093E-03	3.387E-02	3.136E-02	1.728E-02	NOT IDENT.
SB-127	3.983E-02	1.824E-01	1.604E-01	9.308E-02	NOT IDENT.
XE-127	3.242E-03	2.198E-02	1.956E-02	1.122E-02	NOT IDENT.
I-131	-3.303E-02	3.516E-02	2.852E-02	1.794E-02	NOT IDENT.
TE-132	8.767E-03	7.571E-02	6.672E-02	3.863E-02	NOT IDENT.
BA-133	-1.055E-02	2.599E-02	2.242E-02	1.326E-02	NOT IDENT.
I-133	4.782E+00	6.826E+00	0.000E+00	3.482E+00	SHORT HLIF
CS-134	-6.385E-03	2.261E-02	1.588E-02	1.154E-02	FAIL ABUN
CS-135	2.633E-02	8.813E-02	7.809E-02	4.496E-02	NOT IDENT.
I-135	-2.950E+06	1.305E+07	0.000E+00	6.656E+06	SHORT HLIF
CS-136	8.466E-04	3.016E-02	2.605E-02	1.539E-02	NOT IDENT.
BA-137M	-1.921E-02	1.750E-02	1.202E-02	8.927E-03	NOT IDENT.
CS-137	-2.031E-02	1.850E-02	1.271E-02	9.437E-03	NOT IDENT.
CE-139	-4.116E-03	1.468E-02	1.280E-02	7.488E-03	NOT IDENT.
BA-140	-1.011E-02	8.399E-02	7.158E-02	4.285E-02	NOT IDENT.
LA-140	-1.261E-02	3.384E-02	2.648E-02	1.726E-02	NOT IDENT.
CE-141	8.955E-03	2.538E-02	2.340E-02	1.295E-02	NOT IDENT.
CE-143	5.659E-01	1.674E+00	1.474E+00	8.541E-01	NOT IDENT.
CE-144	1.197E-02	9.664E-02	8.804E-02	4.931E-02	NOT IDENT.
PM-144	-6.057E-03	2.186E-02	1.720E-02	1.115E-02	NOT IDENT.
PR-144	-4.088E-01	1.476E+00	1.161E+00	7.529E-01	NOT IDENT.
PM-146	1.263E-03	2.368E-02	2.096E-02	1.208E-02	NOT IDENT.
ND-147	2.254E-02	1.719E-01	1.521E-01	8.771E-02	NOT IDENT.
PM-149	1.700E+00	4.927E+00	4.591E+00	2.514E+00	NOT IDENT.
EU-152	-3.534E-02	5.307E-02	4.457E-02	2.708E-02	NOT IDENT.
GD-153	-1.976E-03	3.237E-02	2.960E-02	1.652E-02	NOT IDENT.
EU-154	1.131E-02	4.276E-02	3.869E-02	2.181E-02	NOT IDENT.
EU-155	-2.914E-02	4.894E-02	4.268E-02	2.497E-02	NOT IDENT.
TB-160	2.738E-02	5.353E-02	5.122E-02	2.731E-02	NOT IDENT.
HO-166M	1.498E-02	3.594E-02	3.220E-02	1.834E-02	FAIL ABUN
TM-171	-6.750E+00	1.304E+01	1.119E+01	6.654E+00	NOT IDENT.
LU-176	-2.705E-03	1.227E-02	1.087E-02	6.262E-03	NOT IDENT.
LU-177	-2.591E-01	2.615E-01	2.109E-01	1.334E-01	NOT IDENT.
LU-177M	4.031E-02	8.145E-02	7.626E-02	4.156E-02	NOT IDENT.
HF-181	1.113E-02	2.053E-02	1.910E-02	1.047E-02	NOT IDENT.
W-181	3.198E-03	1.614E-01	1.441E-01	8.233E-02	NOT IDENT.
TA-182	3.017E-02	6.014E-02	5.732E-02	3.068E-02	NOT IDENT.
RE-183	2.414E-04	5.267E-02	4.702E-02	2.687E-02	NOT IDENT.
RE-184	9.592E-03	1.264E-01	1.104E-01	6.451E-02	NOT IDENT.
OS-185	-8.409E-03	2.173E-02	1.748E-02	1.109E-02	NOT IDENT.
RE-188	-3.004E-02	7.974E-02	6.931E-02	4.069E-02	NOT IDENT.
W-188	-1.595E-01	3.895E+00	3.526E+00	1.987E+00	NOT IDENT.

IR-192	1.981E-02	1.735E-02	1.715E-02	8.850E-03	NOT IDENT.
AU-195	3.199E-02	9.292E-02	8.756E-02	4.741E-02	NOT IDENT.
TL-200	2.383E+00	2.026E+00	2.005E+00	1.033E+00	NOT IDENT.
TL-201	1.786E-01	6.360E-01	5.784E-01	3.245E-01	NOT IDENT.
TL-202	7.100E-04	2.506E-02	2.216E-02	1.279E-02	NOT IDENT.
HG-203	-3.527E-03	1.924E-02	1.726E-02	9.817E-03	NOT IDENT.
BI-207	-8.191E-03	1.983E-02	1.522E-02	1.012E-02	NOT IDENT.
TL-207	4.719E-01	3.632E-01	3.556E-01	1.853E-01	NOT IDENT.
TL-208	-1.188E-02	2.201E-02	1.822E-02	1.123E-02	NOT IDENT.
PO-209	2.106E+00	3.560E+00	3.401E+00	1.816E+00	NOT IDENT.
BI-210	1.197E+00	2.074E+00	2.050E+00	1.058E+00	NOT IDENT.
PB-210	1.197E+00	2.074E+00	2.050E+00	1.058E+00	NOT IDENT.
PO-210	1.197E+00	2.073E+00	2.050E+00	1.058E+00	NOT IDENT.
BI-211	-4.573E-02	1.231E-01	1.046E-01	6.282E-02	NOT IDENT.
PB-211	-2.121E-01	5.634E-01	4.471E-01	2.875E-01	NOT IDENT.
BI-212	-3.692E-03	1.438E-01	1.176E-01	7.336E-02	NOT IDENT.
PB-212	-2.516E-02	3.759E-02	3.050E-02	1.918E-02	NOT IDENT.
PO-212	-2.516E-02	3.759E-02	3.050E-02	1.918E-02	NOT IDENT.
BI-214	-3.349E-02	4.582E-02	3.569E-02	2.338E-02	NOT IDENT.
PB-214	-1.551E-03	4.292E-02	3.756E-02	2.190E-02	NOT IDENT.
PO-214	-1.551E-03	4.292E-02	3.756E-02	2.190E-02	NOT IDENT.
PO-215	4.719E-01	3.632E-01	3.556E-01	1.853E-01	NOT IDENT.
PO-216	-2.516E-02	3.759E-02	3.050E-02	1.918E-02	NOT IDENT.
PO-218	-1.551E-03	4.292E-02	3.756E-02	2.190E-02	NOT IDENT.
RN-219	1.897E-01	2.346E-01	2.231E-01	1.197E-01	NOT IDENT.
RN-220	4.587E+00	1.428E+01	1.288E+01	7.287E+00	NOT IDENT.
RA-223	4.719E-01	3.632E-01	3.556E-01	1.853E-01	NOT IDENT.
RA-224	-9.800E-02	3.916E-01	3.341E-01	1.998E-01	NOT IDENT.
RA-226	-3.349E-02	4.582E-02	3.569E-02	2.338E-02	NOT IDENT.
AC-227	-9.154E-02	2.077E-01	1.720E-01	1.060E-01	NOT IDENT.
TH-227	-9.154E-02	2.079E-01	1.720E-01	1.061E-01	NOT IDENT.
AC-228	3.840E-03	6.827E-02	6.399E-02	3.483E-02	NOT IDENT.
RA-228	3.840E-03	6.827E-02	6.399E-02	3.483E-02	NOT IDENT.
TH-228	-2.535E-02	3.787E-02	3.073E-02	1.932E-02	NOT IDENT.
TH-229	-8.680E-02	2.597E-01	2.229E-01	1.325E-01	NOT IDENT.
TH-230	-3.349E-02	4.581E-02	3.569E-02	2.337E-02	NOT IDENT.
PA-231	1.823E-01	8.773E-01	8.102E-01	4.476E-01	NOT IDENT.
TH-231	4.719E-01	3.632E-01	3.556E-01	1.853E-01	NOT IDENT.
U-231	-3.249E-01	1.480E-01	1.117E-01	7.550E-02	NOT IDENT.
TH-232	3.840E-03	6.827E-02	6.399E-02	3.483E-02	NOT IDENT.
PA-233	2.864E-03	3.359E-02	3.058E-02	1.714E-02	NOT IDENT.
PA-234	2.479E-02	1.408E-01	1.258E-01	7.182E-02	FAIL ABUN
PA-234M	1.212E+00	1.813E+00	1.773E+00	9.248E-01	NOT IDENT.
TH-234	-2.663E-01	6.279E-01	5.573E-01	3.203E-01	NOT IDENT.
U-234	-3.349E-02	4.581E-02	3.569E-02	2.337E-02	NOT IDENT.
U-235	-4.304E-03	1.064E-01	9.539E-02	5.430E-02	FAIL ABUN
NP-236	9.777E-03	4.494E-02	3.798E-02	2.293E-02	NOT IDENT.
NP-237	3.681E-02	9.999E-02	9.443E-02	5.102E-02	NOT IDENT.
U-238	-2.663E-01	6.279E-01	5.573E-01	3.203E-01	NOT IDENT.
NP-239	-2.289E-02	9.041E-02	8.066E-02	4.613E-02	NOT IDENT.
AM-241	-2.376E-02	7.313E-02	6.724E-02	3.731E-02	NOT IDENT.
AM-243	-7.915E-03	2.317E-02	2.106E-02	1.182E-02	NOT IDENT.
CM-243	3.715E-02	4.248E-02	4.139E-02	2.167E-02	NOT IDENT.
AM-246	3.461E-02	6.921E-02	6.456E-02	3.531E-02	NOT IDENT.
CM-247	1.276E-02	2.027E-02	1.910E-02	1.034E-02	NOT IDENT.
CF-249	3.246E-03	2.015E-02	1.824E-02	1.028E-02	NOT IDENT.
CF-251	1.956E-02	6.365E-02	5.785E-02	3.247E-02	NOT IDENT.
ANH-511	-1.710E-02	3.065E-02	3.069E-02	1.564E-02	NOT IDENT.

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*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                          CHARLESTON ,SC 29417                             *
*                   GAMMA SPECTROSCOPY BACKGROUND REPORT                    *
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ENERGY	MDA COUNTS
46.50	80.4052
46.50	80.4052
46.50	80.4052
48.70	72.5613
49.72	89.9567
51.35	81.0996
52.39	64.8129
52.97	61.2216
53.15	63.0683
53.44	64.0136
54.07	66.8277
56.28	87.2851
56.28	87.2855
57.37	73.6337
57.53	70.8908
57.53	70.8910
57.60	66.2949
57.98	68.1781
57.98	68.1781
59.32	83.0965
59.32	83.0965
59.40	83.1069
59.54	88.6670
59.72	89.6161
60.01	85.0355
61.10	84.2546
61.14	82.4079
61.30	82.4285
63.00	84.5016
63.29	84.5388
63.29	84.5388
63.58	78.0704
64.28	71.6403
65.12	80.1149
65.20	80.1244
65.20	80.1244
66.05	93.2861
66.72	91.5105
66.83	91.5258
66.91	97.1410
67.20	87.8378
67.20	87.8378
67.75	93.5196
67.85	93.5333
68.90	98.3602
68.90	98.3602
69.30	95.6052
69.67	86.2784
70.82	85.4805
70.82	85.4805
70.83	85.4819
72.80	81.9521
72.87	86.6704
72.87	86.6704
74.67	98.2205
74.81	98.2395
74.81	98.2395
74.81	98.2395
74.81	98.2395
74.81	98.2395
74.81	98.2395
74.81	98.2395
74.97	95.4265
75.28	98.3030
75.70	99.3051
77.11	95.7054
77.11	95.7054

77.11	95.7054
77.11	95.7054
77.11	95.7054
77.11	95.7054
77.11	95.7054
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79.62	86.5198
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80.11	87.5275
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80.30	94.2106
80.30	94.2106
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81.07	102.8794
81.07	102.8794
81.07	102.8794
81.07	102.8794
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83.37	98.4100
83.78	92.7266
83.78	92.7266
83.78	92.7266
83.78	92.7266
84.21	97.5604
84.90	90.9452
85.43	82.3847
86.29	87.2697
86.50	92.0892
86.54	92.0936
86.59	92.0995
86.72	97.8720
86.79	97.8802
86.94	90.2206
87.30	95.0626
87.30	95.0626
87.30	95.0626
87.30	95.0626
87.30	95.0626
87.30	95.0626
87.30	95.0626
87.57	98.9369
87.88	112.4284
88.03	112.4493
88.36	136.5328
88.47	136.5517
89.95	131.0216
91.11	87.7938
92.29	80.1906
92.38	75.3682
92.38	75.3682
93.35	77.3914
94.00	91.9740
94.67	107.5497
94.67	107.5503
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94.90	131.8097
94.90	131.8097
94.90	131.8097
95.87	130.9914
95.87	130.9914
96.73	84.5026
97.43	74.8511
98.44	69.0998
98.44	69.1000
98.88	70.1090
99.55	73.0871
99.55	73.0871
99.86	79.9370
100.00	79.9499
100.10	79.9596
103.18	61.6486
103.76	65.6058
105.00	80.4056
105.31	90.2424
108.00	77.7222
109.28	66.9940

111.00	81.9254
111.00	81.9254
111.76	95.8226
112.95	89.0212
115.19	75.3529
116.30	92.3160
117.00	88.4103
117.00	88.4103
117.66	84.4951
121.11	80.8066
121.62	79.8508
121.78	80.8619
122.06	80.8851
122.32	83.9029
122.32	83.9029
122.32	83.9029
122.32	83.9029
123.07	84.9666
127.23	82.3108
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131.20	87.6717
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133.54	84.8408
135.34	89.0346
136.00	105.2886
136.25	106.3266
136.48	113.4398
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140.51	0.0000
142.18	106.9202
142.65	103.9105
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144.24	87.7394
144.24	87.7394
144.24	87.7394
145.22	87.8181
145.44	80.6864
147.16	86.9507
152.43	68.8622
152.70	75.0468
153.22	70.9673
154.21	95.7345
154.21	95.7345
154.21	95.7345
154.21	95.7345
155.03	95.8041
156.02	95.8871
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159.00	0.0000
159.00	74.4274
160.31	83.8254
161.27	90.1090
162.32	92.2627
162.64	93.3247
163.35	90.2683
163.89	95.5000
165.85	92.5390
167.43	83.2910
171.28	82.5127
171.86	85.6873
172.10	85.7042
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176.60	77.6263
181.06	92.6426
184.41	91.1988
185.71	83.4728
186.00	83.4921
190.27	69.5599
192.34	69.1845
193.63	85.0470
197.04	73.5425
198.01	85.3290
198.60	85.3662
200.40	90.8242
201.83	100.5470
202.84	87.7769
205.31	77.2125

208.36	101.0296
208.81	98.9124
209.75	84.9929
209.75	84.9929
210.97	77.5300
215.65	95.0764
216.55	88.6502
218.09	103.8984
222.10	84.6549
223.80	85.8415
226.40	69.6670
227.00	63.1618
227.08	63.1654
227.20	63.1707
228.16	77.3800
228.18	77.3811
228.18	77.3811
231.56	86.2984
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236.00	90.9389
236.00	90.9389
238.63	98.7815
238.63	98.7815
238.63	98.7815
238.63	98.7815
239.00	95.5120
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241.98	96.8005
241.98	96.8005
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245.39	91.5044
247.94	86.1343
248.90	74.0332
249.79	59.7027
252.40	67.5551
252.85	67.5746
252.85	67.5746
254.15	0.0000
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256.20	68.8286
260.50	53.4309
260.90	55.6717
262.80	64.6553
264.65	64.7296
268.24	65.9915
268.79	67.1329
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269.46	60.4443
269.46	60.4443
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276.40	62.9479
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277.60	67.4927
278.00	58.5079
278.60	66.6325
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279.53	63.0658
280.46	64.9037
281.68	67.6575
283.67	67.7371
284.30	71.3768
285.00	64.1747
285.90	66.0181
286.10	64.2163
286.10	64.2163
287.40	66.9812
288.45	0.0000
290.67	71.6439
290.80	71.6487
291.72	66.2427
293.26	56.3116
293.70	54.5090
295.21	65.4671
295.21	65.4671

295.21	65.4671
295.96	61.8574
296.50	64.6064
297.23	57.3506
298.57	51.9283
299.80	58.3469
299.80	58.3469
300.09	53.7972
300.09	53.7972
300.09	53.7972
300.09	53.7972
300.12	53.7979
301.29	44.7095
302.84	42.9225
303.76	53.9095
303.91	53.9138
304.40	50.2728
304.40	50.2728
304.84	48.4563
306.84	49.4266
308.46	48.5553
311.98	50.4863
316.51	41.4102
318.01	51.5758
319.02	63.5833
319.41	63.5967
320.08	62.6983
323.87	40.6533
323.87	40.6533
323.87	40.6533
323.87	40.6533
325.23	49.0043
328.77	75.0367
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334.20	70.6089
334.20	70.6089
334.30	70.6126
338.28	63.3125
338.28	63.3125
338.28	63.3125
338.28	63.3125
338.32	63.3134
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350.59	53.4111
351.07	53.4243
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351.92	49.6966
351.92	49.6966
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364.48	61.3366
366.43	48.1730
367.43	40.6364
367.94	34.0299
369.80	43.5226
374.96	42.6846
383.85	45.7277
387.95	36.2726
388.63	34.3745
391.69	48.7681
391.69	48.7681
392.90	35.4011
398.62	50.8469
400.65	38.4116
401.10	40.3409
401.81	38.4326
402.60	37.4856
404.84	45.2220
410.95	30.8766
411.60	35.7119
413.65	28.0166
414.70	36.7290
415.30	37.7060

415.76	44.4833
417.63	0.0000
418.52	32.9201
423.70	41.7318
427.08	41.7953
427.89	36.9489
432.53	46.7689
433.93	41.9229
439.47	38.1164
439.56	38.1178
439.89	41.0561
443.98	39.1709
444.90	32.3289
445.03	32.3309
445.03	32.3309
445.03	32.3309
445.03	32.3309
453.90	35.4054
463.38	38.5115
468.07	24.7357
473.00	38.6677
475.06	32.7466
475.35	28.7809
476.78	32.7700
477.59	29.8011
477.96	30.7991
482.03	28.8605
484.57	32.8755
487.03	27.9228
490.36	28.9593
492.35	33.9797
497.08	35.0461
507.63	0.0000
510.53	0.0000
510.84	40.2732
511.00	40.2756
511.85	54.3909
511.85	54.3909
513.99	119.9616
513.99	119.9616
520.41	38.4036
520.65	38.4073
527.90	30.4072
528.96	0.0000
529.64	21.2994
529.87	0.0000
531.02	23.3403
537.32	24.4137
543.00	18.3498
546.56	0.0000
549.76	26.5732
552.65	39.9026
555.20	24.5789
563.23	19.5163
563.90	17.4665
568.70	28.8189
569.32	27.7963
569.50	28.8278
569.67	28.8292
573.80	36.0912
574.00	36.0938
574.64	34.0393
578.91	34.0917
579.30	35.1297
583.14	30.0054
585.48	19.6754
591.81	29.0609
592.07	26.9877
593.00	17.6516
595.88	33.2602
600.56	38.5212
602.52	0.0000
602.71	36.4663
602.71	36.4663
603.60	44.8162
604.41	37.5311
604.70	39.6198
609.31	32.3737

609.31	32.3737
609.31	32.3737
609.31	32.3737
610.33	32.3850
612.46	38.6820
614.37	21.9695
618.01	21.9972
621.84	28.3190
621.84	28.3190
631.29	30.5158
633.02	20.0047
633.10	20.0052
634.78	33.7125
635.90	29.5094
636.97	20.0316
645.85	26.4362
646.12	26.4386
656.30	14.8559
657.75	16.9863
657.90	0.0000
661.65	27.6383
661.65	27.6383
664.57	21.2808
666.33	20.2283
666.33	20.2283
675.00	25.6236
677.61	20.3025
685.20	20.3522
692.80	31.1396
695.00	26.8634
696.49	29.0263
696.49	29.0263
697.00	30.1062
697.49	23.6586
698.33	29.0428
698.50	27.9690
699.00	31.2012
702.63	26.9281
706.10	30.1923
706.58	0.0000
706.67	25.8838
709.31	28.0643
711.68	24.8446
713.82	31.3463
717.42	22.7247
720.50	20.5799
721.93	29.2584
722.20	29.2607
722.78	27.0978
722.78	27.0978
722.89	27.0990
722.95	27.0996
723.30	24.9344
724.18	13.0128
727.18	14.1102
733.00	14.1353
735.90	17.4129
739.58	15.2530
742.81	11.9963
744.21	20.7298
747.13	14.1962
751.79	15.3094
752.31	15.3118
753.82	9.8479
755.35	16.4205
756.15	19.7095
756.87	20.8091
763.93	18.6577
765.79	18.6680
766.42	21.9663
766.84	18.6739
776.49	14.6878
778.00	11.9391
778.57	13.7781
778.89	13.7793
783.80	11.9592
785.46	17.4874
792.07	11.0659

795.84	15.8255
796.30	15.8276
798.80	9.5035
801.93	18.4957
805.60	25.3917
810.29	14.8317
810.76	13.3503
815.85	25.0681
817.79	14.8633
818.51	13.9371
819.60	13.9413
826.30	14.8988
828.27	19.5657
831.60	12.1232
831.96	13.9899
834.83	13.0677
836.80	0.0000
846.75	13.1108
848.13	12.1790
856.28	0.0000
856.80	12.2079
860.37	15.9797
867.32	14.1263
867.82	13.1862
871.10	13.1979
873.19	13.2053
874.81	16.0423
875.33	0.0000
876.40	16.0489
879.36	8.5032
880.27	8.5054
880.51	8.5060
881.50	10.3989
883.24	13.2409
884.67	15.1383
889.25	11.3677
896.60	11.3899
898.02	8.5455
899.00	13.2965
903.28	18.0657
911.07	10.4803
911.07	10.4803
911.07	10.4803
919.63	14.3231
920.93	18.1488
925.00	10.5182
925.24	9.5626
926.50	8.6093
935.52	7.6704
937.48	10.5520
944.10	10.5699
946.00	12.4977
949.00	7.6968
962.29	20.2715
964.01	15.4515
966.15	18.3587
968.20	16.4345
969.11	18.3722
969.11	18.3722
969.11	18.3722
977.42	10.6585
980.50	14.5453
983.50	17.4675
989.30	12.6334
996.32	14.6021
1001.03	6.8221
1001.68	7.7979
1004.76	18.5338
1021.30	0.0000
1024.50	0.0000
1034.80	9.8254
1036.00	12.7762
1037.82	10.8156
1038.57	8.8506
1038.76	0.0000
1045.16	12.8043
1046.59	8.8674
1048.07	9.8560

1050.47	14.7925
1050.47	14.7925
1062.04	14.8328
1063.62	9.8922
1076.63	10.9141
1077.35	11.9082
1078.86	10.9194
1085.78	10.9369
1099.22	9.9731
1112.02	9.0018
1112.84	12.0049
1115.52	21.0205
1120.29	14.0291
1120.29	14.0291
1120.29	14.0291
1120.29	14.0291
1120.51	14.0296
1121.28	10.0228
1124.00	0.0000
1129.67	13.0540
1131.51	0.0000
1147.95	0.0000
1167.94	13.1640
1173.22	7.0966
1175.09	12.1704
1177.93	10.1481
1189.05	17.2933
1204.90	7.1447
1205.75	8.1670
1213.00	8.1794
1221.42	5.1213
1230.97	9.2366
1235.34	10.2722
1236.41	0.0000
1238.25	11.3062
1246.25	8.2363
1260.41	0.0000
1271.85	10.3495
1274.45	5.1774
1274.54	5.1776
1291.56	14.5469
1298.22	0.0000
1312.09	9.3900
1325.50	5.2305
1325.50	5.2305
1332.49	7.3330
1333.61	4.1911
1360.21	11.5854
1362.66	0.0000
1365.15	11.5962
1368.21	2.1097
1368.53	0.0000
1376.25	6.3389
1384.27	9.5229
1394.10	6.3604
1395.20	6.3618
1407.95	8.5026
1434.06	6.4082
1436.60	9.6167
1457.56	0.0000
1460.81	0.0000
1489.15	9.7097
1509.49	4.3311
1596.49	10.3651
1620.62	7.5692
1678.03	0.0000
1691.02	6.7009
1691.02	6.7009
1706.46	0.0000
1750.46	0.0000
1764.49	5.8119
1764.49	5.8119
1764.49	5.8119
1764.49	5.8119
1770.23	9.6952
1771.40	9.6969
1791.20	0.0000
1808.65	2.9261

1836.01	7.8359

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202003352

Total Uranium Activity	-7.9429E-01	ug/g
Total Uranium Counting Unc.	1.8686E+00	ug/g
Total Uranium Tpu	9.5335E-07	ug/g
Total Uranium Mda	1.6585E+00	ug/g

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*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                             *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 936285                    SAMPLE ID   : G1202003352     *
*   ANALYST       : MJH1                      DETECTOR    : GAM06           *
*   SAMPLE DATE   : 24-DEC-2009 00:00:00.00   COUNT TIME :    0 02:00:00.00 *
*   ANALYSIS DATE: 31-DEC-2009 13:18:17.49    SAMPLE ALQT:  158.180 GRAM    *
*                                                                           *
*****************************************************************************
```

GROSS GAMMA ACTIVITY (pCi/GRAM) : 3.143E-02
GROSS GAMMA ERROR (pCi/GRAM) : 2.786E-02
GROSS GAMMA MDA (pCi/GRAM) : 8.469E-02
GROSS GAMMA DLC (pCi/GRAM) : 3.978E-02

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 15:19:58.48

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003353.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 13:18:45
Sample ID         : G1202003353          Sample quantity  : 1.44810E+02 GRAM
Detector name     : GAM07                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.36  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.94*	88	510	0.87	93.54	89	10	1.23E-02	50.1	
2	0	63.31*	150	531	0.93	126.28	123	8	2.09E-02	28.4	
3	2	74.70*	637	511	1.22	149.06	143	16	8.85E-02	7.3	1.80E+00
4	2	77.04*	897	444	1.05	153.73	143	16	1.25E-01	5.1	
5	3	83.99*	124	534	1.33	167.63	164	29	1.72E-02	32.7	2.46E+00
6	3	87.00*	311	449	1.12	173.65	164	29	4.32E-02	12.6	
7	3	89.85*	196	367	1.06	179.34	164	29	2.73E-02	17.1	
8	3	92.84*	348	403	1.20	185.32	164	29	4.83E-02	11.7	
9	0	185.58*	226	451	1.33	370.76	366	11	3.14E-02	19.8	
10	0	209.19	132	230	1.03	417.97	415	7	1.83E-02	21.0	
11	7	238.66*	1436	196	1.13	476.92	471	18	1.99E-01	3.2	1.37E+00
12	7	241.53*	328	238	1.69	482.65	471	18	4.56E-02	12.4	
13	0	270.44	105	228	1.64	540.47	536	10	1.47E-02	28.6	
14	0	295.25	448	198	1.10	590.07	585	11	6.22E-02	7.7	
15	0	300.04	92	194	1.31	599.65	596	9	1.28E-02	29.0	
16	0	338.36	288	184	1.11	676.28	671	11	4.00E-02	10.9	
17	0	351.98*	707	237	1.25	703.50	697	13	9.82E-02	5.9	
18	0	409.53	38	126	1.39	818.60	815	8	5.24E-03	54.3	
19	0	463.12	110	77	1.09	925.75	922	9	1.53E-02	17.3	
20	0	510.74*	54	156	2.13	1020.99	1015	14	7.51E-03	58.2	
21	0	583.22*	480	100	1.54	1165.91	1158	17	6.66E-02	6.8	
22	0	609.43*	534	119	1.63	1218.33	1212	15	7.41E-02	6.3	
23	0	661.60	205	66	1.10	1322.67	1318	10	2.85E-02	10.2	
24	0	727.77*	118	87	1.87	1454.98	1448	17	1.64E-02	20.7	
25	0	768.52	49	44	2.05	1536.48	1532	9	6.84E-03	29.0	
26	0	786.42	39	61	1.82	1572.27	1568	12	5.41E-03	43.0	
27	0	795.40	53	72	1.16	1590.23	1585	12	7.36E-03	34.8	
28	0	860.64*	75	53	1.23	1720.68	1714	12	1.04E-02	22.9	
29	0	911.25*	312	77	1.50	1821.89	1813	18	4.33E-02	8.8	
30	2	964.78	64	48	2.06	1928.95	1922	23	8.94E-03	23.7	9.46E-01
31	2	969.17*	174	28	1.74	1937.72	1922	23	2.42E-02	9.9	
32	0	1120.36*	123	49	1.82	2240.07	2233	17	1.70E-02	16.0	
33	0	1461.01*	955	33	2.06	2921.32	2913	19	1.33E-01	3.6	
34	0	1587.19	51	13	2.09	3173.67	3164	19	7.09E-03	22.5	
35	0	1764.76*	85	4	2.73	3528.79	3521	16	1.18E-02	12.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 15:20:01

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003353.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MJH1
Sample date : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 13:18:45
Sample ID : G1202003353 Sample quantity : 144.81 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA7 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.36 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.054E+01	2.305E+00	4.747E-01	4.077E-02	43.268
CD-109	+	88.03	*	3.241E+00	8.690E-01	9.604E-01	9.047E-02	3.375
SN-126	+	64.28		8.457E-01	4.953E-01	5.340E-01	7.745E-02	1.584
	+	86.94		1.326E+00	6.437E-01	3.952E-01	1.640E-01	3.357
	+	87.57	*	3.191E-01	8.555E-02	9.475E-02	8.878E-03	3.367
BA-137M	+	661.65	*	2.647E-01	5.868E-02	5.535E-02	4.898E-03	4.782
CS-137	+	661.65	*	2.798E-01	6.204E-02	5.851E-02	5.187E-03	4.782
TL-208		277.35		3.381E-01	3.505E-01	6.034E-01	7.389E-02	0.560
	+	510.84		2.356E-01	2.758E-01	1.979E-01	2.410E-02	1.190
	+	583.14	*	5.962E-01	9.868E-02	5.172E-02	4.948E-03	11.526
	+	860.37		8.761E-01	4.111E-01	4.697E-01	4.592E-02	1.865
BI-210	+	46.50	*	2.640E+00	2.659E+00	2.607E+00	2.445E-01	1.013
PB-210	+	46.50	*	2.640E+00	2.659E+00	2.607E+00	2.445E-01	1.013
PO-210	+	46.50	*	2.640E+00	2.657E+00	2.607E+00	2.218E-01	1.013
BI-211		72.87		5.072E+00	2.630E+00	4.107E+00	3.241E-01	1.235
	+	351.07	*	3.847E+00	5.729E-01	3.126E-01	2.804E-02	12.307
BI-212	+	727.18	*	1.257E+00	5.374E-01	3.488E-01	3.618E-02	3.603
	+	785.46		2.659E+00	2.297E+00	2.507E+00	2.292E-01	1.061
		1620.62		-1.583E-01	1.286E+00	2.045E+00	1.709E-01	-0.077
PB-212	+	74.81		2.546E+00	4.853E-01	3.978E-01	4.906E-02	6.401
	+	77.11		2.065E+00	2.709E-01	2.300E-01	1.898E-02	8.980
	+	87.30		1.476E+00	4.223E-01	4.388E-01	6.004E-02	3.363
	+	238.63	*	1.700E+00	1.949E-01	8.241E-02	7.883E-03	20.625
	+	300.09		1.688E+00	9.956E-01	1.141E+00	1.183E-01	1.480
PO-212	+	74.81		2.546E+00	4.853E-01	3.978E-01	4.906E-02	6.401
	+	77.11		2.065E+00	2.709E-01	2.300E-01	1.898E-02	8.980
	+	87.30		1.476E+00	4.223E-01	4.388E-01	6.004E-02	3.363
		115.19		5.226E-01	3.202E+00	5.197E+00	4.476E-01	0.101
	+	238.63	*	1.700E+00	1.949E-01	8.241E-02	7.883E-03	20.625
	+	300.09		1.688E+00	9.956E-01	1.141E+00	1.183E-01	1.480
BI-214	+	609.31	*	1.251E+00	2.039E-01	9.462E-02	9.789E-03	13.220
	+	1120.29		1.489E+00	5.031E-01	3.631E-01	3.899E-02	4.100
	+	1764.49		1.414E+00	3.770E-01	2.250E-01	1.851E-02	6.284
PB-214	+	74.81		4.387E+00	7.980E-01	6.853E-01	7.497E-02	6.401

Sample ID : G1202003353 Acquisition date : 31-DEC-2009 13:18:45

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.540E+00	5.371E-01	3.943E-01	4.429E-02	8.980
	+	87.30		2.528E+00	7.053E-01	7.517E-01	9.102E-02	3.363
	+	241.98		2.334E+00	6.245E-01	4.964E-01	5.038E-02	4.702
	+	295.21		1.438E+00	2.690E-01	1.814E-01	1.920E-02	7.929
	+	351.92	*	1.338E+00	2.112E-01	1.090E-01	1.131E-02	12.281
PO-214	+	74.81		4.387E+00	7.980E-01	6.853E-01	7.497E-02	6.401
	+	77.11		3.540E+00	5.371E-01	3.943E-01	4.429E-02	8.980
	+	87.30		2.528E+00	7.053E-01	7.517E-01	9.102E-02	3.363
	+	241.98		2.334E+00	6.245E-01	4.964E-01	5.038E-02	4.702
	+	295.21		1.438E+00	2.690E-01	1.814E-01	1.920E-02	7.929
	+	351.92	*	1.338E+00	2.112E-01	1.090E-01	1.131E-02	12.281
PO-216	+	74.81		2.546E+00	4.853E-01	3.978E-01	4.906E-02	6.401
	+	77.11		2.065E+00	2.709E-01	2.300E-01	1.898E-02	8.980
	+	87.30		1.476E+00	4.223E-01	4.388E-01	6.004E-02	3.363
	+	238.63	*	1.700E+00	1.949E-01	8.241E-02	7.883E-03	20.625
	+	300.09		1.688E+00	9.956E-01	1.141E+00	1.183E-01	1.480
PO-218	+	74.81		4.387E+00	7.980E-01	6.853E-01	7.497E-02	6.401
	+	77.11		3.540E+00	5.371E-01	3.943E-01	4.429E-02	8.980
	+	87.30		2.528E+00	7.053E-01	7.517E-01	9.102E-02	3.363
	+	241.98		2.334E+00	6.245E-01	4.964E-01	5.038E-02	4.702
	+	295.21		1.438E+00	2.690E-01	1.814E-01	1.920E-02	7.929
	+	351.92	*	1.338E+00	2.112E-01	1.090E-01	1.131E-02	12.281
RA-224	+	240.98	*	4.426E+00	1.158E+00	9.381E-01	7.933E-02	4.718
RA-226	+	609.31	*	1.251E+00	2.039E-01	9.462E-02	9.789E-03	13.220
	+	1120.29		1.489E+00	5.031E-01	3.631E-01	3.899E-02	4.100
	+	1764.49		1.414E+00	3.770E-01	2.250E-01	1.851E-02	6.284
AC-228	+	338.32		1.726E+00	8.048E-01	3.469E-01	1.431E-01	4.977
	+	911.07	*	1.720E+00	3.621E-01	1.670E-01	1.945E-02	10.303
	+	969.11		1.691E+00	5.199E-01	3.114E-01	7.317E-02	5.429
RA-228	+	338.32		1.726E+00	8.048E-01	3.469E-01	1.431E-01	4.977
	+	911.07	*	1.720E+00	3.621E-01	1.670E-01	1.945E-02	10.303
	+	969.11		1.691E+00	5.199E-01	3.114E-01	7.317E-02	5.429
TH-228	+	74.81		2.582E+00	4.299E-01	4.034E-01	3.279E-02	6.401
	+	77.11		2.094E+00	2.748E-01	2.332E-01	1.925E-02	8.980
	+	87.30		1.497E+00	4.012E-01	4.450E-01	4.155E-02	3.363
	+	238.63	*	1.724E+00	1.976E-01	8.357E-02	7.994E-03	20.625
	+	300.09		1.712E+00	1.420E+00	1.157E+00	6.856E-01	1.480
TH-230	+	609.31	*	1.251E+00	2.039E-01	9.461E-02	9.788E-03	13.220
	+	1120.29		1.489E+00	5.031E-01	3.631E-01	3.899E-02	4.100
	+	1764.49		1.414E+00	3.770E-01	2.250E-01	1.850E-02	6.284
TH-232	+	338.32		1.726E+00	4.032E-01	3.469E-01	2.969E-02	4.977
	+	911.07	*	1.720E+00	3.621E-01	1.670E-01	1.945E-02	10.303
	+	969.11		1.691E+00	5.199E-01	3.114E-01	7.317E-02	5.429
TH-234	+	63.29	*	2.137E+00	1.268E+00	1.350E+00	2.350E-01	1.582
	+	92.38		2.373E+00	7.039E-01	6.361E-01	1.167E-01	3.730
U-234	+	609.31	*	1.251E+00	2.039E-01	9.461E-02	9.788E-03	13.220
	+	1120.29		1.489E+00	5.031E-01	3.631E-01	3.899E-02	4.100
	+	1764.49		1.414E+00	3.770E-01	2.250E-01	1.850E-02	6.284
NP-237	+	86.50	*	9.370E-01	3.170E-01	2.798E-01	6.326E-02	3.349

Sample ID : G1202003353 Acquisition date : 31-DEC-2009 13:18:45

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		95.87		3.280E-01	8.786E-01	1.293E+00	3.202E-01	0.254
U-238	+	63.29	*	2.137E+00	1.268E+00	1.350E+00	2.350E-01	1.582
	+	92.38		2.373E+00	5.943E-01	6.361E-01	5.827E-02	3.730
AM-243	+	74.67	*	4.128E-01	6.857E-02	6.460E-02	5.193E-03	6.390
	+	86.72		3.514E+01	9.420E+00	1.048E+01	9.712E-01	3.353
		117.66		1.060E+00	3.356E+00	5.476E+00	4.710E-01	0.194
		142.18		5.889E-01	1.566E+01	2.504E+01	2.066E+00	0.024
ANH-511	+	511.00	*	5.088E-02	5.943E-02	4.275E-02	3.799E-03	1.190

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-9.842E-02	3.051E-01	4.770E-01	4.502E-02	-0.206
NA-22		1274.54	*	-3.467E-02	3.633E-02	5.304E-02	4.354E-03	-0.654
NA-24		1368.53	*	-4.972E-04	3.633E-02	Half-Life too short		
AL-26		1129.67		9.595E-02	1.563E+00	2.437E+00	2.047E-01	0.039
		1808.65	*	1.282E-02	2.369E-02	4.381E-02	3.573E-03	0.293
TI-44		67.85		1.213E-02	3.655E-02	5.462E-02	4.121E-03	0.222
	+	78.38	*	3.811E-01	5.000E-02	6.249E-02	5.232E-03	6.098
SC-46		889.25	*	3.245E-02	3.361E-02	5.965E-02	5.466E-03	0.544
	+	1120.51		2.526E-01	8.371E-02	1.212E-01	1.025E-02	2.083
V-48		944.10		2.250E-01	7.462E-01	1.244E+00	1.131E-01	0.181
		983.50	*	4.668E-02	5.130E-02	9.145E-02	8.233E-03	0.510
		1312.09		-2.406E-02	6.862E-02	1.074E-01	8.807E-03	-0.224
CR-51		320.08	*	-1.210E-01	3.431E-01	5.528E-01	4.995E-02	-0.219
MN-52		744.21		-1.795E-02	1.788E-01	2.914E-01	2.645E-02	-0.062
		848.13		2.736E+00	4.857E+00	8.362E+00	7.677E-01	0.327
		935.52		2.616E-01	2.040E-01	3.675E-01	3.346E-02	0.712
		1246.25		1.416E+00	5.410E+00	9.182E+00	7.521E-01	0.154
		1333.61		1.644E+00	3.929E+00	6.788E+00	5.562E-01	0.242
		1434.06	*	4.206E-02	1.647E-01	2.803E-01	2.331E-02	0.150
MN-54		834.83	*	-2.528E-02	3.541E-02	5.401E-02	4.958E-03	-0.468
CO-56		846.75	*	4.142E-03	3.342E-02	5.513E-02	5.061E-03	0.075
		977.42		3.344E+00	2.608E+00	4.647E+00	4.191E-01	0.720
		1037.82		9.053E-02	2.483E-01	4.319E-01	4.007E-02	0.210
		1175.09		-8.089E-01	1.824E+00	2.894E+00	2.356E-01	-0.279
		1238.25		6.532E-02	8.172E-02	1.435E-01	1.213E-02	0.455
		1360.21		2.722E-01	8.307E-01	1.425E+00	1.173E-01	0.191
		1771.40		-1.599E-02	1.933E-01	2.691E-01	2.210E-02	-0.059
CO-57		122.06	*	-4.952E-03	2.209E-02	3.517E-02	3.026E-03	-0.141
		136.48		1.780E-01	1.864E-01	3.094E-01	2.786E-02	0.575
CO-58		810.76	*	-3.277E-02	3.712E-02	5.556E-02	5.104E-03	-0.590
FE-59		142.65		1.480E+00	2.429E+00	3.914E+00	3.228E-01	0.378
		192.34		-5.383E-01	8.630E-01	1.419E+00	1.863E-01	-0.379
		1099.22	*	-3.288E-03	6.968E-02	1.159E-01	1.074E-02	-0.028
		1291.56		2.377E-02	1.108E-01	1.870E-01	1.761E-02	0.127
CO-60		1173.22		-7.868E-03	3.734E-02	6.081E-02	4.948E-03	-0.129
		1332.49	*	8.537E-03	3.513E-02	5.951E-02	4.875E-03	0.143

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZN-65		1115.52	*	-5.634E-02	8.342E-02	1.075E-01	9.121E-03	-0.524
GE-68		1077.35	*	6.926E-01	1.076E+00	1.907E+00	1.653E-01	0.363
AS-73		53.44	*	-4.798E-01	4.521E-01	7.061E-01	5.302E-02	-0.680
AS-74		595.88	*	-1.268E-02	7.996E-02	1.320E-01	1.184E-02	-0.096
		634.78		-3.244E-01	3.100E-01	4.695E-01	4.185E-02	-0.691
SE-75		66.05		-2.679E+00	3.649E+00	5.198E+00	4.932E-01	-0.515
		96.73		-5.623E-01	7.185E-01	9.930E-01	1.376E-01	-0.566
		121.11		-8.140E-02	1.173E-01	1.822E-01	2.041E-02	-0.447
		136.00		1.818E-02	3.546E-02	5.792E-02	4.870E-03	0.314
		198.60		-4.684E-01	1.619E+00	2.650E+00	2.436E-01	-0.177
		264.65	*	-3.522E-03	3.927E-02	6.018E-02	5.139E-03	-0.059
		279.53		6.852E-03	1.006E-01	1.674E-01	1.475E-02	0.041
		303.91		1.381E+00	2.102E+00	3.188E+00	3.644E-01	0.433
		400.65		6.522E-02	2.496E-01	4.113E-01	4.496E-02	0.159
BR-77	+	87.88		5.145E+02	1.380E+02	2.054E+02	1.933E+01	2.504
		200.40		-3.993E+01	1.041E+02	1.727E+02	1.420E+01	-0.231
	+	239.00		2.002E+02	2.113E+01	2.708E+01	2.288E+00	7.396
		249.79		-2.100E+01	4.105E+01	6.657E+01	5.646E+00	-0.315
		281.68		-3.644E+01	5.990E+01	9.595E+01	8.153E+00	-0.380
		297.23		2.003E+02	5.821E+01	8.084E+01	6.910E+00	2.477
		303.76		8.194E+01	1.318E+02	1.996E+02	1.709E+01	0.411
		439.47		7.849E+01	9.606E+01	1.635E+02	1.409E+01	0.480
		484.57		-3.721E+01	1.606E+02	2.525E+02	2.224E+01	-0.147
		520.65	*	-6.105E-02	6.679E+00	1.125E+01	1.002E+00	-0.005
		574.64		3.266E+01	1.463E+02	2.426E+02	2.176E+01	0.135
		578.91		-2.636E+01	6.655E+01	9.293E+01	8.335E+00	-0.284
		585.48		9.611E+02	1.892E+02	3.342E+02	2.997E+01	2.876
		755.35		9.881E+01	1.115E+02	1.961E+02	1.784E+01	0.504
		817.79		-1.027E+01	8.298E+01	1.339E+02	1.228E+01	-0.077
SR-82		698.33		3.301E+00	3.101E+01	5.165E+01	4.631E+00	0.064
		776.49	*	-2.345E-01	3.277E-01	5.004E-01	4.570E-02	-0.469
		1395.20		-3.830E+00	8.954E+00	1.374E+01	1.137E+00	-0.279
RB-83		520.41	*	5.734E-04	5.976E-02	1.008E-01	8.977E-03	0.006
		529.64		8.431E-02	9.614E-02	1.707E-01	1.524E-02	0.494
		552.65		3.954E-02	1.706E-01	2.913E-01	2.609E-02	0.136
RB-84		881.50	*	-1.210E-02	5.547E-02	8.787E-02	8.057E-03	-0.138
KR-85		513.99	*	4.583E+00	7.509E+00	1.160E+01	1.031E+00	0.395
SR-85		513.99	*	2.324E-02	3.807E-02	5.881E-02	5.230E-03	0.395
RB-86		1076.63	*	-3.980E-02	6.778E-01	1.129E+00	9.782E-02	-0.035
Y-88		898.02		2.294E-03	3.816E-02	6.226E-02	5.726E-03	0.037
		1836.01	*	5.219E-03	2.915E-02	5.021E-02	4.075E-03	0.104
ZR-88		392.90	*	-4.269E-03	2.992E-02	4.815E-02	4.011E-03	-0.089
Y-91		1204.90	*	1.224E+01	1.605E+01	2.841E+01	2.320E+00	0.431
NB-94		702.63	*	-3.625E-03	3.149E-02	5.156E-02	4.630E-03	-0.070
		871.10		1.643E-02	2.762E-02	4.773E-02	4.379E-03	0.344
NB-95		765.79	*	2.814E-02	4.525E-02	6.894E-02	6.284E-03	0.408
NB-95M		235.69	*	1.093E-01	1.219E-01	1.883E-01	1.828E-02	0.581
ZR-95		724.18		1.519E-02	9.581E-02	1.393E-01	1.358E-02	0.109
		756.15	*	3.721E-02	6.445E-02	1.108E-01	1.101E-02	0.336

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97		657.90	*	-1.231E-02	6.445E-02	Half-Life too short		
		1024.50		-9.091E-01	6.445E-02	Half-Life too short		
ZR-97		254.15		-3.176E-01	6.445E-02	Half-Life too short		
		355.39		4.692E-01	6.445E-02	Half-Life too short		
		507.63	*	1.043E+00	6.445E-02	Half-Life too short		
		602.52		-1.619E+00	6.445E-02	Half-Life too short		
		1021.30		-1.197E+00	6.445E-02	Half-Life too short		
		1147.95		-1.104E+00	6.445E-02	Half-Life too short		
		1362.66		-1.024E+00	6.445E-02	Half-Life too short		
		1750.46		7.691E-01	6.445E-02	Half-Life too short		
MO-99		140.51		-2.051E+01	1.890E+01	2.733E+01	7.540E+00	-0.750
		181.06		4.755E+00	1.259E+01	1.920E+01	3.461E+00	0.248
		366.43		-2.785E+01	5.564E+01	8.751E+01	7.412E+00	-0.318
		739.58	*	1.649E+00	7.991E+00	1.338E+01	2.066E+00	0.123
		778.00		-9.008E+00	2.314E+01	3.656E+01	3.340E+00	-0.246
TC-99M		140.51	*	-2.069E+09	2.314E+01	Half-Life too short		
RH-101		127.23		-2.394E-03	3.012E-02	4.818E-02	4.092E-03	-0.050
		198.01	*	2.594E-03	2.972E-02	4.941E-02	4.053E-03	0.052
		325.23		-2.611E-01	2.160E-01	3.296E-01	2.826E-02	-0.792
RH-102		418.52		-3.178E-01	2.743E-01	4.053E-01	3.444E-02	-0.784
		475.06	*	-2.921E-02	2.731E-02	3.986E-02	3.497E-03	-0.733
		631.29		4.481E-02	4.832E-02	8.587E-02	7.661E-03	0.522
		697.49		-2.199E-02	7.395E-02	1.195E-01	1.071E-02	-0.184
		766.84		5.665E-02	1.245E-01	1.858E-01	1.694E-02	0.305
		1046.59		-3.774E-02	1.037E-01	1.681E-01	1.478E-02	-0.225
		1112.84		6.746E-02	2.197E-01	3.296E-01	2.799E-02	0.205
RU-103		497.08	*	-2.424E-04	3.663E-02	5.853E-02	8.370E-03	-0.004
	+	610.33		1.326E+01	2.790E+00	2.860E+00	4.822E-01	4.635
RH-106	+	511.85		2.536E-01	2.962E-01	3.861E-01	3.432E-02	0.657
		621.84	*	-3.255E-01	2.788E-01	4.131E-01	5.603E-02	-0.788
		1050.47		1.454E+00	2.106E+00	3.739E+00	3.283E-01	0.389
RU-106	+	511.85		2.536E-01	2.962E-01	3.861E-01	3.432E-02	0.657
		621.84	*	-3.255E-01	2.768E-01	4.131E-01	3.692E-02	-0.788
		1050.47		1.454E+00	2.106E+00	3.739E+00	3.283E-01	0.389
AG-108M		433.93	*	-8.985E-03	2.928E-02	4.613E-02	4.118E-03	-0.195
		614.37		6.341E-03	3.763E-02	5.554E-02	5.151E-03	0.114
		722.95		-3.361E-03	4.106E-02	5.806E-02	5.431E-03	-0.058
AG-110M		657.75	*	-1.558E-02	3.613E-02	4.940E-02	4.500E-03	-0.315
		677.61		-1.015E-01	2.917E-01	4.697E-01	4.292E-02	-0.216
		706.67		4.974E-02	1.904E-01	3.206E-01	2.956E-02	0.155
		763.93		1.729E-01	1.591E-01	2.549E-01	2.382E-02	0.678
		884.67		-2.015E-02	4.184E-02	6.428E-02	6.061E-03	-0.314
		937.48		-3.155E-02	1.032E-01	1.616E-01	1.519E-02	-0.195
		1384.27		-1.290E-01	1.475E-01	2.124E-01	1.809E-02	-0.607
IN-111		171.28		4.682E-01	7.002E-01	1.141E+00	9.085E-02	0.410
		245.39	*	2.878E-01	7.542E-01	1.138E+00	9.637E-02	0.253
IN-113M		391.69	*	-1.677E-02	4.319E-02	6.840E-02	5.880E-03	-0.245
SN-113		391.69	*	-1.677E-02	4.319E-02	6.840E-02	5.880E-03	-0.245
IN-114M		190.27	*	2.059E-01	1.817E-01	2.864E-01	2.330E-02	0.719

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CD-115		260.90		-3.420E+01	8.169E+01	1.329E+02	1.129E+01	-0.257
		492.35		1.134E+01	2.179E+01	3.638E+01	3.214E+00	0.312
		527.90	*	1.425E+00	6.909E+00	1.180E+01	1.053E+00	0.121
SN-117M		156.02		-1.852E-01	1.994E+00	3.154E+00	2.541E-01	-0.059
		158.56	*	1.129E-02	4.672E-02	7.500E-02	6.013E-03	0.151
SB-122		563.90	*	1.181E+00	1.415E+00	2.463E+00	2.208E-01	0.479
		692.80		-2.568E+01	3.201E+01	4.952E+01	4.433E+00	-0.519
I-123		159.00	*	-2.316E-01	3.201E+01	Half-Life too short		
		528.96		9.529E+01	3.201E+01	Half-Life too short		
TE-123M		159.00	*	-4.368E-03	2.553E-02	4.020E-02	3.243E-03	-0.109
I-124		602.71	*	-4.715E-01	5.866E-01	7.769E-01	6.961E-02	-0.607
		722.78		-3.851E-01	3.589E+00	5.060E+00	4.569E-01	-0.076
		1325.50		-5.570E+00	2.760E+01	4.441E+01	3.639E+00	-0.125
		1376.25		2.599E+01	2.493E+01	4.537E+01	3.744E+00	0.573
		1509.49		1.239E+01	1.246E+01	2.267E+01	1.896E+00	0.547
		1691.02		2.684E+00	2.309E+00	4.654E+00	3.866E-01	0.577
SB-124		602.71		-3.229E-02	4.017E-02	5.320E-02	4.767E-03	-0.607
		645.85		-1.727E-01	4.688E-01	7.565E-01	7.106E-02	-0.228
		709.31		1.848E-01	2.483E+00	4.124E+00	3.710E-01	0.045
		713.82		-7.696E-01	1.461E+00	2.299E+00	2.832E-01	-0.335
		722.78		-3.823E-02	3.563E-01	5.022E-01	4.625E-02	-0.076
	+	968.20		1.719E+01	3.749E+00	6.823E+00	6.168E-01	2.520
		1045.16		-8.135E-01	2.167E+00	3.505E+00	3.084E-01	-0.232
		1325.50		-5.905E-01	2.926E+00	4.708E+00	3.858E-01	-0.125
		1368.21		-3.651E-03	1.528E+00	2.510E+00	3.323E-01	-0.001
		1436.60		-8.745E-01	3.010E+00	4.693E+00	3.904E-01	-0.186
		1691.02	*	6.284E-02	5.408E-02	1.090E-01	9.437E-03	0.577
SB-125		427.89	*	1.070E-02	8.514E-02	1.387E-01	1.209E-02	0.077
	+	463.38		9.366E-01	3.358E-01	5.353E-01	5.029E-02	1.750
		600.56		1.130E-01	1.562E-01	2.737E-01	2.621E-02	0.413
		635.90		-2.241E-01	2.488E-01	3.824E-01	3.666E-02	-0.586
TE-125M		109.28	*	-6.272E-01	7.767E+00	1.251E+01	1.297E+00	-0.050
I-126		388.63		8.155E-02	1.884E-01	3.140E-01	2.620E-02	0.260
		666.33	*	8.858E-02	1.786E-01	2.706E-01	2.399E-02	0.327
		753.82		1.828E+00	1.283E+00	2.332E+00	2.121E-01	0.784
SB-126		223.80		2.483E-01	3.370E+00	5.670E+00	4.752E-01	0.044
		278.60		2.110E+00	2.138E+00	3.699E+00	3.140E-01	0.570
	+	296.50		1.349E+01	2.378E+00	3.287E+00	2.809E-01	4.104
		414.70		1.952E-02	7.148E-02	1.092E-01	9.257E-03	0.179
		415.30		2.632E+00	5.649E+00	9.121E+00	7.731E-01	0.289
		555.20		-3.021E+00	3.214E+00	4.979E+00	4.461E-01	-0.607
		573.80		1.324E-01	8.935E-01	1.512E+00	1.356E-01	0.088
		593.00		2.847E-01	7.860E-01	1.348E+00	1.208E-01	0.211
		656.30		5.029E-01	3.248E+00	4.761E+00	4.220E-01	0.106
		666.33		3.693E-02	7.443E-02	1.128E-01	9.999E-03	0.327
		675.00		6.997E-01	1.730E+00	2.904E+00	2.583E-01	0.241
		695.00		3.966E-02	6.769E-02	1.167E-01	1.045E-02	0.340
		697.00		-8.921E-02	2.458E-01	3.950E-01	3.540E-02	-0.226
		720.50	*	-3.180E-02	1.333E-01	1.944E-01	1.754E-02	-0.164

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		856.80		7.933E-01	4.600E-01	7.777E-01	7.139E-02	1.020
		989.30		-1.096E+00	1.015E+00	1.410E+00	1.267E-01	-0.777
		1034.80		-7.196E-01	6.757E+00	1.122E+01	9.919E-01	-0.064
		1213.00		1.961E+00	3.816E+00	6.616E+00	5.407E-01	0.296
SB-127		61.10		2.073E+01	3.257E+01	4.954E+01	4.848E+00	0.418
		252.40		4.754E-02	3.062E+00	5.107E+00	2.141E+00	0.009
		290.80		-9.719E+00	1.769E+01	2.457E+01	2.648E+00	-0.396
		411.60		-7.571E-01	1.167E+01	1.642E+01	2.531E+00	-0.046
		444.90		-2.830E+00	7.962E+00	1.249E+01	1.533E+00	-0.227
		473.00		-1.107E-01	1.255E+00	2.000E+00	2.539E-01	-0.055
		543.00		-8.686E+00	1.164E+01	1.833E+01	2.632E+00	-0.474
		603.60		-3.054E+00	9.509E+00	1.331E+01	1.660E+00	-0.229
		685.20	*	-1.005E+00	1.125E+00	1.686E+00	1.908E-01	-0.596
		698.50		-4.002E-01	1.182E+01	1.949E+01	3.078E+00	-0.021
		722.20		-9.779E+00	2.523E+01	3.432E+01	3.837E+00	-0.285
		783.80		3.680E+00	3.067E+00	4.925E+00	6.163E-01	0.747
XE-127		57.60		-2.268E+00	3.620E+00	5.859E+00	4.247E-01	-0.387
		145.22		5.691E-01	6.440E-01	1.048E+00	8.600E-02	0.543
		172.10		-3.316E-02	1.089E-01	1.695E-01	1.351E-02	-0.196
		202.84	*	-2.646E-02	4.103E-02	6.727E-02	5.544E-03	-0.393
		374.96		-2.384E-02	1.762E-01	2.845E-01	2.397E-02	-0.084
I-131		80.18		-2.227E+00	4.462E+00	4.975E+00	4.277E-01	-0.448
		284.30		-6.754E-01	1.216E+00	1.951E+00	1.747E-01	-0.346
		364.48	*	-1.040E-03	9.020E-02	1.471E-01	1.316E-02	-0.007
		636.97		-1.805E-01	1.309E+00	2.155E+00	2.019E-01	-0.084
		722.89		-5.727E-01	6.305E+00	8.907E+00	8.084E-01	-0.064
TE-132		49.72		1.254E+00	8.278E+00	1.246E+01	1.249E+00	0.101
		111.76		-6.929E-01	2.115E+01	3.358E+01	3.559E+00	-0.021
		116.30		1.345E+01	1.956E+01	3.232E+01	3.417E+00	0.416
		228.16	*	-4.082E-01	4.933E-01	7.892E-01	1.216E-01	-0.517
BA-133		53.15		-2.368E+00	1.965E+00	3.048E+00	2.297E-01	-0.777
		79.62		-7.450E-01	1.376E+00	1.526E+00	2.313E-01	-0.488
		81.00		2.707E-02	9.946E-02	1.172E-01	1.862E-02	0.231
		276.40		3.234E-01	3.561E-01	5.930E-01	8.522E-02	0.545
		302.84		5.837E-02	1.513E-01	2.251E-01	2.982E-02	0.259
		356.01	*	1.192E-02	4.607E-02	6.811E-02	8.945E-03	0.175
		383.85		6.483E-02	2.861E-01	4.718E-01	5.867E-02	0.137
I-133	+	510.53		2.213E-01	2.861E-01	Half-Life too short		
		529.87	*	1.544E-03	2.861E-01	Half-Life too short		
		706.58		4.566E-02	2.861E-01	Half-Life too short		
		856.28		3.343E-01	2.861E-01	Half-Life too short		
		875.33		-1.303E-02	2.861E-01	Half-Life too short		
		1236.41		1.678E-01	2.861E-01	Half-Life too short		
		1298.22		-7.038E-02	2.861E-01	Half-Life too short		
CS-134		475.35		-1.762E+00	1.754E+00	2.573E+00	2.257E-01	-0.685
		563.23		3.745E-01	3.163E-01	5.709E-01	5.163E-02	0.656
		569.32		-3.839E-02	1.750E-01	2.859E-01	2.596E-02	-0.134
		604.70		-1.149E-02	3.223E-02	4.488E-02	4.030E-03	-0.256
	+	795.84	*	9.487E-02	6.668E-02	8.914E-02	8.213E-03	1.064

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		801.93		-3.146E-01	4.152E-01	5.368E-01	4.942E-02	-0.586
		1038.57		1.562E+00	3.169E+00	5.572E+00	4.918E-01	0.280
		1167.94		-9.545E-01	2.209E+00	3.523E+00	2.879E-01	-0.271
		1365.15		-6.407E-01	1.018E+00	1.512E+00	1.308E-01	-0.424
CS-135		268.24	*	1.043E-01	1.602E-01	2.438E-01	2.404E-02	0.428
I-135		288.45		9.361E+08	1.602E-01	Half-Life too short		
		417.63		-9.379E+08	1.602E-01	Half-Life too short		
		546.56		-3.613E+08	1.602E-01	Half-Life too short		
		836.80		1.702E+09	1.602E-01	Half-Life too short		
		1038.76		4.767E+08	1.602E-01	Half-Life too short		
		1124.00		3.701E+08	1.602E-01	Half-Life too short		
		1131.51		-9.083E+07	1.602E-01	Half-Life too short		
		1260.41	*	3.400E+08	1.602E-01	Half-Life too short		
		1457.56		2.220E+10	1.602E-01	Half-Life too short		
		1678.03		1.261E+08	1.602E-01	Half-Life too short		
		1706.46		-1.745E+09	1.602E-01	Half-Life too short		
		1791.20		-5.081E+08	1.602E-01	Half-Life too short		
CS-136		66.91		-1.507E-01	5.692E-01	8.294E-01	1.230E-01	-0.182
	+	86.29		3.937E+00	1.120E+00	1.562E+00	2.071E-01	2.521
		153.22		6.581E-01	5.836E-01	9.681E-01	8.875E-02	0.680
		163.89		6.231E-01	9.578E-01	1.560E+00	1.412E-01	0.400
		176.55		-1.466E-01	2.999E-01	4.987E-01	4.260E-02	-0.294
		273.65		-8.385E-01	4.734E-01	5.985E-01	5.428E-02	-1.401
		340.57		3.159E-01	1.311E-01	2.154E-01	1.897E-02	1.466
		818.51		-3.763E-02	6.098E-02	9.318E-02	8.552E-03	-0.404
		1048.07	*	-8.707E-03	9.476E-02	1.577E-01	1.442E-02	-0.055
		1235.34		6.250E-02	5.047E-01	8.444E-01	9.741E-02	0.074
CE-139		165.85	*	1.593E-02	2.770E-02	4.498E-02	3.558E-03	0.354
BA-140		162.64		3.684E-01	6.718E-01	1.090E+00	9.264E-02	0.338
		304.84		4.005E-01	1.205E+00	1.783E+00	4.993E-01	0.225
		423.70		8.570E-01	1.762E+00	2.903E+00	9.402E-01	0.295
		537.32	*	5.287E-02	2.177E-01	3.712E-01	1.233E-01	0.142
LA-140		328.77		4.148E-01	2.645E-01	4.651E-01	4.213E-02	0.892
		432.53		1.977E-01	1.713E+00	2.788E+00	2.508E-01	0.071
		487.03		-4.372E-02	1.160E-01	1.797E-01	1.678E-02	-0.243
		751.79		9.966E-02	1.503E+00	2.484E+00	2.476E-01	0.040
		815.85		1.336E-01	2.690E-01	4.596E-01	4.646E-02	0.291
		867.82		-1.079E+00	1.181E+00	1.662E+00	1.597E-01	-0.649
		919.63		-8.020E-01	2.467E+00	3.443E+00	3.810E-01	-0.233
		925.24		4.786E-01	9.505E-01	1.616E+00	1.557E-01	0.296
		1596.49	*	2.556E-03	7.367E-02	1.112E-01	9.305E-03	0.023
CE-141		145.44	*	5.664E-02	5.646E-02	9.355E-02	7.831E-03	0.605
CE-143		57.37		-2.181E-05	5.646E-02	Half-Life too short		
		231.56		-2.426E-04	5.646E-02	Half-Life too short		
		293.26	*	3.534E-04	5.646E-02	Half-Life too short		
	+	350.59		1.785E-02	5.646E-02	Half-Life too short		
		490.36		-1.606E-04	5.646E-02	Half-Life too short		
		664.57		1.836E-03	5.646E-02	Half-Life too short		
		721.93		5.207E-05	5.646E-02	Half-Life too short		

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-144		80.11		-1.128E+00	2.244E+00	2.502E+00	2.137E-01	-0.451
		133.54	*	-8.399E-02	1.905E-01	2.969E-01	4.583E-02	-0.283
PM-144		476.78		-2.992E-02	6.373E-02	9.839E-02	9.419E-03	-0.304
		618.01		1.326E-02	2.800E-02	4.723E-02	4.332E-03	0.281
		696.49	*	-1.183E-02	3.328E-02	5.352E-02	4.798E-03	-0.221
		778.57		-7.131E-01	1.938E+00	3.064E+00	2.800E-01	-0.233
PR-144		696.49	*	-8.009E-01	2.254E+00	3.625E+00	3.248E-01	-0.221
		1489.15		-4.823E+00	9.912E+00	1.478E+01	1.235E+00	-0.326
PM-146		453.90	*	-6.236E-03	4.169E-02	6.462E-02	6.963E-03	-0.097
		633.02		-6.991E-01	1.280E+00	1.992E+00	7.457E-01	-0.351
		735.90		-2.354E-02	1.562E-01	2.185E-01	6.278E-02	-0.108
		747.13		-1.440E-02	7.776E-02	1.256E-01	1.800E-02	-0.115
ND-147	+	91.11		6.387E-01	2.278E-01	3.921E-01	3.880E-02	1.629
		319.41		-1.225E-01	2.861E+00	4.694E+00	4.026E-01	-0.026
		439.89		5.134E+00	5.015E+00	8.639E+00	7.444E-01	0.594
		531.02	*	1.530E-01	4.844E-01	8.317E-01	1.258E-01	0.184
PM-149		285.90	*	1.034E+01	5.742E+01	9.594E+01	1.485E+01	0.108
EU-152		121.78		1.172E-02	6.339E-02	1.028E-01	1.018E-02	0.114
		244.69		1.293E-01	3.042E-01	4.600E-01	3.896E-02	0.281
		344.27	*	-1.081E-02	9.527E-02	1.431E-01	1.297E-02	-0.076
		443.98		-1.448E-01	9.059E-01	1.442E+00	1.246E-01	-0.100
		778.89		-6.903E-02	2.254E-01	3.586E-01	3.276E-02	-0.192
		867.32		-6.426E-01	7.844E-01	1.076E+00	9.875E-02	-0.597
	+	964.01		7.202E-01	3.476E-01	5.458E-01	4.940E-02	1.319
		1085.78		-2.505E-01	3.300E-01	5.068E-01	4.372E-02	-0.494
		1112.02		2.195E-01	2.795E-01	4.722E-01	4.012E-02	0.465
		1407.95		-1.135E-01	1.765E-01	2.649E-01	2.196E-02	-0.429
GD-153		69.67		1.059E+00	1.302E+00	1.980E+00	1.517E-01	0.535
	+	83.37		2.272E+01	1.501E+01	1.961E+01	1.742E+00	1.159
		97.43	*	-9.553E-03	7.155E-02	1.029E-01	9.206E-03	-0.093
		103.18		-8.559E-03	8.738E-02	1.410E-01	1.237E-02	-0.061
EU-154		123.07		-2.166E-02	4.553E-02	7.155E-02	8.106E-03	-0.303
		247.94		9.783E-02	3.134E-01	5.142E-01	5.846E-02	0.190
		591.81		4.942E-01	5.629E-01	9.527E-01	1.136E-01	0.519
		723.30		3.905E-02	1.673E-01	2.458E-01	2.434E-02	0.159
		756.87		-6.076E-02	7.146E-01	1.166E+00	1.437E-01	-0.052
		873.19		-9.928E-03	2.510E-01	4.063E-01	5.135E-02	-0.024
		996.32		-3.749E-01	3.654E-01	5.157E-01	9.250E-02	-0.727
		1004.76		-1.319E-01	1.976E-01	2.940E-01	3.492E-02	-0.449
		1274.45	*	-7.649E-02	1.000E-01	1.496E-01	1.645E-02	-0.511
EU-155		48.70		-1.708E-01	1.283E+00	1.904E+00	1.541E-01	-0.090
		60.01		2.807E+00	3.372E+00	5.181E+00	3.731E-01	0.542
	+	86.54		3.841E-01	1.031E-01	1.525E-01	1.422E-02	2.520
		105.31	*	8.151E-02	9.023E-02	1.510E-01	1.334E-02	0.540
TB-160	+	86.79		1.016E+00	2.724E-01	4.026E-01	3.734E-02	2.524
		197.04		1.700E-01	5.064E-01	8.503E-01	6.968E-02	0.200
		215.65		-5.606E-01	6.840E-01	1.097E+00	9.145E-02	-0.511
	+	298.57		2.431E-01	1.427E-01	1.879E-01	1.607E-02	1.294
		879.36	*	1.814E-02	1.108E-01	1.834E-01	1.682E-02	0.099

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		962.29		6.369E-01	5.822E-01	9.108E-01	8.246E-02	0.699
	+	966.15		4.896E-01	2.363E-01	4.685E-01	4.238E-02	1.045
		1177.93		-3.382E-02	3.109E-01	5.117E-01	4.166E-02	-0.066
		1271.85		-1.129E-01	6.056E-01	9.804E-01	8.038E-02	-0.115
HO-166M		80.57		-1.480E-01	2.897E-01	3.226E-01	2.771E-02	-0.459
	+	184.41		1.400E-01	5.662E-02	6.404E-02	5.177E-03	2.187
		280.46		-6.191E-02	7.776E-02	1.233E-01	1.047E-02	-0.502
	+	410.95		2.667E-01	2.903E-01	4.284E-01	3.620E-02	0.622
		711.68	*	-7.873E-03	5.499E-02	8.968E-02	8.074E-03	-0.088
		752.31		1.179E-01	2.508E-01	4.281E-01	3.893E-02	0.275
		810.29		-2.107E-02	5.487E-02	8.648E-02	7.927E-03	-0.244
TM-171		51.35		1.384E+01	1.677E+01	2.603E+01	2.010E+00	0.532
		52.39		-1.246E+00	8.144E+00	1.346E+01	1.024E+00	-0.093
		59.40		1.542E+01	1.804E+01	2.775E+01	1.995E+00	0.555
		66.72	*	-7.195E+00	2.164E+01	3.144E+01	2.352E+00	-0.229
LU-176	+	88.36		7.568E-01	2.029E-01	3.007E-01	2.825E-02	2.517
		201.83		-1.971E-02	2.550E-02	4.156E-02	3.422E-03	-0.474
		306.84	*	-8.365E-03	2.249E-02	3.628E-02	3.107E-03	-0.231
		401.10		3.418E+00	6.568E+00	1.098E+01	9.211E-01	0.311
LU-177		112.95		-2.809E-01	1.314E+00	2.069E+00	1.786E-01	-0.136
	+	208.36	*	2.470E+00	1.060E+00	1.705E+00	1.412E-01	1.449
LU-177M		52.97		-9.854E-01	8.774E-01	1.366E+00	1.032E-01	-0.721
		54.07		-2.808E-01	4.703E-01	7.500E-01	5.592E-02	-0.374
		61.30		7.052E-01	1.017E+00	1.552E+00	1.124E-01	0.454
		121.62		3.867E-02	3.226E-01	5.216E-01	4.483E-02	0.074
		147.16		-1.107E-01	6.061E-01	9.582E-01	7.839E-02	-0.115
		171.86		-1.622E-01	4.446E-01	6.901E-01	5.496E-02	-0.235
		218.09		6.309E-01	7.627E-01	1.322E+00	1.104E-01	0.477
		268.79		1.518E+00	8.246E-01	1.331E+00	1.131E-01	1.141
		319.02		1.605E-02	2.389E-01	3.944E-01	3.382E-02	0.041
		367.43		-3.934E-01	7.903E-01	1.244E+00	1.053E-01	-0.316
		413.65	*	1.403E-01	1.816E-01	2.749E-01	2.328E-02	0.511
HF-181		56.28		2.581E-01	5.358E-01	9.035E-01	6.606E-02	0.286
		57.53		-1.973E-01	3.050E-01	4.933E-01	3.577E-02	-0.400
		65.20		-5.011E-01	6.944E-01	9.912E-01	7.334E-02	-0.506
		133.02		-1.231E-02	5.910E-02	9.326E-02	7.827E-03	-0.132
		136.25		2.681E-01	4.080E-01	6.701E-01	5.590E-02	0.400
		345.85		-6.655E-02	1.974E-01	2.749E-01	2.349E-02	-0.242
		482.03	*	1.606E-02	4.174E-02	6.867E-02	6.042E-03	0.234
W-181		56.28		1.023E-01	2.121E-01	3.577E-01	2.615E-02	0.286
		57.53		-7.822E-02	1.208E-01	1.954E-01	1.417E-02	-0.400
		65.20	*	-1.969E-01	2.729E-01	3.896E-01	2.883E-02	-0.506
TA-182		67.75		2.901E-02	8.661E-02	1.295E-01	9.760E-03	0.224
		100.10		8.564E-02	1.462E-01	2.424E-01	2.147E-02	0.353
		152.43		-4.023E-02	3.194E-01	5.052E-01	4.096E-02	-0.080
		222.10		-3.539E-01	3.090E-01	4.899E-01	4.102E-02	-0.722
		1001.68		2.838E+00	1.872E+00	3.416E+00	3.057E-01	0.831
	+	1121.28		6.993E-01	2.318E-01	3.351E-01	2.831E-02	2.087
		1189.05		-8.621E-02	2.656E-01	4.276E-01	3.486E-02	-0.202

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1221.42	*	2.141E-03	1.640E-01	2.723E-01	2.227E-02	0.008
		1230.97		-3.490E-02	4.164E-01	6.849E-01	5.605E-02	-0.051
RE-183		57.98		-4.267E-02	1.199E-01	1.961E-01	1.418E-02	-0.218
		59.32		5.716E-02	7.335E-02	1.125E-01	8.093E-03	0.508
		67.20		7.348E-02	1.512E-01	2.276E-01	1.709E-02	0.323
		162.32	*	2.668E-02	1.016E-01	1.630E-01	1.298E-02	0.164
	+	208.81		2.452E+00	1.052E+00	1.676E+00	1.389E-01	1.463
		291.72		-2.415E-01	9.071E-01	1.290E+00	1.100E-01	-0.187
RE-184		57.98		-1.582E-01	4.445E-01	7.270E-01	5.259E-02	-0.218
		59.32		2.117E-01	2.718E-01	4.169E-01	2.998E-02	0.508
		67.20		2.724E-01	5.606E-01	8.436E-01	6.333E-02	0.323
		161.27		-4.173E-02	3.266E-01	5.150E-01	4.108E-02	-0.081
		216.55		-2.460E-01	2.501E-01	3.983E-01	3.321E-02	-0.618
		252.85	*	3.003E-02	1.991E-01	3.344E-01	2.838E-02	0.090
		318.01		7.375E-02	4.078E-01	6.778E-01	5.812E-02	0.109
		792.07		5.442E-01	1.493E+00	1.534E+00	1.404E-01	0.355
		903.28		-7.914E-02	1.153E+00	1.599E+00	1.463E-01	-0.050
		920.93		3.275E-01	3.861E-01	6.784E-01	6.193E-02	0.483
OS-185		59.72		1.468E-01	1.995E-01	3.054E-01	2.197E-02	0.481
		61.14		7.215E-02	1.113E-01	1.695E-01	1.226E-02	0.426
		69.30		1.629E-01	2.338E-01	3.539E-01	2.703E-02	0.460
		592.07		2.282E+00	2.227E+00	3.909E+00	3.505E-01	0.584
		646.12	*	-2.264E-02	4.040E-02	6.417E-02	5.705E-03	-0.353
		717.42		1.209E-01	7.917E-01	1.322E+00	1.193E-01	0.091
		874.81		-8.616E-02	4.826E-01	7.689E-01	7.054E-02	-0.112
		880.27		-5.006E-02	6.262E-01	1.008E+00	9.246E-02	-0.050
RE-188		155.03	*	1.789E-01	1.582E-01	2.628E-01	2.120E-02	0.681
		477.96		8.003E-01	2.864E+00	4.687E+00	4.117E-01	0.171
		633.10		-1.497E+00	2.502E+00	3.957E+00	3.529E-01	-0.378
W-188	+	63.58		8.497E+01	4.862E+01	6.234E+01	4.566E+00	1.363
		227.08		4.953E+00	1.085E+01	1.855E+01	1.558E+00	0.267
		290.67	*	-4.078E+00	7.331E+00	1.018E+01	8.685E-01	-0.400
IR-192	+	295.96		1.086E+00	1.917E-01	2.725E-01	2.345E-02	3.984
		308.46		-4.379E-02	8.376E-02	1.337E-01	1.151E-02	-0.328
		316.51	*	3.892E-03	3.073E-02	5.094E-02	4.378E-03	0.076
		468.07		1.290E-02	6.814E-02	9.733E-02	9.107E-03	0.133
		604.41		-1.227E-01	4.341E-01	6.098E-01	8.077E-02	-0.201
		612.46		1.480E+00	7.911E-01	1.312E+00	1.337E-01	1.128
AU-195		65.12		-7.585E-02	1.270E-01	1.825E-01	1.349E-02	-0.416
		66.83		-1.740E-02	7.155E-02	1.044E-01	7.816E-03	-0.167
	+	75.70		1.330E+00	2.210E-01	3.817E-01	3.102E-02	3.486
		98.88	*	1.774E-01	2.028E-01	3.066E-01	2.727E-02	0.579
		129.76		3.080E+00	2.674E+00	4.462E+00	3.769E-01	0.690
TL-200		367.94	*	3.057E-06	2.674E+00	Half-Life too short		
		579.30		-8.033E-04	2.674E+00	Half-Life too short		
		828.27		-9.125E-04	2.674E+00	Half-Life too short		
		1205.75		1.856E-04	2.674E+00	Half-Life too short		
TL-201		68.90		2.186E+00	2.763E+00	4.455E+00	3.390E-01	0.491
		70.82		-9.121E-01	1.729E+00	2.485E+00	1.923E-01	-0.367

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		80.30		-2.067E+00	4.186E+00	4.669E+00	3.997E-01	-0.443
		135.34		-6.439E+00	1.826E+01	2.876E+01	2.403E+00	-0.224
		167.43	*	-3.263E+00	5.232E+00	8.032E+00	6.362E-01	-0.406
TL-202		68.90		2.357E-01	2.980E-01	4.805E-01	3.656E-02	0.491
		70.82		-9.810E-02	1.859E-01	2.672E-01	2.068E-02	-0.367
		80.30		-2.223E-01	4.504E-01	5.024E-01	4.301E-02	-0.443
		439.56	*	5.023E-02	5.979E-02	1.019E-01	8.779E-03	0.493
HG-203		70.83		-4.402E-01	8.438E-01	1.211E+00	1.582E-01	-0.363
		72.87		9.930E-01	5.243E-01	8.040E-01	1.024E-01	1.235
	+	82.60		1.667E+00	1.116E+00	1.387E+00	1.922E-01	1.202
		279.20	*	3.247E-02	3.687E-02	6.355E-02	5.552E-03	0.511
BI-207		72.80		2.592E-01	1.521E-01	2.363E-01	1.864E-02	1.097
	+	74.97		7.409E-01	1.231E-01	1.874E-01	1.511E-02	3.953
	+	84.90		2.947E-01	1.947E-01	2.490E-01	2.255E-02	1.184
		569.67		-8.203E-03	2.715E-02	4.406E-02	3.951E-03	-0.186
		1063.62	*	3.251E-02	5.113E-02	9.005E-02	7.857E-03	0.361
		1770.23		2.360E-01	3.743E-01	6.394E-01	5.253E-02	0.369
TL-207		81.07		5.568E-02	2.193E-01	2.584E-01	2.233E-02	0.215
	+	83.78		1.943E-01	1.284E-01	1.671E-01	1.493E-02	1.163
		94.90		4.558E-01	2.103E-01	3.306E-01	2.989E-02	1.379
		122.32		-4.834E-01	1.536E+00	2.434E+00	2.245E-01	-0.199
		144.24		2.022E-02	6.443E-01	1.015E+00	9.425E-02	0.020
		154.21		6.103E-01	3.755E-01	6.318E-01	5.681E-02	0.966
	+	269.46		4.484E-01	2.591E-01	3.319E-01	2.881E-02	1.351
		323.87	*	-3.864E-01	6.230E-01	9.821E-01	1.737E-01	-0.393
	+	338.28		7.208E+00	1.799E+00	2.386E+00	2.928E-01	3.021
		445.03		-7.986E-01	2.246E+00	3.524E+00	4.265E-01	-0.227
PO-209		260.50		-2.883E+00	8.421E+00	1.376E+01	1.169E+00	-0.210
		262.80		-1.014E+01	2.271E+01	3.683E+01	3.130E+00	-0.275
		896.60	*	-5.836E-01	6.684E+00	1.075E+01	9.841E-01	-0.054
PB-211		404.84	*	-2.616E-01	1.069E+00	1.465E+00	9.177E-01	-0.179
		427.08		1.167E-01	1.938E+00	3.141E+00	1.951E+00	0.037
		831.96		-5.862E-01	1.127E+00	1.646E+00	1.033E+00	-0.356
PO-215		81.07		5.568E-02	2.193E-01	2.584E-01	2.233E-02	0.215
	+	83.78		1.943E-01	1.284E-01	1.671E-01	1.493E-02	1.163
		94.90		4.558E-01	2.103E-01	3.306E-01	2.989E-02	1.379
		122.32		-4.834E-01	1.536E+00	2.434E+00	2.245E-01	-0.199
		144.24		2.022E-02	6.443E-01	1.015E+00	9.425E-02	0.020
		154.21		6.103E-01	3.755E-01	6.318E-01	5.681E-02	0.966
	+	269.46		4.484E-01	2.591E-01	3.319E-01	2.881E-02	1.351
		323.87	*	-3.864E-01	6.230E-01	9.821E-01	1.737E-01	-0.393
	+	338.28		7.208E+00	1.799E+00	2.386E+00	2.928E-01	3.021
		445.03		-7.986E-01	2.246E+00	3.524E+00	4.265E-01	-0.227
RN-219	+	271.23		5.754E-01	3.339E-01	4.249E-01	4.338E-02	1.354
		401.81	*	2.620E-01	4.033E-01	6.771E-01	1.009E-01	0.387
RN-220		549.76	*	1.589E+01	2.372E+01	4.159E+01	3.724E+00	0.382
RA-223		81.07		5.568E-02	2.193E-01	2.584E-01	2.233E-02	0.215
	+	83.78		1.943E-01	1.284E-01	1.671E-01	1.493E-02	1.163
		94.90		4.558E-01	2.103E-01	3.306E-01	2.989E-02	1.379

---- Non-Identified Nuclides ----

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		122.32		-4.834E-01	1.536E+00	2.434E+00	2.245E-01	-0.199
		144.24		2.022E-02	6.443E-01	1.015E+00	9.425E-02	0.020
		154.21		6.103E-01	3.755E-01	6.318E-01	5.681E-02	0.966
	+	269.46		4.484E-01	2.591E-01	3.319E-01	2.881E-02	1.351
		323.87	*	-3.864E-01	6.230E-01	9.821E-01	1.737E-01	-0.393
	+	338.28		7.208E+00	1.799E+00	2.386E+00	2.928E-01	3.021
		445.03		-7.986E-01	2.246E+00	3.524E+00	4.265E-01	-0.227
AC-227		79.80		-9.310E-01	1.753E+00	1.940E+00	4.162E-01	-0.480
		236.00		3.850E-01	2.431E-01	3.824E-01	4.634E-02	1.007
		256.20	*	1.065E-01	3.426E-01	5.786E-01	8.838E-02	0.184
		286.10		1.346E-01	1.368E+00	2.277E+00	2.990E-01	0.059
	+	299.80		3.128E+00	1.897E+00	2.558E+00	4.465E-01	1.223
		304.40		7.982E-01	1.913E+00	2.850E+00	5.246E-01	0.280
		334.20		9.873E-01	2.290E+00	3.397E+00	6.587E-01	0.291
TH-227		79.80		-9.310E-01	1.754E+00	1.940E+00	4.216E-01	-0.480
	+	94.00		9.170E+00	2.939E+00	3.358E+00	7.375E-01	2.731
		236.00		3.850E-01	2.423E-01	3.824E-01	4.182E-02	1.007
		256.20	*	1.065E-01	3.428E-01	5.786E-01	1.042E-01	0.184
		286.10		1.346E-01	1.375E+00	2.277E+00	2.285E+00	0.059
	+	299.80		3.128E+00	1.897E+00	2.558E+00	4.465E-01	1.223
		304.40		7.982E-01	1.913E+00	2.850E+00	5.246E-01	0.280
		334.20		9.873E-01	2.290E+00	3.397E+00	6.587E-01	0.291
TH-229	+	85.43		2.909E-01	1.922E-01	2.664E-01	2.429E-02	1.092
	+	88.47		2.710E-01	9.616E-02	1.720E-01	1.615E-02	1.576
		100.00		6.519E-02	1.538E-01	2.536E-01	2.247E-02	0.257
		193.63	*	-3.865E-01	4.585E-01	7.469E-01	6.099E-02	-0.518
		210.97		8.004E-01	7.925E-01	1.235E+00	1.025E-01	0.648
PA-231		283.67	*	-9.850E-01	1.363E+00	2.155E+00	3.258E-01	-0.457
	+	301.29		1.251E+00	7.424E-01	1.036E+00	1.264E-01	1.208
TH-231		81.07		5.568E-02	2.193E-01	2.584E-01	2.233E-02	0.215
	+	83.78		1.943E-01	1.284E-01	1.671E-01	1.493E-02	1.163
		94.90		4.558E-01	2.103E-01	3.306E-01	2.989E-02	1.379
		122.32		-4.834E-01	1.536E+00	2.434E+00	2.245E-01	-0.199
		144.24		2.022E-02	6.443E-01	1.015E+00	9.425E-02	0.020
		154.21		6.103E-01	3.755E-01	6.318E-01	5.681E-02	0.966
	+	269.46		4.484E-01	2.591E-01	3.319E-01	2.881E-02	1.351
		323.87	*	-3.864E-01	6.230E-01	9.821E-01	1.737E-01	-0.393
	+	338.28		7.208E+00	1.799E+00	2.386E+00	2.928E-01	3.021
		445.03		-7.986E-01	2.246E+00	3.524E+00	4.265E-01	-0.227
U-231	+	84.21		7.022E+00	4.640E+00	5.939E+00	5.332E-01	1.182
	+	92.29		7.599E+00	1.903E+00	2.853E+00	2.615E-01	2.664
		95.87	*	3.120E-01	8.324E-01	1.229E+00	1.107E-01	0.254
		108.00		-1.120E+00	1.481E+00	2.315E+00	2.010E-01	-0.484
PA-233	+	75.28		2.162E+01	4.521E+00	5.792E+00	8.721E-01	3.733
	+	86.59		6.246E+00	2.307E+00	2.478E+00	6.698E-01	2.521
	+	300.12		8.722E-01	5.227E-01	7.151E-01	1.061E-01	1.220
		311.98	*	3.307E-02	5.591E-02	9.513E-02	8.390E-03	0.348
		340.50		1.793E+00	7.902E-01	1.130E+00	2.692E-01	1.586
		398.62		6.331E-02	2.026E+00	3.293E+00	8.744E-01	0.019

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.76		7.680E-01	1.546E+00	2.570E+00	5.525E-01	0.299
PA-234	+	63.00		2.490E+00	1.461E+00	1.848E+00	2.737E-01	1.347
		94.67		3.140E-01	1.500E-01	2.517E-01	3.199E-02	1.247
		98.44		7.466E-02	9.286E-02	1.259E-01	7.032E-02	0.593
		99.86		1.713E-01	3.896E-01	6.427E-01	5.696E-02	0.266
		111.00		8.065E-02	1.570E-01	2.585E-01	3.130E-02	0.312
		131.20		-4.213E-02	9.994E-02	1.573E-01	1.325E-02	-0.268
		152.70		9.606E-02	3.103E-01	4.994E-01	8.385E-02	0.192
	+	186.00		5.041E+00	2.538E+00	2.526E+00	7.848E-01	1.996
		226.40		4.302E-01	3.521E-01	6.143E-01	8.020E-02	0.700
		227.20		7.185E-02	3.719E-01	6.286E-01	5.280E-02	0.114
		248.90		-4.199E-01	7.023E-01	1.125E+00	2.515E-01	-0.373
		293.70		4.992E+00	1.198E+00	1.573E+00	2.714E-01	3.174
		369.80		2.726E-01	7.583E-01	1.262E+00	2.740E-01	0.216
		568.70		-2.340E-01	8.705E-01	1.416E+00	1.269E-01	-0.165
		569.50		-6.326E-02	2.417E-01	3.934E-01	3.528E-02	-0.161
		574.00		7.053E-02	1.386E+00	2.330E+00	2.090E-01	0.030
		699.00		2.200E-01	6.751E-01	1.140E+00	2.194E-01	0.193
		706.10		1.183E-01	9.560E-01	1.592E+00	7.109E-01	0.074
		733.00		-3.014E-01	3.886E-01	4.896E-01	1.095E-01	-0.616
		742.81		-2.365E-01	1.194E+00	1.912E+00	1.286E+00	-0.124
	+	796.30		1.846E+00	1.381E+00	1.736E+00	4.726E-01	1.063
		805.60		9.589E-01	9.207E-01	1.568E+00	4.829E-01	0.612
		819.60		-1.480E+00	1.224E+00	1.519E+00	5.797E-01	-0.974
		826.30		-4.994E-01	7.208E-01	1.031E+00	4.626E-01	-0.484
		831.60		-3.059E-01	5.494E-01	8.346E-01	2.505E-01	-0.367
		876.40		1.042E-01	6.947E-01	1.134E+00	1.166E+00	0.092
		880.51		-4.793E-04	2.245E-01	3.647E-01	3.344E-02	-0.001
		883.24		-5.140E-02	2.355E-01	3.689E-01	2.482E-01	-0.139
		899.00		-1.654E-01	8.088E-01	1.281E+00	5.614E-01	-0.129
		925.00		4.359E-01	1.059E+00	1.784E+00	1.628E-01	0.244
		926.50		-1.102E-02	1.583E-01	2.543E-01	6.472E-02	-0.043
		946.00	*	-5.070E-02	2.782E-01	4.407E-01	8.367E-02	-0.115
		949.00		-2.464E-02	4.109E-01	6.597E-01	5.991E-02	-0.037
		980.50		-7.504E-01	6.804E-01	9.563E-01	8.616E-02	-0.785
		1394.10		-2.898E-01	9.910E-01	1.524E+00	9.915E-01	-0.190
PA-234M		766.42		9.146E+00	1.353E+01	1.949E+01	9.908E+00	0.469
		1001.03	*	6.340E+00	4.354E+00	7.879E+00	8.079E-01	0.805
U-235	+	89.95		2.720E+00	1.257E+00	1.542E+00	4.788E-01	1.764
	+	93.35		2.853E+00	1.044E+00	1.096E+00	3.087E-01	2.604
		105.00		9.183E-01	9.193E-01	1.481E+00	4.425E-01	0.620
		143.76	*	2.039E-02	1.977E-01	3.122E-01	5.407E-02	0.065
		163.35		3.069E-01	4.505E-01	7.300E-01	1.371E-01	0.420
	+	185.71		1.867E-01	7.549E-02	9.389E-02	7.601E-03	1.989
		205.31		5.770E-01	5.295E-01	8.171E-01	1.546E-01	0.706
NP-236		94.67		2.407E-01	1.119E-01	1.912E-01	1.731E-02	1.259
		98.44		5.646E-02	6.293E-02	9.521E-02	8.481E-03	0.593
		111.00		6.101E-02	1.187E-01	1.955E-01	1.691E-02	0.312
		160.31	*	-2.637E-02	7.364E-02	1.148E-01	9.178E-03	-0.230

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		7.586E-02	1.295E-01	2.147E-01	1.905E-02	0.353
		117.00	*	5.072E-02	1.689E-01	2.754E-01	2.369E-02	0.184
	+	209.75		1.955E+00	8.387E-01	1.338E+00	1.109E-01	1.461
		228.18		-1.691E-01	2.010E-01	3.233E-01	2.717E-02	-0.523
		277.60		2.307E-01	1.665E-01	2.923E-01	2.482E-02	0.789
		334.30		4.928E-01	1.290E+00	1.913E+00	1.638E-01	0.258
AM-241		59.54	*	7.845E-02	1.058E-01	1.620E-01	1.284E-02	0.484
CM-243		99.55		7.805E-02	1.332E-01	2.209E-01	1.960E-02	0.353
		103.76	*	3.533E-02	8.163E-02	1.345E-01	1.178E-02	0.263
		117.00		5.218E-02	1.737E-01	2.833E-01	2.437E-02	0.184
	+	209.75		1.927E+00	8.267E-01	1.319E+00	1.093E-01	1.461
		228.18		-1.708E-01	2.031E-01	3.267E-01	2.745E-02	-0.523
		277.60		2.326E-01	1.679E-01	2.947E-01	2.502E-02	0.789
AM-246		798.80		2.590E-02	1.310E-01	1.906E-01	1.745E-02	0.136
		1036.00		-8.177E-02	2.518E-01	4.088E-01	3.612E-02	-0.200
		1062.04		9.520E-02	2.189E-01	3.801E-01	3.319E-02	0.250
		1078.86	*	1.634E-01	1.243E-01	2.315E-01	2.005E-02	0.706
CM-247		278.00		9.176E-01	6.875E-01	1.205E+00	1.023E-01	0.762
		287.40		8.438E-01	1.094E+00	1.880E+00	1.602E-01	0.449
		402.60	*	1.079E-02	3.637E-02	6.003E-02	5.040E-03	0.180
CF-249		252.85		1.132E-01	7.504E-01	1.260E+00	1.069E-01	0.090
		333.44		4.129E-02	1.730E-01	2.535E-01	2.172E-02	0.163
		387.95	*	1.323E-02	4.002E-02	6.630E-02	5.534E-03	0.199
CF-251		176.60	*	-5.128E-02	1.095E-01	1.822E-01	1.459E-02	-0.281
		227.00		1.741E-01	3.304E-01	5.662E-01	4.755E-02	0.307
		285.00		-4.639E-01	1.552E+00	2.527E+00	2.150E-01	-0.184

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003353    *
* Acquisition date : 31-DEC-2009 13:18:45 Detector SN#     :               *
* Detector ID        : GAM07               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:     0 02:00:00.00     Abundance limit : 75.000        *
* Elapsed real time:     0 02:00:01.36     Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        : 17-DEC-2009 12:00:00 Nuclide Library : SOLID        *
* Sample ID          : G1202003353          Analyst initials: MJH1         *
* Batch Number       : 936285               Sample Quantity : 1.4481E+02 GRAM *
* Recovery           :     1.00000          Carrier Weight :    0.00000    *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :    0.00000                                             *
* CALIB. DATE/TIME : 20-JUL-2009 15:29:58 MS Isotope       :               *
* MSD DPM          :     0.000            MSD Isotope      :               *
* LCS DPM          :     0.000            LCS Isotope      :               *
* LCSD DPM         :     0.000            LCSD Isotope     :               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.054E+01	2.259E+00	4.772E-01	0.000E+00
CD-109	3.241E+00	8.516E-01	1.027E+00	0.000E+00
SN-126	3.191E-01	8.384E-02	1.014E-01	0.000E+00
BA-137M	2.647E-01	5.750E-02	5.667E-02	0.000E+00
CS-137	2.798E-01	6.080E-02	5.990E-02	0.000E+00
TL-208	5.962E-01	9.671E-02	5.311E-02	0.000E+00
BI-210	2.640E+00	2.606E+00	2.825E+00	0.000E+00
PB-210	2.640E+00	2.606E+00	2.825E+00	0.000E+00
PO-210	2.640E+00	2.604E+00	2.825E+00	0.000E+00
BI-211	3.847E+00	5.614E-01	3.246E-01	0.000E+00
BI-212	1.257E+00	5.266E-01	3.564E-01	0.000E+00
PB-212	1.700E+00	1.910E-01	8.630E-02	0.000E+00
PO-212	1.700E+00	1.910E-01	8.630E-02	0.000E+00
BI-214	1.251E+00	1.998E-01	9.705E-02	0.000E+00
PB-214	1.338E+00	2.069E-01	1.131E-01	0.000E+00
PO-214	1.338E+00	2.069E-01	1.131E-01	0.000E+00
PO-216	1.700E+00	1.910E-01	8.630E-02	0.000E+00
PO-218	1.338E+00	2.069E-01	1.131E-01	0.000E+00
RA-224	4.426E+00	1.135E+00	9.821E-01	0.000E+00
RA-226	1.251E+00	1.998E-01	9.705E-02	0.000E+00
AC-228	1.720E+00	3.549E-01	1.697E-01	0.000E+00
RA-228	1.720E+00	3.549E-01	1.697E-01	0.000E+00
TH-228	1.724E+00	1.937E-01	8.752E-02	0.000E+00
TH-230	1.251E+00	1.998E-01	9.705E-02	0.000E+00
TH-232	1.720E+00	3.549E-01	1.697E-01	0.000E+00
TH-234	2.137E+00	1.243E+00	1.454E+00	0.000E+00
U-234	1.251E+00	1.998E-01	9.705E-02	0.000E+00
NP-237	9.370E-01	3.107E-01	2.993E-01	0.000E+00
U-238	2.137E+00	1.243E+00	1.454E+00	0.000E+00
AM-243	4.128E-01	6.720E-02	6.933E-02	0.000E+00
ANH-511	5.088E-02	5.824E-02	4.403E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM	)	
BE-7	-9.842E-02	2.990E-01	4.920E-01	0.000E+00	NOT IDENT.
NA-22	-3.467E-02	3.560E-02	5.349E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.968E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.282E-02	2.321E-02	4.382E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.900E-02	6.700E-02	0.000E+00	FAIL ABUN
SC-46	3.245E-02	3.293E-02	6.066E-02	0.000E+00	FAIL ABUN
V-48	4.668E-02	5.028E-02	9.279E-02	0.000E+00	NOT IDENT.
CR-51	-1.210E-01	3.362E-01	5.752E-01	0.000E+00	NOT IDENT.
MN-52	4.206E-02	1.614E-01	2.819E-01	0.000E+00	NOT IDENT.
MN-54	-2.528E-02	3.471E-02	5.501E-02	0.000E+00	NOT IDENT.
CO-56	4.142E-03	3.275E-02	5.612E-02	0.000E+00	NOT IDENT.
CO-57	-4.952E-03	2.165E-02	3.736E-02	0.000E+00	NOT IDENT.
CO-58	-3.277E-02	3.638E-02	5.662E-02	0.000E+00	NOT IDENT.
FE-59	-3.288E-03	6.829E-02	1.173E-01	0.000E+00	NOT IDENT.
CO-60	8.537E-03	3.443E-02	5.996E-02	0.000E+00	NOT IDENT.
ZN-65	-5.634E-02	8.175E-02	1.087E-01	0.000E+00	NOT IDENT.
GE-68	6.926E-01	1.055E+00	1.931E+00	0.000E+00	NOT IDENT.
AS-73	-4.798E-01	4.431E-01	7.630E-01	0.000E+00	NOT IDENT.
AS-74	-1.268E-02	7.836E-02	1.355E-01	0.000E+00	NOT IDENT.
SE-75	-3.522E-03	3.849E-02	6.288E-02	0.000E+00	NOT IDENT.
BR-77	-6.105E-02	6.545E+00	1.158E+01	0.000E+00	FAIL ABUN
SR-82	-2.345E-01	3.211E-01	5.105E-01	0.000E+00	NOT IDENT.
RB-83	5.734E-04	5.856E-02	1.037E-01	0.000E+00	NOT IDENT.
RB-84	-1.210E-02	5.436E-02	8.937E-02	0.000E+00	NOT IDENT.
KR-85	4.583E+00	7.359E+00	1.194E+01	0.000E+00	NOT IDENT.
SR-85	2.324E-02	3.731E-02	6.055E-02	0.000E+00	NOT IDENT.
RB-86	-3.980E-02	6.642E-01	1.143E+00	0.000E+00	NOT IDENT.
Y-88	5.219E-03	2.857E-02	5.021E-02	0.000E+00	NOT IDENT.
ZR-88	-4.269E-03	2.932E-02	4.987E-02	0.000E+00	NOT IDENT.
Y-91	1.224E+01	1.573E+01	2.869E+01	0.000E+00	NOT IDENT.
NB-94	-3.625E-03	3.086E-02	5.272E-02	0.000E+00	NOT IDENT.
NB-95	2.814E-02	4.434E-02	7.034E-02	0.000E+00	NOT IDENT.
NB-95M	1.093E-01	1.195E-01	1.973E-01	0.000E+00	NOT IDENT.
ZR-95	3.721E-02	6.316E-02	1.131E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.500E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	6.548E+05	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.649E+00	7.831E+00	1.366E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.866E+15	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.594E-03	2.912E-02	5.195E-02	0.000E+00	NOT IDENT.
RH-102	-2.921E-02	2.676E-02	4.111E-02	0.000E+00	NOT IDENT.
RU-103	-2.424E-04	3.590E-02	6.031E-02	0.000E+00	FAIL ABUN
RH-106	-3.255E-01	2.732E-01	4.235E-01	0.000E+00	FAIL ABUN
RU-106	-3.255E-01	2.712E-01	4.235E-01	0.000E+00	FAIL ABUN
AG-108M	-8.985E-03	2.869E-02	4.767E-02	0.000E+00	NOT IDENT.
AG-110M	-1.558E-02	3.540E-02	5.058E-02	0.000E+00	NOT IDENT.
IN-111	2.878E-01	7.391E-01	1.191E+00	0.000E+00	NOT IDENT.
IN-113M	-1.677E-02	4.233E-02	7.085E-02	0.000E+00	NOT IDENT.
SN-113	-1.677E-02	4.233E-02	7.085E-02	0.000E+00	NOT IDENT.
IN-114M	2.059E-01	1.780E-01	3.014E-01	0.000E+00	NOT IDENT.
CD-115	1.425E+00	6.771E+00	1.214E+01	0.000E+00	NOT IDENT.
SN-117M	1.129E-02	4.579E-02	7.923E-02	0.000E+00	NOT IDENT.
SB-122	1.181E+00	1.387E+00	2.530E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.327E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-4.368E-03	2.502E-02	4.246E-02	0.000E+00	NOT IDENT.
I-124	-4.715E-01	5.749E-01	7.971E-01	0.000E+00	NOT IDENT.
SB-124	6.284E-02	5.300E-02	1.091E-01	0.000E+00	FAIL ABUN
SB-125	1.070E-02	8.343E-02	1.434E-01	0.000E+00	FAIL ABUN
TE-125M	-6.272E-01	7.612E+00	1.332E+01	0.000E+00	NOT IDENT.
I-126	8.858E-02	1.750E-01	2.769E-01	0.000E+00	NOT IDENT.
SB-126	-3.180E-02	1.307E-01	1.986E-01	0.000E+00	FAIL ABUN
SB-127	-1.005E+00	1.103E+00	1.724E+00	0.000E+00	NOT IDENT.
XE-127	-2.646E-02	4.021E-02	7.069E-02	0.000E+00	NOT IDENT.
I-131	-1.040E-03	8.840E-02	1.526E-01	0.000E+00	NOT IDENT.
TE-132	-4.082E-01	4.835E-01	8.273E-01	0.000E+00	NOT IDENT.
BA-133	1.192E-02	4.515E-02	7.071E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.379E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.535E-02	9.088E-02	0.000E+00	FAIL ABUN
CS-135	1.043E-01	1.570E-01	2.546E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.328E+14	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.707E-03	9.286E-02	1.597E-01	0.000E+00	FAIL ABUN
CE-139	1.593E-02	2.714E-02	4.747E-02	0.000E+00	NOT IDENT.
BA-140	5.287E-02	2.133E-01	3.818E-01	0.000E+00	NOT IDENT.
LA-140	2.556E-03	7.220E-02	1.116E-01	0.000E+00	NOT IDENT.
CE-141	5.664E-02	5.533E-02	9.901E-02	0.000E+00	NOT IDENT.

CE-143	0.000E+00	1.159E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-8.399E-02	1.867E-01	3.148E-01	0.000E+00	NOT IDENT.
PM-144	-1.183E-02	3.262E-02	5.473E-02	0.000E+00	NOT IDENT.
PR-144	-8.009E-01	2.209E+00	3.707E+00	0.000E+00	NOT IDENT.
PM-146	-6.236E-03	4.086E-02	6.672E-02	0.000E+00	NOT IDENT.
ND-147	1.530E-01	4.747E-01	8.557E-01	0.000E+00	FAIL ABUN
PM-149	1.034E+01	5.627E+01	1.001E+02	0.000E+00	NOT IDENT.
EU-152	-1.081E-02	9.336E-02	1.487E-01	0.000E+00	FAIL ABUN
GD-153	-9.553E-03	7.012E-02	1.099E-01	0.000E+00	FAIL ABUN
EU-154	-7.649E-02	9.804E-02	1.509E-01	0.000E+00	NOT IDENT.
EU-155	8.151E-02	8.842E-02	1.609E-01	0.000E+00	FAIL ABUN
TB-160	1.814E-02	1.086E-01	1.865E-01	0.000E+00	FAIL ABUN
HO-166M	-7.873E-03	5.389E-02	9.167E-02	0.000E+00	FAIL ABUN
TM-171	-7.195E+00	2.120E+01	3.382E+01	0.000E+00	NOT IDENT.
LU-176	-8.365E-03	2.204E-02	3.778E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.038E+00	1.791E+00	0.000E+00	FAIL ABUN
LU-177M	1.403E-01	1.780E-01	2.844E-01	0.000E+00	NOT IDENT.
HF-181	1.606E-02	4.090E-02	7.081E-02	0.000E+00	NOT IDENT.
W-181	-1.969E-01	2.675E-01	4.193E-01	0.000E+00	NOT IDENT.
TA-182	2.141E-03	1.608E-01	2.749E-01	0.000E+00	FAIL ABUN
RE-183	2.668E-02	9.959E-02	1.721E-01	0.000E+00	FAIL ABUN
RE-184	3.003E-02	1.951E-01	3.497E-01	0.000E+00	NOT IDENT.
OS-185	-2.264E-02	3.959E-02	6.573E-02	0.000E+00	NOT IDENT.
RE-188	1.789E-01	1.550E-01	2.777E-01	0.000E+00	NOT IDENT.
W-188	-4.078E+00	7.185E+00	1.062E+01	0.000E+00	FAIL ABUN
IR-192	3.892E-03	3.012E-02	5.301E-02	0.000E+00	FAIL ABUN
AU-195	1.774E-01	1.988E-01	3.272E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.949E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-3.263E+00	5.127E+00	8.475E+00	0.000E+00	NOT IDENT.
TL-202	5.023E-02	5.859E-02	1.053E-01	0.000E+00	NOT IDENT.
HG-203	3.247E-02	3.613E-02	6.632E-02	0.000E+00	FAIL ABUN
BI-207	3.251E-02	5.011E-02	9.120E-02	0.000E+00	FAIL ABUN
TL-207	-3.864E-01	6.106E-01	1.022E+00	0.000E+00	FAIL ABUN
PO-209	-5.836E-01	6.550E+00	1.093E+01	0.000E+00	NOT IDENT.
PB-211	-2.616E-01	1.048E+00	1.517E+00	0.000E+00	NOT IDENT.
PO-215	-3.864E-01	6.106E-01	1.022E+00	0.000E+00	FAIL ABUN
RN-219	2.620E-01	3.952E-01	7.010E-01	0.000E+00	FAIL ABUN
RN-220	1.589E+01	2.324E+01	4.276E+01	0.000E+00	NOT IDENT.
RA-223	-3.864E-01	6.106E-01	1.022E+00	0.000E+00	FAIL ABUN
AC-227	1.065E-01	3.358E-01	6.049E-01	0.000E+00	FAIL ABUN
TH-227	1.065E-01	3.359E-01	6.049E-01	0.000E+00	FAIL ABUN
TH-229	-3.865E-01	4.493E-01	7.857E-01	0.000E+00	FAIL ABUN
PA-231	-9.850E-01	1.336E+00	2.248E+00	0.000E+00	FAIL ABUN
TH-231	-3.864E-01	6.106E-01	1.022E+00	0.000E+00	FAIL ABUN
U-231	3.120E-01	8.157E-01	1.313E+00	0.000E+00	FAIL ABUN
PA-233	3.307E-02	5.479E-02	9.904E-02	0.000E+00	FAIL ABUN
PA-234	-5.070E-02	2.726E-01	4.476E-01	0.000E+00	FAIL ABUN
PA-234M	6.340E+00	4.267E+00	7.990E+00	0.000E+00	NOT IDENT.
U-235	2.039E-02	1.937E-01	3.305E-01	0.000E+00	FAIL ABUN
NP-236	-2.637E-02	7.216E-02	1.213E-01	0.000E+00	NOT IDENT.
NP-239	5.072E-02	1.655E-01	2.928E-01	0.000E+00	FAIL ABUN
AM-241	7.845E-02	1.037E-01	1.747E-01	0.000E+00	NOT IDENT.
CM-243	3.533E-02	8.000E-02	1.433E-01	0.000E+00	FAIL ABUN
AM-246	1.634E-01	1.219E-01	2.344E-01	0.000E+00	NOT IDENT.
CM-247	1.079E-02	3.564E-02	6.215E-02	0.000E+00	NOT IDENT.
CF-249	1.323E-02	3.922E-02	6.869E-02	0.000E+00	NOT IDENT.
CF-251	-5.128E-02	1.073E-01	1.920E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 15:19:59.40

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003353.CNF;1
Sample date       : 17-DEC-2009 12:00:00 Acquisition date : 31-DEC-2009 13:18:45
Sample ID         : G1202003353          Sample quantity  : 1.44810E+02 GRAM
Detector name     : GAM07                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.36  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 936285                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	955	10.67*	1.129E+00	2.054E+01	2.054E+01	11.22
CD-109	88.03	311	3.72*	6.827E+00	3.174E+00	3.241E+00	26.81
SN-126	64.28	150	9.60	4.800E+00	8.457E-01	8.457E-01	58.57
	86.94	311	8.90	6.827E+00	1.326E+00	1.326E+00	48.53
	87.57	311	37.00*	6.827E+00	3.191E-01	3.191E-01	26.81
BA-137M	661.65	205	89.98*	2.232E+00	2.644E-01	2.647E-01	22.17
CS-137	661.65	205	85.12*	2.232E+00	2.795E-01	2.798E-01	22.18
TL-208	277.35	------	6.80	4.401E+00	------ Line Not Found		------
	510.84	54	21.60	2.756E+00	2.356E-01	2.356E-01	117.09
	583.14	480	84.20*	2.477E+00	5.962E-01	5.962E-01	16.55
	860.37	75	12.46	1.783E+00	8.761E-01	8.761E-01	46.93
BI-210	46.50	88	4.05*	2.144E+00	2.637E+00	2.640E+00	100.72
PB-210	46.50	88	4.05*	2.144E+00	2.637E+00	2.640E+00	100.72
PO-210	46.50	88	4.05*	2.144E+00	2.637E+00	2.640E+00	100.64
BI-211	72.87	------	1.27	5.899E+00	------ Line Not Found		------
	351.07	707	12.94*	3.681E+00	3.847E+00	3.847E+00	14.89
BI-212	727.18	118	11.80*	2.060E+00	1.257E+00	1.257E+00	42.76
	785.46	39	1.97	1.928E+00	2.659E+00	2.659E+00	86.41
	1620.62	------	2.75	1.043E+00	------ Line Not Found		------
PB-212	74.81	637	10.70	6.063E+00	2.546E+00	2.546E+00	19.06
	77.11	897	18.00	6.252E+00	2.065E+00	2.065E+00	13.12
	87.30	311	8.00	6.827E+00	1.476E+00	1.476E+00	28.62
	238.63	1436	44.60*	4.910E+00	1.700E+00	1.700E+00	11.47
	300.09	92	3.41	4.152E+00	1.688E+00	1.688E+00	58.98
PO-212	74.81	637	10.70	6.063E+00	2.546E+00	2.546E+00	19.06
	77.11	897	18.00	6.252E+00	2.065E+00	2.065E+00	13.12
	87.30	311	8.00	6.827E+00	1.476E+00	1.476E+00	28.62
	115.19	------	0.60	7.150E+00	------ Line Not Found		------
	238.63	1436	44.60*	4.910E+00	1.700E+00	1.700E+00	11.47
	300.09	92	3.41	4.152E+00	1.688E+00	1.688E+00	58.98
BI-214	609.31	534	46.30*	2.389E+00	1.251E+00	1.251E+00	16.30
	1120.29	123	15.10	1.414E+00	1.489E+00	1.489E+00	33.79

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	1764.49	85	15.80	9.832E-01	1.414E+00	1.414E+00	26.66
PB-214	74.81	637	6.21	6.063E+00	4.387E+00	4.387E+00	18.19
	77.11	897	10.50	6.252E+00	3.540E+00	3.540E+00	15.17
	87.30	311	4.67	6.827E+00	2.528E+00	2.528E+00	27.90
	241.98	328	7.49	4.868E+00	2.334E+00	2.334E+00	26.76
	295.21	448	19.20	4.202E+00	1.438E+00	1.438E+00	18.70
	351.92	707	37.20*	3.681E+00	1.338E+00	1.338E+00	15.78
PO-214	74.81	637	6.21	6.063E+00	4.387E+00	4.387E+00	18.19
	77.11	897	10.50	6.252E+00	3.540E+00	3.540E+00	15.17
	87.30	311	4.67	6.827E+00	2.528E+00	2.528E+00	27.90
	241.98	328	7.49	4.868E+00	2.334E+00	2.334E+00	26.76
	295.21	448	19.20	4.202E+00	1.438E+00	1.438E+00	18.70
	351.92	707	37.20*	3.681E+00	1.338E+00	1.338E+00	15.78
PO-216	74.81	637	10.70	6.063E+00	2.546E+00	2.546E+00	19.06
	77.11	897	18.00	6.252E+00	2.065E+00	2.065E+00	13.12
	87.30	311	8.00	6.827E+00	1.476E+00	1.476E+00	28.62
	238.63	1436	44.60*	4.910E+00	1.700E+00	1.700E+00	11.47
	300.09	92	3.41	4.152E+00	1.688E+00	1.688E+00	58.98
PO-218	74.81	637	6.21	6.063E+00	4.387E+00	4.387E+00	18.19
	77.11	897	10.50	6.252E+00	3.540E+00	3.540E+00	15.17
	87.30	311	4.67	6.827E+00	2.528E+00	2.528E+00	27.90
	241.98	328	7.49	4.868E+00	2.334E+00	2.334E+00	26.76
	295.21	448	19.20	4.202E+00	1.438E+00	1.438E+00	18.70
	351.92	707	37.20*	3.681E+00	1.338E+00	1.338E+00	15.78
RA-224	240.98	328	3.95*	4.868E+00	4.426E+00	4.426E+00	26.16
RA-226	609.31	534	46.30*	2.389E+00	1.251E+00	1.251E+00	16.30
	1120.29	123	15.10	1.414E+00	1.489E+00	1.489E+00	33.79
	1764.49	85	15.80	9.832E-01	1.414E+00	1.414E+00	26.66
AC-228	338.32	288	11.40	3.793E+00	1.726E+00	1.726E+00	46.62
	911.07	312	27.70*	1.696E+00	1.720E+00	1.720E+00	21.05
	969.11	174	16.60	1.606E+00	1.691E+00	1.691E+00	30.75
RA-228	338.32	288	11.40	3.793E+00	1.726E+00	1.726E+00	46.62
	911.07	312	27.70*	1.696E+00	1.720E+00	1.720E+00	21.05
	969.11	174	16.60	1.606E+00	1.691E+00	1.691E+00	30.75
TH-228	74.81	637	10.70	6.063E+00	2.546E+00	2.582E+00	16.65
	77.11	897	18.00	6.252E+00	2.065E+00	2.094E+00	13.12
	87.30	311	8.00	6.827E+00	1.476E+00	1.497E+00	26.81
	238.63	1436	44.60*	4.910E+00	1.700E+00	1.724E+00	11.47
	300.09	92	3.41	4.152E+00	1.688E+00	1.712E+00	82.97
TH-230	609.31	534	46.30*	2.389E+00	1.251E+00	1.251E+00	16.30
	1120.29	123	15.10	1.414E+00	1.489E+00	1.489E+00	33.79
	1764.49	85	15.80	9.832E-01	1.414E+00	1.414E+00	26.66
TH-232	338.32	288	11.40	3.793E+00	1.726E+00	1.726E+00	23.36
	911.07	312	27.70*	1.696E+00	1.720E+00	1.720E+00	21.05
	969.11	174	16.60	1.606E+00	1.691E+00	1.691E+00	30.75
TH-234	63.29	150	3.80*	4.800E+00	2.137E+00	2.137E+00	59.36
	92.38	348	5.41	7.020E+00	2.373E+00	2.373E+00	29.66
U-234	609.31	534	46.30*	2.389E+00	1.251E+00	1.251E+00	16.30
	1120.29	123	15.10	1.414E+00	1.489E+00	1.489E+00	33.79

Sample ID : G1202003353 Acquisition date : 31-DEC-2009 13:18:45

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	1764.49	85	15.80	9.832E-01	1.414E+00	1.414E+00	26.66
NP-237	86.50	311	12.60*	6.827E+00	9.370E-01	9.370E-01	33.83
	95.87	------	2.60	7.087E+00	------ Line Not Found		------
U-238	63.29	150	3.80*	4.800E+00	2.137E+00	2.137E+00	59.36
	92.38	348	5.41	7.020E+00	2.373E+00	2.373E+00	25.04
AM-243	74.67	637	66.00*	6.063E+00	4.128E-01	4.128E-01	16.61
	86.72	311	0.34	6.827E+00	3.514E+01	3.514E+01	26.81
	117.66	------	0.55	7.126E+00	------ Line Not Found		------
	142.18	------	0.13	6.723E+00	------ Line Not Found		------
ANH-511	511.00	54	100.00*	2.756E+00	5.088E-02	5.088E-02	116.79

Flag: "*" = Keyline

Sample ID : G1202003353 Acquisition date : 31-DEC-2009 13:18:45

Total number of lines in spectrum 35
Number of unidentified lines 2
Number of lines tentatively identified by NID 33 94.29%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.054E+01	2.054E+01	0.230E+01	11.22	
CD-109	464.00D	1.02	3.174E+00	3.241E+00	0.869E+00	26.81	
SN-126	1.00E+05Y	1.00	3.191E-01	3.191E-01	0.855E-01	26.81	
BA-137M	30.17Y	1.00	2.644E-01	2.647E-01	0.587E-01	22.17	
CS-137	30.17Y	1.00	2.795E-01	2.798E-01	0.620E-01	22.18	
TL-208	1.41E+10Y	1.00	5.962E-01	5.962E-01	0.987E-01	16.55	
BI-210	22.26Y	1.00	2.637E+00	2.640E+00	2.659E+00	100.72	
PB-210	22.26Y	1.00	2.637E+00	2.640E+00	2.659E+00	100.72	
PO-210	22.26Y	1.00	2.637E+00	2.640E+00	2.657E+00	100.64	
BI-211	7.04E+08Y	1.00	3.847E+00	3.847E+00	0.573E+00	14.89	
BI-212	1.41E+10Y	1.00	1.257E+00	1.257E+00	0.537E+00	42.76	
PB-212	1.41E+10Y	1.00	1.700E+00	1.700E+00	0.195E+00	11.47	
PO-212	1.41E+10Y	1.00	1.700E+00	1.700E+00	0.195E+00	11.47	
BI-214	1600.00Y	1.00	1.251E+00	1.251E+00	0.204E+00	16.30	
PB-214	1600.00Y	1.00	1.338E+00	1.338E+00	0.211E+00	15.78	
PO-214	1600.00Y	1.00	1.338E+00	1.338E+00	0.211E+00	15.78	
PO-216	1.41E+10Y	1.00	1.700E+00	1.700E+00	0.195E+00	11.47	
PO-218	1600.00Y	1.00	1.338E+00	1.338E+00	0.211E+00	15.78	
RA-224	1.41E+10Y	1.00	4.426E+00	4.426E+00	1.158E+00	26.16	
RA-226	1600.00Y	1.00	1.251E+00	1.251E+00	0.204E+00	16.30	
AC-228	1.41E+10Y	1.00	1.720E+00	1.720E+00	0.362E+00	21.05	
RA-228	1.41E+10Y	1.00	1.720E+00	1.720E+00	0.362E+00	21.05	
TH-228	1.91Y	1.01	1.700E+00	1.724E+00	0.198E+00	11.47	
TH-230	4.47E+09Y	1.00	1.251E+00	1.251E+00	0.204E+00	16.30	
TH-232	1.41E+10Y	1.00	1.720E+00	1.720E+00	0.362E+00	21.05	
TH-234	4.47E+09Y	1.00	2.137E+00	2.137E+00	1.268E+00	59.36	
U-234	4.47E+09Y	1.00	1.251E+00	1.251E+00	0.204E+00	16.30	
NP-237	2.14E+06Y	1.00	9.370E-01	9.370E-01	3.170E-01	33.83	
U-238	4.47E+09Y	1.00	2.137E+00	2.137E+00	1.268E+00	59.36	
AM-243	7380.00Y	1.00	4.128E-01	4.128E-01	0.686E-01	16.61	
ANH-511	1.00E+09Y	1.00	5.088E-02	5.088E-02	5.943E-02	116.79	
	Total Activity :		6.926E+01	6.937E+01			

Grand Total Activity : 6.926E+01 6.937E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G1202003353 Acquisition date : 31-DEC-2009 13:18:45

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	83.99	124	534	1.33	167.63	164	29	1.72E-02	65.5	6.69E+00	T
3	89.85	196	367	1.06	179.34	164	29	2.73E-02	34.2	6.93E+00	T
0	185.58	226	451	1.33	370.76	366	11	3.14E-02	39.6	5.82E+00	T
0	209.19	132	230	1.03	417.97	415	7	1.83E-02	42.1	5.38E+00	T
0	270.44	105	228	1.64	540.47	536	10	1.47E-02	57.1	4.48E+00	T
0	409.53	38	126	1.39	818.60	815	8	5.24E-03	****	3.28E+00	T
0	463.12	110	77	1.09	925.75	922	9	1.53E-02	34.6	2.98E+00	T
0	768.52	49	44	2.05	1536.48	1532	9	6.84E-03	58.0	1.97E+00	
0	795.40	53	72	1.16	1590.23	1585	12	7.36E-03	69.7	1.91E+00	T
2	964.78	64	48	2.06	1928.95	1922	23	8.94E-03	47.4	1.61E+00	T
0	1587.19	51	13	2.09	3173.67	3164	19	7.09E-03	45.0	1.06E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 15:20:04.07

```
*******************************************************************************
*                              GEL Laboratories LLC                           *
*                                2040 Savage Road                             *
*                              Charleston, SC 29414                           *
*******************************************************************************
*                                                                             *
*                                DETECTOR DATA                                *
*                                                                             *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003353.CNF;1  *
* Acquisition date  : 31-DEC-2009 13:18:45  Detector SN#     :               *
* Detector ID       : GAM07                 Sensitivity      : 5.00000       *
* Geometry          : CAN                   Energy tolerance: 1.50000        *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000       *
* Elapsed real time: 0 02:00:01.36          Half life ratio : 8.00000        *
*******************************************************************************
*                                                                             *
*                                 SAMPLE DATA                                 *
*                                                                             *
* Sample date       : 17-DEC-2009 12:00:00  Nuclide Library : SOLID          *
* Sample ID         : G1202003353           Analyst initials: MJH1           *
* Batch Number      : 936285                Sample Quantity : 1.44810E+02 GRAM *
*******************************************************************************
*                                                                             *
*                                   QC DATA                                   *
*                                                                             *
* CALIB. DATE/TIME : 20-JUL-2009 15:29:58.0MS Isotope      :                  *
* MSD ID           :                      MSD Isotope      :                  *
* LCS ID           : 1032-A               LCS Isotope      :                  *
*******************************************************************************
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.054E+01	2.305E+00	4.747E-01	4.077E-02	43.268
CD-109	3.241E+00	8.690E-01	9.604E-01	9.047E-02	3.375
SN-126	3.191E-01	8.555E-02	9.475E-02	8.878E-03	3.367
BA-137M	2.647E-01	5.868E-02	5.535E-02	4.898E-03	4.782
CS-137	2.798E-01	6.204E-02	5.851E-02	5.187E-03	4.782
TL-208	5.962E-01	9.868E-02	5.172E-02	4.948E-03	11.526
BI-210	2.640E+00	2.659E+00	2.607E+00	2.445E-01	1.013
PB-210	2.640E+00	2.659E+00	2.607E+00	2.445E-01	1.013
PO-210	2.640E+00	2.657E+00	2.607E+00	2.218E-01	1.013
BI-211	3.847E+00	5.729E-01	3.126E-01	2.804E-02	12.307
BI-212	1.257E+00	5.374E-01	3.488E-01	3.618E-02	3.603
PB-212	1.700E+00	1.949E-01	8.241E-02	7.883E-03	20.625
PO-212	1.700E+00	1.949E-01	8.241E-02	7.883E-03	20.625
BI-214	1.251E+00	2.039E-01	9.462E-02	9.789E-03	13.220
PB-214	1.338E+00	2.112E-01	1.090E-01	1.131E-02	12.281
PO-214	1.338E+00	2.112E-01	1.090E-01	1.131E-02	12.281
PO-216	1.700E+00	1.949E-01	8.241E-02	7.883E-03	20.625
PO-218	1.338E+00	2.112E-01	1.090E-01	1.131E-02	12.281

Sample ID : G1202003353 Acquisition date : 31-DEC-2009 13:18:45

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-224	4.426E+00	1.158E+00	9.381E-01	7.933E-02	4.718
RA-226	1.251E+00	2.039E-01	9.462E-02	9.789E-03	13.220
AC-228	1.720E+00	3.621E-01	1.670E-01	1.945E-02	10.303
RA-228	1.720E+00	3.621E-01	1.670E-01	1.945E-02	10.303
TH-228	1.724E+00	1.976E-01	8.357E-02	7.994E-03	20.625
TH-230	1.251E+00	2.039E-01	9.461E-02	9.788E-03	13.220
TH-232	1.720E+00	3.621E-01	1.670E-01	1.945E-02	10.303
TH-234	2.137E+00	1.268E+00	1.350E+00	2.350E-01	1.582
U-234	1.251E+00	2.039E-01	9.461E-02	9.788E-03	13.220
NP-237	9.370E-01	3.170E-01	2.798E-01	6.326E-02	3.349
U-238	2.137E+00	1.268E+00	1.350E+00	2.350E-01	1.582
AM-243	4.128E-01	6.857E-02	6.460E-02	5.193E-03	6.390
ANH-511	5.088E-02	5.943E-02	4.275E-02	3.799E-03	1.190

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-9.842E-02		3.051E-01	4.770E-01	4.502E-02	-0.206
NA-22	-3.467E-02		3.633E-02	5.304E-02	4.354E-03	-0.654
NA-24	-4.972E-04		1.004E-01	Half-Life too short		
AL-26	1.282E-02		2.369E-02	4.381E-02	3.573E-03	0.293
TI-44	3.811E-01	+	5.000E-02	6.249E-02	5.232E-03	6.098
SC-46	3.245E-02		3.361E-02	5.965E-02	5.466E-03	0.544
V-48	4.668E-02		5.130E-02	9.145E-02	8.233E-03	0.510
CR-51	-1.210E-01		3.431E-01	5.528E-01	4.995E-02	-0.219
MN-52	4.206E-02		1.647E-01	2.803E-01	2.331E-02	0.150
MN-54	-2.528E-02		3.541E-02	5.401E-02	4.958E-03	-0.468
CO-56	4.142E-03		3.342E-02	5.513E-02	5.061E-03	0.075
CO-57	-4.952E-03		2.209E-02	3.517E-02	3.026E-03	-0.141
CO-58	-3.277E-02		3.712E-02	5.556E-02	5.104E-03	-0.590
FE-59	-3.288E-03		6.968E-02	1.159E-01	1.074E-02	-0.028
CO-60	8.537E-03		3.513E-02	5.951E-02	4.875E-03	0.143
ZN-65	-5.634E-02		8.342E-02	1.075E-01	9.121E-03	-0.524
GE-68	6.926E-01		1.076E+00	1.907E+00	1.653E-01	0.363
AS-73	-4.798E-01		4.521E-01	7.061E-01	5.302E-02	-0.680
AS-74	-1.268E-02		7.996E-02	1.320E-01	1.184E-02	-0.096
SE-75	-3.522E-03		3.927E-02	6.018E-02	5.139E-03	-0.059
BR-77	-6.105E-02		6.679E+00	1.125E+01	1.002E+00	-0.005
SR-82	-2.345E-01		3.277E-01	5.004E-01	4.570E-02	-0.469
RB-83	5.734E-04		5.976E-02	1.008E-01	8.977E-03	0.006
RB-84	-1.210E-02		5.547E-02	8.787E-02	8.057E-03	-0.138
KR-85	4.583E+00		7.509E+00	1.160E+01	1.031E+00	0.395
SR-85	2.324E-02		3.807E-02	5.881E-02	5.230E-03	0.395
RB-86	-3.980E-02		6.778E-01	1.129E+00	9.782E-02	-0.035
Y-88	5.219E-03		2.915E-02	5.021E-02	4.075E-03	0.104
ZR-88	-4.269E-03		2.992E-02	4.815E-02	4.011E-03	-0.089
Y-91	1.224E+01		1.605E+01	2.841E+01	2.320E+00	0.431

Sample ID : G1202003353 Acquisition date : 31-DEC-2009 13:18:45

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-94	-3.625E-03		3.149E-02	5.156E-02	4.630E-03	-0.070
NB-95	2.814E-02		4.525E-02	6.894E-02	6.284E-03	0.408
NB-95M	1.093E-01		1.219E-01	1.883E-01	1.828E-02	0.581
ZR-95	3.721E-02		6.445E-02	1.108E-01	1.101E-02	0.336
NB-97	-1.231E-02		1.785E-02	Half-Life too short		
ZR-97	1.043E+00		3.341E-01	Half-Life too short		
MO-99	1.649E+00		7.991E+00	1.338E+01	2.066E+00	0.123
TC-99M	-2.069E+09		9.520E+08	Half-Life too short		
RH-101	2.594E-03		2.972E-02	4.941E-02	4.053E-03	0.052
RH-102	-2.921E-02		2.731E-02	3.986E-02	3.497E-03	-0.733
RU-103	-2.424E-04		3.663E-02	5.853E-02	8.370E-03	-0.004
RH-106	-3.255E-01		2.788E-01	4.131E-01	5.603E-02	-0.788
RU-106	-3.255E-01		2.768E-01	4.131E-01	3.692E-02	-0.788
AG-108M	-8.985E-03		2.928E-02	4.613E-02	4.118E-03	-0.195
AG-110M	-1.558E-02		3.613E-02	4.940E-02	4.500E-03	-0.315
IN-111	2.878E-01		7.542E-01	1.138E+00	9.637E-02	0.253
IN-113M	-1.677E-02		4.319E-02	6.840E-02	5.880E-03	-0.245
SN-113	-1.677E-02		4.319E-02	6.840E-02	5.880E-03	-0.245
IN-114M	2.059E-01		1.817E-01	2.864E-01	2.330E-02	0.719
CD-115	1.425E+00		6.909E+00	1.180E+01	1.053E+00	0.121
SN-117M	1.129E-02		4.672E-02	7.500E-02	6.013E-03	0.151
SB-122	1.181E+00		1.415E+00	2.463E+00	2.208E-01	0.479
I-123	-2.316E-01		6.769E-01	Half-Life too short		
TE-123M	-4.368E-03		2.553E-02	4.020E-02	3.243E-03	-0.109
I-124	-4.715E-01		5.866E-01	7.769E-01	6.961E-02	-0.607
SB-124	6.284E-02		5.408E-02	1.090E-01	9.437E-03	0.577
SB-125	1.070E-02		8.514E-02	1.387E-01	1.209E-02	0.077
TE-125M	-6.272E-01		7.767E+00	1.251E+01	1.297E+00	-0.050
I-126	8.858E-02		1.786E-01	2.706E-01	2.399E-02	0.327
SB-126	-3.180E-02		1.333E-01	1.944E-01	1.754E-02	-0.164
SB-127	-1.005E+00		1.125E+00	1.686E+00	1.908E-01	-0.596
XE-127	-2.646E-02		4.103E-02	6.727E-02	5.544E-03	-0.393
I-131	-1.040E-03		9.020E-02	1.471E-01	1.316E-02	-0.007
TE-132	-4.082E-01		4.933E-01	7.892E-01	1.216E-01	-0.517
BA-133	1.192E-02		4.607E-02	6.811E-02	8.945E-03	0.175
I-133	1.544E-03		1.214E-03	Half-Life too short		
CS-134	9.487E-02	+	6.668E-02	8.914E-02	8.213E-03	1.064
CS-135	1.043E-01		1.602E-01	2.438E-01	2.404E-02	0.428
I-135	3.400E+08		1.698E+08	Half-Life too short		
CS-136	-8.707E-03		9.476E-02	1.577E-01	1.442E-02	-0.055
CE-139	1.593E-02		2.770E-02	4.498E-02	3.558E-03	0.354
BA-140	5.287E-02		2.177E-01	3.712E-01	1.233E-01	0.142
LA-140	2.556E-03		7.367E-02	1.112E-01	9.305E-03	0.023
CE-141	5.664E-02		5.646E-02	9.355E-02	7.831E-03	0.605
CE-143	3.534E-04		5.914E-05	Half-Life too short		
CE-144	-8.399E-02		1.905E-01	2.969E-01	4.583E-02	-0.283
PM-144	-1.183E-02		3.328E-02	5.352E-02	4.798E-03	-0.221
PR-144	-8.009E-01		2.254E+00	3.625E+00	3.248E-01	-0.221

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-146	-6.236E-03		4.169E-02	6.462E-02	6.963E-03	-0.097
ND-147	1.530E-01		4.844E-01	8.317E-01	1.258E-01	0.184
PM-149	1.034E+01		5.742E+01	9.594E+01	1.485E+01	0.108
EU-152	-1.081E-02		9.527E-02	1.431E-01	1.297E-02	-0.076
GD-153	-9.553E-03		7.155E-02	1.029E-01	9.206E-03	-0.093
EU-154	-7.649E-02		1.000E-01	1.496E-01	1.645E-02	-0.511
EU-155	8.151E-02		9.023E-02	1.510E-01	1.334E-02	0.540
TB-160	1.814E-02		1.108E-01	1.834E-01	1.682E-02	0.099
HO-166M	-7.873E-03		5.499E-02	8.968E-02	8.074E-03	-0.088
TM-171	-7.195E+00		2.164E+01	3.144E+01	2.352E+00	-0.229
LU-176	-8.365E-03		2.249E-02	3.628E-02	3.107E-03	-0.231
LU-177	2.470E+00	+	1.060E+00	1.705E+00	1.412E-01	1.449
LU-177M	1.403E-01		1.816E-01	2.749E-01	2.328E-02	0.511
HF-181	1.606E-02		4.174E-02	6.867E-02	6.042E-03	0.234
W-181	-1.969E-01		2.729E-01	3.896E-01	2.883E-02	-0.506
TA-182	2.141E-03		1.640E-01	2.723E-01	2.227E-02	0.008
RE-183	2.668E-02		1.016E-01	1.630E-01	1.298E-02	0.164
RE-184	3.003E-02		1.991E-01	3.344E-01	2.838E-02	0.090
OS-185	-2.264E-02		4.040E-02	6.417E-02	5.705E-03	-0.353
RE-188	1.789E-01		1.582E-01	2.628E-01	2.120E-02	0.681
W-188	-4.078E+00		7.331E+00	1.018E+01	8.685E-01	-0.400
IR-192	3.892E-03		3.073E-02	5.094E-02	4.378E-03	0.076
AU-195	1.774E-01		2.028E-01	3.066E-01	2.727E-02	0.579
TL-200	3.057E-06		9.943E-05	Half-Life too short		
TL-201	-3.263E+00		5.232E+00	8.032E+00	6.362E-01	-0.406
TL-202	5.023E-02		5.979E-02	1.019E-01	8.779E-03	0.493
HG-203	3.247E-02		3.687E-02	6.355E-02	5.552E-03	0.511
BI-207	3.251E-02		5.113E-02	9.005E-02	7.857E-03	0.361
TL-207	-3.864E-01		6.230E-01	9.821E-01	1.737E-01	-0.393
PO-209	-5.836E-01		6.684E+00	1.075E+01	9.841E-01	-0.054
PB-211	-2.616E-01		1.069E+00	1.465E+00	9.177E-01	-0.179
PO-215	-3.864E-01		6.230E-01	9.821E-01	1.737E-01	-0.393
RN-219	2.620E-01		4.033E-01	6.771E-01	1.009E-01	0.387
RN-220	1.589E+01		2.372E+01	4.159E+01	3.724E+00	0.382
RA-223	-3.864E-01		6.230E-01	9.821E-01	1.737E-01	-0.393
AC-227	1.065E-01		3.426E-01	5.786E-01	8.838E-02	0.184
TH-227	1.065E-01		3.428E-01	5.786E-01	1.042E-01	0.184
TH-229	-3.865E-01		4.585E-01	7.469E-01	6.099E-02	-0.518
PA-231	-9.850E-01		1.363E+00	2.155E+00	3.258E-01	-0.457
TH-231	-3.864E-01		6.230E-01	9.821E-01	1.737E-01	-0.393
U-231	3.120E-01		8.324E-01	1.229E+00	1.107E-01	0.254
PA-233	3.307E-02		5.591E-02	9.513E-02	8.390E-03	0.348
PA-234	-5.070E-02		2.782E-01	4.407E-01	8.367E-02	-0.115
PA-234M	6.340E+00		4.354E+00	7.879E+00	8.079E-01	0.805
U-235	2.039E-02		1.977E-01	3.122E-01	5.407E-02	0.065
NP-236	-2.637E-02		7.364E-02	1.148E-01	9.178E-03	-0.230
NP-239	5.072E-02		1.689E-01	2.754E-01	2.369E-02	0.184
AM-241	7.845E-02		1.058E-01	1.620E-01	1.284E-02	0.484

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	3.533E-02		8.163E-02	1.345E-01	1.178E-02	0.263
AM-246	1.634E-01		1.243E-01	2.315E-01	2.005E-02	0.706
CM-247	1.079E-02		3.637E-02	6.003E-02	5.040E-03	0.180
CF-249	1.323E-02		4.002E-02	6.630E-02	5.534E-03	0.199
CF-251	-5.128E-02		1.095E-01	1.822E-01	1.459E-02	-0.281

VAX/VMS Nuclide Identification Report Generated

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202003353          *
* Acquisition date  : 31-DEC-2009 13:18:45 Detector SN#     :               *
* Detector ID       : GAM07                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.36      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 17-DEC-2009 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202003353          Analyst initials: MJH1           *
* Batch Number      : 936285               Sample Quantity : 1.4481E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME : 20-JUL-2009 15:29:58 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.054E+01	2.259E+00	2.388E-01	1.152E+00
CD-109	3.241E+00	8.516E-01	5.139E-01	4.345E-01
SN-126	3.191E-01	8.384E-02	5.071E-02	4.277E-02
BA-137M	2.647E-01	5.750E-02	2.835E-02	2.934E-02
CS-137	2.798E-01	6.080E-02	2.997E-02	3.102E-02
TL-208	5.962E-01	9.671E-02	2.657E-02	4.934E-02
BI-210	2.640E+00	2.606E+00	1.413E+00	1.329E+00
PB-210	2.640E+00	2.606E+00	1.413E+00	1.329E+00
PO-210	2.640E+00	2.604E+00	1.413E+00	1.328E+00
BI-211	3.847E+00	5.614E-01	1.624E-01	2.864E-01
BI-212	1.257E+00	5.266E-01	1.783E-01	2.687E-01
PB-212	1.700E+00	1.910E-01	4.318E-02	9.745E-02
PO-212	1.700E+00	1.910E-01	4.318E-02	9.745E-02
BI-214	1.251E+00	1.998E-01	4.855E-02	1.019E-01
PB-214	1.338E+00	2.069E-01	5.661E-02	1.056E-01
PO-214	1.338E+00	2.069E-01	5.661E-02	1.056E-01
PO-216	1.700E+00	1.910E-01	4.318E-02	9.745E-02
PO-218	1.338E+00	2.069E-01	5.661E-02	1.056E-01
RA-224	4.426E+00	1.135E+00	4.914E-01	5.790E-01
RA-226	1.251E+00	1.998E-01	4.855E-02	1.019E-01
AC-228	1.720E+00	3.549E-01	8.490E-02	1.811E-01
RA-228	1.720E+00	3.549E-01	8.490E-02	1.811E-01
TH-228	1.724E+00	1.937E-01	4.379E-02	9.882E-02
TH-230	1.251E+00	1.998E-01	4.855E-02	1.019E-01
TH-232	1.720E+00	3.549E-01	8.490E-02	1.811E-01
TH-234	2.137E+00	1.243E+00	7.276E-01	6.341E-01
U-234	1.251E+00	1.998E-01	4.855E-02	1.019E-01
NP-237	9.370E-01	3.107E-01	1.498E-01	1.585E-01
U-238	2.137E+00	1.243E+00	7.276E-01	6.341E-01
AM-243	4.128E-01	6.720E-02	3.469E-02	3.429E-02
ANH-511	5.088E-02	5.824E-02	2.203E-02	2.971E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	-9.842E-02	2.990E-01	2.461E-01	1.526E-01	NOT IDENT.
NA-22	-3.467E-02	3.560E-02	2.676E-02	1.816E-02	NOT IDENT.
NA-24	-4.972E+02	1.968E+05	0.000E+00	1.004E+05	SHORT HLIF
AL-26	1.282E-02	2.321E-02	2.192E-02	1.184E-02	NOT IDENT.
TI-44	3.811E-01	4.900E-02	3.352E-02	2.500E-02	FAIL ABUN
SC-46	3.245E-02	3.293E-02	3.035E-02	1.680E-02	FAIL ABUN
V-48	4.668E-02	5.028E-02	4.642E-02	2.565E-02	NOT IDENT.
CR-51	-1.210E-01	3.362E-01	2.878E-01	1.715E-01	NOT IDENT.
MN-52	4.206E-02	1.614E-01	1.410E-01	8.233E-02	NOT IDENT.
MN-54	-2.528E-02	3.471E-02	2.752E-02	1.771E-02	NOT IDENT.
CO-56	4.142E-03	3.275E-02	2.808E-02	1.671E-02	NOT IDENT.
CO-57	-4.952E-03	2.165E-02	1.869E-02	1.105E-02	NOT IDENT.
CO-58	-3.277E-02	3.638E-02	2.833E-02	1.856E-02	NOT IDENT.
FE-59	-3.288E-03	6.829E-02	5.867E-02	3.484E-02	NOT IDENT.
CO-60	8.537E-03	3.443E-02	3.000E-02	1.757E-02	NOT IDENT.
ZN-65	-5.634E-02	8.175E-02	5.440E-02	4.171E-02	NOT IDENT.
GE-68	6.926E-01	1.055E+00	9.661E-01	5.381E-01	NOT IDENT.
AS-73	-4.798E-01	4.431E-01	3.817E-01	2.261E-01	NOT IDENT.
AS-74	-1.268E-02	7.836E-02	6.779E-02	3.998E-02	NOT IDENT.
SE-75	-3.522E-03	3.849E-02	3.146E-02	1.964E-02	NOT IDENT.
BR-77	-6.105E-02	6.545E+00	5.793E+00	3.339E+00	FAIL ABUN
SR-82	-2.345E-01	3.211E-01	2.554E-01	1.638E-01	NOT IDENT.
RB-83	5.734E-04	5.856E-02	5.190E-02	2.988E-02	NOT IDENT.
RB-84	-1.210E-02	5.436E-02	4.471E-02	2.773E-02	NOT IDENT.
KR-85	4.583E+00	7.359E+00	5.975E+00	3.754E+00	NOT IDENT.
SR-85	2.324E-02	3.731E-02	3.029E-02	1.904E-02	NOT IDENT.
RB-86	-3.980E-02	6.642E-01	5.716E-01	3.389E-01	NOT IDENT.
Y-88	5.219E-03	2.857E-02	2.512E-02	1.457E-02	NOT IDENT.
ZR-88	-4.269E-03	2.932E-02	2.495E-02	1.496E-02	NOT IDENT.
Y-91	1.224E+01	1.573E+01	1.435E+01	8.027E+00	NOT IDENT.
NB-94	-3.625E-03	3.086E-02	2.637E-02	1.575E-02	NOT IDENT.
NB-95	2.814E-02	4.434E-02	3.519E-02	2.262E-02	NOT IDENT.
NB-95M	1.093E-01	1.195E-01	9.868E-02	6.095E-02	NOT IDENT.
ZR-95	3.721E-02	6.316E-02	5.659E-02	3.223E-02	NOT IDENT.
NB-97	-1.231E+04	3.500E+04	0.000E+00	1.785E+04	SHORT HLIF
ZR-97	1.043E+06	6.548E+05	0.000E+00	3.341E+05	SHORT HLIF
MO-99	1.649E+00	7.831E+00	6.835E+00	3.995E+00	NOT IDENT.
TC-99M	-2.069E+15	1.866E+15	0.000E+00	9.520E+14	SHORT HLIF
RH-101	2.594E-03	2.912E-02	2.599E-02	1.486E-02	NOT IDENT.
RH-102	-2.921E-02	2.676E-02	2.057E-02	1.365E-02	NOT IDENT.
RU-103	-2.424E-04	3.590E-02	3.017E-02	1.832E-02	FAIL ABUN
RH-106	-3.255E-01	2.732E-01	2.119E-01	1.394E-01	FAIL ABUN
RU-106	-3.255E-01	2.712E-01	2.119E-01	1.384E-01	FAIL ABUN
AG-108M	-8.985E-03	2.869E-02	2.385E-02	1.464E-02	NOT IDENT.
AG-110M	-1.558E-02	3.540E-02	2.530E-02	1.806E-02	NOT IDENT.
IN-111	2.878E-01	7.391E-01	5.957E-01	3.771E-01	NOT IDENT.
IN-113M	-1.677E-02	4.233E-02	3.545E-02	2.160E-02	NOT IDENT.
SN-113	-1.677E-02	4.233E-02	3.545E-02	2.160E-02	NOT IDENT.
IN-114M	2.059E-01	1.780E-01	1.508E-01	9.084E-02	NOT IDENT.
CD-115	1.425E+00	6.771E+00	6.075E+00	3.455E+00	NOT IDENT.
SN-117M	1.129E-02	4.579E-02	3.964E-02	2.336E-02	NOT IDENT.
SB-122	1.181E+00	1.387E+00	1.266E+00	7.076E-01	NOT IDENT.
I-123	-2.316E+05	1.327E+06	0.000E+00	6.769E+05	SHORT HLIF
TE-123M	-4.368E-03	2.502E-02	2.124E-02	1.277E-02	NOT IDENT.
I-124	-4.715E-01	5.749E-01	3.988E-01	2.933E-01	NOT IDENT.
SB-124	6.284E-02	5.300E-02	5.461E-02	2.704E-02	FAIL ABUN
SB-125	1.070E-02	8.343E-02	7.175E-02	4.257E-02	FAIL ABUN
TE-125M	-6.272E-01	7.612E+00	6.664E+00	3.884E+00	NOT IDENT.
I-126	8.858E-02	1.750E-01	1.386E-01	8.928E-02	NOT IDENT.
SB-126	-3.180E-02	1.307E-01	9.937E-02	6.667E-02	FAIL ABUN
SB-127	-1.005E+00	1.103E+00	8.626E-01	5.627E-01	NOT IDENT.
XE-127	-2.646E-02	4.021E-02	3.537E-02	2.052E-02	NOT IDENT.
I-131	-1.040E-03	8.840E-02	7.634E-02	4.510E-02	NOT IDENT.
TE-132	-4.082E-01	4.835E-01	4.139E-01	2.467E-01	NOT IDENT.
BA-133	1.192E-02	4.515E-02	3.537E-02	2.304E-02	NOT IDENT.
I-133	1.544E+03	2.379E+03	0.000E+00	1.214E+03	SHORT HLIF
CS-134	9.487E-02	6.535E-02	4.547E-02	3.334E-02	FAIL ABUN
CS-135	1.043E-01	1.570E-01	1.274E-01	8.011E-02	NOT IDENT.
I-135	3.400E+14	3.328E+14	0.000E+00	1.698E+14	SHORT HLIF
CS-136	-8.707E-03	9.286E-02	7.990E-02	4.738E-02	FAIL ABUN
CE-139	1.593E-02	2.714E-02	2.375E-02	1.385E-02	NOT IDENT.
BA-140	5.287E-02	2.133E-01	1.910E-01	1.089E-01	NOT IDENT.
LA-140	2.556E-03	7.220E-02	5.582E-02	3.684E-02	NOT IDENT.
CE-141	5.664E-02	5.533E-02	4.953E-02	2.823E-02	NOT IDENT.

CE-143	3.534E+02	1.159E+02	0.000E+00	5.914E+01	SHORT HLIF
CE-144	-8.399E-02	1.867E-01	1.575E-01	9.524E-02	NOT IDENT.
PM-144	-1.183E-02	3.262E-02	2.738E-02	1.664E-02	NOT IDENT.
PR-144	-8.009E-01	2.209E+00	1.854E+00	1.127E+00	NOT IDENT.
PM-146	-6.236E-03	4.086E-02	3.338E-02	2.084E-02	NOT IDENT.
ND-147	1.530E-01	4.747E-01	4.281E-01	2.422E-01	FAIL ABUN
PM-149	1.034E+01	5.627E+01	5.006E+01	2.871E+01	NOT IDENT.
EU-152	-1.081E-02	9.336E-02	7.438E-02	4.763E-02	FAIL ABUN
GD-153	-9.553E-03	7.012E-02	5.497E-02	3.577E-02	FAIL ABUN
EU-154	-7.649E-02	9.804E-02	7.550E-02	5.002E-02	NOT IDENT.
EU-155	8.151E-02	8.842E-02	8.048E-02	4.511E-02	FAIL ABUN
TB-160	1.814E-02	1.086E-01	9.331E-02	5.542E-02	FAIL ABUN
HO-166M	-7.873E-03	5.389E-02	4.586E-02	2.750E-02	FAIL ABUN
TM-171	-7.195E+00	2.120E+01	1.692E+01	1.082E+01	NOT IDENT.
LU-176	-8.365E-03	2.204E-02	1.890E-02	1.124E-02	FAIL ABUN
LU-177	2.470E+00	1.038E+00	8.959E-01	5.298E-01	FAIL ABUN
LU-177M	1.403E-01	1.780E-01	1.423E-01	9.079E-02	NOT IDENT.
HF-181	1.606E-02	4.090E-02	3.542E-02	2.087E-02	NOT IDENT.
W-181	-1.969E-01	2.675E-01	2.098E-01	1.365E-01	NOT IDENT.
TA-182	2.141E-03	1.608E-01	1.375E-01	8.202E-02	FAIL ABUN
RE-183	2.668E-02	9.959E-02	8.612E-02	5.081E-02	FAIL ABUN
RE-184	3.003E-02	1.951E-01	1.749E-01	9.956E-02	NOT IDENT.
OS-185	-2.264E-02	3.959E-02	3.288E-02	2.020E-02	NOT IDENT.
RE-188	1.789E-01	1.550E-01	1.389E-01	7.910E-02	NOT IDENT.
W-188	-4.078E+00	7.185E+00	5.312E+00	3.666E+00	FAIL ABUN
IR-192	3.892E-03	3.012E-02	2.652E-02	1.536E-02	FAIL ABUN
AU-195	1.774E-01	1.988E-01	1.637E-01	1.014E-01	FAIL ABUN
TL-200	3.057E+00	1.949E+02	0.000E+00	9.943E+01	SHORT HLIF
TL-201	-3.263E+00	5.127E+00	4.240E+00	2.616E+00	NOT IDENT.
TL-202	5.023E-02	5.859E-02	5.268E-02	2.989E-02	NOT IDENT.
HG-203	3.247E-02	3.613E-02	3.318E-02	1.843E-02	FAIL ABUN
BI-207	3.251E-02	5.011E-02	4.563E-02	2.557E-02	FAIL ABUN
TL-207	-3.864E-01	6.106E-01	5.111E-01	3.115E-01	FAIL ABUN
PO-209	-5.836E-01	6.550E+00	5.467E+00	3.342E+00	NOT IDENT.
PB-211	-2.616E-01	1.048E+00	7.588E-01	5.347E-01	NOT IDENT.
PO-215	-3.864E-01	6.106E-01	5.111E-01	3.115E-01	FAIL ABUN
RN-219	2.620E-01	3.952E-01	3.507E-01	2.016E-01	FAIL ABUN
RN-220	1.589E+01	2.324E+01	2.139E+01	1.186E+01	NOT IDENT.
RA-223	-3.864E-01	6.106E-01	5.111E-01	3.115E-01	FAIL ABUN
AC-227	1.065E-01	3.358E-01	3.026E-01	1.713E-01	FAIL ABUN
TH-227	1.065E-01	3.359E-01	3.026E-01	1.714E-01	FAIL ABUN
TH-229	-3.865E-01	4.493E-01	3.931E-01	2.292E-01	FAIL ABUN
PA-231	-9.850E-01	1.336E+00	1.125E+00	6.816E-01	FAIL ABUN
TH-231	-3.864E-01	6.106E-01	5.111E-01	3.115E-01	FAIL ABUN
U-231	3.120E-01	8.157E-01	6.566E-01	4.162E-01	FAIL ABUN
PA-233	3.307E-02	5.479E-02	4.955E-02	2.796E-02	FAIL ABUN
PA-234	-5.070E-02	2.726E-01	2.239E-01	1.391E-01	FAIL ABUN
PA-234M	6.340E+00	4.267E+00	3.998E+00	2.177E+00	NOT IDENT.
U-235	2.039E-02	1.937E-01	1.654E-01	9.884E-02	FAIL ABUN
NP-236	-2.637E-02	7.216E-02	6.068E-02	3.682E-02	NOT IDENT.
NP-239	5.072E-02	1.655E-01	1.465E-01	8.443E-02	FAIL ABUN
AM-241	7.845E-02	1.037E-01	8.739E-02	5.292E-02	NOT IDENT.
CM-243	3.533E-02	8.000E-02	7.170E-02	4.082E-02	FAIL ABUN
AM-246	1.634E-01	1.219E-01	1.173E-01	6.217E-02	NOT IDENT.
CM-247	1.079E-02	3.564E-02	3.109E-02	1.818E-02	NOT IDENT.
CF-249	1.323E-02	3.922E-02	3.436E-02	2.001E-02	NOT IDENT.
CF-251	-5.128E-02	1.073E-01	9.608E-02	5.474E-02	NOT IDENT.

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*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                          CHARLESTON ,SC 29417                             *
*                   GAMMA SPECTROSCOPY BACKGROUND REPORT                    *
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ENERGY	MDA COUNTS
46.50	327.6315
46.50	327.6315
46.50	327.6315
48.70	319.6421
49.72	304.8372
51.35	277.5237
52.39	319.3817
52.97	348.5815
53.15	354.4883
53.44	349.9532
54.07	337.0614
56.28	340.8304
56.28	340.8322
57.37	0.0000
57.53	404.8120
57.53	404.8142
57.60	404.8801
57.98	396.5225
57.98	396.5225
59.32	367.6343
59.32	367.6343
59.40	366.2434
59.54	375.1217
59.72	375.2805
60.01	369.6896
61.10	388.2058
61.14	388.2412
61.30	388.3848
63.00	416.8684
63.29	417.1418
63.29	417.1418
63.58	417.4147
64.28	439.7110
65.12	480.4475
65.20	480.5325
65.20	480.5325
66.05	487.3578
66.72	476.2027
66.83	476.3203
66.91	482.3401
67.20	451.4564
67.20	451.4564
67.75	477.2705
67.85	477.3734
68.90	453.1124
68.90	453.1124
69.30	466.9258
69.67	455.3522
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70.83	523.8117
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72.87	504.9972
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74.81	459.7219
74.97	459.8706
75.28	460.1589
75.70	460.5471
77.11	461.8464
77.11	461.8464

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77.11	461.8464
77.11	461.8464
77.11	461.8464
77.11	461.8464
78.38	443.7566
79.62	469.2070
79.80	469.3715
79.80	469.3715
80.11	466.6038
80.18	466.6668
80.30	466.7742
80.30	466.7742
80.57	470.0694
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81.07	406.3607
81.07	406.3607
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83.78	394.1272
83.78	394.1272
83.78	394.1272
84.21	394.4464
84.90	394.9536
85.43	395.3433
86.29	395.9738
86.50	396.1265
86.54	396.1559
86.59	396.1931
86.72	396.2871
86.79	396.3361
86.94	396.4477
87.30	396.7081
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87.30	396.7081
87.30	396.7081
87.30	396.7081
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87.88	397.1292
88.03	397.2368
88.36	397.4757
88.47	397.5560
89.95	398.6174
91.11	399.4457
92.29	400.2799
92.38	400.3445
92.38	400.3445
93.35	401.0260
94.00	401.4822
94.67	401.9464
94.67	401.9503
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94.90	332.1331
94.90	332.1331
94.90	332.1331
95.87	367.2139
95.87	367.2139
96.73	386.6159
97.43	341.4449
98.44	305.7788
98.44	305.7788
98.88	301.2733
99.55	318.9832
99.55	318.9832
99.86	325.4694
100.00	325.5448
100.10	316.1179
103.18	325.1444
103.76	315.9126
105.00	289.9931
105.31	296.5156
108.00	351.1639
109.28	321.9283

111.00	303.4944
111.00	303.4944
111.76	331.7686
112.95	338.8339
115.19	335.6812
116.30	307.0542
117.00	311.7085
117.00	311.7085
117.66	305.5172
121.11	305.9960
121.62	283.3409
121.78	283.4070
122.06	300.9709
122.32	304.3573
122.32	304.3573
122.32	304.3573
122.32	304.3573
123.07	310.1512
127.23	360.3507
129.76	327.4609
131.20	363.4750
133.02	317.8739
133.54	331.4020
135.34	324.4425
136.00	295.8189
136.25	290.3567
136.48	273.7546
140.51	336.7756
140.51	0.0000
142.18	302.7585
142.65	279.3854
143.76	311.2531
144.24	315.9478
144.24	315.9478
144.24	315.9478
144.24	315.9478
145.22	290.4573
145.44	290.5387
147.16	327.3002
152.43	329.5009
152.70	319.3837
153.22	284.3348
154.21	273.2983
154.21	273.2983
154.21	273.2983
154.21	273.2983
155.03	278.1363
156.02	304.7289
158.56	267.9012
159.00	0.0000
159.00	279.4990
160.31	296.0082
161.27	289.4601
162.32	287.5265
162.64	287.6358
163.35	284.4254
163.89	283.4590
165.85	273.7251
167.43	308.9496
171.28	241.7632
171.86	276.8193
172.10	276.8968
176.55	278.8929
176.60	278.9099
181.06	260.9173
184.41	287.3694
185.71	310.1059
186.00	310.2047
190.27	256.4385
192.34	309.6584
193.63	298.4677
197.04	250.2192
198.01	250.4725
198.60	261.4054
200.40	264.5960
201.83	285.7189
202.84	284.2119
205.31	244.5879

208.36	319.3867
208.81	287.7601
209.75	290.7568
209.75	290.7568
210.97	266.3687
215.65	259.5656
216.55	273.5168
218.09	226.2898
222.10	263.9607
223.80	230.3066
226.40	192.0912
227.00	205.1373
227.08	205.1542
227.20	212.5700
228.16	246.9901
228.18	246.9962
228.18	246.9962
231.56	0.0000
235.69	231.0355
236.00	241.5386
236.00	241.5386
238.63	224.1870
238.63	224.1870
238.63	224.1870
238.63	224.1870
239.00	224.2639
240.98	224.6686
241.98	224.8727
241.98	224.8727
241.98	224.8727
244.69	171.3215
245.39	166.9187
247.94	167.9454
248.90	188.5605
249.79	183.0487
252.40	174.9590
252.85	175.0282
252.85	175.0282
254.15	0.0000
256.20	186.9285
256.20	186.9285
260.50	185.7195
260.90	184.8322
262.80	174.6341
264.65	160.5736
268.24	184.0693
268.79	168.8081
269.46	164.2983
269.46	164.2983
269.46	164.2983
269.46	164.2983
271.23	182.9944
273.65	263.4886
276.40	185.3262
277.35	185.4697
277.60	171.0150
277.60	171.0150
278.00	170.1052
278.60	176.9573
279.20	175.1090
279.53	196.4456
280.46	202.4050
281.68	191.9424
283.67	179.6309
284.30	177.7783
285.00	171.0747
285.90	157.5802
286.10	165.3879
286.10	165.3879
287.40	150.9533
288.45	0.0000
290.67	178.0999
290.80	178.1194
291.72	167.3051
293.26	0.0000
293.70	159.7361
295.21	147.3822
295.21	147.3822

295.21	147.3822
295.96	147.4694
296.50	145.1771
297.23	145.2607
298.57	145.4120
299.80	145.5520
299.80	145.5520
300.09	179.4220
300.09	179.4220
300.09	179.4220
300.09	179.4220
300.12	179.4275
301.29	170.1369
302.84	170.3400
303.76	148.3644
303.91	148.3805
304.40	154.7543
304.40	154.7543
304.84	148.4883
306.84	164.1408
308.46	155.4333
311.98	131.0312
316.51	145.4208
318.01	148.5748
319.02	155.6715
319.41	155.7167
320.08	169.7743
323.87	176.2578
323.87	176.2578
323.87	176.2578
323.87	176.2578
325.23	202.4962
328.77	144.7273
333.44	146.8286
334.20	137.2223
334.20	137.2223
334.30	137.2327
338.28	154.8257
338.28	154.8257
338.28	154.8257
338.28	154.8257
338.32	154.8303
338.32	154.8303
338.32	154.8303
340.50	136.2170
340.57	136.2231
344.27	142.2708
345.85	148.1238
350.59	0.0000
351.07	153.1540
351.92	153.2455
351.92	153.2455
351.92	153.2455
355.39	0.0000
356.01	127.8583
364.48	111.2827
366.43	118.6517
367.43	122.8604
367.94	0.0000
369.80	112.7139
374.96	125.5493
383.85	129.4095
387.95	142.3086
388.63	132.9492
391.69	144.7467
391.69	144.7467
392.90	141.7092
398.62	133.7942
400.65	133.9647
401.10	129.7810
401.81	125.6168
402.60	134.1275
404.84	145.5260
410.95	140.9805
411.60	147.8342
413.65	103.7834
414.70	114.9164
415.30	109.4835

415.76	109.6670
417.63	0.0000
418.52	138.6467
423.70	115.5427
427.08	113.6327
427.89	108.3250
432.53	95.7182
433.93	104.4079
439.47	91.7898
439.56	91.7937
439.89	89.6516
443.98	111.5184
444.90	123.4942
445.03	123.5046
445.03	123.5046
445.03	123.5046
445.03	123.5046
453.90	103.4453
463.38	109.4742
468.07	94.8335
473.00	94.6530
475.06	113.4924
475.35	109.1030
476.78	108.0847
477.59	109.2360
477.96	96.0152
482.03	105.0775
484.57	104.1149
487.03	92.0541
490.36	0.0000
492.35	68.9601
497.08	90.3204
507.63	0.0000
510.53	0.0000
510.84	95.4694
511.00	95.4771
511.85	95.5193
511.85	95.5193
513.99	109.5000
513.99	109.5000
520.41	86.6859
520.65	86.6977
527.90	85.2059
528.96	0.0000
529.64	81.6526
529.87	0.0000
531.02	89.8807
537.32	83.7905
543.00	87.6797
546.56	0.0000
549.76	79.7273
552.65	78.0045
555.20	90.0471
563.23	69.1827
563.90	67.3593
568.70	80.4623
569.32	83.2632
569.50	83.2698
569.67	83.2764
573.80	88.0768
574.00	92.7197
574.64	90.6879
578.91	99.1328
579.30	0.0000
583.14	80.0854
585.48	74.5801
591.81	64.2819
592.07	63.3795
593.00	77.6484
595.88	88.9929
600.56	75.1035
602.52	0.0000
602.71	103.3694
602.71	103.3694
603.60	89.3107
604.41	84.6409
604.70	84.6519
609.31	75.4043

609.31	75.4043
609.31	75.4043
609.31	75.4043
610.33	75.4395
612.46	83.3775
614.37	75.5781
618.01	67.2899
621.84	87.2068
621.84	87.2068
631.29	61.8722
633.02	83.8299
633.10	83.8320
634.78	89.6144
635.90	89.6580
636.97	82.0674
645.85	87.1765
646.12	91.0177
656.30	73.7767
657.75	81.8457
657.90	0.0000
661.65	84.8762
661.65	84.8762
664.57	0.0000
666.33	74.0930
666.33	74.0930
675.00	67.8979
677.61	85.4498
685.20	90.5910
692.80	97.7148
695.00	73.3539
696.49	93.9492
696.49	93.9492
697.00	94.9468
697.49	93.0077
698.33	83.2465
698.50	86.1910
699.00	81.3100
702.63	85.3560
706.10	76.6327
706.58	0.0000
706.67	74.6845
709.31	73.7805
711.68	74.8366
713.82	77.8582
717.42	67.1135
720.50	73.4079
721.93	0.0000
722.20	77.4594
722.78	69.2344
722.78	69.2344
722.89	69.2378
722.95	69.2395
723.30	62.6545
724.18	75.8712
727.18	49.5398
733.00	74.4800
735.90	69.5950
739.58	63.7203
742.81	63.8016
744.21	60.8436
747.13	60.9121
751.79	70.0256
752.31	63.0354
753.82	52.0597
755.35	58.1005
756.15	62.1271
756.87	71.1647
763.93	51.9265
765.79	65.3729
766.42	72.0953
766.84	80.4902
776.49	70.6870
778.00	66.6848
778.57	60.6357
778.89	60.6431
783.80	52.3163
785.46	62.4812
792.07	60.9419

795.84	61.0269
796.30	52.5597
798.80	50.9106
801.93	62.8621
805.60	45.9338
810.29	67.4840
810.76	76.6992
815.85	50.2035
817.79	52.2887
818.51	59.4812
819.60	68.7388
826.30	56.5630
828.27	0.0000
831.60	62.8511
831.96	64.9211
834.83	80.4604
836.80	0.0000
846.75	50.7585
848.13	41.4551
856.28	0.0000
856.80	41.5811
860.37	74.9391
867.32	61.2945
867.82	60.2900
871.10	37.6080
873.19	47.0435
874.81	47.0698
875.33	0.0000
876.40	42.9089
879.36	40.8567
880.27	44.0139
880.51	41.9209
881.50	45.0807
883.24	45.1070
884.67	51.4261
889.25	38.8916
896.60	53.7405
898.02	55.8739
899.00	63.2754
903.28	68.6451
911.07	42.3525
911.07	42.3525
911.07	42.3525
919.63	48.5402
920.93	38.2412
925.00	46.8016
925.24	44.6783
926.50	52.1462
935.52	41.6260
937.48	59.8076
944.10	44.9521
946.00	55.6893
949.00	54.6706
962.29	61.0024
964.01	47.3924
966.15	47.4246
968.20	47.4547
969.11	47.4687
969.11	47.4687
969.11	47.4687
977.42	33.6510
980.50	62.7960
983.50	27.0923
989.30	53.1966
996.32	70.7208
1001.03	41.4039
1001.68	39.2326
1004.76	59.9951
1021.30	0.0000
1024.50	0.0000
1034.80	43.1139
1036.00	48.6351
1037.82	38.5615
1038.57	38.5701
1038.76	0.0000
1045.16	55.2075
1046.59	57.0730
1048.07	57.0982

1050.47	47.0011
1050.47	47.0011
1062.04	54.5587
1063.62	54.5827
1076.63	52.0033
1077.35	41.7975
1078.86	35.3111
1085.78	51.2111
1099.22	40.1918
1112.02	38.7735
1112.84	46.6456
1115.52	53.1209
1120.29	41.3717
1120.29	41.3717
1120.29	41.3717
1120.29	41.3717
1120.51	41.3735
1121.28	41.3825
1124.00	0.0000
1129.67	49.0208
1131.51	0.0000
1147.95	0.0000
1167.94	59.0660
1173.22	50.5631
1175.09	51.5435
1177.93	54.4487
1189.05	57.4854
1204.90	47.1438
1205.75	0.0000
1213.00	51.1001
1221.42	54.1133
1230.97	62.9661
1235.34	69.8262
1236.41	0.0000
1238.25	64.0530
1246.25	46.6816
1260.41	0.0000
1271.85	43.0708
1274.45	44.0790
1274.54	47.0176
1291.56	41.3164
1298.22	0.0000
1312.09	38.5604
1325.50	40.6713
1325.50	40.6713
1332.49	31.7982
1333.61	29.8181
1360.21	24.0078
1362.66	0.0000
1365.15	29.0437
1368.21	28.0627
1368.53	0.0000
1376.25	30.1245
1384.27	37.2243
1394.10	25.2096
1395.20	27.2329
1407.95	38.4422
1434.06	18.3193
1436.60	22.4028
1457.56	0.0000
1460.81	22.5264
1489.15	21.6392
1509.49	17.5963
1596.49	18.2777
1620.62	25.4355
1678.03	0.0000
1691.02	4.3001
1691.02	4.3001
1706.46	0.0000
1750.46	0.0000
1764.49	8.4133
1764.49	8.4133
1764.49	8.4133
1764.49	8.4133
1770.23	6.5508
1771.40	9.8287
1791.20	0.0000
1808.65	7.5416

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202003353

Total Uranium Activity	6.3657E+00	ug/g
Total Uranium Counting Unc.	3.6986E+00	ug/g
Total Uranium Tpu	1.8870E-06	ug/g
Total Uranium Mda	2.1659E+00	ug/g

```
*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                             *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 936285                    SAMPLE ID   : G1202003353     *
*   ANALYST       : MJH1                      DETECTOR    : GAM07           *
*   SAMPLE DATE   : 17-DEC-2009 12:00:00.00   COUNT TIME :    0 02:00:00.00 *
*   ANALYSIS DATE: 31-DEC-2009 13:18:45.14    SAMPLE ALQT:  144.810 GRAM    *
*                                                                           *
*****************************************************************************
```

```
GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 8.954E+00
GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.254E+00
GROSS GAMMA MDA     (pCi/GRAM  )  : 3.360E+00
GROSS GAMMA DLC     (pCi/GRAM  )  : 1.632E+00
```

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 14:19:39.80

```
*****************************************************************************
*                              GEL Laboratories LLC                         *
*                                2040 Savage Road                           *
*                              Charleston, SC 29414                         *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003354.CNF;1
Sample date       : 24-DEC-2009 00:00:00 Acquisition date : 31-DEC-2009 13:19:17
Sample ID         : G1202003354          Sample quantity  : 1.55440E+02 GRAM
Detector name     : GAM14                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00         Elapsed real time: 0 01:00:01.56  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 936285                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	59.47	3772	1239	1.31	118.68	114	12	1.05E+00	2.5	
2	2	74.73*	202	472	1.58	149.18	143	16	5.62E-02	21.1	1.58E+00
3	2	77.13*	301	434	1.34	153.96	143	16	8.36E-02	13.6	
4	0	87.87	1813	683	1.32	175.43	170	12	5.04E-01	3.7	
5	0	121.75	251	376	1.16	243.11	238	10	6.97E-02	15.8	
6	0	136.12	79	212	1.53	271.83	269	8	2.20E-02	33.6	
7	0	185.61*	86	356	1.10	370.73	365	11	2.39E-02	44.4	
8	1	238.18*	563	235	1.52	475.78	470	18	1.57E-01	6.5	2.02E+00
9	1	241.14	120	257	1.64	481.70	470	18	3.32E-02	29.1	
10	0	294.67*	148	144	1.41	588.68	585	8	4.11E-02	16.5	
11	0	337.43	126	265	0.98	674.14	668	12	3.51E-02	27.2	
12	0	351.16*	257	211	1.12	701.58	695	13	7.13E-02	13.3	
13	0	510.31*	14	204	1.85	1019.71	1013	14	4.01E-03	223.4	
14	0	582.45*	160	125	1.38	1163.94	1156	13	4.46E-02	16.4	
15	0	608.52*	159	176	1.02	1216.07	1210	16	4.41E-02	20.4	
16	0	660.89	2493	143	1.63	1320.76	1314	15	6.92E-01	2.3	
17	0	911.09*	75	104	1.71	1821.11	1812	13	2.09E-02	30.4	
18	0	1172.18	1790	75	1.93	2343.38	2336	16	4.97E-01	2.6	
19	0	1331.30	1758	48	2.00	2661.77	2653	19	4.88E-01	2.6	
20	0	1459.78*	38	0	0.85	2918.89	2910	18	1.07E-02	17.6	
21	0	1763.26	30	9	0.96	3526.39	3519	12	8.22E-03	27.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 31-DEC-2009 14:19:42

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003354.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MJH1
Sample date : 24-DEC-2009 00:00:00 Acquisition date : 31-DEC-2009 13:19:17
Sample ID : G1202003354 Sample quantity : 155.44 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA14 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.56 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.432E+00	5.159E-01	6.145E-01	4.462E-02	2.331
CO-57	+	122.06	*	1.886E-01	6.094E-02	6.162E-02	4.384E-03	3.061
	+	136.48		4.908E-01	3.314E-01	4.723E-01	3.467E-02	1.039
CO-60	+	1173.22		5.928E+00	4.500E-01	1.236E-01	6.809E-03	47.956
	+	1332.49	*	6.509E+00	5.708E-01	9.370E-02	6.678E-03	69.466
CD-109	+	88.03	*	3.361E+01	3.864E+00	1.999E+00	1.748E-01	16.812
SN-126		64.28		-5.853E-01	7.341E-01	1.033E+00	1.472E-01	-0.567
	+	86.94		1.389E+01	5.841E+00	8.328E-01	3.444E-01	16.679
	+	87.57	*	3.341E+00	3.841E-01	1.994E-01	1.735E-02	16.757
BA-137M	+	661.65	*	5.416E+00	4.045E-01	1.028E-01	6.111E-03	52.703
CS-137	+	661.65	*	5.726E+00	4.287E-01	1.086E-01	6.486E-03	52.703
TL-208		277.35		1.301E-01	5.940E-01	1.008E+00	1.066E-01	0.129
	+	510.84		1.045E-01	4.671E-01	4.090E-01	4.170E-02	0.256
	+	583.14	*	3.332E-01	1.120E-01	9.475E-02	6.479E-03	3.517
		860.37		5.451E-01	5.908E-01	1.042E+00	9.802E-02	0.523
BI-211		72.87		4.186E+00	4.702E+00	7.069E+00	5.209E-01	0.592
	+	351.07	*	2.291E+00	6.252E-01	5.739E-01	3.636E-02	3.991
PB-212	+	74.81		1.504E+00	6.610E-01	7.581E-01	9.092E-02	1.984
	+	77.11		1.280E+00	3.624E-01	4.352E-01	3.352E-02	2.941
	+	87.30		1.545E+01	2.354E+00	9.240E-01	1.223E-01	16.724
	+	238.63	*	1.095E+00	1.639E-01	1.413E-01	1.029E-02	7.746
		300.09		1.448E+00	1.391E+00	2.240E+00	1.852E-01	0.646
PO-212	+	74.81		1.504E+00	6.610E-01	7.581E-01	9.092E-02	1.984
	+	77.11		1.280E+00	3.624E-01	4.352E-01	3.352E-02	2.941
	+	87.30		1.545E+01	2.354E+00	9.240E-01	1.223E-01	16.724
		115.19		4.082E+00	5.366E+00	8.749E+00	6.367E-01	0.467
	+	238.63	*	1.095E+00	1.639E-01	1.413E-01	1.029E-02	7.746
		300.09		1.448E+00	1.391E+00	2.240E+00	1.852E-01	0.646
BI-214	+	609.31	*	6.232E-01	2.591E-01	1.960E-01	1.552E-02	3.179
		1120.29		5.694E-01	6.083E-01	1.066E+00	9.875E-02	0.534
	+	1764.49		8.536E-01	4.717E-01	3.436E-01	2.061E-02	2.484
PB-214	+	74.81		2.592E+00	1.129E+00	1.306E+00	1.378E-01	1.984
	+	77.11		2.195E+00	6.434E-01	7.461E-01	8.083E-02	2.941
	+	87.30		2.647E+01	3.664E+00	1.583E+00	1.837E-01	16.724

Sample ID : G1202003354 Acquisition date : 31-DEC-2009 13:19:17

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	241.98		1.396E+00	8.194E-01	8.288E-01	6.657E-02	1.685
	+	295.21		7.783E-01	2.659E-01	3.900E-01	3.335E-02	1.996
	+	351.92	*	7.969E-01	2.214E-01	2.027E-01	1.663E-02	3.932
PO-214	+	74.81		2.592E+00	1.129E+00	1.306E+00	1.378E-01	1.984
	+	77.11		2.195E+00	6.434E-01	7.461E-01	8.083E-02	2.941
	+	87.30		2.647E+01	3.664E+00	1.583E+00	1.837E-01	16.724
	+	241.98		1.396E+00	8.194E-01	8.288E-01	6.657E-02	1.685
	+	295.21		7.783E-01	2.659E-01	3.900E-01	3.335E-02	1.996
	+	351.92	*	7.969E-01	2.214E-01	2.027E-01	1.663E-02	3.932
PO-216	+	74.81		1.504E+00	6.610E-01	7.581E-01	9.092E-02	1.984
	+	77.11		1.280E+00	3.624E-01	4.352E-01	3.352E-02	2.941
	+	87.30		1.545E+01	2.354E+00	9.240E-01	1.223E-01	16.724
	+	238.63	*	1.095E+00	1.639E-01	1.413E-01	1.029E-02	7.746
		300.09		1.448E+00	1.391E+00	2.240E+00	1.852E-01	0.646
PO-218	+	74.81		2.592E+00	1.129E+00	1.306E+00	1.378E-01	1.984
	+	77.11		2.195E+00	6.434E-01	7.461E-01	8.083E-02	2.941
	+	87.30		2.647E+01	3.664E+00	1.583E+00	1.837E-01	16.724
	+	241.98		1.396E+00	8.194E-01	8.288E-01	6.657E-02	1.685
	+	295.21		7.783E-01	2.659E-01	3.900E-01	3.335E-02	1.996
	+	351.92	*	7.969E-01	2.214E-01	2.027E-01	1.663E-02	3.932
RA-224	+	240.98	*	2.648E+00	1.547E+00	1.607E+00	9.240E-02	1.647
RA-226	+	609.31	*	6.232E-01	2.591E-01	1.960E-01	1.552E-02	3.179
		1120.29		5.694E-01	6.083E-01	1.066E+00	9.875E-02	0.534
	+	1764.49		8.536E-01	4.717E-01	3.436E-01	2.061E-02	2.484
TH-228	+	74.81		1.516E+00	6.510E-01	7.639E-01	5.804E-02	1.984
	+	77.11		1.290E+00	3.651E-01	4.385E-01	3.377E-02	2.941
	+	87.30		1.557E+01	1.790E+00	9.309E-01	8.073E-02	16.724
	+	238.63	*	1.103E+00	1.652E-01	1.424E-01	1.037E-02	7.746
		300.09		1.458E+00	1.640E+00	2.257E+00	1.330E+00	0.646
TH-230	+	609.31	*	6.232E-01	2.591E-01	1.960E-01	1.552E-02	3.179
		1120.29		5.694E-01	6.083E-01	1.066E+00	9.875E-02	0.534
	+	1764.49		8.535E-01	4.717E-01	3.436E-01	2.061E-02	2.484
U-234	+	609.31	*	6.232E-01	2.591E-01	1.960E-01	1.552E-02	3.179
		1120.29		5.694E-01	6.083E-01	1.066E+00	9.875E-02	0.534
	+	1764.49		8.535E-01	4.717E-01	3.436E-01	2.061E-02	2.484
NP-237	+	86.50	*	9.811E+00	2.317E+00	6.357E-01	1.421E-01	15.433
		95.87		-2.225E+00	1.453E+00	2.072E+00	5.070E-01	-1.074
AM-241	+	59.54	*	1.259E+01	1.132E+00	4.409E-01	3.273E-02	28.562
AM-243	+	74.67	*	2.439E-01	1.047E-01	1.232E-01	9.245E-03	1.980
	+	86.72		3.679E+02	4.229E+01	2.380E+01	2.049E+00	15.459
		117.66		-1.648E+00	6.463E+00	9.113E+00	6.570E-01	-0.181
		142.18		-2.414E+01	2.701E+01	4.053E+01	2.549E+00	-0.596
ANH-511	+	511.00	*	2.258E-02	1.009E-01	8.837E-02	5.192E-03	0.255

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-4.652E-01	5.962E-01	9.398E-01	6.334E-02	-0.495

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22		1274.54	*	-2.760E-02	5.784E-02	8.901E-02	5.814E-03	-0.310
NA-24		1368.53	*	-2.420E-05	5.784E-02	Half-Life too short		
AL-26		1129.67		9.238E-01	3.060E+00	5.176E+00	3.269E-01	0.178
		1808.65	*	-2.737E-03	3.242E-02	5.285E-02	3.064E-03	-0.052
TI-44		67.85		1.084E-02	6.173E-02	9.925E-02	6.985E-03	0.109
	+	78.38	*	2.362E-01	6.686E-02	9.609E-02	7.502E-03	2.458
SC-46		889.25	*	2.217E-03	8.227E-02	1.379E-01	1.274E-02	0.016
		1120.51		9.038E-02	9.755E-02	1.711E-01	1.108E-02	0.528
V-48		944.10		3.364E-01	1.596E+00	2.693E+00	2.407E-01	0.125
		983.50	*	-9.258E-02	1.175E-01	1.851E-01	1.572E-02	-0.500
		1312.09		-1.121E-02	6.808E-02	1.086E-01	7.505E-03	-0.103
CR-51		320.08	*	6.637E-02	5.142E-01	8.658E-01	5.595E-02	0.077
MN-52		744.21		4.157E-02	1.716E-01	2.819E-01	1.989E-02	0.147
		848.13		-4.297E+00	5.147E+00	8.105E+00	6.964E-01	-0.530
		935.52		1.261E-01	2.389E-01	4.100E-01	3.701E-02	0.307
		1246.25		1.486E+00	2.914E+00	5.129E+00	3.196E-01	0.290
		1333.61		2.650E+02	2.377E+01	3.302E+01	2.353E+00	8.025
		1434.06	*	4.078E-02	1.091E-01	1.899E-01	1.331E-02	0.215
MN-54		834.83	*	1.113E-02	7.199E-02	1.220E-01	1.023E-02	0.091
CO-56		846.75	*	-3.664E-02	7.352E-02	1.191E-01	1.021E-02	-0.308
		977.42		-4.230E-01	6.456E+00	1.070E+01	9.167E-01	-0.040
		1037.82		-3.107E-01	6.664E-01	1.071E+00	8.873E-02	-0.290
		1175.09		1.431E+02	1.293E+01	2.263E+01	1.250E+00	6.324
		1238.25		7.794E-02	9.421E-02	1.690E-01	1.098E-02	0.461
		1360.21		-3.270E-01	1.186E+00	1.850E+00	1.314E-01	-0.177
		1771.40		-1.103E-01	2.694E-01	4.076E-01	2.432E-02	-0.271
CO-58		810.76	*	-4.324E-02	7.117E-02	1.085E-01	8.733E-03	-0.398
FE-59		142.65		-1.622E+00	3.527E+00	5.619E+00	3.523E-01	-0.289
		192.34		-9.628E-01	1.346E+00	2.090E+00	2.440E-01	-0.461
		1099.22	*	5.001E-02	1.783E-01	3.004E-01	2.313E-02	0.166
		1291.56		-3.560E-02	1.200E-01	1.872E-01	1.524E-02	-0.190
ZN-65		1115.52	*	-4.229E-01	1.906E-01	2.616E-01	1.719E-02	-1.617
GE-68		1077.35	*	-2.126E+00	2.640E+00	4.112E+00	2.956E-01	-0.517
AS-73		53.44	*	-1.604E-01	1.489E+00	2.388E+00	1.557E-01	-0.067
AS-74		595.88	*	3.966E-02	1.221E-01	2.034E-01	1.216E-02	0.195
		634.78		-4.570E-01	4.522E-01	6.748E-01	4.031E-02	-0.677
SE-75		66.05		-5.455E+00	6.538E+00	9.667E+00	8.791E-01	-0.564
		96.73		-1.725E+00	1.093E+00	1.646E+00	2.187E-01	-1.048
	+	121.11		9.895E-01	3.275E-01	4.349E-01	4.401E-02	2.275
	+	136.00		9.006E-02	6.074E-02	9.119E-02	6.023E-03	0.988
		198.60		4.036E-01	2.832E+00	4.585E+00	3.174E-01	0.088
		264.65	*	-7.399E-03	7.116E-02	1.194E-01	7.008E-03	-0.062
		279.53		-7.305E-02	1.653E-01	2.724E-01	1.715E-02	-0.268
		303.91		-1.573E+00	3.409E+00	5.592E+00	5.344E-01	-0.281
		400.65		2.277E-01	4.471E-01	7.600E-01	6.768E-02	0.300
BR-77	+	87.88		8.045E+02	9.248E+01	9.769E+01	8.533E+00	8.235
		200.40		2.728E+01	2.841E+01	4.755E+01	2.644E+00	0.574
	+	239.00		1.925E+01	2.751E+00	4.696E+00	2.696E-01	4.100
		249.79		-2.047E+00	1.270E+01	2.011E+01	1.161E+00	-0.102

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		281.68		-8.420E+00	1.610E+01	2.642E+01	1.541E+00	-0.319
		297.23		6.452E+00	1.112E+01	1.680E+01	9.801E-01	0.384
		303.76		-3.190E+01	3.388E+01	5.435E+01	3.167E+00	-0.587
		439.47		-6.143E+00	3.259E+01	5.338E+01	3.018E+00	-0.115
		484.57		-1.830E+01	4.923E+01	7.935E+01	4.608E+00	-0.231
		520.65	*	-1.707E+00	1.948E+00	2.998E+00	1.768E-01	-0.569
		574.64		1.095E+01	4.279E+01	6.481E+01	3.869E+00	0.169
		578.91		1.550E+01	1.895E+01	2.876E+01	1.718E+00	0.539
		585.48		2.123E+01	3.749E+01	5.559E+01	3.323E+00	0.382
		755.35		1.280E+01	3.567E+01	5.896E+01	4.254E+00	0.217
		817.79		-1.979E+01	3.041E+01	4.628E+01	3.762E+00	-0.427
SR-82		698.33		-3.595E+01	5.019E+01	7.685E+01	4.940E+00	-0.468
		776.49	*	-1.676E-01	6.237E-01	9.840E-01	7.398E-02	-0.170
		1395.20		-1.066E+00	1.123E+01	1.803E+01	1.274E+00	-0.059
RB-83		520.41	*	-1.040E-01	1.101E-01	1.686E-01	9.939E-03	-0.617
		529.64		-9.189E-02	1.818E-01	2.883E-01	1.705E-02	-0.319
		552.65		-2.402E-01	3.309E-01	5.141E-01	3.058E-02	-0.467
RB-84		881.50	*	-9.278E-02	1.280E-01	2.035E-01	1.855E-02	-0.456
KR-85		513.99	*	1.668E+01	1.291E+01	2.041E+01	1.201E+00	0.817
SR-85		513.99	*	7.897E-02	6.112E-02	9.665E-02	5.684E-03	0.817
RB-86		1076.63	*	-9.401E-01	1.293E+00	2.027E+00	1.460E-01	-0.464
Y-88		898.02		8.039E-02	9.216E-02	1.613E-01	1.520E-02	0.498
		1836.01	*	3.939E-03	4.719E-02	7.995E-02	4.541E-03	0.049
ZR-88		392.90	*	1.212E-02	4.930E-02	8.283E-02	4.510E-03	0.146
Y-91		1204.90	*	9.836E-01	2.371E+01	3.918E+01	2.279E+00	0.025
NB-94		702.63	*	-3.399E-02	6.237E-02	9.687E-02	6.282E-03	-0.351
		871.10		1.141E-02	7.254E-02	1.227E-01	1.098E-02	0.093
NB-95		765.79	*	3.887E-02	7.450E-02	1.242E-01	9.149E-03	0.313
NB-95M		235.69	*	7.439E-01	2.305E-01	3.685E-01	2.754E-02	2.019
ZR-95		724.18		1.436E-01	1.705E-01	2.897E-01	2.232E-02	0.496
		756.15	*	1.018E-01	1.252E-01	2.133E-01	1.759E-02	0.477
NB-97		657.90	*	2.640E-03	1.252E-01	Half-Life too short		
		1024.50		-5.727E-03	1.252E-01	Half-Life too short		
ZR-97		254.15		-1.760E-03	1.252E-01	Half-Life too short		
		355.39		-1.552E-03	1.252E-01	Half-Life too short		
		507.63	*	1.376E-03	1.252E-01	Half-Life too short		
		602.52		3.814E-03	1.252E-01	Half-Life too short		
		1021.30		-9.331E-03	1.252E-01	Half-Life too short		
		1147.95		-3.038E-03	1.252E-01	Half-Life too short		
		1362.66		7.914E-04	1.252E-01	Half-Life too short		
		1750.46		8.516E-04	1.252E-01	Half-Life too short		
MO-99		140.51		-9.455E+00	7.101E+00	8.606E+00	2.330E+00	-1.099
		181.06		-2.161E+00	4.289E+00	5.827E+00	9.920E-01	-0.371
		366.43		-2.110E+00	2.234E+01	3.702E+01	2.077E+00	-0.057
		739.58	*	-2.971E+00	3.372E+00	5.033E+00	7.208E-01	-0.590
		778.00		-6.275E-01	1.024E+01	1.640E+01	1.237E+00	-0.038
TC-99M		140.51	*	-7.386E+01	1.024E+01	Half-Life too short		
RH-101		127.23		8.408E-03	5.247E-02	7.975E-02	5.487E-03	0.105
		198.01	*	1.794E-02	5.267E-02	8.599E-02	4.771E-03	0.209

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		325.23		3.393E-01	3.745E-01	6.512E-01	3.769E-02	0.521
RH-102		418.52		5.237E-01	5.448E-01	9.439E-01	5.254E-02	0.555
		475.06	*	-2.087E-03	5.727E-02	9.417E-02	5.442E-03	-0.022
		631.29		1.191E-02	9.265E-02	1.521E-01	9.090E-03	0.078
		697.49		-6.982E-02	1.391E-01	2.167E-01	1.390E-02	-0.322
		766.84		1.506E-01	2.029E-01	3.430E-01	2.531E-02	0.439
		1046.59		5.322E-02	2.568E-01	4.316E-01	3.303E-02	0.123
		1112.84		-3.320E-01	4.680E-01	7.335E-01	4.847E-02	-0.453
RU-103		497.08	*	8.245E-04	6.754E-02	1.111E-01	1.407E-02	0.007
		610.33		5.518E+00	1.688E+00	2.807E+00	4.347E-01	1.966
RH-106		511.85		2.100E-02	3.362E-01	5.392E-01	3.169E-02	0.039
		621.84	*	-7.815E-02	5.478E-01	8.821E-01	1.043E-01	-0.089
		1050.47		8.956E-01	5.010E+00	8.408E+00	6.387E-01	0.107
RU-106		511.85		2.100E-02	3.362E-01	5.392E-01	3.169E-02	0.039
		621.84	*	-7.815E-02	5.478E-01	8.821E-01	5.275E-02	-0.089
		1050.47		8.956E-01	5.010E+00	8.408E+00	6.387E-01	0.107
AG-108M		433.93	*	1.810E-02	6.660E-02	1.116E-01	6.854E-03	0.162
		614.37		2.929E-02	7.894E-02	1.157E-01	7.471E-03	0.253
		722.95		-5.149E-02	8.539E-02	1.323E-01	9.509E-03	-0.389
AG-110M		657.75	*	1.204E+00	1.477E-01	2.577E-01	1.628E-02	4.672
		677.61		1.795E-01	5.272E-01	8.761E-01	5.685E-02	0.205
		706.67		1.192E-01	3.703E-01	6.126E-01	4.197E-02	0.195
		763.93		-4.409E-01	3.203E-01	4.612E-01	3.515E-02	-0.956
		884.67		-2.660E-02	1.049E-01	1.724E-01	1.625E-02	-0.154
		937.48		-8.513E-02	2.681E-01	4.391E-01	4.085E-02	-0.194
		1384.27		2.956E-02	1.791E-01	3.011E-01	2.220E-02	0.098
IN-111		171.28		4.287E-02	2.280E-01	3.718E-01	2.005E-02	0.115
		245.39	*	-1.191E-01	3.240E-01	4.397E-01	2.534E-02	-0.271
IN-113M		391.69	*	-1.285E-03	7.229E-02	1.199E-01	7.018E-03	-0.011
SN-113		391.69	*	-1.285E-03	7.229E-02	1.199E-01	7.018E-03	-0.011
IN-114M		190.27	*	7.065E-02	2.910E-01	4.155E-01	2.287E-02	0.170
CD-115		260.90		-1.292E+00	2.094E+01	3.521E+01	2.043E+00	-0.037
		492.35		2.673E+00	6.542E+00	1.101E+01	6.417E-01	0.243
		527.90	*	-7.728E-01	1.849E+00	2.949E+00	1.743E-01	-0.262
SN-117M		156.02		-5.923E-01	2.217E+00	3.551E+00	2.044E-01	-0.167
		158.56	*	-1.957E-02	5.484E-02	8.742E-02	4.945E-03	-0.224
SB-122		563.90	*	2.234E-01	5.783E-01	9.668E-01	5.763E-02	0.231
		692.80		9.076E+00	1.088E+01	1.867E+01	1.186E+00	0.486
I-123		159.00	*	7.905E-05	1.088E+01	Half-Life too short		
		528.96		-1.359E-02	1.088E+01	Half-Life too short		
TE-123M		159.00	*	5.556E-03	3.925E-02	6.401E-02	3.661E-03	0.087
I-124		602.71	*	1.072E-01	3.840E-01	5.551E-01	3.321E-02	0.193
		722.78		-1.380E+00	2.493E+00	3.875E+00	2.619E-01	-0.356
		1325.50		2.116E+01	1.662E+01	2.843E+01	2.005E+00	0.744
		1376.25		8.362E+00	1.087E+01	1.975E+01	1.399E+00	0.424
		1509.49		-1.531E+00	5.137E+00	7.821E+00	5.366E-01	-0.196
		1691.02		3.117E-01	1.456E+00	2.460E+00	1.550E-01	0.127
SB-124		602.71		2.008E-02	7.191E-02	1.040E-01	6.221E-03	0.193
		645.85		-5.172E-01	7.949E-01	1.225E+00	8.192E-02	-0.422

---- Non-Identified Nuclides ----

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		709.31		6.506E-01	4.679E+00	7.641E+00	5.025E-01	0.085
		713.82		-7.614E-01	2.746E+00	4.344E+00	4.652E-01	-0.175
		722.78		-3.747E-01	6.769E-01	1.052E+00	7.359E-02	-0.356
		968.20		2.489E+00	5.530E+00	9.426E+00	8.173E-01	0.264
		1045.16		1.059E+00	5.020E+00	8.444E+00	6.479E-01	0.125
		1325.50		6.134E+00	4.820E+00	8.243E+00	5.813E-01	0.744
		1368.21		-2.328E-01	1.914E+00	3.058E+00	3.840E-01	-0.076
		1436.60		-1.116E+00	4.326E+00	6.708E+00	4.699E-01	-0.166
		1691.02	*	1.996E-02	9.324E-02	1.575E-01	1.065E-02	0.127
SB-125		427.89	*	4.465E-02	1.807E-01	3.026E-01	1.773E-02	0.148
		463.38		4.923E-01	5.892E-01	1.008E+00	6.764E-02	0.489
		600.56		-3.389E-02	3.293E-01	5.184E-01	3.559E-02	-0.065
		635.90		-1.294E-01	4.426E-01	7.025E-01	4.875E-02	-0.184
TE-125M		109.28	*	-7.807E+00	1.170E+01	1.857E+01	1.740E+00	-0.420
I-126		388.63		-3.639E-02	2.358E-01	3.885E-01	2.122E-02	-0.094
		666.33	*	-5.934E-02	2.342E-01	3.186E-01	1.913E-02	-0.186
		753.82		5.640E-02	1.887E+00	3.048E+00	2.192E-01	0.019
SB-126		223.80		1.094E+00	4.481E+00	7.259E+00	4.123E-01	0.151
		278.60		3.838E-01	2.550E+00	4.317E+00	2.517E-01	0.089
		296.50		1.982E+00	1.813E+00	2.807E+00	1.637E-01	0.706
		414.70		-5.550E-03	9.262E-02	1.530E-01	8.490E-03	-0.036
		415.30		-4.397E+00	7.903E+00	1.272E+01	7.063E-01	-0.346
		555.20		3.632E+00	4.805E+00	8.228E+00	4.896E-01	0.441
		573.80		-4.365E-01	1.250E+00	1.869E+00	1.116E-01	-0.234
		593.00		-1.065E+00	1.105E+00	1.679E+00	1.004E-01	-0.634
		656.30		1.882E+00	4.904E+00	7.121E+00	4.239E-01	0.264
		666.33		-2.437E-02	9.619E-02	1.308E-01	7.857E-03	-0.186
		675.00		2.804E+00	2.251E+00	3.975E+00	2.432E-01	0.705
		695.00		-5.804E-03	9.294E-02	1.498E-01	9.559E-03	-0.039
		697.00		-3.067E-02	3.130E-01	5.028E-01	3.223E-02	-0.061
		720.50	*	4.782E-02	1.878E-01	3.086E-01	2.076E-02	0.155
		856.80		-2.195E-01	6.310E-01	1.034E+00	9.021E-02	-0.212
		989.30		3.531E-01	1.866E+00	3.142E+00	2.646E-01	0.112
		1034.80		9.826E+00	1.326E+01	2.302E+01	1.800E+00	0.427
		1213.00		-1.138E+00	3.441E+00	5.419E+00	3.196E-01	-0.210
SB-127		61.10		8.670E+02	7.645E+01	8.239E+01	6.240E+00	10.523
		252.40		-7.825E-01	1.924E+00	2.964E+00	1.218E+00	-0.264
		290.80		-7.332E+00	1.043E+01	1.455E+01	9.930E-01	-0.504
		411.60		-2.301E+00	5.625E+00	9.112E+00	1.174E+00	-0.253
		444.90		2.462E+00	5.212E+00	8.807E+00	7.741E-01	0.280
		473.00		3.267E-01	8.438E-01	1.418E+00	1.322E-01	0.230
		543.00		-1.622E+00	7.512E+00	1.212E+01	1.385E+00	-0.134
		603.60		1.788E+00	5.866E+00	8.501E+00	7.614E-01	0.210
		685.20	*	-3.300E-02	6.614E-01	1.067E+00	8.036E-02	-0.031
		698.50		-3.791E+00	6.999E+00	1.084E+01	1.453E+00	-0.350
		722.20		-1.376E+01	1.579E+01	2.397E+01	1.828E+00	-0.574
		783.80		-2.203E-02	1.892E+00	3.040E+00	3.045E-01	-0.007
XE-127		57.60		2.356E+02	2.207E+01	2.963E+01	1.951E+00	7.954
		145.22		1.066E+00	9.017E-01	1.532E+00	9.454E-02	0.696

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		172.10		7.570E-02	1.507E-01	2.492E-01	1.345E-02	0.304
		202.84	*	-4.453E-02	6.593E-02	1.028E-01	5.728E-03	-0.433
		374.96		-3.332E-01	2.966E-01	4.628E-01	2.573E-02	-0.720
I-131		80.18		-5.484E+00	4.139E+00	5.622E+00	4.487E-01	-0.975
		284.30		3.785E-01	1.296E+00	2.205E+00	1.416E-01	0.172
		364.48	*	-3.806E-02	1.092E-01	1.787E-01	1.119E-02	-0.213
		636.97		-9.833E-02	1.319E+00	2.131E+00	1.405E-01	-0.046
		722.89		-3.572E+00	7.382E+00	1.153E+01	7.817E-01	-0.310
TE-132		49.72		2.262E+00	6.002E+00	1.008E+01	7.300E-01	0.224
		111.76		3.732E-01	8.243E+00	1.352E+01	1.093E+00	0.028
		116.30		9.166E+00	9.025E+00	1.363E+01	1.085E+00	0.672
		228.16	*	-1.188E-01	2.300E-01	3.593E-01	4.719E-02	-0.331
BA-133		53.15		-2.450E+00	6.848E+00	1.091E+01	7.110E-01	-0.224
		79.62		-2.260E+00	2.255E+00	3.092E+00	4.588E-01	-0.731
		81.00		-1.896E-01	1.855E-01	2.343E-01	3.649E-02	-0.809
		276.40		1.033E-01	5.845E-01	9.905E-01	1.285E-01	0.104
		302.84		-2.904E-01	2.502E-01	3.942E-01	4.601E-02	-0.737
		356.01	*	-3.709E-03	8.650E-02	1.249E-01	1.436E-02	-0.030
		383.85		-5.019E-02	5.292E-01	8.751E-01	9.376E-02	-0.057
I-133	+	510.53		5.338E-04	5.292E-01	Half-Life too short		
		529.87	*	-1.122E-05	5.292E-01	Half-Life too short		
		706.58		-6.125E-05	5.292E-01	Half-Life too short		
		856.28		-2.001E-03	5.292E-01	Half-Life too short		
		875.33		3.097E-04	5.292E-01	Half-Life too short		
		1236.41		1.257E-03	5.292E-01	Half-Life too short		
		1298.22		5.415E-04	5.292E-01	Half-Life too short		
CS-134		475.35		-1.449E+00	3.775E+00	6.088E+00	3.519E-01	-0.238
		563.23		-1.025E-01	6.986E-01	1.132E+00	6.881E-02	-0.091
		569.32		-3.612E-01	3.798E-01	5.838E-01	3.581E-02	-0.619
		604.70		-3.088E-03	6.894E-02	9.668E-02	5.814E-03	-0.032
		795.84	*	1.416E-02	8.788E-02	1.429E-01	1.125E-02	0.099
		801.93		3.981E-01	8.012E-01	1.332E+00	1.058E-01	0.299
		1038.57		-9.948E-01	8.829E+00	1.454E+01	1.130E+00	-0.068
		1167.94		2.337E+01	6.276E+00	1.158E+01	6.495E-01	2.019
		1365.15		-2.251E-01	1.447E+00	2.297E+00	1.739E-01	-0.098
CS-135		268.24	*	1.496E-01	2.629E-01	4.524E-01	3.470E-02	0.331
I-135		288.45		7.694E+00	2.629E-01	Half-Life too short		
		417.63		2.365E+02	2.629E-01	Half-Life too short		
		546.56		2.345E+01	2.629E-01	Half-Life too short		
		836.80		-1.770E+01	2.629E-01	Half-Life too short		
		1038.76		1.118E+01	2.629E-01	Half-Life too short		
		1124.00		-3.978E+02	2.629E-01	Half-Life too short		
		1131.51		-1.112E+01	2.629E-01	Half-Life too short		
		1260.41	*	-4.869E+00	2.629E-01	Half-Life too short		
		1457.56		2.350E+02	2.629E-01	Half-Life too short		
		1678.03		-6.654E+01	2.629E-01	Half-Life too short		
		1706.46		-2.947E+01	2.629E-01	Half-Life too short		
		1791.20		3.697E+01	2.629E-01	Half-Life too short		
CS-136		66.91		-5.129E-01	6.819E-01	1.093E+00	1.594E-01	-0.469

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		86.29		2.046E+01	3.153E+00	3.293E+00	4.218E-01	6.214
		153.22		1.116E-02	6.442E-01	1.046E+00	7.601E-02	0.011
		163.89		5.184E-01	1.080E+00	1.784E+00	1.242E-01	0.291
		176.55		2.907E-01	3.626E-01	6.065E-01	3.746E-02	0.479
		273.65		-5.912E-01	4.975E-01	7.925E-01	5.254E-02	-0.746
		340.57		1.414E-01	1.622E-01	2.485E-01	1.516E-02	0.569
		818.51		-5.861E-02	1.055E-01	1.621E-01	1.320E-02	-0.362
		1048.07	*	4.166E-02	1.605E-01	2.708E-01	2.176E-02	0.154
		1235.34		2.570E-01	4.450E-01	7.783E-01	7.916E-02	0.330
CE-139		165.85	*	5.910E-02	4.244E-02	7.270E-02	3.903E-03	0.813
BA-140		162.64		-2.313E-01	7.615E-01	1.217E+00	7.608E-02	-0.190
		304.84		-8.556E-01	1.464E+00	2.358E+00	6.437E-01	-0.363
		423.70		-2.627E+00	2.618E+00	3.886E+00	1.234E+00	-0.676
		537.32	*	5.670E-02	3.197E-01	5.287E-01	1.721E-01	0.107
LA-140		328.77		2.519E-01	3.223E-01	5.575E-01	3.610E-02	0.452
		432.53		6.277E-01	2.763E+00	4.620E+00	2.887E-01	0.136
		487.03		-9.188E-03	1.742E-01	2.859E-01	1.881E-02	-0.032
		751.79		-1.358E+00	2.153E+00	3.296E+00	2.720E-01	-0.412
		815.85		9.255E-02	4.264E-01	6.958E-01	6.366E-02	0.133
		867.82		-6.572E-01	1.927E+00	3.154E+00	2.947E-01	-0.208
		919.63		-3.774E+00	4.633E+00	7.342E+00	8.155E-01	-0.514
		925.24		7.647E-01	1.884E+00	3.215E+00	3.100E-01	0.238
		1596.49	*	5.155E-02	7.608E-02	1.378E-01	9.137E-03	0.374
CE-141		145.44	*	9.281E-02	8.007E-02	1.359E-01	8.673E-03	0.683
CE-143		57.37		7.520E+02	8.882E+01	1.183E+02	9.521E+00	6.355
		231.56		1.107E+01	9.750E+01	1.448E+02	4.473E+01	0.076
	+	293.26	*	1.621E+01	6.304E+00	9.367E+00	1.916E+00	1.731
	+	350.59		3.972E+02	1.601E+02	1.449E+02	4.393E+01	2.741
		490.36		-1.358E+02	1.306E+02	1.907E+02	5.895E+01	-0.712
		664.57		3.249E+02	1.248E+02	1.322E+02	4.190E+01	2.457
		721.93		-4.064E+01	6.310E+01	9.580E+01	2.744E+01	-0.424
CE-144		80.11		-4.705E+00	3.597E+00	4.890E+00	3.893E-01	-0.962
		133.54	*	-1.480E-01	3.276E-01	4.528E-01	6.591E-02	-0.327
PM-144		476.78		-9.023E-02	1.336E-01	2.118E-01	1.467E-02	-0.426
		618.01		-3.178E-02	5.903E-02	8.961E-02	5.660E-03	-0.355
		696.49	*	1.616E-02	5.987E-02	9.880E-02	6.327E-03	0.164
		778.57		1.465E+00	4.618E+00	7.596E+00	5.734E-01	0.193
PR-144		696.49	*	1.091E+00	4.041E+00	6.669E+00	4.270E-01	0.164
		1489.15		1.171E+00	1.166E+01	1.941E+01	1.341E+00	0.060
PM-146		453.90	*	8.161E-02	9.256E-02	1.587E-01	1.359E-02	0.514
		633.02		-7.924E-01	2.351E+00	3.693E+00	1.361E+00	-0.215
		735.90		6.266E-02	2.830E-01	4.633E-01	1.304E-01	0.135
		747.13		1.348E-02	1.644E-01	2.668E-01	3.510E-02	0.051
ND-147		91.11		4.452E-01	2.498E-01	3.862E-01	3.549E-02	1.153
		319.41		-8.147E-01	3.509E+00	5.808E+00	3.370E-01	-0.140
		439.89		-3.344E+00	7.575E+00	1.225E+01	6.929E-01	-0.273
		531.02	*	-2.605E-01	6.293E-01	1.002E+00	1.360E-01	-0.260
PM-149		285.90	*	1.320E+01	1.441E+01	2.497E+01	3.538E+00	0.529
EU-152	+	121.78		5.575E-01	1.822E-01	2.461E-01	2.129E-02	2.265

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		244.69		-1.155E-01	6.349E-01	8.731E-01	5.029E-02	-0.132
		344.27	*	-2.428E-02	2.226E-01	2.799E-01	1.811E-02	-0.087
		443.98		1.567E+00	1.997E+00	3.423E+00	1.941E-01	0.458
		778.89		9.161E-02	5.349E-01	8.712E-01	6.580E-02	0.105
		867.32		-5.929E-01	1.738E+00	2.845E+00	2.530E-01	-0.208
		964.01		-4.322E-01	6.621E-01	1.061E+00	9.251E-02	-0.407
		1085.78		3.130E-01	8.769E-01	1.486E+00	1.048E-01	0.211
		1112.02		4.897E-02	6.593E-01	1.096E+00	7.255E-02	0.045
		1407.95		1.278E-01	2.188E-01	3.917E-01	2.761E-02	0.326
GD-153		69.67		6.880E-01	2.351E+00	3.462E+00	2.476E-01	0.199
		83.37		2.556E+01	2.674E+01	3.754E+01	3.104E+00	0.681
		97.43	*	-2.631E-02	1.083E-01	1.761E-01	1.413E-02	-0.149
		103.18		-3.790E-02	1.486E-01	2.412E-01	1.861E-02	-0.157
EU-154	+	123.07		3.912E-01	1.297E-01	1.727E-01	1.767E-02	2.265
		247.94		6.131E-01	6.422E-01	1.034E+00	9.852E-02	0.593
		591.81		-4.137E-01	1.100E+00	1.746E+00	1.726E-01	-0.237
		723.30		-8.018E-02	3.571E-01	5.683E-01	4.485E-02	-0.141
		756.87		1.542E+00	1.507E+00	2.590E+00	2.854E-01	0.596
		873.19		2.750E-01	6.463E-01	1.109E+00	1.387E-01	0.248
		996.32		2.416E-01	8.585E-01	1.451E+00	2.557E-01	0.167
		1004.76		-2.498E-01	4.689E-01	7.503E-01	8.516E-02	-0.333
		1274.45	*	-8.102E-02	1.619E-01	2.480E-01	2.432E-02	-0.327
EU-155		48.70		-1.559E+00	3.584E+00	5.901E+00	3.782E-01	-0.264
	+	60.01		4.084E+02	3.409E+01	3.308E+01	2.200E+00	12.345
	+	86.54		4.012E+00	4.639E-01	4.742E-01	4.116E-02	8.461
		105.31	*	1.320E-01	1.489E-01	2.524E-01	1.953E-02	0.523
TB-160	+	86.79		9.995E+00	1.149E+00	1.207E+00	1.041E-01	8.278
		197.04		2.063E-01	8.492E-01	1.381E+00	7.653E-02	0.149
		215.65		1.610E-01	1.168E+00	1.886E+00	1.064E-01	0.085
		298.57		1.419E-01	1.937E-01	2.956E-01	1.724E-02	0.480
		879.36	*	1.228E-01	2.774E-01	4.770E-01	4.333E-02	0.257
		962.29		-8.933E-02	1.104E+00	1.832E+00	1.601E-01	-0.049
		966.15		4.938E-01	4.283E-01	7.535E-01	6.552E-02	0.655
		1177.93		6.842E-02	5.770E-01	8.307E-01	4.613E-02	0.082
		1271.85		-3.601E-01	8.468E-01	1.310E+00	8.504E-02	-0.275
HO-166M		80.57		-5.719E-01	4.678E-01	6.387E-01	5.111E-02	-0.895
	+	184.41		8.832E-02	7.849E-02	9.303E-02	5.088E-03	0.949
		280.46		-6.501E-02	1.382E-01	2.274E-01	1.326E-02	-0.286
		410.95		-1.531E-01	4.419E-01	7.192E-01	3.979E-02	-0.213
		711.68	*	-3.519E-02	1.118E-01	1.765E-01	1.166E-02	-0.199
		752.31		-2.457E-01	5.164E-01	8.014E-01	5.747E-02	-0.307
		810.29		-8.407E-02	1.151E-01	1.735E-01	1.391E-02	-0.484
TM-171		51.35		1.133E+01	5.157E+01	8.627E+01	5.594E+00	0.131
		52.39		-2.070E+00	2.792E+01	4.638E+01	3.016E+00	-0.045
	+	59.40		2.138E+03	1.785E+02	1.804E+02	1.195E+01	11.849
		66.72	*	-3.031E+01	3.806E+01	5.902E+01	4.115E+00	-0.514
LU-176	+	88.36		7.924E+00	9.109E-01	9.510E-01	8.286E-02	8.333
		201.83		5.364E-03	4.674E-02	7.554E-02	4.207E-03	0.071
		306.84	*	-1.165E-02	4.199E-02	6.947E-02	4.046E-03	-0.168

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		401.10		-4.144E-02	1.238E+01	2.053E+01	1.126E+00	-0.002
LU-177		112.95		-1.571E-01	1.056E+00	1.716E+00	1.260E-01	-0.092
		208.36	*	1.101E+00	7.989E-01	1.354E+00	7.588E-02	0.813
LU-177M		52.97		-1.420E+00	2.989E+00	4.749E+00	3.093E-01	-0.299
		54.07		7.424E-01	1.750E+00	2.591E+00	1.692E-01	0.287
		61.30		7.087E+01	5.965E+00	7.478E+00	5.013E-01	9.476
	+	121.62		2.770E+00	8.951E-01	1.221E+00	8.686E-02	2.268
		147.16		2.495E-01	9.539E-01	1.566E+00	9.548E-02	0.159
		171.86		3.266E-01	6.782E-01	1.121E+00	6.048E-02	0.291
		218.09		-1.352E+00	1.434E+00	2.201E+00	1.244E-01	-0.614
		268.79		1.053E+00	1.284E+00	2.231E+00	1.298E-01	0.472
		319.02		-1.224E-01	4.271E-01	7.050E-01	4.091E-02	-0.174
		367.43		1.010E-01	1.599E+00	2.671E+00	1.497E-01	0.038
		413.65	*	7.578E-02	3.126E-01	5.243E-01	2.907E-02	0.145
HF-181		56.28		3.172E+00	1.918E+00	2.917E+00	1.914E-01	1.087
		57.53		1.843E+01	1.793E+00	2.467E+00	1.624E-01	7.472
		65.20		1.431E-01	1.190E+00	1.742E+00	1.200E-01	0.082
		133.02		-1.280E-01	9.951E-02	1.303E-01	8.657E-03	-0.982
	+	136.25		9.691E-01	6.536E-01	9.814E-01	6.395E-02	0.988
		345.85		-1.986E-01	3.350E-01	4.650E-01	2.658E-02	-0.427
		482.03	*	-4.667E-05	7.541E-02	1.242E-01	7.201E-03	0.000
W-181		56.28		1.349E+00	8.137E-01	1.238E+00	8.124E-02	1.090
		57.53		7.804E+00	7.602E-01	1.046E+00	6.891E-02	7.457
		65.20	*	6.027E-02	5.013E-01	7.337E-01	5.055E-02	0.082
TA-182		67.75		-6.450E-03	1.414E-01	2.256E-01	1.587E-02	-0.029
		100.10		-4.602E-02	2.390E-01	3.891E-01	3.062E-02	-0.118
		152.43		-9.203E-03	4.732E-01	7.672E-01	4.523E-02	-0.012
		222.10		4.959E-02	5.699E-01	9.170E-01	5.201E-02	0.054
		1001.68		3.430E+00	4.349E+00	7.567E+00	6.254E-01	0.453
		1121.28		3.231E-01	2.723E-01	4.838E-01	3.127E-02	0.668
		1189.05		1.123E-02	4.411E-01	7.282E-01	4.123E-02	0.015
		1221.42	*	-4.221E-02	2.226E-01	3.576E-01	2.139E-02	-0.118
		1230.97		-7.808E-02	5.164E-01	8.330E-01	5.062E-02	-0.094
RE-183	+	57.98		1.425E+01	1.189E+00	1.195E+00	7.882E-02	11.918
	+	59.32		8.189E+00	6.836E-01	6.945E-01	4.600E-02	11.791
		67.20		-1.022E-01	2.379E-01	3.875E-01	2.712E-02	-0.264
		162.32	*	-7.416E-02	1.555E-01	2.465E-01	1.357E-02	-0.301
		208.81		1.898E+00	1.471E+00	2.485E+00	1.393E-01	0.764
		291.72		-7.399E-01	1.660E+00	2.358E+00	1.376E-01	-0.314
RE-184	+	57.98		5.486E+01	4.580E+00	4.603E+00	3.035E-01	11.918
	+	59.32		3.151E+01	2.630E+00	2.672E+00	1.770E-01	11.791
		67.20		-3.935E-01	9.157E-01	1.491E+00	1.044E-01	-0.264
		161.27		3.129E-02	5.109E-01	8.299E-01	4.605E-02	0.038
		216.55		-2.078E-01	4.329E-01	6.792E-01	3.835E-02	-0.306
		252.85	*	5.427E-02	3.787E-01	6.087E-01	3.521E-02	0.089
		318.01		2.101E-01	7.313E-01	1.241E+00	7.201E-02	0.169
		792.07		-9.522E-02	1.858E+00	2.976E+00	2.305E-01	-0.032
		903.28		-1.508E+00	2.628E+00	3.591E+00	3.352E-01	-0.420
		920.93		-1.010E+00	1.112E+00	1.754E+00	1.608E-01	-0.576

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185	+	59.72		2.277E+01	1.901E+00	1.882E+00	1.249E-01	12.095
		61.14		8.829E+00	7.181E-01	8.554E-01	5.727E-02	10.322
		69.30		9.106E-03	4.134E-01	6.014E-01	4.286E-02	0.015
		592.07		-3.294E+00	4.320E+00	6.665E+00	3.985E-01	-0.494
		646.12	*	-7.812E-02	7.218E-02	1.073E-01	6.397E-03	-0.728
		717.42		-8.858E-04	1.631E+00	2.636E+00	1.762E-01	0.000
		874.81		5.582E-01	1.185E+00	2.041E+00	1.839E-01	0.273
		880.27		3.218E-01	1.566E+00	2.656E+00	2.416E-01	0.121
RE-188		155.03	*	6.135E-02	2.295E-01	3.766E-01	2.182E-02	0.163
		477.96		-1.981E+00	5.717E+00	9.238E+00	5.347E-01	-0.214
		633.10		-1.540E+00	4.380E+00	6.925E+00	4.137E-01	-0.222
W-188		63.58		-5.843E+01	7.040E+01	9.943E+01	6.769E+00	-0.588
		227.08		-9.537E-01	1.970E+01	3.148E+01	1.793E+00	-0.030
		290.67	*	-9.102E+00	1.312E+01	1.831E+01	1.068E+00	-0.497
IR-192	+	295.96		5.528E-01	1.858E-01	3.140E-01	1.860E-02	1.761
		308.46		5.018E-02	1.532E-01	2.604E-01	1.533E-02	0.193
		316.51	*	1.010E-02	5.470E-02	9.237E-02	5.391E-03	0.109
		468.07		-3.537E-02	1.299E-01	2.112E-01	1.404E-02	-0.167
		604.41		-1.653E-01	8.677E-01	1.200E+00	1.373E-01	-0.138
		612.46		5.511E-01	1.271E+00	1.875E+00	1.446E-01	0.294
AU-195		65.12		3.838E-02	2.359E-01	3.459E-01	2.382E-02	0.111
		66.83		-1.003E-01	1.232E-01	1.909E-01	1.332E-02	-0.526
	+	75.70		7.668E-01	3.292E-01	5.090E-01	3.861E-02	1.507
		98.88	*	-9.519E-03	3.063E-01	5.022E-01	3.985E-02	-0.019
		129.76		3.238E+00	4.092E+00	6.872E+00	4.656E-01	0.471
TL-200		367.94	*	-6.848E-01	6.568E+00	1.088E+01	6.094E-01	-0.063
		579.30		8.797E+01	5.594E+01	8.988E+01	5.369E+00	0.979
		828.27		-2.001E+00	7.956E+01	1.334E+02	1.105E+01	-0.015
		1205.75		2.279E+01	2.622E+01	4.696E+01	2.736E+00	0.485
TL-201		68.90		1.751E-01	1.252E+00	1.831E+00	1.301E-01	0.096
		70.82		3.117E-01	7.087E-01	1.049E+00	7.583E-02	0.297
		80.30		-2.087E+00	1.542E+00	2.091E+00	1.668E-01	-0.998
	+	135.34		1.081E+01	7.289E+00	1.102E+01	7.220E-01	0.981
		167.43	*	-6.197E-01	1.858E+00	2.961E+00	1.590E-01	-0.209
TL-202		68.90		5.761E-02	4.118E-01	6.025E-01	4.279E-02	0.096
		70.82		1.022E-01	2.325E-01	3.442E-01	2.488E-02	0.297
		80.30		-6.850E-01	5.061E-01	6.862E-01	5.475E-02	-0.998
		439.56	*	-1.517E-02	9.384E-02	1.539E-01	8.701E-03	-0.099
HG-203		70.83		6.148E-01	1.385E+00	2.049E+00	2.616E-01	0.300
		72.87		7.439E-01	8.388E-01	1.256E+00	1.560E-01	0.592
		82.60		1.295E+00	2.012E+00	2.536E+00	3.418E-01	0.511
		279.20	*	-1.174E-02	5.761E-02	9.599E-02	5.939E-03	-0.122
BI-207		72.80		2.614E-01	2.712E-01	4.089E-01	3.011E-02	0.639
	+	74.97		4.375E-01	1.879E-01	2.720E-01	2.047E-02	1.609
		84.90		4.806E-01	3.428E-01	5.193E-01	4.374E-02	0.925
		569.67		-4.234E-02	5.781E-02	9.012E-02	5.377E-03	-0.470
		1063.62	*	1.510E-02	1.103E-01	1.846E-01	1.366E-02	0.082
		1770.23		-6.037E-01	6.506E-01	8.694E-01	5.193E-02	-0.694
TL-207		81.07		-4.033E-01	4.063E-01	5.194E-01	4.181E-02	-0.776

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		83.78		2.448E-01	2.170E-01	3.270E-01	2.717E-02	0.748
		94.90		2.088E-01	3.227E-01	5.251E-01	4.297E-02	0.398
	+	122.32		1.329E+01	4.318E+00	5.928E+00	4.652E-01	2.242
		144.24		1.171E+00	1.011E+00	1.716E+00	1.298E-01	0.682
		154.21		1.873E-01	5.698E-01	9.374E-01	6.595E-02	0.200
		269.46		2.075E-01	3.112E-01	5.376E-01	3.269E-02	0.386
		323.87	*	-9.686E-01	1.131E+00	1.795E+00	2.965E-01	-0.539
	+	338.28		5.183E+00	2.872E+00	3.485E+00	3.660E-01	1.487
		445.03		2.061E+00	4.746E+00	8.005E+00	8.165E-01	0.257
PO-209		260.50		9.684E+00	1.615E+01	2.787E+01	1.617E+00	0.347
		262.80		-1.584E+01	4.498E+01	7.467E+01	4.337E+00	-0.212
		896.60	*	1.318E+01	1.714E+01	2.988E+01	2.796E+00	0.441
BI-210		46.50	*	-6.420E+00	4.580E+00	7.335E+00	5.439E-01	-0.875
PB-210		46.50	*	-6.420E+00	4.580E+00	7.335E+00	5.439E-01	-0.875
PO-210		46.50	*	-6.420E+00	4.573E+00	7.335E+00	4.602E-01	-0.875
PB-211		404.84	*	1.167E+00	1.852E+00	2.921E+00	1.820E+00	0.399
		427.08		2.855E+00	4.352E+00	6.820E+00	4.214E+00	0.419
		831.96		-7.318E-01	2.429E+00	3.924E+00	2.457E+00	-0.186
BI-212		727.18	*	4.681E-01	5.877E-01	9.955E-01	8.469E-02	0.470
		785.46		-1.078E+00	3.653E+00	5.752E+00	4.400E-01	-0.187
		1620.62		1.072E+00	1.554E+00	2.860E+00	1.873E-01	0.375
PO-215		81.07		-4.033E-01	4.063E-01	5.194E-01	4.181E-02	-0.776
		83.78		2.448E-01	2.170E-01	3.270E-01	2.717E-02	0.748
		94.90		2.088E-01	3.227E-01	5.251E-01	4.297E-02	0.398
	+	122.32		1.329E+01	4.318E+00	5.928E+00	4.652E-01	2.242
		144.24		1.171E+00	1.011E+00	1.716E+00	1.298E-01	0.682
		154.21		1.873E-01	5.698E-01	9.374E-01	6.595E-02	0.200
		269.46		2.075E-01	3.112E-01	5.376E-01	3.269E-02	0.386
		323.87	*	-9.686E-01	1.131E+00	1.795E+00	2.965E-01	-0.539
	+	338.28		5.183E+00	2.872E+00	3.485E+00	3.660E-01	1.487
		445.03		2.061E+00	4.746E+00	8.005E+00	8.165E-01	0.257
RN-219		271.23		3.293E-01	3.943E-01	6.848E-01	5.561E-02	0.481
		401.81	*	2.232E-01	7.750E-01	1.303E+00	1.756E-01	0.171
RN-220		549.76	*	-4.730E+01	4.531E+01	6.854E+01	4.074E+00	-0.690
RA-223		81.07		-4.033E-01	4.063E-01	5.194E-01	4.181E-02	-0.776
		83.78		2.448E-01	2.170E-01	3.270E-01	2.717E-02	0.748
		94.90		2.088E-01	3.227E-01	5.251E-01	4.297E-02	0.398
	+	122.32		1.329E+01	4.318E+00	5.928E+00	4.652E-01	2.242
		144.24		1.171E+00	1.011E+00	1.716E+00	1.298E-01	0.682
		154.21		1.873E-01	5.698E-01	9.374E-01	6.595E-02	0.200
		269.46		2.075E-01	3.112E-01	5.376E-01	3.269E-02	0.386
		323.87	*	-9.686E-01	1.131E+00	1.795E+00	2.965E-01	-0.539
	+	338.28		5.183E+00	2.872E+00	3.485E+00	3.660E-01	1.487
		445.03		2.061E+00	4.746E+00	8.005E+00	8.165E-01	0.257
AC-227		79.80		-3.282E+00	2.908E+00	3.887E+00	8.254E-01	-0.844
		236.00		2.299E+00	5.285E-01	8.185E-01	8.524E-02	2.809
		256.20	*	-2.635E-01	6.249E-01	1.033E+00	1.442E-01	-0.255
		286.10		2.333E+00	2.591E+00	4.498E+00	5.208E-01	0.519
		299.80		2.696E+00	2.717E+00	4.159E+00	6.777E-01	0.648

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		304.40		-1.105E+00	3.208E+00	5.287E+00	9.150E-01	-0.209
		334.20		2.536E+00	4.437E+00	6.659E+00	1.220E+00	0.381
TH-227		79.80		-3.282E+00	2.910E+00	3.887E+00	8.362E-01	-0.844
		94.00		2.954E+00	2.821E+00	4.475E+00	9.680E-01	0.660
		236.00		2.299E+00	5.148E-01	8.185E-01	7.377E-02	2.809
		256.20	*	-2.635E-01	6.254E-01	1.033E+00	1.746E-01	-0.255
		286.10		2.333E+00	3.479E+00	4.498E+00	4.506E+00	0.519
		299.80		2.696E+00	2.717E+00	4.159E+00	6.777E-01	0.648
		304.40		-1.105E+00	3.208E+00	5.287E+00	9.150E-01	-0.209
		334.20		2.536E+00	4.437E+00	6.659E+00	1.220E+00	0.381
AC-228	+	338.32		1.241E+00	8.439E-01	8.345E-01	3.401E-01	1.488
	+	911.07	*	7.118E-01	4.406E-01	5.788E-01	6.798E-02	1.230
		969.11		3.899E-01	5.918E-01	1.008E+00	2.355E-01	0.387
RA-228	+	338.32		1.241E+00	8.439E-01	8.345E-01	3.401E-01	1.488
	+	911.07	*	7.118E-01	4.406E-01	5.788E-01	6.798E-02	1.230
		969.11		3.899E-01	5.918E-01	1.008E+00	2.355E-01	0.387
TH-229		85.43		1.577E+00	3.899E-01	6.071E-01	5.146E-02	2.597
	+	88.47		4.562E+00	5.244E-01	5.452E-01	4.745E-02	8.366
		100.00		-5.428E-02	2.595E-01	4.222E-01	3.325E-02	-0.129
		193.63	*	-4.598E-02	7.998E-01	1.285E+00	7.095E-02	-0.036
		210.97		-7.240E-01	1.291E+00	2.023E+00	1.136E-01	-0.358
PA-231		283.67	*	-4.677E-01	2.570E+00	4.283E+00	5.908E-01	-0.109
		301.29		6.857E-01	9.664E-01	1.627E+00	1.704E-01	0.421
TH-231		81.07		-4.033E-01	4.063E-01	5.194E-01	4.181E-02	-0.776
		83.78		2.448E-01	2.170E-01	3.270E-01	2.717E-02	0.748
		94.90		2.088E-01	3.227E-01	5.251E-01	4.297E-02	0.398
	+	122.32		1.329E+01	4.318E+00	5.928E+00	4.652E-01	2.242
		144.24		1.171E+00	1.011E+00	1.716E+00	1.298E-01	0.682
		154.21		1.873E-01	5.698E-01	9.374E-01	6.595E-02	0.200
		269.46		2.075E-01	3.112E-01	5.376E-01	3.269E-02	0.386
		323.87	*	-9.686E-01	1.131E+00	1.795E+00	2.965E-01	-0.539
	+	338.28		5.183E+00	2.872E+00	3.485E+00	3.660E-01	1.487
		445.03		2.061E+00	4.746E+00	8.005E+00	8.165E-01	0.257
U-231		84.21		2.788E+00	2.701E+00	4.055E+00	3.387E-01	0.687
		92.29		8.535E-01	8.476E-01	1.308E+00	1.096E-01	0.652
		95.87	*	-7.213E-01	4.407E-01	6.719E-01	5.454E-02	-1.074
		108.00		-9.407E-01	8.237E-01	1.279E+00	9.606E-02	-0.736
TH-232	+	338.32		1.241E+00	6.791E-01	8.345E-01	4.794E-02	1.488
	+	911.07	*	7.118E-01	4.406E-01	5.788E-01	6.798E-02	1.230
		969.11		3.899E-01	5.918E-01	1.008E+00	2.355E-01	0.387
PA-233	+	75.28		1.277E+01	5.719E+00	8.254E+00	1.220E+00	1.548
	+	86.59		6.541E+01	1.823E+01	7.765E+00	2.082E+00	8.423
		300.12		7.433E-01	7.228E-01	1.157E+00	1.556E-01	0.643
		311.98	*	-5.602E-02	1.096E-01	1.792E-01	1.106E-02	-0.313
		340.50		1.043E+00	1.196E+00	1.800E+00	4.131E-01	0.580
		398.62		3.488E-01	3.766E+00	6.278E+00	1.619E+00	0.056
		415.76		-1.524E+00	3.184E+00	5.123E+00	1.051E+00	-0.298
PA-234		63.00		-1.648E+00	2.225E+00	3.142E+00	4.574E-01	-0.524
		94.67		2.045E-01	2.334E-01	3.816E-01	4.622E-02	0.536

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		98.44		9.404E-03	1.285E-01	2.114E-01	1.177E-01	0.044
		99.86		-8.899E-02	6.557E-01	1.070E+00	8.434E-02	-0.083
		111.00		-2.176E-02	2.565E-01	4.183E-01	4.708E-02	-0.052
		131.20		-5.507E-02	1.705E-01	2.526E-01	1.696E-02	-0.218
		152.70		5.198E-02	4.744E-01	7.732E-01	1.225E-01	0.067
	+	186.00		3.179E+00	2.982E+00	3.437E+00	1.048E+00	0.925
		226.40		-2.546E-01	6.757E-01	1.063E+00	1.223E-01	-0.240
		227.20		7.627E-03	7.196E-01	1.153E+00	6.566E-02	0.007
		248.90		1.006E+00	1.415E+00	2.311E+00	4.964E-01	0.436
	+	293.70		3.736E+00	1.374E+00	2.165E+00	3.484E-01	1.726
		369.80		9.494E-01	1.540E+00	2.620E+00	5.441E-01	0.362
		568.70		1.685E-01	1.892E+00	3.114E+00	1.857E-01	0.054
		569.50		-5.371E-01	5.273E-01	8.064E-01	4.811E-02	-0.666
		574.00		-9.924E-01	2.741E+00	4.093E+00	2.443E-01	-0.242
		699.00		3.014E-03	1.284E+00	2.077E+00	3.780E-01	0.001
		706.10		2.895E-01	1.929E+00	3.146E+00	1.392E+00	0.092
		733.00		7.276E-03	7.136E-01	1.153E+00	2.489E-01	0.006
		742.81		-6.196E-01	2.586E+00	4.040E+00	2.708E+00	-0.153
		796.30		1.788E-01	1.705E+00	2.761E+00	7.402E-01	0.065
		805.60		1.010E+00	1.994E+00	3.285E+00	1.001E+00	0.307
		819.60		-4.303E-01	2.635E+00	4.170E+00	1.581E+00	-0.103
		826.30		1.057E-01	1.697E+00	2.859E+00	1.277E+00	0.037
		831.60		-3.788E-01	1.240E+00	2.031E+00	6.045E-01	-0.187
		876.40		2.752E-01	1.855E+00	3.098E+00	3.185E+00	0.089
		880.51		4.360E-02	5.986E-01	1.007E+00	9.160E-02	0.043
		883.24		-1.692E-01	6.397E-01	1.035E+00	6.962E-01	-0.164
		899.00		5.768E-01	1.997E+00	3.367E+00	1.477E+00	0.171
		925.00		1.063E+00	2.935E+00	4.996E+00	4.562E-01	0.213
		926.50		3.868E-01	4.523E-01	7.723E-01	1.966E-01	0.501
		946.00	*	8.421E-02	7.350E-01	1.233E+00	2.331E-01	0.068
		949.00		1.967E-01	1.051E+00	1.771E+00	1.574E-01	0.111
		980.50		7.785E-01	1.657E+00	2.838E+00	2.420E-01	0.274
		1394.10		-1.463E-01	1.499E+00	2.400E+00	1.557E+00	-0.061
PA-234M		766.42		1.480E+01	2.280E+01	3.633E+01	1.836E+01	0.407
		1001.03	*	6.603E+00	1.035E+01	1.786E+01	1.726E+00	0.370
TH-234		63.29	*	-1.336E+00	1.896E+00	2.678E+00	4.603E-01	-0.499
		92.38		7.307E-01	7.827E-01	1.192E+00	2.142E-01	0.613
U-235		89.95		1.953E+01	6.404E+00	4.036E+00	1.245E+00	4.839
		93.35		8.003E-01	9.440E-01	1.413E+00	3.946E-01	0.566
		105.00		1.484E+00	1.533E+00	2.506E+00	7.411E-01	0.592
		143.76	*	2.400E-01	3.097E-01	5.156E-01	8.487E-02	0.465
		163.35		-1.195E-01	7.155E-01	1.150E+00	2.055E-01	-0.104
	+	185.71		1.178E-01	1.046E-01	1.273E-01	6.974E-03	0.925
		205.31		-1.236E+00	8.787E-01	1.278E+00	2.290E-01	-0.967
NP-236		94.67		1.560E-01	1.765E-01	2.895E-01	2.374E-02	0.539
		98.44		7.132E-03	9.707E-02	1.598E-01	1.272E-02	0.045
		111.00		-1.646E-02	1.940E-01	3.164E-01	2.343E-02	-0.052
		160.31	*	7.613E-02	1.169E-01	1.948E-01	1.088E-02	0.391
U-238		63.29	*	-1.336E+00	1.896E+00	2.678E+00	4.603E-01	-0.499

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		92.38		7.307E-01	7.740E-01	1.192E+00	9.975E-02	0.613
NP-239		99.55		6.914E-05	2.199E-01	3.609E-01	2.850E-02	0.000
		117.00	*	1.666E-01	3.192E-01	4.703E-01	3.399E-02	0.354
		209.75		1.280E+00	1.274E+00	2.128E+00	1.194E-01	0.601
		228.18		-2.007E-01	3.767E-01	5.890E-01	3.356E-02	-0.341
		277.60		4.908E-02	2.860E-01	4.845E-01	2.824E-02	0.101
		334.30		1.590E+00	2.509E+00	3.797E+00	2.187E-01	0.419
CM-243		99.55		7.110E-05	2.262E-01	3.712E-01	2.932E-02	0.000
		103.76	*	8.907E-02	1.376E-01	2.312E-01	1.778E-02	0.385
		117.00		1.713E-01	3.282E-01	4.836E-01	3.495E-02	0.354
		209.75		1.261E+00	1.255E+00	2.096E+00	1.176E-01	0.601
		228.18		-2.027E-01	3.804E-01	5.948E-01	3.390E-02	-0.341
		277.60		4.945E-02	2.881E-01	4.882E-01	2.846E-02	0.101
AM-246		798.80		-1.323E-01	2.772E-01	4.292E-01	3.367E-02	-0.308
		1036.00		3.902E-01	6.911E-01	1.187E+00	9.264E-02	0.329
		1062.04		5.024E-02	4.711E-01	7.868E-01	5.842E-02	0.064
		1078.86	*	-2.565E-02	3.030E-01	4.987E-01	3.573E-02	-0.051
CM-247		278.00		3.962E-01	1.173E+00	2.001E+00	1.167E-01	0.198
		287.40		1.208E+00	2.080E+00	3.580E+00	2.089E-01	0.337
		402.60	*	2.050E-02	6.949E-02	1.169E-01	6.423E-03	0.175
CF-249		252.85		2.101E-01	1.466E+00	2.356E+00	1.363E-01	0.089
		333.44		2.502E-02	3.271E-01	4.779E-01	2.754E-02	0.052
		387.95	*	-1.117E-02	6.894E-02	1.135E-01	6.208E-03	-0.098
CF-251		176.60	*	1.519E-01	1.865E-01	3.122E-01	1.693E-02	0.487
		227.00		-5.703E-02	6.365E-01	1.015E+00	5.781E-02	-0.056
		285.00		1.634E+00	2.970E+00	5.107E+00	2.979E-01	0.320

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003354    *
* Acquisition date : 31-DEC-2009 13:19:17 Detector SN#     :               *
* Detector ID        : GAM14                Sensitivity      : 5.000       *
* Geometry           : CAN                  Energy tolerance: 1.500        *
* Elapsed live time:     0 01:00:00.00      Abundance limit : 75.000       *
* Elapsed real time:     0 01:00:01.56      Half life ratio :  8.000       *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        : 24-DEC-2009 00:00:00 Nuclide Library : SOLID        *
* Sample ID          : G1202003354          Analyst initials: MJH1         *
* Batch Number       : 936285               Sample Quantity : 1.5544E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000    *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME :  6-MAR-2009 11:43:06 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope      :               *
* LCS DPM          :    0.000             LCS Isotope      :               *
* LCSD DPM         :    0.000             LCSD Isotope     :               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.432E+00	5.056E-01	6.197E-01	0.000E+00
CO-57	1.886E-01	5.972E-02	6.636E-02	0.000E+00
CO-60	6.509E+00	5.594E-01	9.475E-02	0.000E+00
CD-109	3.361E+01	3.786E+00	2.170E+00	0.000E+00
SN-126	3.341E+00	3.764E-01	2.165E-01	0.000E+00
BA-137M	5.416E+00	3.964E-01	1.059E-01	0.000E+00
CS-137	5.726E+00	4.201E-01	1.120E-01	0.000E+00
TL-208	3.332E-01	1.097E-01	9.801E-02	0.000E+00
BI-211	2.291E+00	6.127E-01	6.017E-01	0.000E+00
PB-212	1.095E+00	1.606E-01	1.496E-01	0.000E+00
PO-212	1.095E+00	1.606E-01	1.496E-01	0.000E+00
BI-214	6.232E-01	2.539E-01	2.025E-01	0.000E+00
PB-214	7.969E-01	2.170E-01	2.125E-01	0.000E+00
PO-214	7.969E-01	2.170E-01	2.125E-01	0.000E+00
PO-216	1.095E+00	1.606E-01	1.496E-01	0.000E+00
PO-218	7.969E-01	2.170E-01	2.125E-01	0.000E+00
RA-224	2.648E+00	1.516E+00	1.702E+00	0.000E+00
RA-226	6.232E-01	2.539E-01	2.025E-01	0.000E+00
TH-228	1.103E+00	1.619E-01	1.508E-01	0.000E+00
TH-230	6.232E-01	2.539E-01	2.025E-01	0.000E+00
U-234	6.232E-01	2.539E-01	2.025E-01	0.000E+00
NP-237	9.811E+00	2.271E+00	6.905E-01	0.000E+00
AM-241	1.259E+01	1.110E+00	4.832E-01	0.000E+00
AM-243	2.439E-01	1.026E-01	1.343E-01	0.000E+00
ANH-511	2.258E-02	9.886E-02	9.174E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)		
BE-7	-4.652E-01		5.843E-01	9.774E-01	0.000E+00	NOT IDENT.
NA-22	-2.760E-02		5.669E-02	9.011E-02	0.000E+00	NOT IDENT.

NA-24	0.000E+00	1.922E+02	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.737E-03	3.177E-02	5.298E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.552E-02	1.046E-01	0.000E+00	FAIL ABUN
SC-46	2.217E-03	8.062E-02	1.410E-01	0.000E+00	NOT IDENT.
V-48	-9.258E-02	1.152E-01	1.888E-01	0.000E+00	NOT IDENT.
CR-51	6.637E-02	5.039E-01	9.099E-01	0.000E+00	NOT IDENT.
MN-52	4.078E-02	1.069E-01	1.916E-01	0.000E+00	NOT IDENT.
MN-54	1.113E-02	7.055E-02	1.249E-01	0.000E+00	NOT IDENT.
CO-56	-3.664E-02	7.205E-02	1.219E-01	0.000E+00	NOT IDENT.
CO-58	-4.324E-02	6.974E-02	1.113E-01	0.000E+00	NOT IDENT.
FE-59	5.001E-02	1.747E-01	3.054E-01	0.000E+00	NOT IDENT.
ZN-65	-4.229E-01	1.868E-01	2.658E-01	0.000E+00	NOT IDENT.
GE-68	-2.126E+00	2.587E+00	4.183E+00	0.000E+00	NOT IDENT.
AS-73	-1.604E-01	1.459E+00	2.624E+00	0.000E+00	NOT IDENT.
AS-74	3.966E-02	1.196E-01	2.102E-01	0.000E+00	NOT IDENT.
SE-75	-7.399E-03	6.974E-02	1.261E-01	0.000E+00	FAIL ABUN
BR-77	-1.707E+00	1.909E+00	3.111E+00	0.000E+00	FAIL ABUN
SR-82	-1.676E-01	6.113E-01	1.010E+00	0.000E+00	NOT IDENT.
RB-83	-1.040E-01	1.079E-01	1.749E-01	0.000E+00	NOT IDENT.
RB-84	-9.278E-02	1.254E-01	2.082E-01	0.000E+00	NOT IDENT.
KR-85	1.668E+01	1.265E+01	2.119E+01	0.000E+00	NOT IDENT.
SR-85	7.897E-02	5.990E-02	1.003E-01	0.000E+00	NOT IDENT.
RB-86	-9.401E-01	1.267E+00	2.062E+00	0.000E+00	NOT IDENT.
Y-88	3.939E-03	4.624E-02	8.011E-02	0.000E+00	NOT IDENT.
ZR-88	1.212E-02	4.832E-02	8.658E-02	0.000E+00	NOT IDENT.
Y-91	9.836E-01	2.323E+01	3.973E+01	0.000E+00	NOT IDENT.
NB-94	-3.399E-02	6.112E-02	9.970E-02	0.000E+00	NOT IDENT.
NB-95	3.887E-02	7.301E-02	1.276E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.259E-01	3.903E-01	0.000E+00	NOT IDENT.
ZR-95	1.018E-01	1.227E-01	2.191E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.706E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.191E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-2.971E+00	3.304E+00	5.172E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.191E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.794E-02	5.161E-02	9.150E-02	0.000E+00	NOT IDENT.
RH-102	-2.087E-03	5.612E-02	9.794E-02	0.000E+00	NOT IDENT.
RU-103	8.245E-04	6.619E-02	1.154E-01	0.000E+00	NOT IDENT.
RH-106	-7.815E-02	5.369E-01	9.109E-01	0.000E+00	NOT IDENT.
RU-106	-7.815E-02	5.368E-01	9.109E-01	0.000E+00	NOT IDENT.
AG-108M	1.810E-02	6.526E-02	1.163E-01	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	1.448E-01	2.657E-01	0.000E+00	NOT IDENT.
IN-111	-1.191E-01	3.175E-01	4.653E-01	0.000E+00	NOT IDENT.
IN-113M	-1.285E-03	7.084E-02	1.254E-01	0.000E+00	NOT IDENT.
SN-113	-1.285E-03	7.084E-02	1.254E-01	0.000E+00	NOT IDENT.
IN-114M	7.065E-02	2.852E-01	4.425E-01	0.000E+00	NOT IDENT.
CD-115	-7.728E-01	1.812E+00	3.059E+00	0.000E+00	NOT IDENT.
SN-117M	-1.957E-02	5.374E-02	9.354E-02	0.000E+00	NOT IDENT.
SB-122	2.234E-01	5.668E-01	1.001E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	5.473E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	5.556E-03	3.847E-02	6.849E-02	0.000E+00	NOT IDENT.
I-124	1.072E-01	3.763E-01	5.737E-01	0.000E+00	NOT IDENT.
SB-124	1.996E-02	9.138E-02	1.582E-01	0.000E+00	NOT IDENT.
SB-125	4.465E-02	1.771E-01	3.156E-01	0.000E+00	NOT IDENT.
TE-125M	-7.807E+00	1.146E+01	2.005E+01	0.000E+00	NOT IDENT.
I-126	-5.934E-02	2.295E-01	3.283E-01	0.000E+00	NOT IDENT.
SB-126	4.782E-02	1.840E-01	3.174E-01	0.000E+00	NOT IDENT.
SB-127	-3.300E-02	6.481E-01	1.099E+00	0.000E+00	NOT IDENT.
XE-127	-4.453E-02	6.461E-02	1.093E-01	0.000E+00	NOT IDENT.
I-131	-3.806E-02	1.070E-01	1.872E-01	0.000E+00	NOT IDENT.
TE-132	-1.188E-01	2.254E-01	3.809E-01	0.000E+00	NOT IDENT.
BA-133	-3.709E-03	8.477E-02	1.309E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.491E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.416E-02	8.612E-02	1.466E-01	0.000E+00	NOT IDENT.
CS-135	1.496E-01	2.576E-01	4.776E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.135E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	4.166E-02	1.573E-01	2.756E-01	0.000E+00	NOT IDENT.
CE-139	5.910E-02	4.160E-02	7.770E-02	0.000E+00	NOT IDENT.
BA-140	5.670E-02	3.133E-01	5.481E-01	0.000E+00	NOT IDENT.
LA-140	5.155E-02	7.456E-02	1.387E-01	0.000E+00	NOT IDENT.
CE-141	9.281E-02	7.847E-02	1.457E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	6.178E+00	9.867E+00	0.000E+00	FAIL ABUN
CE-144	-1.480E-01	3.210E-01	4.865E-01	0.000E+00	NOT IDENT.
PM-144	1.616E-02	5.867E-02	1.017E-01	0.000E+00	NOT IDENT.
PR-144	1.091E+00	3.960E+00	6.865E+00	0.000E+00	NOT IDENT.
PM-146	8.161E-02	9.071E-02	1.653E-01	0.000E+00	NOT IDENT.
ND-147	-2.605E-01	6.167E-01	1.039E+00	0.000E+00	NOT IDENT.
PM-149	1.320E+01	1.413E+01	2.632E+01	0.000E+00	NOT IDENT.
EU-152	-2.428E-02	2.182E-01	2.936E-01	0.000E+00	FAIL ABUN

GD-153	-2.631E-02	1.062E-01	1.908E-01	0.000E+00	NOT IDENT.
EU-154	-8.102E-02	1.586E-01	2.511E-01	0.000E+00	FAIL ABUN
EU-155	1.320E-01	1.459E-01	2.728E-01	0.000E+00	FAIL ABUN
TB-160	1.228E-01	2.719E-01	4.879E-01	0.000E+00	FAIL ABUN
HO-166M	-3.519E-02	1.096E-01	1.816E-01	0.000E+00	FAIL ABUN
TM-171	-3.031E+01	3.730E+01	6.451E+01	0.000E+00	FAIL ABUN
LU-176	-1.165E-02	4.115E-02	7.309E-02	0.000E+00	FAIL ABUN
LU-177	1.101E+00	7.829E-01	1.439E+00	0.000E+00	NOT IDENT.
LU-177M	7.578E-02	3.063E-01	5.474E-01	0.000E+00	FAIL ABUN
HF-181	-4.667E-05	7.390E-02	1.291E-01	0.000E+00	FAIL ABUN
W-181	6.027E-02	4.913E-01	8.024E-01	0.000E+00	NOT IDENT.
TA-182	-4.221E-02	2.181E-01	3.625E-01	0.000E+00	NOT IDENT.
RE-183	-7.416E-02	1.524E-01	2.636E-01	0.000E+00	FAIL ABUN
RE-184	5.427E-02	3.712E-01	6.436E-01	0.000E+00	FAIL ABUN
OS-185	-7.812E-02	7.074E-02	1.106E-01	0.000E+00	FAIL ABUN
RE-188	6.135E-02	2.249E-01	4.031E-01	0.000E+00	NOT IDENT.
W-188	-9.102E+00	1.286E+01	1.929E+01	0.000E+00	NOT IDENT.
IR-192	1.010E-02	5.361E-02	9.710E-02	0.000E+00	FAIL ABUN
AU-195	-9.519E-03	3.002E-01	5.436E-01	0.000E+00	FAIL ABUN
TL-200	-6.848E-01	6.437E+00	1.139E+01	0.000E+00	NOT IDENT.
TL-201	-6.197E-01	1.821E+00	3.164E+00	0.000E+00	FAIL ABUN
TL-202	-1.517E-02	9.196E-02	1.604E-01	0.000E+00	NOT IDENT.
HG-203	-1.174E-02	5.646E-02	1.012E-01	0.000E+00	NOT IDENT.
BI-207	1.510E-02	1.081E-01	1.878E-01	0.000E+00	FAIL ABUN
TL-207	-9.686E-01	1.108E+00	1.886E+00	0.000E+00	FAIL ABUN
PO-209	1.318E+01	1.680E+01	3.055E+01	0.000E+00	NOT IDENT.
BI-210	-6.420E+00	4.488E+00	8.087E+00	0.000E+00	NOT IDENT.
PB-210	-6.420E+00	4.488E+00	8.087E+00	0.000E+00	NOT IDENT.
PO-210	-6.420E+00	4.481E+00	8.087E+00	0.000E+00	NOT IDENT.
PB-211	1.167E+00	1.815E+00	3.051E+00	0.000E+00	NOT IDENT.
BI-212	4.681E-01	5.759E-01	1.024E+00	0.000E+00	NOT IDENT.
PO-215	-9.686E-01	1.108E+00	1.886E+00	0.000E+00	FAIL ABUN
RN-219	2.232E-01	7.595E-01	1.361E+00	0.000E+00	NOT IDENT.
RN-220	-4.730E+01	4.440E+01	7.101E+01	0.000E+00	NOT IDENT.
RA-223	-9.686E-01	1.108E+00	1.886E+00	0.000E+00	FAIL ABUN
AC-227	-2.635E-01	6.124E-01	1.092E+00	0.000E+00	NOT IDENT.
TH-227	-2.635E-01	6.129E-01	1.092E+00	0.000E+00	NOT IDENT.
AC-228	0.000E+00	4.318E-01	5.915E-01	0.000E+00	FAIL ABUN
RA-228	0.000E+00	4.318E-01	5.915E-01	0.000E+00	FAIL ABUN
TH-229	-4.598E-02	7.838E-01	1.368E+00	0.000E+00	FAIL ABUN
PA-231	-4.677E-01	2.518E+00	4.515E+00	0.000E+00	NOT IDENT.
TH-231	-9.686E-01	1.108E+00	1.886E+00	0.000E+00	FAIL ABUN
U-231	-7.213E-01	4.319E-01	7.280E-01	0.000E+00	NOT IDENT.
TH-232	0.000E+00	4.318E-01	5.915E-01	0.000E+00	FAIL ABUN
PA-233	-5.602E-02	1.074E-01	1.884E-01	0.000E+00	FAIL ABUN
PA-234	8.421E-02	7.203E-01	1.259E+00	0.000E+00	FAIL ABUN
PA-234M	6.603E+00	1.014E+01	1.820E+01	0.000E+00	NOT IDENT.
TH-234	-1.336E+00	1.858E+00	2.931E+00	0.000E+00	NOT IDENT.
U-235	2.400E-01	3.035E-01	5.530E-01	0.000E+00	FAIL ABUN
NP-236	7.613E-02	1.146E-01	2.083E-01	0.000E+00	NOT IDENT.
U-238	-1.336E+00	1.858E+00	2.931E+00	0.000E+00	NOT IDENT.
NP-239	1.666E-01	3.128E-01	5.071E-01	0.000E+00	NOT IDENT.
CM-243	8.907E-02	1.349E-01	2.500E-01	0.000E+00	NOT IDENT.
AM-246	-2.565E-02	2.969E-01	5.073E-01	0.000E+00	NOT IDENT.
CM-247	2.050E-02	6.810E-02	1.221E-01	0.000E+00	NOT IDENT.
CF-249	-1.117E-02	6.756E-02	1.187E-01	0.000E+00	NOT IDENT.
CF-251	1.519E-01	1.827E-01	3.331E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 14:19:40.72

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003354.CNF;1
Sample date       : 24-DEC-2009 00:00:00 Acquisition date : 31-DEC-2009 13:19:17
Sample ID         : G1202003354          Sample quantity  : 1.55440E+02 GRAM
Detector name     : GAM14                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00         Elapsed real time: 0 01:00:01.56  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MJH1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 936285               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	38	10.67*	1.212E+00	1.432E+00	1.432E+00	36.02
CO-57	122.06	251	85.51*	7.664E+00	1.850E-01	1.886E-01	32.31
	136.48	79	10.60	7.499E+00	4.814E-01	4.908E-01	67.53
CO-60	1173.22	1790	100.00	1.462E+00	5.912E+00	5.928E+00	7.59
	1332.49	1758	100.00*	1.308E+00	6.491E+00	6.509E+00	8.77
CD-109	88.03	1813	3.72*	7.085E+00	3.323E+01	3.361E+01	11.50
SN-126	64.28	------	9.60	4.774E+00	------ Line Not Found		------
	86.94	1813	8.90	7.085E+00	1.389E+01	1.389E+01	42.05
	87.57	1813	37.00*	7.085E+00	3.341E+00	3.341E+00	11.50
BA-137M	661.65	2493	89.98*	2.471E+00	5.414E+00	5.416E+00	7.47
CS-137	661.65	2493	85.12*	2.471E+00	5.723E+00	5.726E+00	7.49
TL-208	277.35	------	6.80	5.002E+00	------ Line Not Found		------
	510.84	14	21.60	3.091E+00	1.045E-01	1.045E-01	446.93
	583.14	160	84.20*	2.761E+00	3.332E-01	3.332E-01	33.60
	860.37	------	12.46	1.944E+00	------ Line Not Found		------
BI-211	72.87	------	1.27	5.875E+00	------ Line Not Found		------
	351.07	257	12.94*	4.184E+00	2.291E+00	2.291E+00	27.29
PB-212	74.81	202	10.70	6.074E+00	1.504E+00	1.504E+00	43.94
	77.11	301	18.00	6.307E+00	1.280E+00	1.280E+00	28.31
	87.30	1813	8.00	7.085E+00	1.545E+01	1.545E+01	15.24
	238.63	563	44.60*	5.575E+00	1.095E+00	1.095E+00	14.98
	300.09	------	3.41	4.718E+00	------ Line Not Found		------
PO-212	74.81	202	10.70	6.074E+00	1.504E+00	1.504E+00	43.94
	77.11	301	18.00	6.307E+00	1.280E+00	1.280E+00	28.31
	87.30	1813	8.00	7.085E+00	1.545E+01	1.545E+01	15.24
	115.19	------	0.60	7.689E+00	------ Line Not Found		------
	238.63	563	44.60*	5.575E+00	1.095E+00	1.095E+00	14.98
	300.09	------	3.41	4.718E+00	------ Line Not Found		------
BI-214	609.31	159	46.30*	2.658E+00	6.232E-01	6.232E-01	41.57
	1120.29	------	15.10	1.524E+00	------ Line Not Found		------
	1764.49	30	15.80	1.059E+00	8.535E-01	8.536E-01	55.26
PB-214	74.81	202	6.21	6.074E+00	2.592E+00	2.592E+00	43.57

Sample ID : G1202003354 Acquisition date : 31-DEC-2009 13:19:17

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	301	10.50	6.307E+00	2.195E+00	2.195E+00	29.32
	87.30	1813	4.67	7.085E+00	2.647E+01	2.647E+01	13.84
	241.98	120	7.49	5.527E+00	1.396E+00	1.396E+00	58.68
	295.21	148	19.20	4.783E+00	7.783E-01	7.783E-01	34.17
	351.92	257	37.20*	4.184E+00	7.969E-01	7.969E-01	27.79
PO-214	74.81	202	6.21	6.074E+00	2.592E+00	2.592E+00	43.57
	77.11	301	10.50	6.307E+00	2.195E+00	2.195E+00	29.32
	87.30	1813	4.67	7.085E+00	2.647E+01	2.647E+01	13.84
	241.98	120	7.49	5.527E+00	1.396E+00	1.396E+00	58.68
	295.21	148	19.20	4.783E+00	7.783E-01	7.783E-01	34.17
	351.92	257	37.20*	4.184E+00	7.969E-01	7.969E-01	27.79
PO-216	74.81	202	10.70	6.074E+00	1.504E+00	1.504E+00	43.94
	77.11	301	18.00	6.307E+00	1.280E+00	1.280E+00	28.31
	87.30	1813	8.00	7.085E+00	1.545E+01	1.545E+01	15.24
	238.63	563	44.60*	5.575E+00	1.095E+00	1.095E+00	14.98
	300.09	------	3.41	4.718E+00	------ Line Not Found		------
PO-218	74.81	202	6.21	6.074E+00	2.592E+00	2.592E+00	43.57
	77.11	301	10.50	6.307E+00	2.195E+00	2.195E+00	29.32
	87.30	1813	4.67	7.085E+00	2.647E+01	2.647E+01	13.84
	241.98	120	7.49	5.527E+00	1.396E+00	1.396E+00	58.68
	295.21	148	19.20	4.783E+00	7.783E-01	7.783E-01	34.17
	351.92	257	37.20*	4.184E+00	7.969E-01	7.969E-01	27.79
RA-224	240.98	120	3.95*	5.527E+00	2.648E+00	2.648E+00	58.42
RA-226	609.31	159	46.30*	2.658E+00	6.232E-01	6.232E-01	41.57
	1120.29	------	15.10	1.524E+00	------ Line Not Found		------
	1764.49	30	15.80	1.059E+00	8.535E-01	8.536E-01	55.26
TH-228	74.81	202	10.70	6.074E+00	1.504E+00	1.516E+00	42.95
	77.11	301	18.00	6.307E+00	1.280E+00	1.290E+00	28.31
	87.30	1813	8.00	7.085E+00	1.545E+01	1.557E+01	11.50
	238.63	563	44.60*	5.575E+00	1.095E+00	1.103E+00	14.98
	300.09	------	3.41	4.718E+00	------ Line Not Found		------
TH-230	609.31	159	46.30*	2.658E+00	6.232E-01	6.232E-01	41.57
	1120.29	------	15.10	1.524E+00	------ Line Not Found		------
	1764.49	30	15.80	1.059E+00	8.535E-01	8.535E-01	55.26
U-234	609.31	159	46.30*	2.658E+00	6.232E-01	6.232E-01	41.57
	1120.29	------	15.10	1.524E+00	------ Line Not Found		------
	1764.49	30	15.80	1.059E+00	8.535E-01	8.535E-01	55.26
NP-237	86.50	1813	12.60*	7.085E+00	9.811E+00	9.811E+00	23.62
	95.87	------	2.60	7.425E+00	------ Line Not Found		------
AM-241	59.54	3772	35.90*	4.031E+00	1.259E+01	1.259E+01	8.99
AM-243	74.67	202	66.00*	6.074E+00	2.439E-01	2.439E-01	42.94
	86.72	1813	0.34	7.085E+00	3.679E+02	3.679E+02	11.50
	117.66	------	0.55	7.685E+00	------ Line Not Found		------
	142.18	------	0.13	7.399E+00	------ Line Not Found		------
ANH-511	511.00	14	100.00*	3.091E+00	2.258E-02	2.258E-02	446.85

Flag: "*" = Keyline

Sample ID : G1202003354 Acquisition date : 31-DEC-2009 13:19:17

Total number of lines in spectrum 21
Number of unidentified lines 0
Number of lines tentatively identified by NID 21 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.432E+00	1.432E+00	0.516E+00	36.02	
CO-57	270.90D	1.02	1.850E-01	1.886E-01	0.609E-01	32.31	
CO-60	5.27Y	1.00	6.491E+00	6.509E+00	0.571E+00	8.77	
CD-109	464.00D	1.01	3.323E+01	3.361E+01	0.386E+01	11.50	
SN-126	1.00E+05Y	1.00	3.341E+00	3.341E+00	0.384E+00	11.50	
BA-137M	30.17Y	1.00	5.414E+00	5.416E+00	0.405E+00	7.47	
CS-137	30.17Y	1.00	5.723E+00	5.726E+00	0.429E+00	7.49	
TL-208	1.41E+10Y	1.00	3.332E-01	3.332E-01	1.120E-01	33.60	
BI-211	7.04E+08Y	1.00	2.291E+00	2.291E+00	0.625E+00	27.29	
PB-212	1.41E+10Y	1.00	1.095E+00	1.095E+00	0.164E+00	14.98	
PO-212	1.41E+10Y	1.00	1.095E+00	1.095E+00	0.164E+00	14.98	
BI-214	1600.00Y	1.00	6.232E-01	6.232E-01	2.591E-01	41.57	
PB-214	1600.00Y	1.00	7.969E-01	7.969E-01	2.214E-01	27.79	
PO-214	1600.00Y	1.00	7.969E-01	7.969E-01	2.214E-01	27.79	
PO-216	1.41E+10Y	1.00	1.095E+00	1.095E+00	0.164E+00	14.98	
PO-218	1600.00Y	1.00	7.969E-01	7.969E-01	2.214E-01	27.79	
RA-224	1.41E+10Y	1.00	2.648E+00	2.648E+00	1.547E+00	58.42	
RA-226	1600.00Y	1.00	6.232E-01	6.232E-01	2.591E-01	41.57	
TH-228	1.91Y	1.01	1.095E+00	1.103E+00	0.165E+00	14.98	
TH-230	4.47E+09Y	1.00	6.232E-01	6.232E-01	2.591E-01	41.57	
U-234	4.47E+09Y	1.00	6.232E-01	6.232E-01	2.591E-01	41.57	
NP-237	2.14E+06Y	1.00	9.811E+00	9.811E+00	2.317E+00	23.62	
AM-241	432.20Y	1.00	1.259E+01	1.259E+01	0.113E+01	8.99	
AM-243	7380.00Y	1.00	2.439E-01	2.439E-01	1.047E-01	42.94	
ANH-511	1.00E+09Y	1.00	2.258E-02	2.258E-02	10.09E-02	446.85	
	Total Activity :		9.302E+01	9.343E+01			

Grand Total Activity : 9.302E+01 9.343E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G1202003354 Acquisition date : 31-DEC-2009 13:19:17

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.61	86	356	1.10	370.73	365	11	2.39E-02	88.7	6.54E+00	T
0	337.43	126	265	0.98	674.14	668	12	3.51E-02	54.4	4.32E+00	T
0	911.09	75	104	1.71	1821.11	1812	13	2.09E-02	60.8	1.84E+00	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 31-DEC-2009 14:19:45.38

```
*******************************************************************************
*                              GEL Laboratories LLC                           *
*                                2040 Savage Road                             *
*                              Charleston, SC 29414                           *
*******************************************************************************
*                                                                             *
*                                DETECTOR DATA                                *
*                                                                             *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202003354.CNF;1  *
* Acquisition date  : 31-DEC-2009 13:19:17  Detector SN#     :               *
* Detector ID       : GAM14                 Sensitivity      : 5.00000       *
* Geometry          : CAN                   Energy tolerance: 1.50000        *
* Elapsed live time: 0 01:00:00.00          Abundance limit : 75.00000       *
* Elapsed real time: 0 01:00:01.56          Half life ratio : 8.00000        *
*******************************************************************************
*                                                                             *
*                                 SAMPLE DATA                                 *
*                                                                             *
* Sample date       : 24-DEC-2009 00:00:00  Nuclide Library : SOLID          *
* Sample ID         : G1202003354           Analyst initials: MJH1           *
* Batch Number      : 936285                Sample Quantity : 1.55440E+02 GRAM *
*******************************************************************************
*                                                                             *
*                                   QC DATA                                   *
*                                                                             *
* CALIB. DATE/TIME : 6-MAR-2009 11:43:06.61MS Isotope      :                  *
* MSD ID           :                       MSD Isotope     :                  *
* LCS ID           : 1032-A                LCS Isotope     :                  *
*******************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.432E+00	5.159E-01	6.145E-01	4.462E-02	2.331
CO-57	1.886E-01	6.094E-02	6.162E-02	4.384E-03	3.061
CO-60	6.509E+00	5.708E-01	9.370E-02	6.678E-03	69.466
CD-109	3.361E+01	3.864E+00	1.999E+00	1.748E-01	16.812
SN-126	3.341E+00	3.841E-01	1.994E-01	1.735E-02	16.757
BA-137M	5.416E+00	4.045E-01	1.028E-01	6.111E-03	52.703
CS-137	5.726E+00	4.287E-01	1.086E-01	6.486E-03	52.703
TL-208	3.332E-01	1.120E-01	9.475E-02	6.479E-03	3.517
BI-211	2.291E+00	6.252E-01	5.739E-01	3.636E-02	3.991
PB-212	1.095E+00	1.639E-01	1.413E-01	1.029E-02	7.746
PO-212	1.095E+00	1.639E-01	1.413E-01	1.029E-02	7.746
BI-214	6.232E-01	2.591E-01	1.960E-01	1.552E-02	3.179
PB-214	7.969E-01	2.214E-01	2.027E-01	1.663E-02	3.932
PO-214	7.969E-01	2.214E-01	2.027E-01	1.663E-02	3.932
PO-216	1.095E+00	1.639E-01	1.413E-01	1.029E-02	7.746
PO-218	7.969E-01	2.214E-01	2.027E-01	1.663E-02	3.932
RA-224	2.648E+00	1.547E+00	1.607E+00	9.240E-02	1.647
RA-226	6.232E-01	2.591E-01	1.960E-01	1.552E-02	3.179

Sample ID : G1202003354 Acquisition date : 31-DEC-2009 13:19:17

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.103E+00	1.652E-01	1.424E-01	1.037E-02	7.746
TH-230	6.232E-01	2.591E-01	1.960E-01	1.552E-02	3.179
U-234	6.232E-01	2.591E-01	1.960E-01	1.552E-02	3.179
NP-237	9.811E+00	2.317E+00	6.357E-01	1.421E-01	15.433
AM-241	1.259E+01	1.132E+00	4.409E-01	3.273E-02	28.562
AM-243	2.439E-01	1.047E-01	1.232E-01	9.245E-03	1.980
ANH-511	2.258E-02	1.009E-01	8.837E-02	5.192E-03	0.255

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-4.652E-01		5.962E-01	9.398E-01	6.334E-02	-0.495
NA-22	-2.760E-02		5.784E-02	8.901E-02	5.814E-03	-0.310
NA-24	-2.420E-05		9.805E-05	Half-Life too short		
AL-26	-2.737E-03		3.242E-02	5.285E-02	3.064E-03	-0.052
TI-44	2.362E-01	+	6.686E-02	9.609E-02	7.502E-03	2.458
SC-46	2.217E-03		8.227E-02	1.379E-01	1.274E-02	0.016
V-48	-9.258E-02		1.175E-01	1.851E-01	1.572E-02	-0.500
CR-51	6.637E-02		5.142E-01	8.658E-01	5.595E-02	0.077
MN-52	4.078E-02		1.091E-01	1.899E-01	1.331E-02	0.215
MN-54	1.113E-02		7.199E-02	1.220E-01	1.023E-02	0.091
CO-56	-3.664E-02		7.352E-02	1.191E-01	1.021E-02	-0.308
CO-58	-4.324E-02		7.117E-02	1.085E-01	8.733E-03	-0.398
FE-59	5.001E-02		1.783E-01	3.004E-01	2.313E-02	0.166
ZN-65	-4.229E-01		1.906E-01	2.616E-01	1.719E-02	-1.617
GE-68	-2.126E+00		2.640E+00	4.112E+00	2.956E-01	-0.517
AS-73	-1.604E-01		1.489E+00	2.388E+00	1.557E-01	-0.067
AS-74	3.966E-02		1.221E-01	2.034E-01	1.216E-02	0.195
SE-75	-7.399E-03		7.116E-02	1.194E-01	7.008E-03	-0.062
BR-77	-1.707E+00		1.948E+00	2.998E+00	1.768E-01	-0.569
SR-82	-1.676E-01		6.237E-01	9.840E-01	7.398E-02	-0.170
RB-83	-1.040E-01		1.101E-01	1.686E-01	9.939E-03	-0.617
RB-84	-9.278E-02		1.280E-01	2.035E-01	1.855E-02	-0.456
KR-85	1.668E+01		1.291E+01	2.041E+01	1.201E+00	0.817
SR-85	7.897E-02		6.112E-02	9.665E-02	5.684E-03	0.817
RB-86	-9.401E-01		1.293E+00	2.027E+00	1.460E-01	-0.464
Y-88	3.939E-03		4.719E-02	7.995E-02	4.541E-03	0.049
ZR-88	1.212E-02		4.930E-02	8.283E-02	4.510E-03	0.146
Y-91	9.836E-01		2.371E+01	3.918E+01	2.279E+00	0.025
NB-94	-3.399E-02		6.237E-02	9.687E-02	6.282E-03	-0.351
NB-95	3.887E-02		7.450E-02	1.242E-01	9.149E-03	0.313
NB-95M	7.439E-01		2.305E-01	3.685E-01	2.754E-02	2.019
ZR-95	1.018E-01		1.252E-01	2.133E-01	1.759E-02	0.477
NB-97	2.640E-03		1.381E-04	Half-Life too short		
ZR-97	1.376E-03		1.118E-03	Half-Life too short		
MO-99	-2.971E+00		3.372E+00	5.033E+00	7.208E-01	-0.590
TC-99M	-7.386E+01		2.648E+01	Half-Life too short		

Sample ID : G1202003354 Acquisition date : 31-DEC-2009 13:19:17

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-101	1.794E-02		5.267E-02	8.599E-02	4.771E-03	0.209
RH-102	-2.087E-03		5.727E-02	9.417E-02	5.442E-03	-0.022
RU-103	8.245E-04		6.754E-02	1.111E-01	1.407E-02	0.007
RH-106	-7.815E-02		5.478E-01	8.821E-01	1.043E-01	-0.089
RU-106	-7.815E-02		5.478E-01	8.821E-01	5.275E-02	-0.089
AG-108M	1.810E-02		6.660E-02	1.116E-01	6.854E-03	0.162
AG-110M	1.204E+00		1.477E-01	2.577E-01	1.628E-02	4.672
IN-111	-1.191E-01		3.240E-01	4.397E-01	2.534E-02	-0.271
IN-113M	-1.285E-03		7.229E-02	1.199E-01	7.018E-03	-0.011
SN-113	-1.285E-03		7.229E-02	1.199E-01	7.018E-03	-0.011
IN-114M	7.065E-02		2.910E-01	4.155E-01	2.287E-02	0.170
CD-115	-7.728E-01		1.849E+00	2.949E+00	1.743E-01	-0.262
SN-117M	-1.957E-02		5.484E-02	8.742E-02	4.945E-03	-0.224
SB-122	2.234E-01		5.783E-01	9.668E-01	5.763E-02	0.231
I-123	7.905E-05		2.792E-04	Half-Life too short		
TE-123M	5.556E-03		3.925E-02	6.401E-02	3.661E-03	0.087
I-124	1.072E-01		3.840E-01	5.551E-01	3.321E-02	0.193
SB-124	1.996E-02		9.324E-02	1.575E-01	1.065E-02	0.127
SB-125	4.465E-02		1.807E-01	3.026E-01	1.773E-02	0.148
TE-125M	-7.807E+00		1.170E+01	1.857E+01	1.740E+00	-0.420
I-126	-5.934E-02		2.342E-01	3.186E-01	1.913E-02	-0.186
SB-126	4.782E-02		1.878E-01	3.086E-01	2.076E-02	0.155
SB-127	-3.300E-02		6.614E-01	1.067E+00	8.036E-02	-0.031
XE-127	-4.453E-02		6.593E-02	1.028E-01	5.728E-03	-0.433
I-131	-3.806E-02		1.092E-01	1.787E-01	1.119E-02	-0.213
TE-132	-1.188E-01		2.300E-01	3.593E-01	4.719E-02	-0.331
BA-133	-3.709E-03		8.650E-02	1.249E-01	1.436E-02	-0.030
I-133	-1.122E-05		1.271E-05	Half-Life too short		
CS-134	1.416E-02		8.788E-02	1.429E-01	1.125E-02	0.099
CS-135	1.496E-01		2.629E-01	4.524E-01	3.470E-02	0.331
I-135	-4.869E+00		1.599E+01	Half-Life too short		
CS-136	4.166E-02		1.605E-01	2.708E-01	2.176E-02	0.154
CE-139	5.910E-02		4.244E-02	7.270E-02	3.903E-03	0.813
BA-140	5.670E-02		3.197E-01	5.287E-01	1.721E-01	0.107
LA-140	5.155E-02		7.608E-02	1.378E-01	9.137E-03	0.374
CE-141	9.281E-02		8.007E-02	1.359E-01	8.673E-03	0.683
CE-143	1.621E+01	+	6.304E+00	9.367E+00	1.916E+00	1.731
CE-144	-1.480E-01		3.276E-01	4.528E-01	6.591E-02	-0.327
PM-144	1.616E-02		5.987E-02	9.880E-02	6.327E-03	0.164
PR-144	1.091E+00		4.041E+00	6.669E+00	4.270E-01	0.164
PM-146	8.161E-02		9.256E-02	1.587E-01	1.359E-02	0.514
ND-147	-2.605E-01		6.293E-01	1.002E+00	1.360E-01	-0.260
PM-149	1.320E+01		1.441E+01	2.497E+01	3.538E+00	0.529
EU-152	-2.428E-02		2.226E-01	2.799E-01	1.811E-02	-0.087
GD-153	-2.631E-02		1.083E-01	1.761E-01	1.413E-02	-0.149
EU-154	-8.102E-02		1.619E-01	2.480E-01	2.432E-02	-0.327
EU-155	1.320E-01		1.489E-01	2.524E-01	1.953E-02	0.523
TB-160	1.228E-01		2.774E-01	4.770E-01	4.333E-02	0.257

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	-3.519E-02		1.118E-01	1.765E-01	1.166E-02	-0.199
TM-171	-3.031E+01		3.806E+01	5.902E+01	4.115E+00	-0.514
LU-176	-1.165E-02		4.199E-02	6.947E-02	4.046E-03	-0.168
LU-177	1.101E+00		7.989E-01	1.354E+00	7.588E-02	0.813
LU-177M	7.578E-02		3.126E-01	5.243E-01	2.907E-02	0.145
HF-181	-4.667E-05		7.541E-02	1.242E-01	7.201E-03	0.000
W-181	6.027E-02		5.013E-01	7.337E-01	5.055E-02	0.082
TA-182	-4.221E-02		2.226E-01	3.576E-01	2.139E-02	-0.118
RE-183	-7.416E-02		1.555E-01	2.465E-01	1.357E-02	-0.301
RE-184	5.427E-02		3.787E-01	6.087E-01	3.521E-02	0.089
OS-185	-7.812E-02		7.218E-02	1.073E-01	6.397E-03	-0.728
RE-188	6.135E-02		2.295E-01	3.766E-01	2.182E-02	0.163
W-188	-9.102E+00		1.312E+01	1.831E+01	1.068E+00	-0.497
IR-192	1.010E-02		5.470E-02	9.237E-02	5.391E-03	0.109
AU-195	-9.519E-03		3.063E-01	5.022E-01	3.985E-02	-0.019
TL-200	-6.848E-01		6.568E+00	1.088E+01	6.094E-01	-0.063
TL-201	-6.197E-01		1.858E+00	2.961E+00	1.590E-01	-0.209
TL-202	-1.517E-02		9.384E-02	1.539E-01	8.701E-03	-0.099
HG-203	-1.174E-02		5.761E-02	9.599E-02	5.939E-03	-0.122
BI-207	1.510E-02		1.103E-01	1.846E-01	1.366E-02	0.082
TL-207	-9.686E-01		1.131E+00	1.795E+00	2.965E-01	-0.539
PO-209	1.318E+01		1.714E+01	2.988E+01	2.796E+00	0.441
BI-210	-6.420E+00		4.580E+00	7.335E+00	5.439E-01	-0.875
PB-210	-6.420E+00		4.580E+00	7.335E+00	5.439E-01	-0.875
PO-210	-6.420E+00		4.573E+00	7.335E+00	4.602E-01	-0.875
PB-211	1.167E+00		1.852E+00	2.921E+00	1.820E+00	0.399
BI-212	4.681E-01		5.877E-01	9.955E-01	8.469E-02	0.470
PO-215	-9.686E-01		1.131E+00	1.795E+00	2.965E-01	-0.539
RN-219	2.232E-01		7.750E-01	1.303E+00	1.756E-01	0.171
RN-220	-4.730E+01		4.531E+01	6.854E+01	4.074E+00	-0.690
RA-223	-9.686E-01		1.131E+00	1.795E+00	2.965E-01	-0.539
AC-227	-2.635E-01		6.249E-01	1.033E+00	1.442E-01	-0.255
TH-227	-2.635E-01		6.254E-01	1.033E+00	1.746E-01	-0.255
AC-228	7.118E-01	+	4.406E-01	5.788E-01	6.798E-02	1.230
RA-228	7.118E-01	+	4.406E-01	5.788E-01	6.798E-02	1.230
TH-229	-4.598E-02		7.998E-01	1.285E+00	7.095E-02	-0.036
PA-231	-4.677E-01		2.570E+00	4.283E+00	5.908E-01	-0.109
TH-231	-9.686E-01		1.131E+00	1.795E+00	2.965E-01	-0.539
U-231	-7.213E-01		4.407E-01	6.719E-01	5.454E-02	-1.074
TH-232	7.118E-01	+	4.406E-01	5.788E-01	6.798E-02	1.230
PA-233	-5.602E-02		1.096E-01	1.792E-01	1.106E-02	-0.313
PA-234	8.421E-02		7.350E-01	1.233E+00	2.331E-01	0.068
PA-234M	6.603E+00		1.035E+01	1.786E+01	1.726E+00	0.370
TH-234	-1.336E+00		1.896E+00	2.678E+00	4.603E-01	-0.499
U-235	2.400E-01		3.097E-01	5.156E-01	8.487E-02	0.465
NP-236	7.613E-02		1.169E-01	1.948E-01	1.088E-02	0.391
U-238	-1.336E+00		1.896E+00	2.678E+00	4.603E-01	-0.499
NP-239	1.666E-01		3.192E-01	4.703E-01	3.399E-02	0.354

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	8.907E-02		1.376E-01	2.312E-01	1.778E-02	0.385
AM-246	-2.565E-02		3.030E-01	4.987E-01	3.573E-02	-0.051
CM-247	2.050E-02		6.949E-02	1.169E-01	6.423E-03	0.175
CF-249	-1.117E-02		6.894E-02	1.135E-01	6.208E-03	-0.098
CF-251	1.519E-01		1.865E-01	3.122E-01	1.693E-02	0.487

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202003354          *
* Acquisition date  : 31-DEC-2009 13:19:17 Detector SN#     :               *
* Detector ID       : GAM14                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 01:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 01:00:01.56      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 24-DEC-2009 00:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202003354          Analyst initials: MJH1           *
* Batch Number      : 936285               Sample Quantity : 1.5544E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME :  6-MAR-2009 11:43:06 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.432E+00	5.056E-01	3.100E-01	2.579E-01
CO-57	1.886E-01	5.972E-02	3.320E-02	3.047E-02
CO-60	6.509E+00	5.594E-01	4.740E-02	2.854E-01
CD-109	3.361E+01	3.786E+00	1.086E+00	1.932E+00
SN-126	3.341E+00	3.764E-01	1.083E-01	1.920E-01
BA-137M	5.416E+00	3.964E-01	5.300E-02	2.023E-01
CS-137	5.726E+00	4.201E-01	5.603E-02	2.143E-01
TL-208	3.332E-01	1.097E-01	4.903E-02	5.598E-02
BI-211	2.291E+00	6.127E-01	3.010E-01	3.126E-01
PB-212	1.095E+00	1.606E-01	7.486E-02	8.196E-02
PO-212	1.095E+00	1.606E-01	7.486E-02	8.196E-02
BI-214	6.232E-01	2.539E-01	1.013E-01	1.296E-01
PB-214	7.969E-01	2.170E-01	1.063E-01	1.107E-01
PO-214	7.969E-01	2.170E-01	1.063E-01	1.107E-01
PO-216	1.095E+00	1.606E-01	7.486E-02	8.196E-02
PO-218	7.969E-01	2.170E-01	1.063E-01	1.107E-01
RA-224	2.648E+00	1.516E+00	8.514E-01	7.733E-01
RA-226	6.232E-01	2.539E-01	1.013E-01	1.296E-01
TH-228	1.103E+00	1.619E-01	7.543E-02	8.258E-02
TH-230	6.232E-01	2.539E-01	1.013E-01	1.296E-01
U-234	6.232E-01	2.539E-01	1.013E-01	1.296E-01
NP-237	9.811E+00	2.271E+00	3.455E-01	1.159E+00
AM-241	1.259E+01	1.110E+00	2.417E-01	5.661E-01
AM-243	2.439E-01	1.026E-01	6.718E-02	5.235E-02
ANH-511	2.258E-02	9.886E-02	4.590E-02	5.044E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	-4.652E-01	5.843E-01	4.890E-01	2.981E-01	NOT IDENT.
NA-22	-2.760E-02	5.669E-02	4.508E-02	2.892E-02	NOT IDENT.

NA-24	-2.420E+01	1.922E+02	0.000E+00	9.805E+01	SHORT HLIF
AL-26	-2.737E-03	3.177E-02	2.651E-02	1.621E-02	NOT IDENT.
TI-44	2.362E-01	6.552E-02	5.234E-02	3.343E-02	FAIL ABUN
SC-46	2.217E-03	8.062E-02	7.053E-02	4.113E-02	NOT IDENT.
V-48	-9.258E-02	1.152E-01	9.443E-02	5.875E-02	NOT IDENT.
CR-51	6.637E-02	5.039E-01	4.552E-01	2.571E-01	NOT IDENT.
MN-52	4.078E-02	1.069E-01	9.585E-02	5.453E-02	NOT IDENT.
MN-54	1.113E-02	7.055E-02	6.251E-02	3.600E-02	NOT IDENT.
CO-56	-3.664E-02	7.205E-02	6.100E-02	3.676E-02	NOT IDENT.
CO-58	-4.324E-02	6.974E-02	5.567E-02	3.558E-02	NOT IDENT.
FE-59	5.001E-02	1.747E-01	1.528E-01	8.915E-02	NOT IDENT.
ZN-65	-4.229E-01	1.868E-01	1.330E-01	9.531E-02	NOT IDENT.
GE-68	-2.126E+00	2.587E+00	2.093E+00	1.320E+00	NOT IDENT.
AS-73	-1.604E-01	1.459E+00	1.313E+00	7.445E-01	NOT IDENT.
AS-74	3.966E-02	1.196E-01	1.052E-01	6.103E-02	NOT IDENT.
SE-75	-7.399E-03	6.974E-02	6.307E-02	3.558E-02	FAIL ABUN
BR-77	-1.707E+00	1.909E+00	1.556E+00	9.739E-01	FAIL ABUN
SR-82	-1.676E-01	6.113E-01	5.053E-01	3.119E-01	NOT IDENT.
RB-83	-1.040E-01	1.079E-01	8.752E-02	5.507E-02	NOT IDENT.
RB-84	-9.278E-02	1.254E-01	1.041E-01	6.399E-02	NOT IDENT.
KR-85	1.668E+01	1.265E+01	1.060E+01	6.455E+00	NOT IDENT.
SR-85	7.897E-02	5.990E-02	5.018E-02	3.056E-02	NOT IDENT.
RB-86	-9.401E-01	1.267E+00	1.032E+00	6.464E-01	NOT IDENT.
Y-88	3.939E-03	4.624E-02	4.008E-02	2.359E-02	NOT IDENT.
ZR-88	1.212E-02	4.832E-02	4.332E-02	2.465E-02	NOT IDENT.
Y-91	9.836E-01	2.323E+01	1.988E+01	1.185E+01	NOT IDENT.
NB-94	-3.399E-02	6.112E-02	4.988E-02	3.118E-02	NOT IDENT.
NB-95	3.887E-02	7.301E-02	6.382E-02	3.725E-02	NOT IDENT.
NB-95M	7.439E-01	2.259E-01	1.953E-01	1.153E-01	NOT IDENT.
ZR-95	1.018E-01	1.227E-01	1.096E-01	6.260E-02	NOT IDENT.
NB-97	2.640E+03	2.706E+02	0.000E+00	1.381E+02	SHORT HLIF
ZR-97	1.376E+03	2.191E+03	0.000E+00	1.118E+03	SHORT HLIF
MO-99	-2.971E+00	3.304E+00	2.588E+00	1.686E+00	NOT IDENT.
TC-99M	-7.386E+07	5.191E+07	0.000E+00	2.648E+07	SHORT HLIF
RH-101	1.794E-02	5.161E-02	4.578E-02	2.633E-02	NOT IDENT.
RH-102	-2.087E-03	5.612E-02	4.900E-02	2.863E-02	NOT IDENT.
RU-103	8.245E-04	6.619E-02	5.776E-02	3.377E-02	NOT IDENT.
RH-106	-7.815E-02	5.369E-01	4.557E-01	2.739E-01	NOT IDENT.
RU-106	-7.815E-02	5.368E-01	4.557E-01	2.739E-01	NOT IDENT.
AG-108M	1.810E-02	6.526E-02	5.820E-02	3.330E-02	NOT IDENT.
AG-110M	1.204E+00	1.448E-01	1.329E-01	7.387E-02	NOT IDENT.
IN-111	-1.191E-01	3.175E-01	2.328E-01	1.620E-01	NOT IDENT.
IN-113M	-1.285E-03	7.084E-02	6.273E-02	3.614E-02	NOT IDENT.
SN-113	-1.285E-03	7.084E-02	6.273E-02	3.614E-02	NOT IDENT.
IN-114M	7.065E-02	2.852E-01	2.214E-01	1.455E-01	NOT IDENT.
CD-115	-7.728E-01	1.812E+00	1.530E+00	9.244E-01	NOT IDENT.
SN-117M	-1.957E-02	5.374E-02	4.680E-02	2.742E-02	NOT IDENT.
SB-122	2.234E-01	5.668E-01	5.008E-01	2.892E-01	NOT IDENT.
I-123	7.905E+01	5.473E+02	0.000E+00	2.792E+02	SHORT HLIF
TE-123M	5.556E-03	3.847E-02	3.427E-02	1.963E-02	NOT IDENT.
I-124	1.072E-01	3.763E-01	2.870E-01	1.920E-01	NOT IDENT.
SB-124	1.996E-02	9.138E-02	7.914E-02	4.662E-02	NOT IDENT.
SB-125	4.465E-02	1.771E-01	1.579E-01	9.034E-02	NOT IDENT.
TE-125M	-7.807E+00	1.146E+01	1.003E+01	5.849E+00	NOT IDENT.
I-126	-5.934E-02	2.295E-01	1.643E-01	1.171E-01	NOT IDENT.
SB-126	4.782E-02	1.840E-01	1.588E-01	9.390E-02	NOT IDENT.
SB-127	-3.300E-02	6.481E-01	5.500E-01	3.307E-01	NOT IDENT.
XE-127	-4.453E-02	6.461E-02	5.466E-02	3.296E-02	NOT IDENT.
I-131	-3.806E-02	1.070E-01	9.363E-02	5.460E-02	NOT IDENT.
TE-132	-1.188E-01	2.254E-01	1.906E-01	1.150E-01	NOT IDENT.
BA-133	-3.709E-03	8.477E-02	6.550E-02	4.325E-02	NOT IDENT.
I-133	-1.122E+01	2.491E+01	0.000E+00	1.271E+01	SHORT HLIF
CS-134	1.416E-02	8.612E-02	7.335E-02	4.394E-02	NOT IDENT.
CS-135	1.496E-01	2.576E-01	2.390E-01	1.314E-01	NOT IDENT.
I-135	-4.869E+06	3.135E+07	0.000E+00	1.599E+07	SHORT HLIF
CS-136	4.166E-02	1.573E-01	1.379E-01	8.026E-02	NOT IDENT.
CE-139	5.910E-02	4.160E-02	3.887E-02	2.122E-02	NOT IDENT.
BA-140	5.670E-02	3.133E-01	2.742E-01	1.598E-01	NOT IDENT.
LA-140	5.155E-02	7.456E-02	6.937E-02	3.804E-02	NOT IDENT.
CE-141	9.281E-02	7.847E-02	7.291E-02	4.004E-02	NOT IDENT.
CE-143	1.621E+01	6.178E+00	4.936E+00	3.152E+00	FAIL ABUN
CE-144	-1.480E-01	3.210E-01	2.434E-01	1.638E-01	NOT IDENT.
PM-144	1.616E-02	5.867E-02	5.089E-02	2.994E-02	NOT IDENT.
PR-144	1.091E+00	3.960E+00	3.434E+00	2.020E+00	NOT IDENT.
PM-146	8.161E-02	9.071E-02	8.270E-02	4.628E-02	NOT IDENT.
ND-147	-2.605E-01	6.167E-01	5.200E-01	3.147E-01	NOT IDENT.
PM-149	1.320E+01	1.413E+01	1.317E+01	7.207E+00	NOT IDENT.
EU-152	-2.428E-02	2.182E-01	1.469E-01	1.113E-01	FAIL ABUN

GD-153	-2.631E-02	1.062E-01	9.544E-02	5.416E-02	NOT IDENT.
EU-154	-8.102E-02	1.586E-01	1.256E-01	8.093E-02	FAIL ABUN
EU-155	1.320E-01	1.459E-01	1.365E-01	7.446E-02	FAIL ABUN
TB-160	1.228E-01	2.719E-01	2.441E-01	1.387E-01	FAIL ABUN
HO-166M	-3.519E-02	1.096E-01	9.083E-02	5.591E-02	FAIL ABUN
TM-171	-3.031E+01	3.730E+01	3.228E+01	1.903E+01	FAIL ABUN
LU-176	-1.165E-02	4.115E-02	3.657E-02	2.100E-02	FAIL ABUN
LU-177	1.101E+00	7.829E-01	7.198E-01	3.994E-01	NOT IDENT.
LU-177M	7.578E-02	3.063E-01	2.738E-01	1.563E-01	FAIL ABUN
HF-181	-4.667E-05	7.390E-02	6.458E-02	3.771E-02	FAIL ABUN
W-181	6.027E-02	4.913E-01	4.014E-01	2.507E-01	NOT IDENT.
TA-182	-4.221E-02	2.181E-01	1.814E-01	1.113E-01	NOT IDENT.
RE-183	-7.416E-02	1.524E-01	1.319E-01	7.774E-02	FAIL ABUN
RE-184	5.427E-02	3.712E-01	3.220E-01	1.894E-01	FAIL ABUN
OS-185	-7.812E-02	7.074E-02	5.536E-02	3.609E-02	FAIL ABUN
RE-188	6.135E-02	2.249E-01	2.017E-01	1.148E-01	NOT IDENT.
W-188	-9.102E+00	1.286E+01	9.651E+00	6.559E+00	NOT IDENT.
IR-192	1.010E-02	5.361E-02	4.858E-02	2.735E-02	FAIL ABUN
AU-195	-9.519E-03	3.002E-01	2.720E-01	1.531E-01	FAIL ABUN
TL-200	-6.848E-01	6.437E+00	5.699E+00	3.284E+00	NOT IDENT.
TL-201	-6.197E-01	1.821E+00	1.583E+00	9.292E-01	FAIL ABUN
TL-202	-1.517E-02	9.196E-02	8.024E-02	4.692E-02	NOT IDENT.
HG-203	-1.174E-02	5.646E-02	5.065E-02	2.881E-02	NOT IDENT.
BI-207	1.510E-02	1.081E-01	9.397E-02	5.516E-02	FAIL ABUN
TL-207	-9.686E-01	1.108E+00	9.438E-01	5.654E-01	FAIL ABUN
PO-209	1.318E+01	1.680E+01	1.528E+01	8.570E+00	NOT IDENT.
BI-210	-6.420E+00	4.488E+00	4.046E+00	2.290E+00	NOT IDENT.
PB-210	-6.420E+00	4.488E+00	4.046E+00	2.290E+00	NOT IDENT.
PO-210	-6.420E+00	4.481E+00	4.046E+00	2.286E+00	NOT IDENT.
PB-211	1.167E+00	1.815E+00	1.527E+00	9.261E-01	NOT IDENT.
BI-212	4.681E-01	5.759E-01	5.121E-01	2.938E-01	NOT IDENT.
PO-215	-9.686E-01	1.108E+00	9.438E-01	5.654E-01	FAIL ABUN
RN-219	2.232E-01	7.595E-01	6.810E-01	3.875E-01	NOT IDENT.
RN-220	-4.730E+01	4.440E+01	3.553E+01	2.265E+01	NOT IDENT.
RA-223	-9.686E-01	1.108E+00	9.438E-01	5.654E-01	FAIL ABUN
AC-227	-2.635E-01	6.124E-01	5.464E-01	3.124E-01	NOT IDENT.
TH-227	-2.635E-01	6.129E-01	5.464E-01	3.127E-01	NOT IDENT.
AC-228	7.118E-01	4.318E-01	2.959E-01	2.203E-01	FAIL ABUN
RA-228	7.118E-01	4.318E-01	2.959E-01	2.203E-01	FAIL ABUN
TH-229	-4.598E-02	7.838E-01	6.843E-01	3.999E-01	FAIL ABUN
PA-231	-4.677E-01	2.518E+00	2.259E+00	1.285E+00	NOT IDENT.
TH-231	-9.686E-01	1.108E+00	9.438E-01	5.654E-01	FAIL ABUN
U-231	-7.213E-01	4.319E-01	3.642E-01	2.203E-01	NOT IDENT.
TH-232	7.118E-01	4.318E-01	2.959E-01	2.203E-01	FAIL ABUN
PA-233	-5.602E-02	1.074E-01	9.426E-02	5.481E-02	FAIL ABUN
PA-234	8.421E-02	7.203E-01	6.300E-01	3.675E-01	FAIL ABUN
PA-234M	6.603E+00	1.014E+01	9.105E+00	5.176E+00	NOT IDENT.
TH-234	-1.336E+00	1.858E+00	1.466E+00	9.481E-01	NOT IDENT.
U-235	2.400E-01	3.035E-01	2.767E-01	1.549E-01	FAIL ABUN
NP-236	7.613E-02	1.146E-01	1.042E-01	5.846E-02	NOT IDENT.
U-238	-1.336E+00	1.858E+00	1.466E+00	9.481E-01	NOT IDENT.
NP-239	1.666E-01	3.128E-01	2.537E-01	1.596E-01	NOT IDENT.
CM-243	8.907E-02	1.349E-01	1.251E-01	6.882E-02	NOT IDENT.
AM-246	-2.565E-02	2.969E-01	2.538E-01	1.515E-01	NOT IDENT.
CM-247	2.050E-02	6.810E-02	6.111E-02	3.475E-02	NOT IDENT.
CF-249	-1.117E-02	6.756E-02	5.940E-02	3.447E-02	NOT IDENT.
CF-251	1.519E-01	1.827E-01	1.667E-01	9.324E-02	NOT IDENT.

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*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                           CHARLESTON ,SC 29417                            *
*                     GAMMA SPECTROSCOPY BACKGROUND REPORT                  *
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ENERGY	MDA COUNTS
46.50	665.0220
46.50	665.0220
46.50	665.0220
48.70	732.6285
49.72	744.1755
51.35	840.1391
52.39	915.7185
52.97	977.6445
53.15	977.8948
53.44	964.1175
54.07	941.3926
56.28	1017.8544
56.28	1017.8585
57.37	1040.8639
57.53	1041.0884
57.53	1041.0925
57.60	1041.1877
57.98	1084.7424
57.98	1084.7424
59.32	810.9756
59.32	810.9756
59.40	811.0608
59.54	811.2119
59.72	811.4048
60.01	811.7168
61.10	469.0198
61.14	469.0449
61.30	469.1423
63.00	470.1744
63.29	470.3493
63.29	470.3493
63.58	484.4536
64.28	481.7866
65.12	435.7747
65.20	435.8180
65.20	435.8180
66.05	496.8340
66.72	490.5885
66.83	490.6559
66.91	481.8226
67.20	461.5886
67.20	461.5886
67.75	453.4272
67.85	442.3693
68.90	453.3980
68.90	453.3980
69.30	456.7359
69.67	435.1090
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70.82	446.6429
70.83	446.6481
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72.87	486.8695
72.87	486.8695
74.67	482.4038
74.81	482.4826
74.81	482.4826
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74.81	482.4826
74.97	482.5727
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77.11	483.7607

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77.11	483.7607
77.11	483.7607
77.11	483.7607
77.11	483.7607
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79.80	601.2121
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80.30	604.7070
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81.07	606.4089
81.07	606.4089
81.07	606.4089
81.07	606.4089
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83.78	513.5135
83.78	513.5135
83.78	513.5135
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84.90	560.1526
85.43	579.5266
86.29	621.3783
86.50	624.6959
86.54	624.7222
86.59	624.7558
86.72	624.8422
86.79	624.8878
86.94	538.7147
87.30	538.9214
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87.88	539.2522
88.03	539.3370
88.36	539.5251
88.47	539.5872
89.95	432.3380
91.11	351.3971
92.29	337.4313
92.38	337.4635
92.38	337.4635
93.35	334.5952
94.00	316.3930
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94.67	338.9361
94.90	339.0148
94.90	339.0148
94.90	339.0148
94.90	339.0148
95.87	406.2700
95.87	406.2700
96.73	404.6111
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98.44	317.8009
98.88	317.9390
99.55	316.1345
99.55	316.1345
99.86	316.2303
100.00	319.2952
100.10	319.3278
103.18	327.3519
103.76	292.1519
105.00	270.2308
105.31	270.3102
108.00	323.7726
109.28	300.7865

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111.00	289.0507
111.76	289.2522
112.95	302.8200
115.19	286.0648
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117.00	289.8029
117.00	289.8029
117.66	312.9082
121.11	303.9989
121.62	304.1333
121.78	304.1750
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122.32	310.8972
122.32	310.8972
122.32	310.8972
122.32	310.8972
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131.20	319.0467
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135.34	272.7361
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136.48	268.4118
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140.51	0.0000
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142.65	309.4662
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144.24	274.2613
144.24	274.2613
144.24	274.2613
145.22	278.6636
145.44	276.6147
147.16	302.1636
152.43	285.4771
152.70	279.2132
153.22	280.3764
154.21	263.7081
154.21	263.7081
154.21	263.7081
154.21	263.7081
155.03	265.9812
156.02	274.6294
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159.00	0.0000
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161.27	273.5739
162.32	302.4363
162.64	299.3217
163.35	290.9808
163.89	270.9103
165.85	236.1833
167.43	279.0546
171.28	245.6419
171.86	238.2629
172.10	238.3037
176.55	235.8263
176.60	235.8347
181.06	276.9861
184.41	251.7502
185.71	290.1531
186.00	298.6256
190.27	276.9688
192.34	306.5970
193.63	283.0016
197.04	292.3224
198.01	281.6313
198.60	301.3182
200.40	261.3702
201.83	297.5794
202.84	313.0414
205.31	338.6557

208.36	271.4430
208.81	278.0877
209.75	294.6826
209.75	294.6826
210.97	345.3340
215.65	291.3540
216.55	303.6143
218.09	331.4256
222.10	295.8035
223.80	280.6360
226.40	286.6010
227.00	273.4201
227.08	273.4333
227.20	273.4522
228.16	280.2530
228.18	280.2549
228.18	280.2549
231.56	253.0627
235.69	250.9996
236.00	245.7030
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238.63	244.0676
238.63	244.0676
238.63	244.0676
239.00	244.1194
240.98	244.3951
241.98	232.2512
241.98	232.2512
241.98	232.2512
244.69	263.0245
245.39	266.7067
247.94	225.3481
248.90	227.5495
249.79	256.8213
252.40	248.2068
252.85	228.0482
252.85	228.0482
254.15	0.0000
256.20	253.9024
256.20	253.9024
260.50	237.3485
260.90	258.1611
262.80	257.5228
264.65	252.3533
268.24	247.3962
268.79	242.9371
269.46	246.6494
269.46	246.6494
269.46	246.6494
269.46	246.6494
271.23	233.2670
273.65	281.7284
276.40	224.7965
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277.60	224.0276
277.60	224.0276
278.00	214.9640
278.60	220.5001
279.20	224.2137
279.53	229.7193
280.46	237.1262
281.68	235.4502
283.67	232.9521
284.30	218.4055
285.00	220.3097
285.90	207.6086
286.10	207.6280
286.10	207.6280
287.40	216.9192
288.45	0.0000
290.67	246.0039
290.80	246.0203
291.72	243.0773
293.26	220.3154
293.70	212.7108
295.21	253.6087
295.21	253.6087

295.21	253.6087
295.96	268.1040
296.50	249.7861
297.23	234.5490
298.57	211.6943
299.80	210.2885
299.80	210.2885
300.09	209.2226
300.09	209.2226
300.09	209.2226
300.09	209.2226
300.12	209.2254
301.29	215.0500
302.84	263.7924
303.76	254.6835
303.91	235.3209
304.40	234.4539
304.40	234.4539
304.84	238.1996
306.84	217.1742
308.46	206.2478
311.98	219.5693
316.51	199.6204
318.01	192.3291
319.02	210.0845
319.41	209.1934
320.08	193.4486
323.87	225.4718
323.87	225.4718
323.87	225.4718
323.87	225.4718
325.23	192.0538
328.77	189.5691
333.44	202.7679
334.20	193.4775
334.20	193.4775
334.30	193.4876
338.28	211.0364
338.28	211.0364
338.28	211.0364
338.28	211.0364
338.32	211.0391
338.32	211.0391
338.32	211.0391
340.50	197.1647
340.57	197.1724
344.27	202.2055
345.85	203.9185
350.59	191.4623
351.07	191.5020
351.92	196.6070
351.92	196.6070
351.92	196.6070
355.39	0.0000
356.01	192.2384
364.48	200.2259
366.43	187.0995
367.43	191.9321
367.94	190.0732
369.80	174.0555
374.96	193.5067
383.85	177.9692
387.95	172.5249
388.63	173.5320
391.69	162.2334
391.69	162.2334
392.90	155.5908
398.62	177.1382
400.65	174.3937
401.10	189.8458
401.81	189.9011
402.60	189.9612
404.84	172.7617
410.95	188.6682
411.60	187.7504
413.65	176.2814
414.70	187.9825
415.30	206.4426

415.76	201.6346
417.63	0.0000
418.52	167.8894
423.70	216.8561
427.08	172.3503
427.89	187.9912
432.53	193.2095
433.93	194.2898
439.47	210.3599
439.56	210.3677
439.89	219.2012
443.98	185.2417
444.90	191.1890
445.03	191.1985
445.03	191.1985
445.03	191.1985
445.03	191.1985
453.90	190.8574
463.38	204.3670
468.07	204.7208
473.00	162.4885
475.06	170.5429
475.35	180.4759
476.78	188.5087
477.59	196.5039
477.96	180.6492
482.03	171.9673
484.57	170.1358
487.03	154.3529
490.36	181.4557
492.35	143.6713
497.08	147.9097
507.63	0.0000
510.53	0.0000
510.84	147.6200
511.00	147.6272
511.85	138.9657
511.85	138.9657
513.99	100.5316
513.99	100.5316
520.41	125.9430
520.65	125.9521
527.90	131.3140
528.96	0.0000
529.64	136.4436
529.87	0.0000
531.02	130.4424
537.32	127.6796
543.00	120.8158
546.56	0.0000
549.76	126.1736
552.65	126.2917
555.20	112.1270
563.23	147.1711
563.90	139.0248
568.70	131.0500
569.32	154.6275
569.50	154.6386
569.67	142.3562
573.80	115.3702
574.00	115.3784
574.64	102.5781
578.91	104.4317
579.30	94.1709
583.14	95.9993
585.48	116.6564
591.81	115.5137
592.07	124.8078
593.00	128.9703
595.88	109.4652
600.56	124.1045
602.52	0.0000
602.71	113.8376
602.71	113.8376
603.60	110.4193
604.41	125.9797
604.70	125.9886
609.31	115.1083

609.31	115.1083
609.31	115.1083
609.31	115.1083
610.33	115.1435
612.46	102.0712
614.37	107.3244
618.01	120.1513
621.84	102.0171
621.84	102.0171
631.29	90.8232
633.02	95.0501
633.10	95.0523
634.78	105.5494
635.90	88.8578
636.97	85.7497
645.85	101.7032
646.12	114.2956
656.30	113.9351
657.75	120.9971
657.90	0.0000
661.65	103.2278
661.65	103.2278
664.57	84.3398
666.33	94.9307
666.33	94.9307
675.00	74.0195
677.61	87.8309
685.20	109.2313
692.80	85.0215
695.00	107.4062
696.49	95.7502
696.49	95.7502
697.00	103.2117
697.49	113.8677
698.33	117.0872
698.50	112.8346
699.00	104.3332
702.63	118.2925
706.10	104.5413
706.58	0.0000
706.67	98.1565
709.31	101.4315
711.68	105.7700
713.82	102.6258
717.42	108.0769
720.50	114.5940
721.93	140.3549
722.20	147.8649
722.78	136.1002
722.78	136.1002
722.89	136.1033
722.95	141.4649
723.30	136.1188
724.18	112.5674
727.18	114.8056
733.00	103.1648
735.90	96.7939
739.58	116.2661
742.81	99.1269
744.21	89.4641
747.13	87.3766
751.79	106.9253
752.31	103.7016
753.82	101.5801
755.35	100.5404
756.15	88.6685
756.87	88.6845
763.93	137.6102
765.79	105.1536
766.42	104.0883
766.84	101.9312
776.49	113.0594
778.00	109.8400
778.57	105.5064
778.89	105.5135
783.80	116.5401
785.46	123.1275
792.07	104.7820

795.84	98.3276
796.30	97.2460
798.80	111.5227
801.93	96.2930
805.60	90.9049
810.29	101.9799
810.76	100.8945
815.85	91.1399
817.79	110.9594
818.51	113.1768
819.60	108.8130
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828.27	107.3952
831.60	112.0766
831.96	112.0865
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867.32	113.0595
867.82	112.1451
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876.40	112.3765
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880.27	105.0432
880.51	106.9070
881.50	119.9507
883.24	117.2098
884.67	113.5286
889.25	117.3765
896.60	112.9156
898.02	114.8195
899.00	128.8500
903.28	142.5980
911.07	144.4639
911.07	144.4639
911.07	144.4639
919.63	157.6162
920.93	162.3564
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925.24	136.2148
926.50	129.6754
935.52	129.9421
937.48	148.8418
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946.00	134.0264
949.00	124.6738
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964.01	163.9474
966.15	133.6878
968.20	149.8737
969.11	145.1589
969.11	145.1589
969.11	145.1589
977.42	121.6641
980.50	104.6267
983.50	127.5388
989.30	107.6870
996.32	118.3515
1001.03	107.9629
1001.68	105.1123
1004.76	116.6561
1021.30	0.0000
1024.50	0.0000
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1036.00	103.9614
1037.82	118.4456
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1038.76	0.0000
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1048.07	101.3342

1050.47	101.3855
1050.47	101.3855
1062.04	89.0464
1063.62	92.9492
1076.63	109.7032
1077.35	109.7170
1078.86	97.1273
1085.78	97.2656
1099.22	100.4560
1112.02	96.8046
1112.84	109.5345
1115.52	144.8203
1120.29	89.1301
1120.29	89.1301
1120.29	89.1301
1120.29	89.1301
1120.51	89.1338
1121.28	86.2096
1124.00	0.0000
1129.67	68.6898
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1147.95	0.0000
1167.94	55.9315
1173.22	64.3308
1175.09	61.1016
1177.93	49.2470
1189.05	52.6161
1204.90	45.8035
1205.75	34.8562
1213.00	33.9073
1221.42	36.9578
1230.97	35.0228
1235.34	31.0454
1236.41	0.0000
1238.25	29.0578
1246.25	20.0700
1260.41	0.0000
1271.85	33.2712
1274.45	36.3135
1274.54	36.3135
1291.56	22.2605
1298.22	0.0000
1312.09	22.3429
1325.50	20.9414
1325.50	20.9414
1332.49	29.5581
1333.61	27.9621
1360.21	21.5084
1362.66	0.0000
1365.15	17.4268
1368.21	17.4358
1368.53	0.0000
1376.25	16.4329
1384.27	14.3988
1394.10	18.5435
1395.20	18.5471
1407.95	13.4242
1434.06	12.4463
1436.60	17.6392
1457.56	0.0000
1460.81	12.5015
1489.15	8.3730
1509.49	14.7013
1596.49	11.7103
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1678.03	0.0000
1691.02	9.7189
1691.02	9.7189
1706.46	0.0000
1750.46	0.0000
1764.49	6.5488
1764.49	6.5488
1764.49	6.5488
1764.49	6.5488
1770.23	16.8537
1771.40	11.2374
1791.20	0.0000
1808.65	6.5898

1836.01 11.3400

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202003354

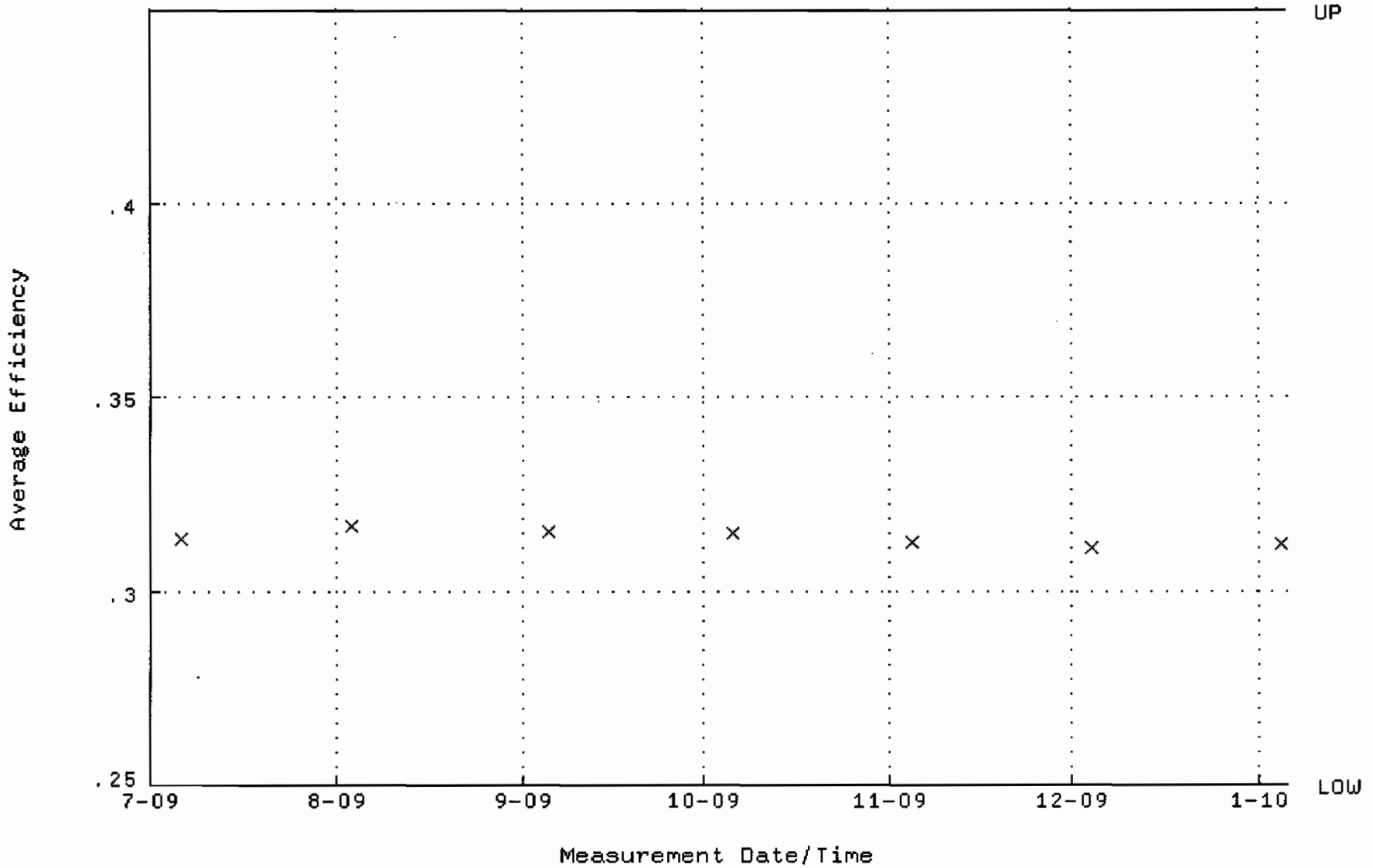
Total Uranium Activity	-3.8637E+00	ug/g
Total Uranium Counting Unc.	5.5301E+00	ug/g
Total Uranium Tpu	2.8215E-06	ug/g
Total Uranium Mda	4.3639E+00	ug/g

```
*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                             *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 936285                    SAMPLE ID   : G1202003354     *
*   ANALYST       : MJH1                      DETECTOR    : GAM14           *
*   SAMPLE DATE   : 24-DEC-2009 00:00:00.00   COUNT TIME  :    0 01:00:00.00 *
*   ANALYSIS DATE: 31-DEC-2009 13:19:17.29    SAMPLE ALQT:  155.440 GRAM    *
*                                                                           *
*****************************************************************************

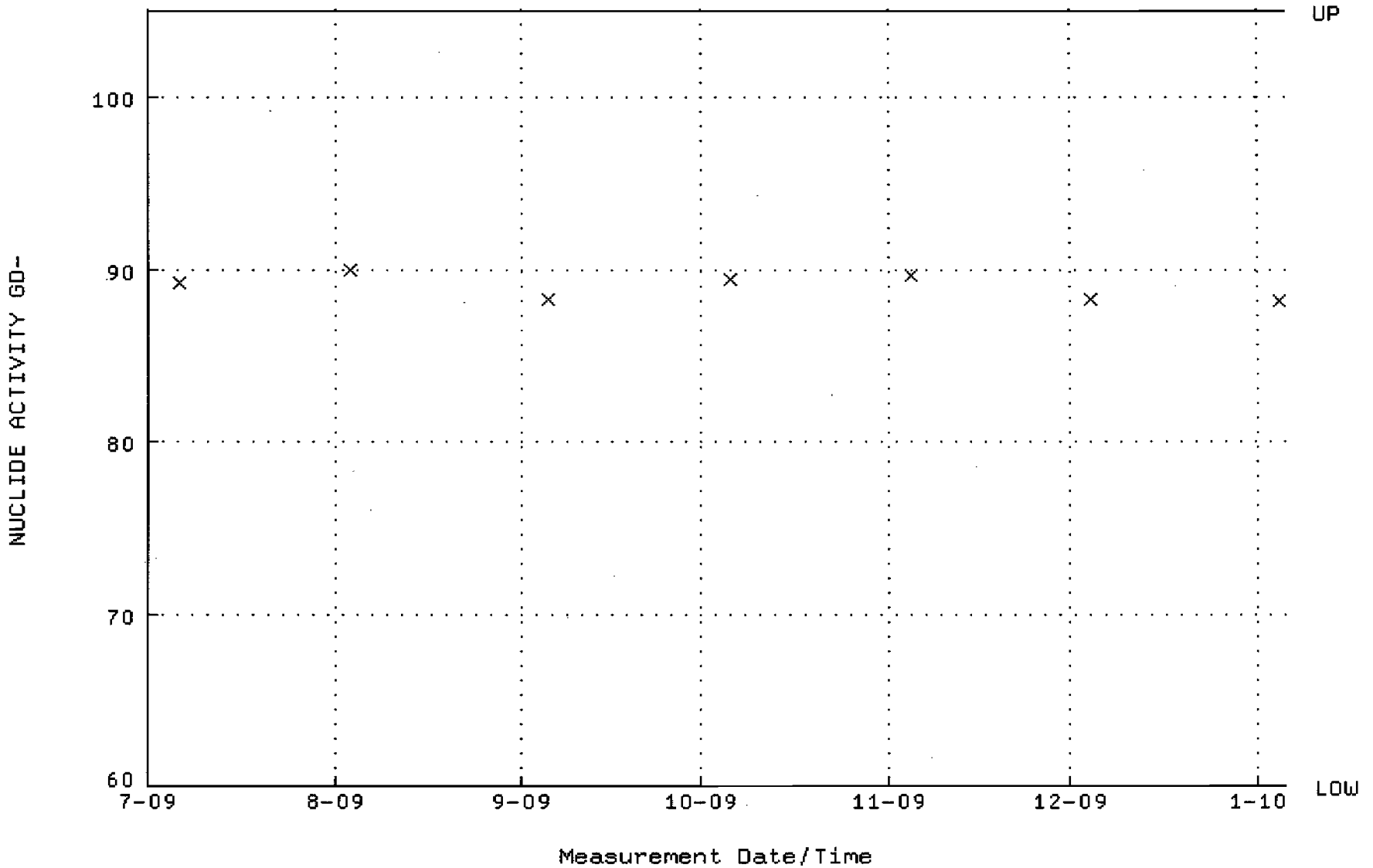

        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 2.595E+01
        GROSS GAMMA ERROR   (pCi/GRAM  )  : 2.912E+00
        GROSS GAMMA MDA     (pCi/GRAM  )  : 5.170E+00
        GROSS GAMMA DLC     (pCi/GRAM  )  : 2.538E+00
```

BACKGROUND AND EFFICIENCY DATA

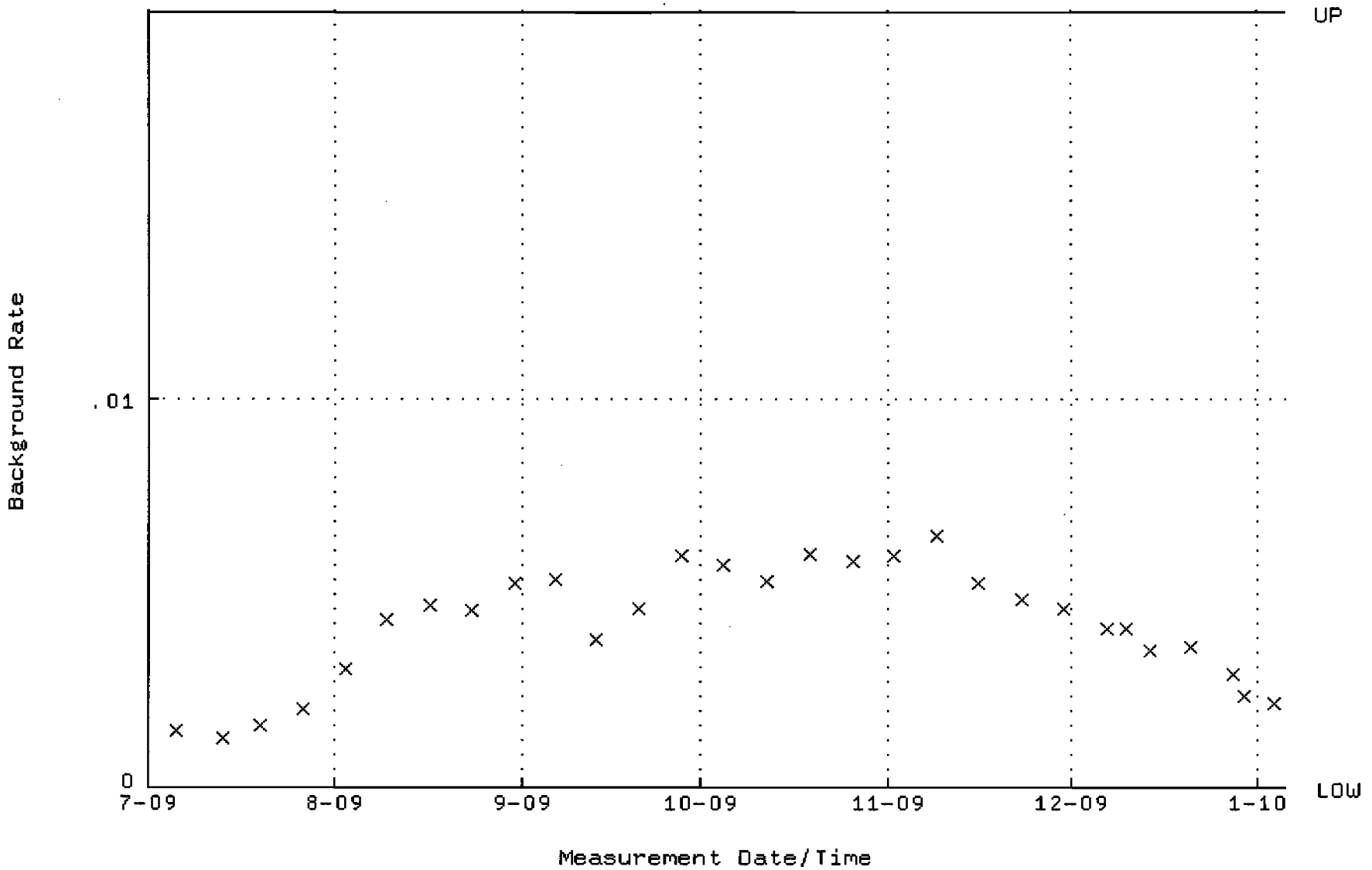
QA filename : DKA100:[ENV_ALPHA.QA.W]W029.QAF;6
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.250000 through 0.450000



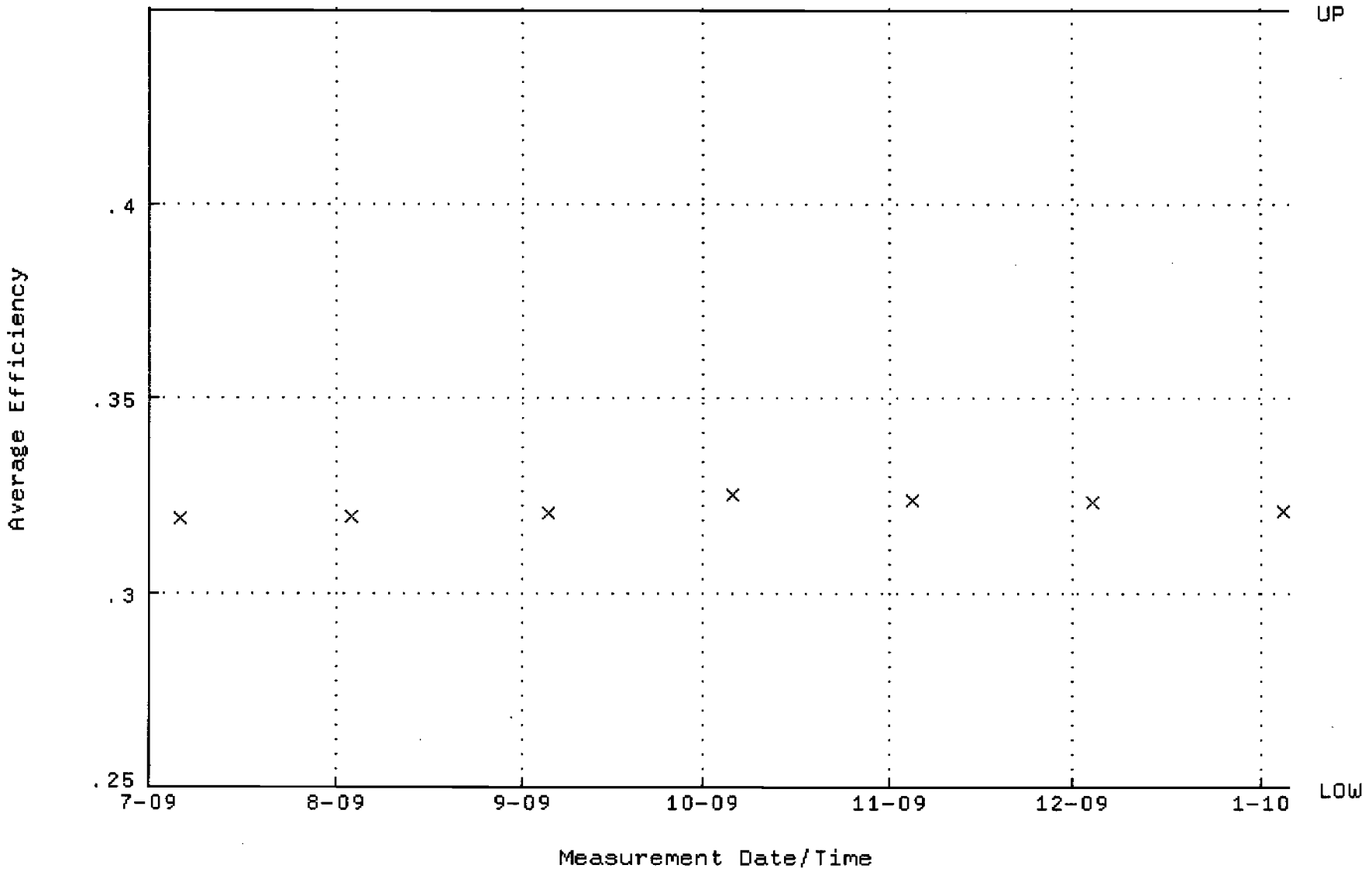
QA filename : DKA100:[ENV_ALPHA.QA.W]W029.QAF;6
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 60.0000 through 105.000



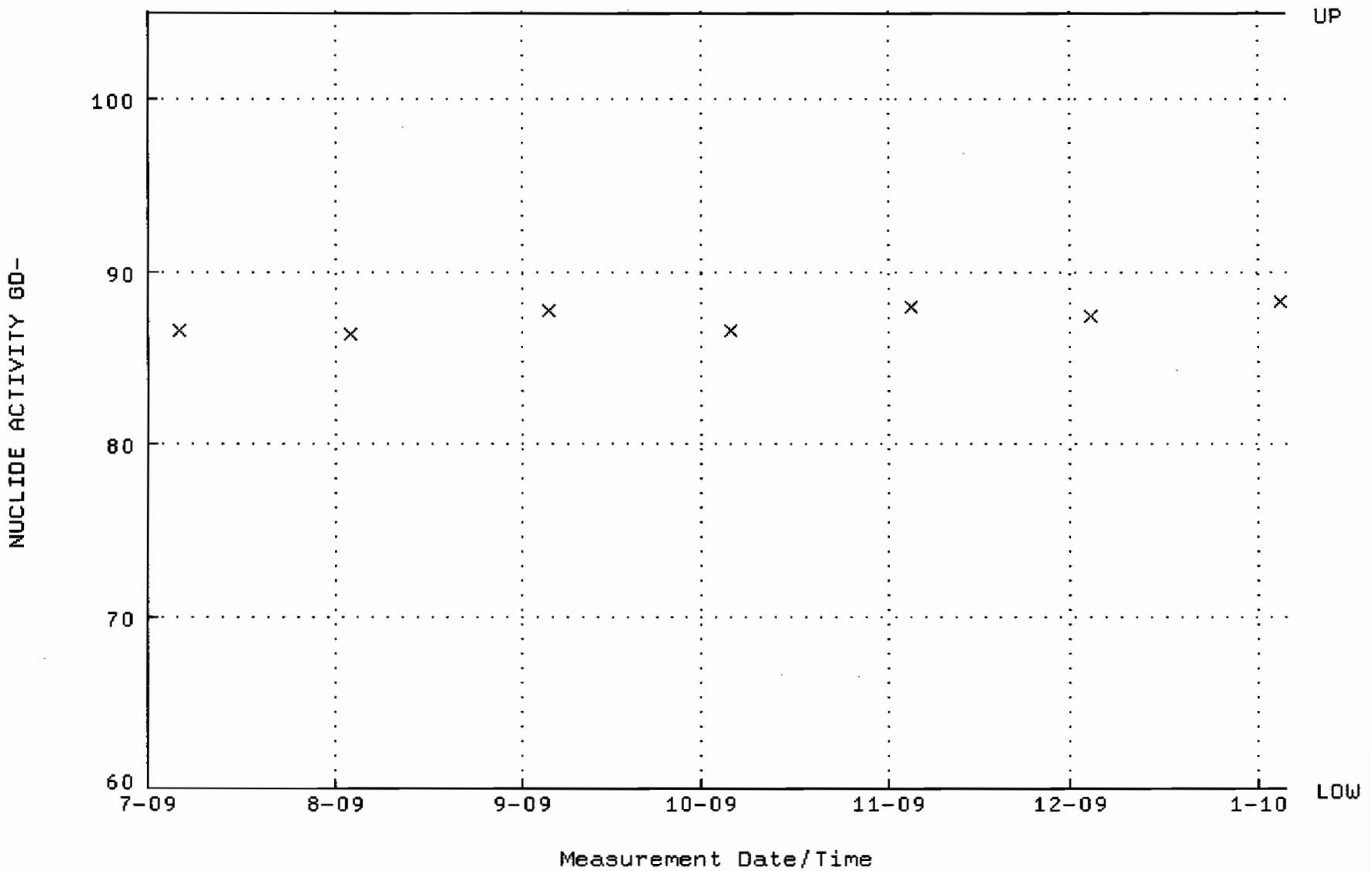
QA filename : DKA100:[ENV_ALPHA.QA.B]B029.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



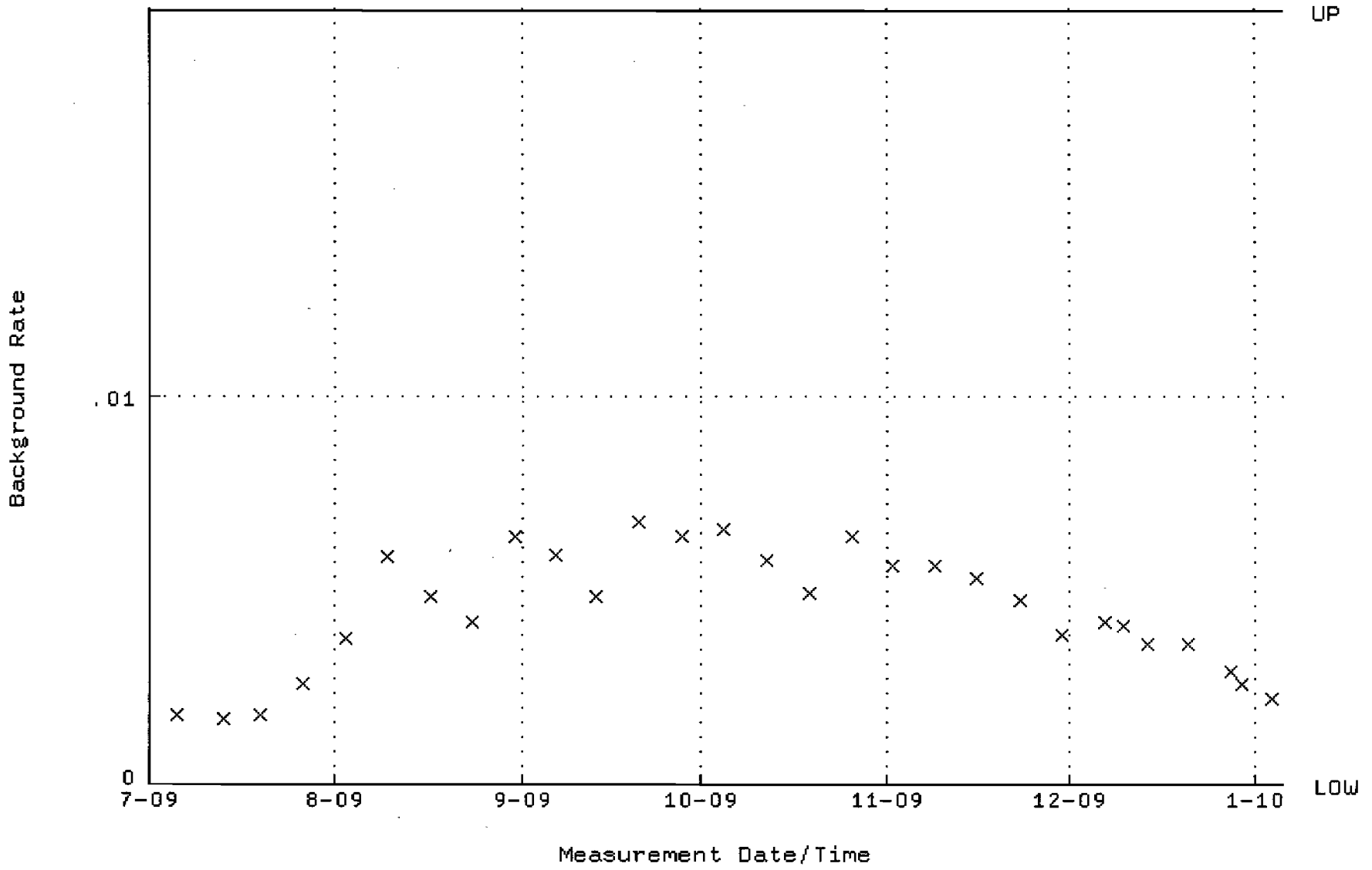
QA filename : DKA100:[ENV_ALPHA.QA.W]W030.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.250000 through 0.450000



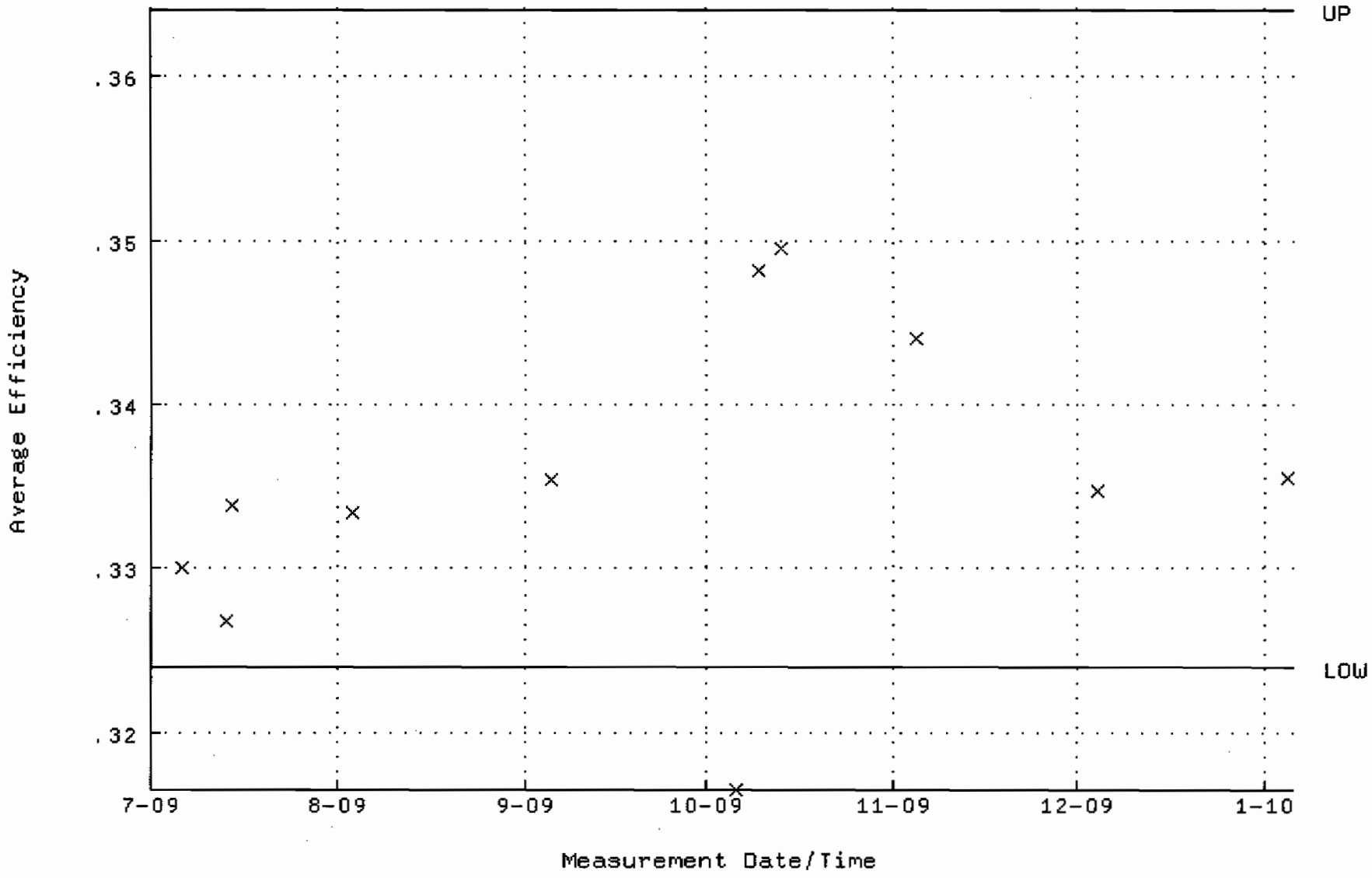
QA filename : DKA100:[ENV_ALPHA.QA.W]W030.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 60.0000 through 105.000



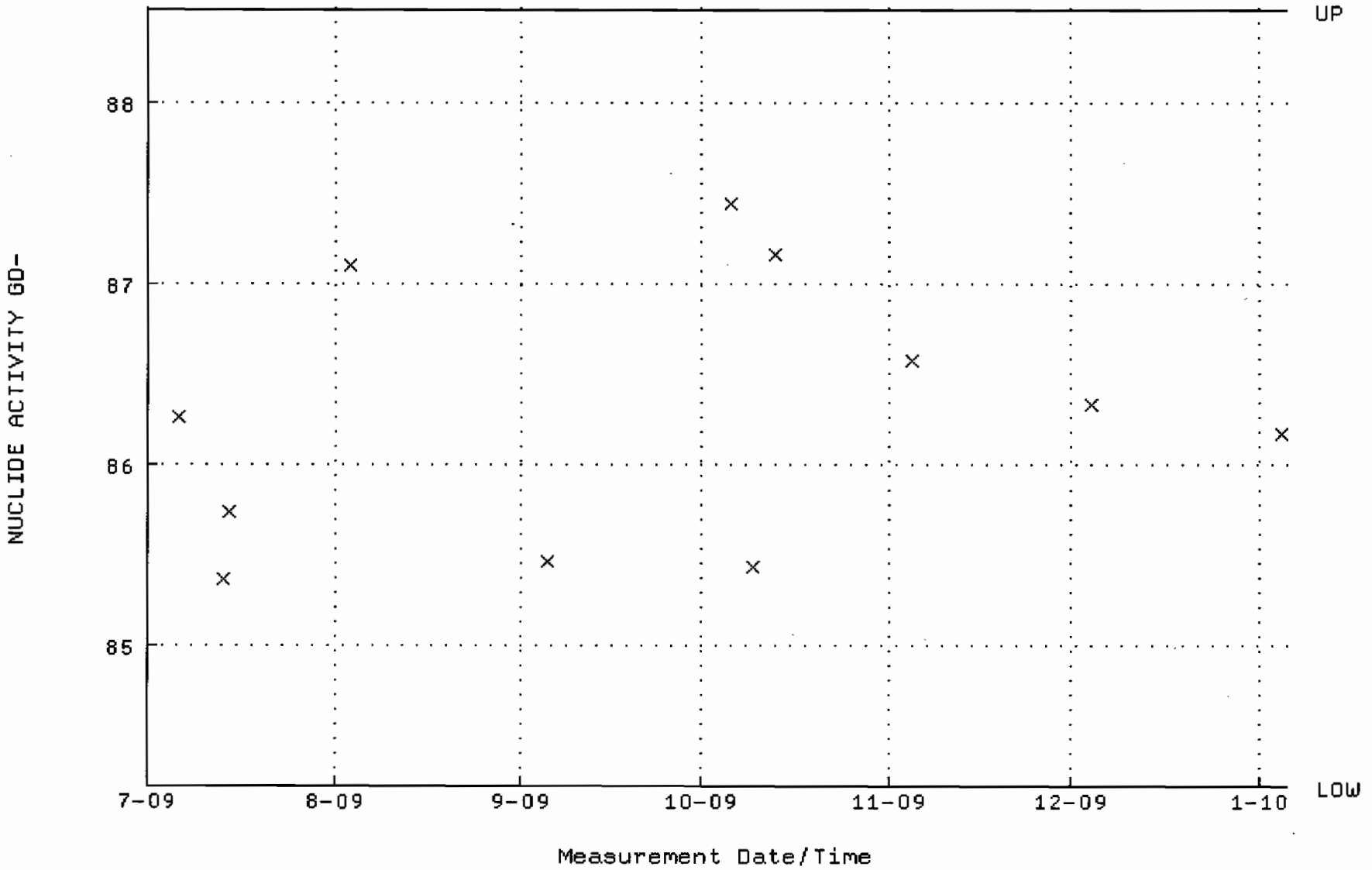
QA filename : DKA100:[ENV_ALPHA.QA.B]B030.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



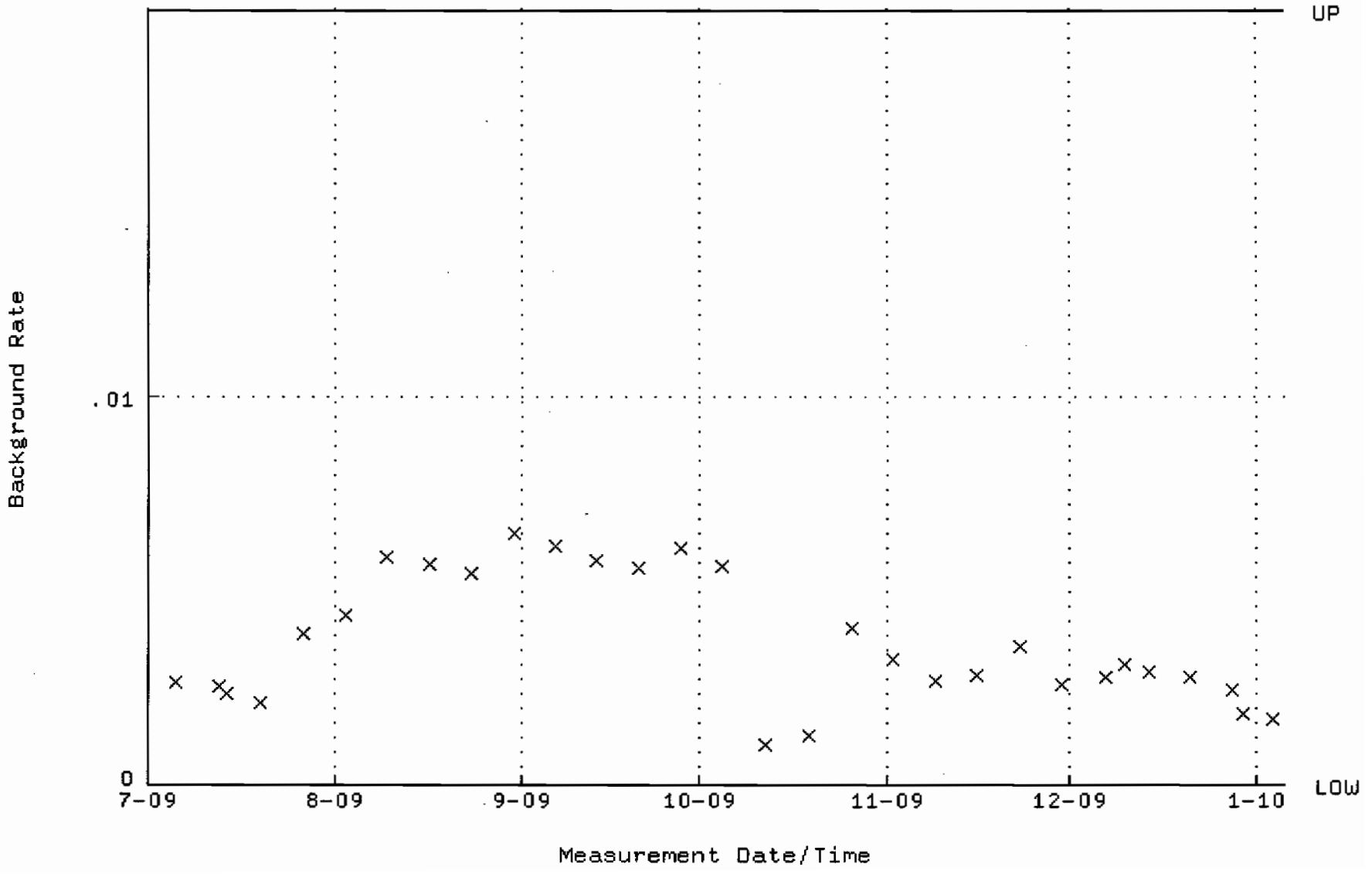
QA filename : DKA100:[ENV_ALPHA.QA.W]W031.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.324029 through 0.364065



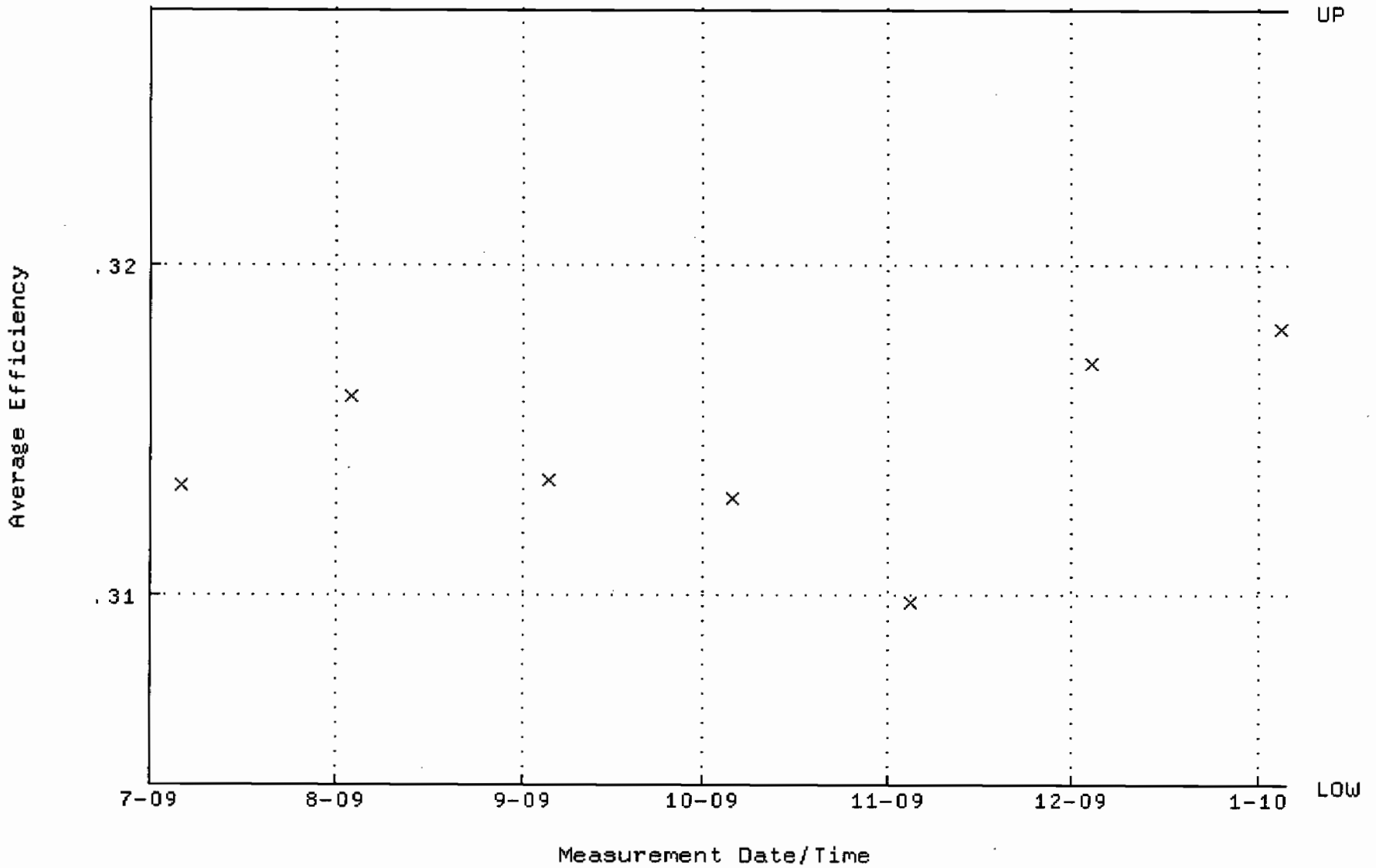
QA filename : DKA100:[ENV_ALPHA.QA.W]W031.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 84.2165 through 88.5165



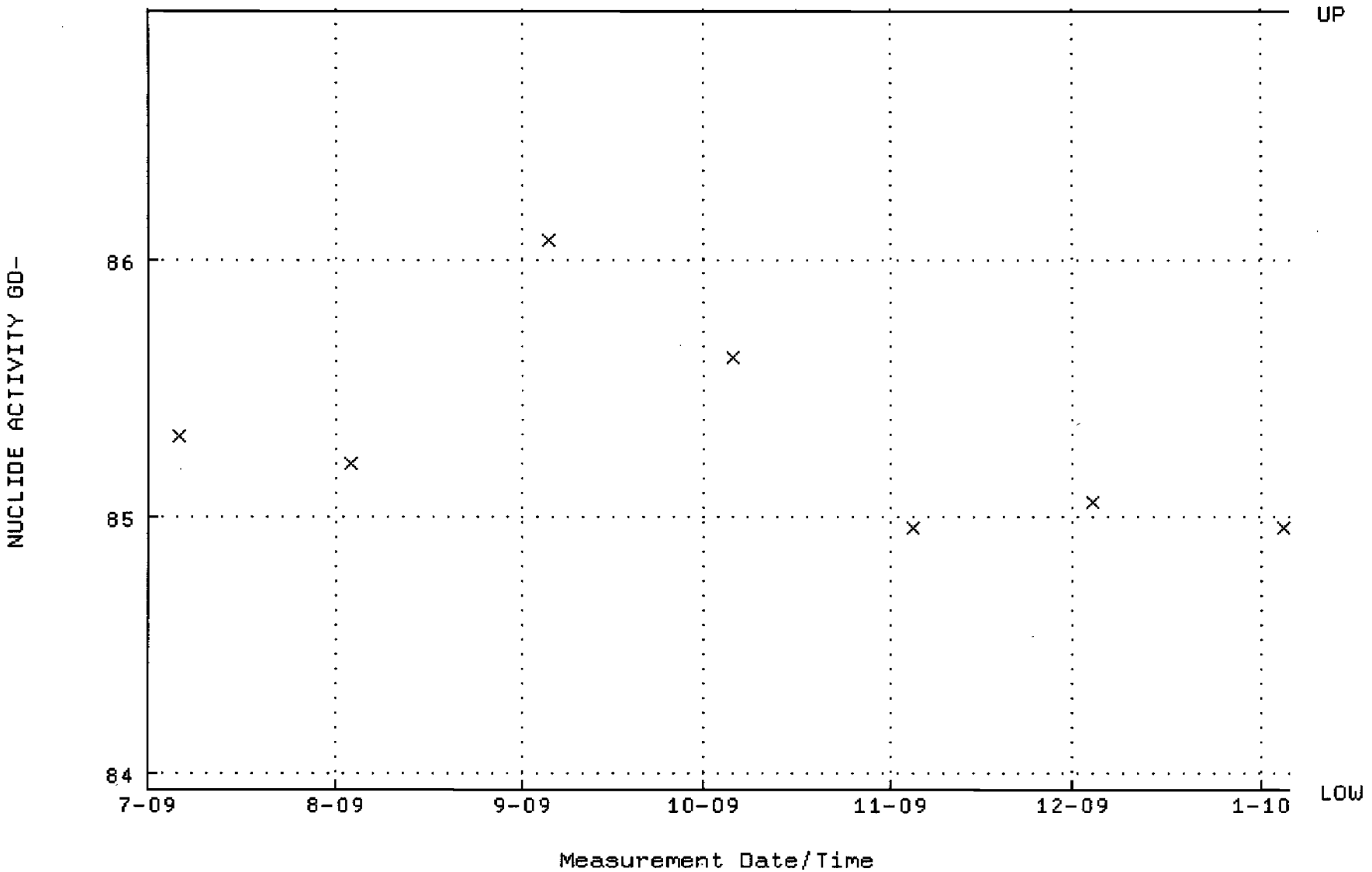
QA filename : DKA100:[ENV_ALPHA.QA.B]B031.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



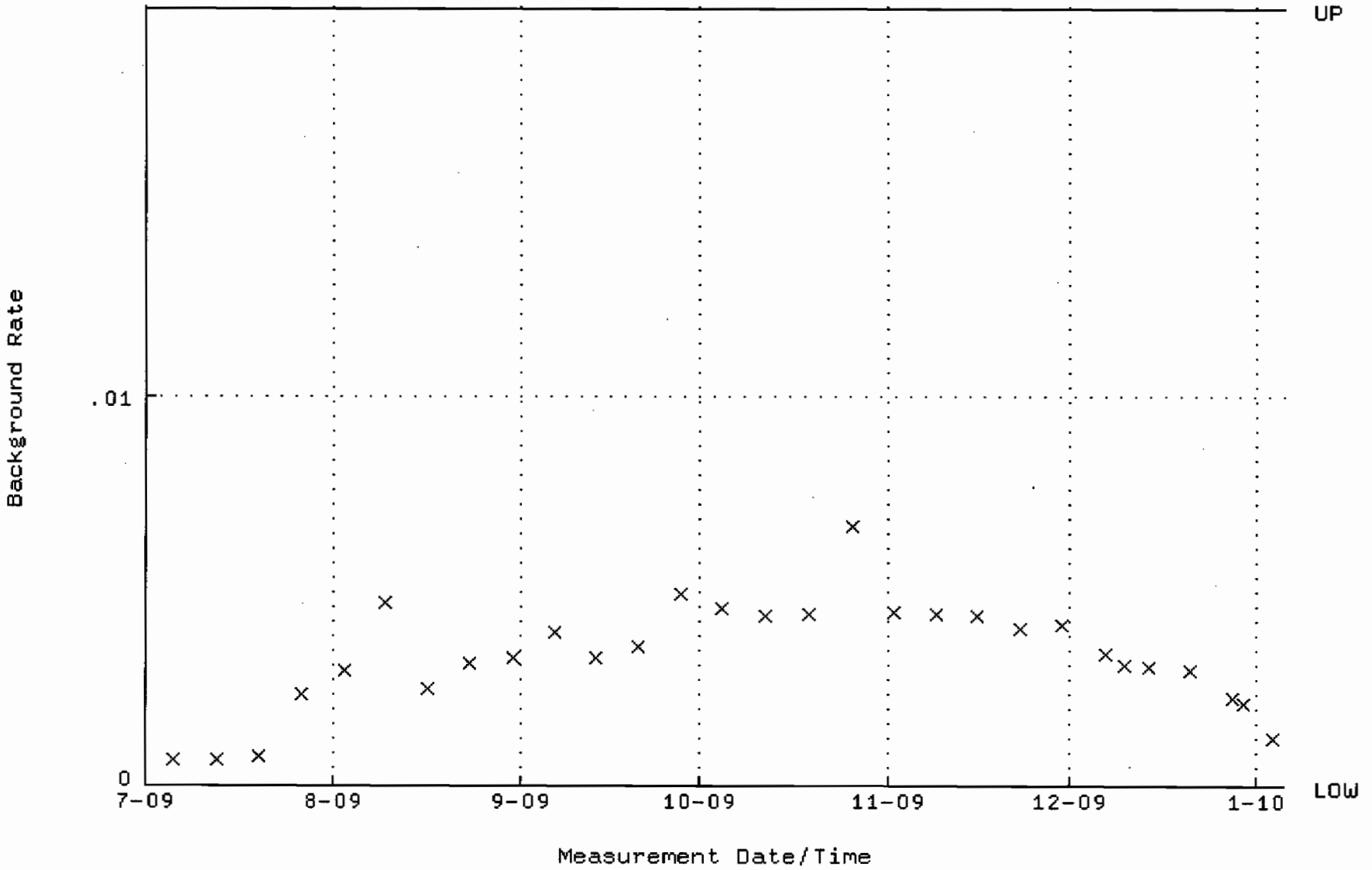
QA filename : DKA100:[ENV_ALPHA.QA.W]W033.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.304222 through 0.327748



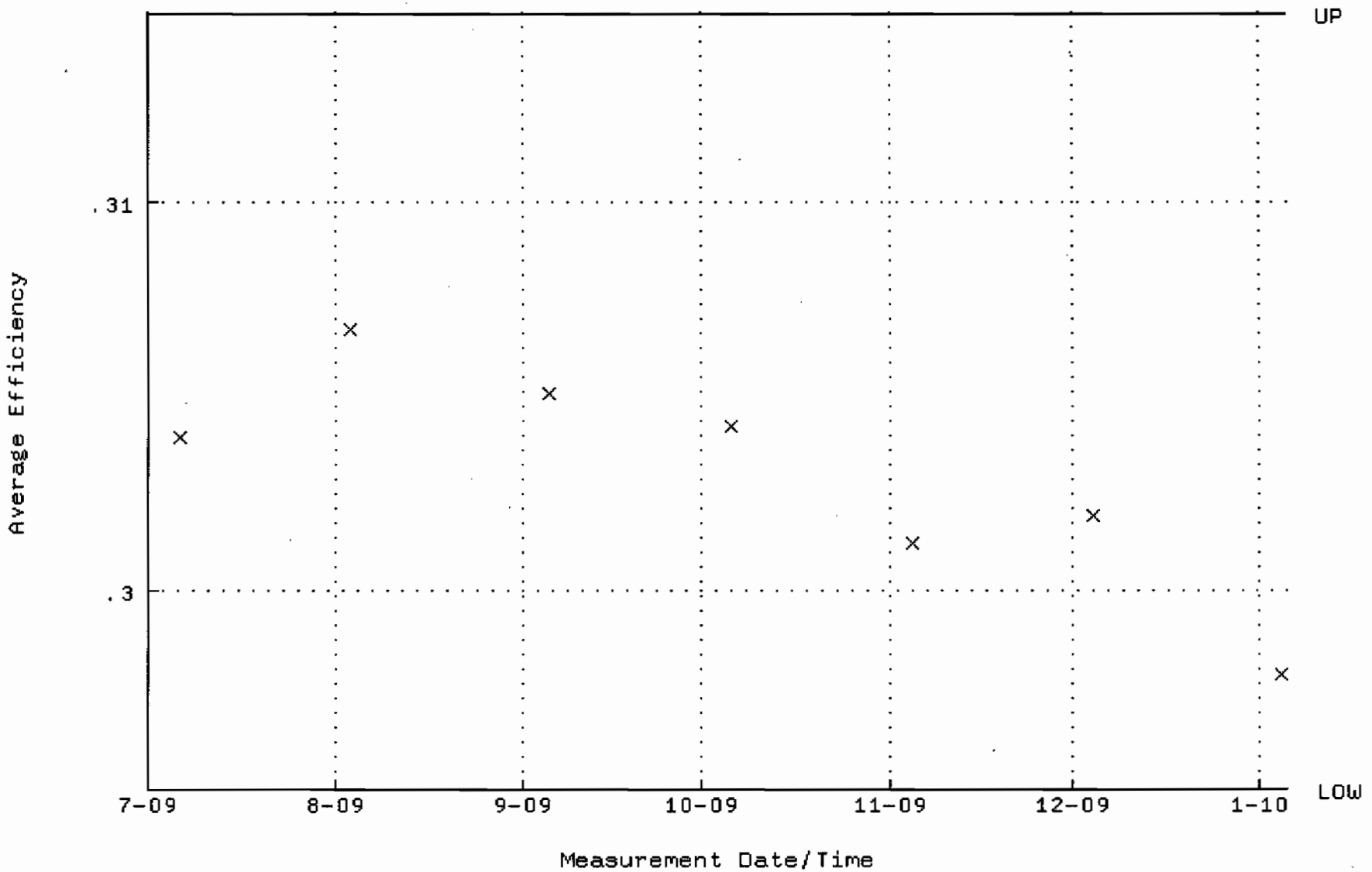
QA filename : DKA100:[ENV_ALPHA.QA.W]W033.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 83.9373 through 86.9661



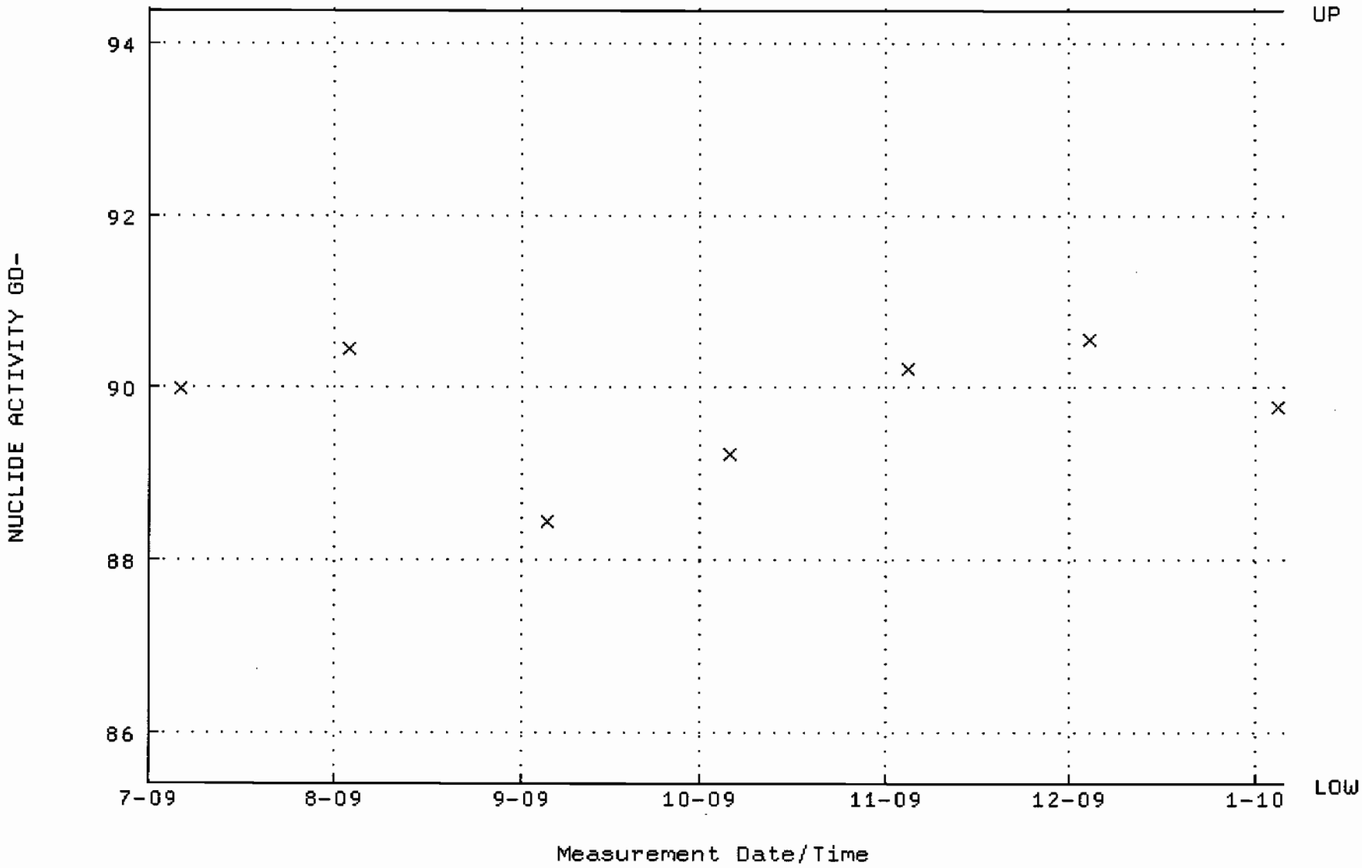
QA filename : DKA100:[ENV_ALPHA.QA.B]B033.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



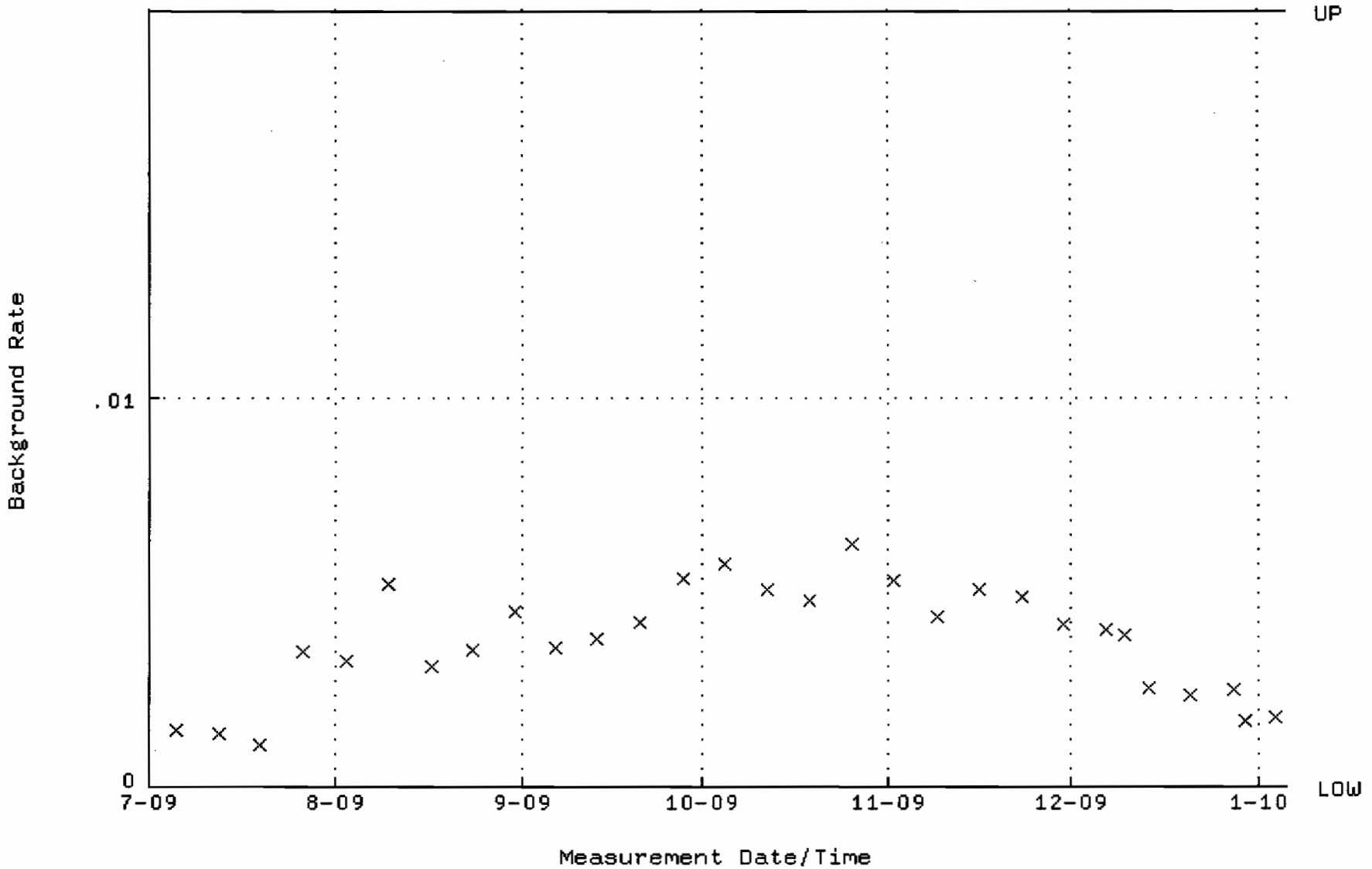
QA filename : DKA100:[ENV_ALPHA.QA.W]W035.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.294859 through 0.314859



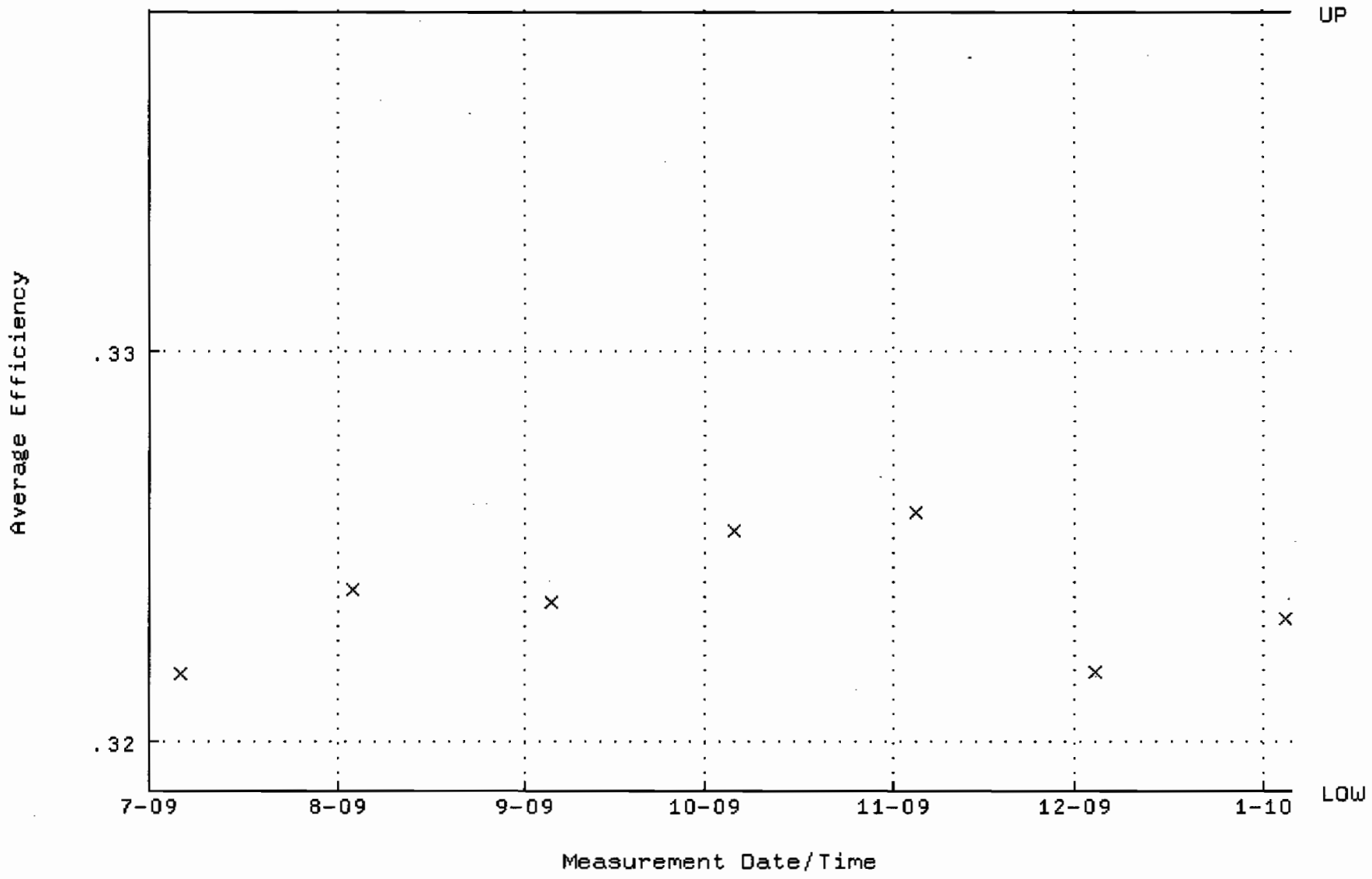
QA filename : DKA100:[ENV_ALPHA.QA.W]W035.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 85.3984 through 94.3878



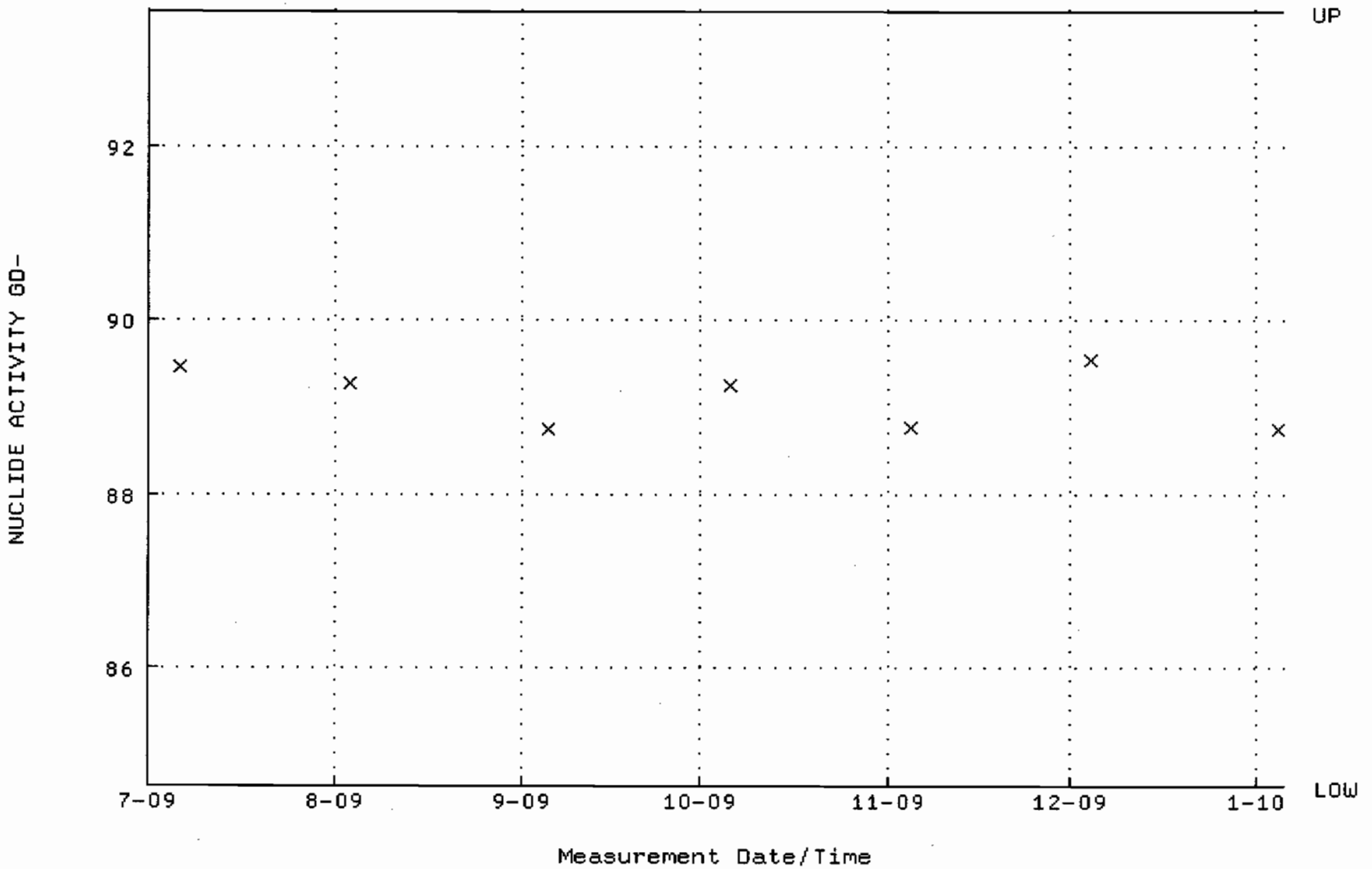
QA filename : DKA100:[ENV_ALPHA.QA.B]B035.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



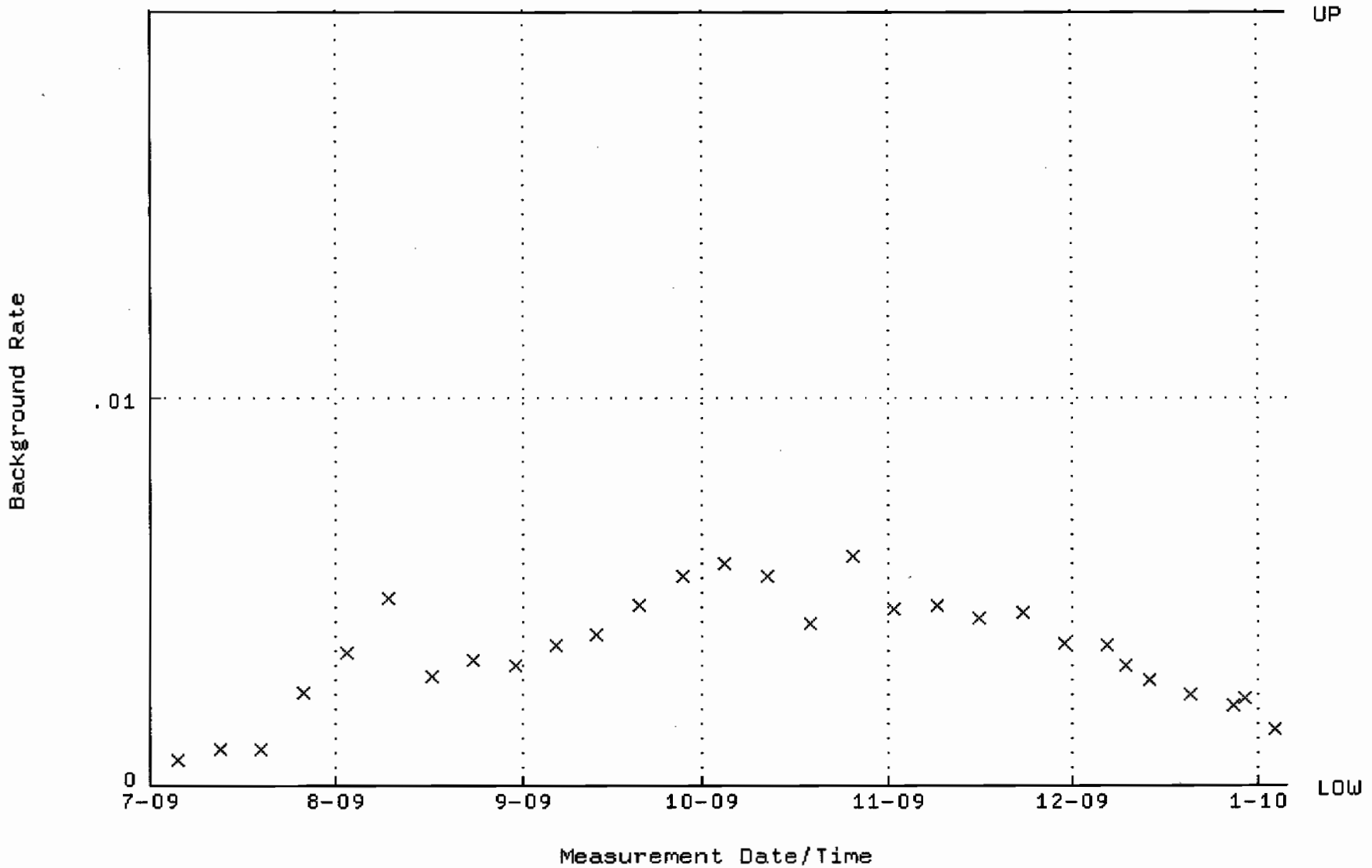
QA filename : DKA100:[ENV_ALPHA.QA.W]W036.QAF;2
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.318717 through 0.338717



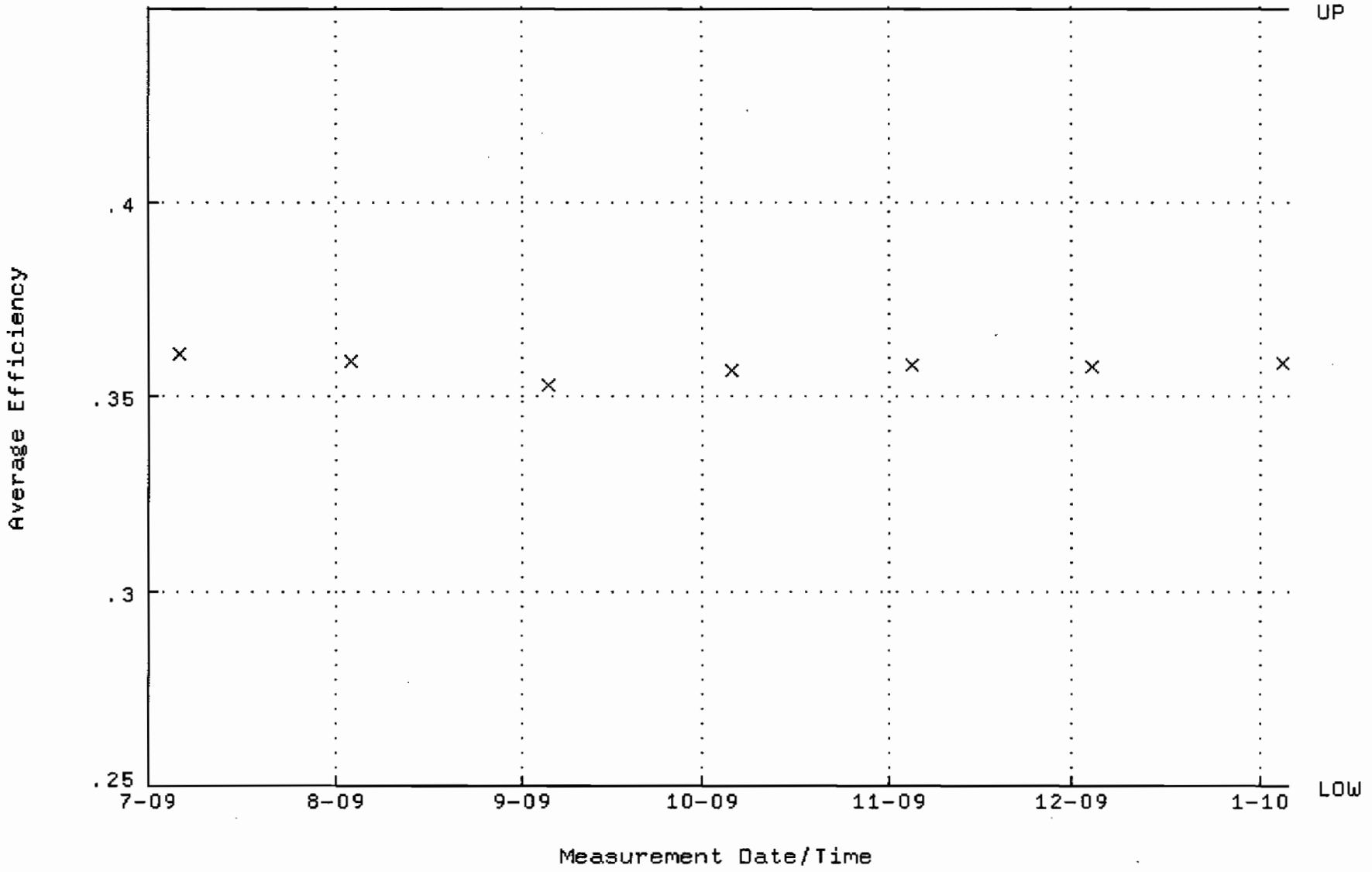
QA filename : DKA100:[ENV_ALPHA.QA.W]W036.QAF;2
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:15 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 84.6422 through 93.5518



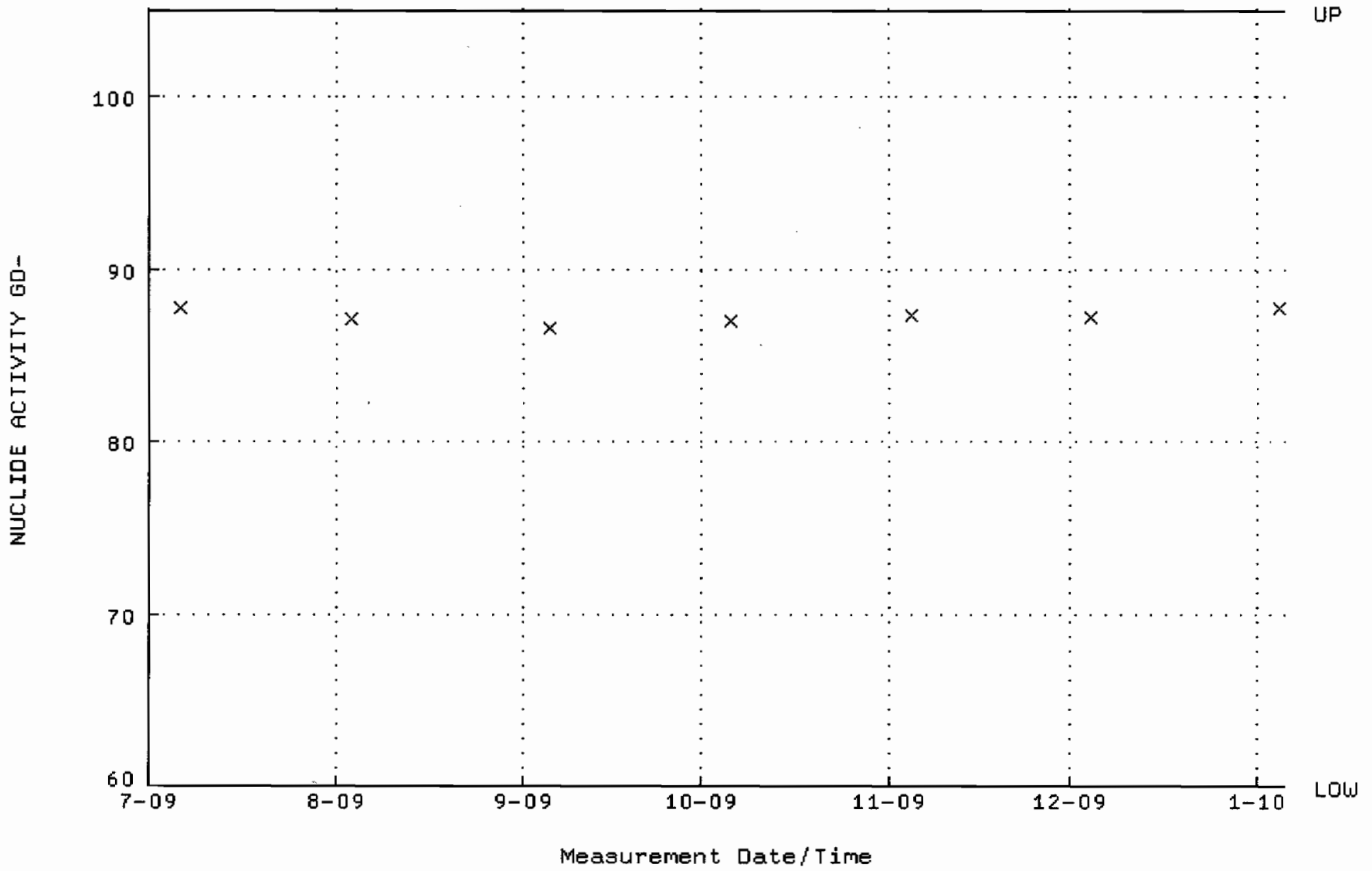
QA filename : DKA100:[ENV_ALPHA.QA.B]B036.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



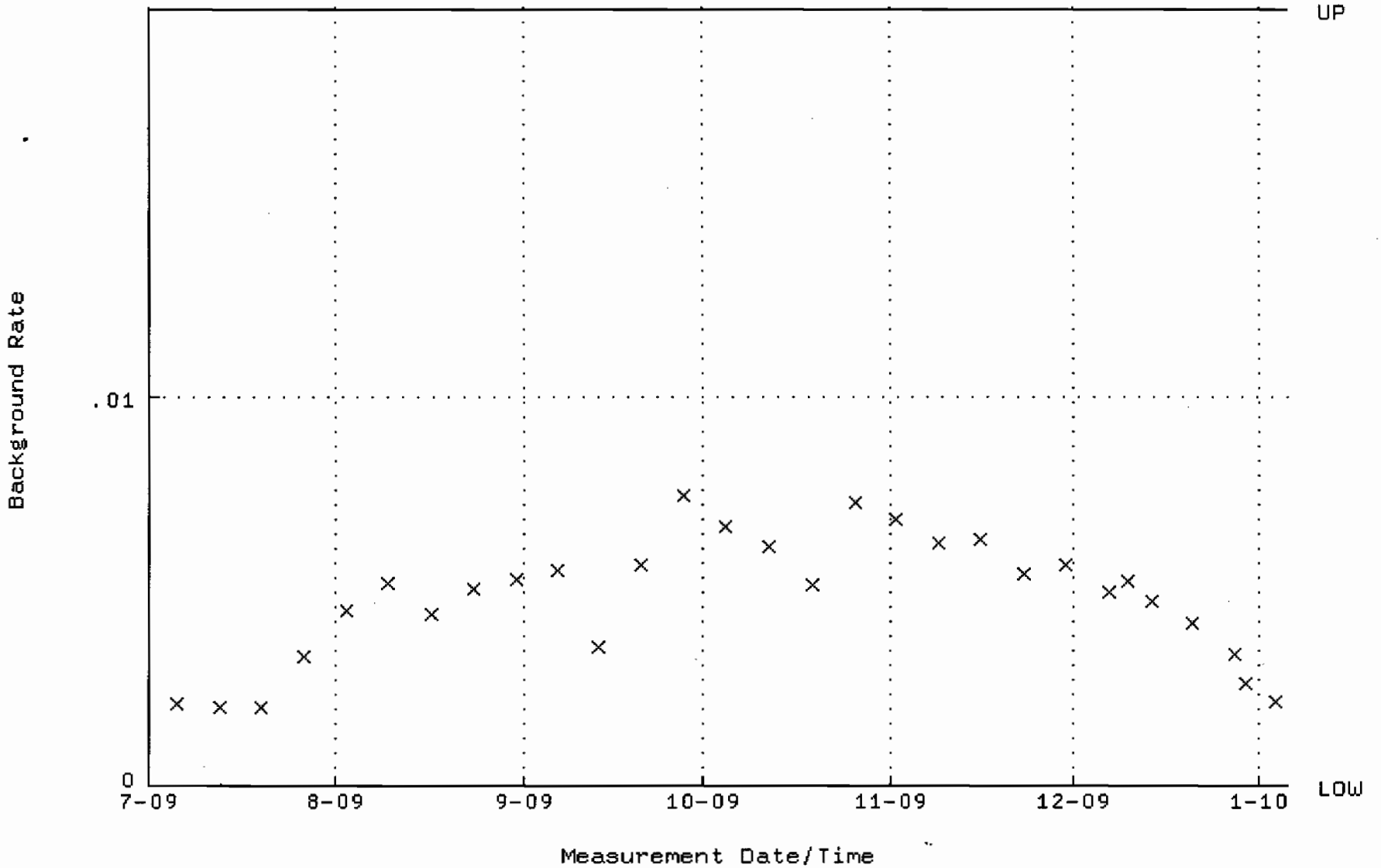
QA filename : DKA100:[ENV_ALPHA.QA.W]W037.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.250000 through 0.450000



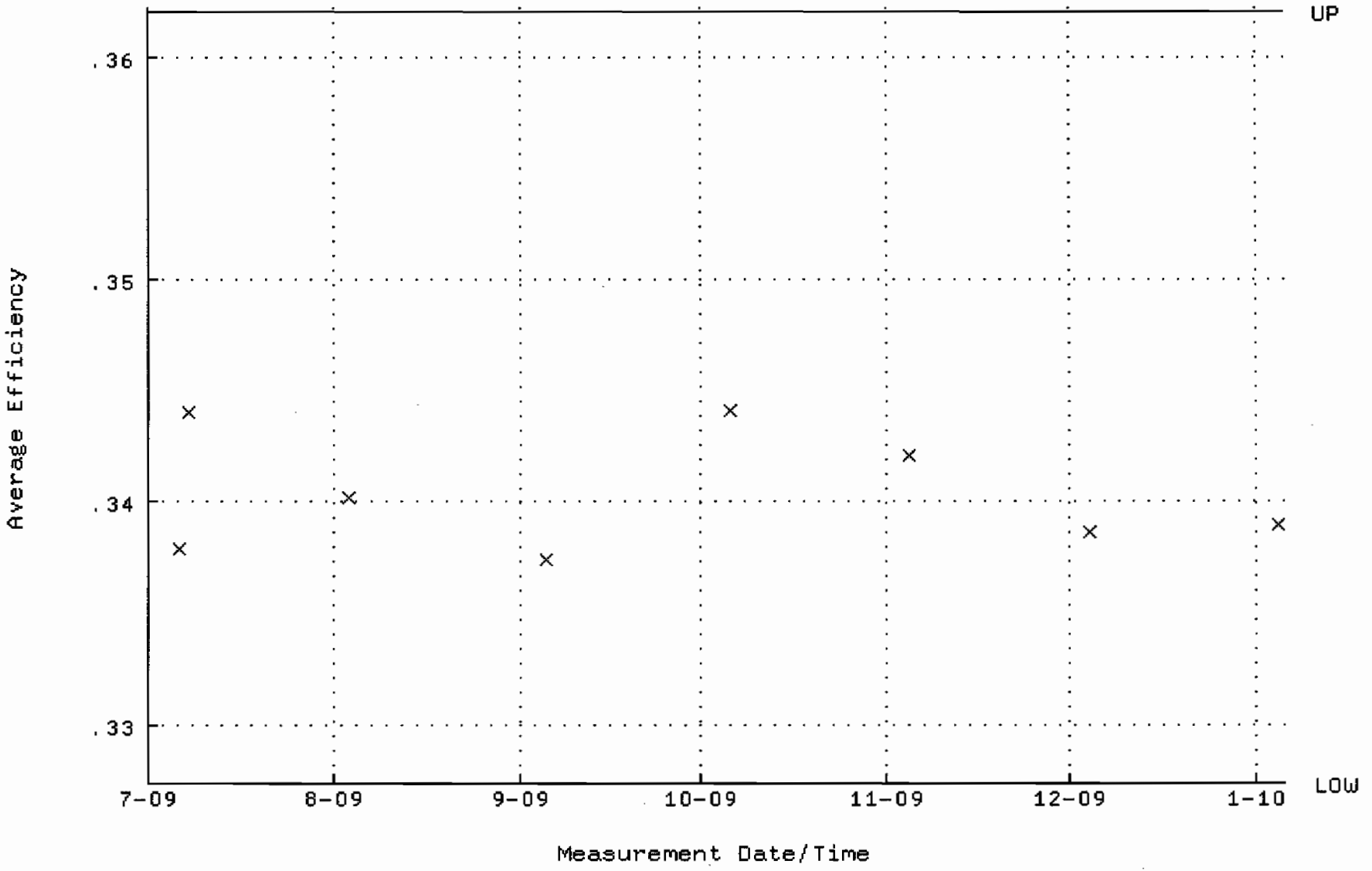
QA filename : DKA100:[ENV_ALPHA.QA.W]W037.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 60.0000 through 105.000



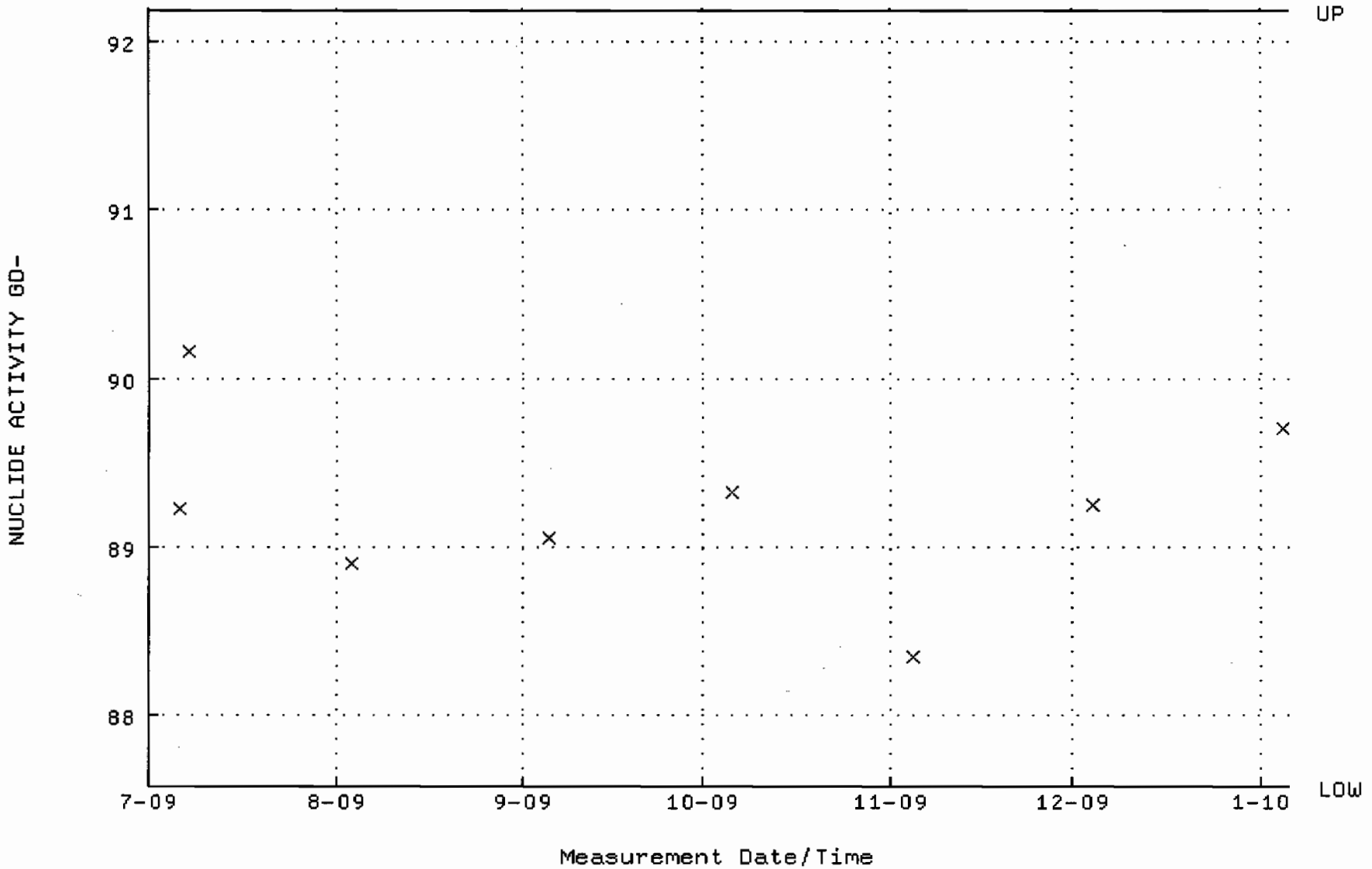
QA filename : DKA100:[ENV_ALPHA.QA.B]B037.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



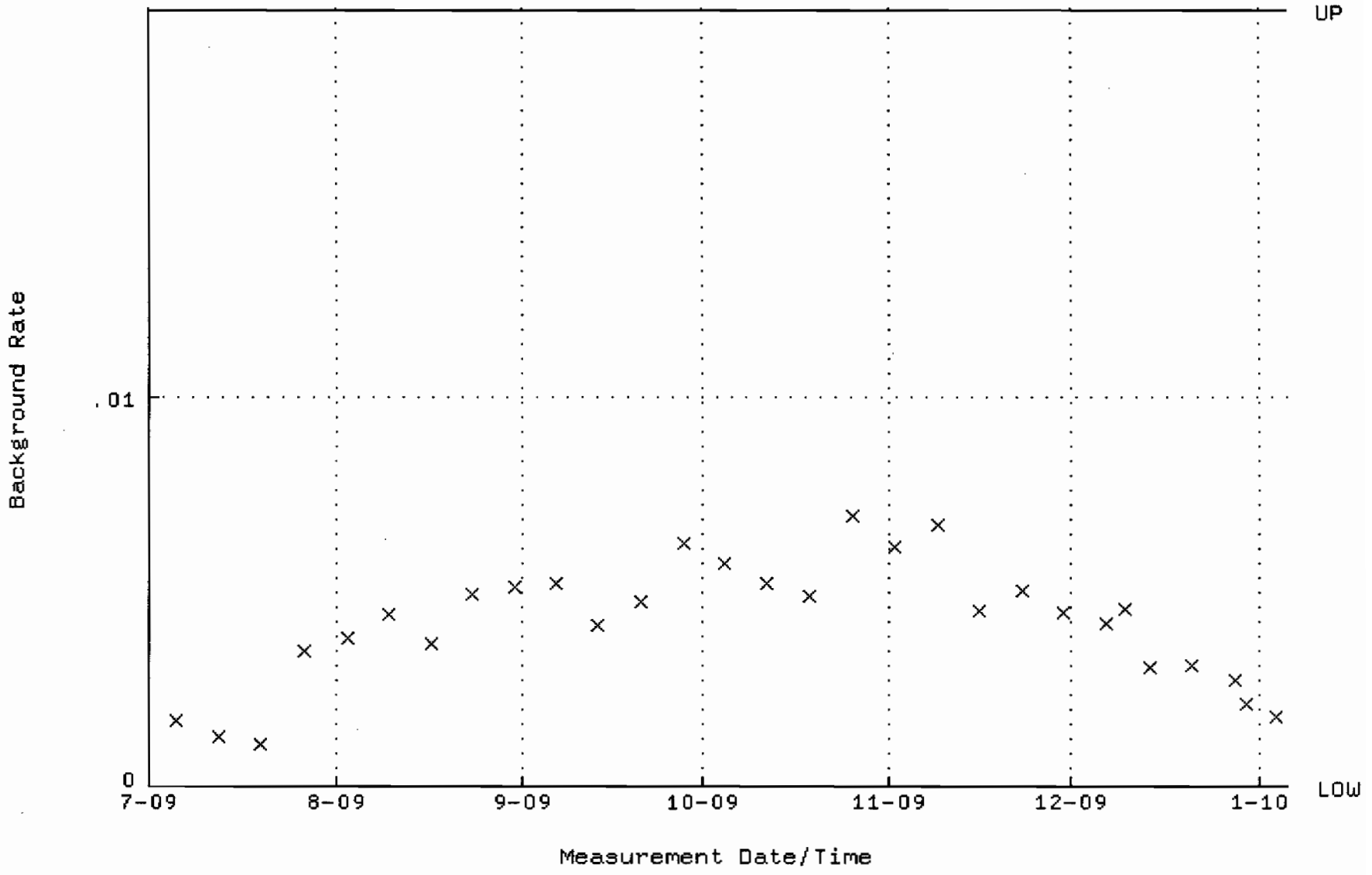
QA filename : DKA100:[ENV_ALPHA.QA.W]W038.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.327380 through 0.362086



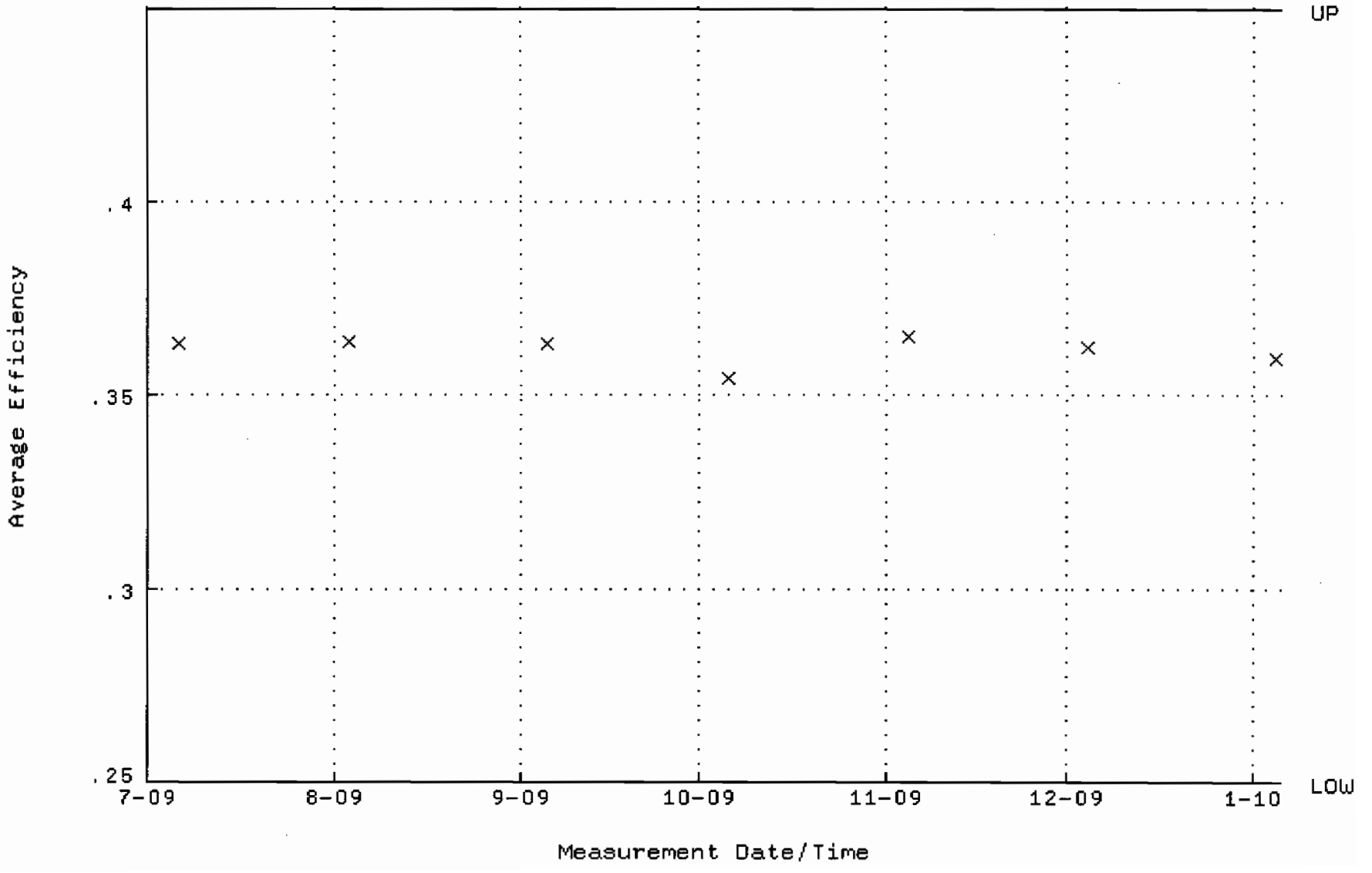
QA filename : DKA100:[ENV_ALPHA.QA.W]W038.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 87.5715 through 92.1899



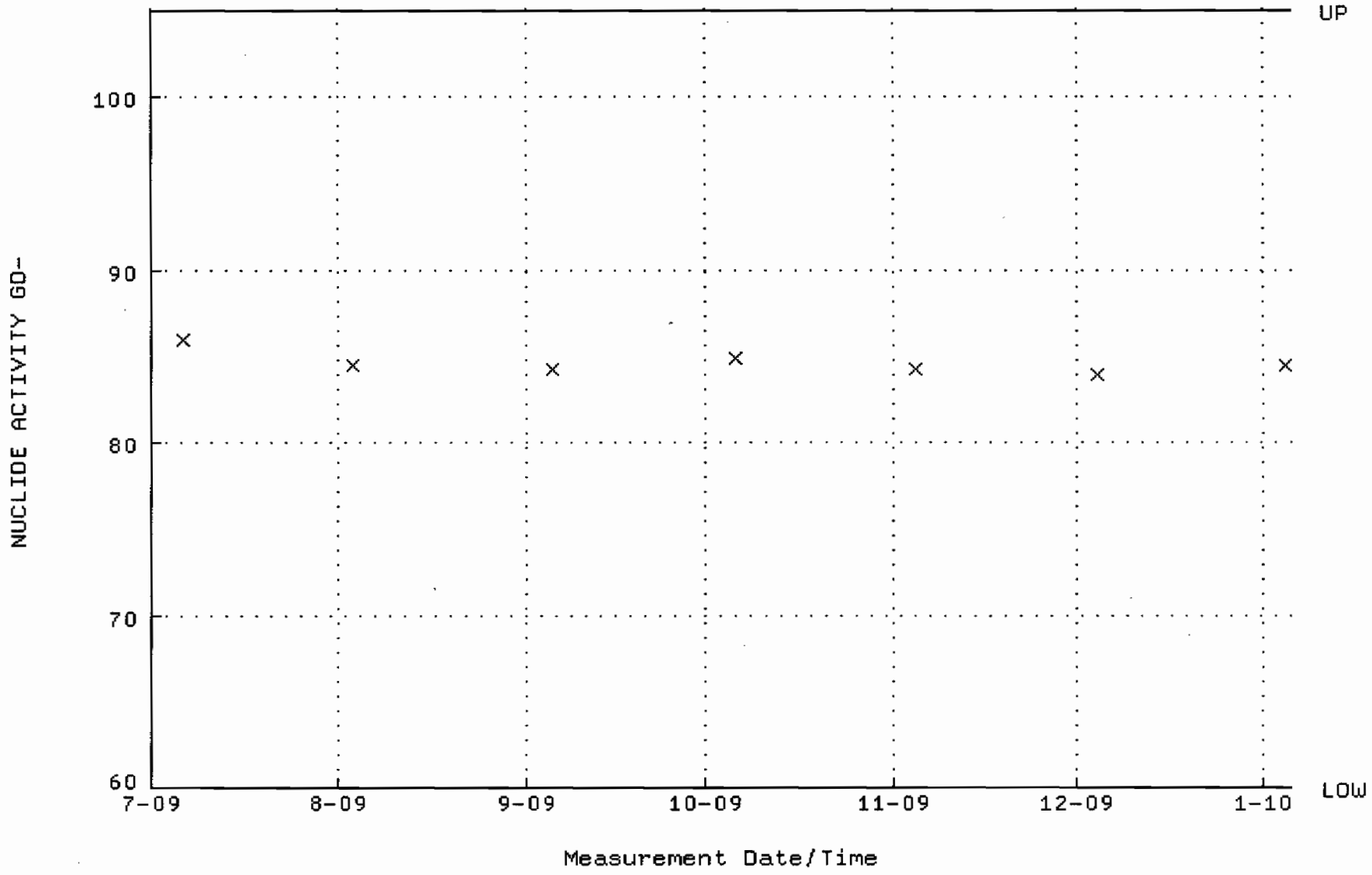
QA filename : DKA100:[ENV_ALPHA.QA.B]B038.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



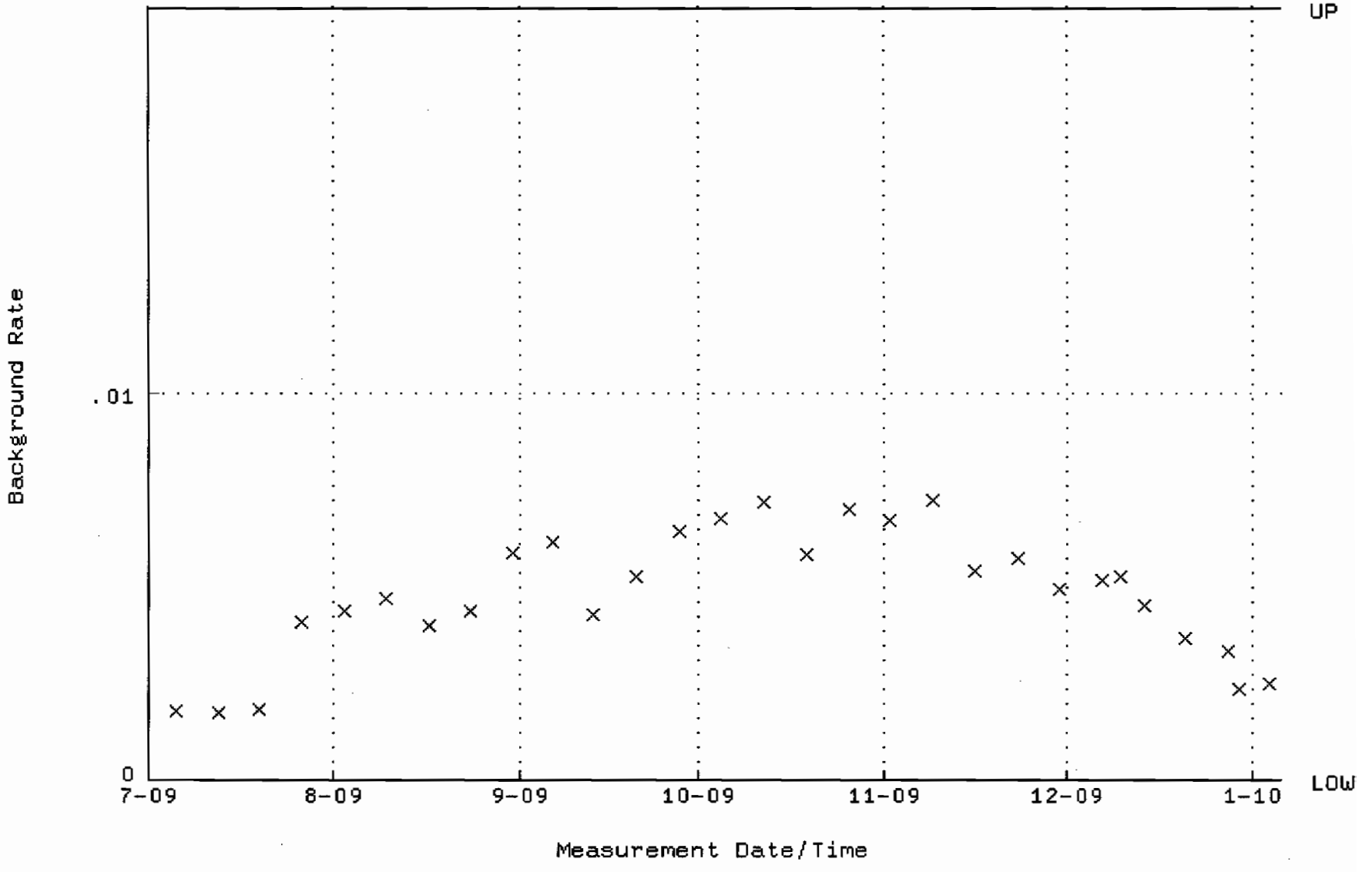
QA filename : DKA100:[ENV_ALPHA.QA.W]W039.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.250000 through 0.450000



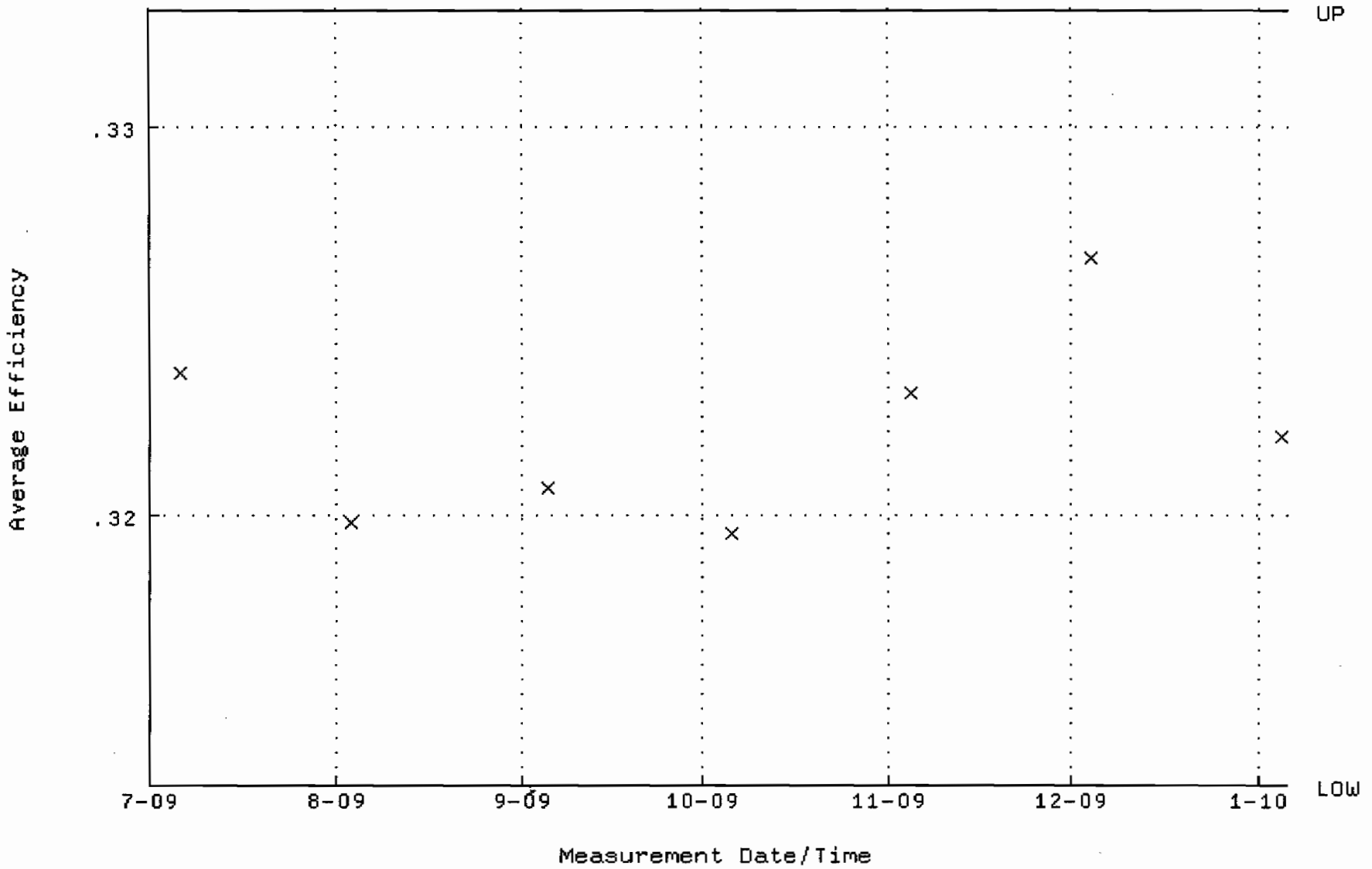
QA filename : DKA100:[ENV_ALPHA.QA.W]W039.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 60.0000 through 105.000



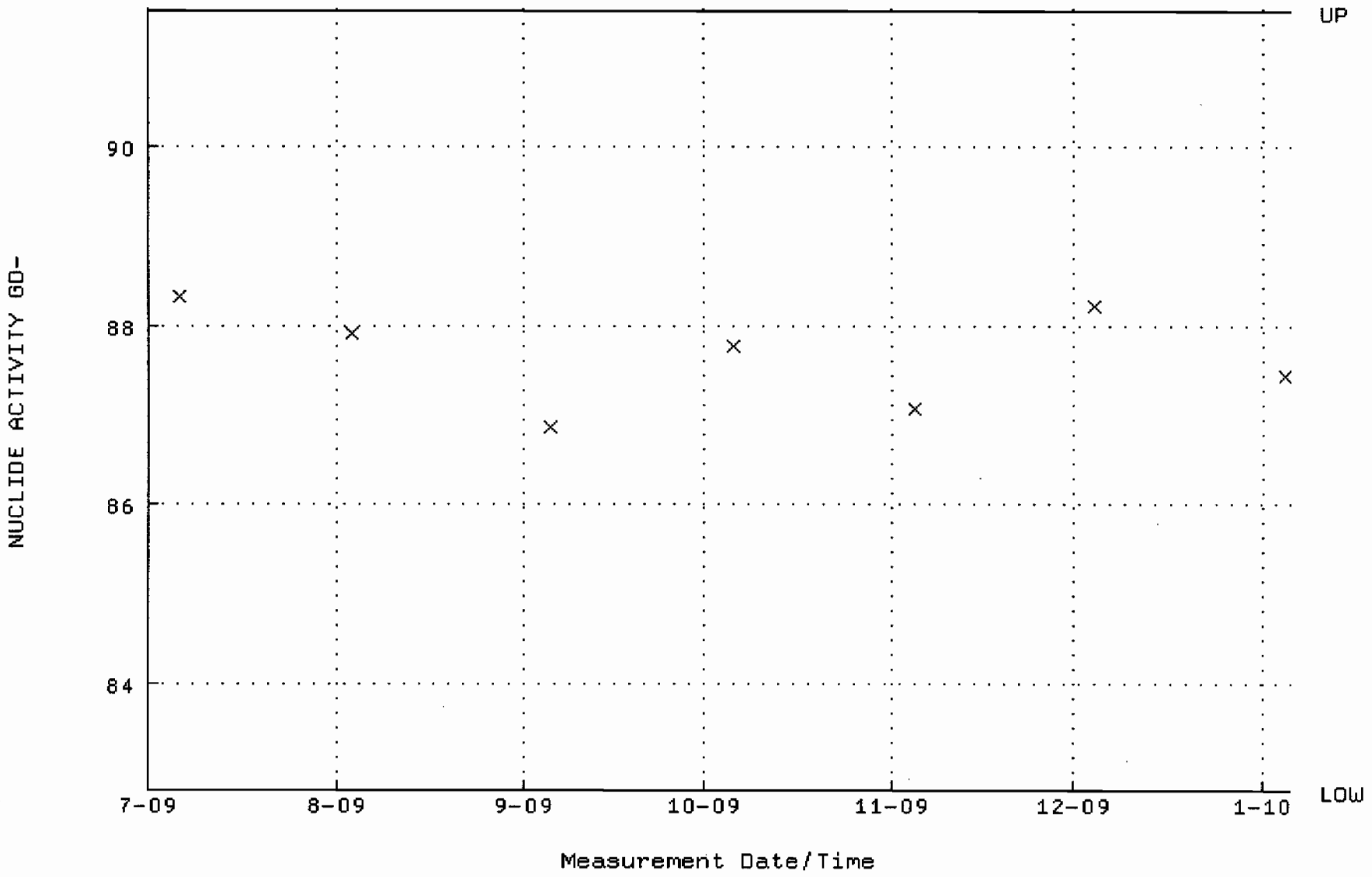
QA filename : DKA100:[ENV_ALPHA.QA.B]B039.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



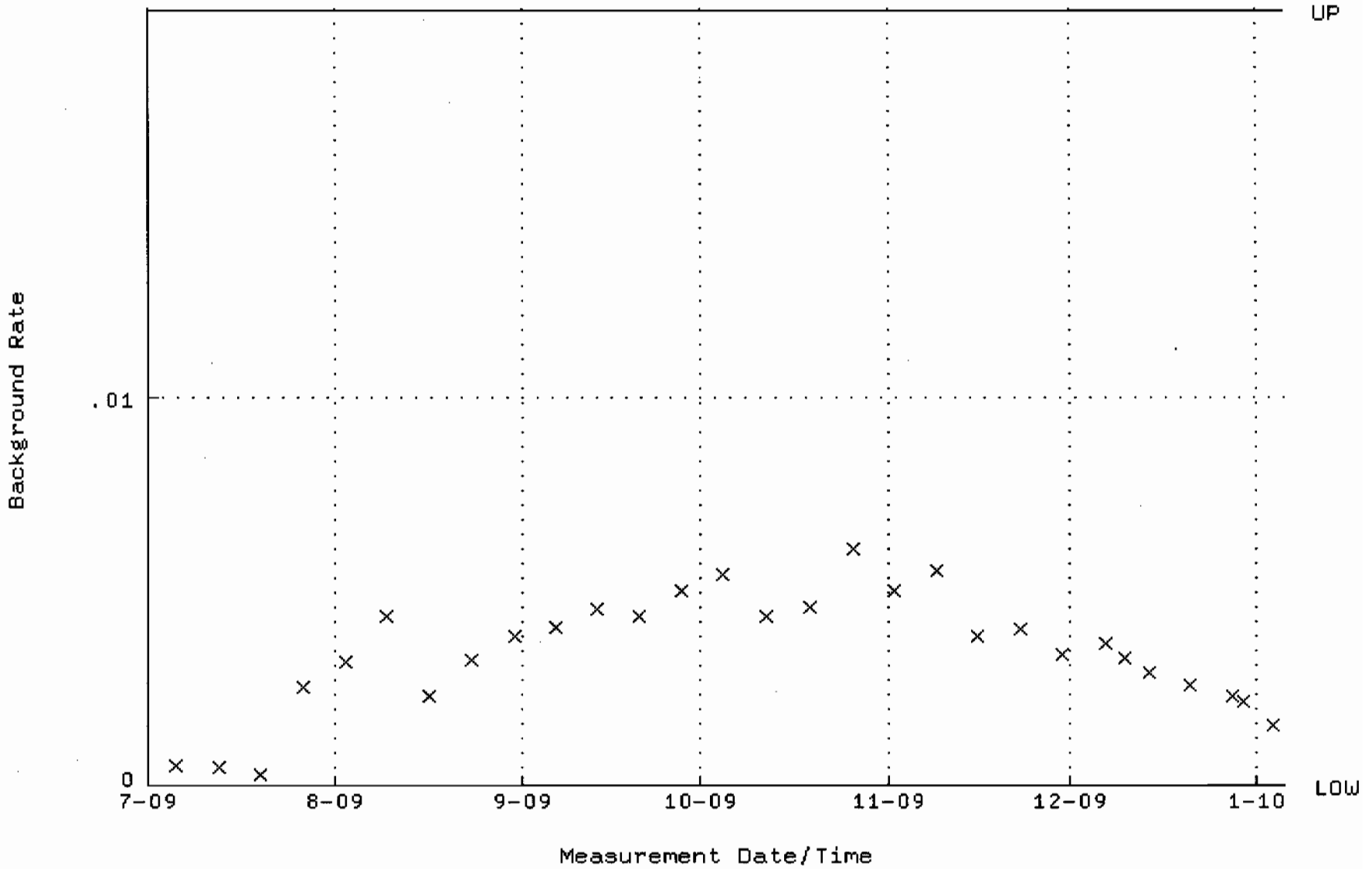
QA filename : DKA100:[ENV_ALPHA.QA.W]W040.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.313016 through 0.333016



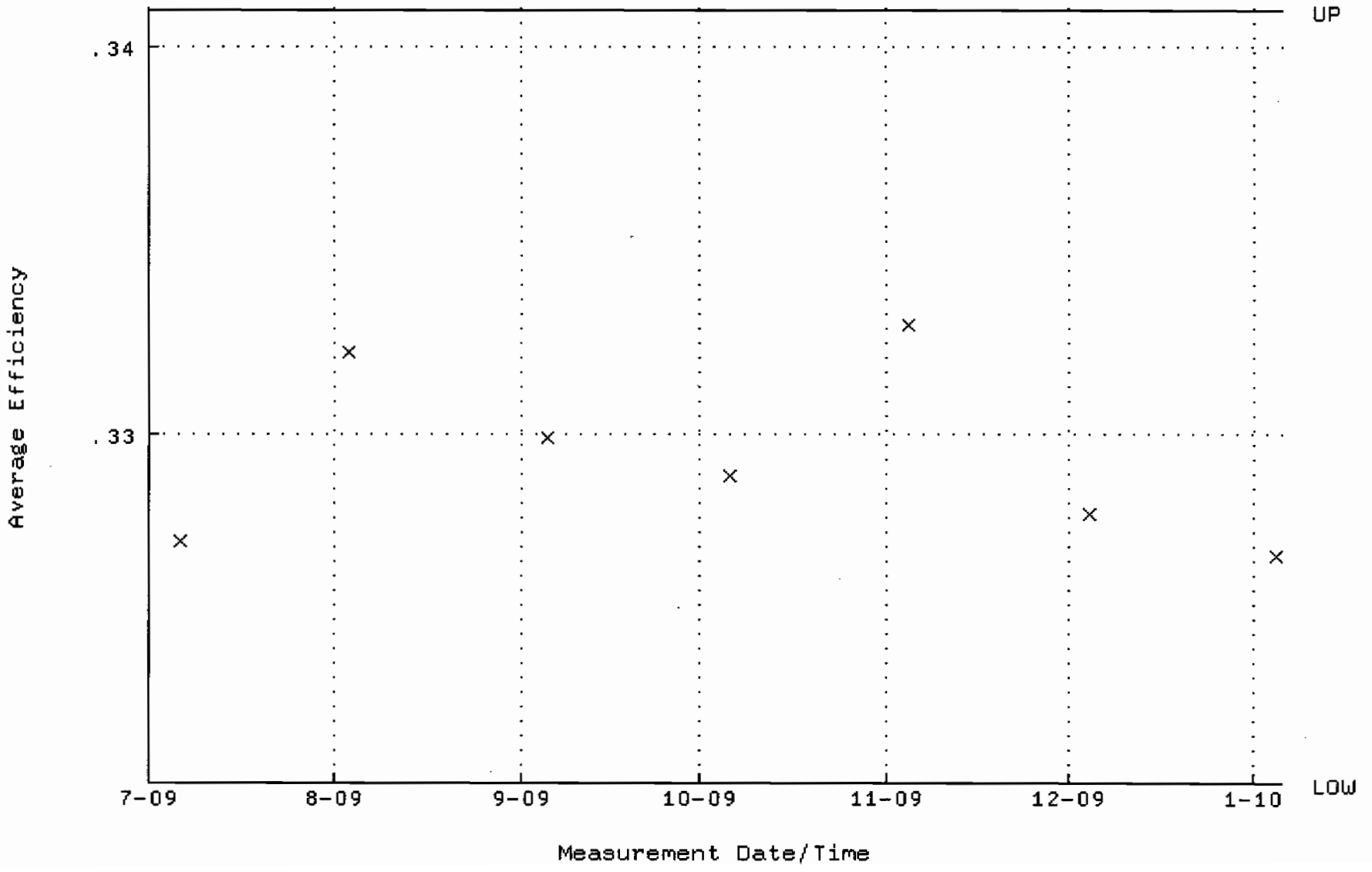
QA filename : DKA100:[ENV_ALPHA.QA.W]W040.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 82.8065 through 91.5229



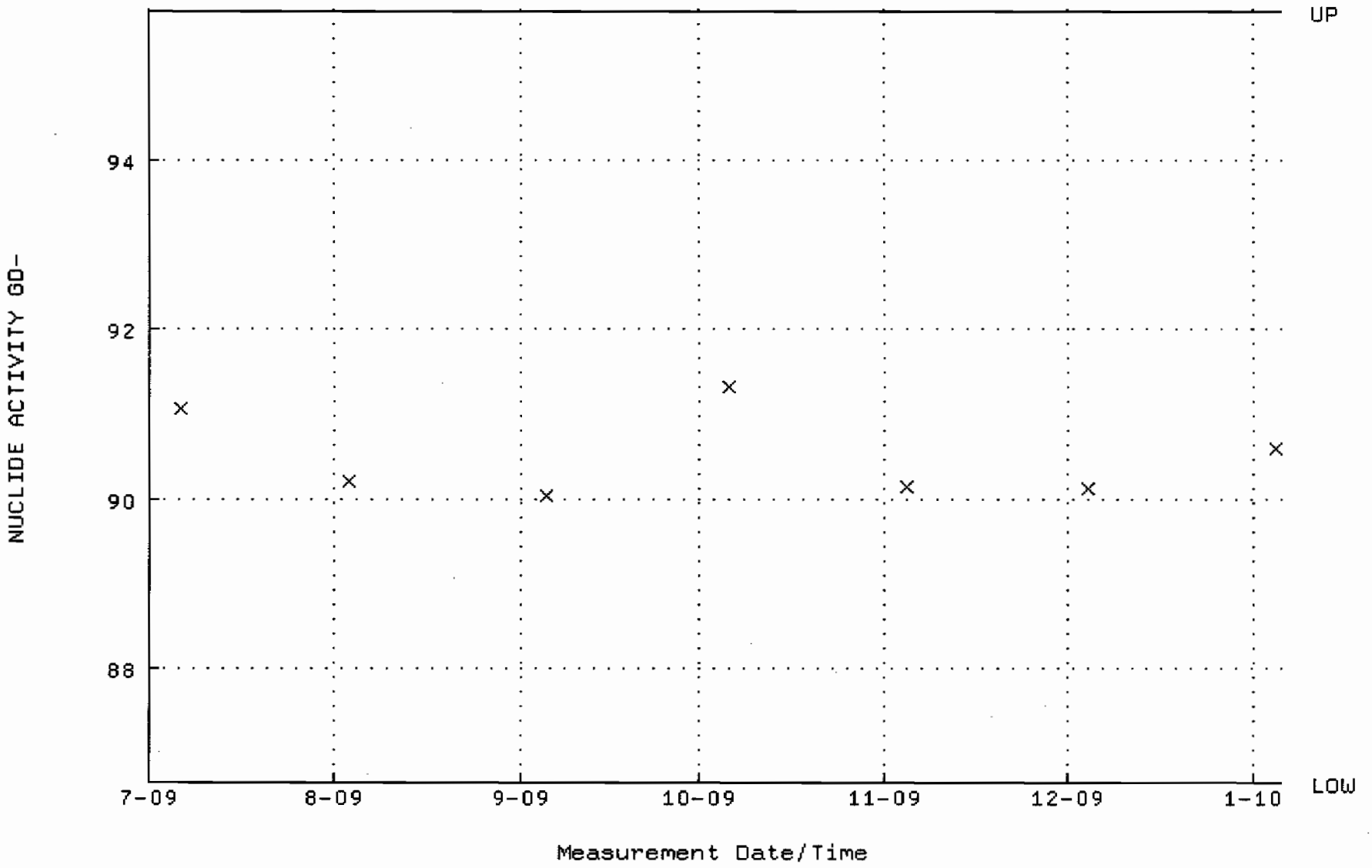
QA filename : DKA100:[ENV_ALPHA.QA.B]B040.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



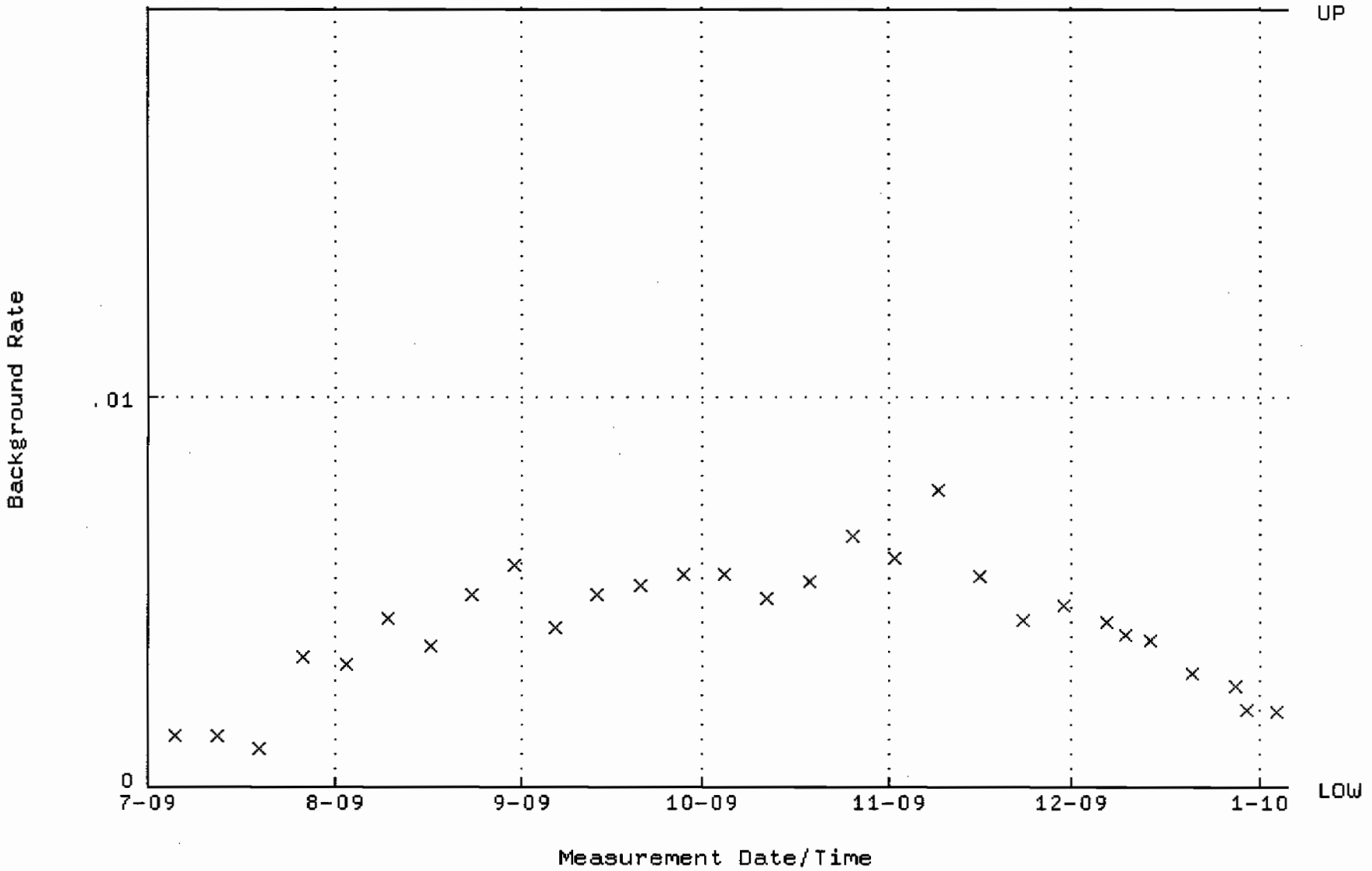
QA filename : DKA100:[ENV_ALPHA.QA.W]W041.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.320943 through 0.340943



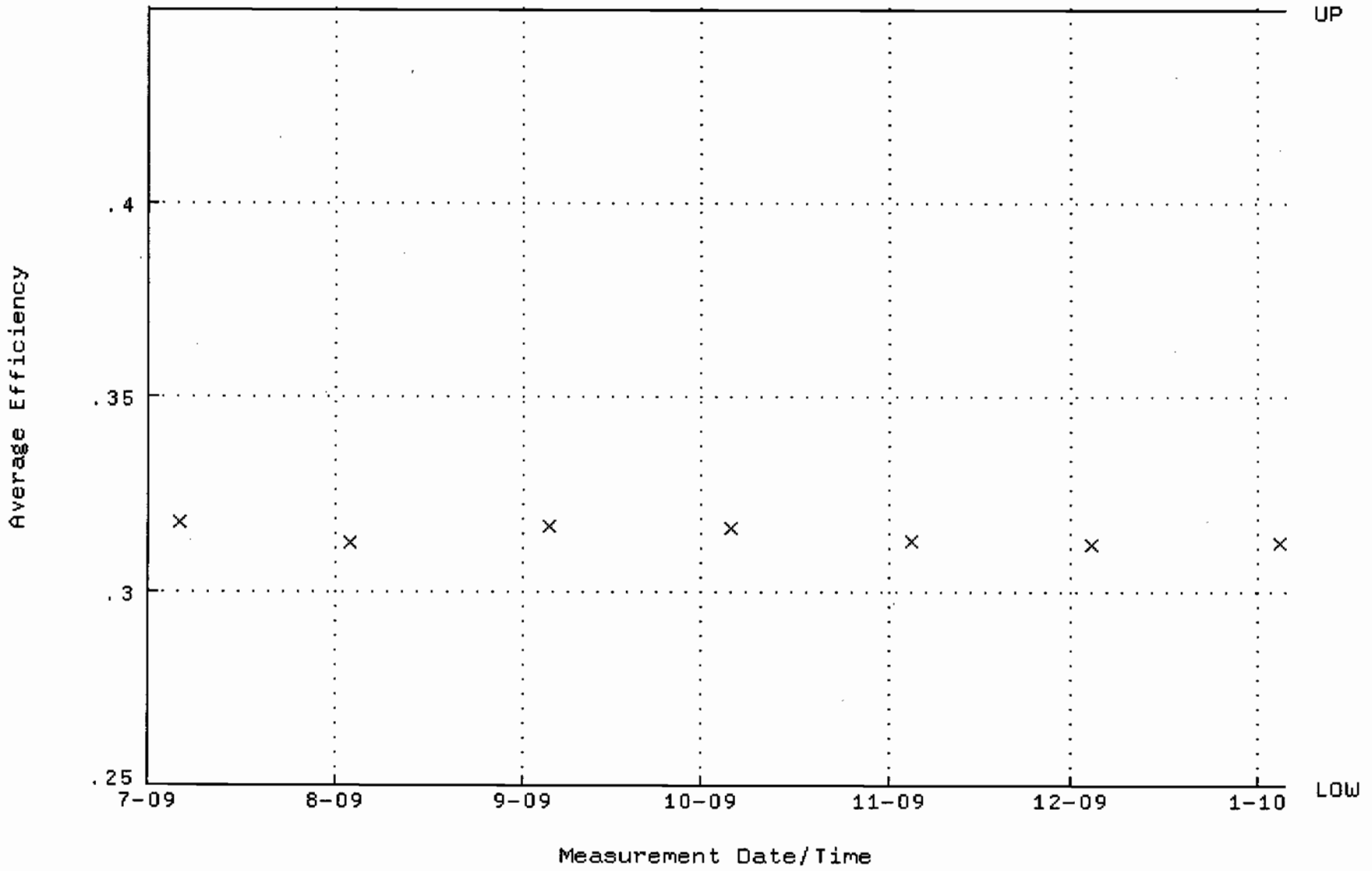
QA filename : DKA100:[ENV_ALPHA.QA.W]W041.QAF;5
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:16 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 86.6435 through 95.7639



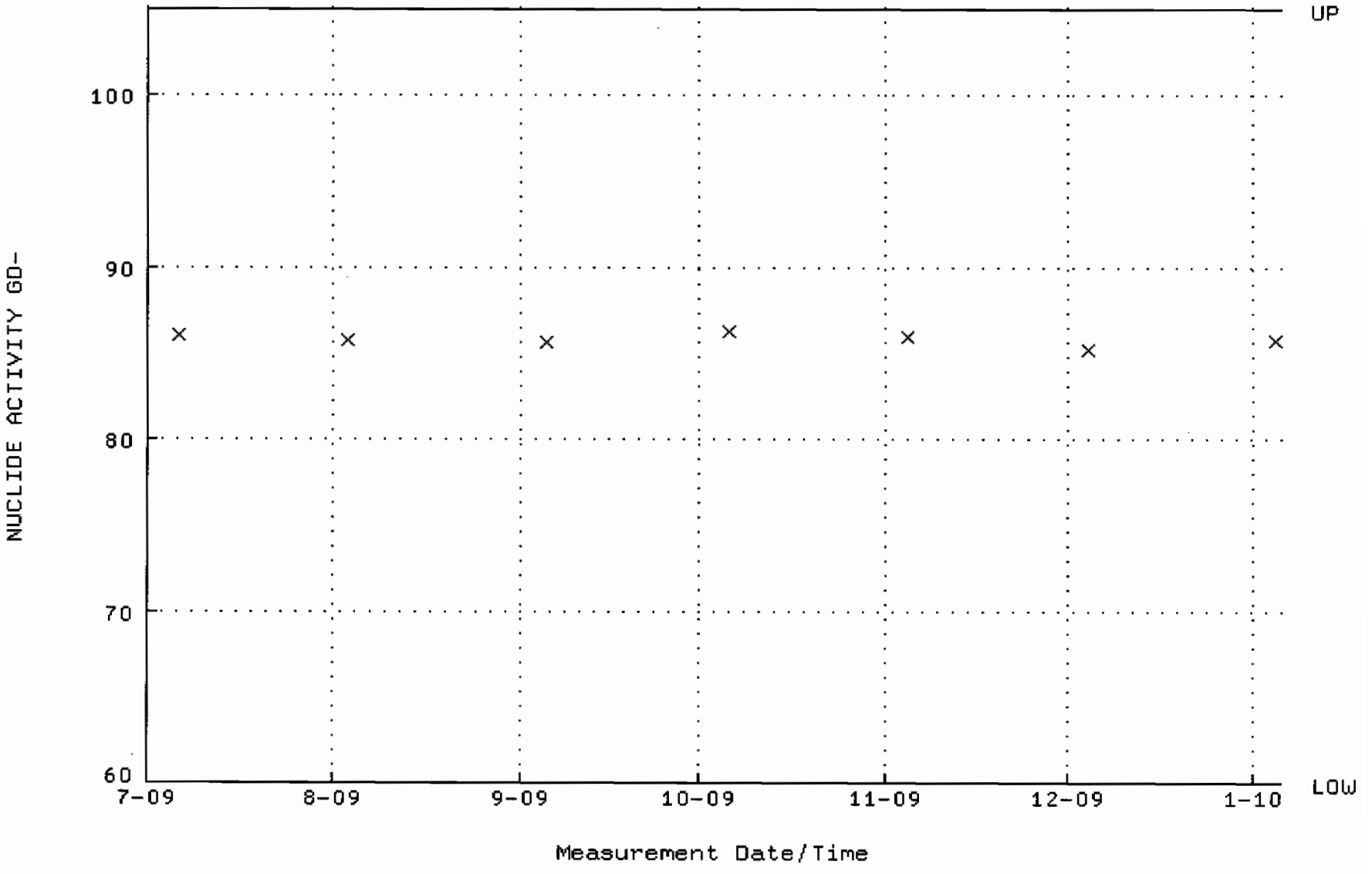
QA filename : DKA100:[ENV_ALPHA.QA.B]B041.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



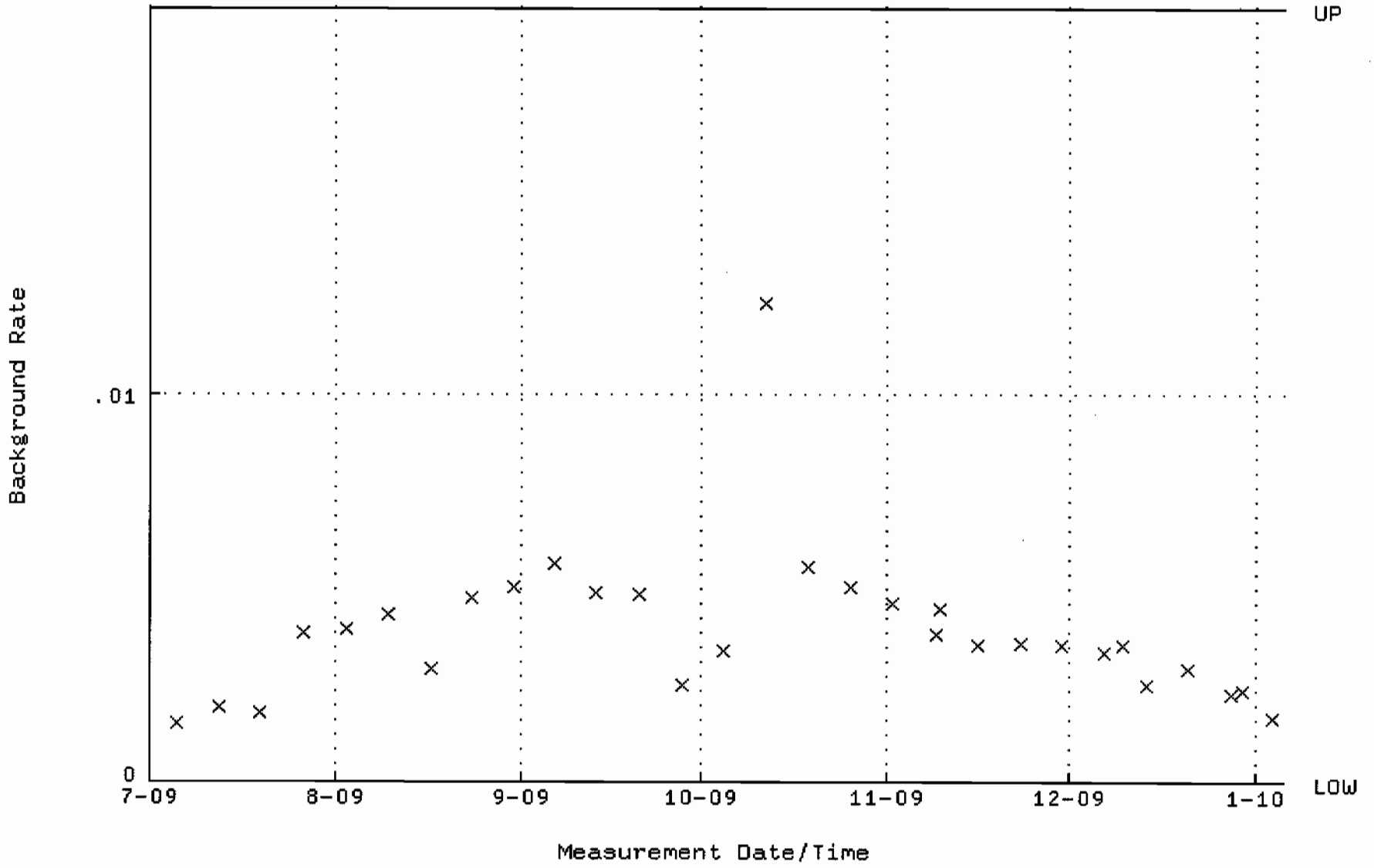
QA filename : DKA100:[ENV_ALPHA.QA.W]W048.QAF;6
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.250000 through 0.450000



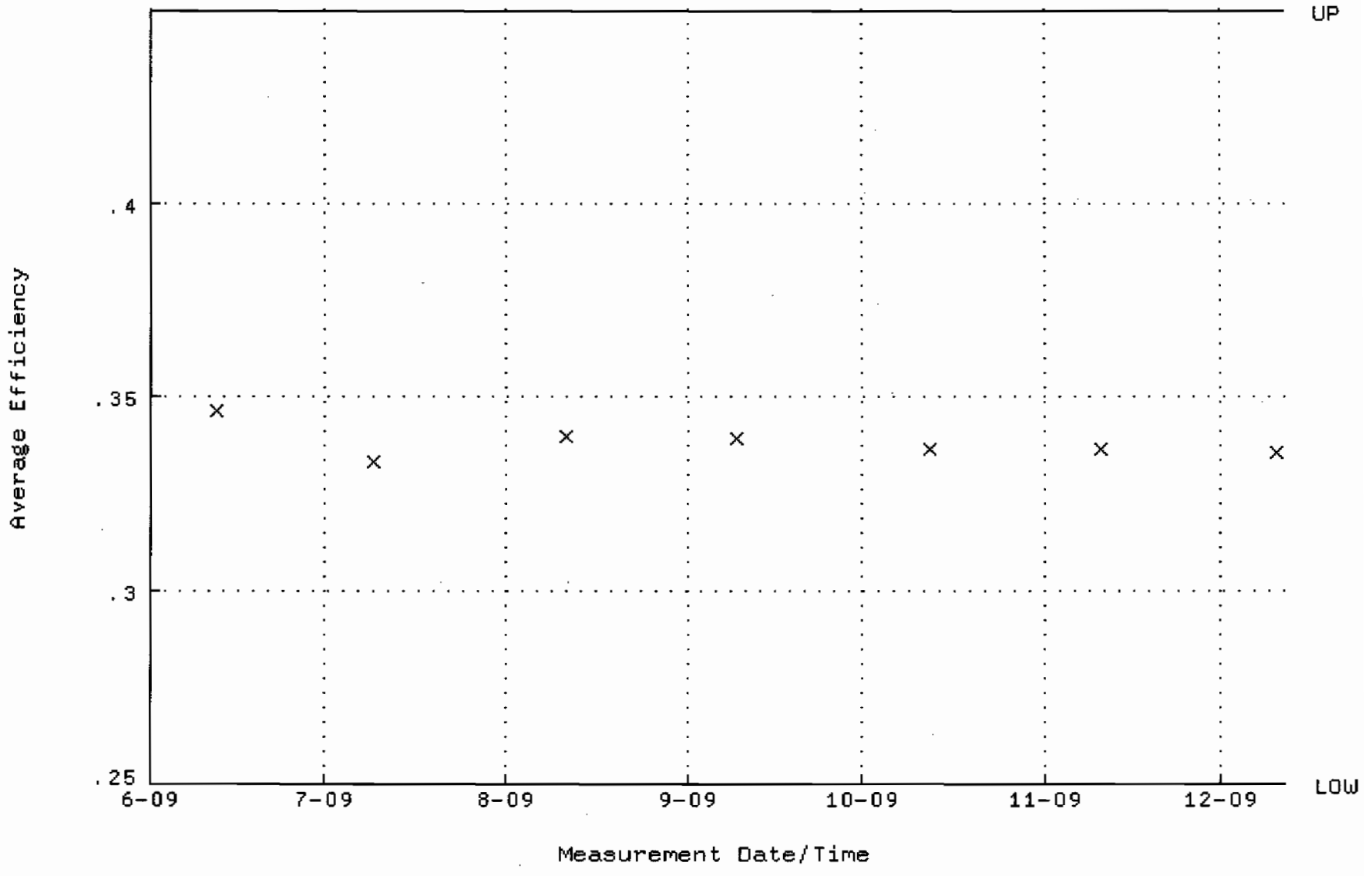
QA filename : DKA100:[ENV_ALPHA.QA.W]W048.QAF;6
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 60.0000 through 105.000



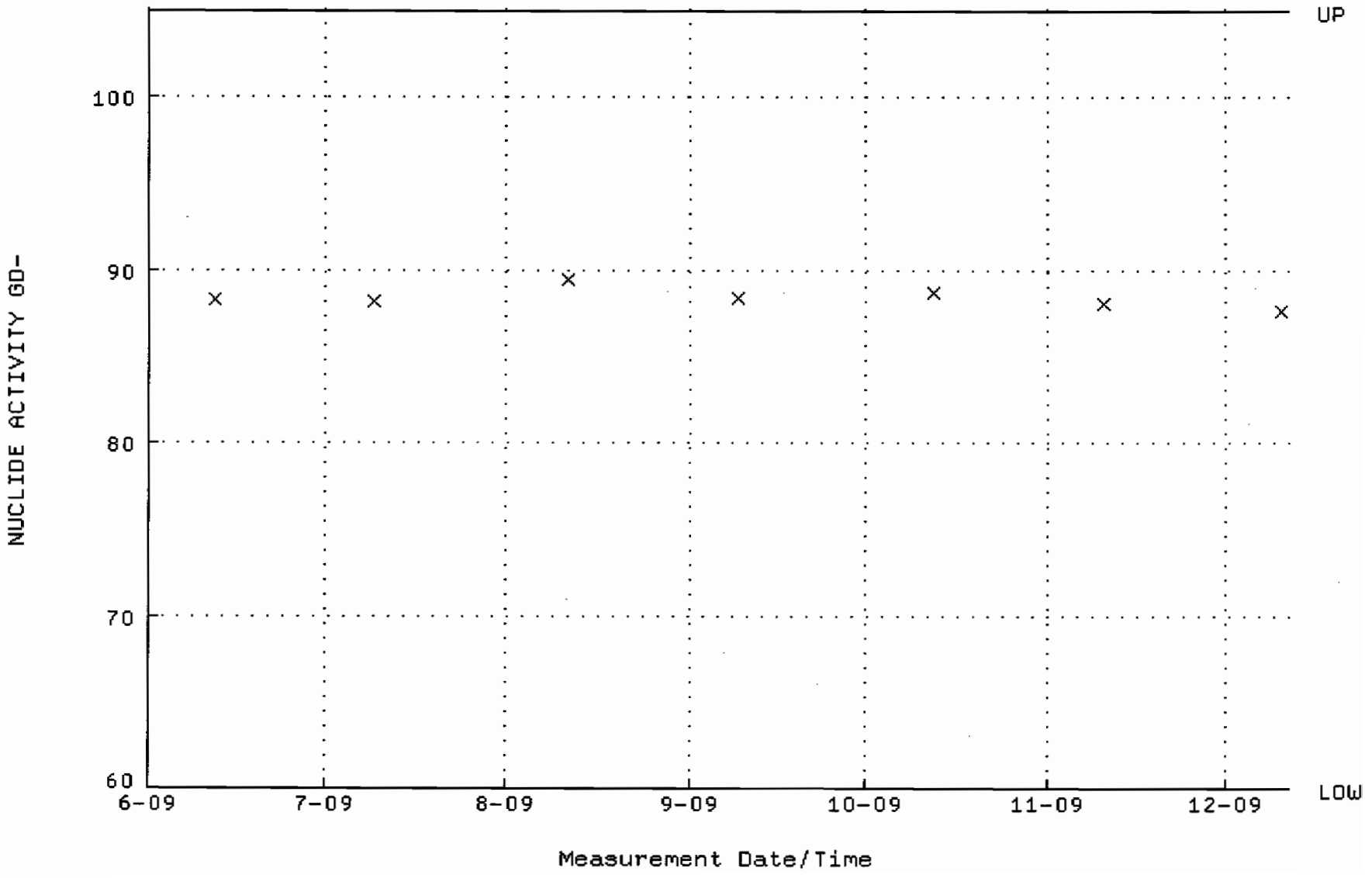
QA filename : DKA100:[ENV_ALPHA.QA.B]B048.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



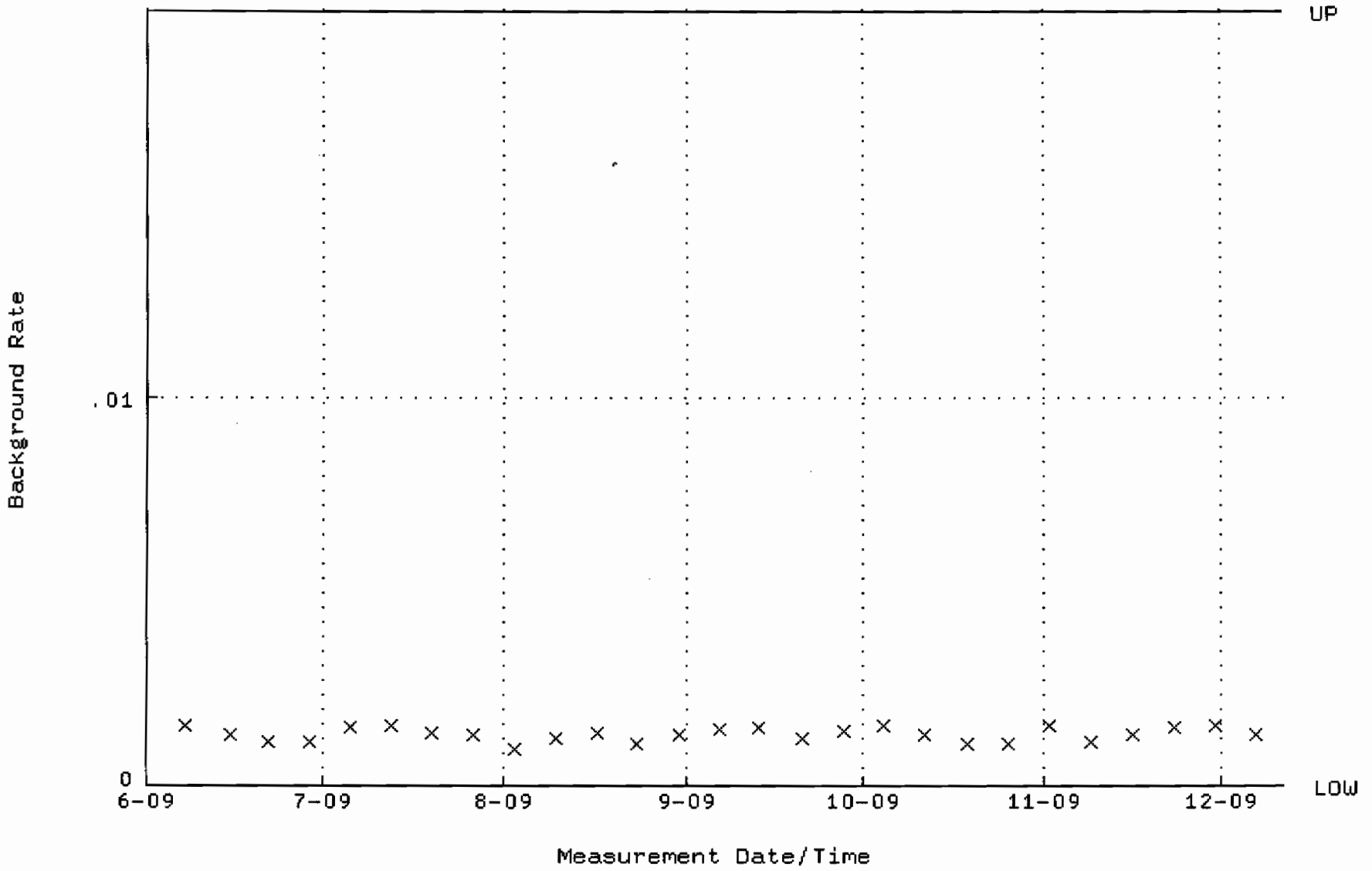
QA filename : DKA100:[ENV_ALPHA.QA.W]W083.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 12-JUN-2009 07:18:27 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.250000 through 0.450000



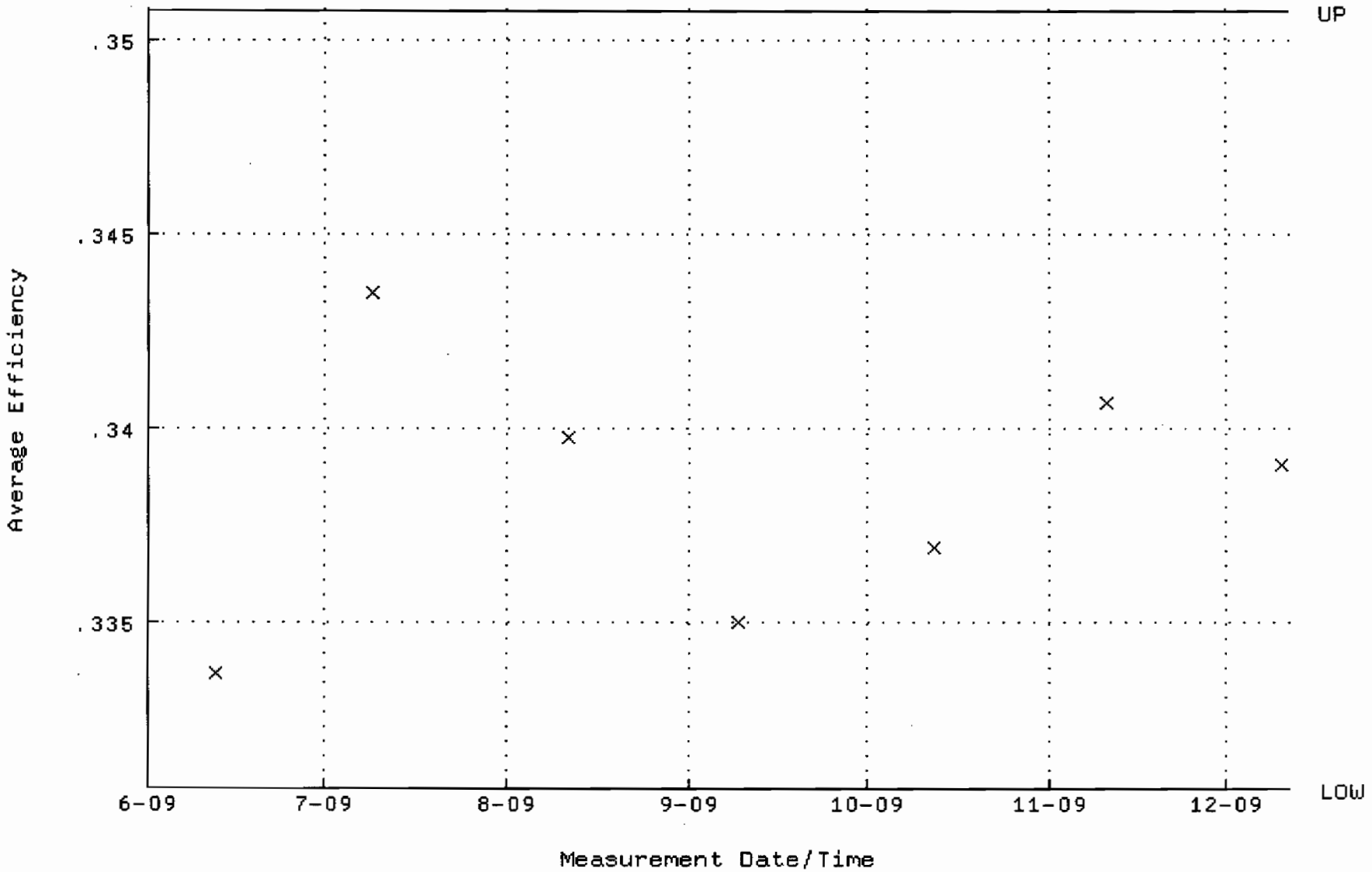
QA filename : DKA100:[ENV_ALPHA.QA.W]W083.QAF;5
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 12-JUN-2009 07:18:27 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 60.0000 through 105.000



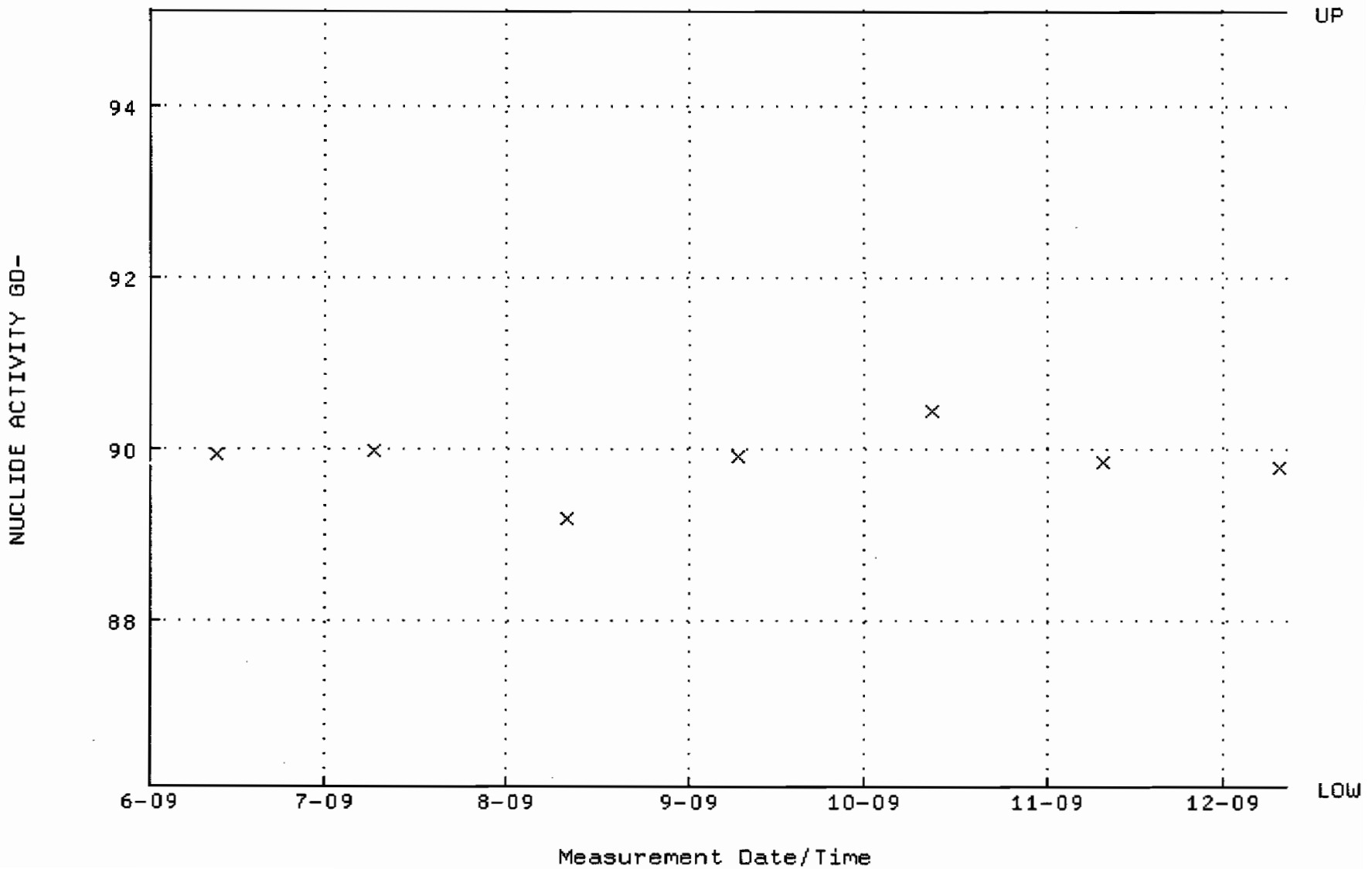
QA filename : DKA100:[ENV_ALPHA.QA.B]B083.QAF;3
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 16:45:40 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



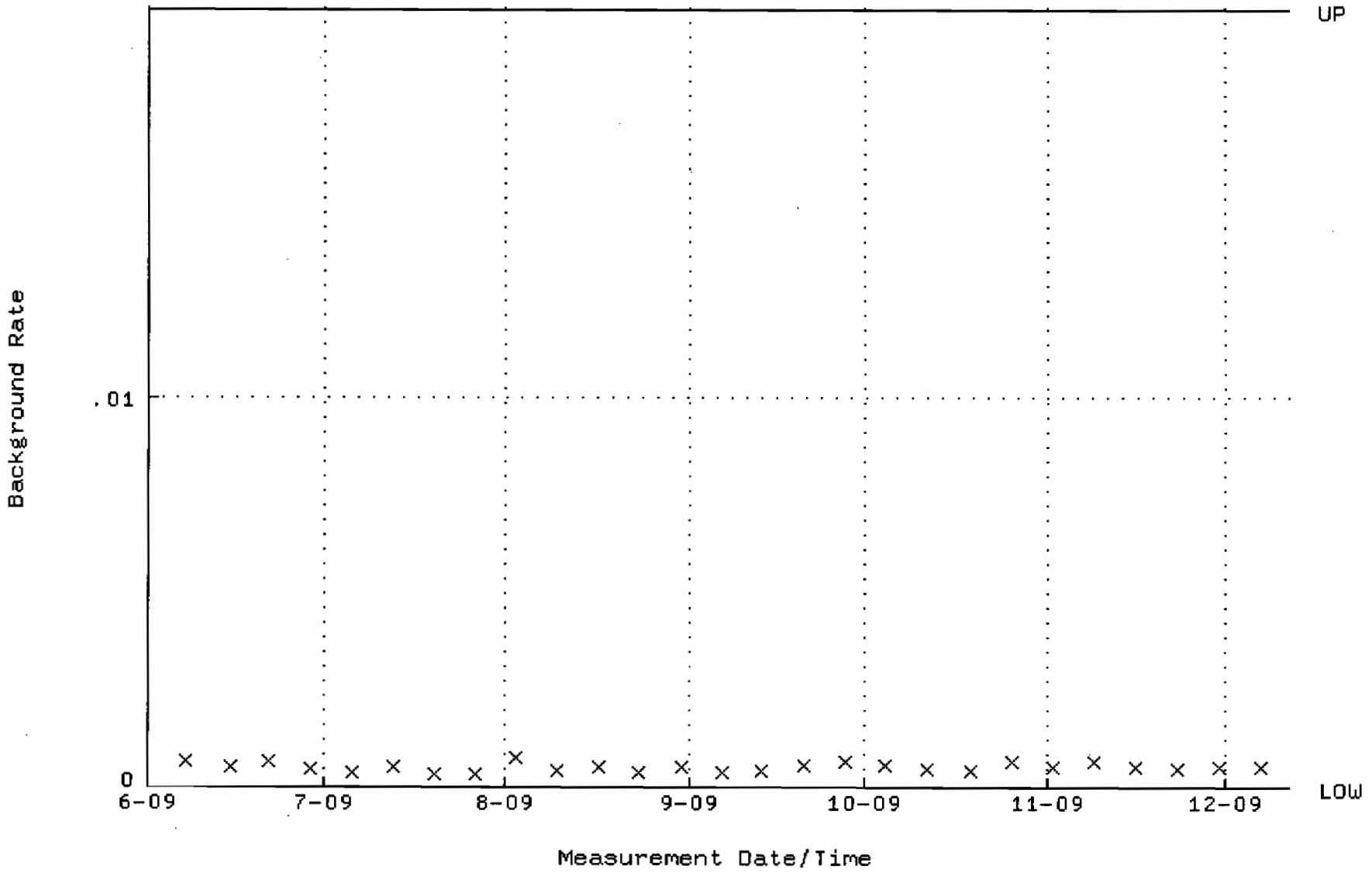
QA filename : DKA100:[ENV_ALPHA.QA.W]W084.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 12-JUN-2009 07:18:27 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.330740 through 0.350740



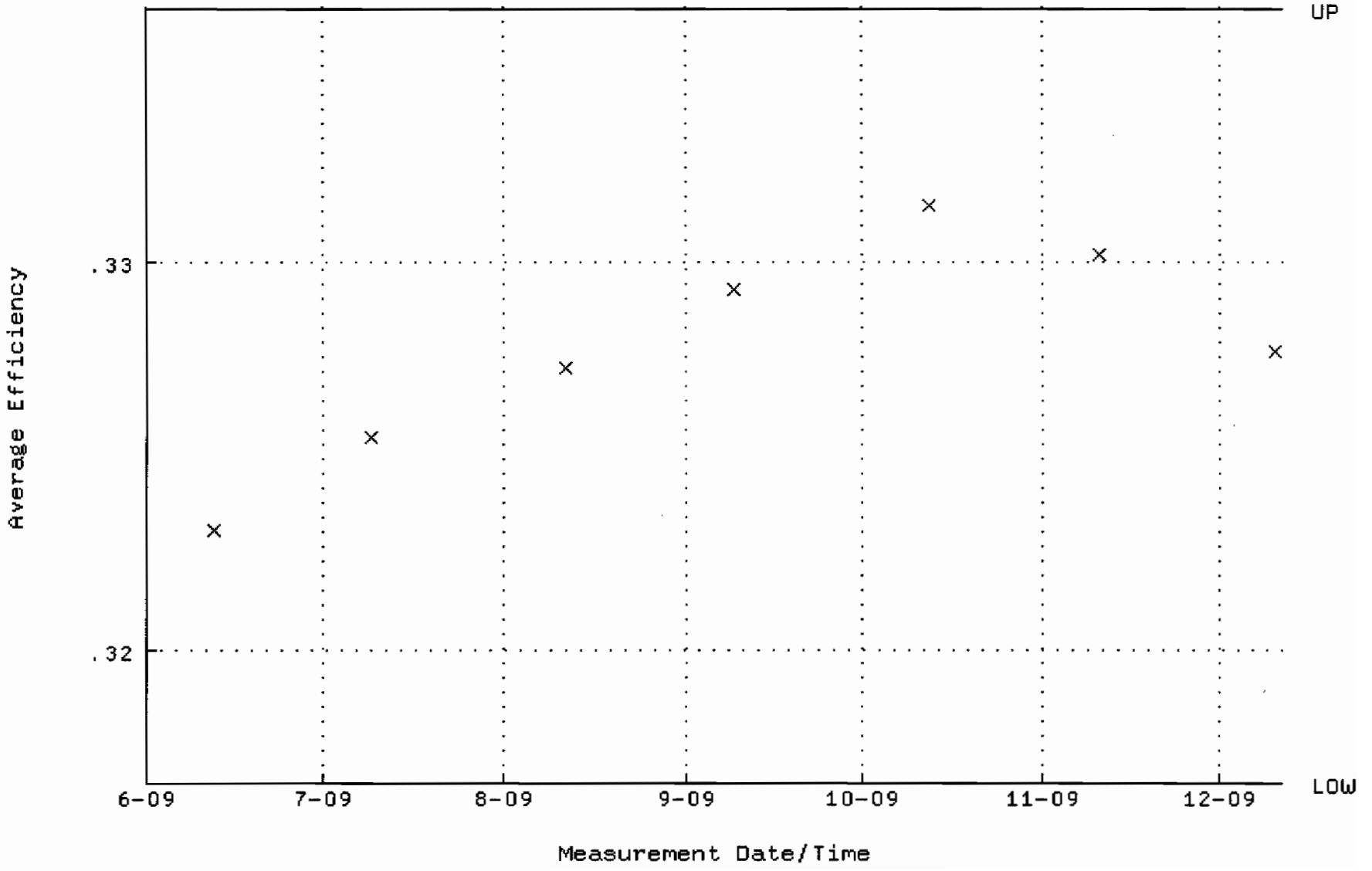
QA filename : DKA100:[ENV_ALPHA.QA.W]W084.QAF;5
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 12-JUN-2009 07:18:27 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 86.0569 through 95.1155



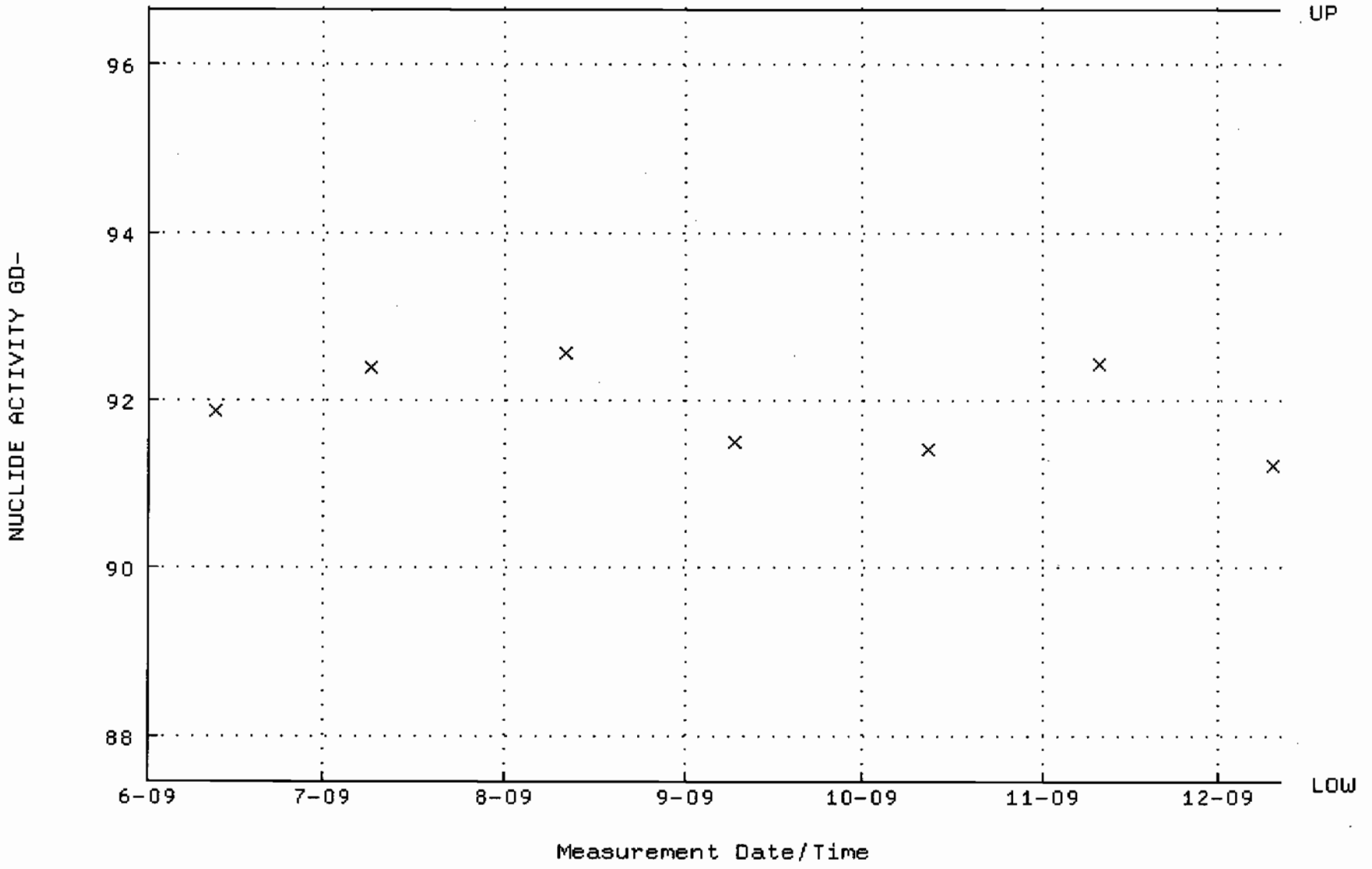
QA filename : DKA100:[ENV_ALPHA.QA.B]B084.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 16:45:40 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



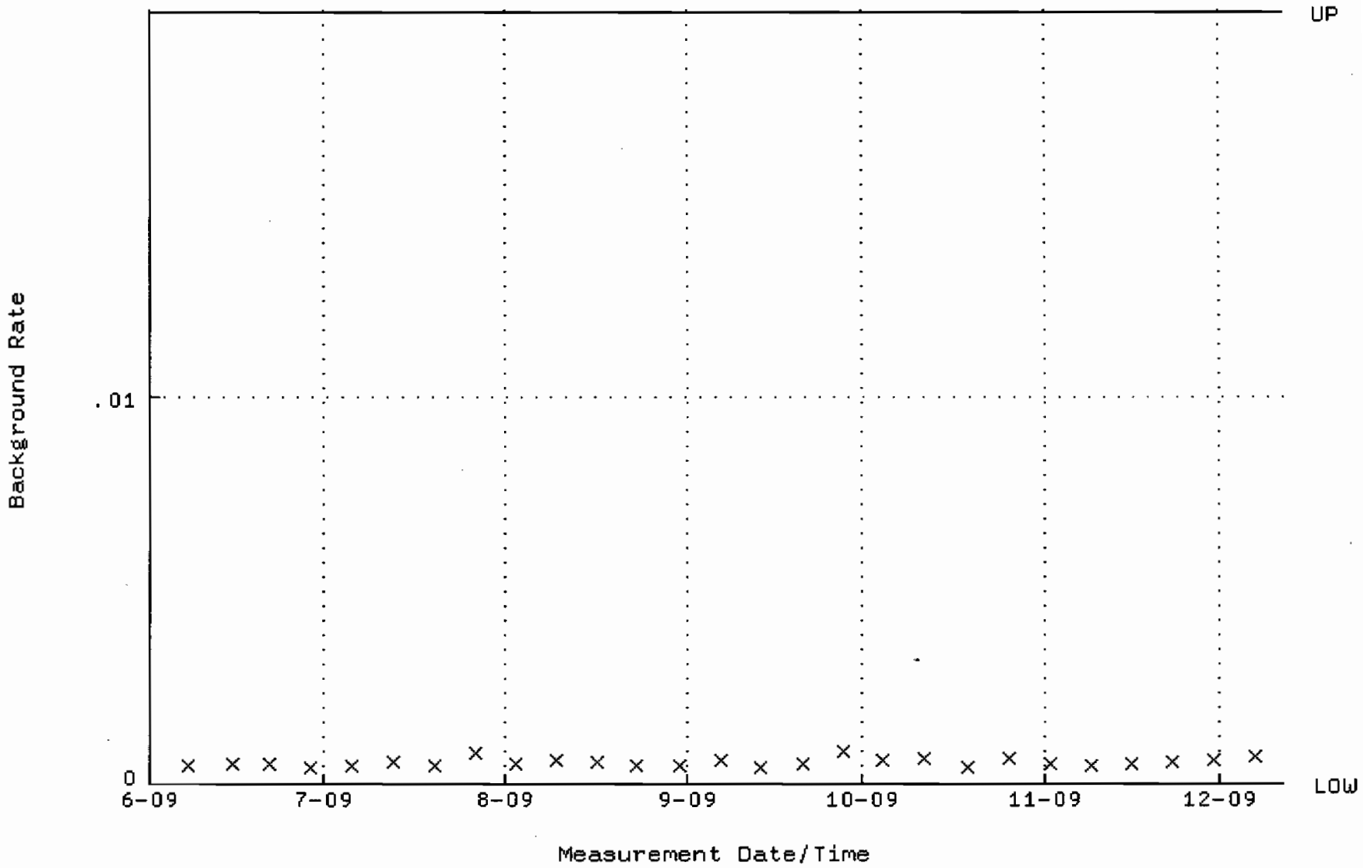
QA filename : DKA100:[ENV_ALPHA.QA.W]W085.QAF;6
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 12-JUN-2009 07:18:27 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.316564 through 0.336564



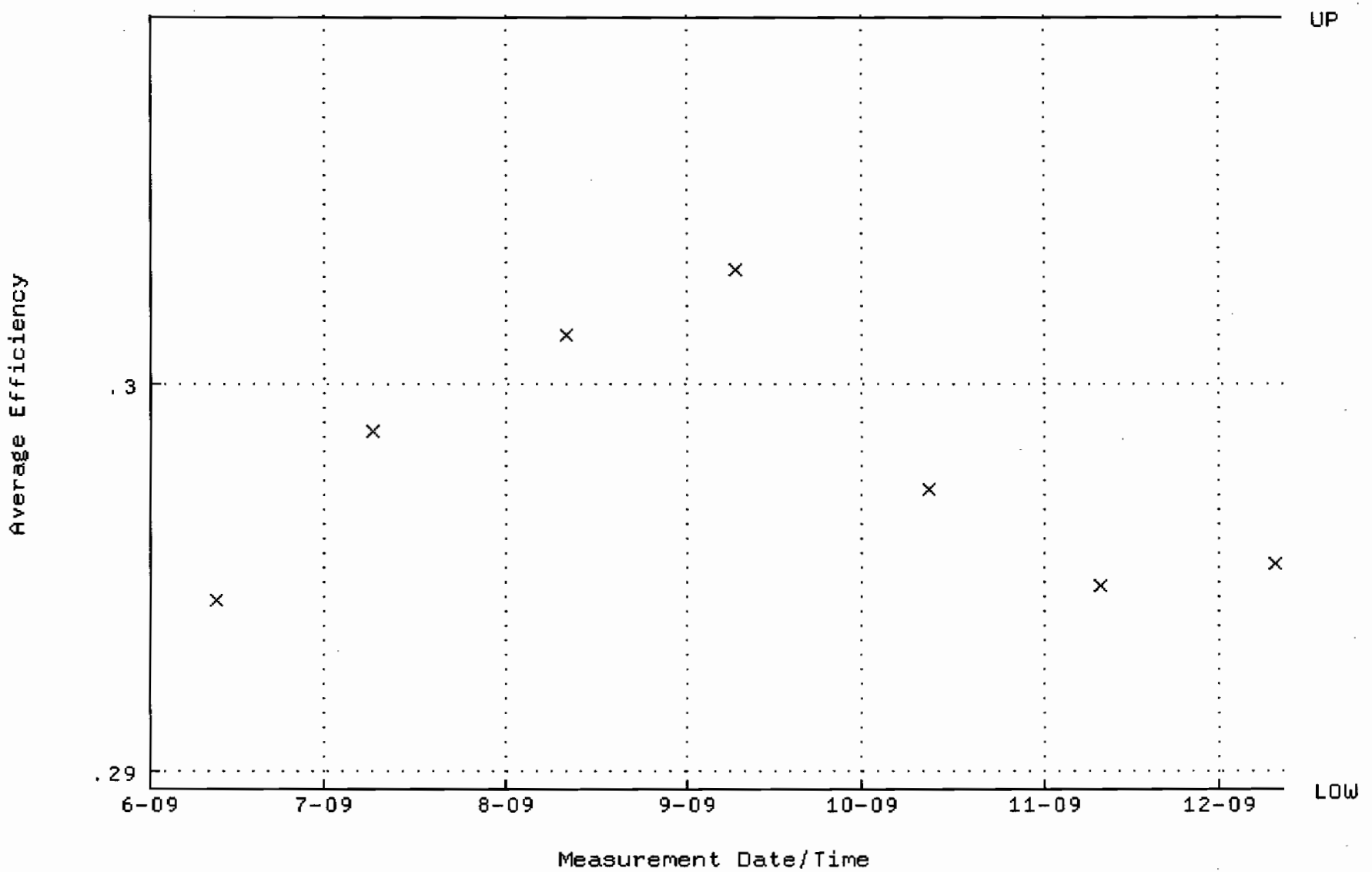
QA filename : DKA100:[ENV_ALPHA.QA.W]W085.QAF;6
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 12-JUN-2009 07:18:27 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 87.4508 through 96.6562



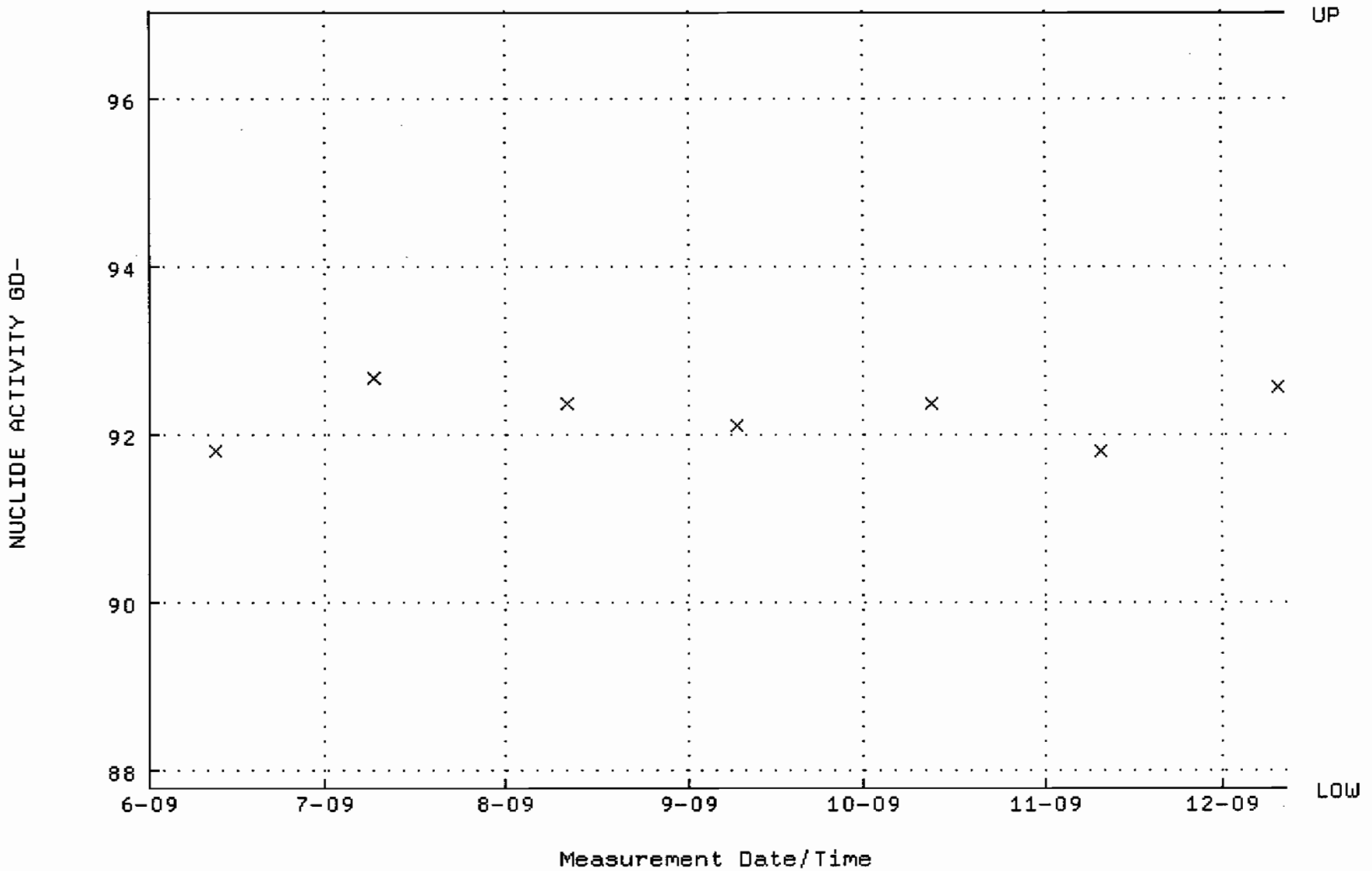
QA filename : DKA100:[ENV_ALPHA.QA.B]B085.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 16:45:40 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



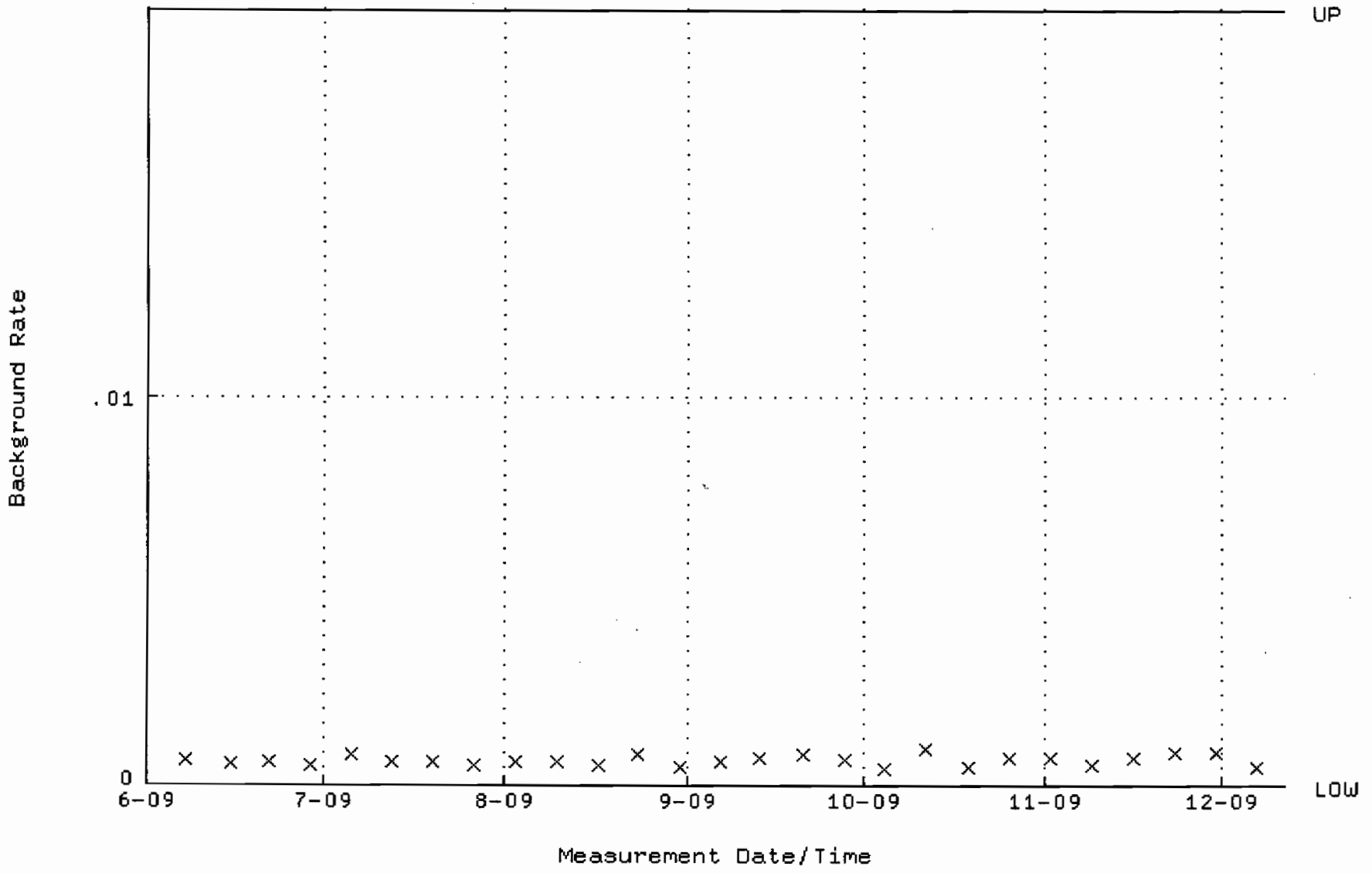
QA filename : DKA100:[ENV_ALPHA.QA.W]W086.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 12-JUN-2009 07:18:27 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.289508 through 0.309508



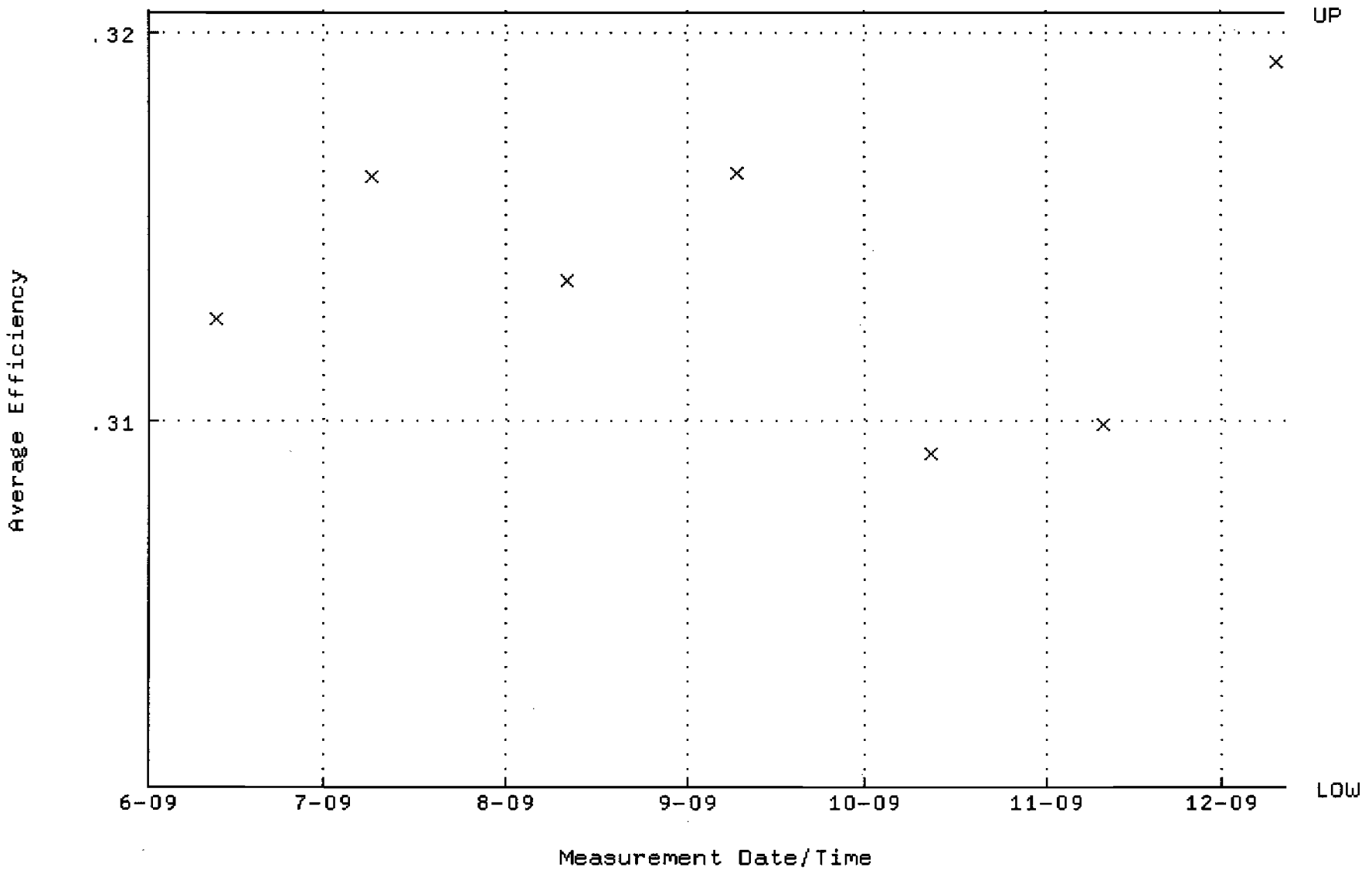
QA filename : DKA100:[ENV_ALPHA.QA.W]W086.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 12-JUN-2009 07:18:27 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 87.7898 through 97.0308



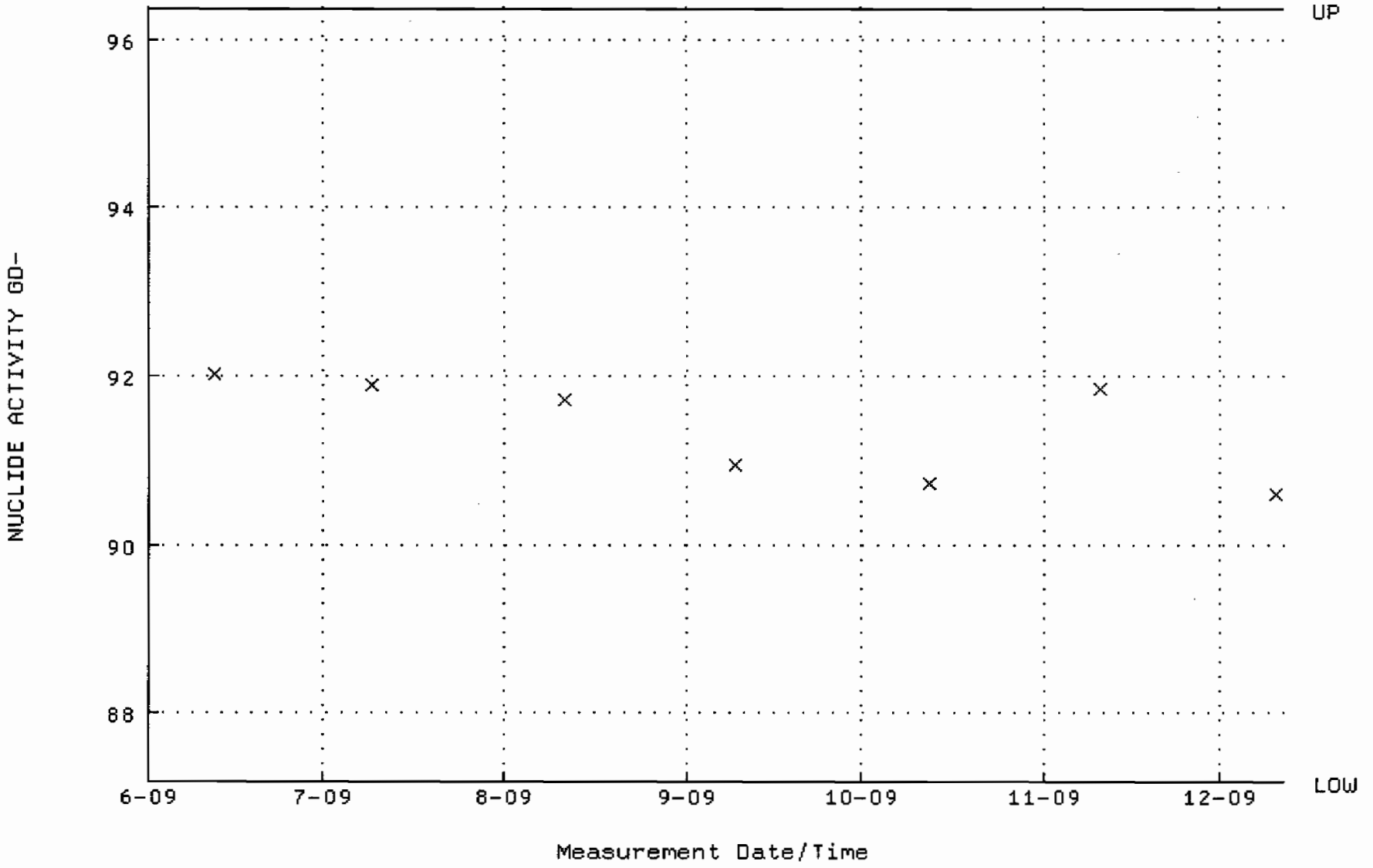
QA filename : DKA100:[ENV_ALPHA.QA.B]B086.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 16:45:40 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



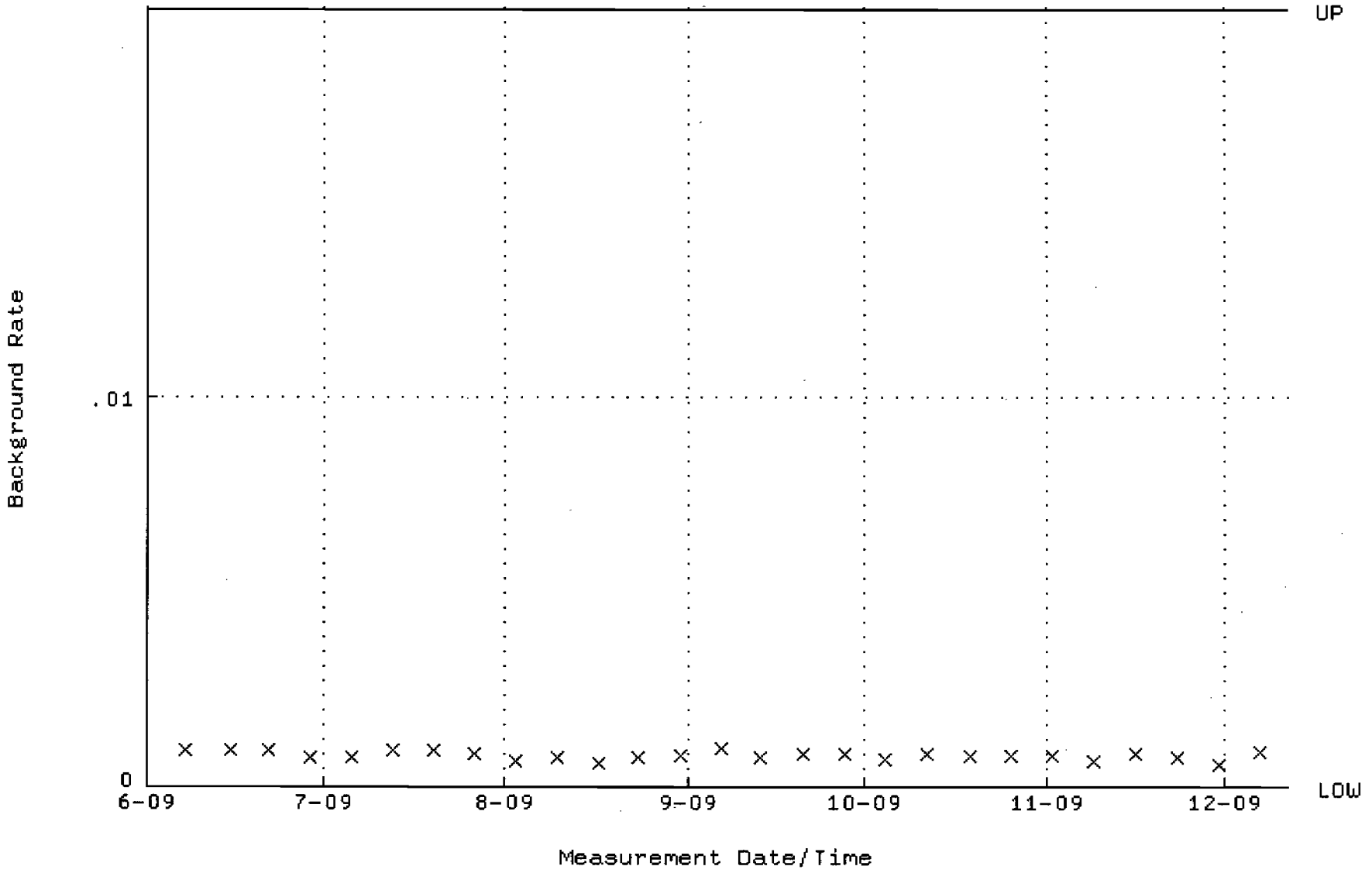
QA filename : DKA100:[ENV_ALPHA.QA.W]W087.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 12-JUN-2009 07:18:27 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.300530 through 0.320530



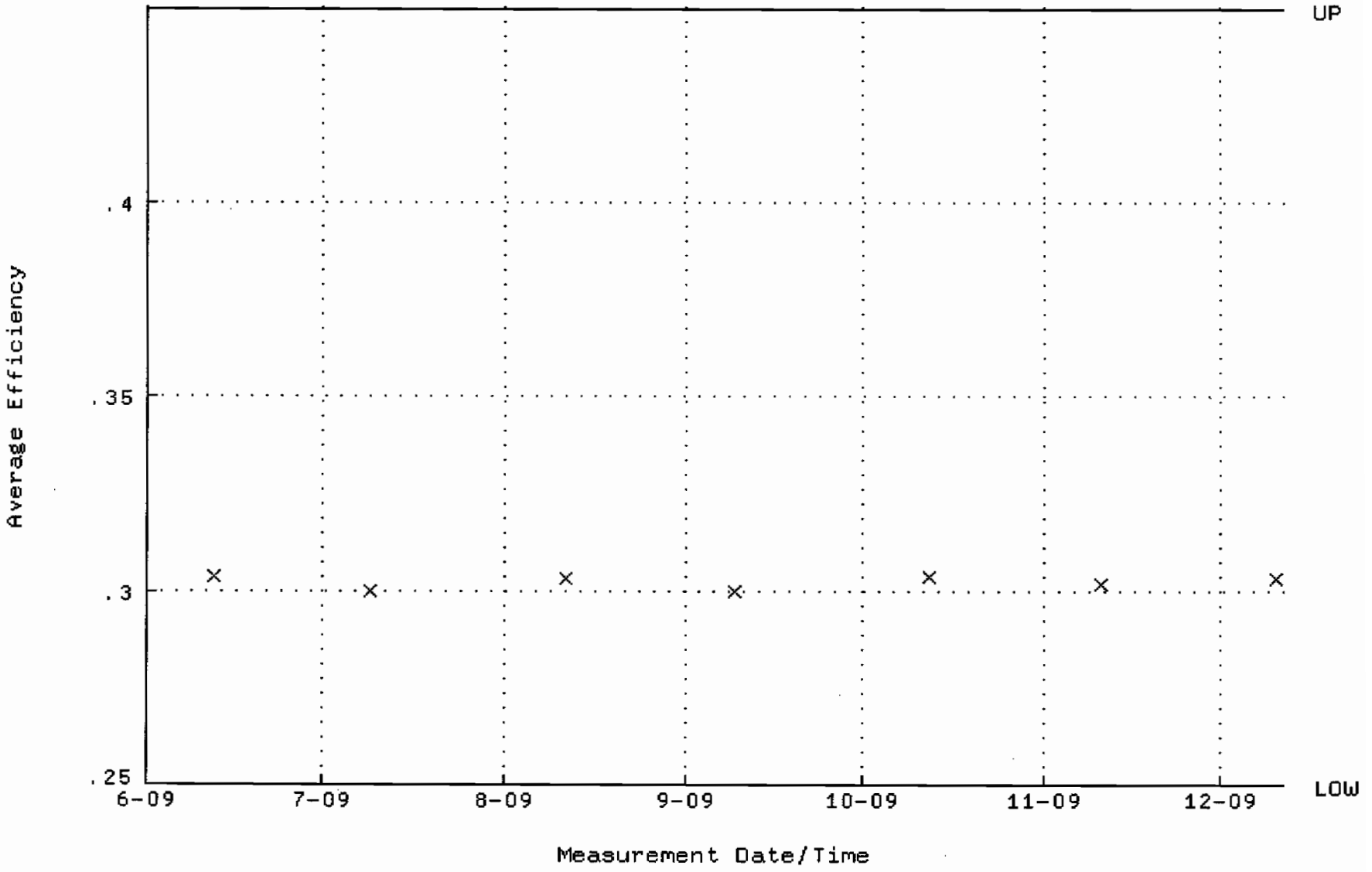
QA filename : DKA100:[ENV_ALPHA.QA.W]W087.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 12-JUN-2009 07:18:27 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 87.1845 through 96.3619



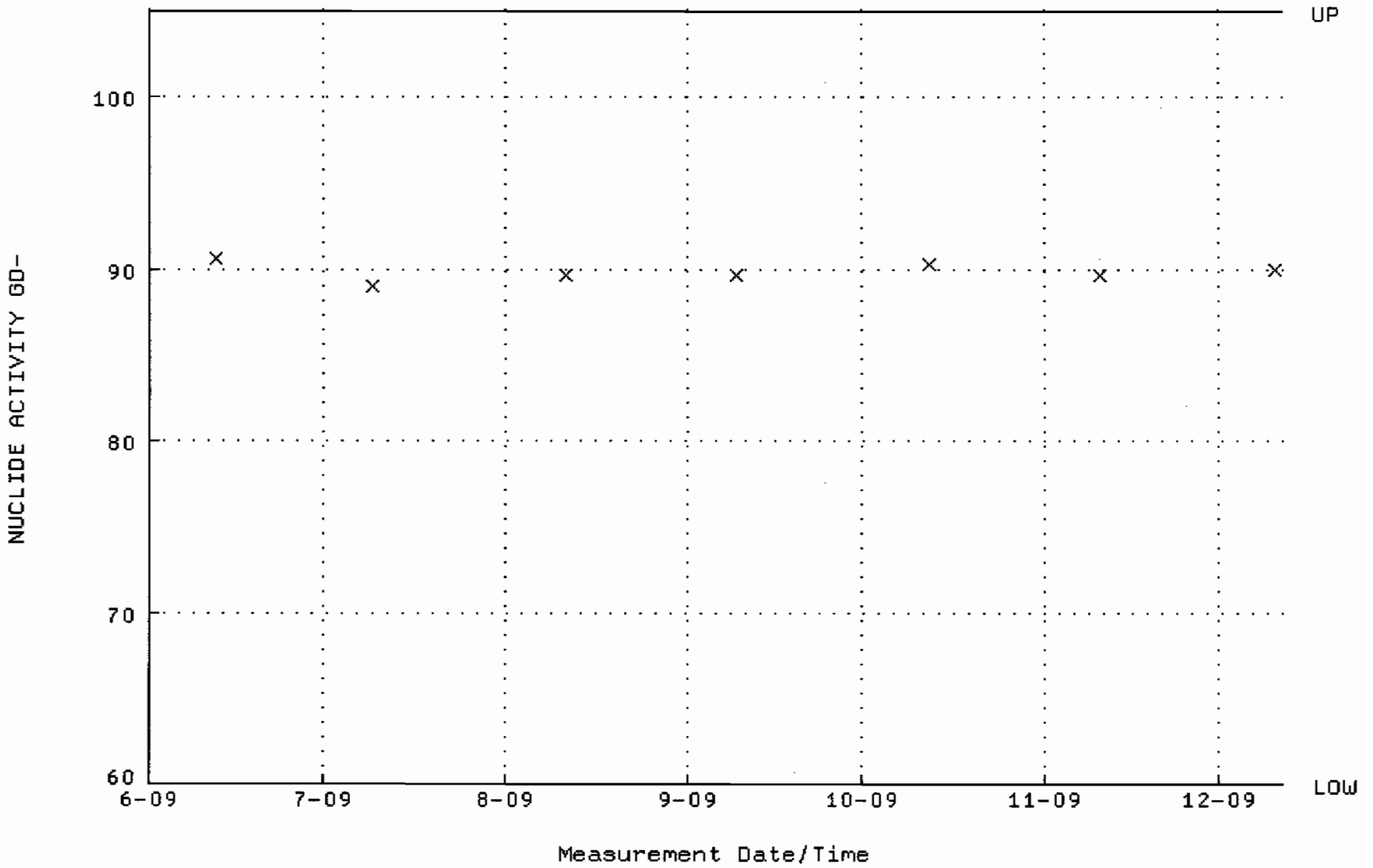
QA filename : DKA100:[ENV_ALPHA.QA.B]B087.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 16:45:40 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



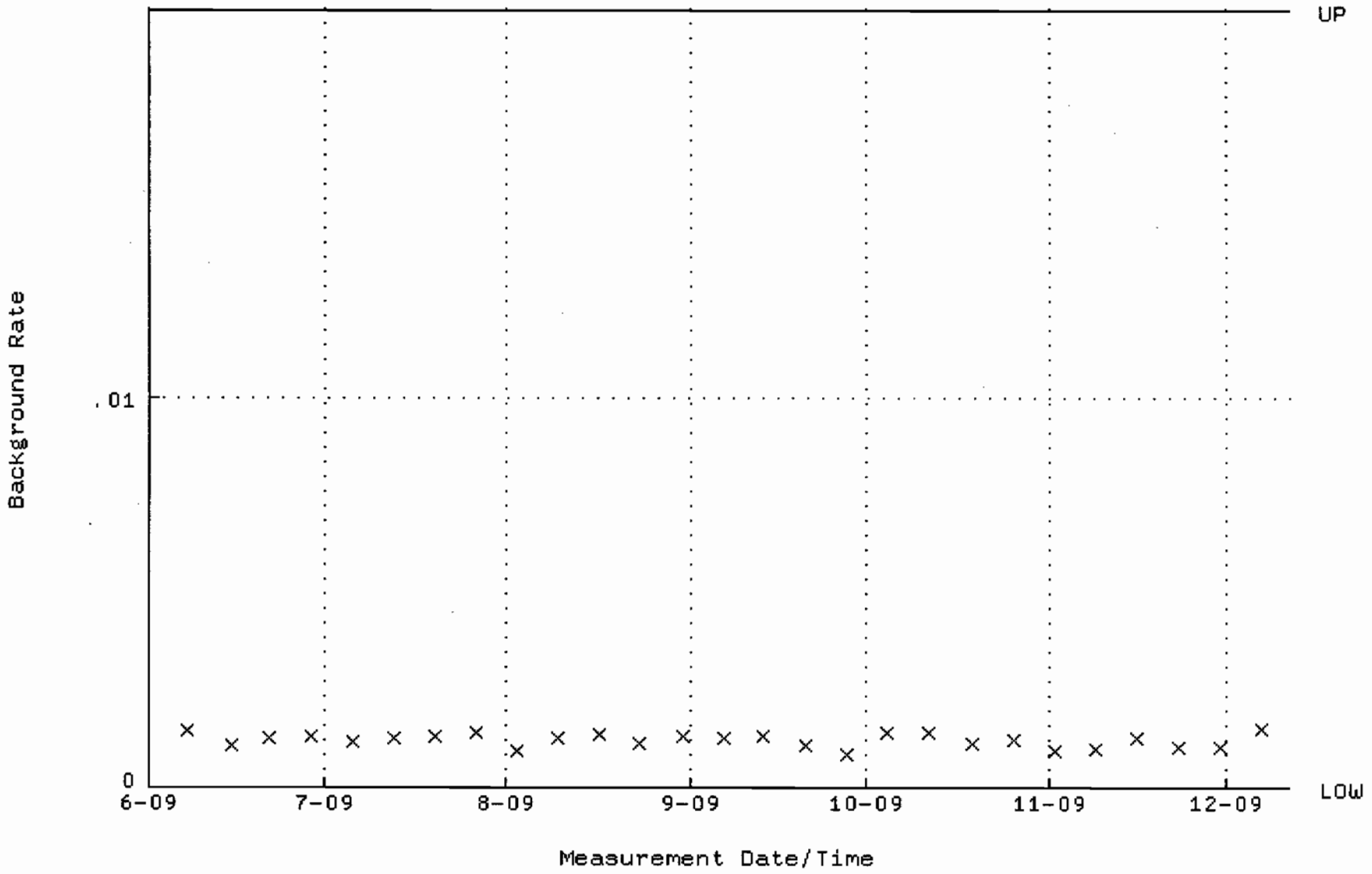
QA filename : DKA100:[ENV_ALPHA.QA.W]W088.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 12-JUN-2009 07:18:27 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.250000 through 0.450000



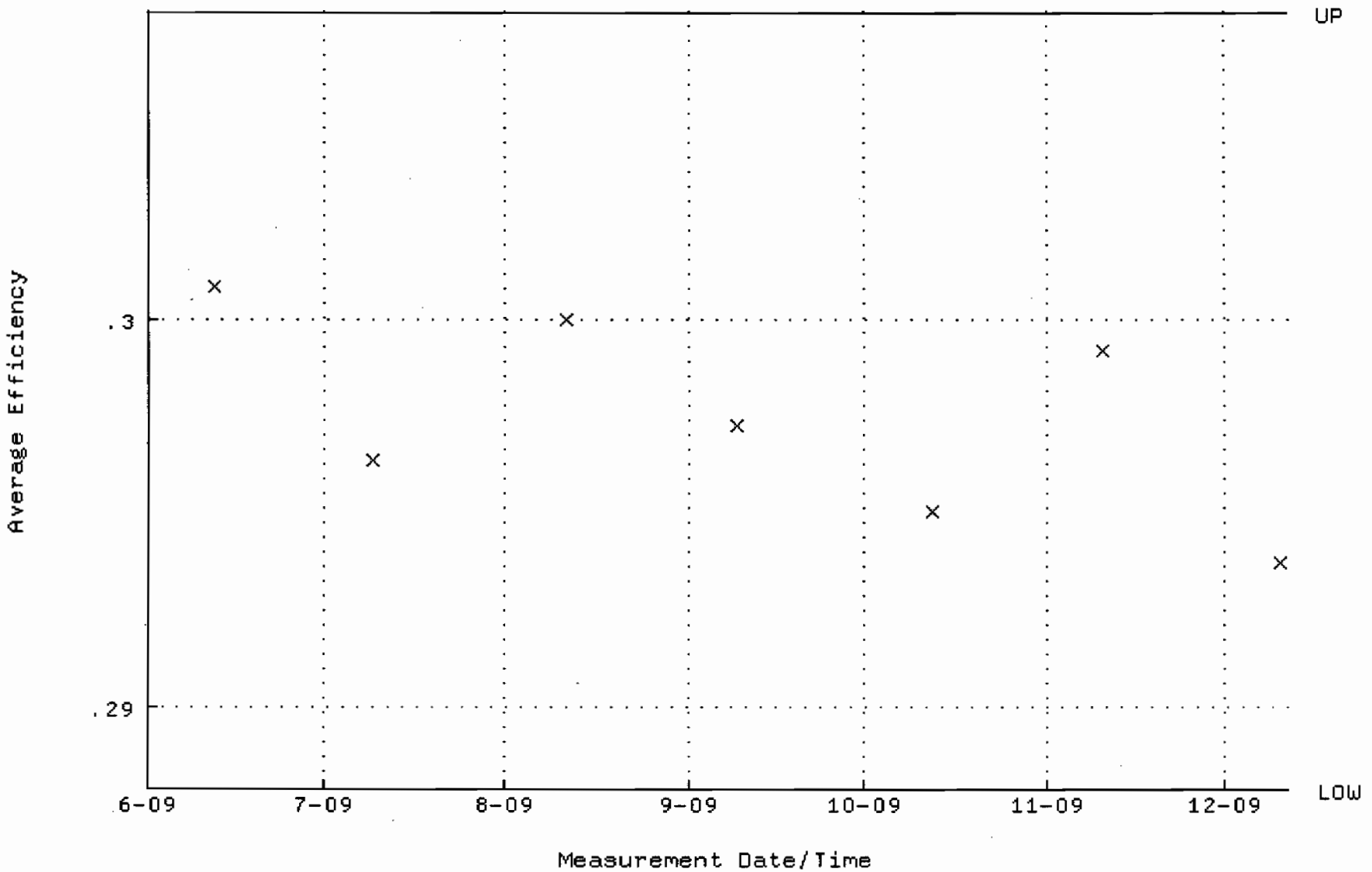
QA filename : DKA100:[ENV_ALPHA.QA.W]W088.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 12-JUN-2009 07:18:27 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 60.0000 through 105.000



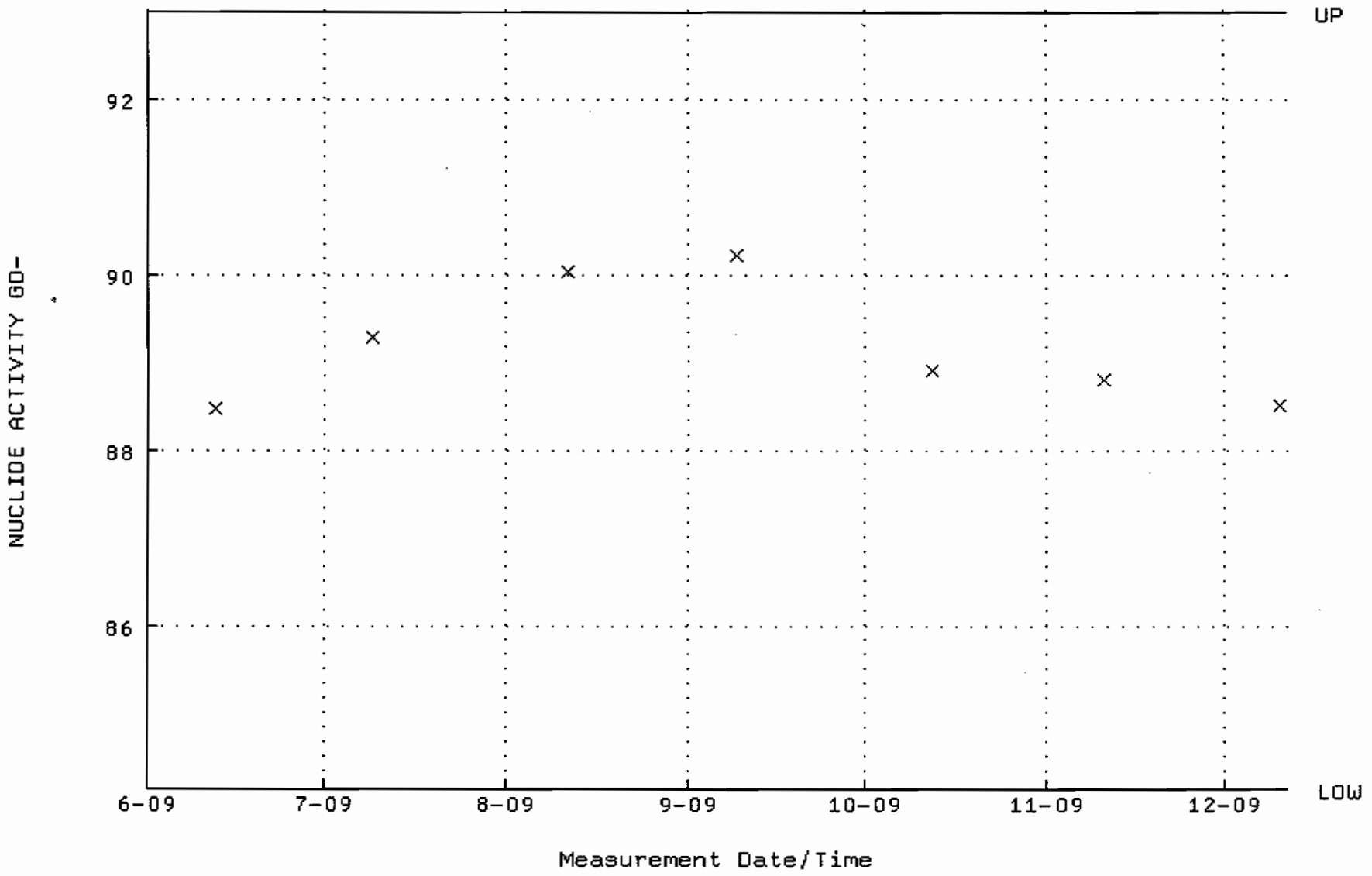
QA filename : DKA100:[ENV_ALPHA.QA.B]B088.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 16:45:40 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



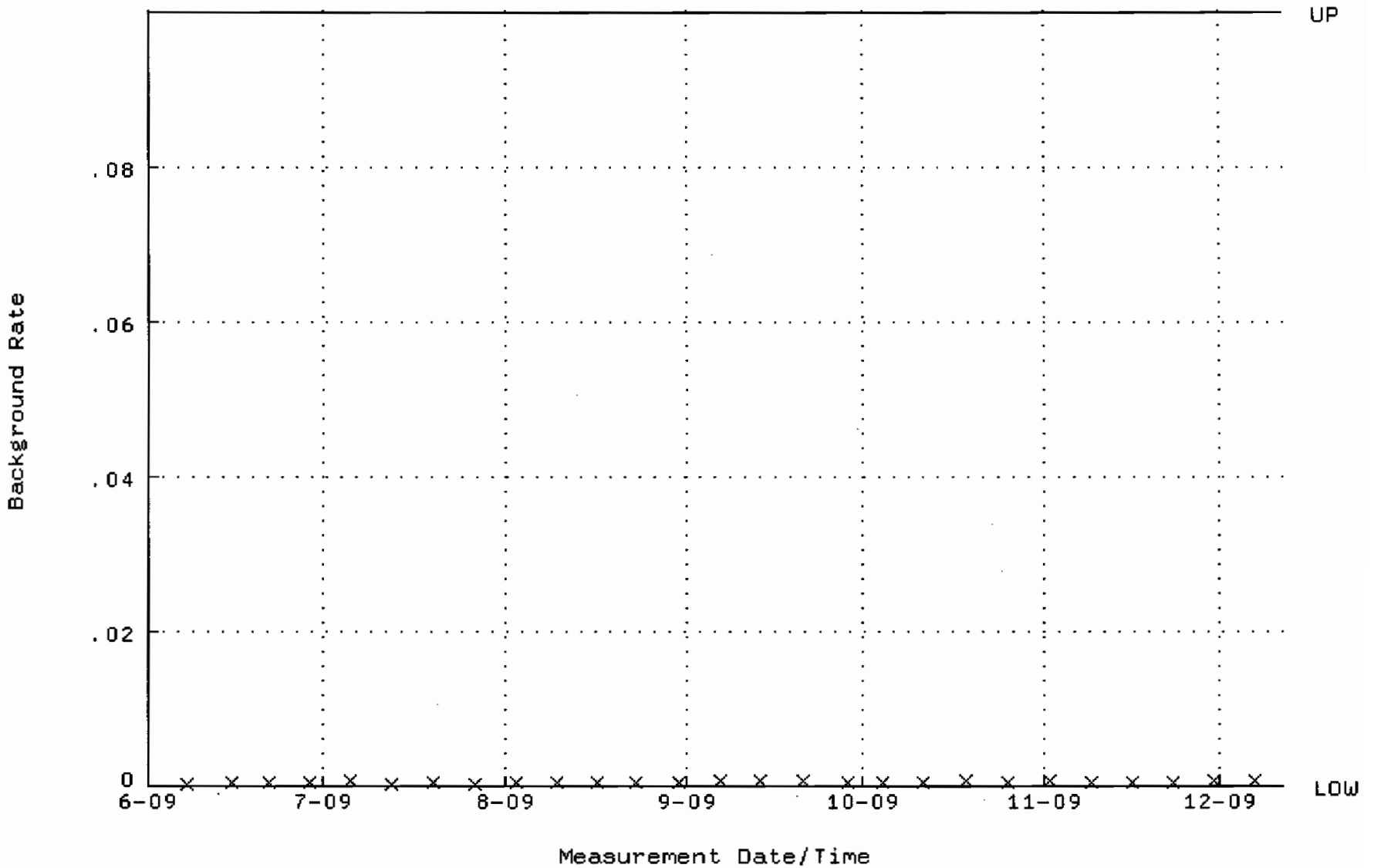
QA filename : DKA100:[ENV_ALPHA.QA.W]W089.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 12-JUN-2009 07:18:28 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.287888 through 0.307888



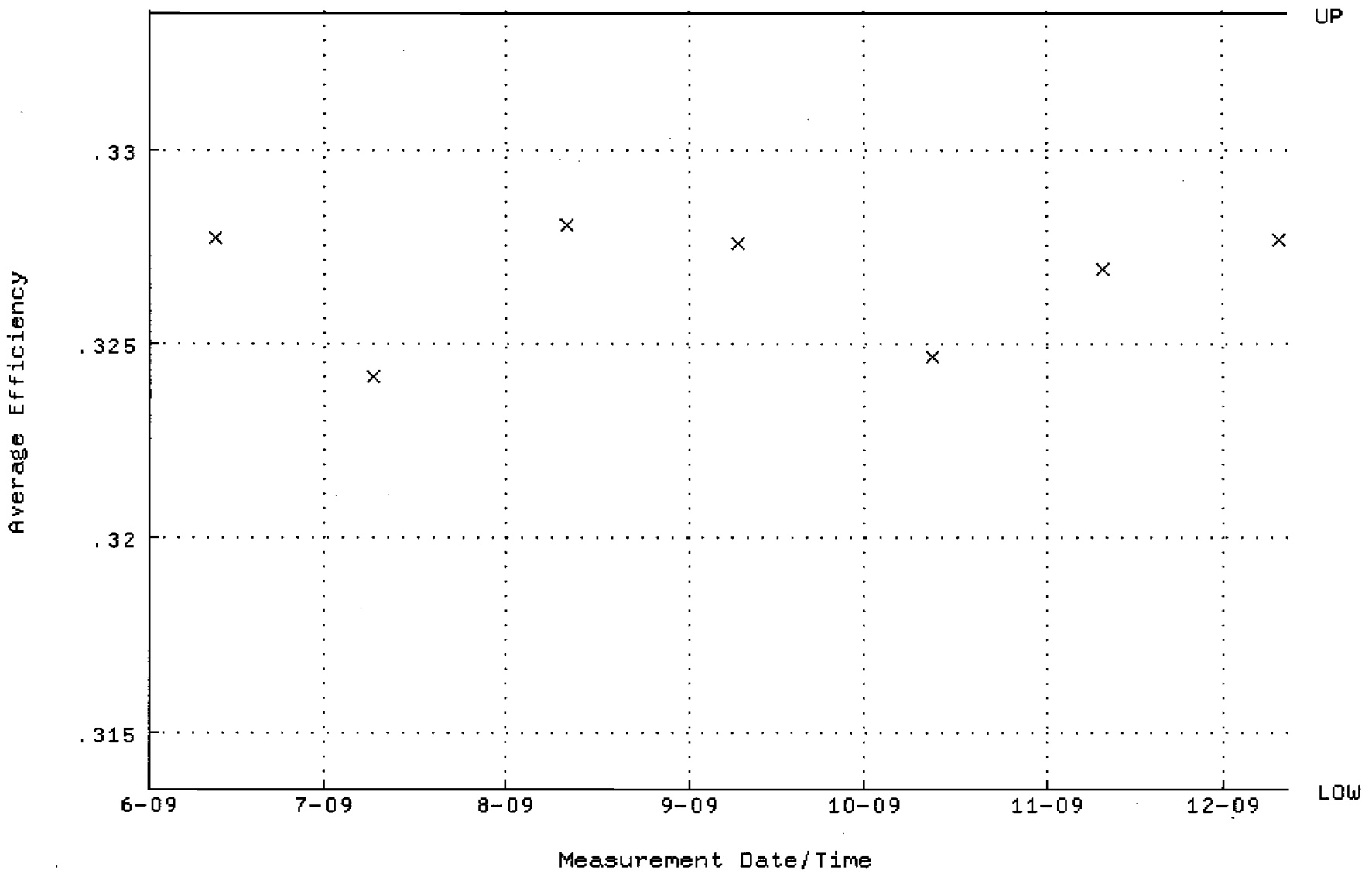
QA filename : DKA100:[ENV_ALPHA.QA.W]W089.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 12-JUN-2009 07:18:28 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 84.1413 through 92.9983



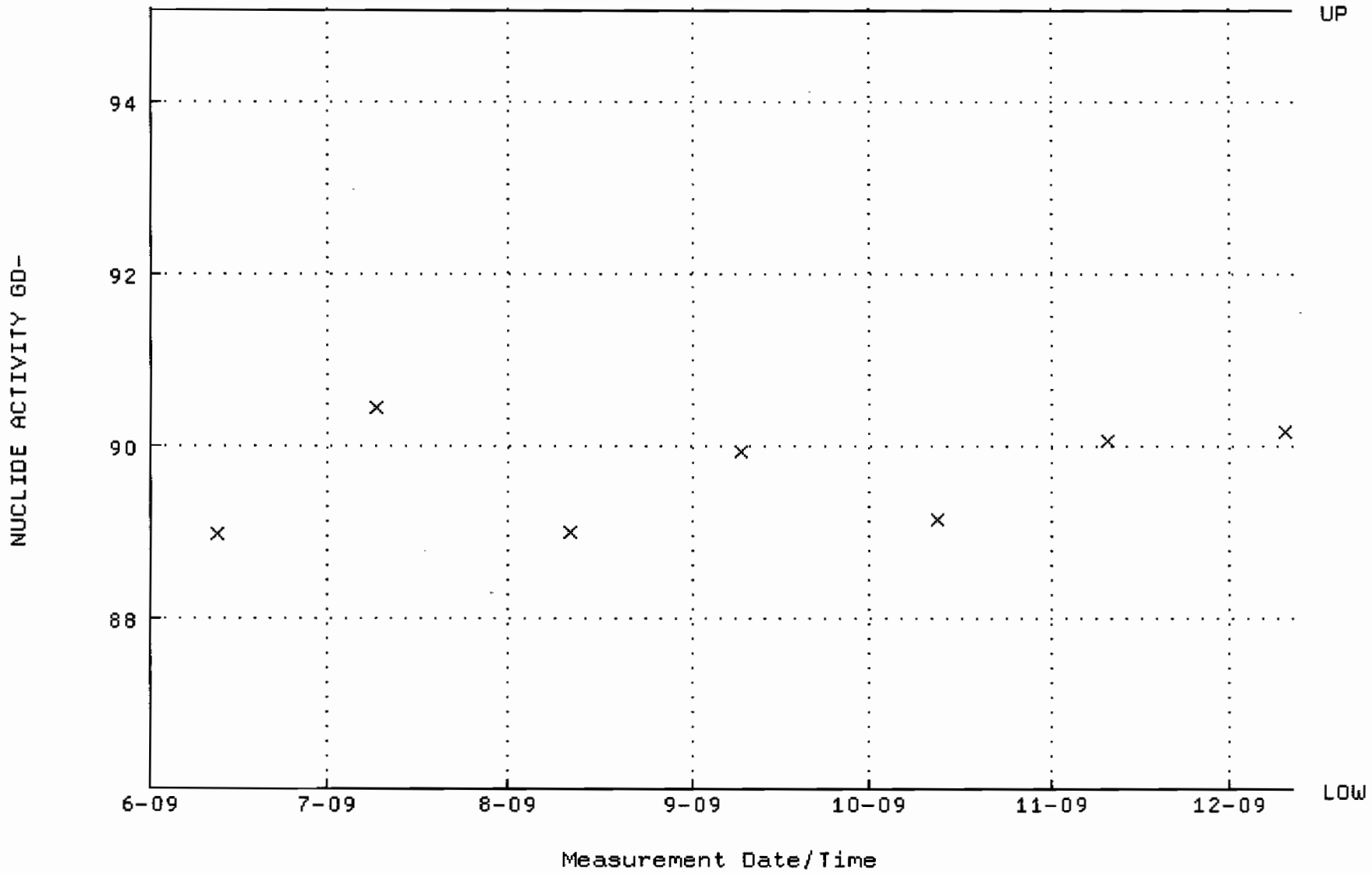
QA filename : DKA100:[ENV_ALPHA.QA.B]B089.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 16:45:41 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



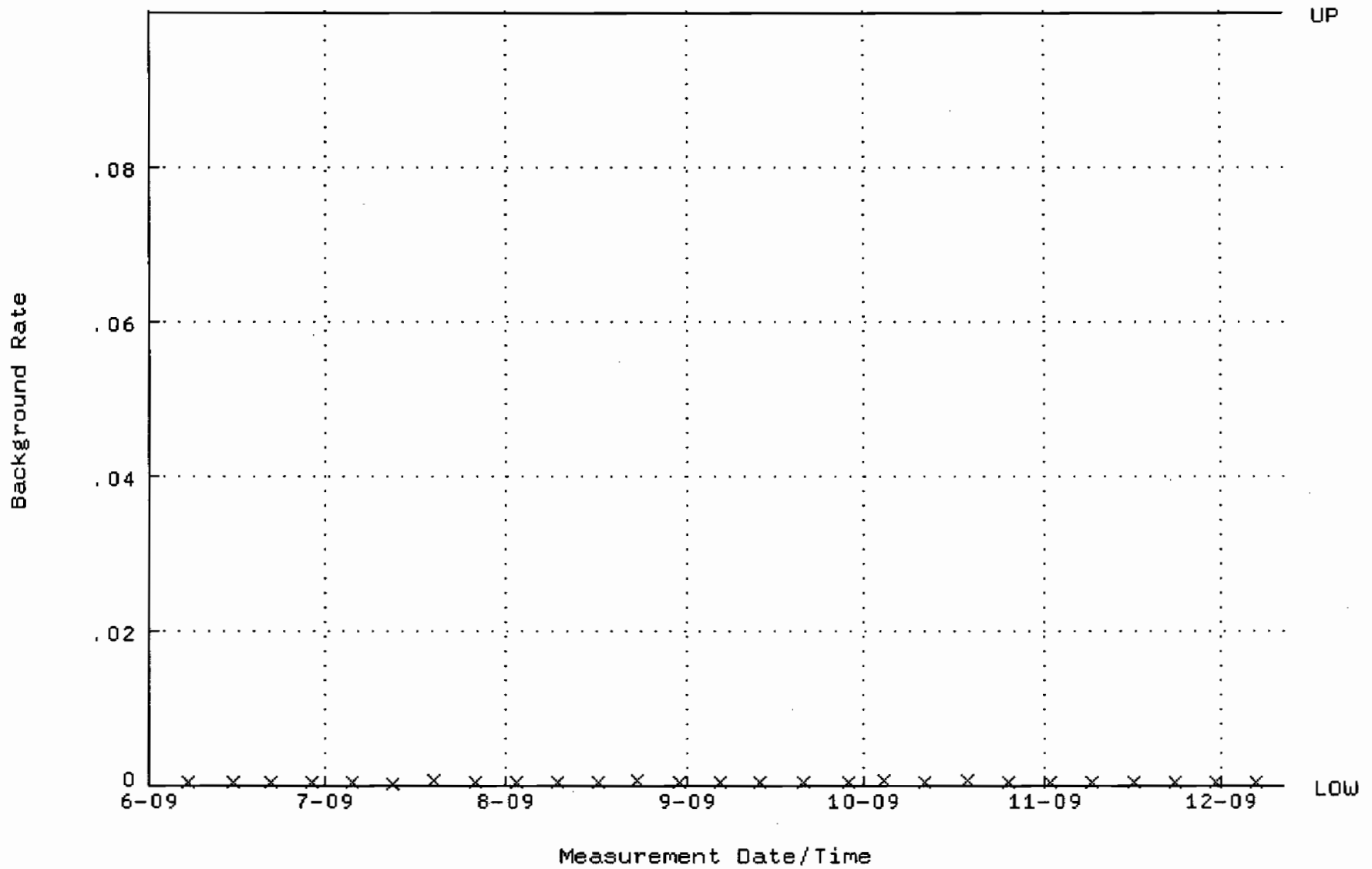
QA filename : DKA100:[ENV_ALPHA.QA.W]W090.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 12-JUN-2009 07:18:28 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.313529 through 0.333529



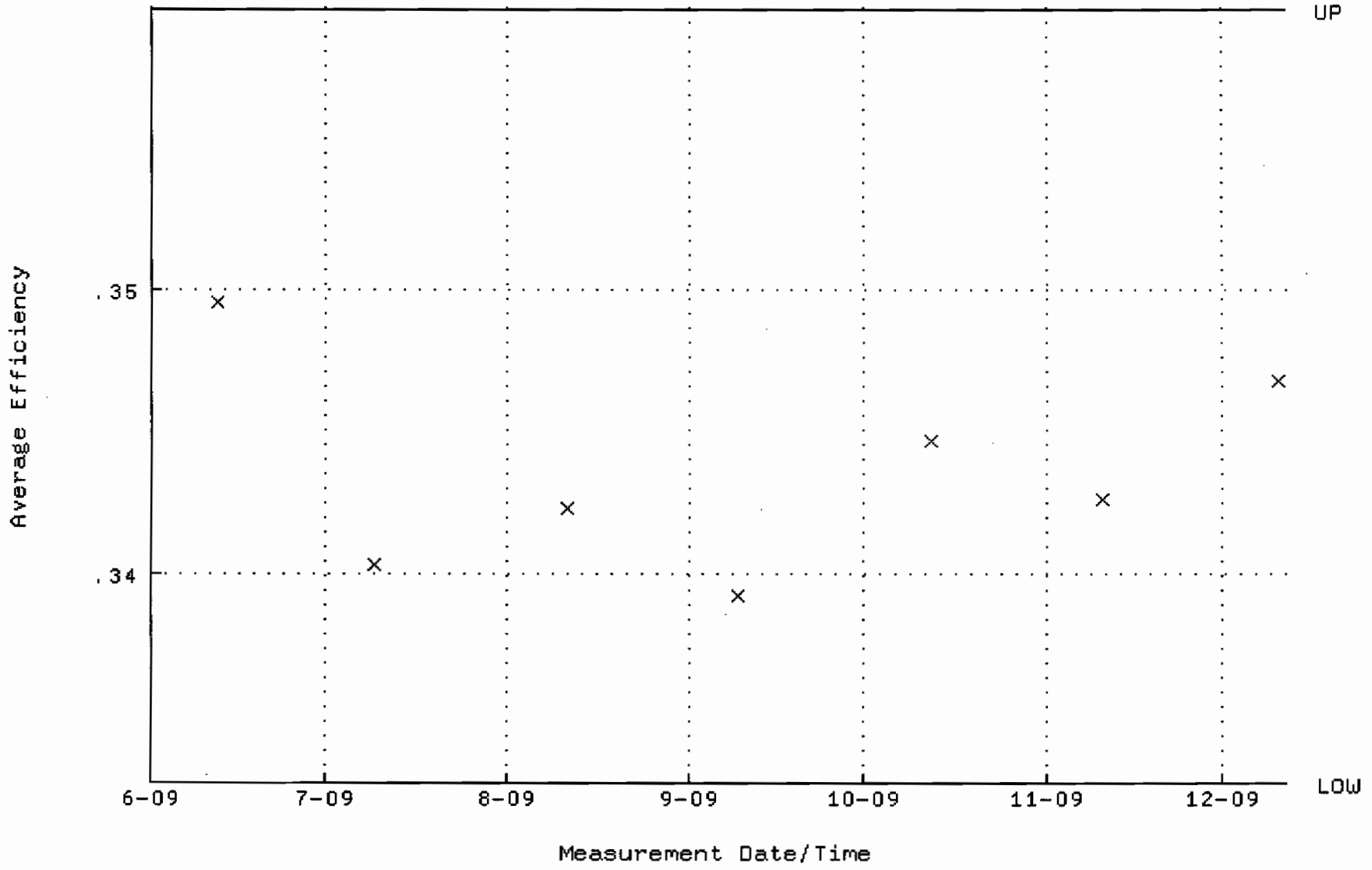
QA filename : DKA100:[ENV_ALPHA.QA.W]W090.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 12-JUN-2009 07:18:28 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 86.0139 through 95.0680



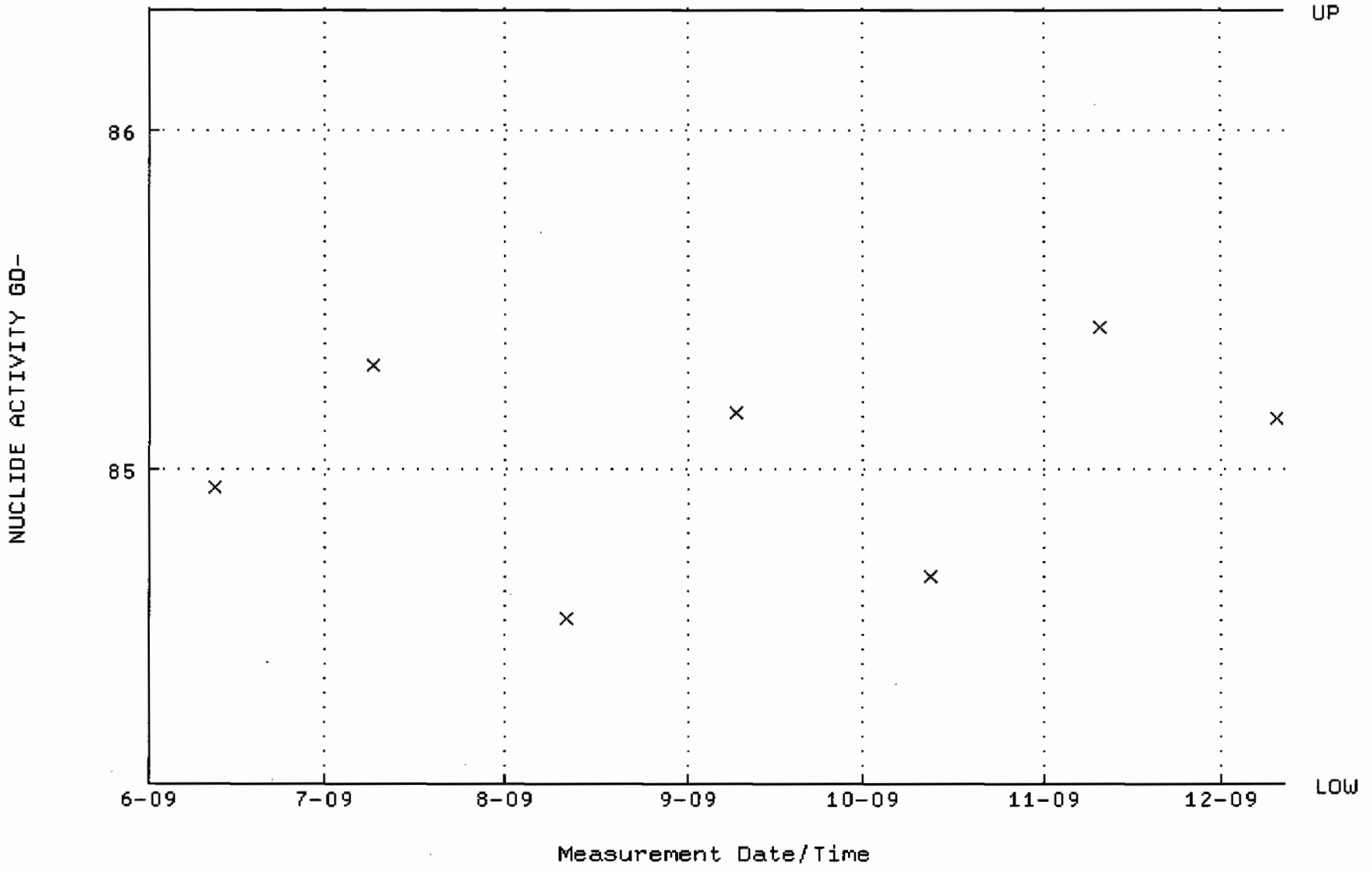
QA filename : DKA100:[ENV_ALPHA.QA.B]B090.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 16:45:41 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



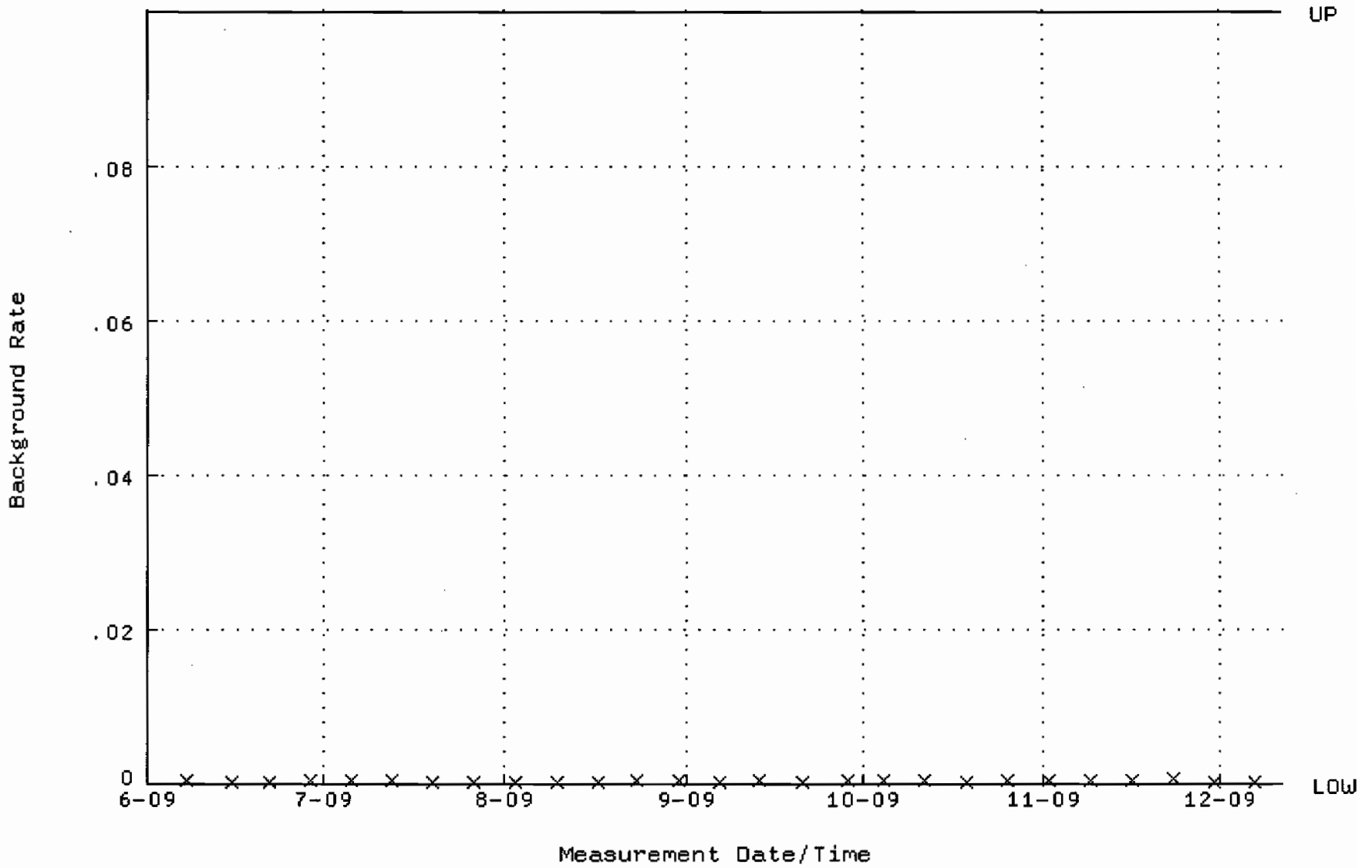
QA filename : DKA100:[ENV_ALPHA.QA.W]W091.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 12-JUN-2009 07:18:28 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.332648 through 0.359902



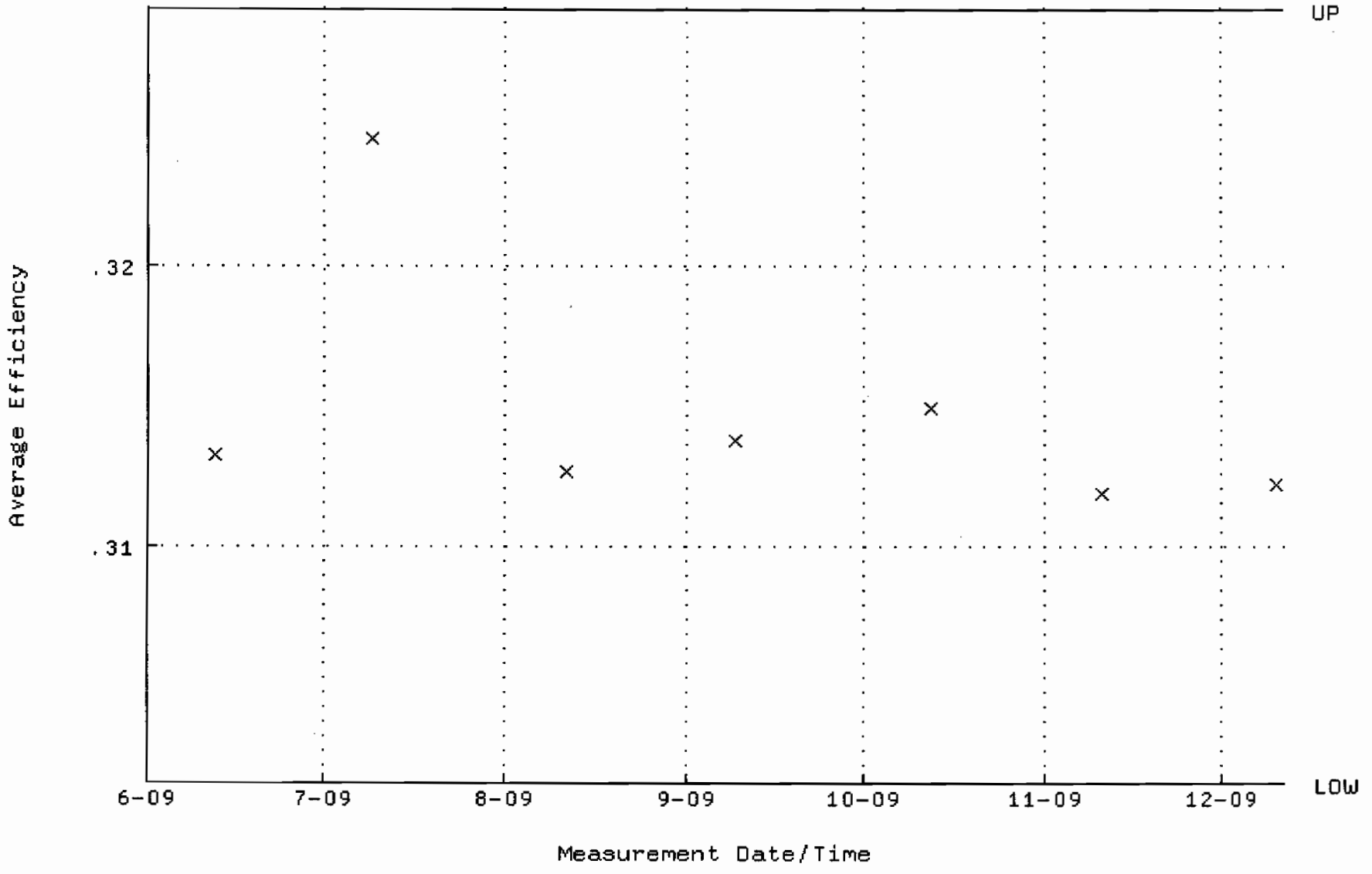
QA filename : DKA100:[ENV_ALPHA.QA.W]W091.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 12-JUN-2009 07:18:28 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 84.0764 through 86.3518



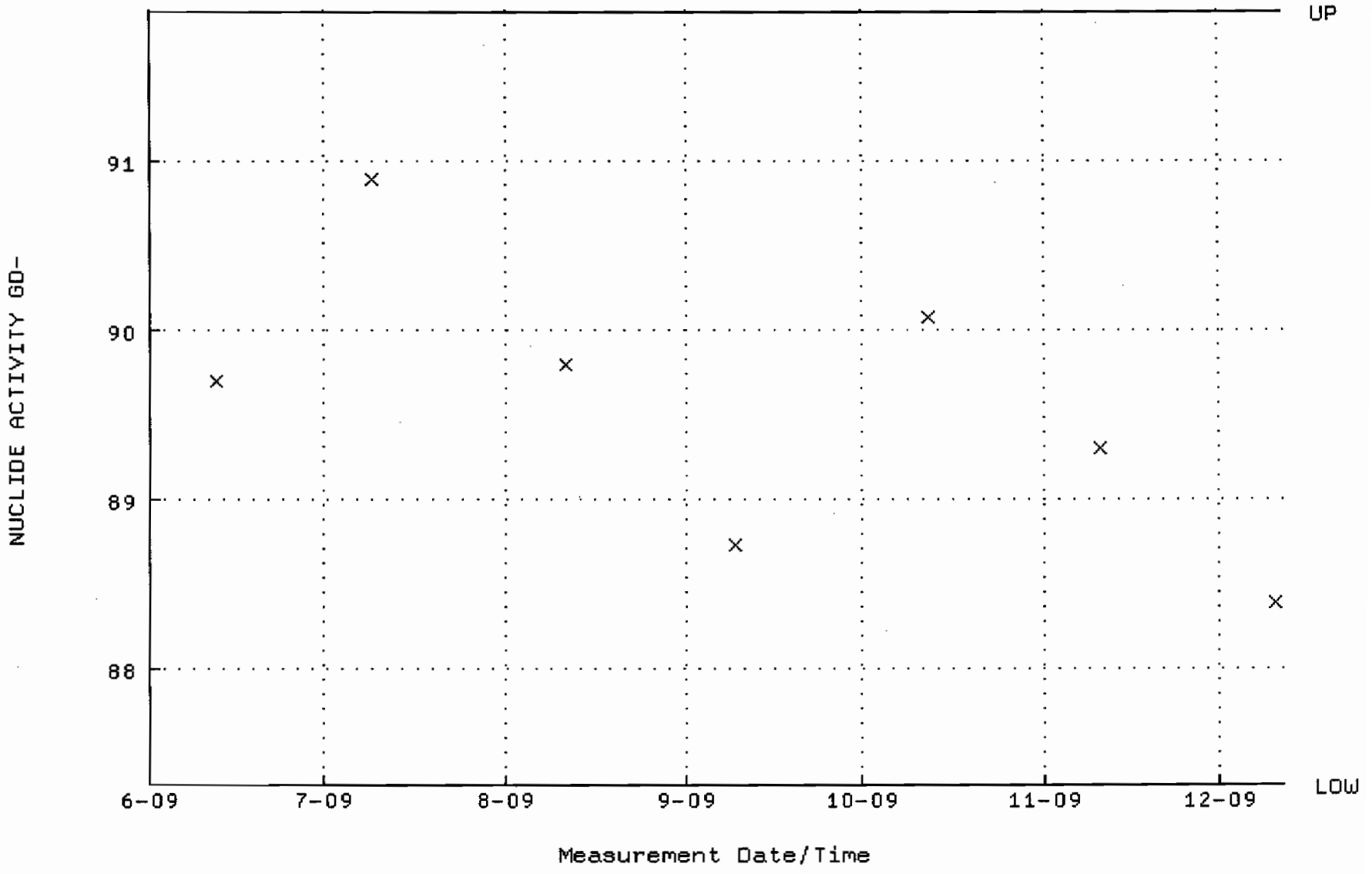
QA filename : DKA100:[ENV_ALPHA.QA.B]B091.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 16:45:41 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



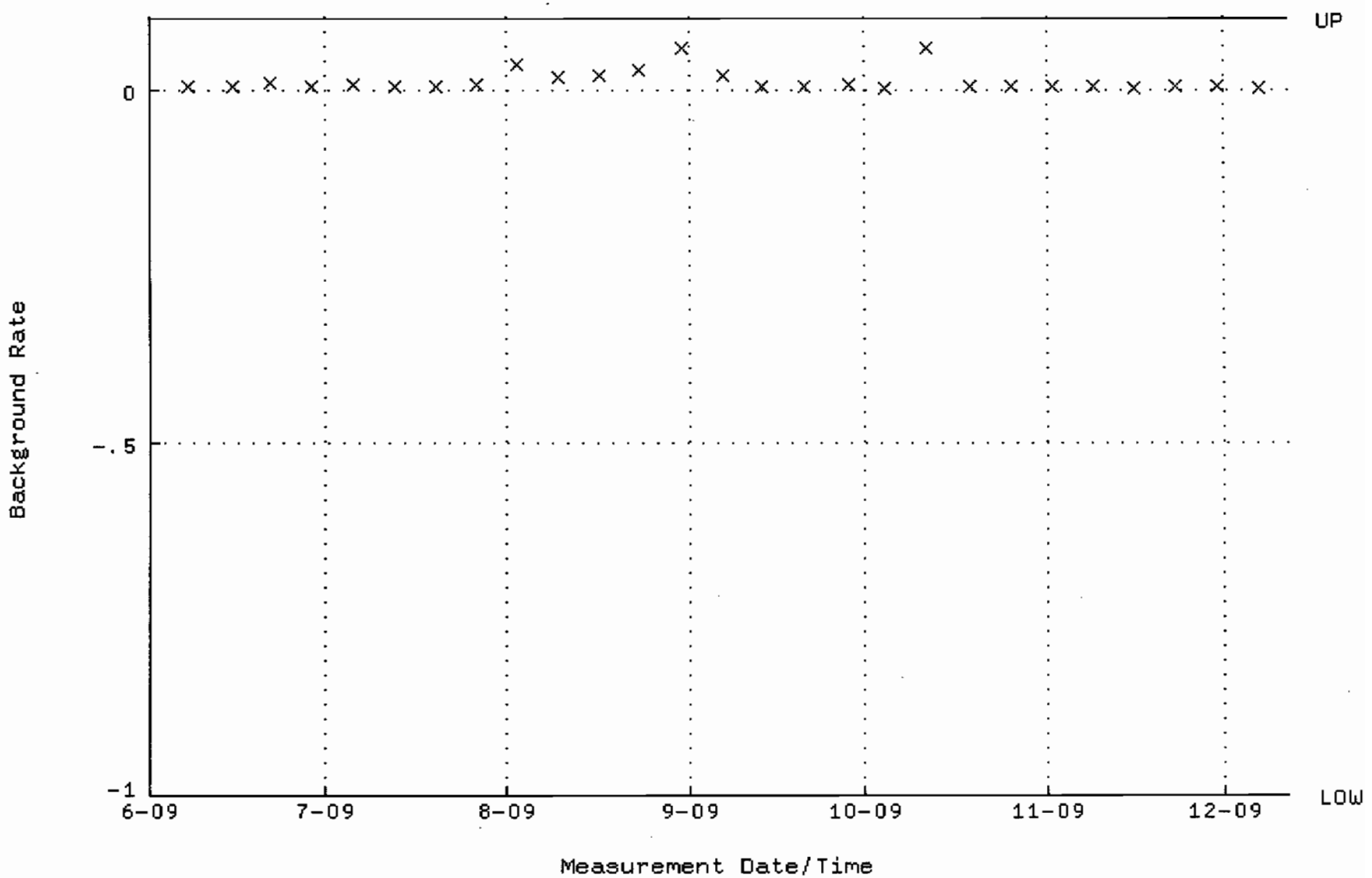
QA filename : DKA100:[ENV_ALPHA.QA.W]W092.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 12-JUN-2009 07:18:28 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.301529 through 0.329133



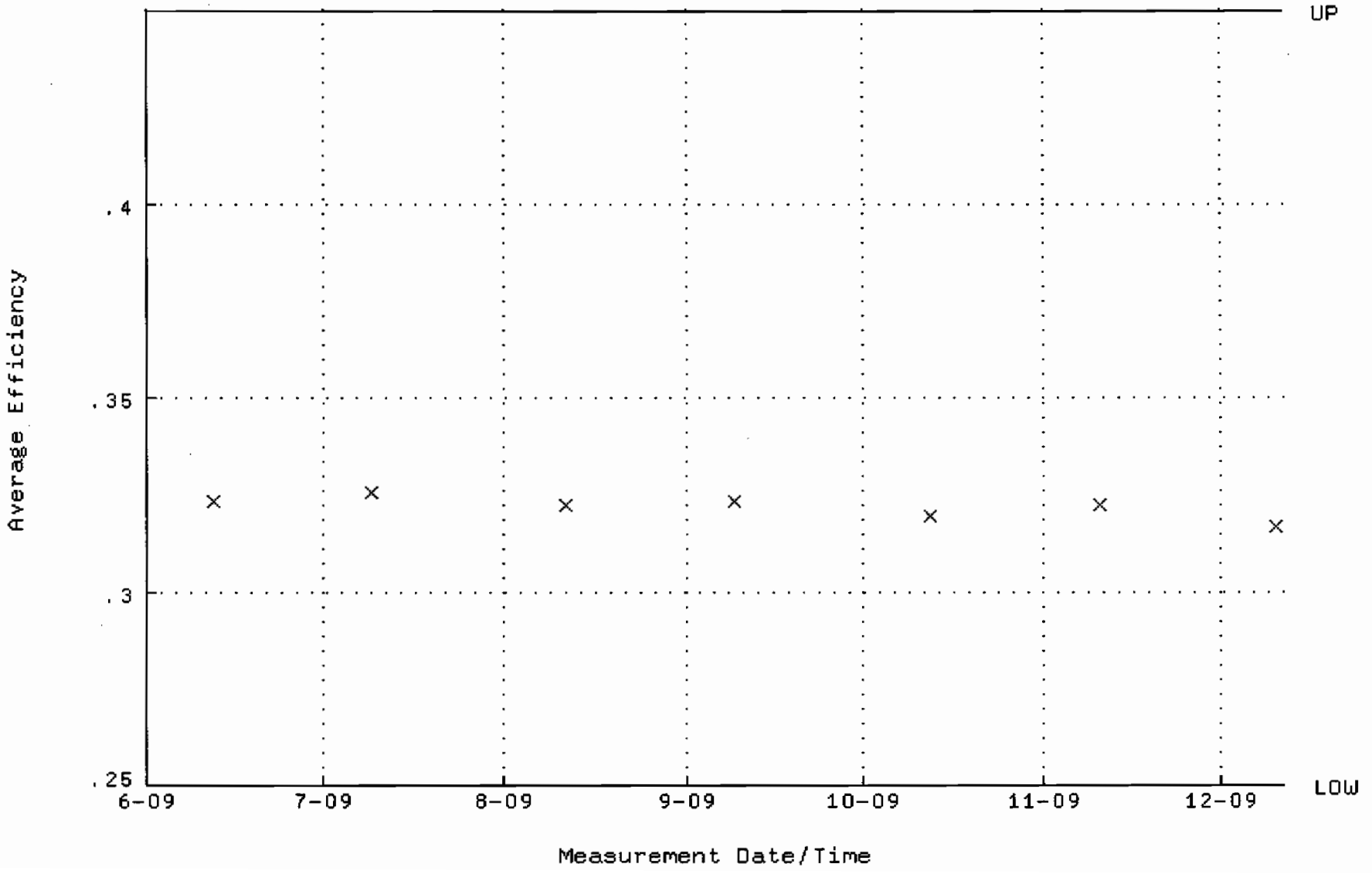
QA filename : DKA100:[ENV_ALPHA.QA.W]W092.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 12-JUN-2009 07:18:28 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 87.3140 through 91.8878



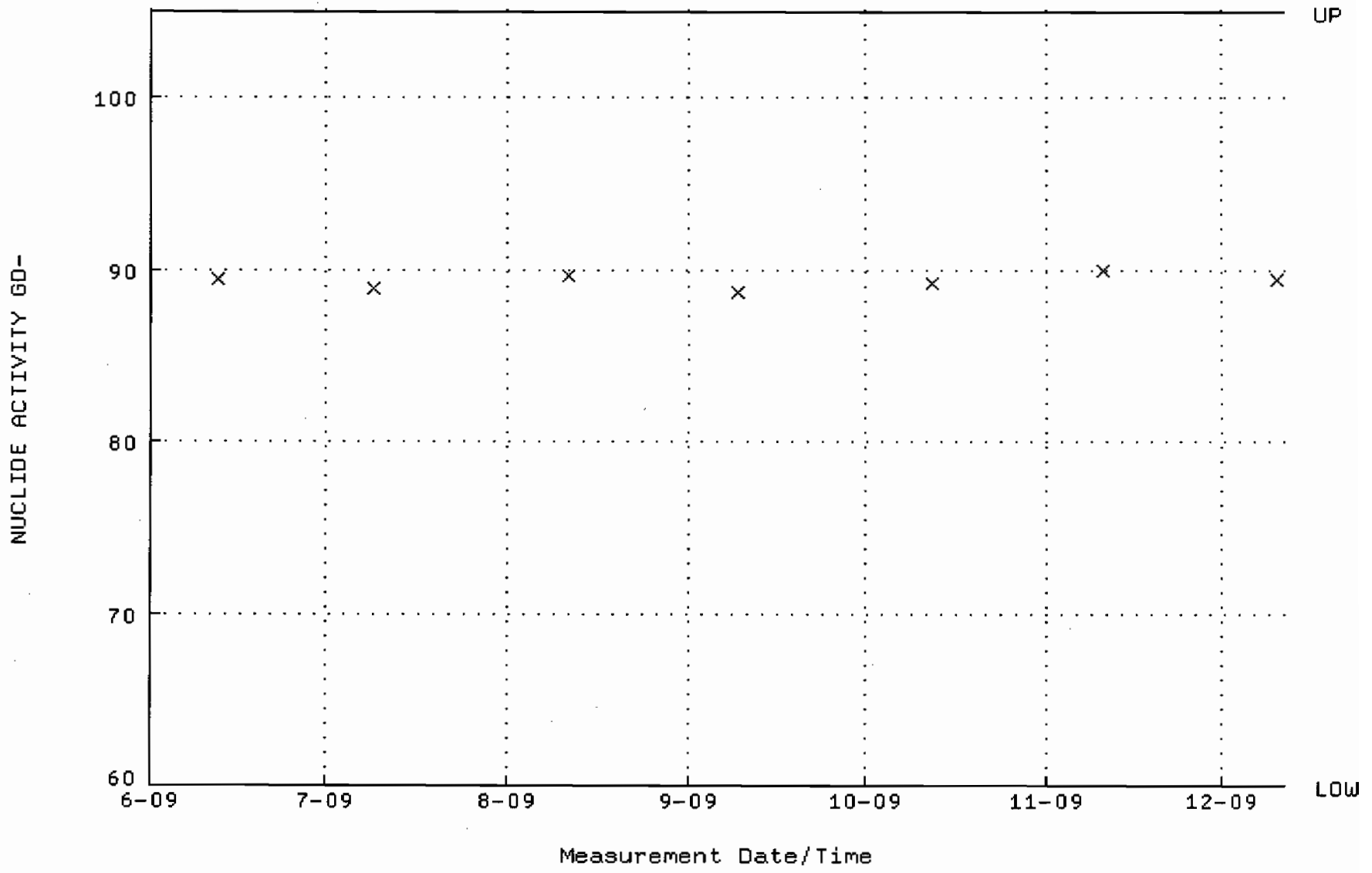
QA filename : DKA100:[ENV_ALPHA.QA.B]B092.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 16:45:41 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: -1.00000 through 0.100000



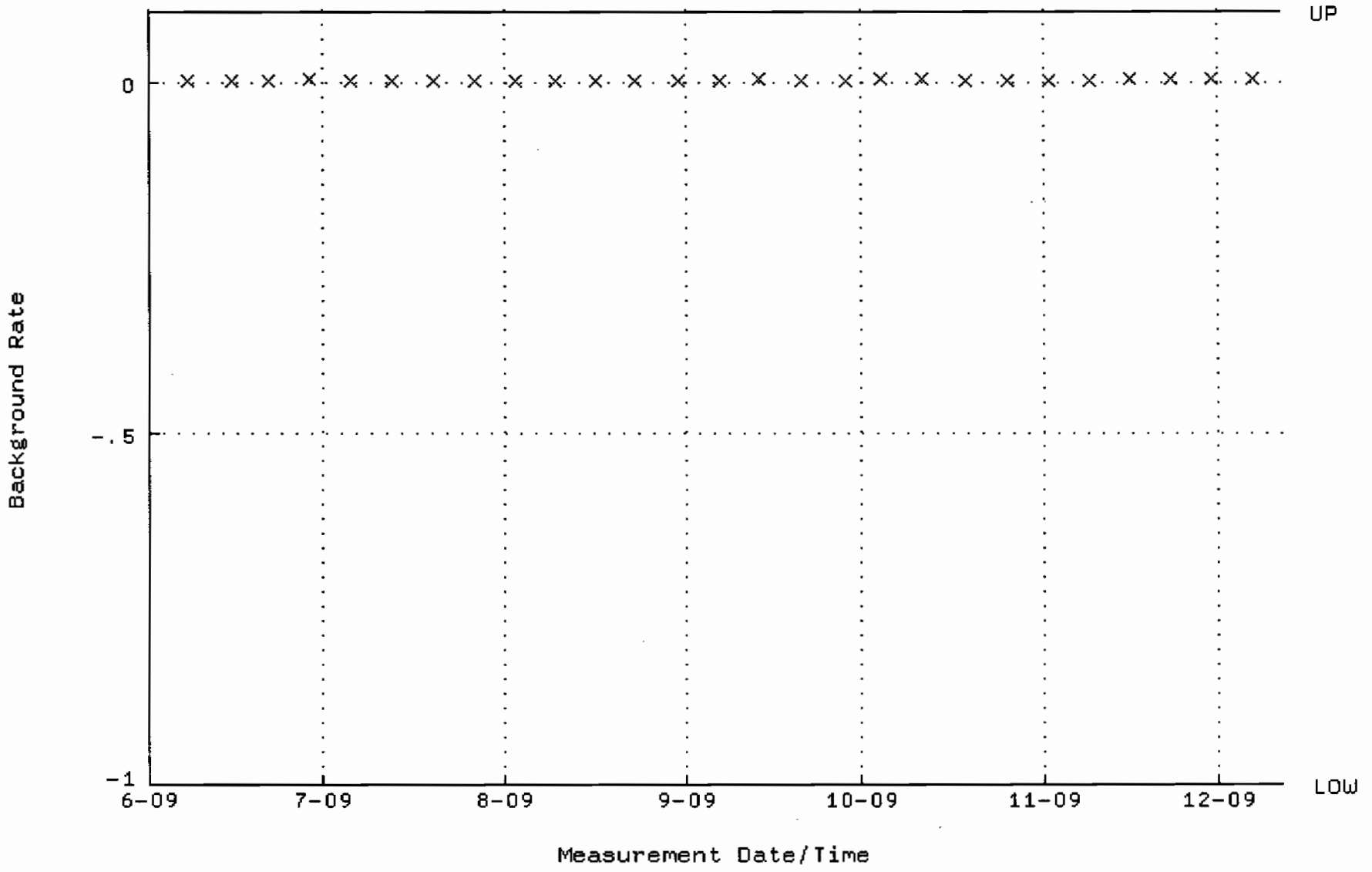
QA filename : DKA100:[ENV_ALPHA.QA.W]W093.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 12-JUN-2009 07:18:28 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.250000 through 0.450000



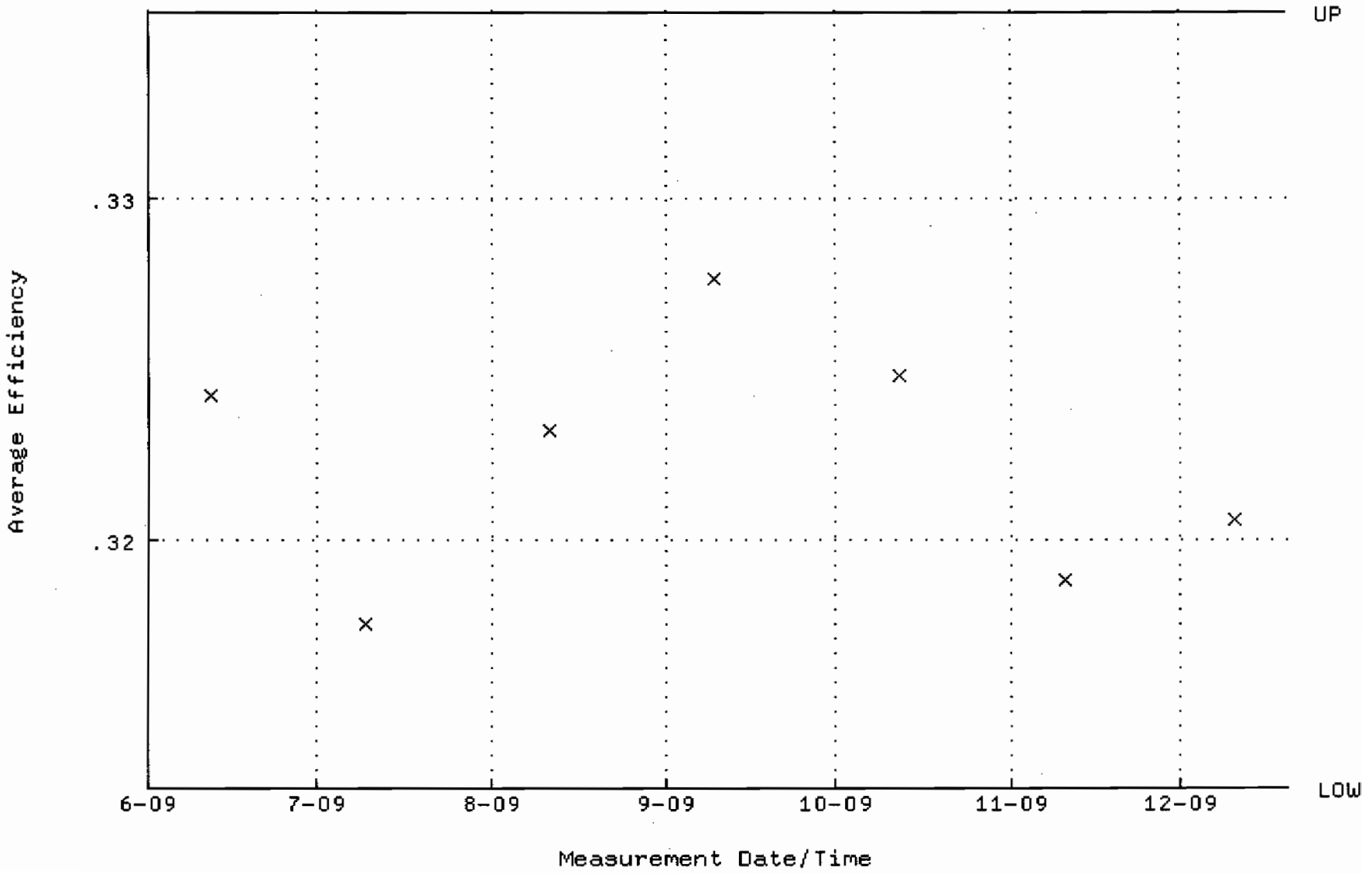
QA filename : DKA100:[ENV_ALPHA.QA.W]W093.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 12-JUN-2009 07:18:28 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 60.0000 through 105.000



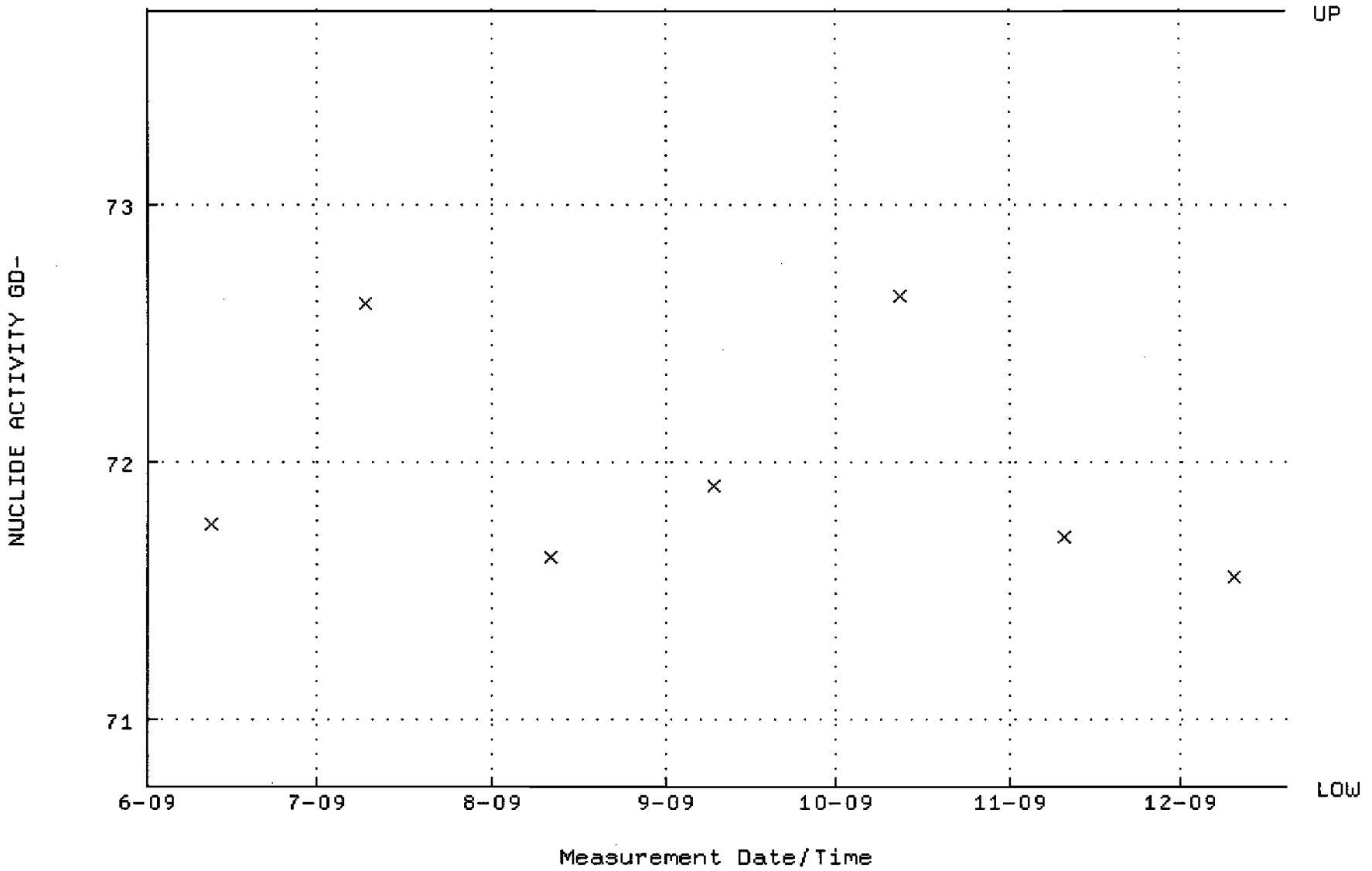
QA filename : DKA100:[ENV_ALPHA.QA.B]B093.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 16:45:41 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: -1.00000 through 0.100000



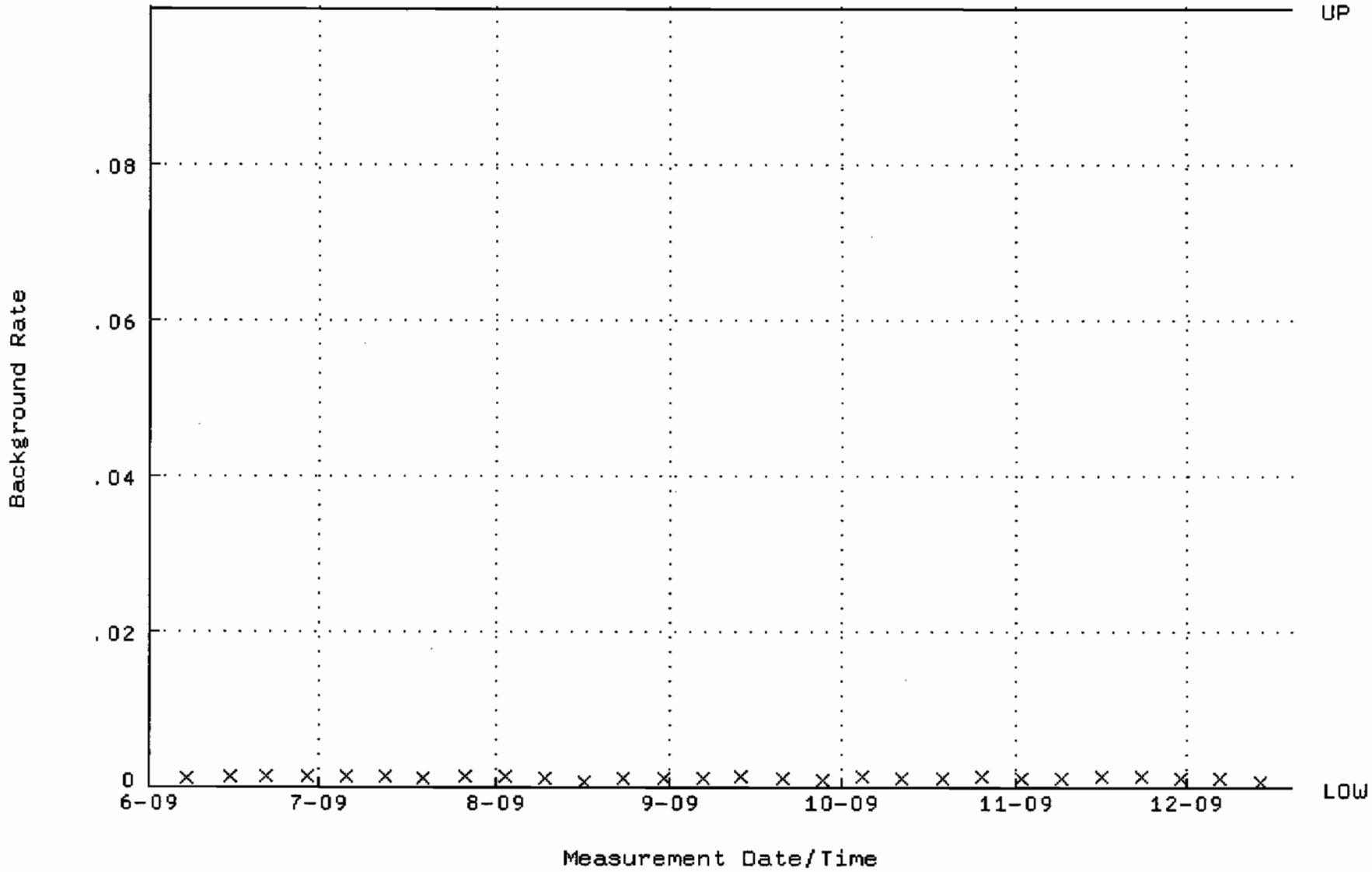
QA filename : DKA100:[ENV_ALPHA.QA.W]W110.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 12-JUN-2009 07:18:30 through 19-DEC-2009 12:00:00
Lower/Upper Lmts: 0.312683 through 0.335479



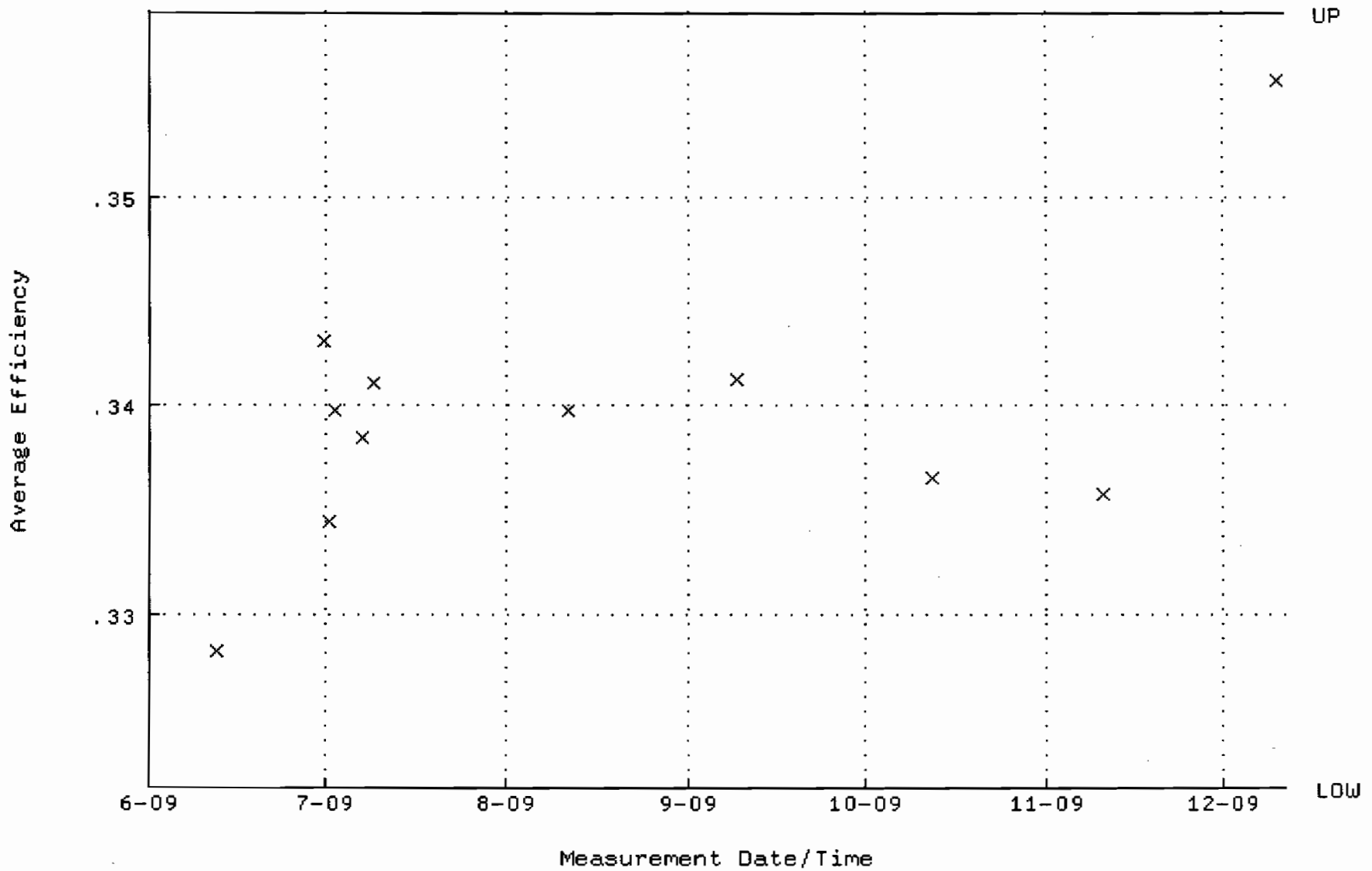
QA filename : DKA100:[ENV_ALPHA.QA.W]W110.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 12-JUN-2009 07:18:30 through 19-DEC-2009 12:00:00
Lower/Upper Lmts: 70.7404 through 73.7542



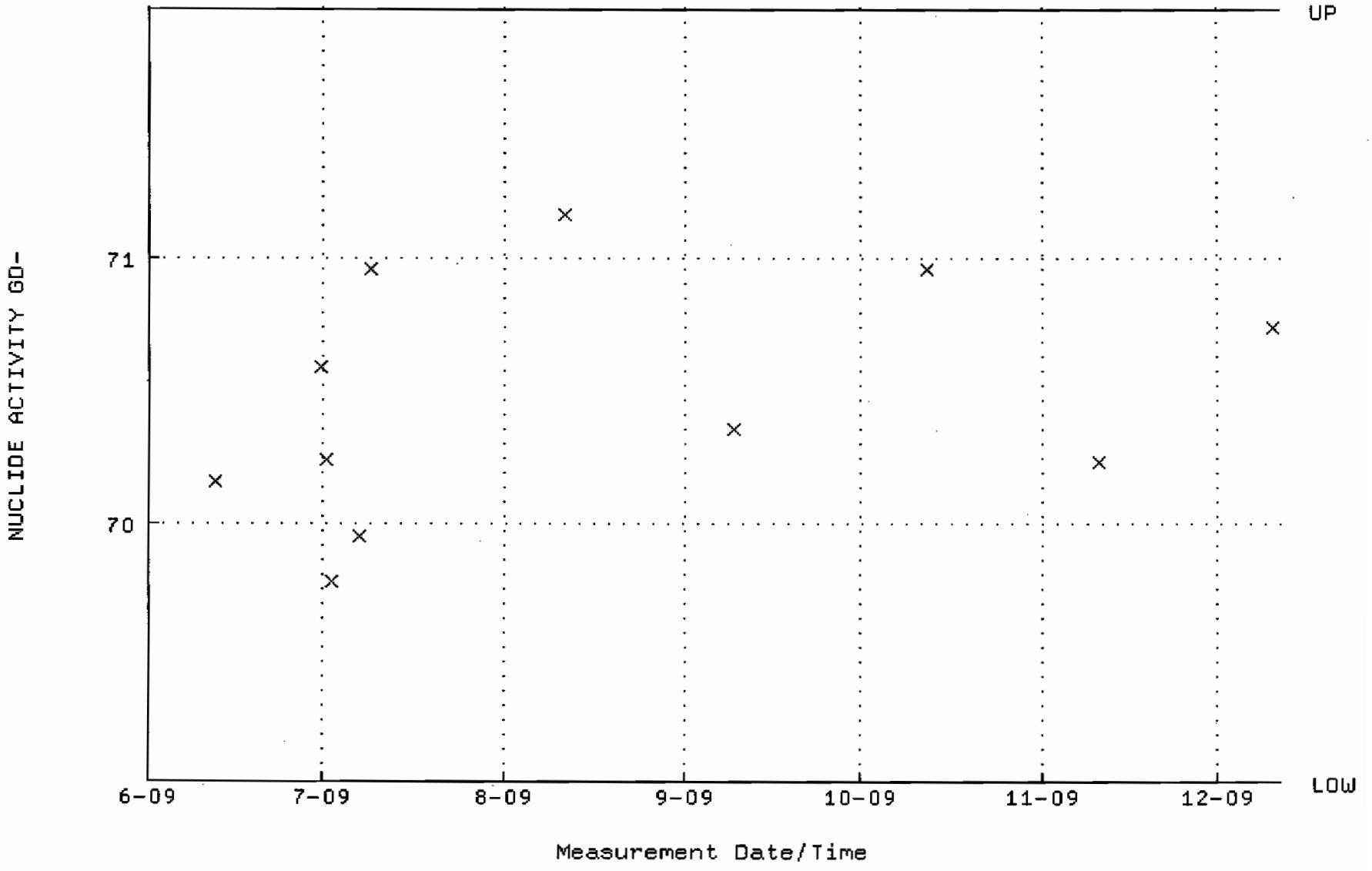
QA filename : DKA100:[ENV_ALPHA.QA.B]B110.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 16:45:47 through 19-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



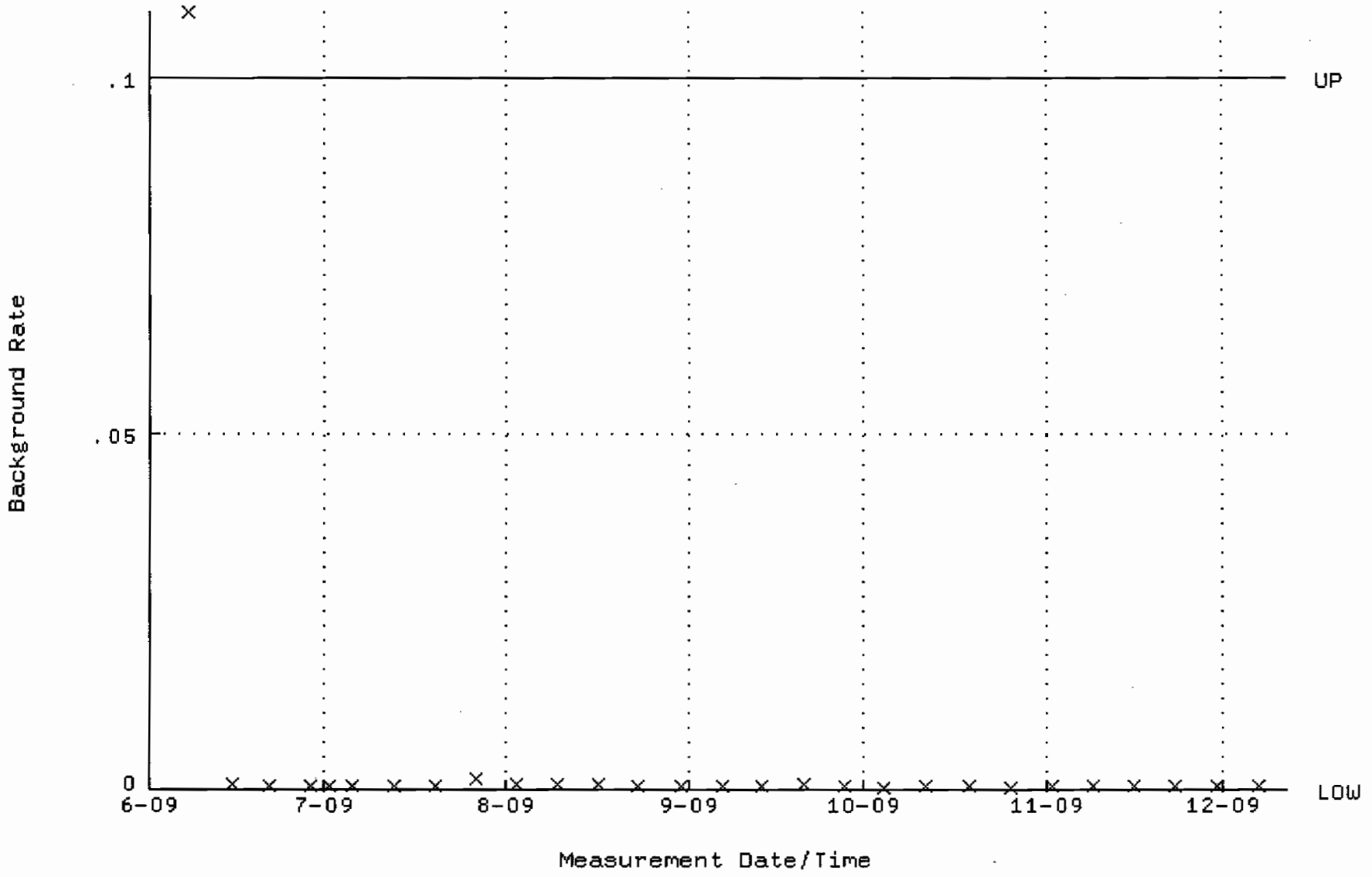
QA filename : DKA100:[ENV_ALPHA.QA.W]W111.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 12-JUN-2009 07:18:30 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.321662 through 0.358794



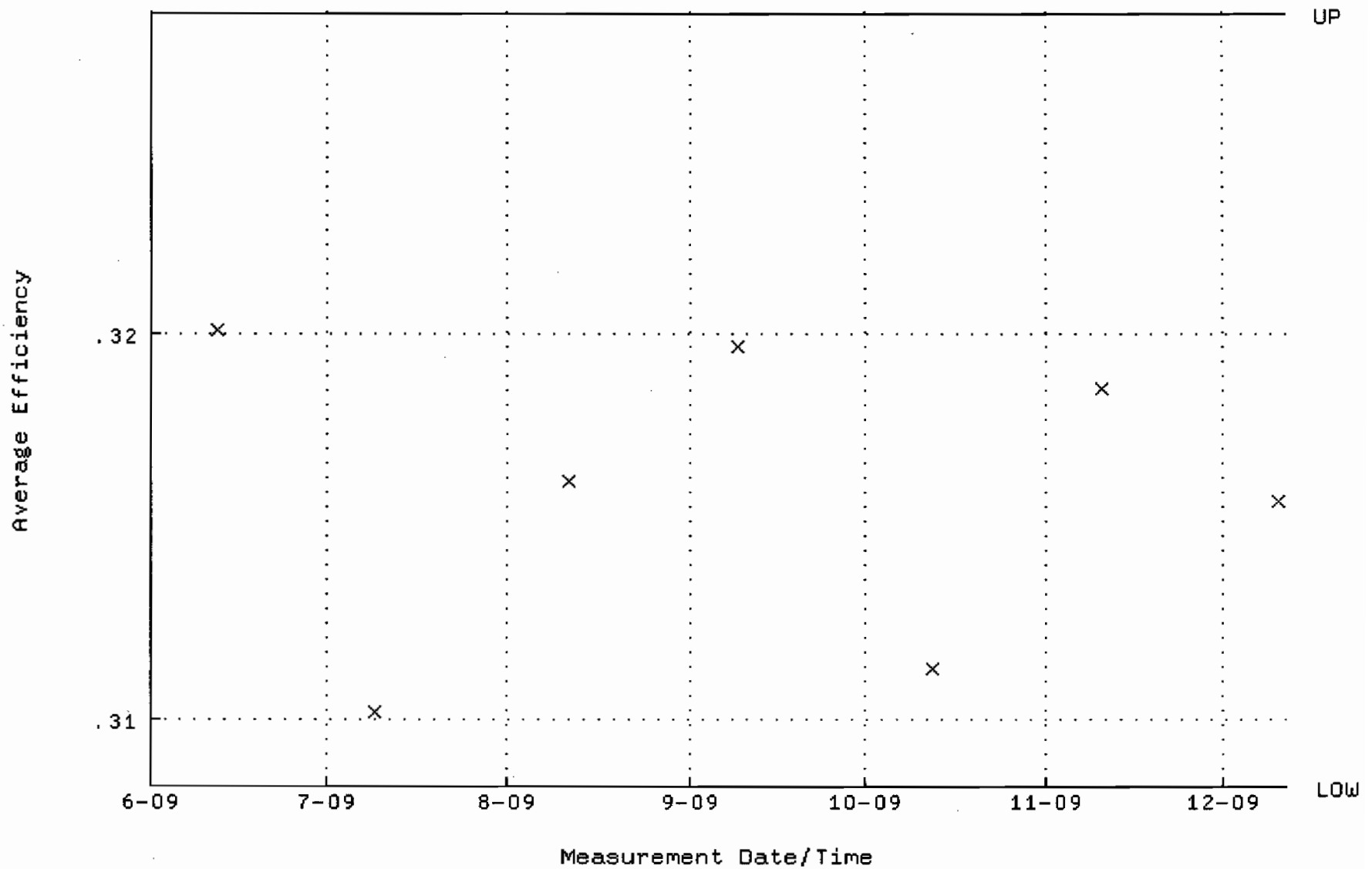
QA filename : DKA100:[ENV_ALPHA.QA.W]W111.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 12-JUN-2009 07:18:30 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 69.0200 through 71.9448



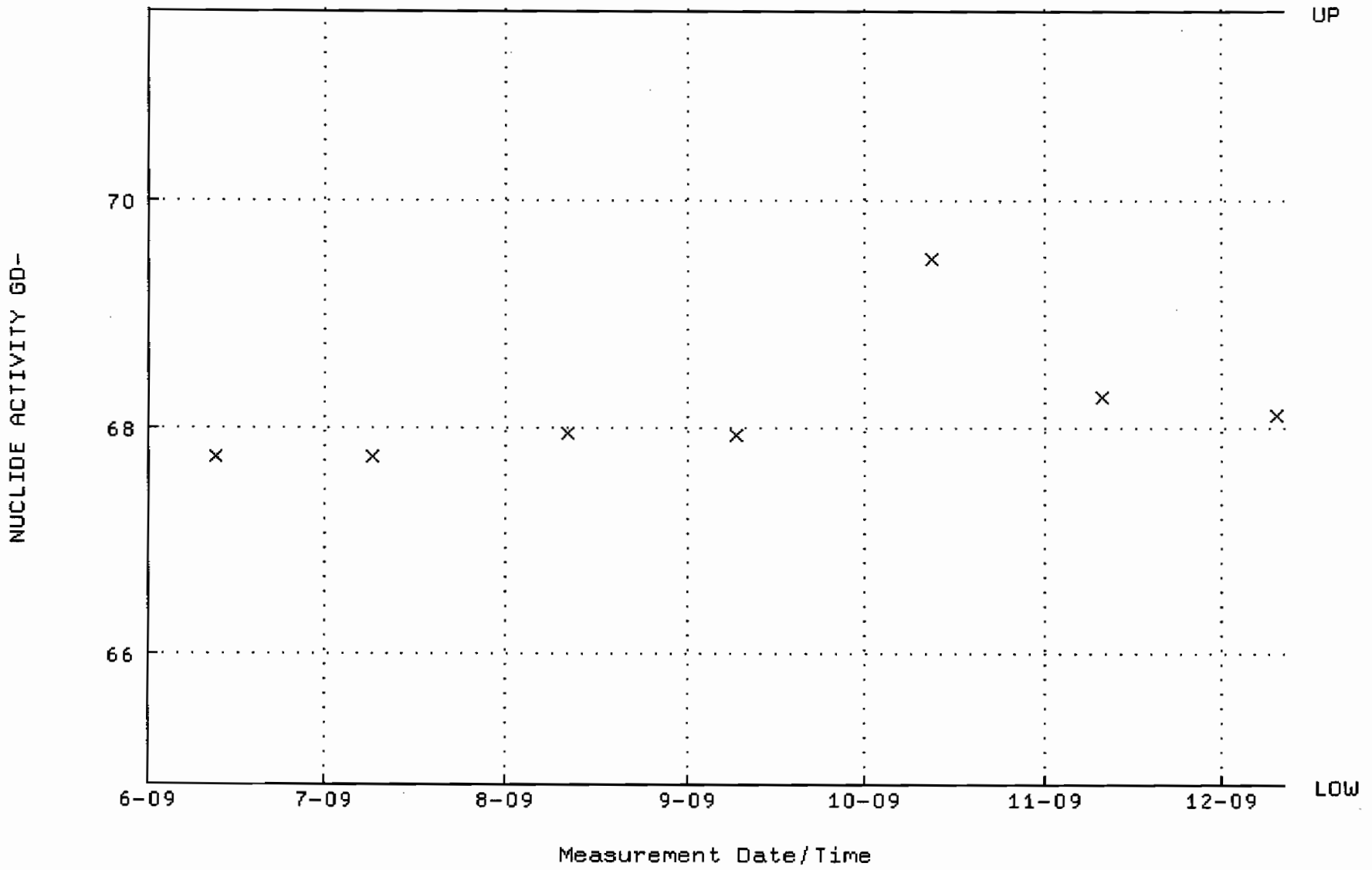
QA filename : DKA100:[ENV_ALPHA.QA.B]B111.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 16:45:47 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



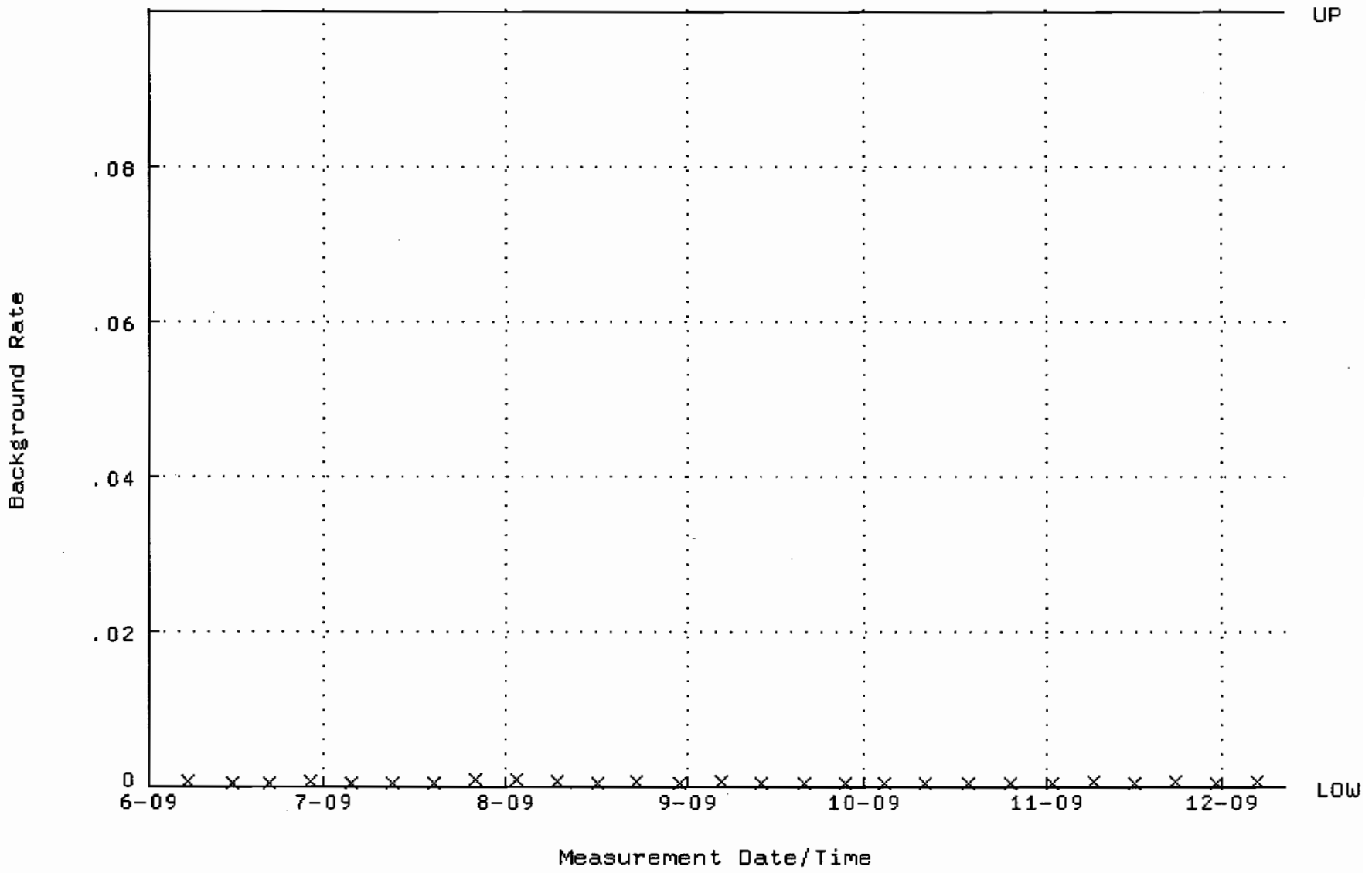
QA filename : DKA100:[ENV_ALPHA.QA.W]W112.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 12-JUN-2009 07:18:30 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.308263 through 0.328263



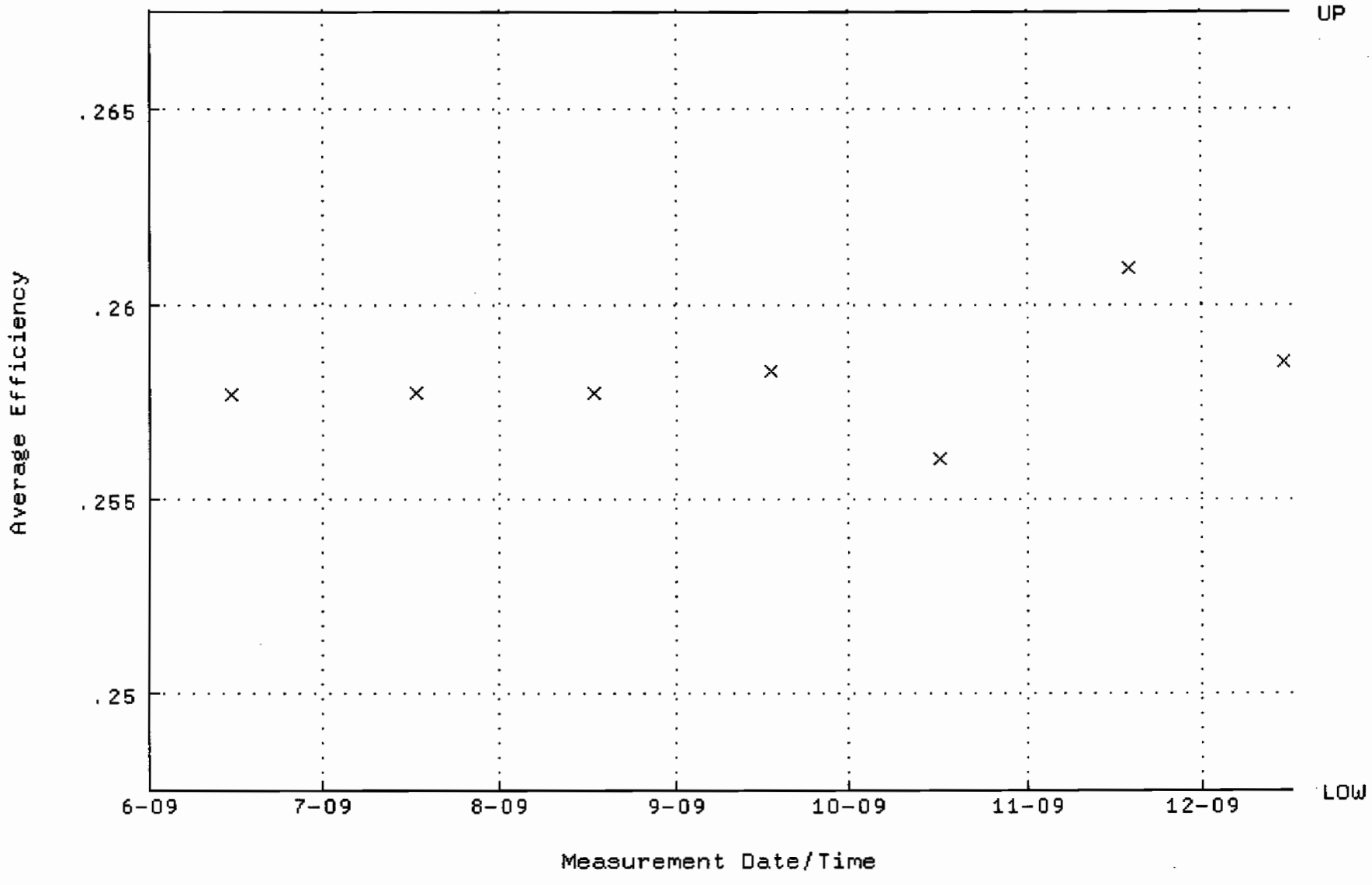
QA filename : DKA100:[ENV_ALPHA.QA.W]W112.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 12-JUN-2009 07:18:30 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 64.8451 through 71.6709



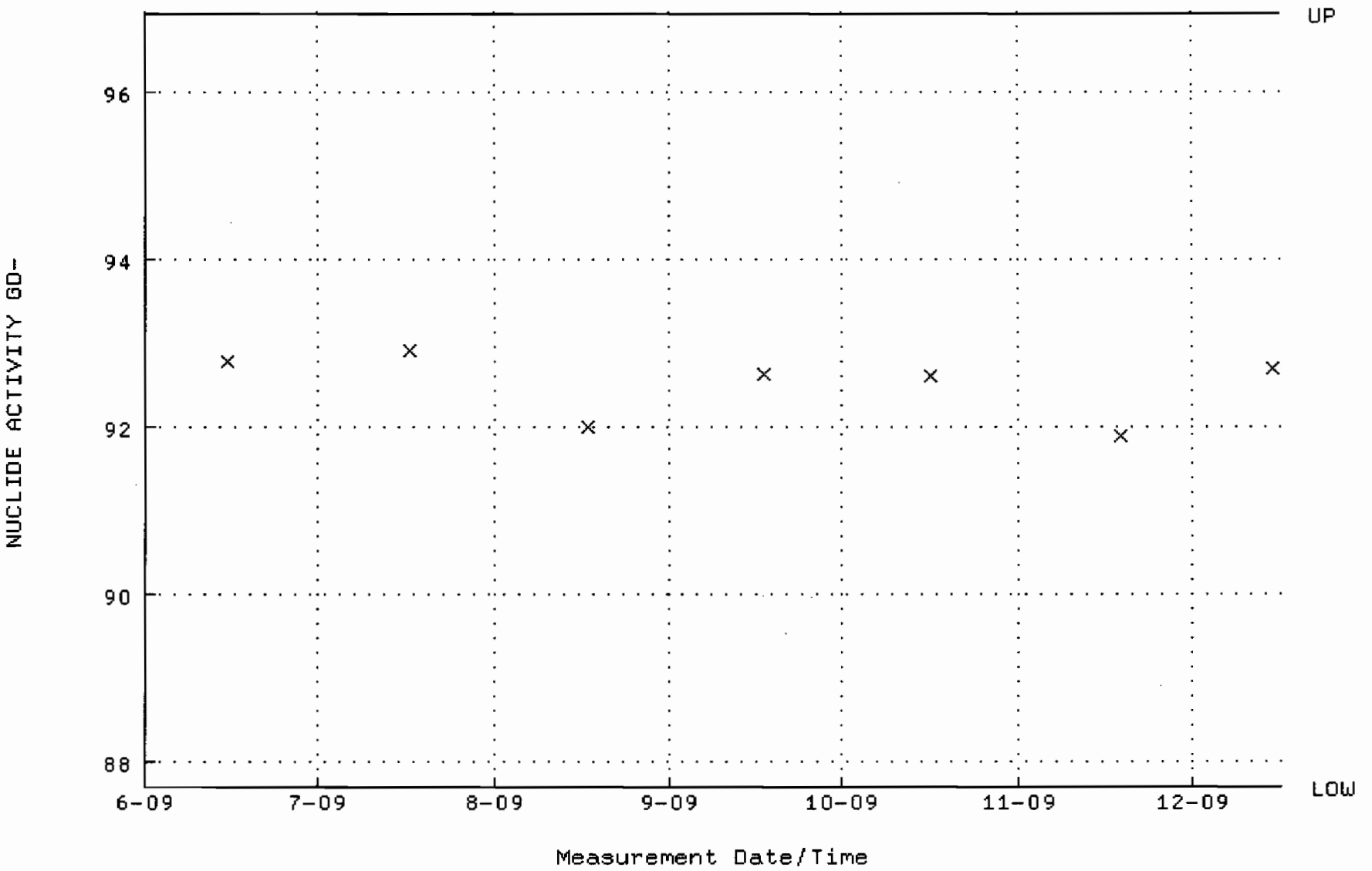
QA filename : DKA100:[ENV_ALPHA.QA.B]B112.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 16:45:47 through 11-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



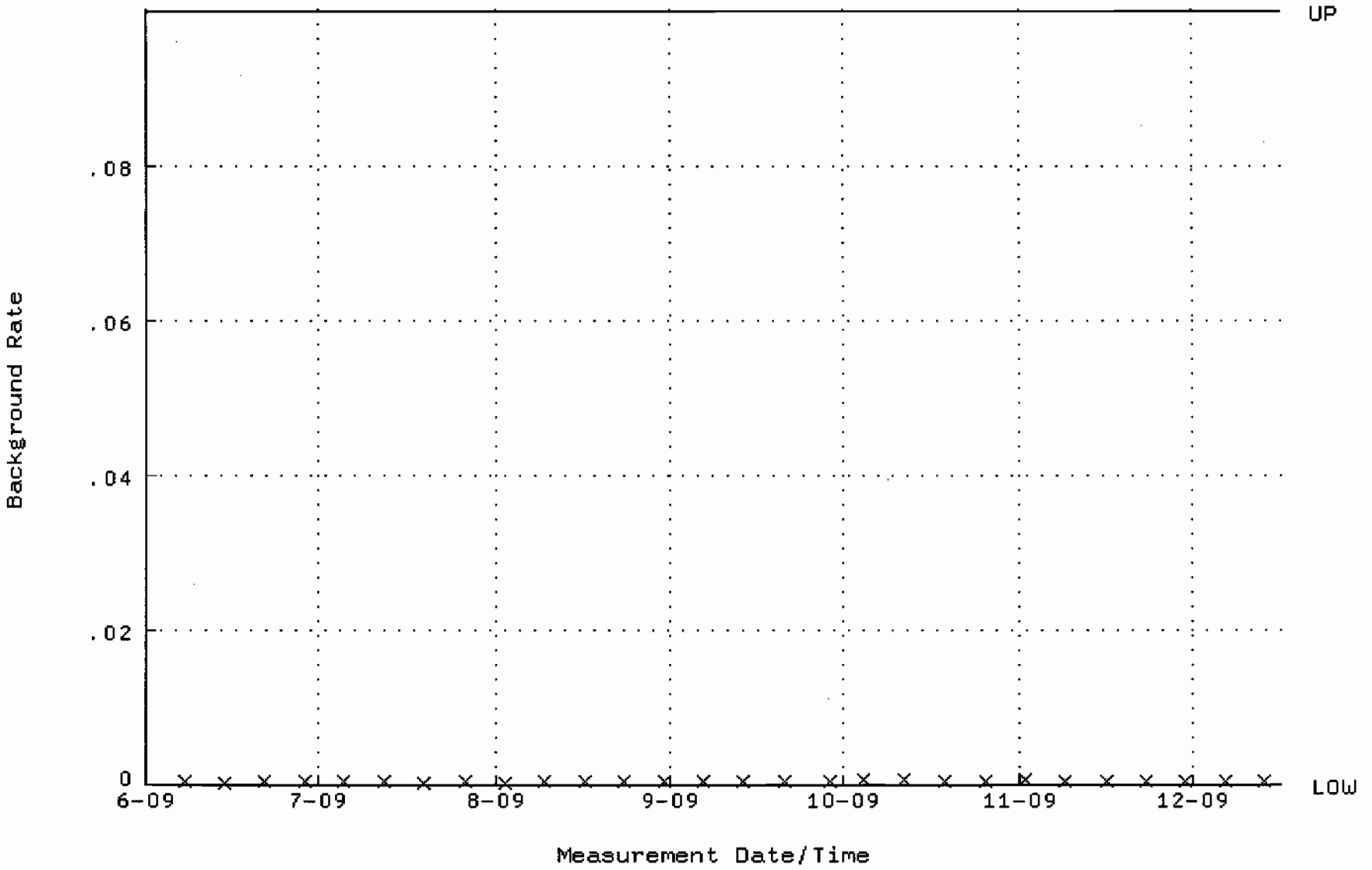
QA filename : DKA100:[ENV_ALPHA.QA.W]W125.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 15-JUN-2009 10:35:14 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.247512 through 0.267512



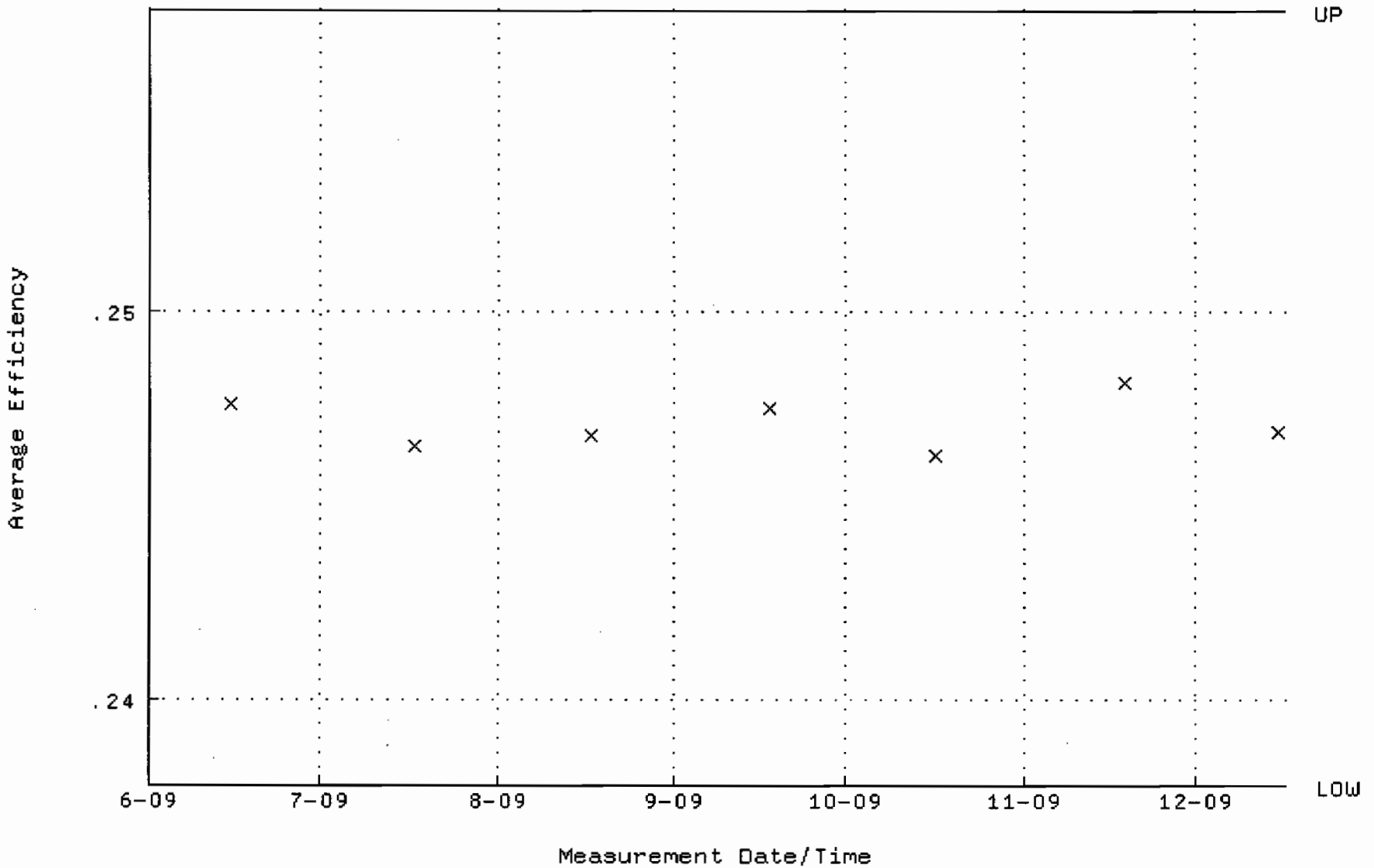
QA filename : DKA100:[ENV_ALPHA.QA.W]W125.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 15-JUN-2009 10:35:14 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 87.6956 through 96.9268



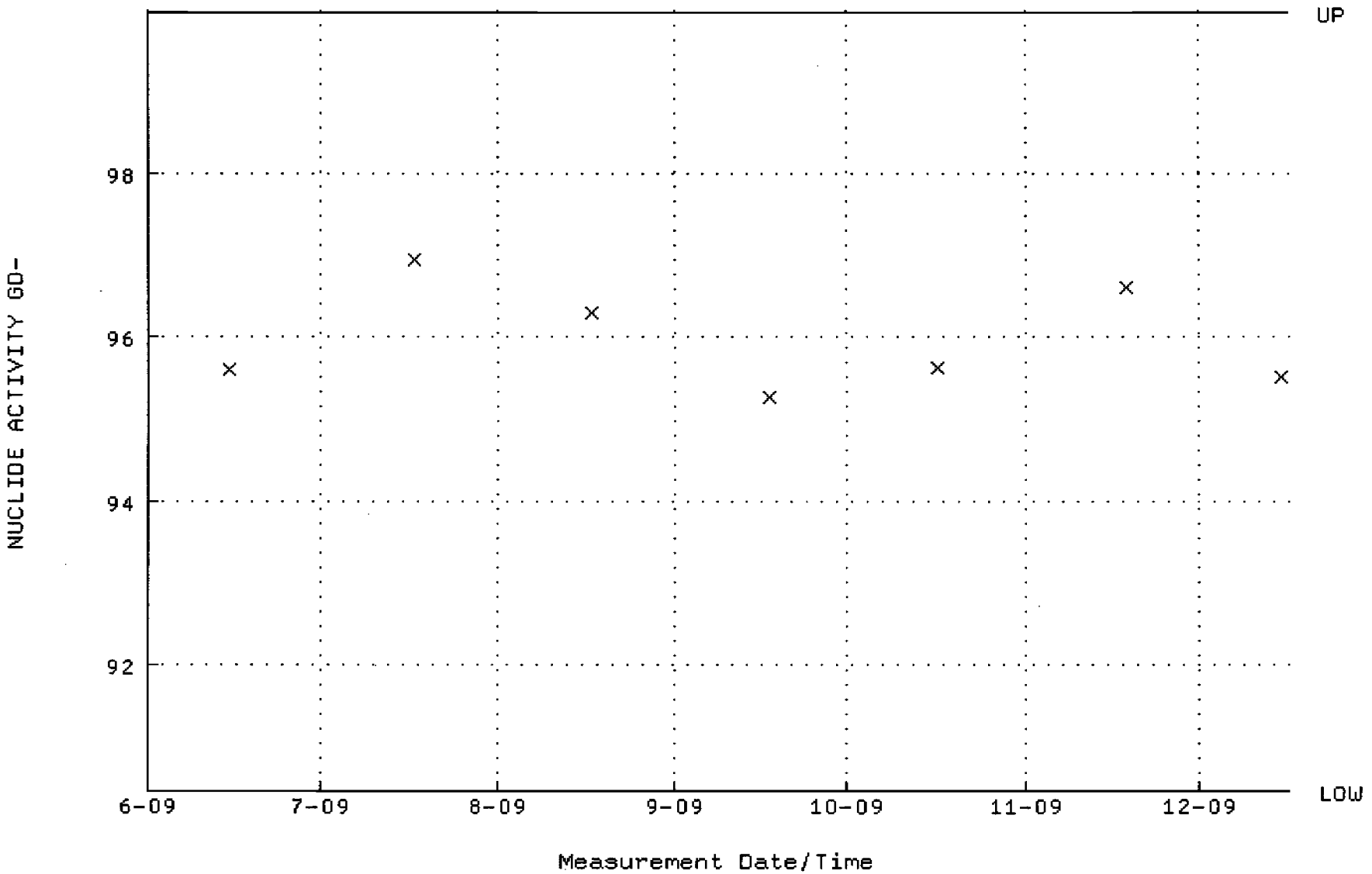
QA filename : DKA100:[ENV_ALPHA.QA.B]B125.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:09:31 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



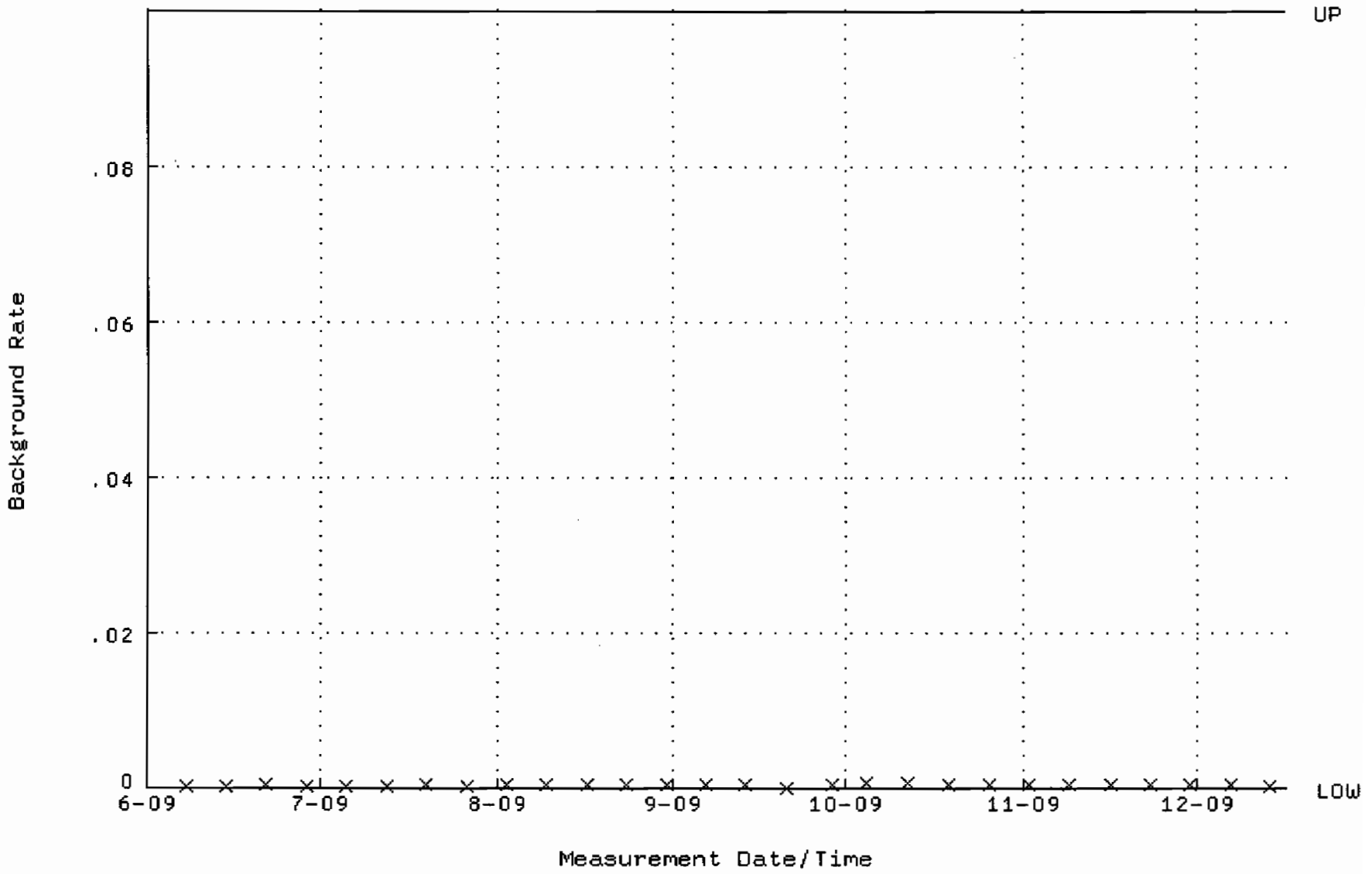
QA filename : DKA100:[ENV_ALPHA.QA.W]W127.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 15-JUN-2009 10:35:25 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.237773 through 0.257773



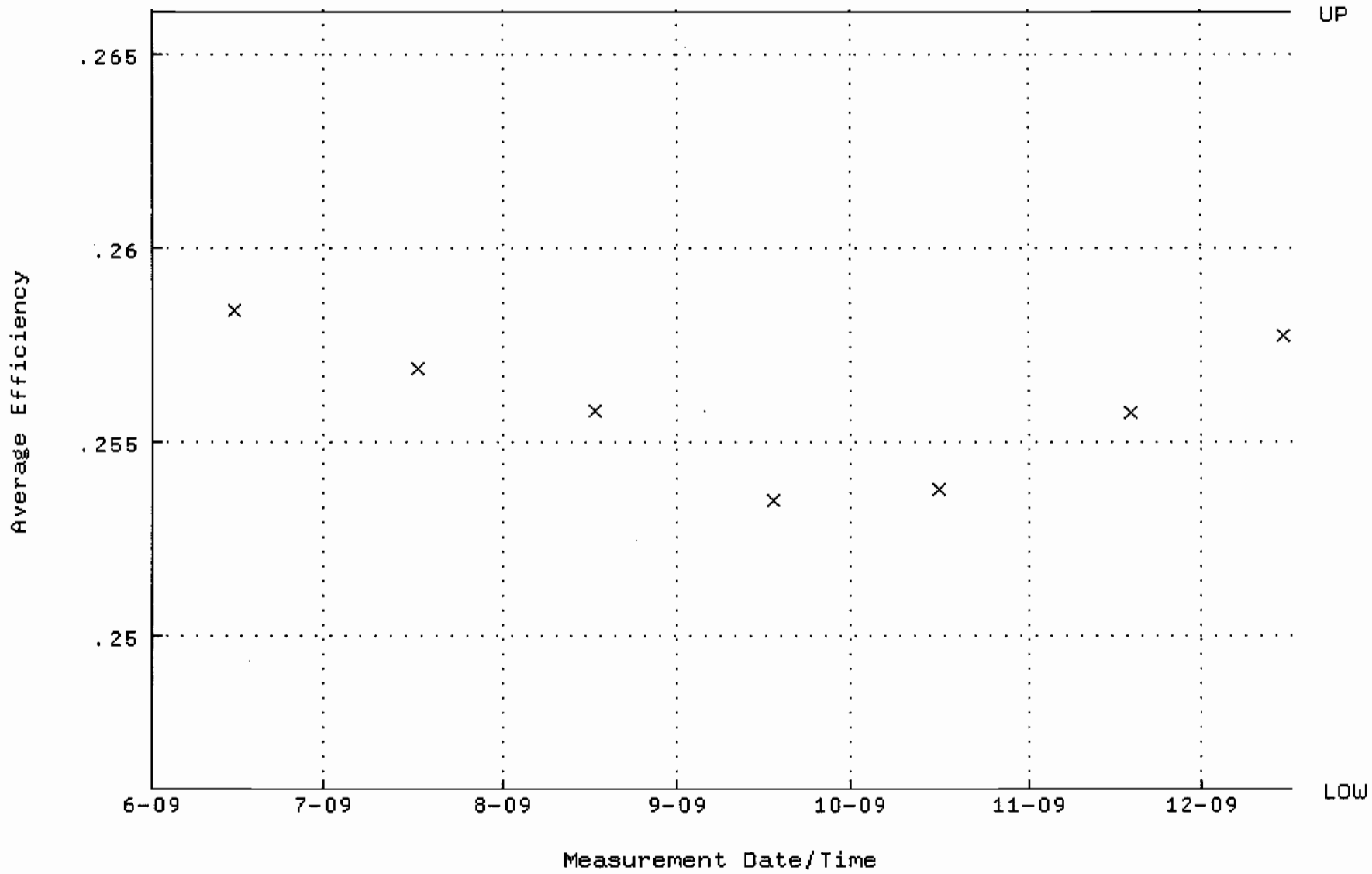
QA filename : DKA100:[ENV_ALPHA.QA.W]W127.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 15-JUN-2009 10:35:25 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 90.4503 through 99.9713



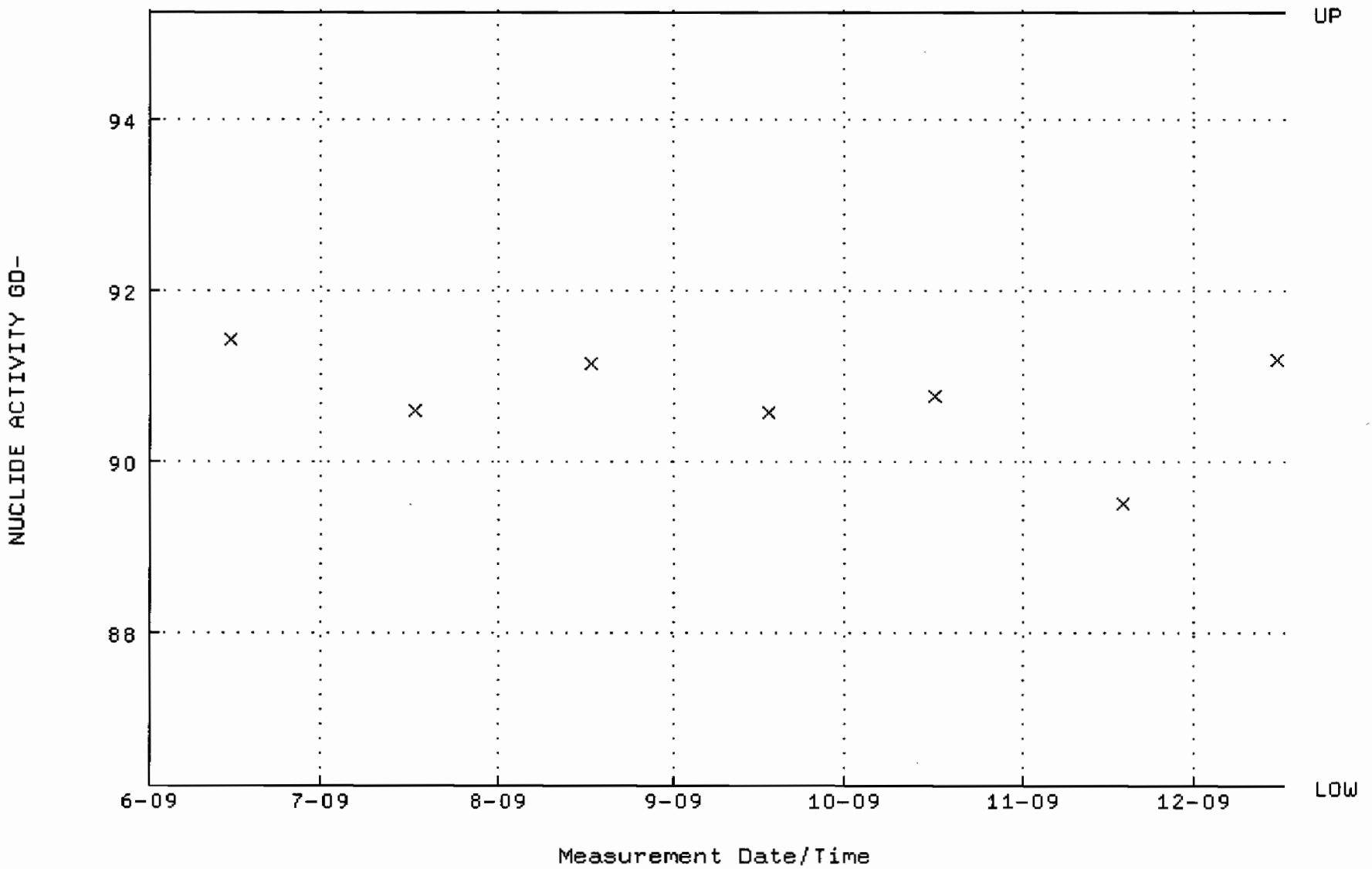
QA filename : DKA100:[ENV_ALPHA.QA.B]B127.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:09:40 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



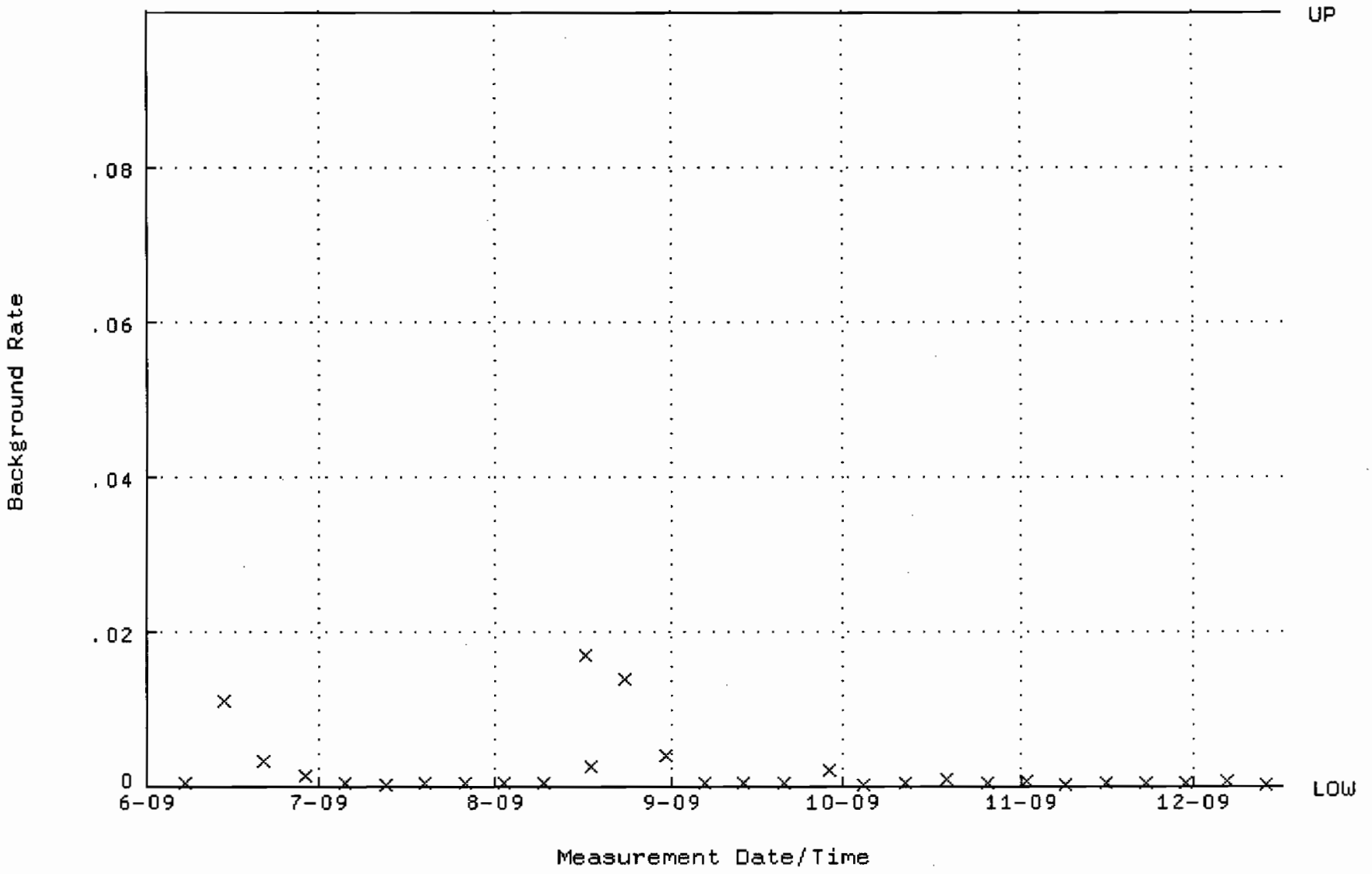
QA filename : DKA100:[ENV_ALPHA.QA.W]W128.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 15-JUN-2009 10:35:31 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.246062 through 0.266062



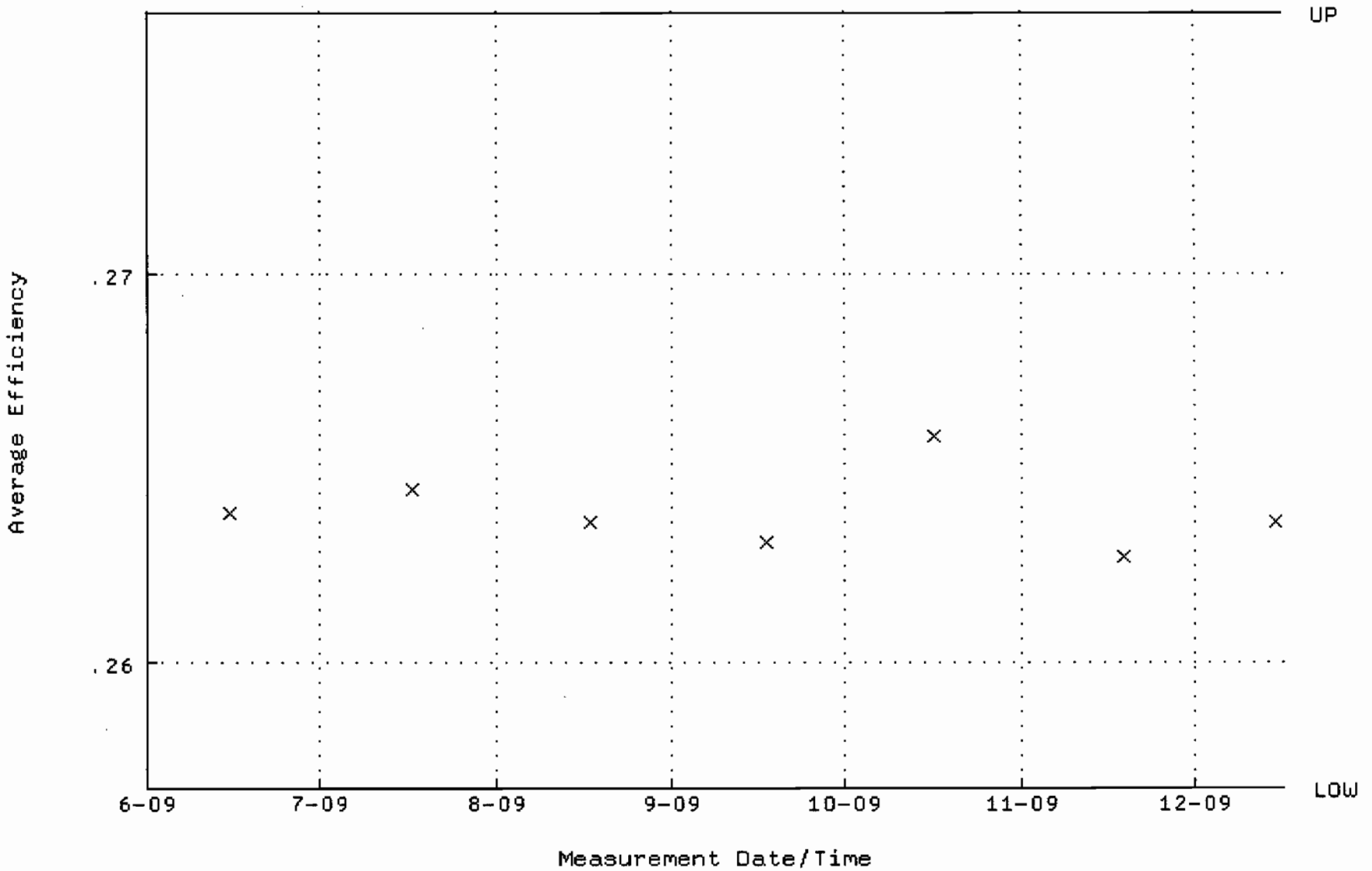
QA filename : DKA100:[ENV_ALPHA.QA.W]W128.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 15-JUN-2009 10:35:31 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 86.1964 through 95.2697



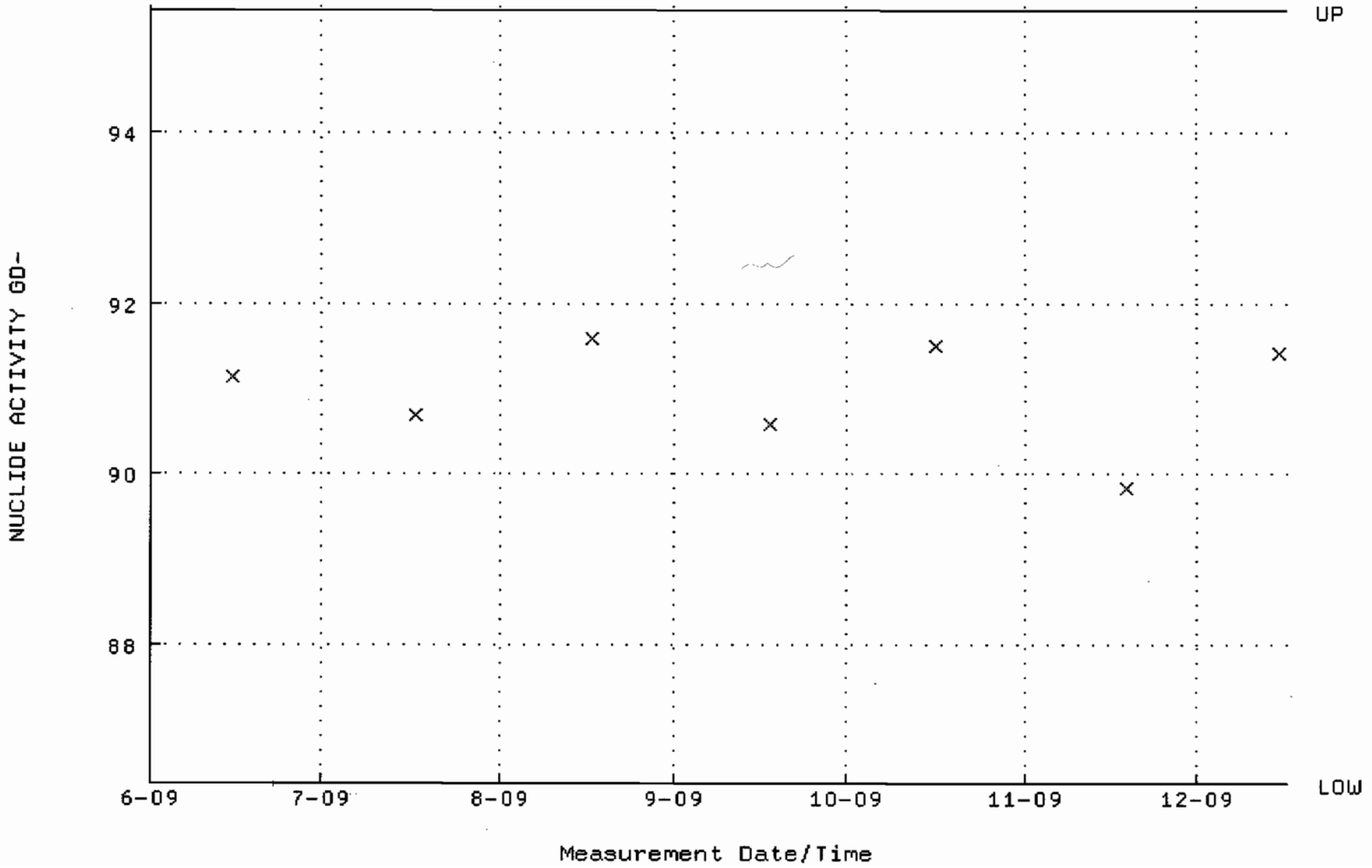
QA filename : DKA100:[ENV_ALPHA.QA.B]B128.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:09:44 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



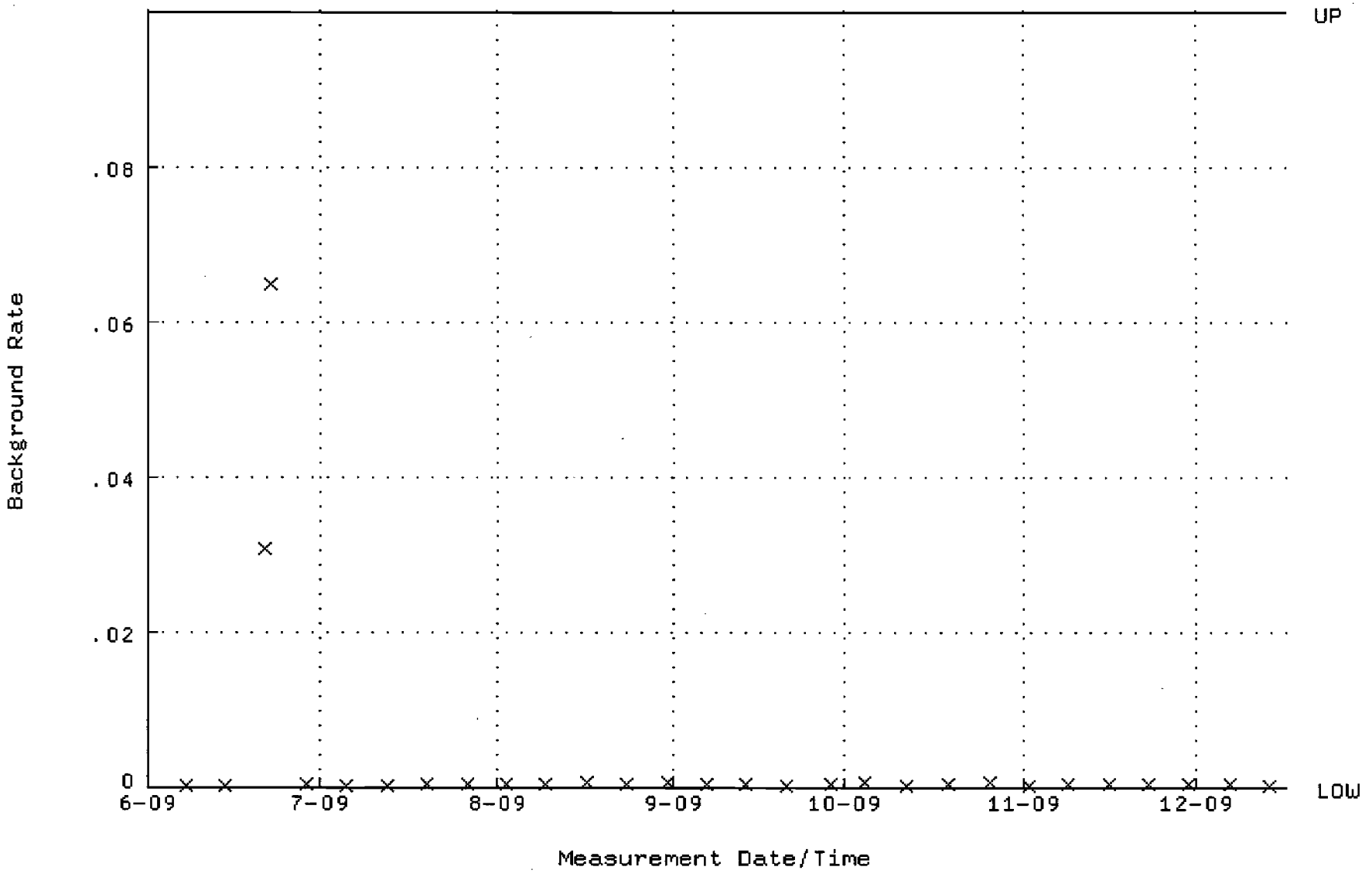
QA filename : DKA100:[ENV_ALPHA.QA.W]W129.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 15-JUN-2009 10:35:37 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.256741 through 0.276741



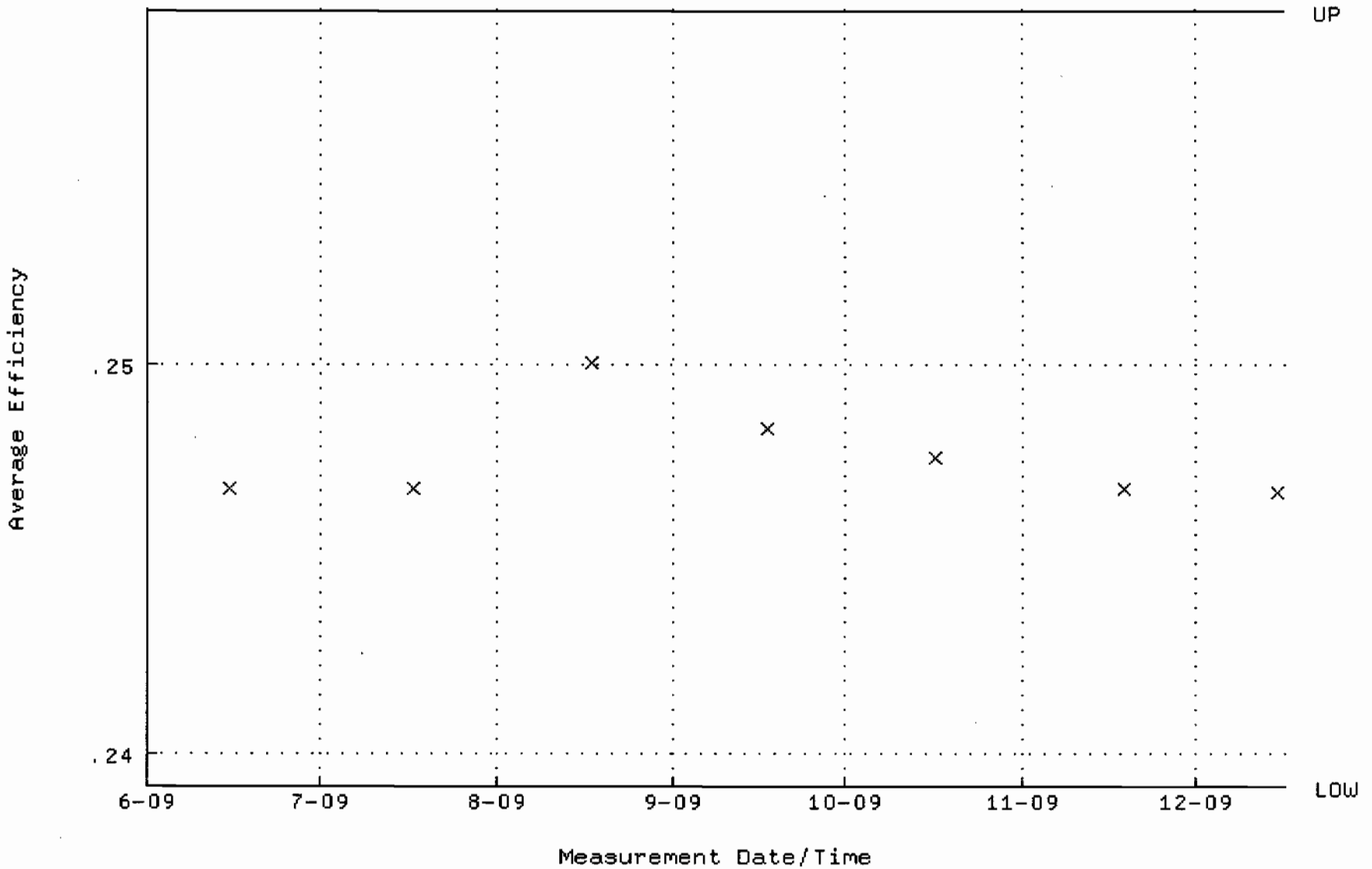
QA filename : DKA100:[ENV_ALPHA.QA.W]W129.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 15-JUN-2009 10:35:37 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 86.3646 through 95.4556



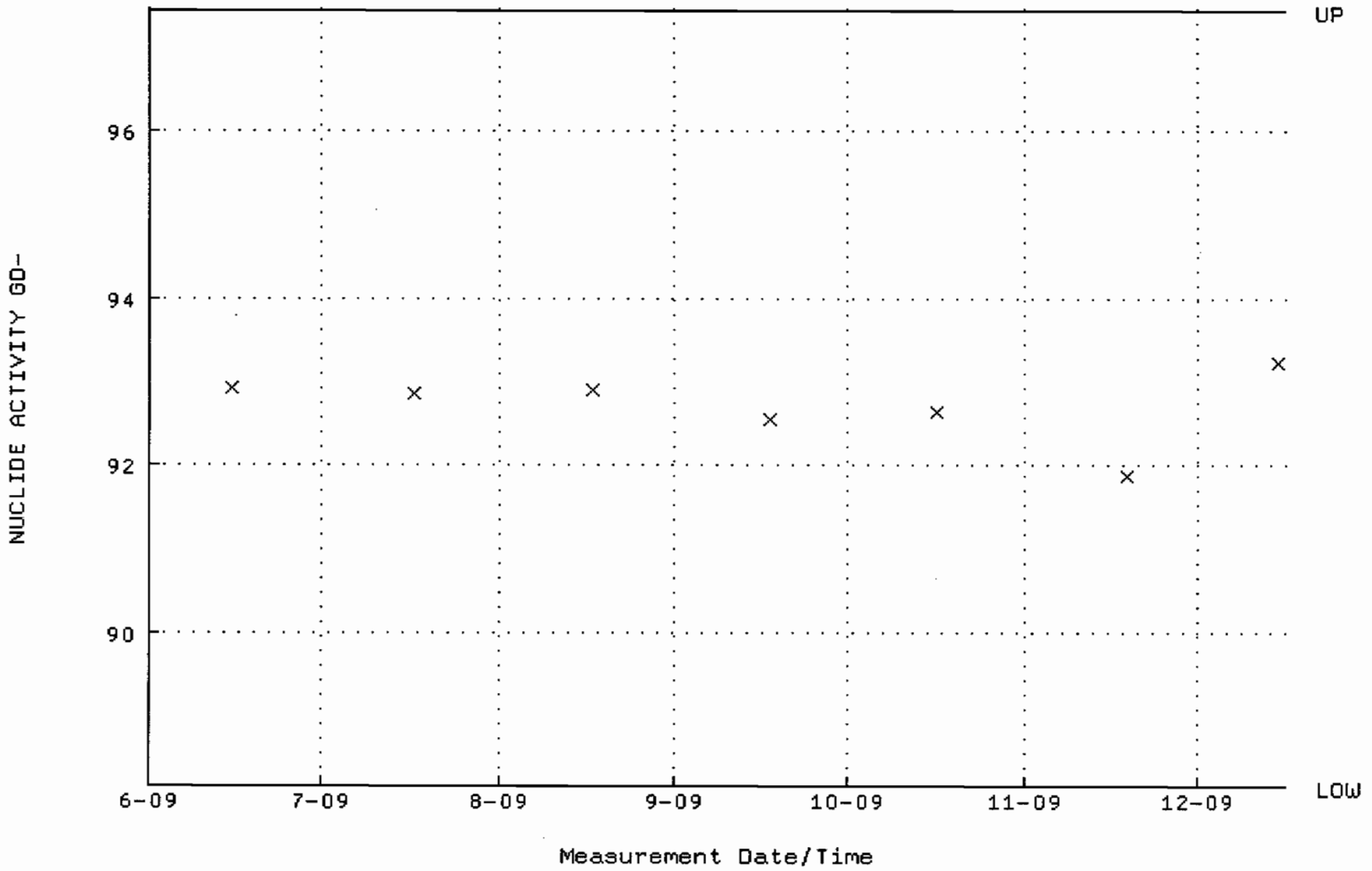
QA filename : DKA100:[ENV_ALPHA.QA.B]B129.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:09:48 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



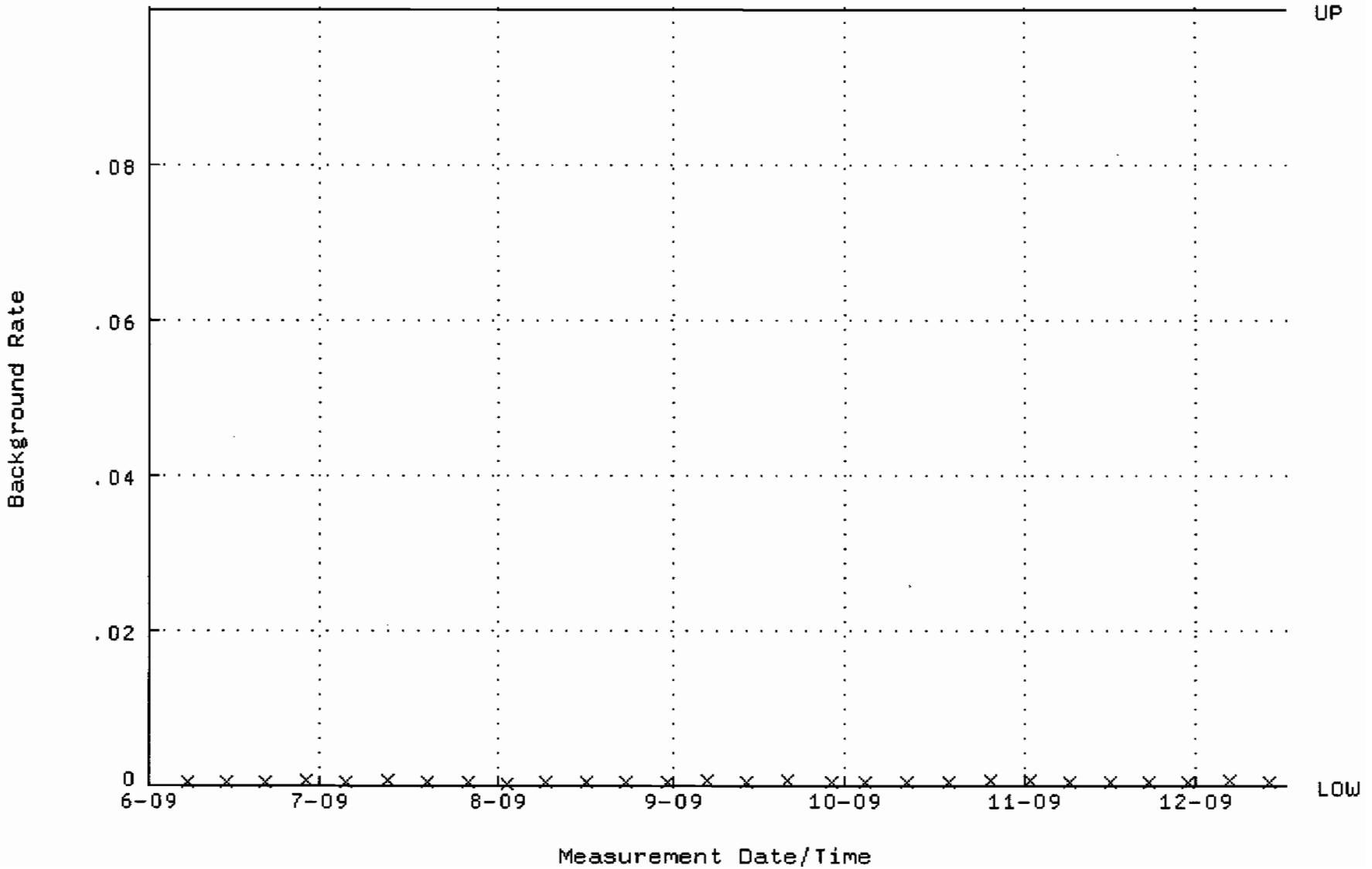
QA filename : DKA100:[ENV_ALPHA.QA.W]W130.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 15-JUN-2009 10:35:42 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.239131 through 0.259131



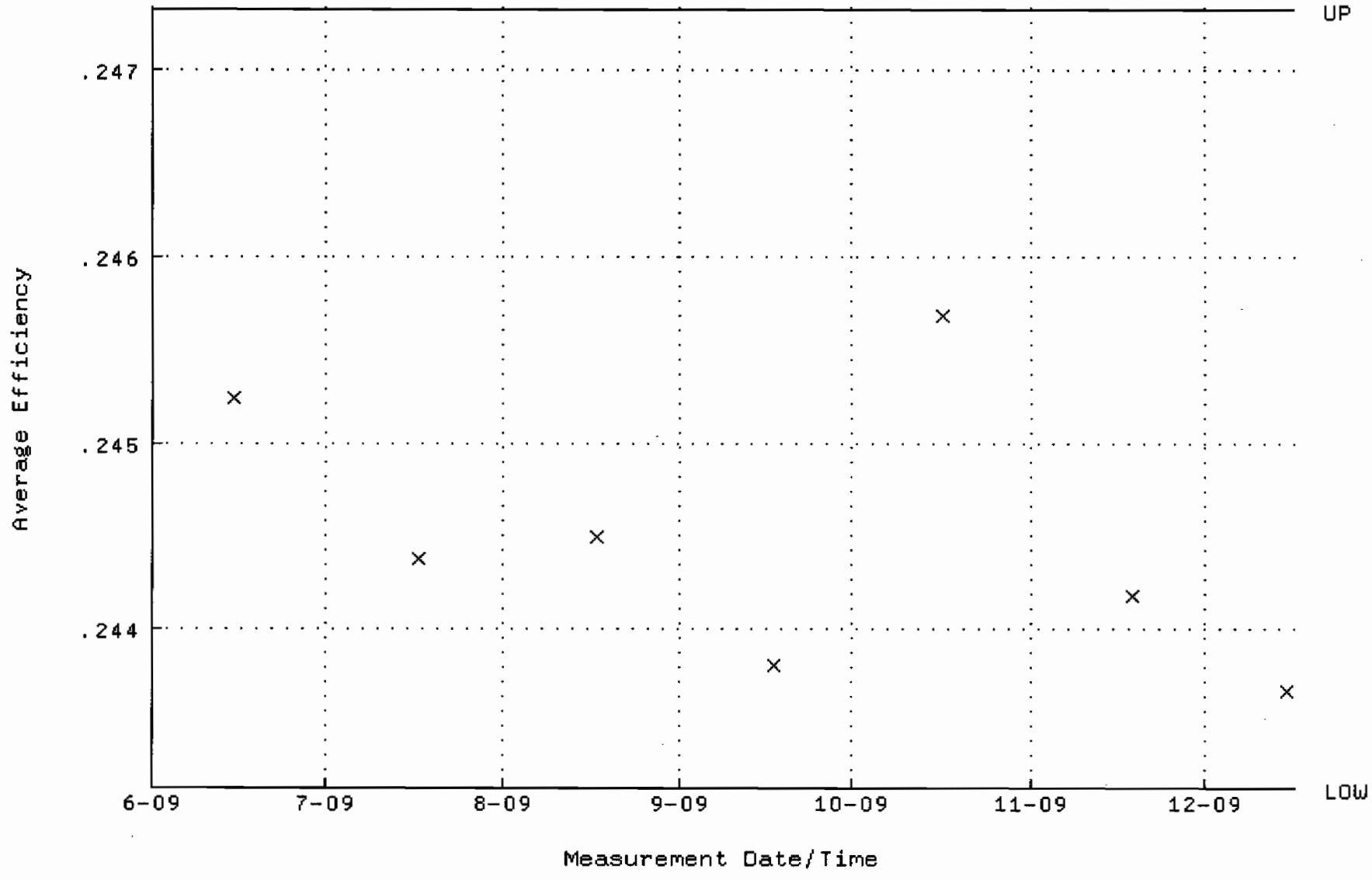
QA filename : DKA100:[ENV_ALPHA.QA.W]W130.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 15-JUN-2009 10:35:42 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 88.1614 through 97.4416



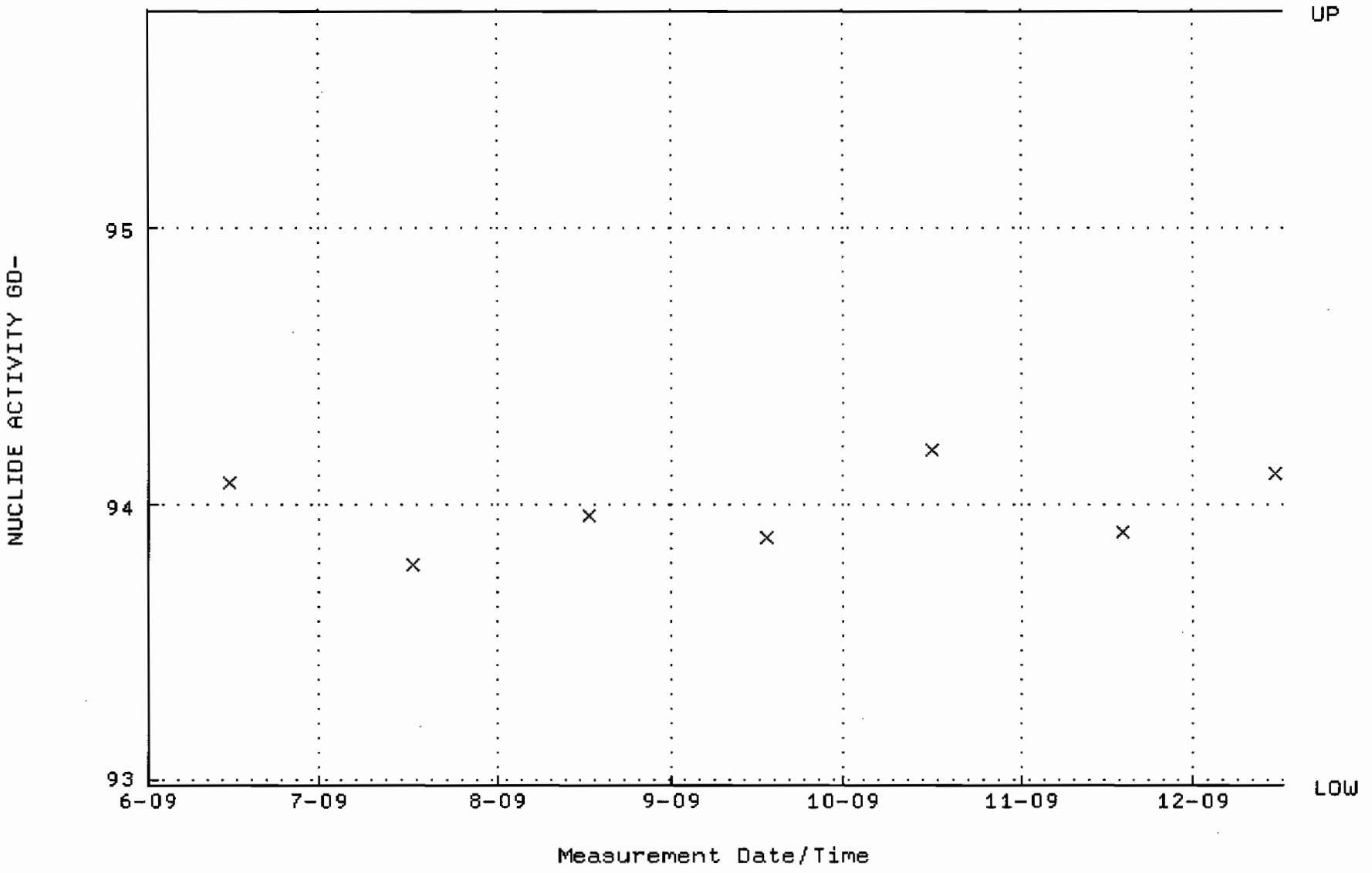
QA filename : DKA100:[ENV_ALPHA.QA.B]B130.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:09:52 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



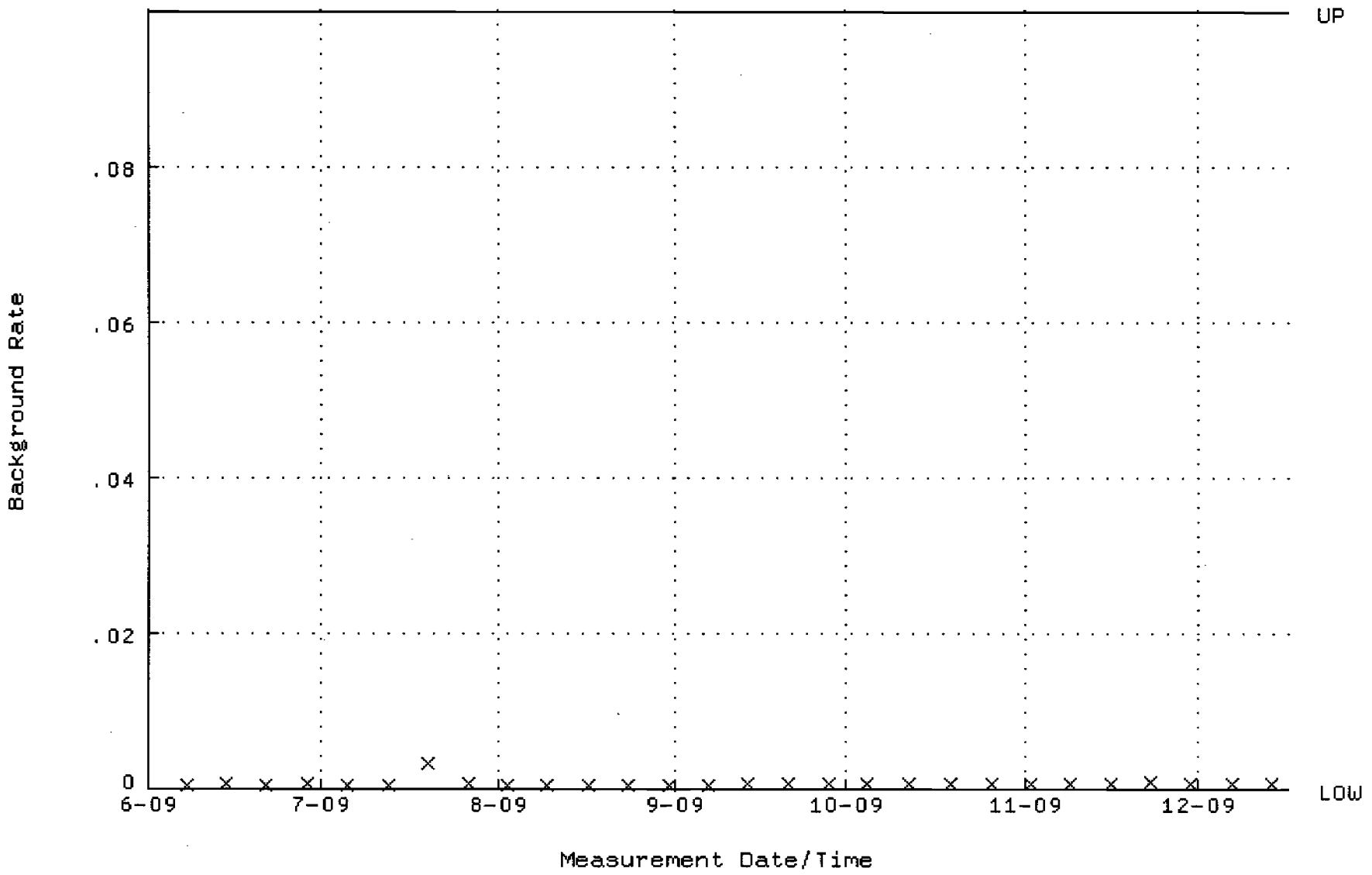
QA filename : DKA100:[ENV_ALPHA.QA.W]W133.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 15-JUN-2009 10:35:59 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.243148 through 0.247324



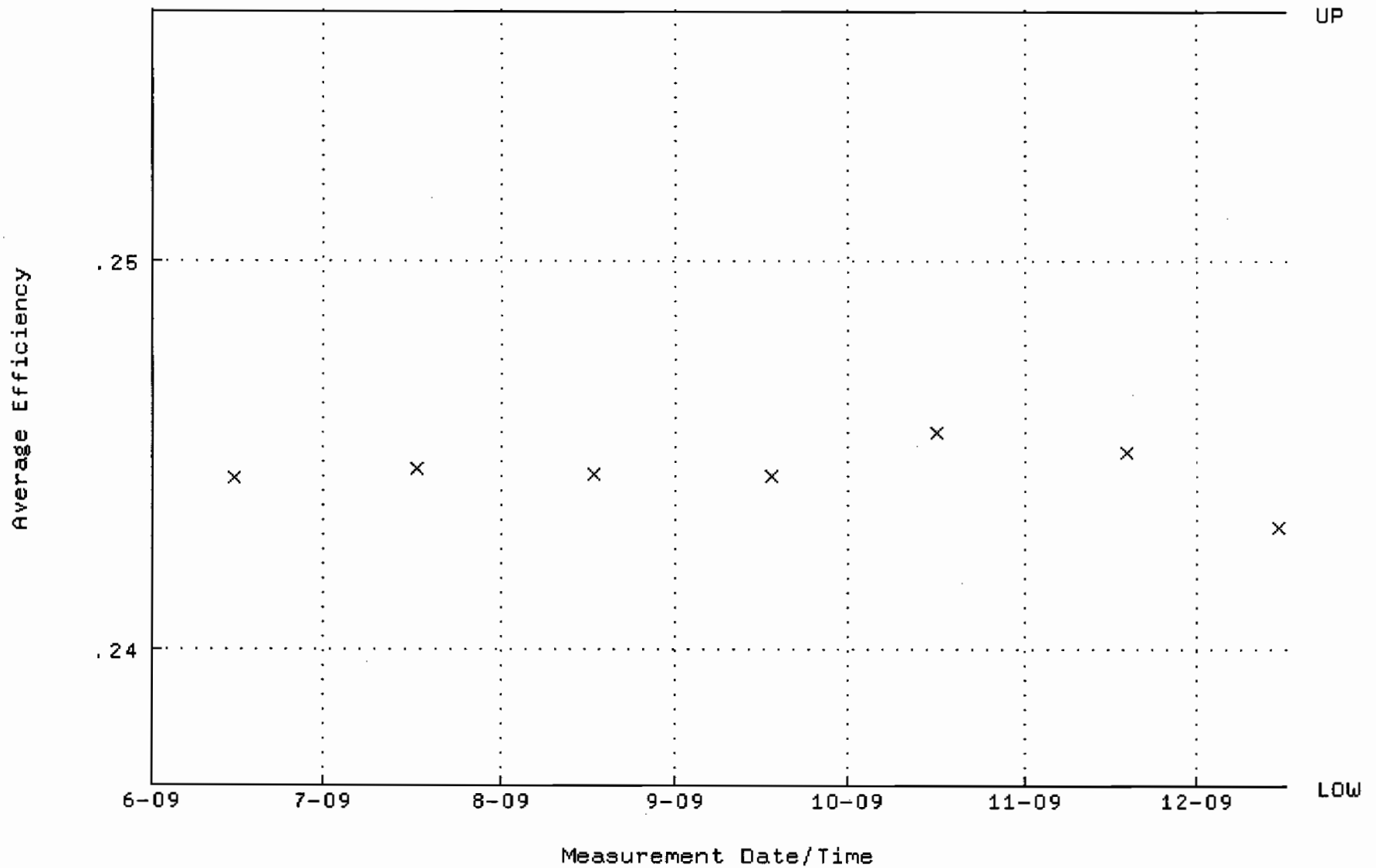
QA filename : DKA100:[ENV_ALPHA.QA.W]W133.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 15-JUN-2009 10:35:59 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 92.9792 through 95.7898



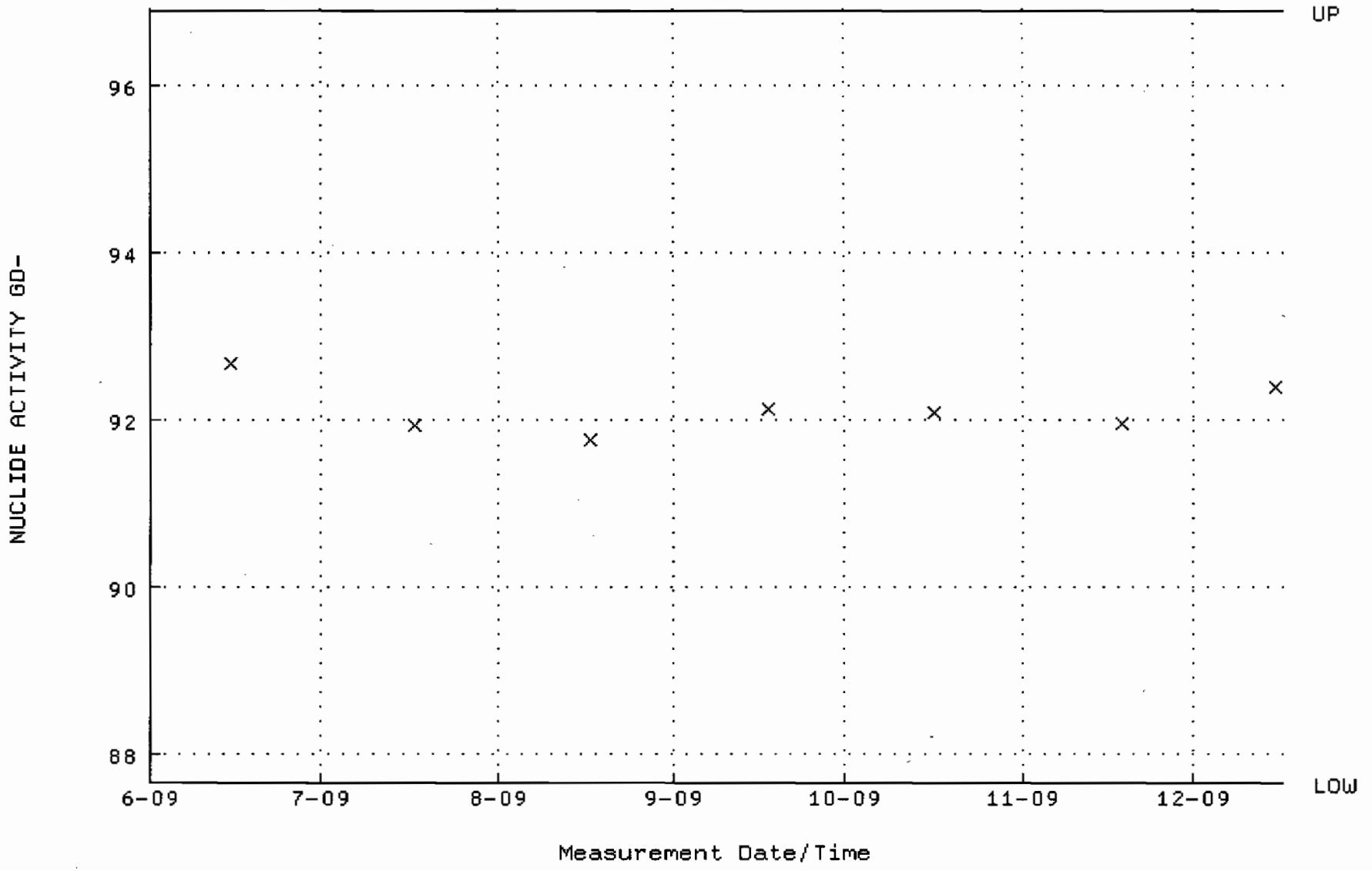
QA filename : DKA100:[ENV_ALPHA.QA.B]B133.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:10:05 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



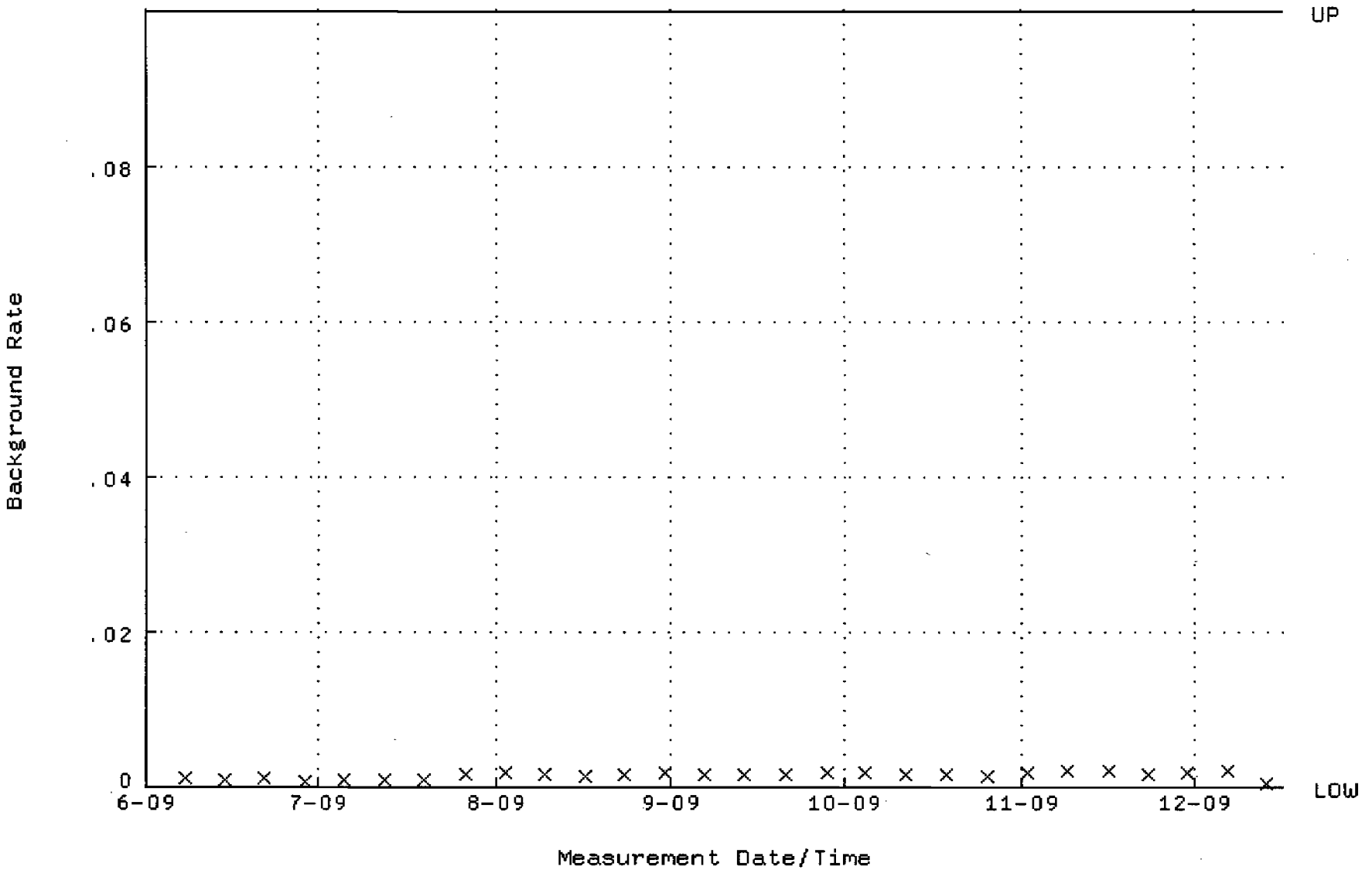
QA filename : DKA100:[ENV_ALPHA.QA.W]W134.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 15-JUN-2009 10:36:05 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.236455 through 0.256455



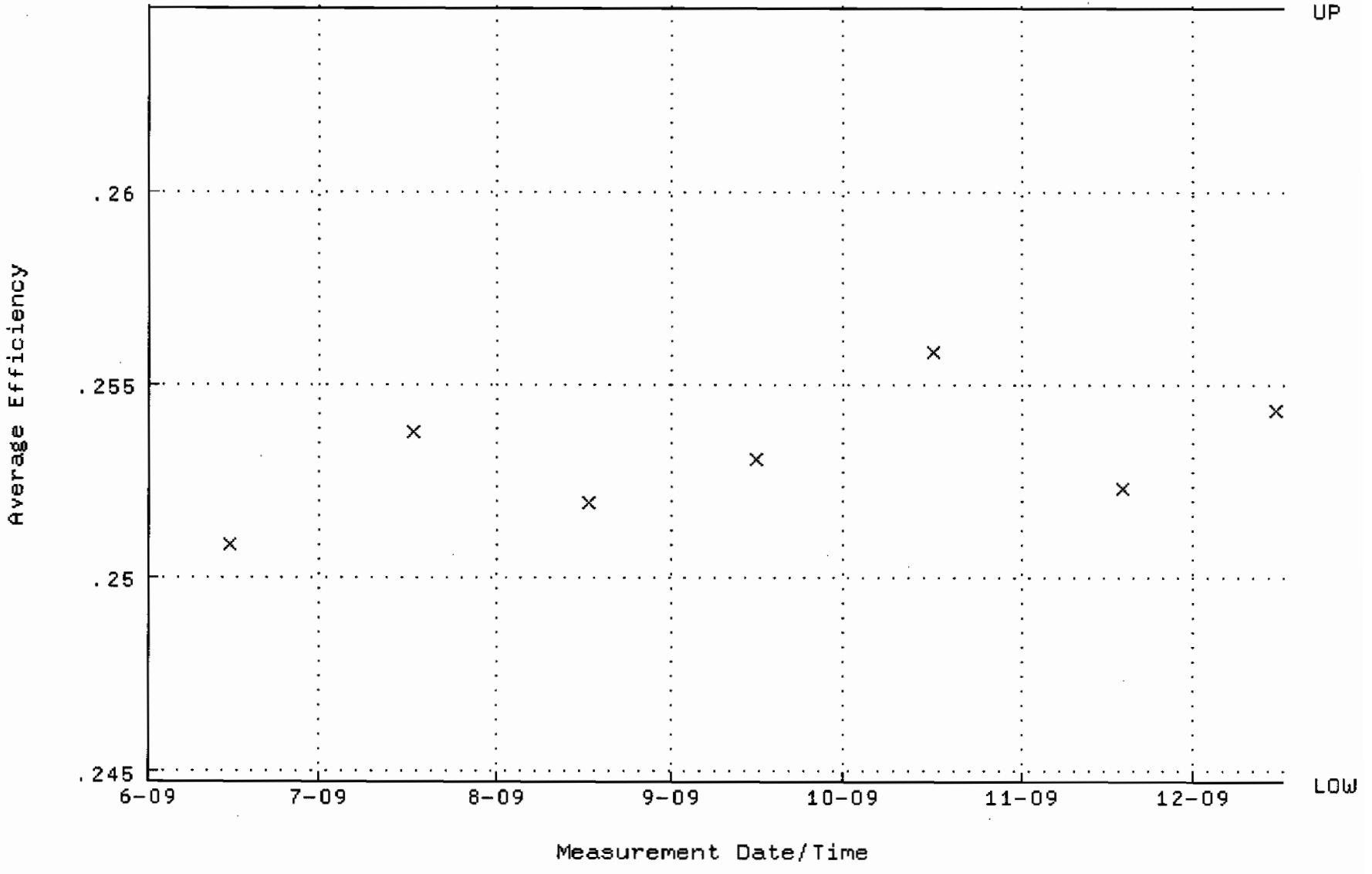
QA filename : DKA100:[ENV_ALPHA.QA.W]W134.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 15-JUN-2009 10:36:05 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 87.6576 through 96.8848



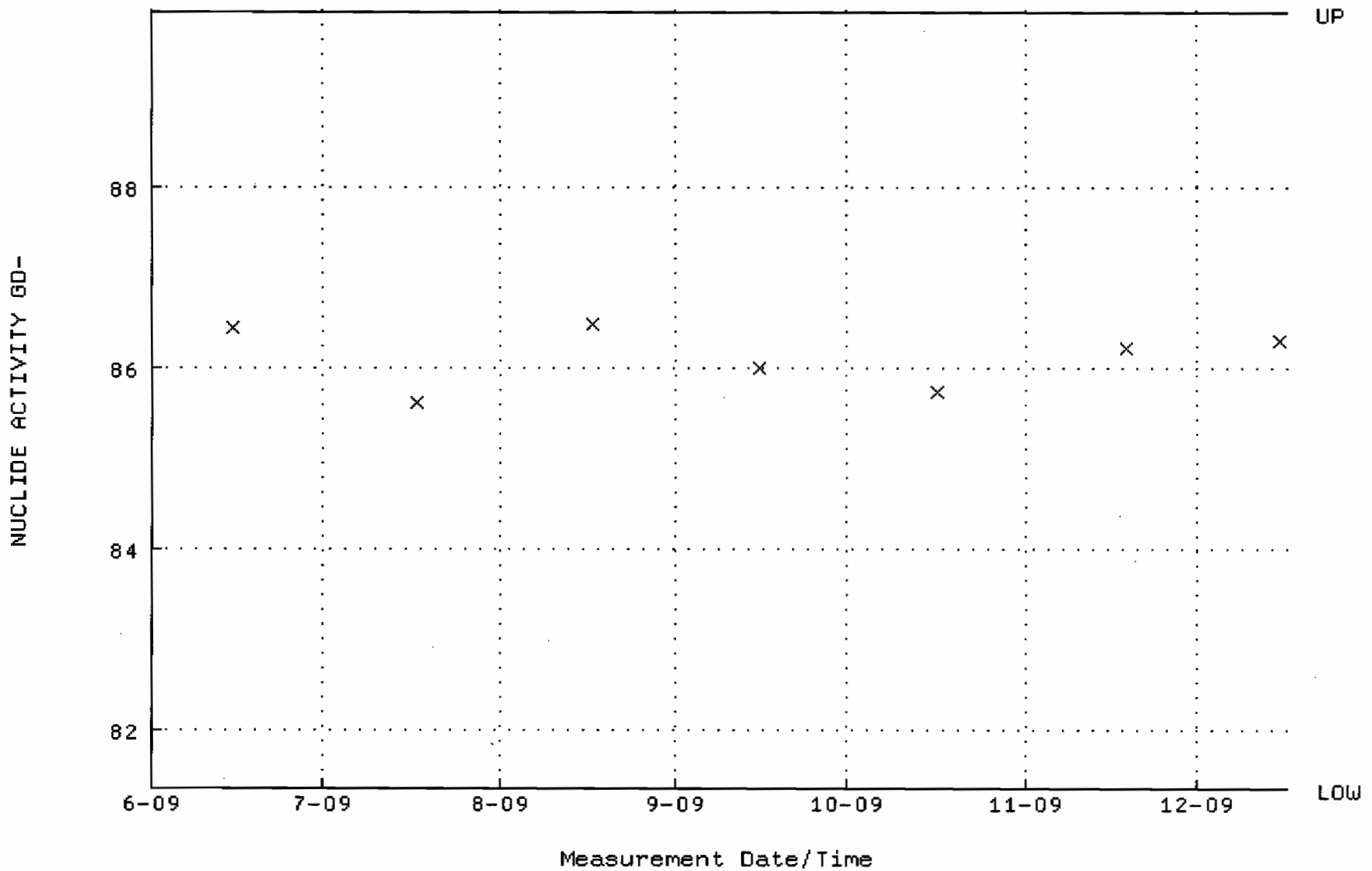
QA filename : DKA100:[ENV_ALPHA.QA.B]B134.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:10:10 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



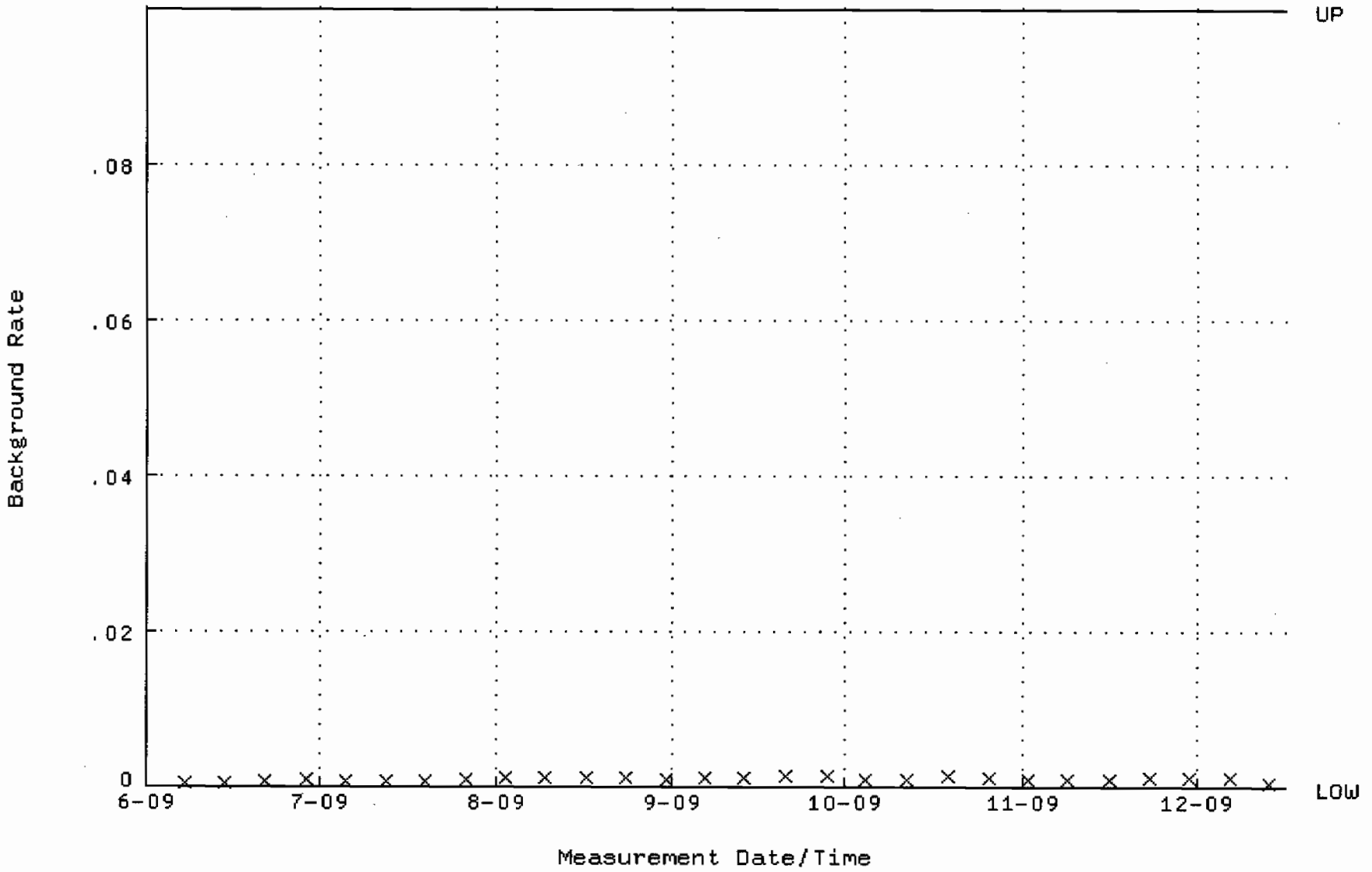
QA filename : DKA100:[ENV_ALPHA.QA.W]W153.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 15-JUN-2009 10:37:45 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.244738 through 0.264738



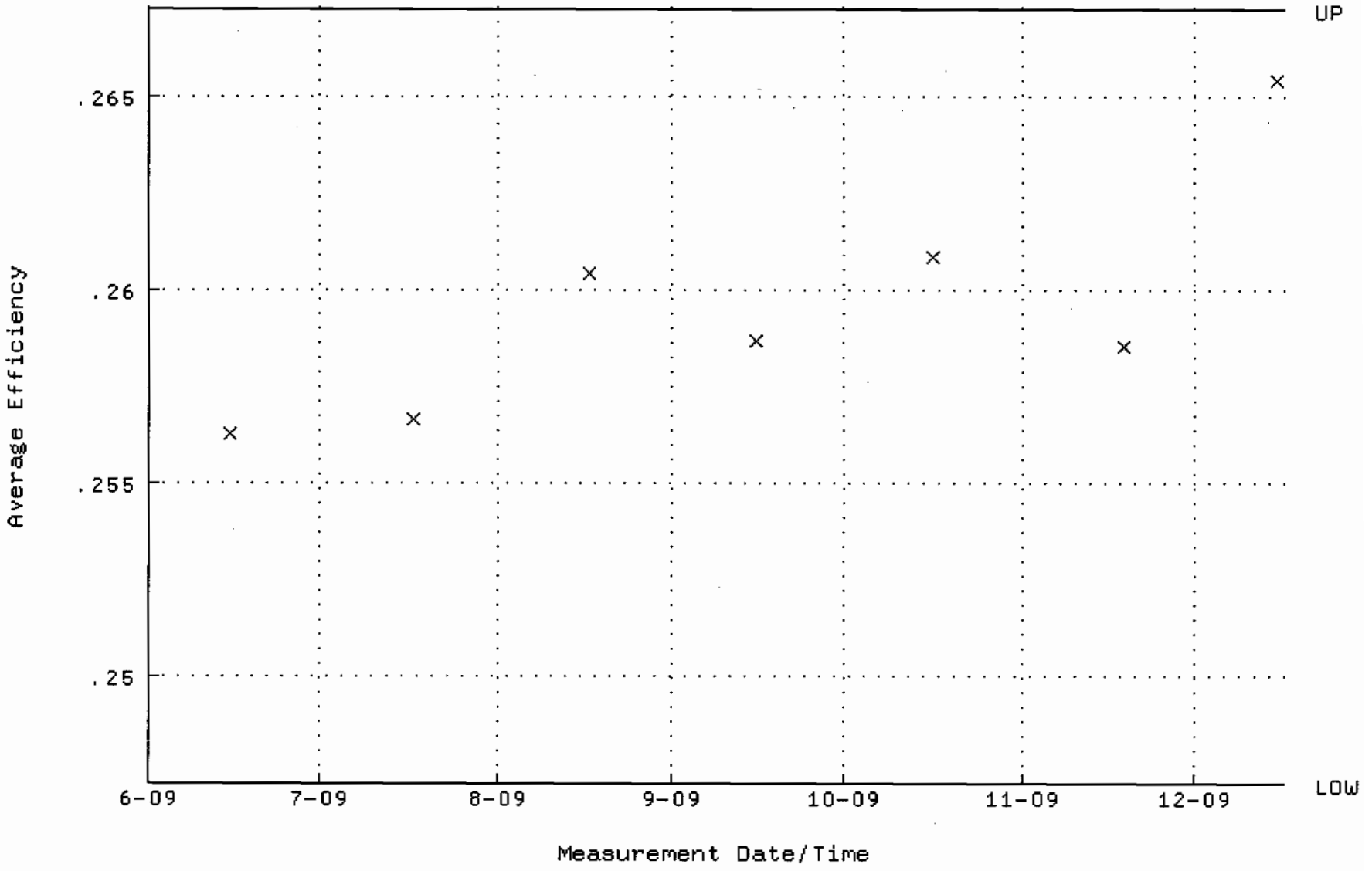
QA filename : DKA100:[ENV_ALPHA.QA.W]W153.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 15-JUN-2009 10:37:45 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 81.3634 through 89.9280



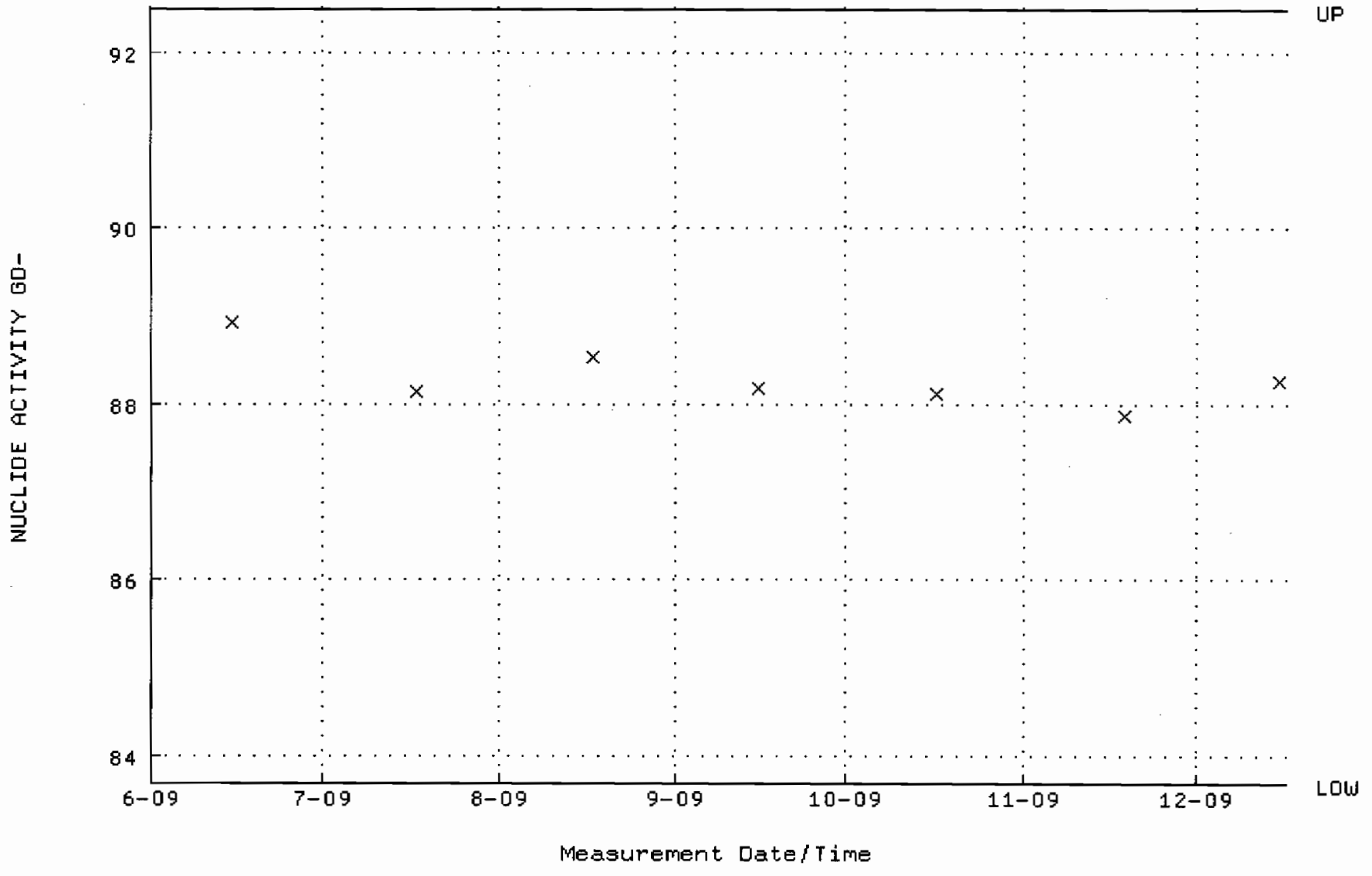
QA filename : DKA100:[ENV_ALPHA.QA.B]B153.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:11:27 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



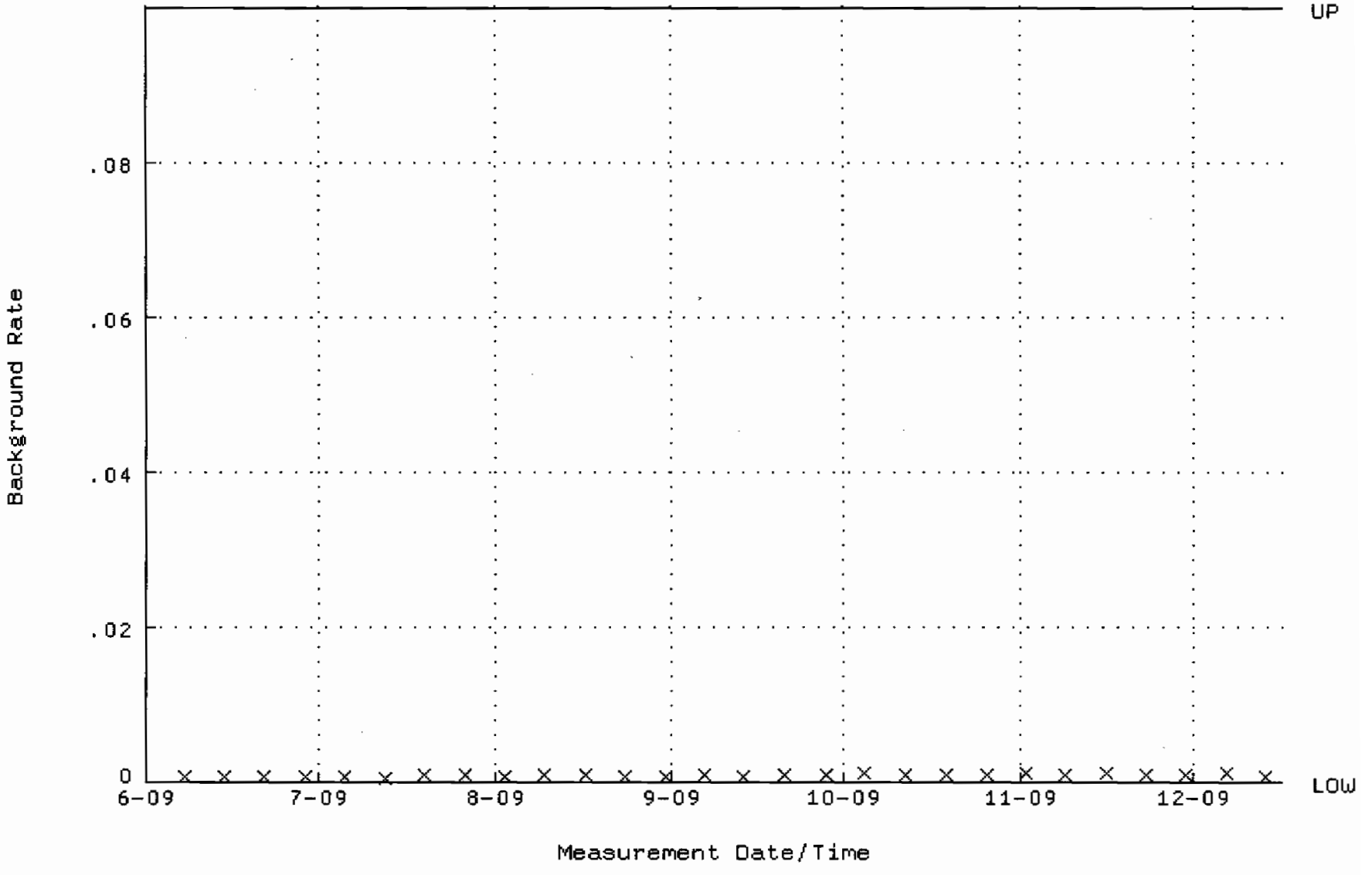
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 15-JUN-2009 10:37:56 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.247241 through 0.267241



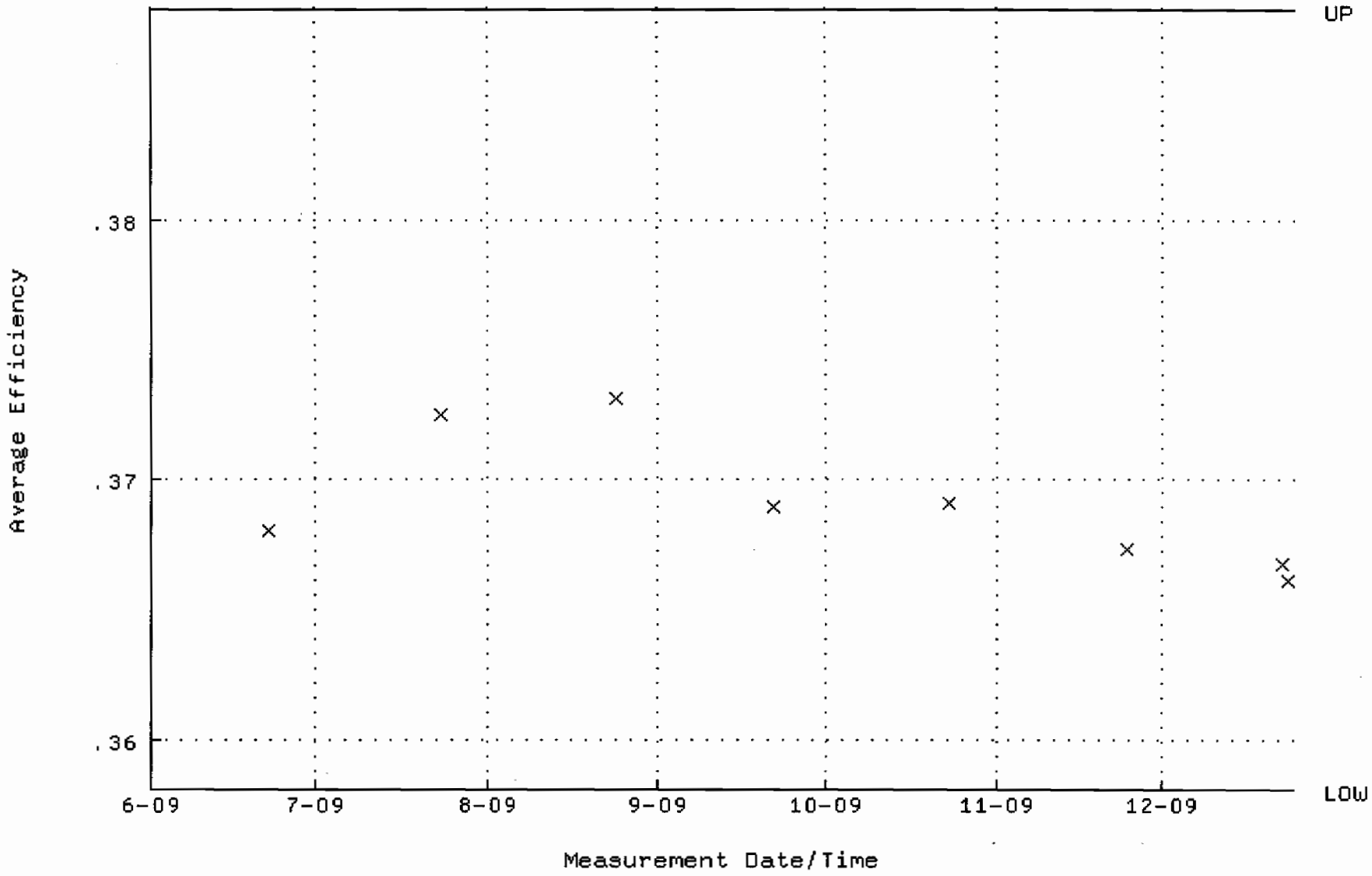
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 15-JUN-2009 10:37:56 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 83.6873 through 92.4965



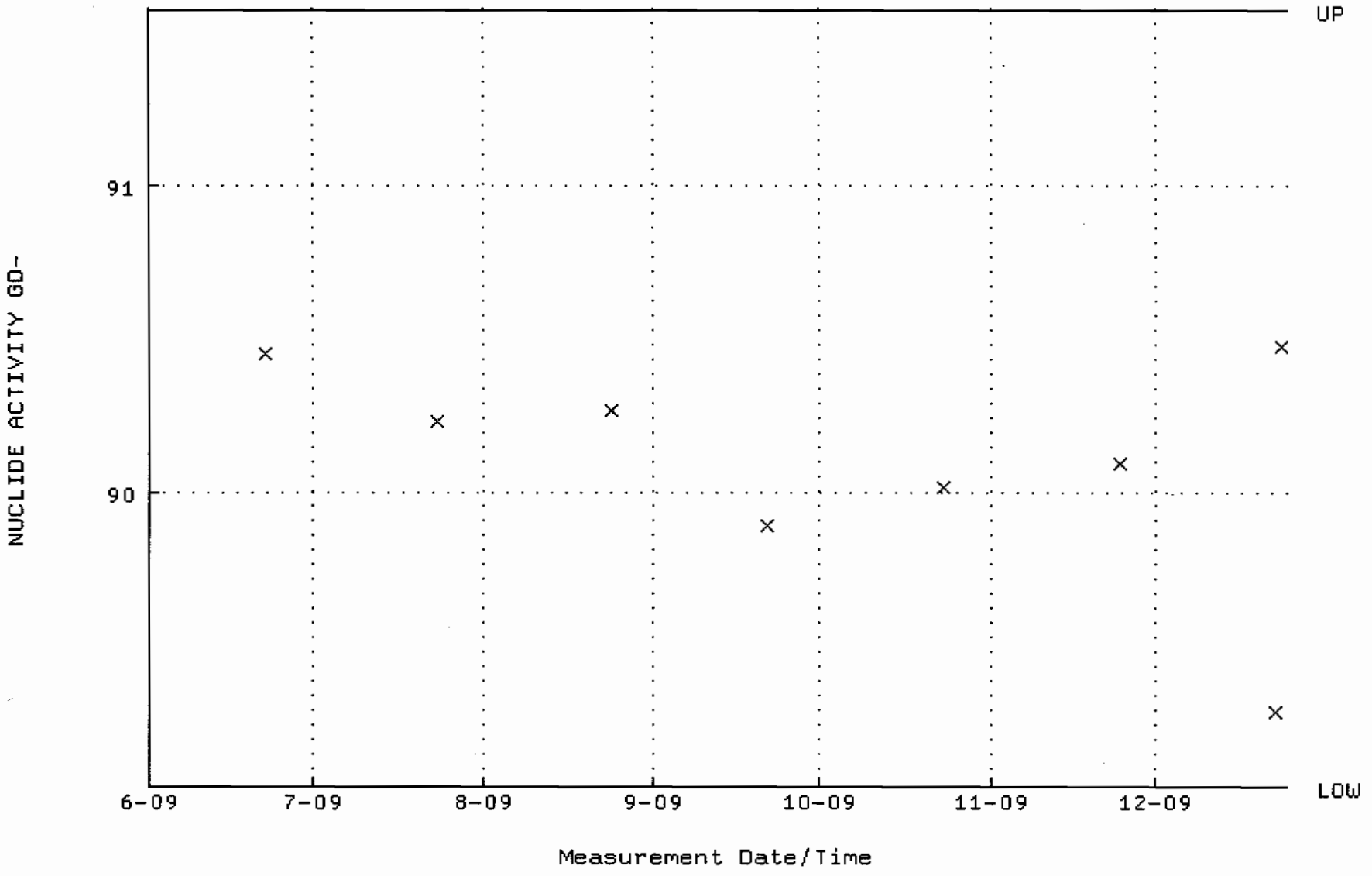
QA filename : DKA100:[ENV_ALPHA.QA.B]B155.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:11:35 through 16-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



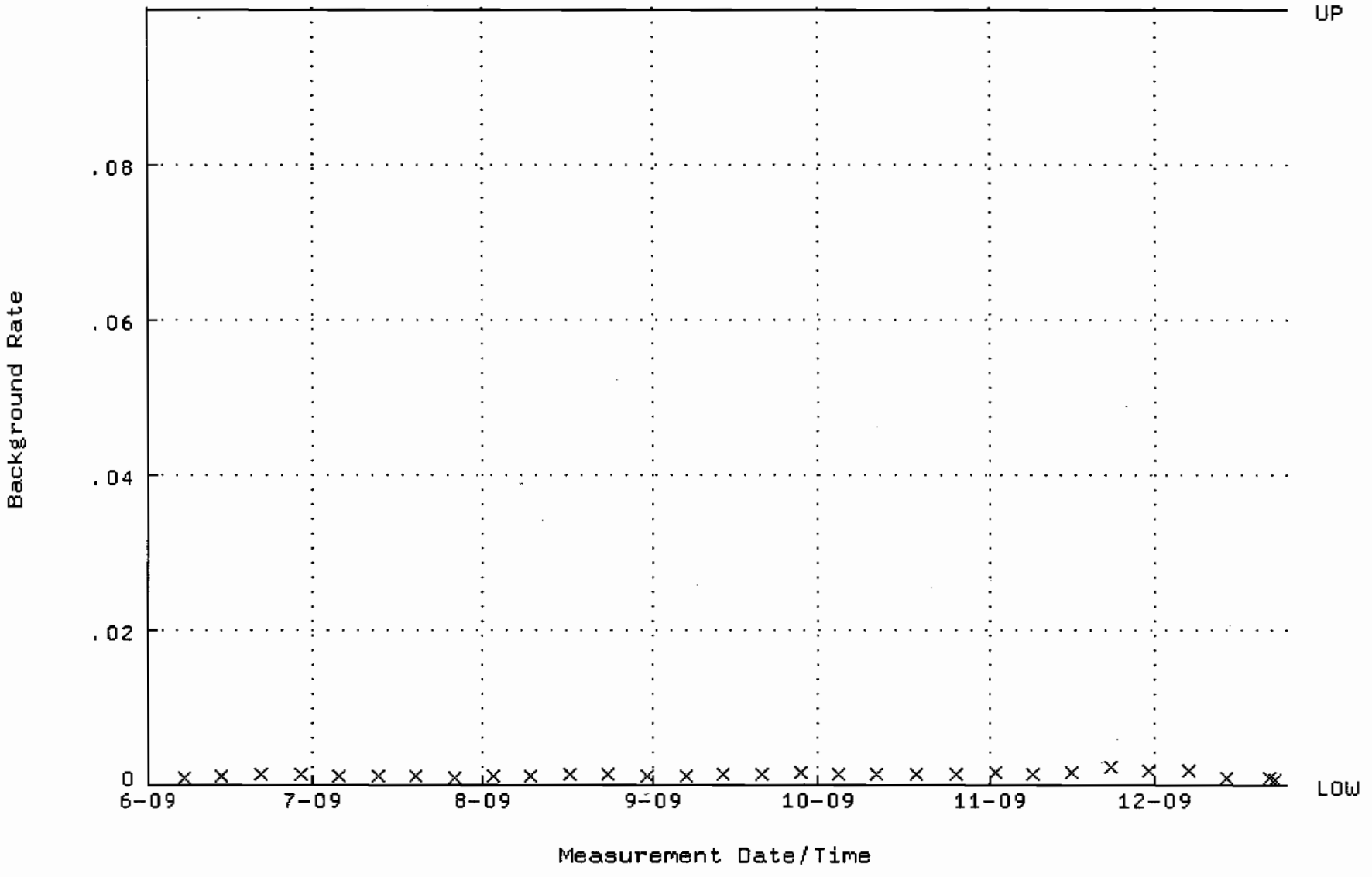
QA filename : DKA100:[ENV_ALPHA.QA.W]W161.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:48:54 through 24-DEC-2009 12:00:00
Lower/Upper Lmts: 0.358070 through 0.388144



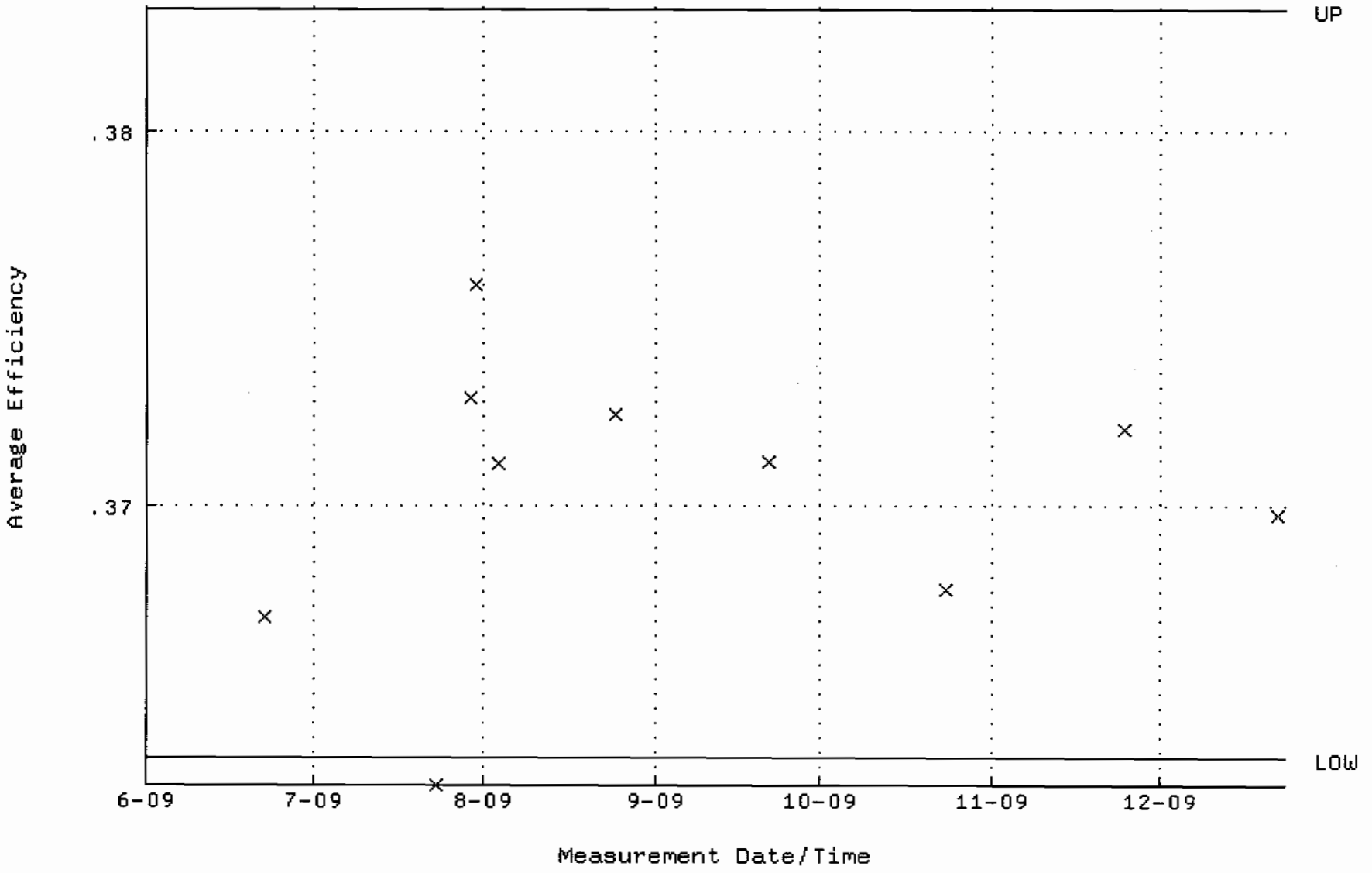
QA filename : DKA100:[ENV_ALPHA.QA.W]W161.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:48:54 through 24-DEC-2009 12:00:00
Lower/Upper Lmts: 89.0418 through 91.5702



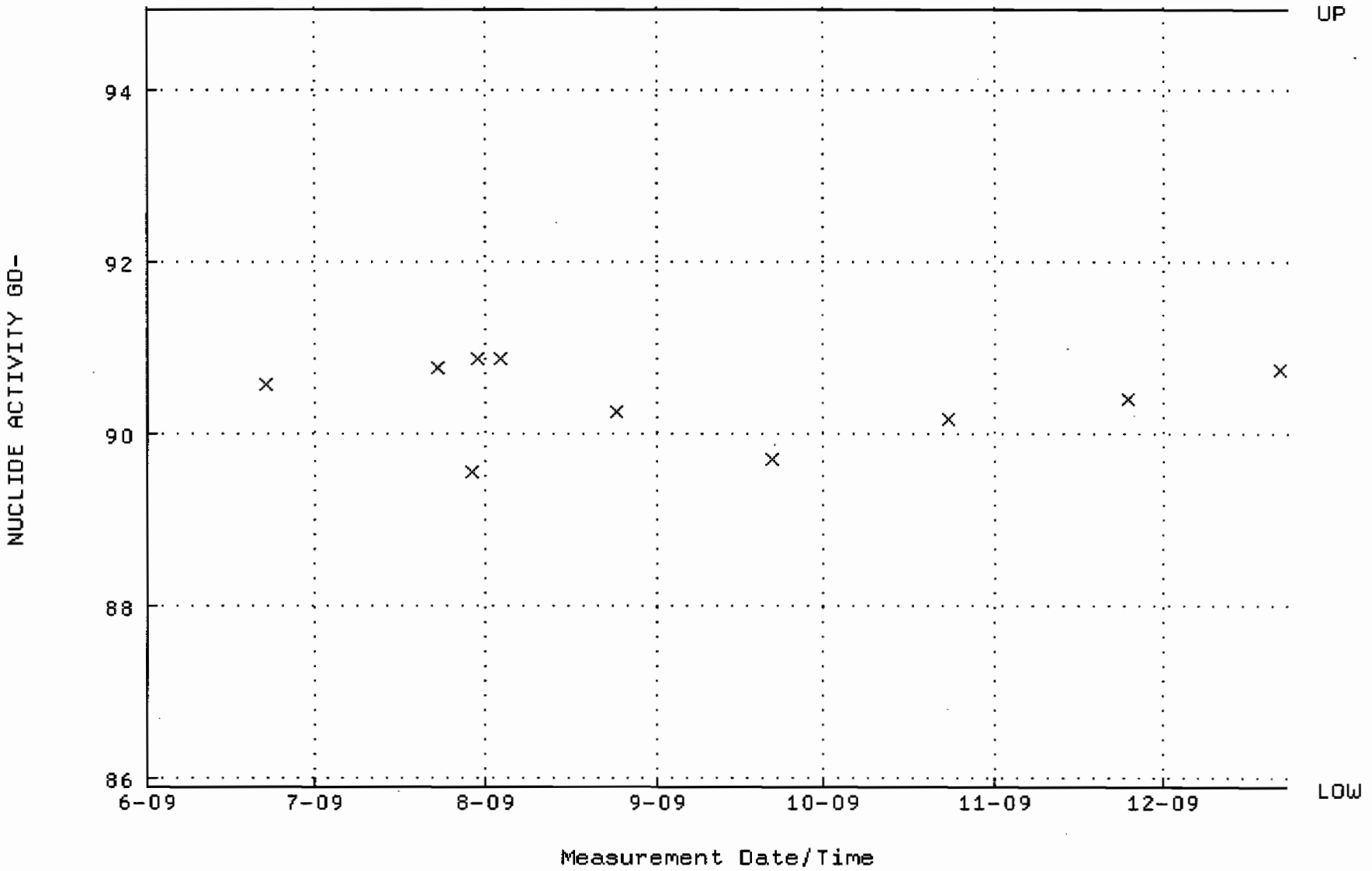
QA filename : DKA100:[ENV_ALPHA.QA.B]B161.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:00 through 24-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



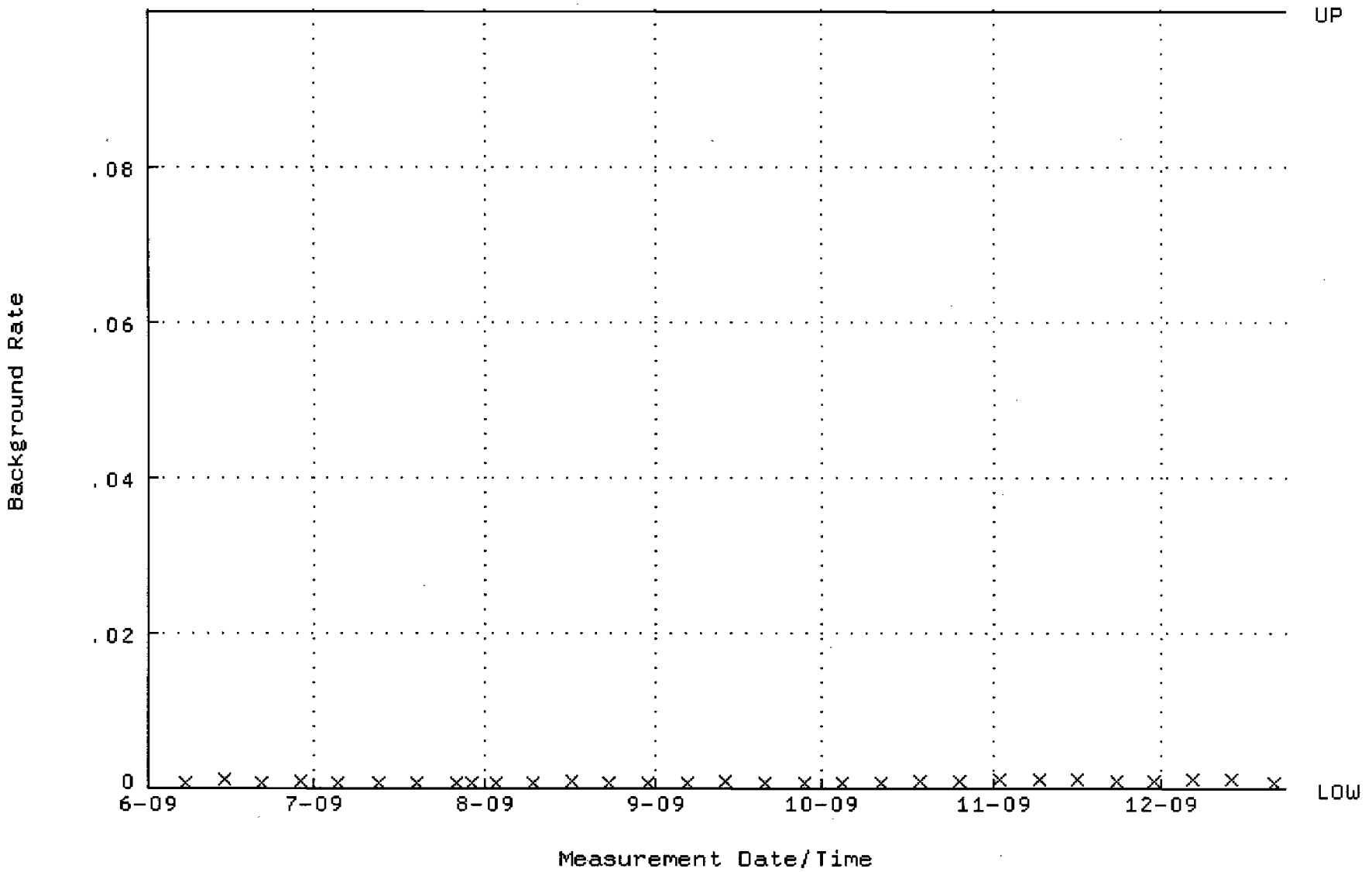
QA filename : DKA100:[ENV_ALPHA.QA.W]W162.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:49:01 through 23-DEC-2009 12:00:00
Lower/Upper Lmts: 0.363287 through 0.383287



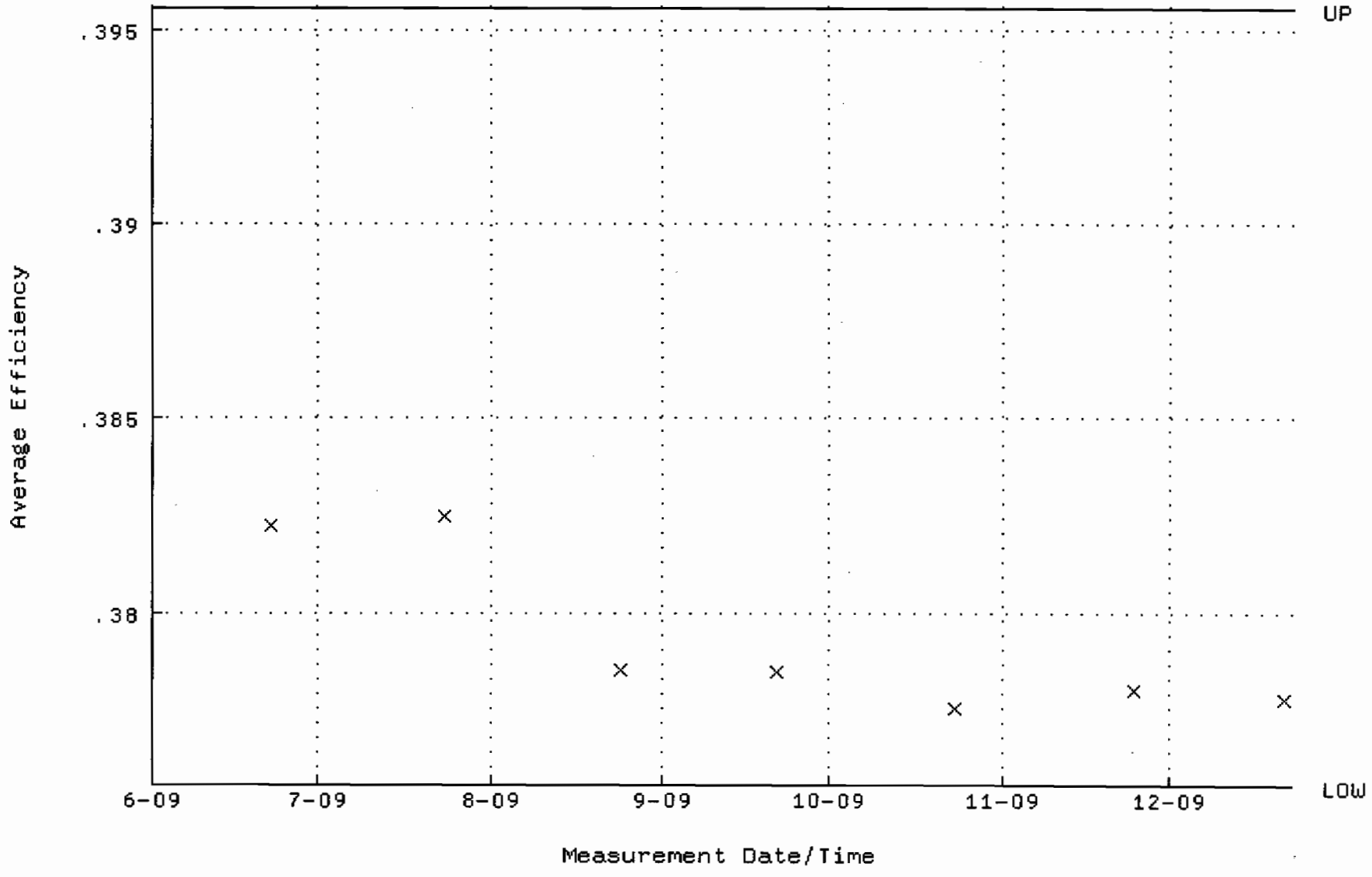
QA filename : DKA100:[ENV_ALPHA.QA.W]W162.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:49:01 through 23-DEC-2009 12:00:00
Lower/Upper Lmts: 85.8969 through 94.9387



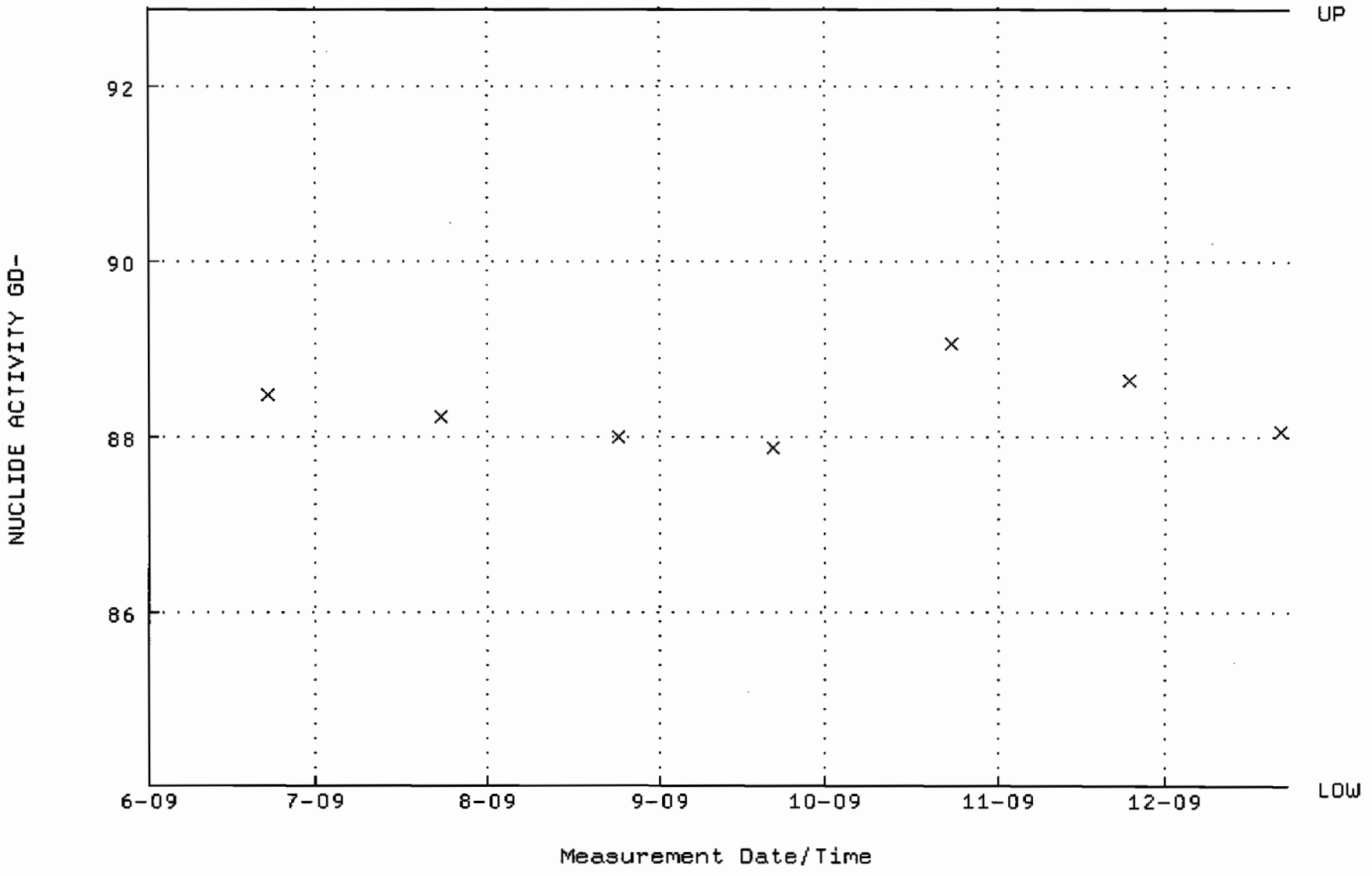
QA filename : DKA100:[ENV_ALPHA.QA.B]B162.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:04 through 23-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



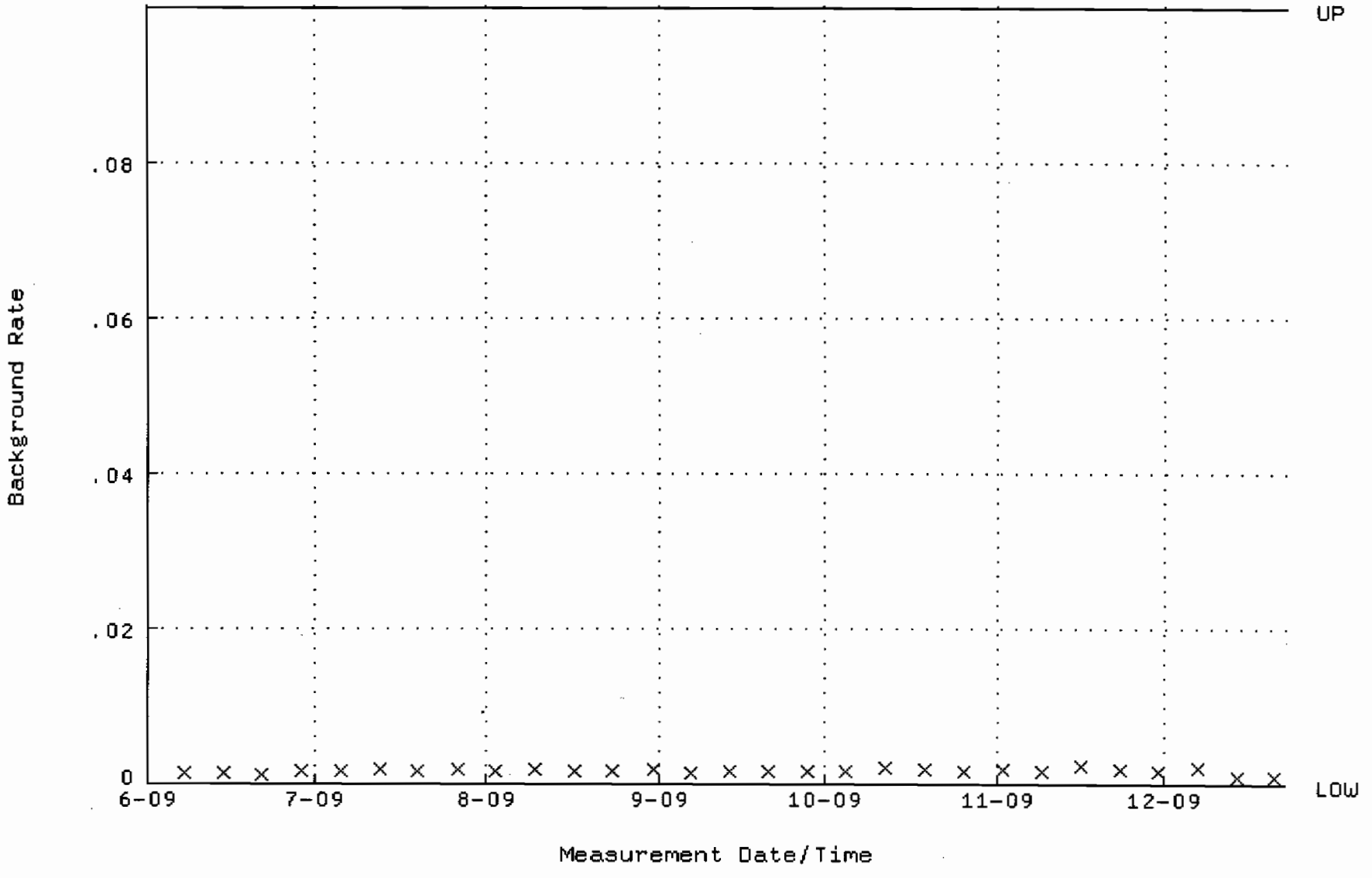
QA filename : DKA100:[ENV_ALPHA.QA.W]W163.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:49:05 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.375557 through 0.395557



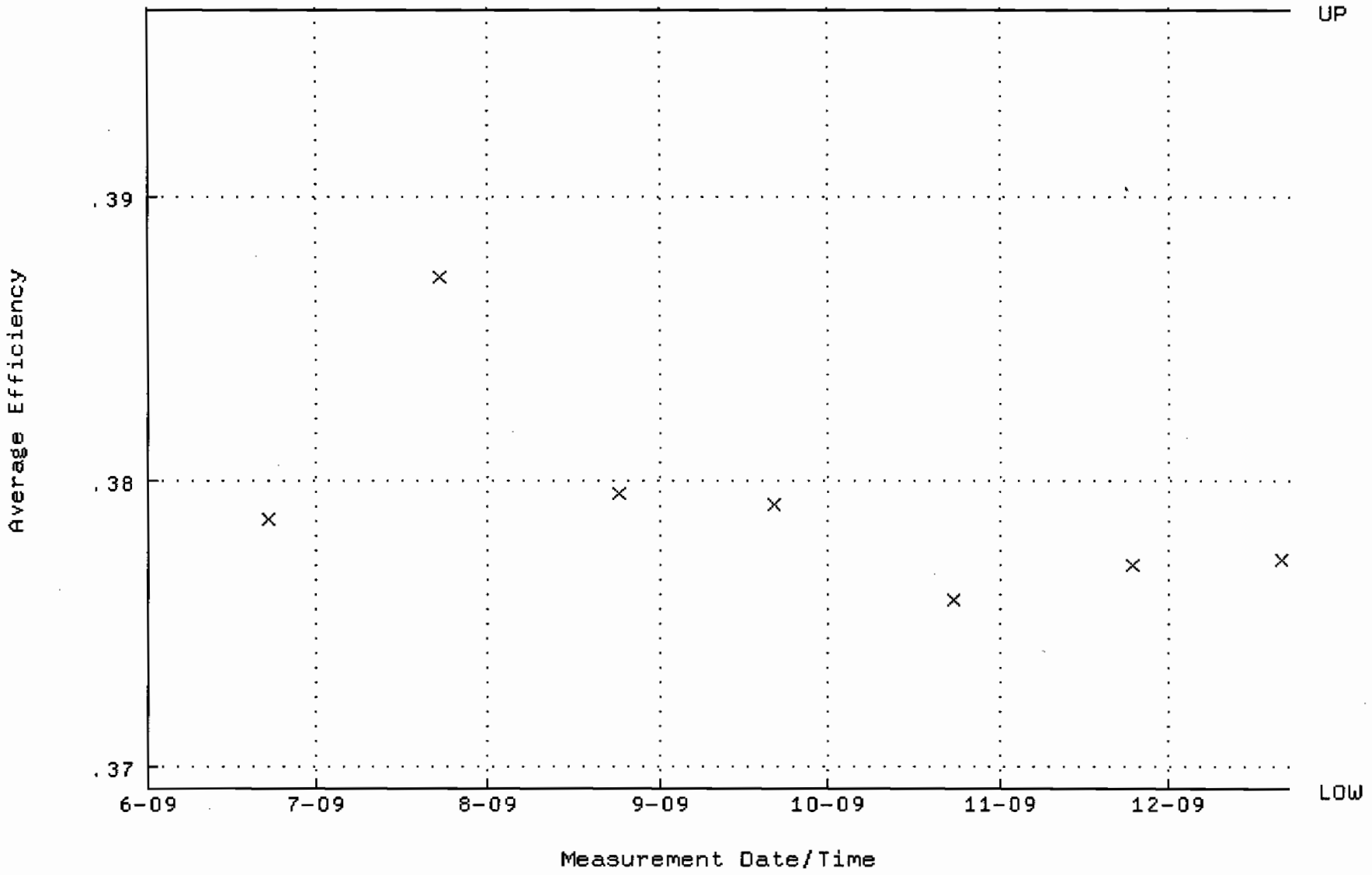
QA filename : DKA100:[ENV_ALPHA.QA.W]W163.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:49:05 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 84.0322 through 92.8777



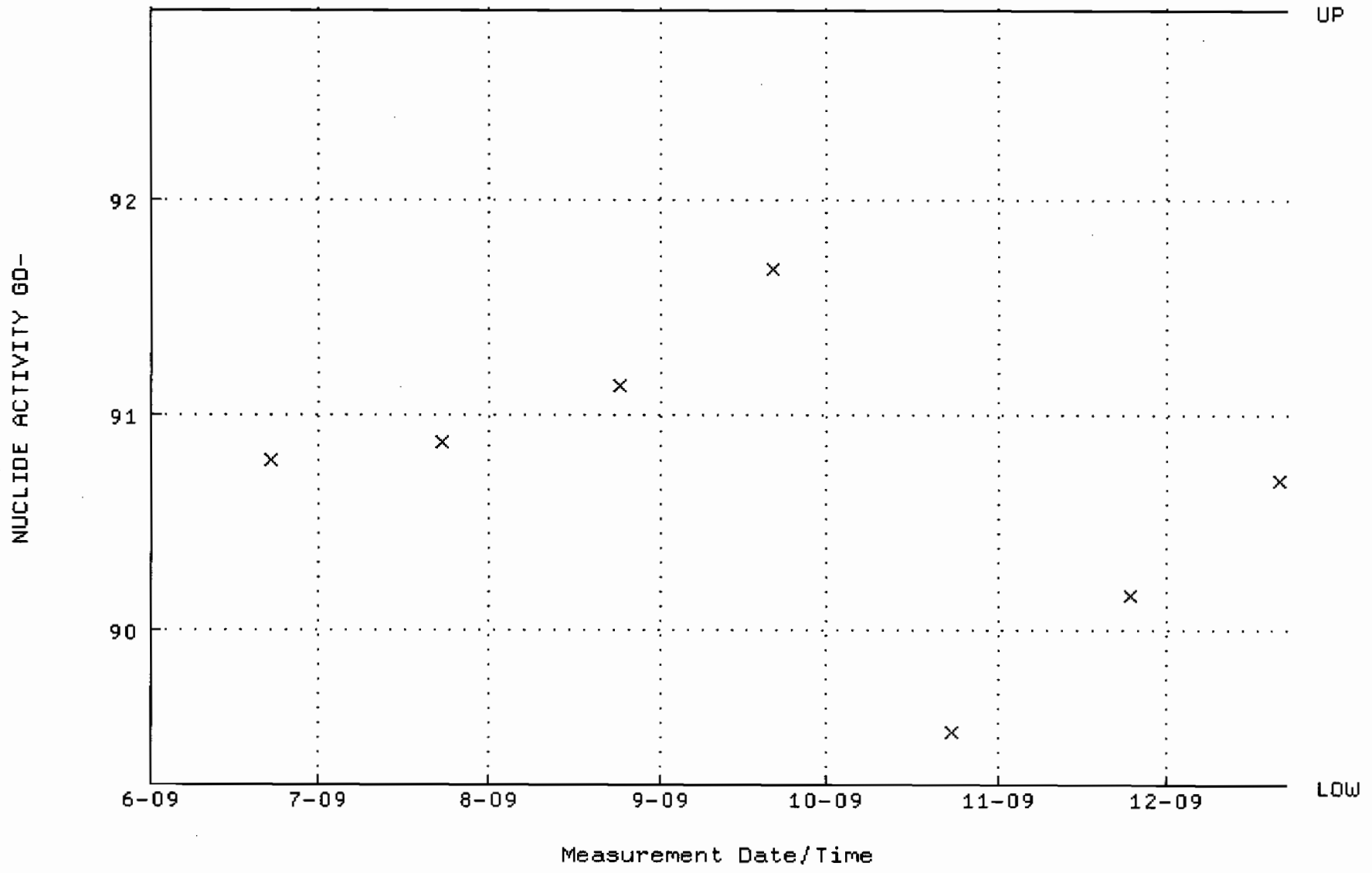
QA filename : DKA100:[ENV_ALPHA.QA.B]B163.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:08 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



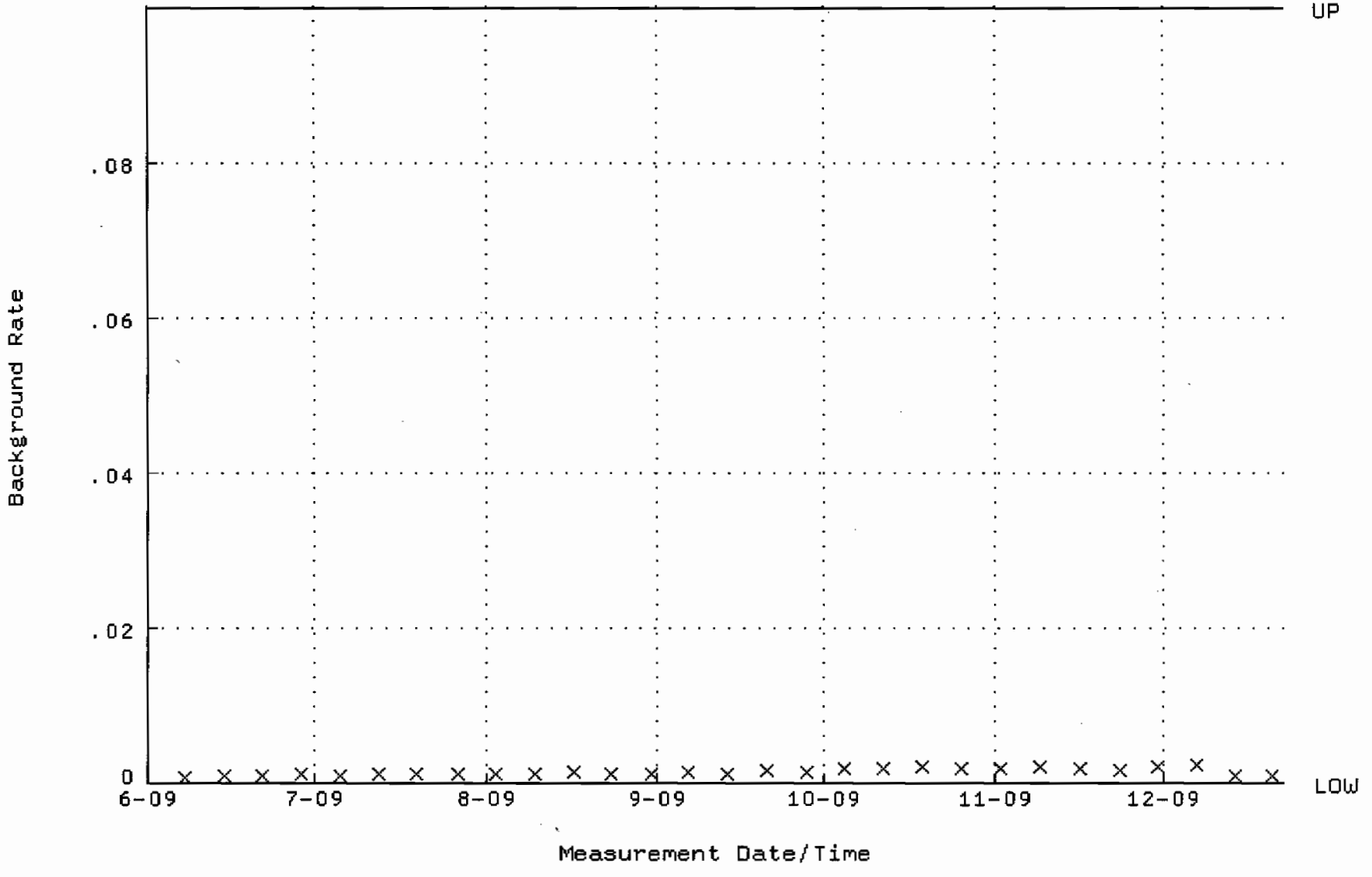
QA filename : DKA100:[ENV_ALPHA.QA.W]W164.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:49:10 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.369199 through 0.396555



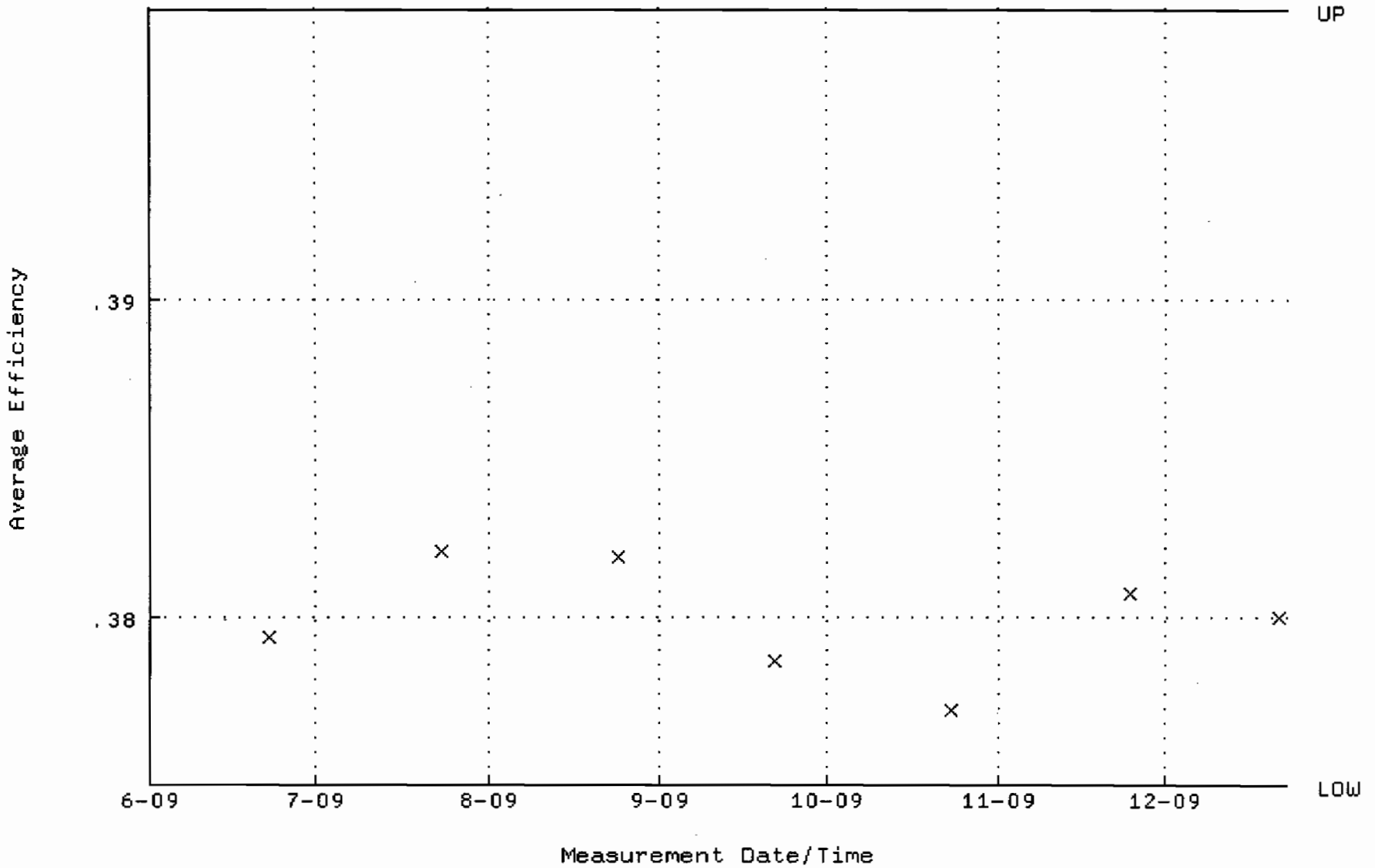
QA filename : DKA100:[ENV_ALPHA.QA.W]W164.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:49:10 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 89.2764 through 92.8786



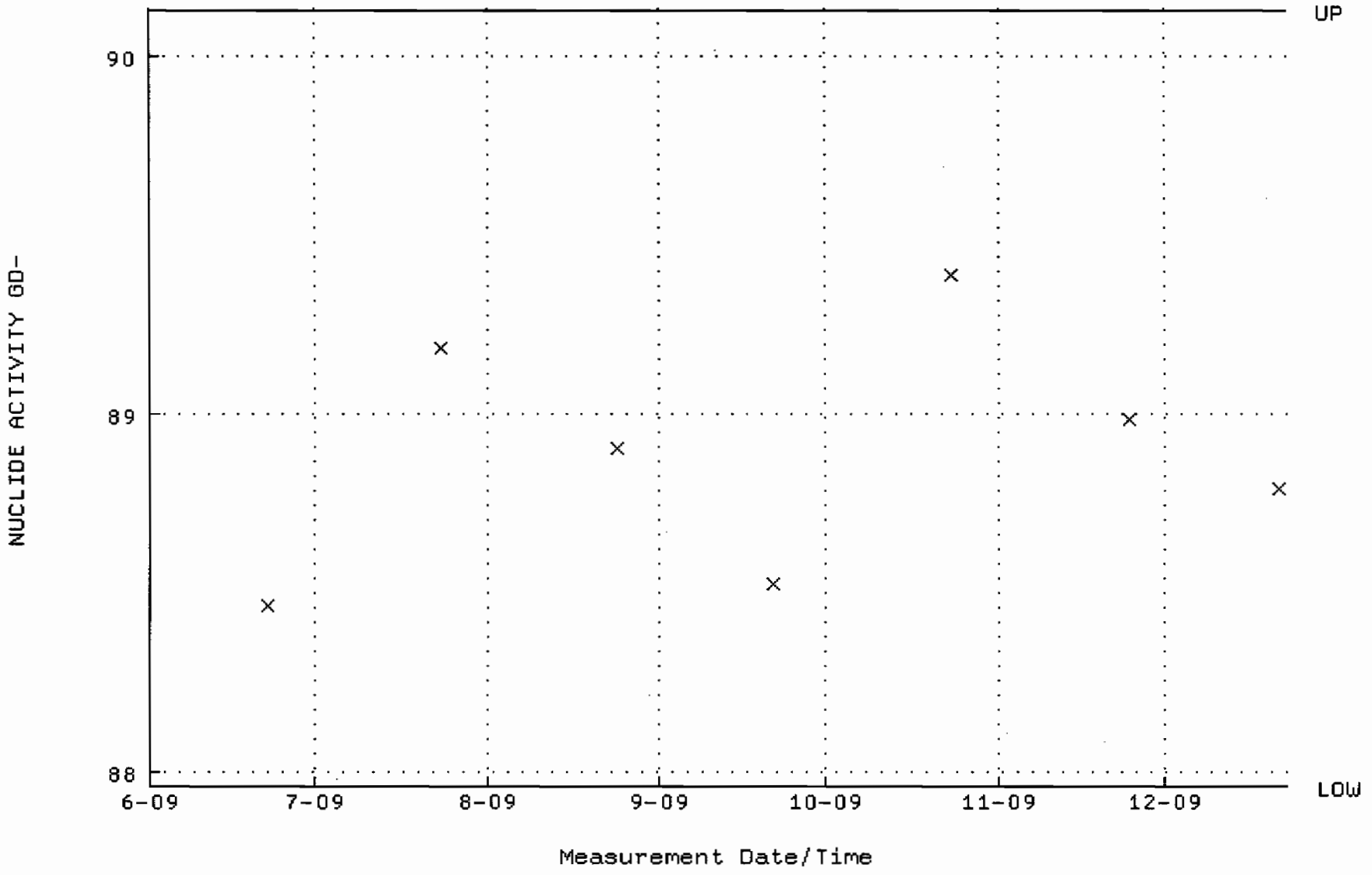
QA filename : DKA100:[ENV_ALPHA.QA.B]B164.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:13 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



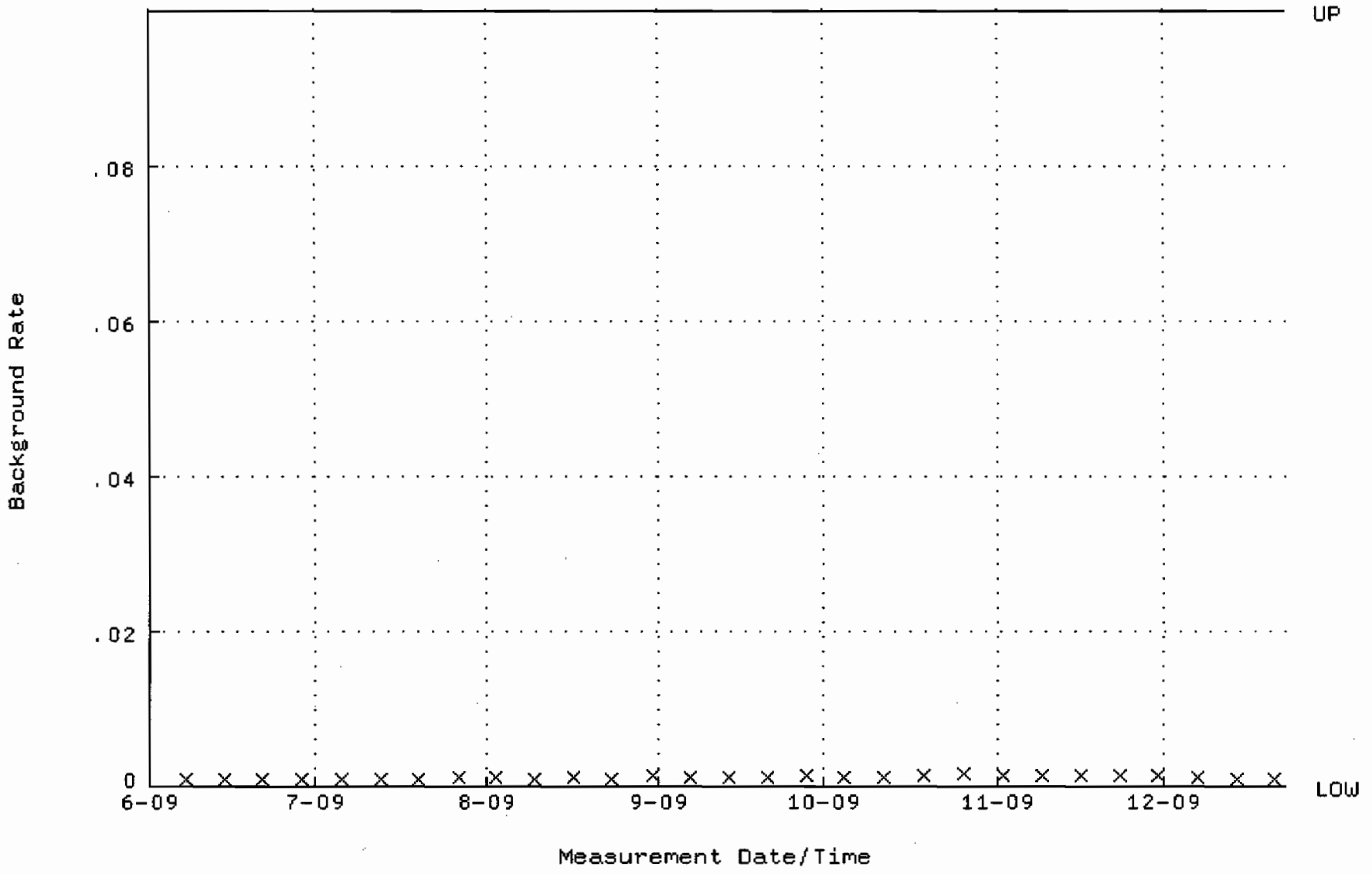
QA filename : DKA100:[ENV_ALPHA.QA.W]W165.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:49:16 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.374689 through 0.399127



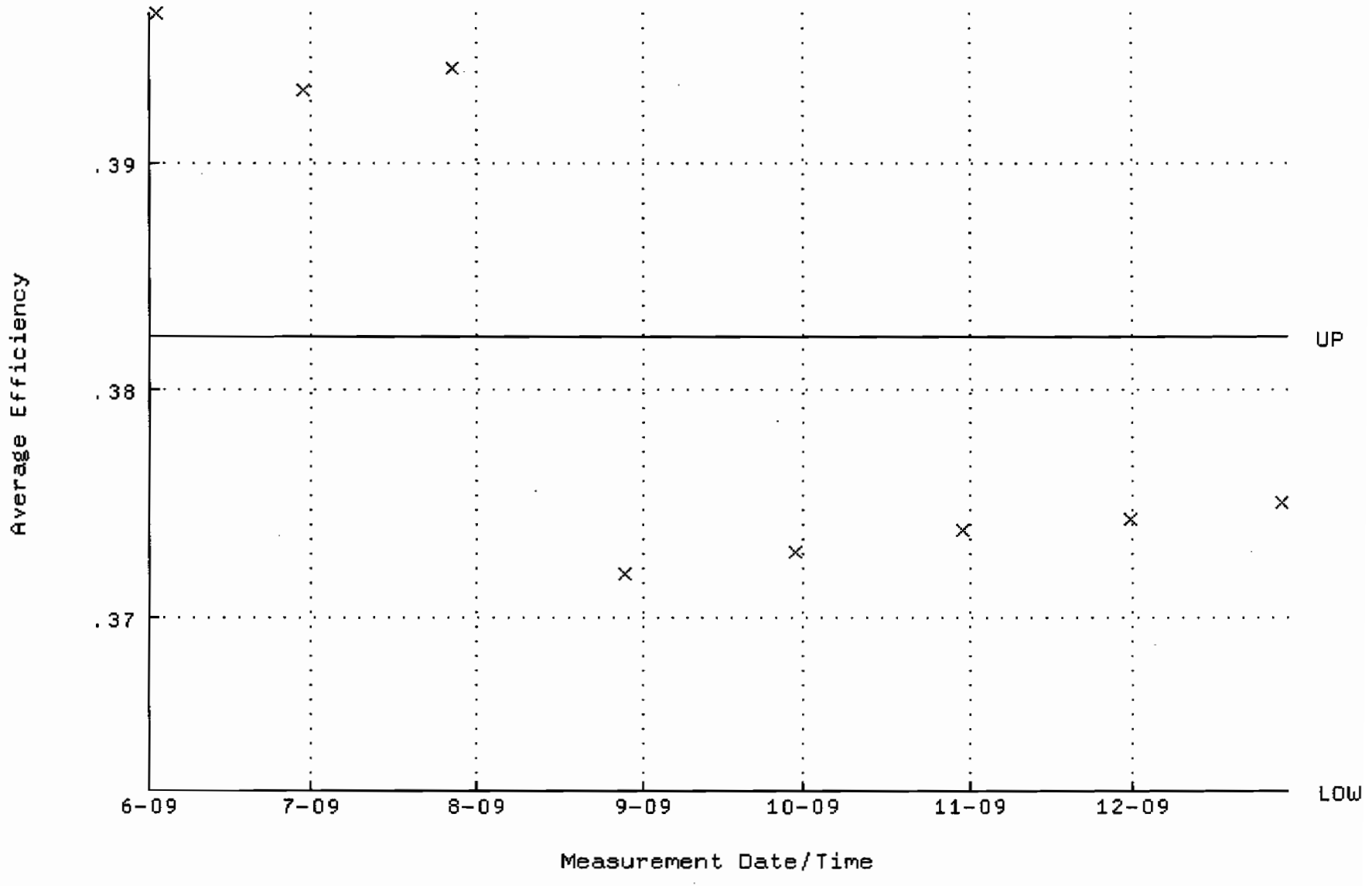
QA filename : DKA100:[ENV_ALPHA.QA.W]W165.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:49:16 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 87.9613 through 90.1269



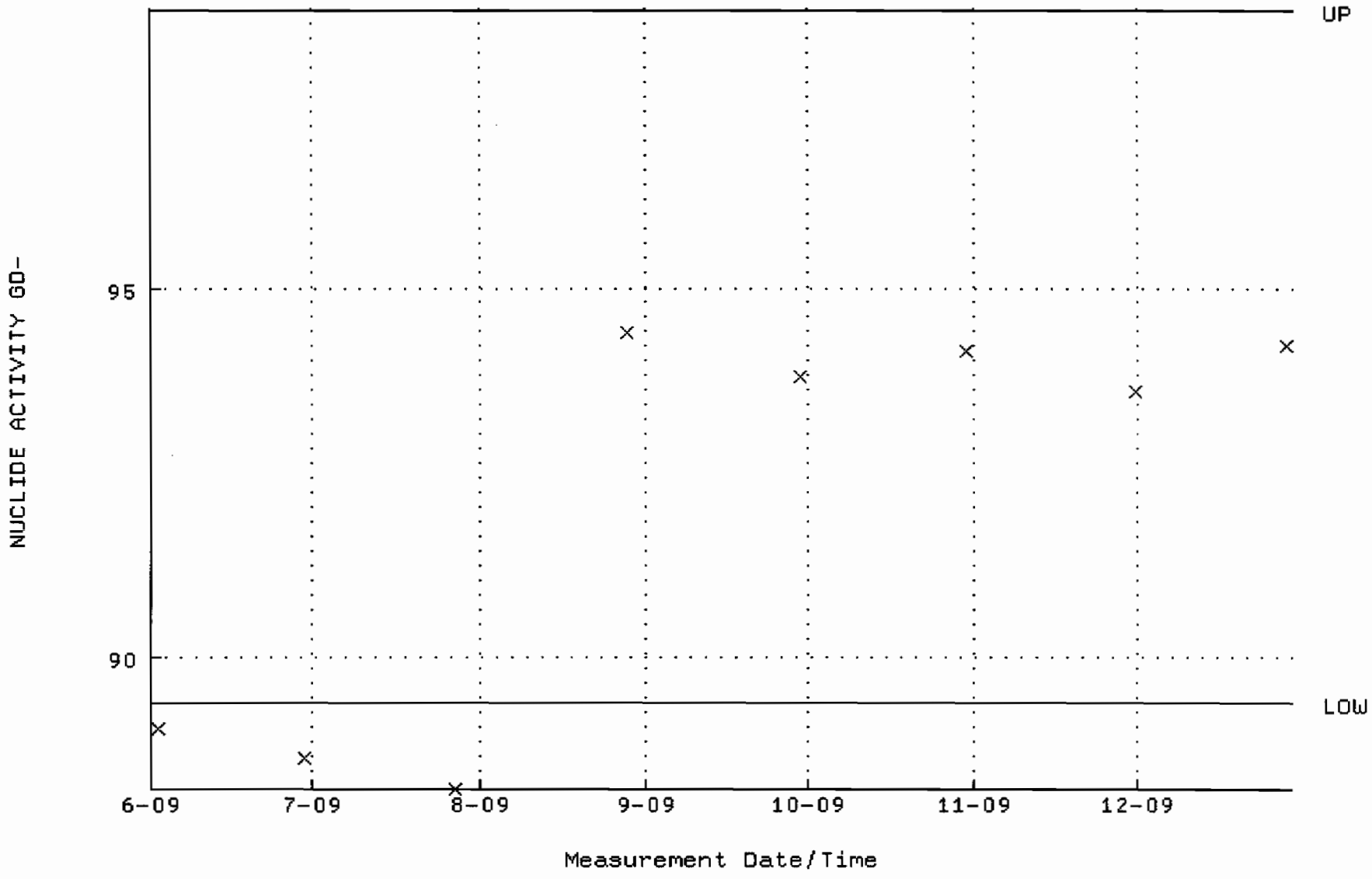
QA filename : DKA100:[ENV_ALPHA.QA.B]B165.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:17 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



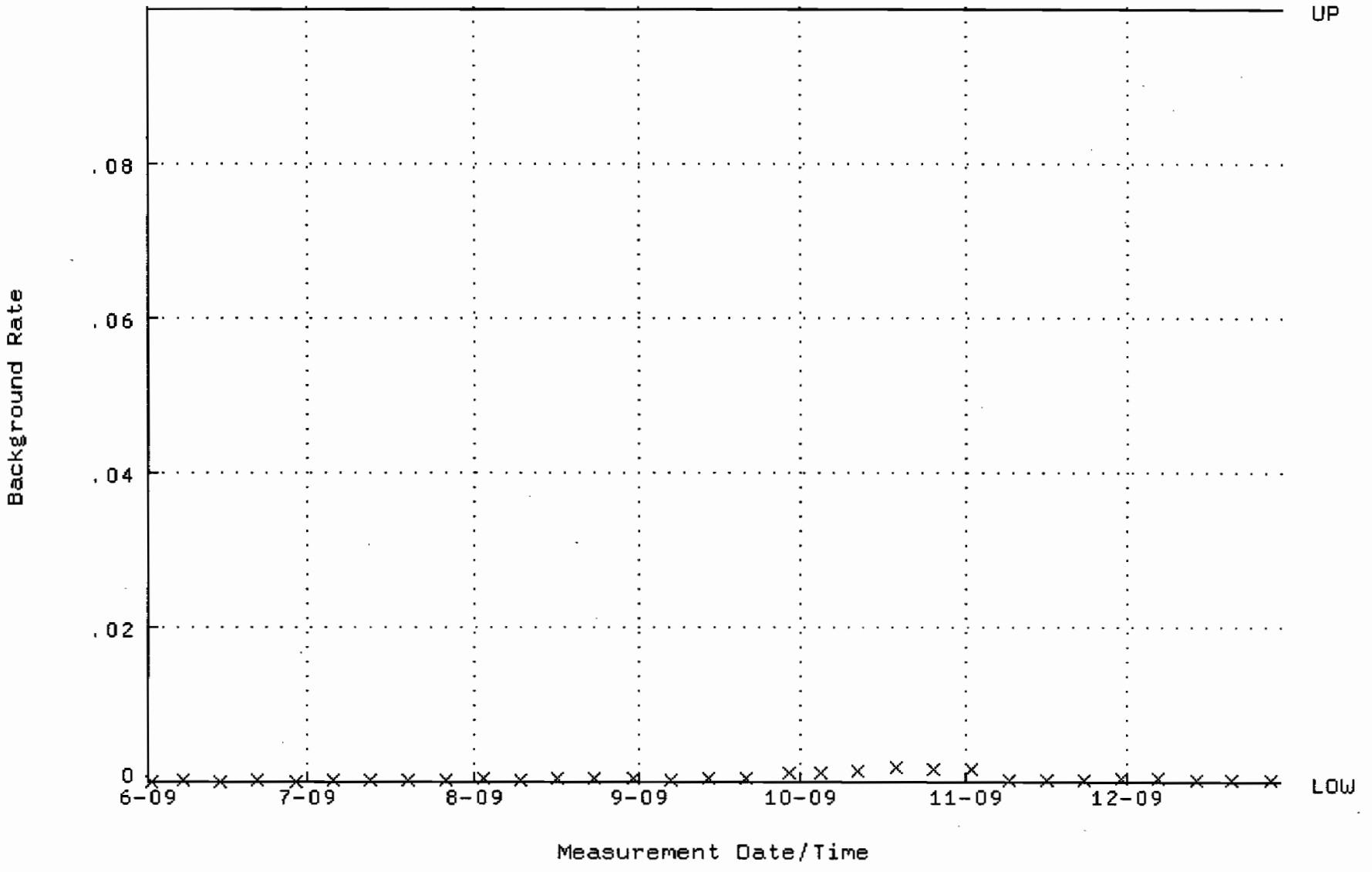
QA filename : DKA100:[ENV_ALPHA.QA.W]W218.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-JUN-2009 11:17:54 through 29-DEC-2009 12:00:00
Lower/Upper Lmts: 0.362380 through 0.382380



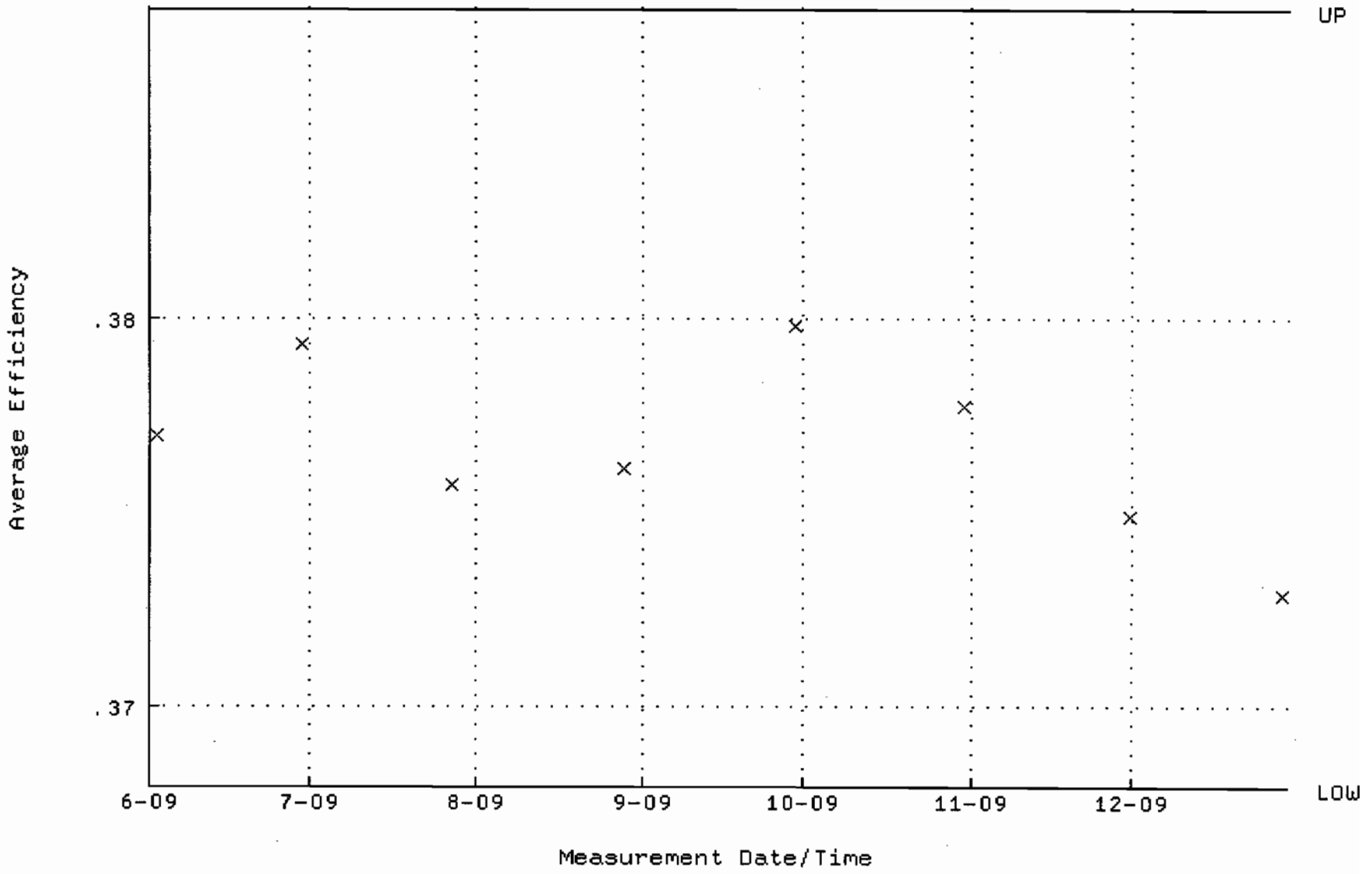
QA filename : DKA100:[ENV_ALPHA.QA.W]W218.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-JUN-2009 11:17:54 through 29-DEC-2009 12:00:00
Lower/Upper Lmts: 89.3892 through 98.7986



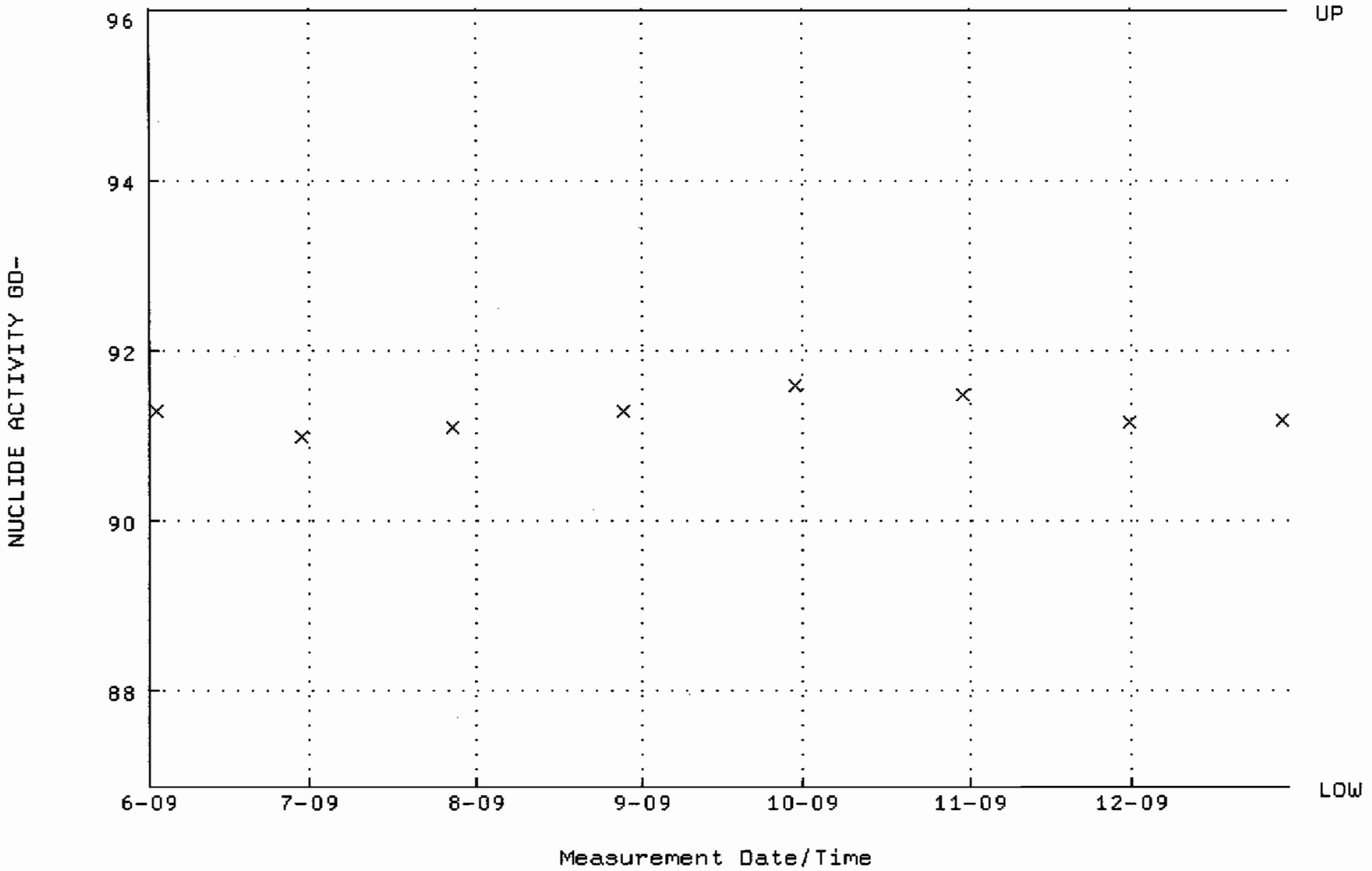
QA filename : DKA100:[ENV_ALPHA.QA.B]B218.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-JUN-2009 17:44:11 through 29-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



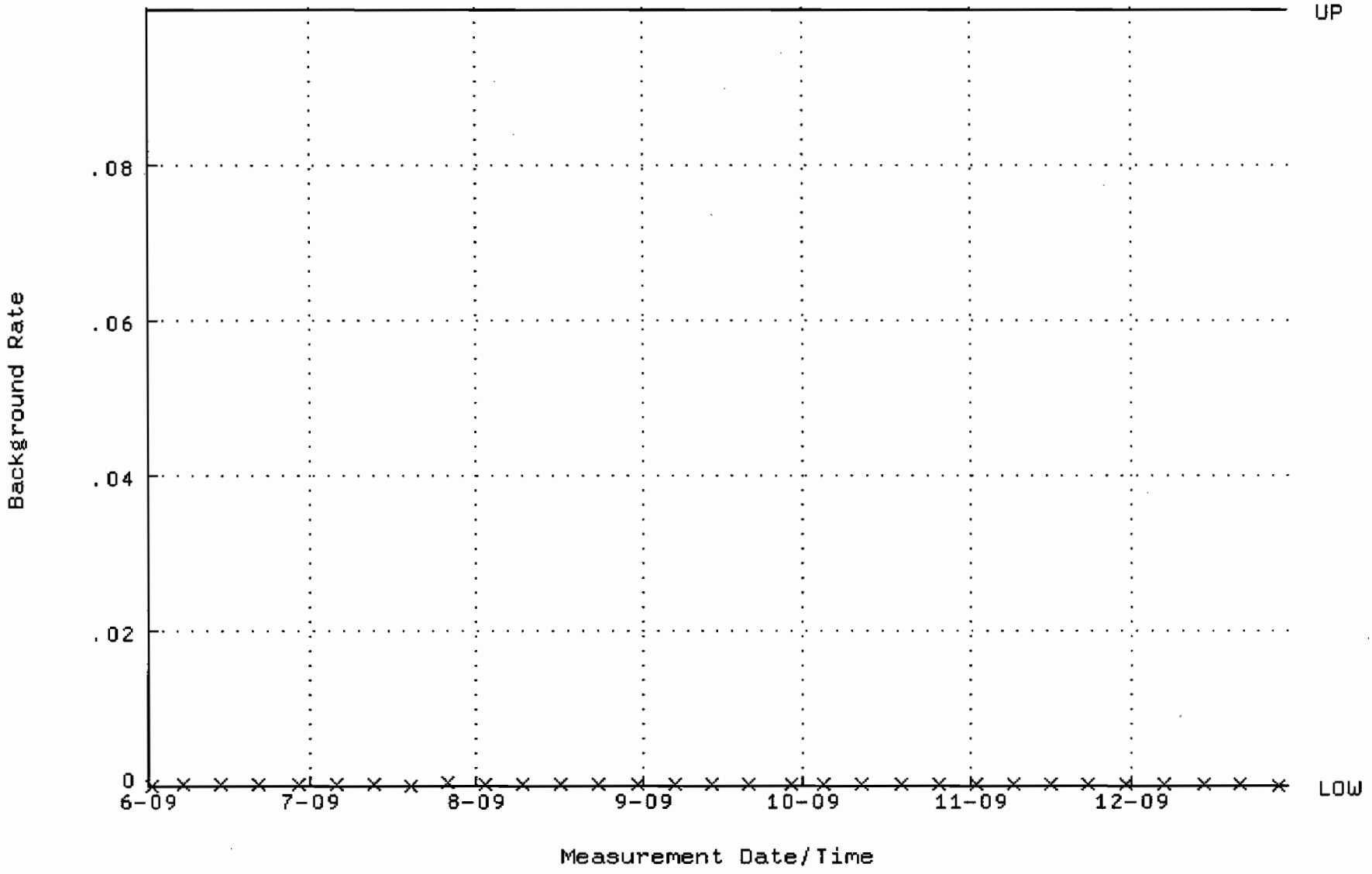
QA filename : DKA100:[ENV_ALPHA.QA.W]W221.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-JUN-2009 11:18:10 through 29-DEC-2009 12:00:00
Lower/Upper Lmts: 0.367948 through 0.387948



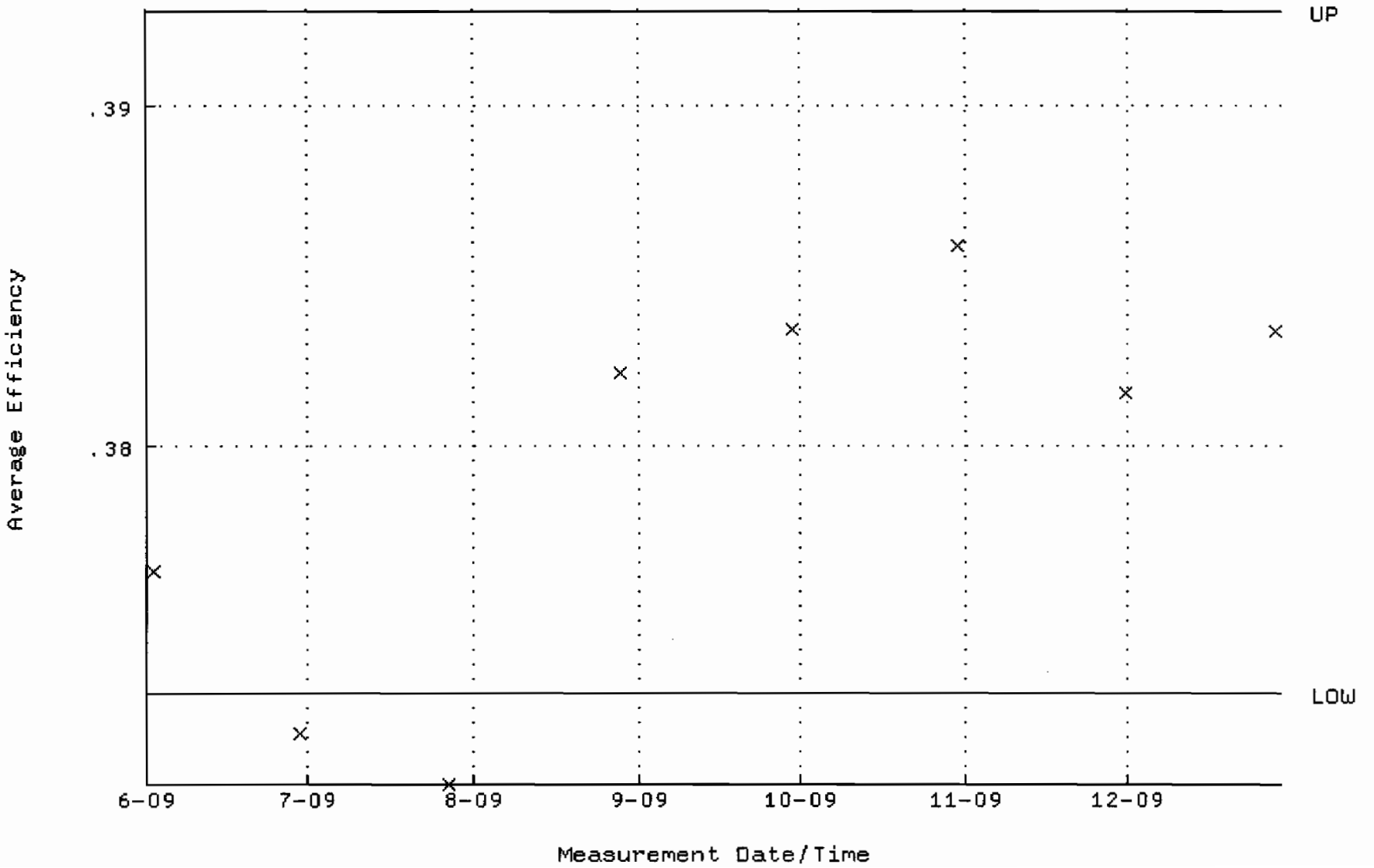
QA filename : DKA100:[ENV_ALPHA.QA.W]W221.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-JUN-2009 11:18:10 through 29-DEC-2009 12:00:00
Lower/Upper Lmts: 86.8591 through 96.0021



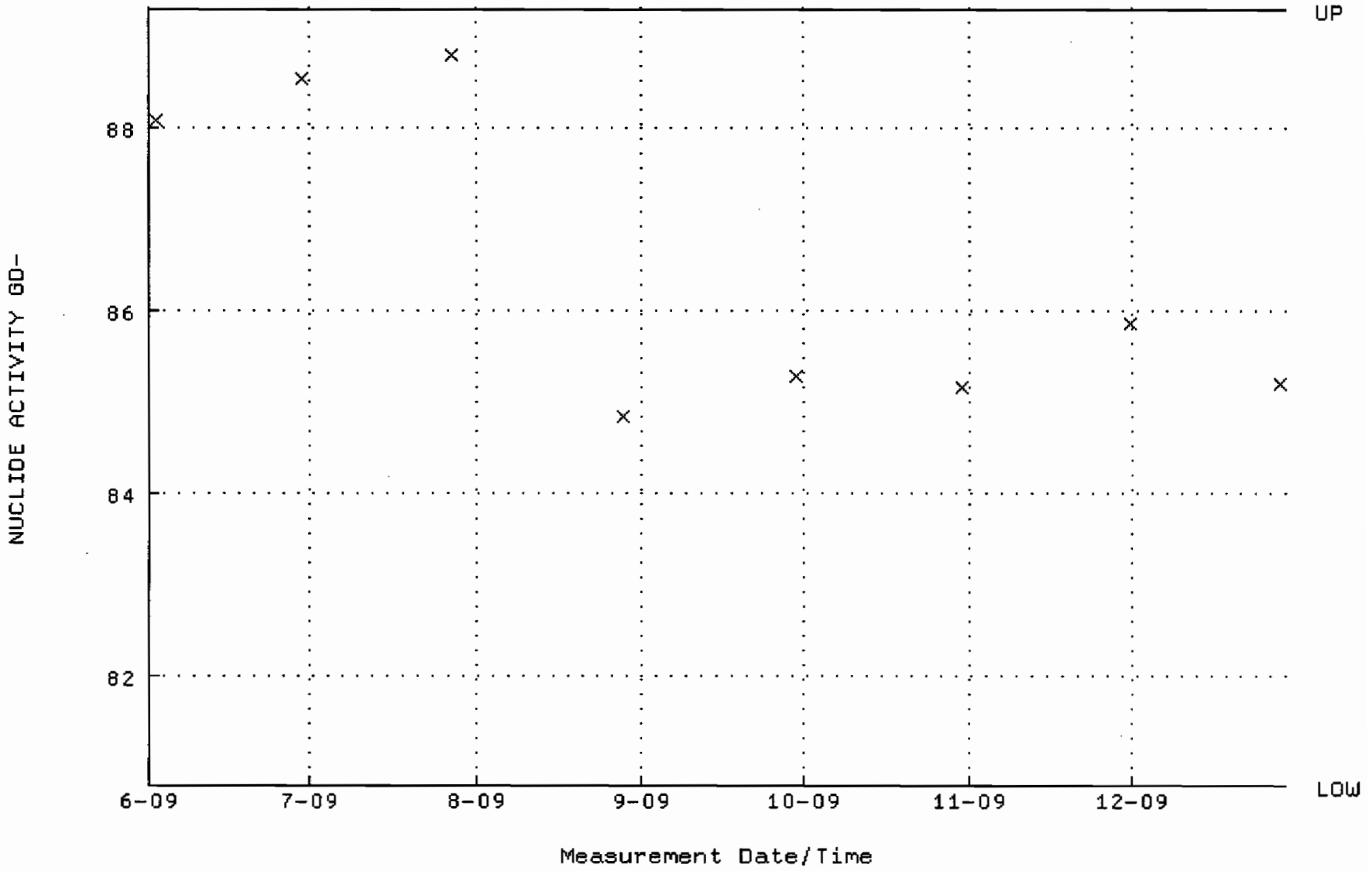
QA filename : DKA100:[ENV_ALPHA.QA.B]B221.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-JUN-2009 17:44:25 through 29-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



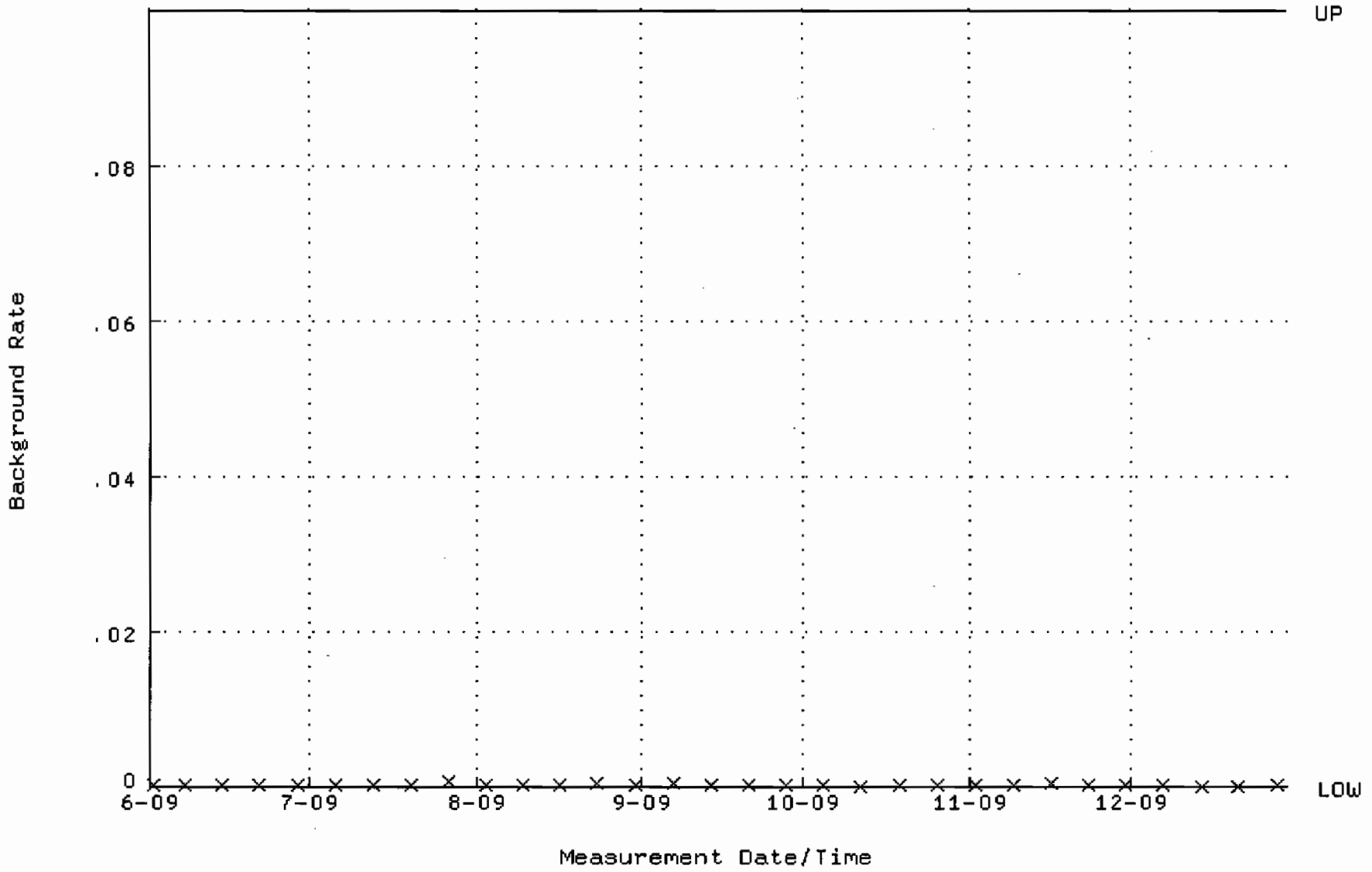
QA filename : DKA100:[ENV_ALPHA.QA.W]W234.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-JUN-2009 11:19:19 through 29-DEC-2009 12:00:00
Lower/Upper Lmts: 0.372763 through 0.392763



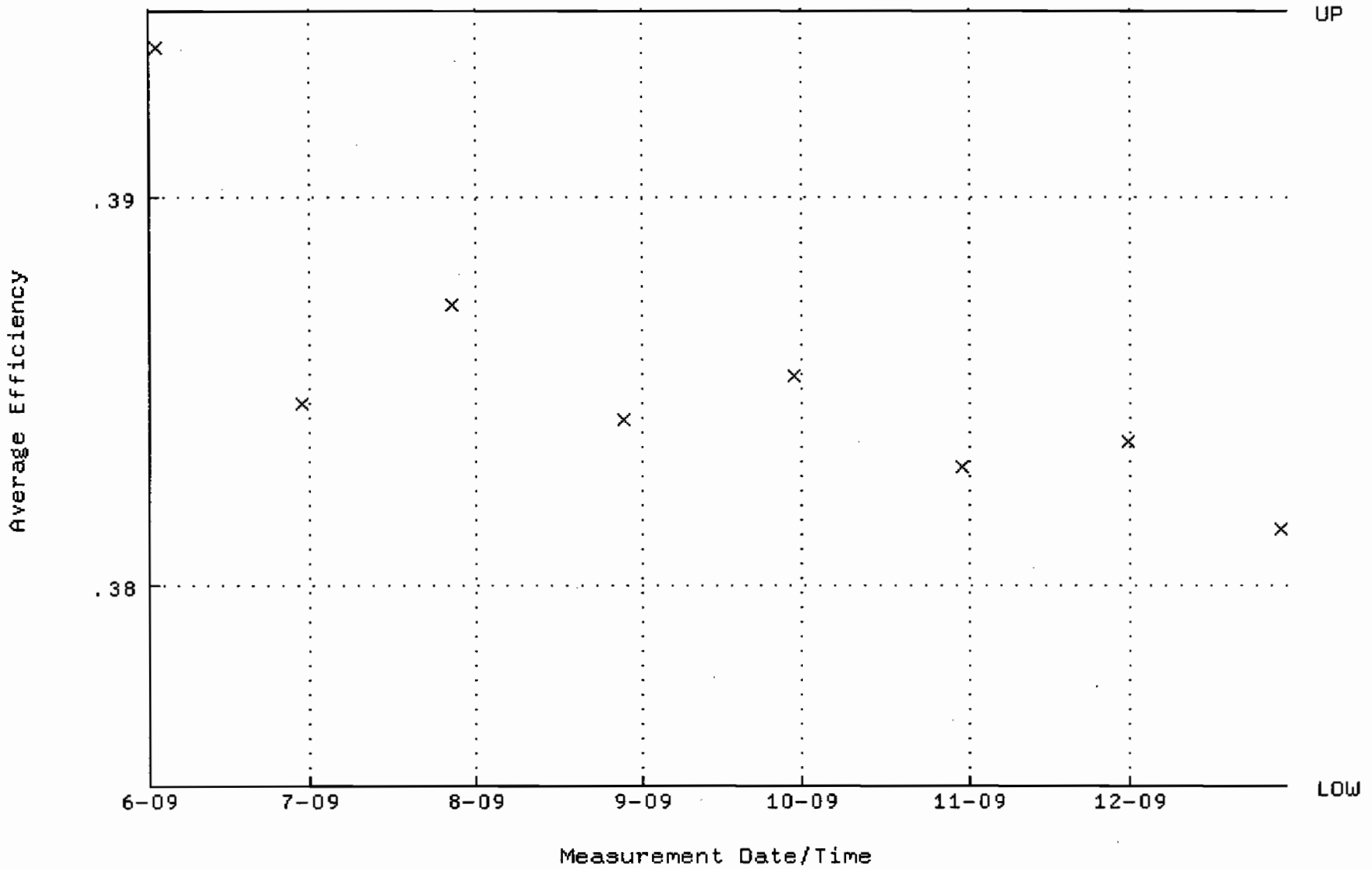
QA filename : DKA100:[ENV_ALPHA.QA.W]W234.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-JUN-2009 11:19:19 through 29-DEC-2009 12:00:00
Lower/Upper Lmts: 80.7996 through 89.3048



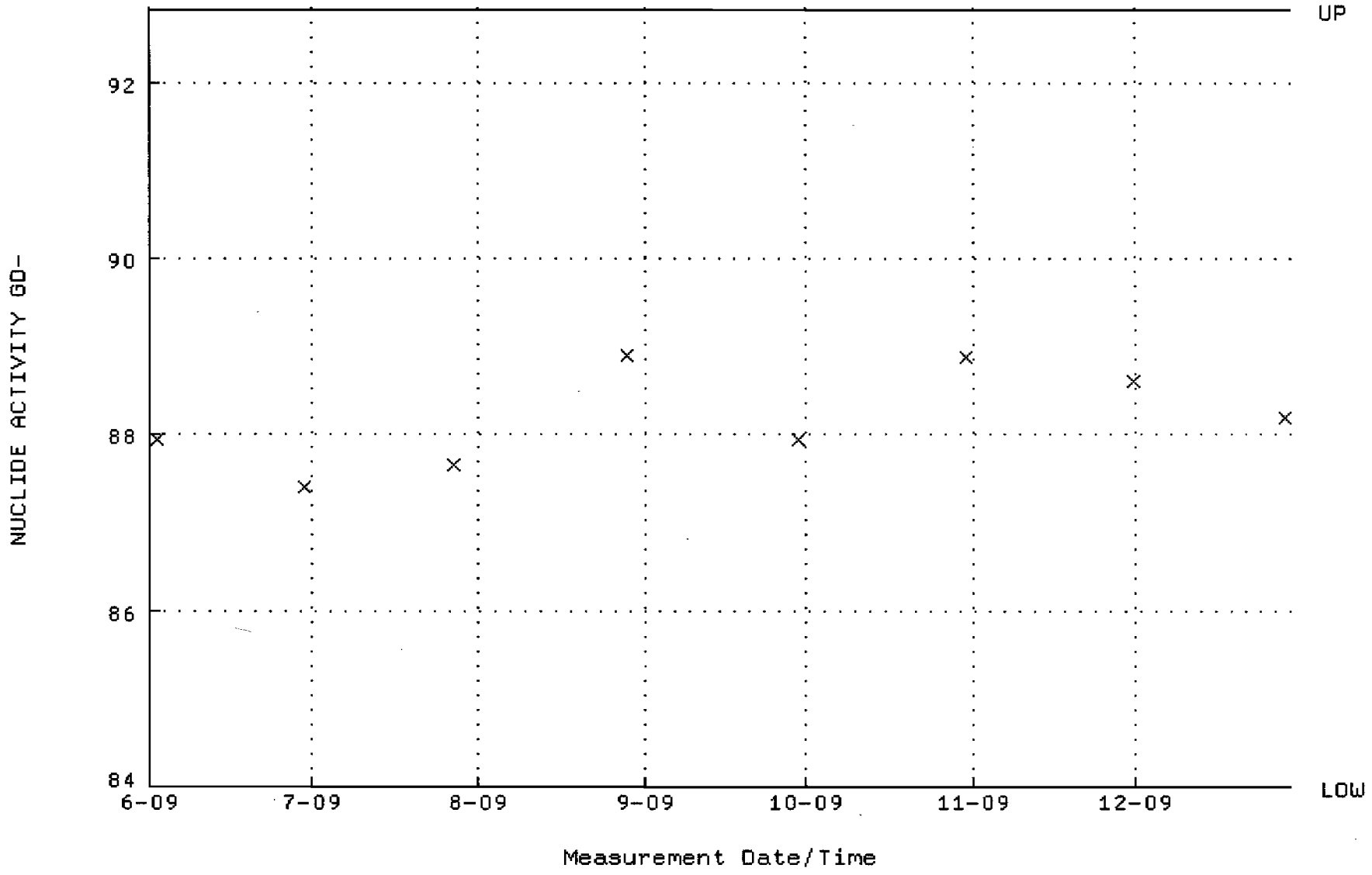
QA filename : DKA100:[ENV_ALPHA.QA.B]B234.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-JUN-2009 17:45:35 through 29-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



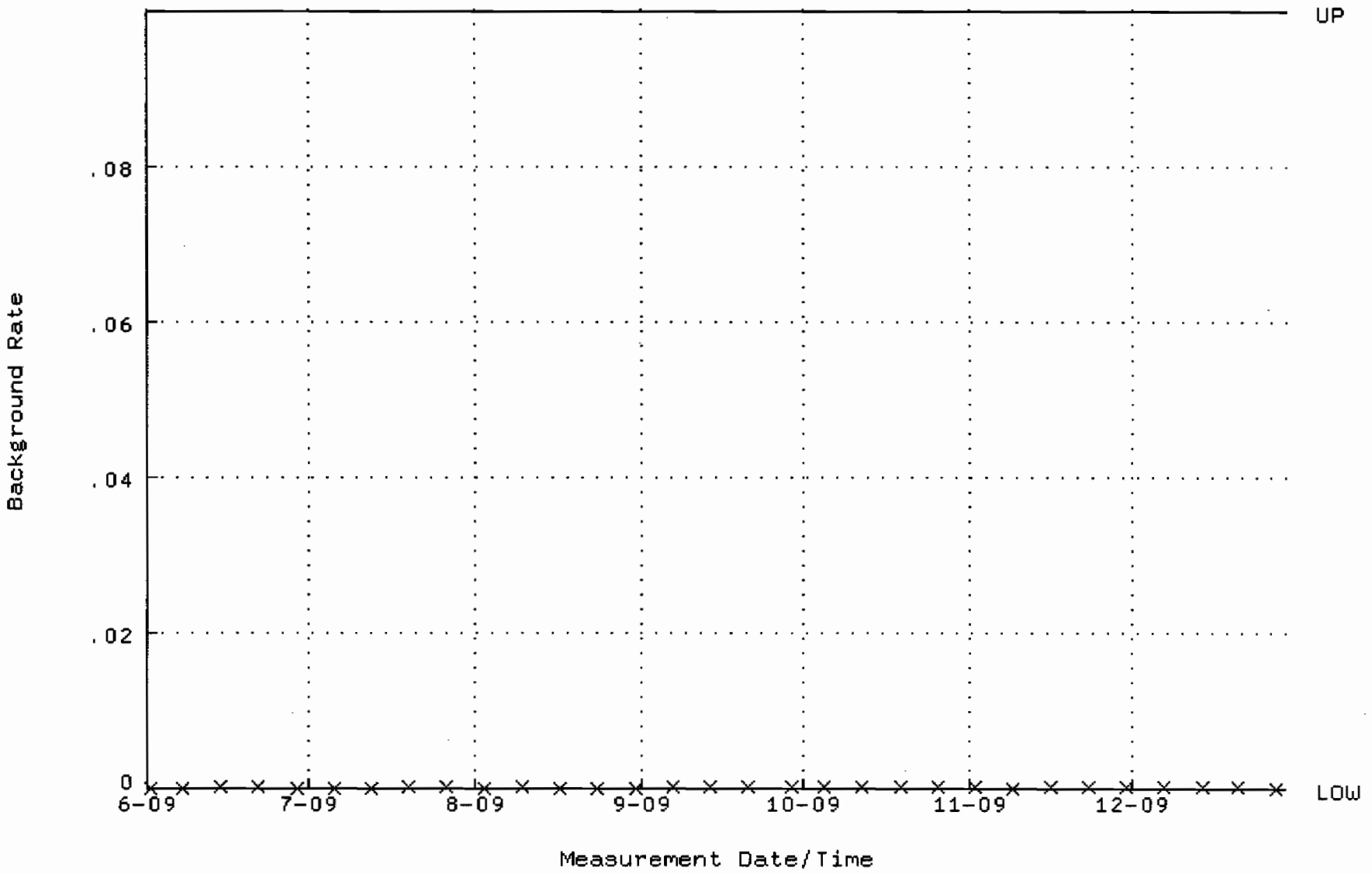
QA filename : DKA100:[ENV_ALPHA.QA.W]W242.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-JUN-2009 11:19:56 through 29-DEC-2009 12:00:00
Lower/Upper Lmts: 0.374815 through 0.394815



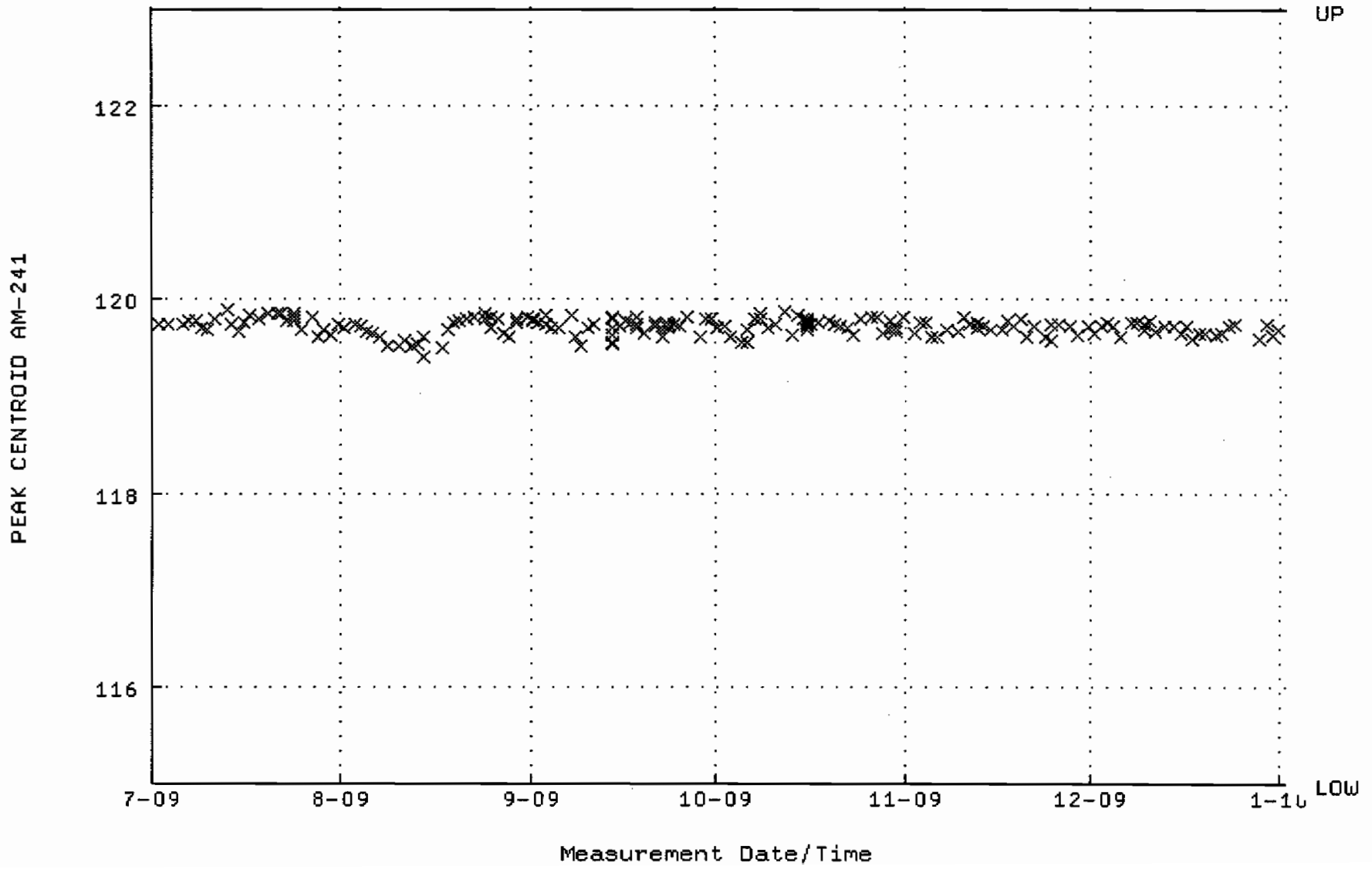
QA filename : DKA100:[ENV_ALPHA.QA.W]W242.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-JUN-2009 11:19:56 through 29-DEC-2009 12:00:00
Lower/Upper Lmts: 83.9949 through 92.8365



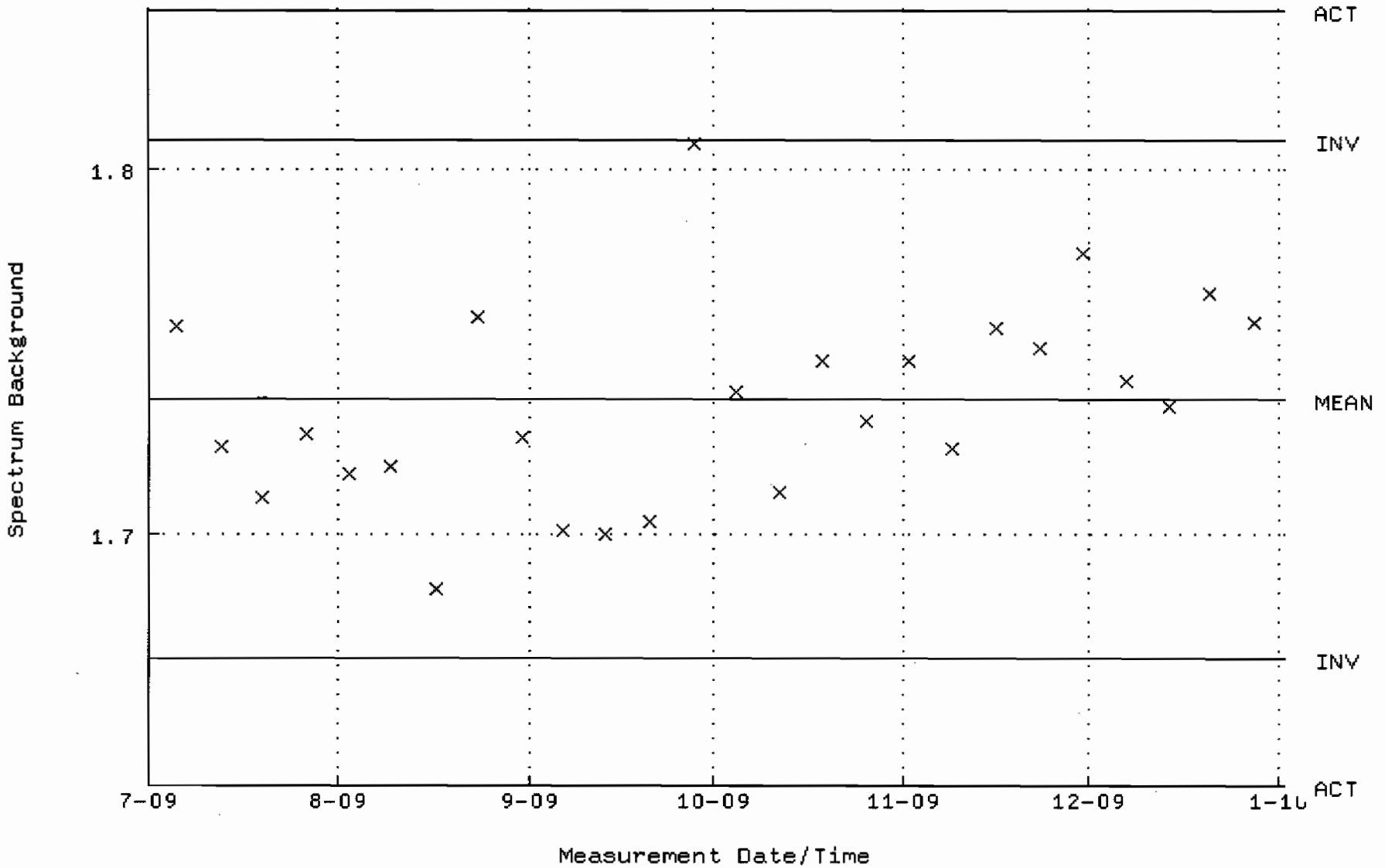
QA filename : DKA100:[ENV_ALPHA.QA.B]B242.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-JUN-2009 17:46:32 through 29-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



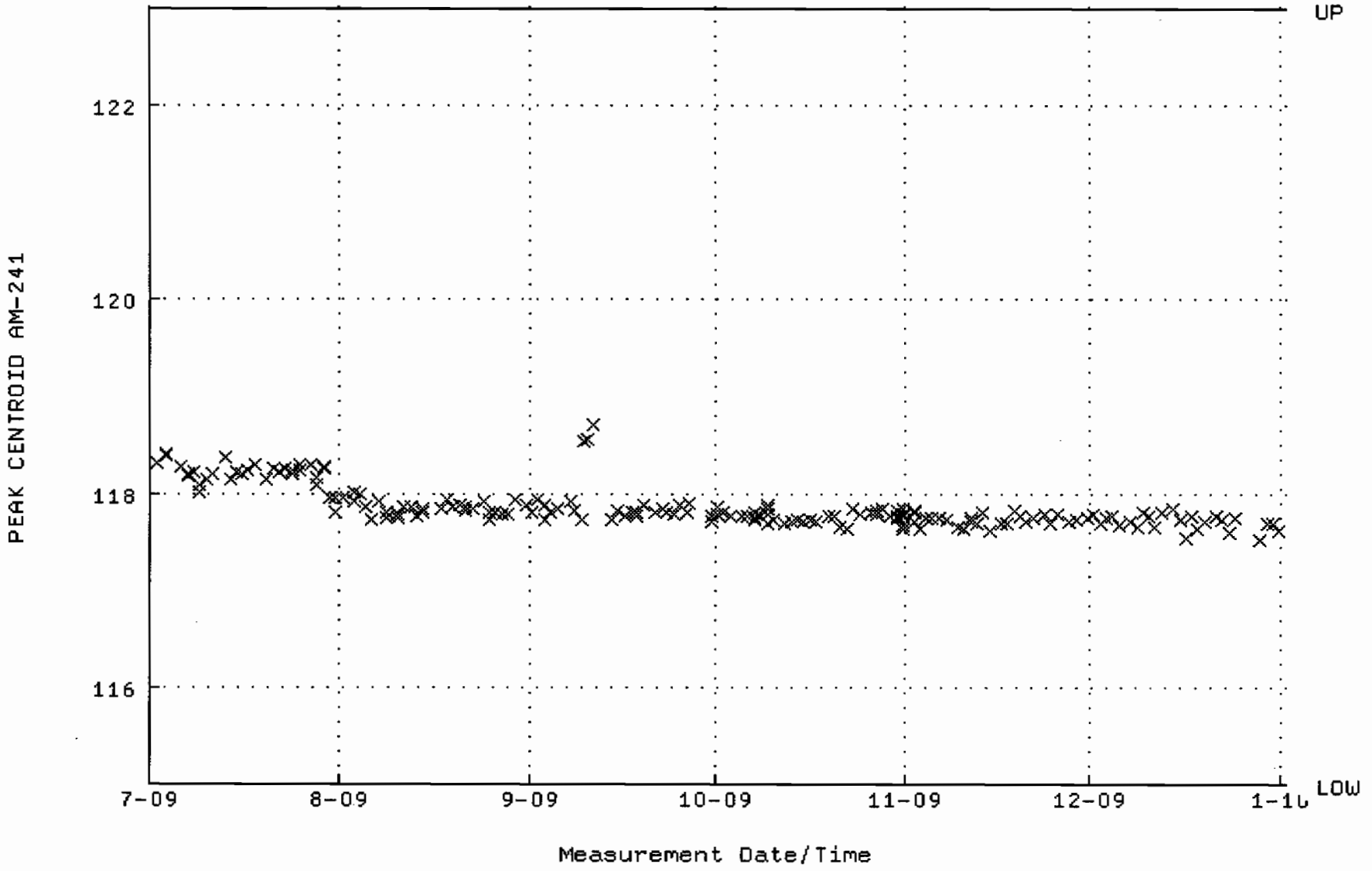
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM01_500MLMB.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 04:58:53 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



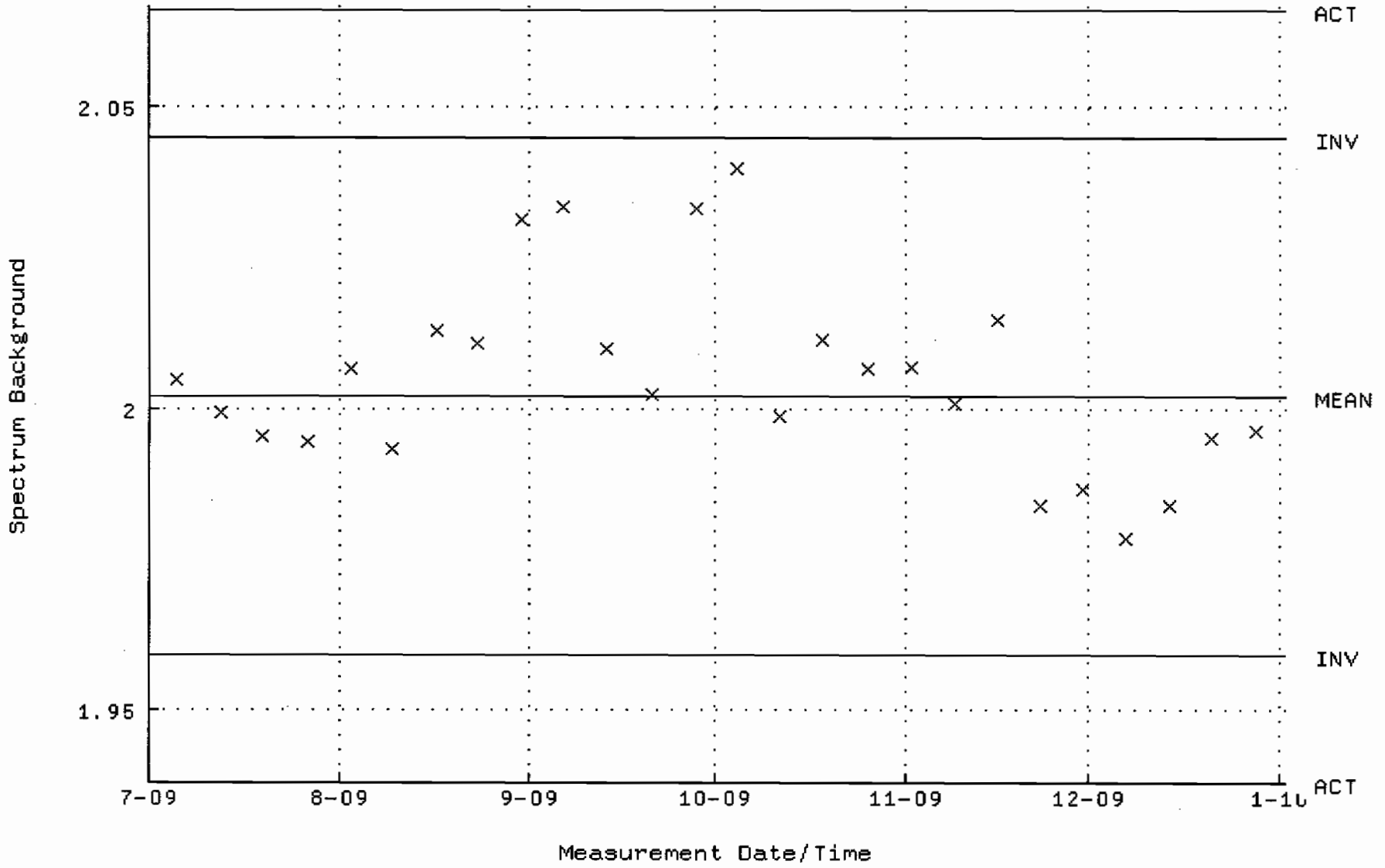
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM01.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:49:24 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.73723 +- 3.552524E-02 (2.04 %)



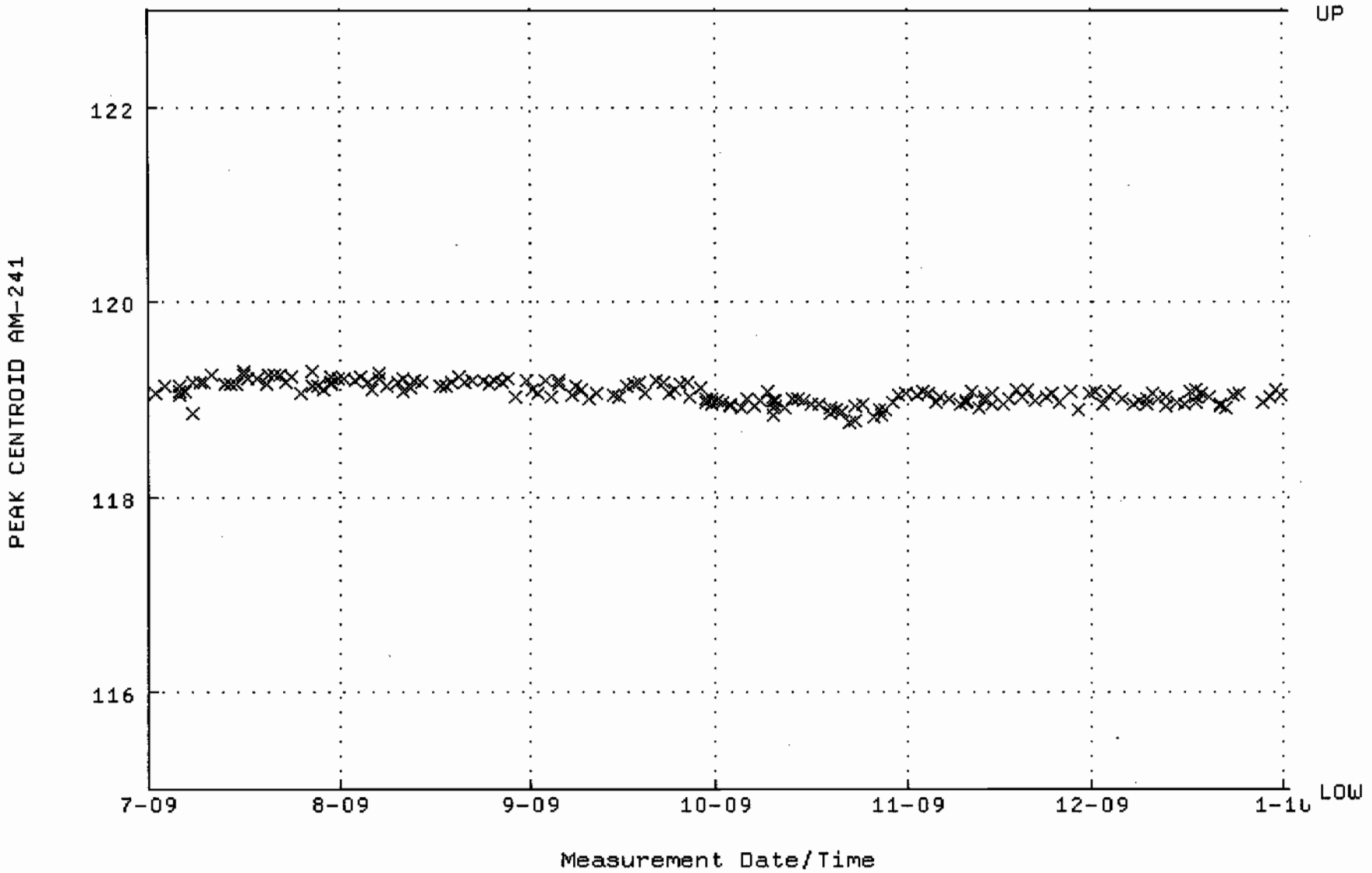
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM02_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 04:58:43 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



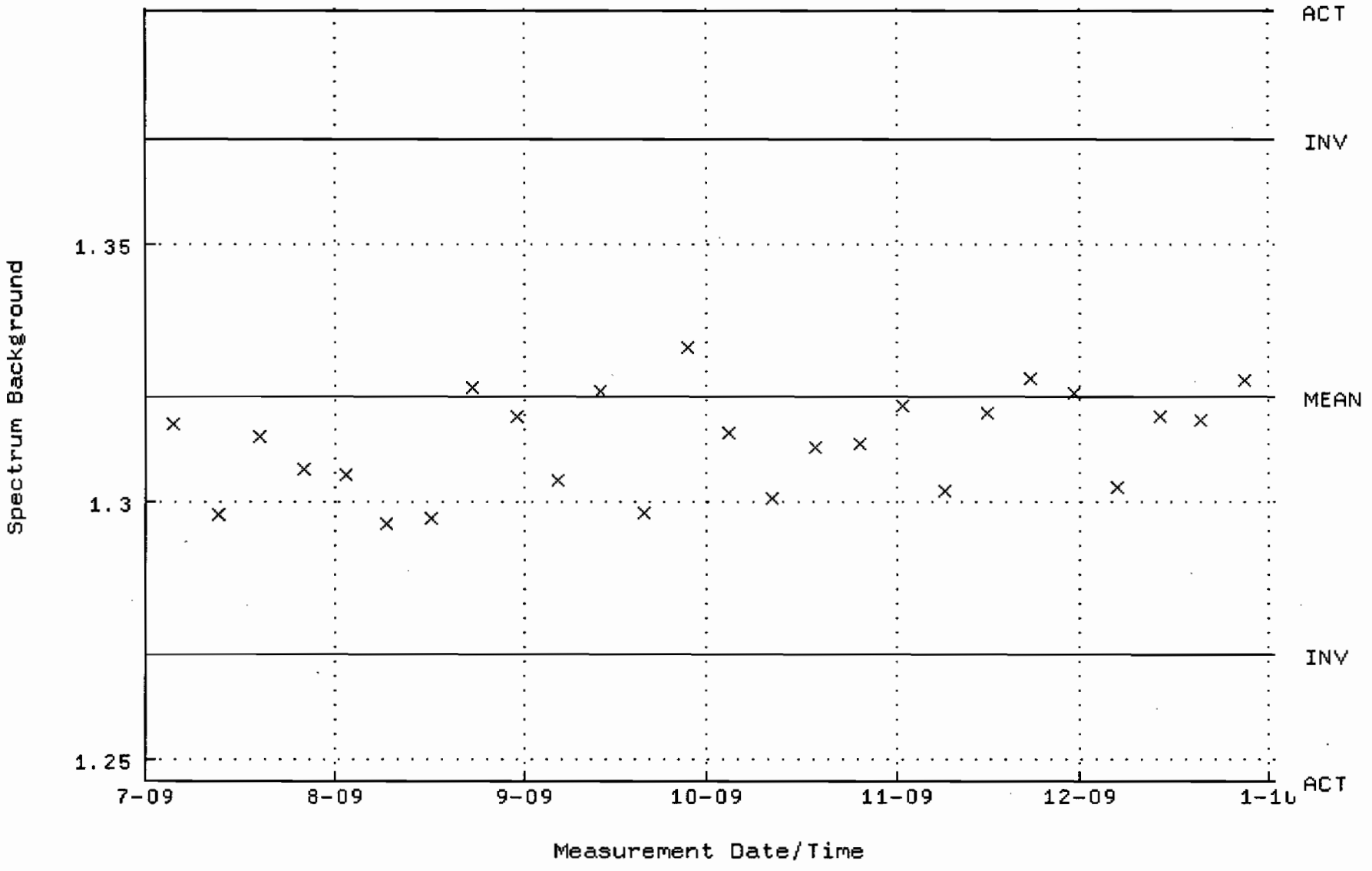
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM02.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:49:39 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 2.00226 +- 2.139827E-02 (1.07 %)



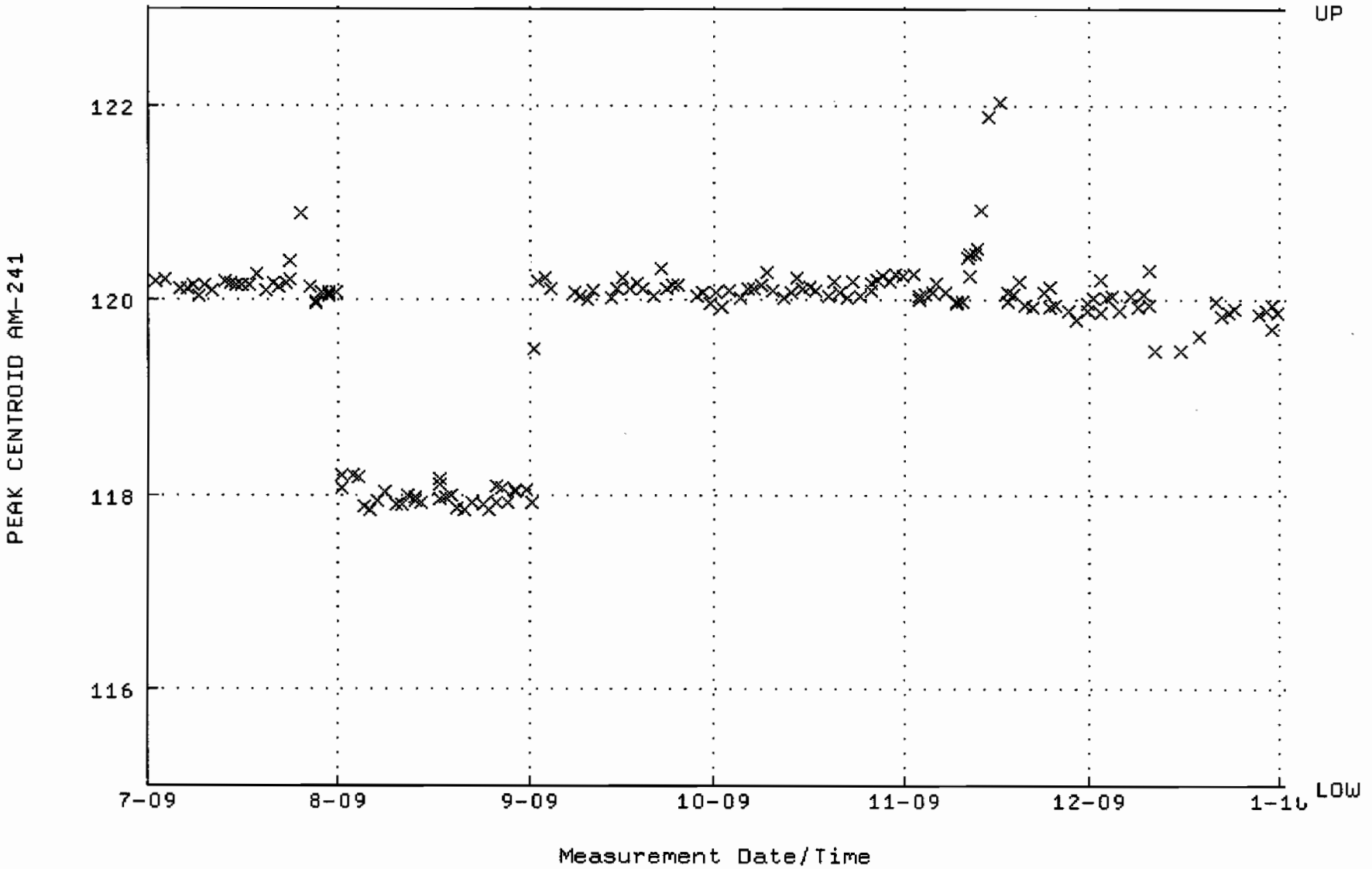
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM04_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 04:59:00 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



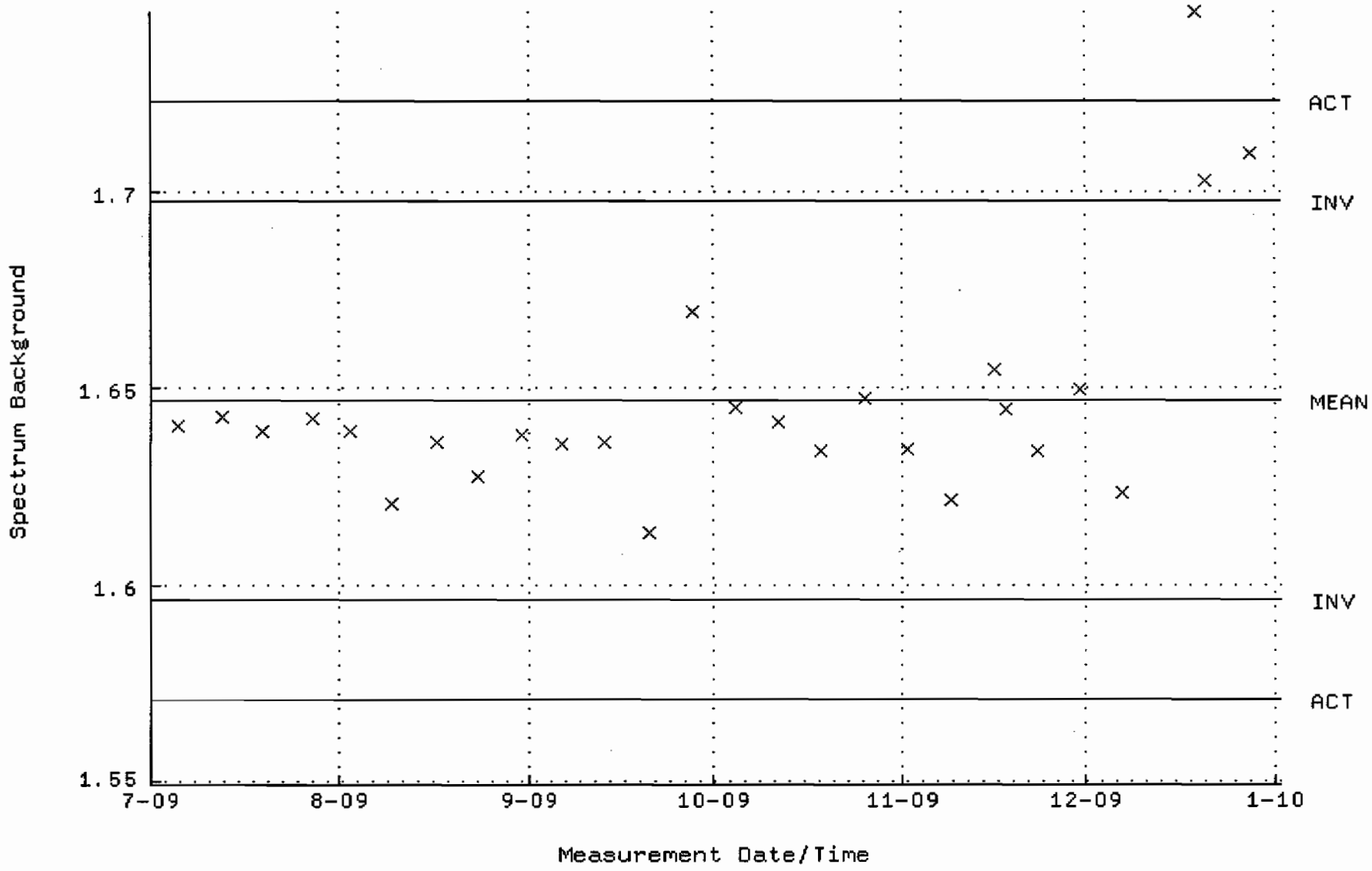
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM04.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:49:51 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.32050 +- 2.495234E-02 (1.89 %)



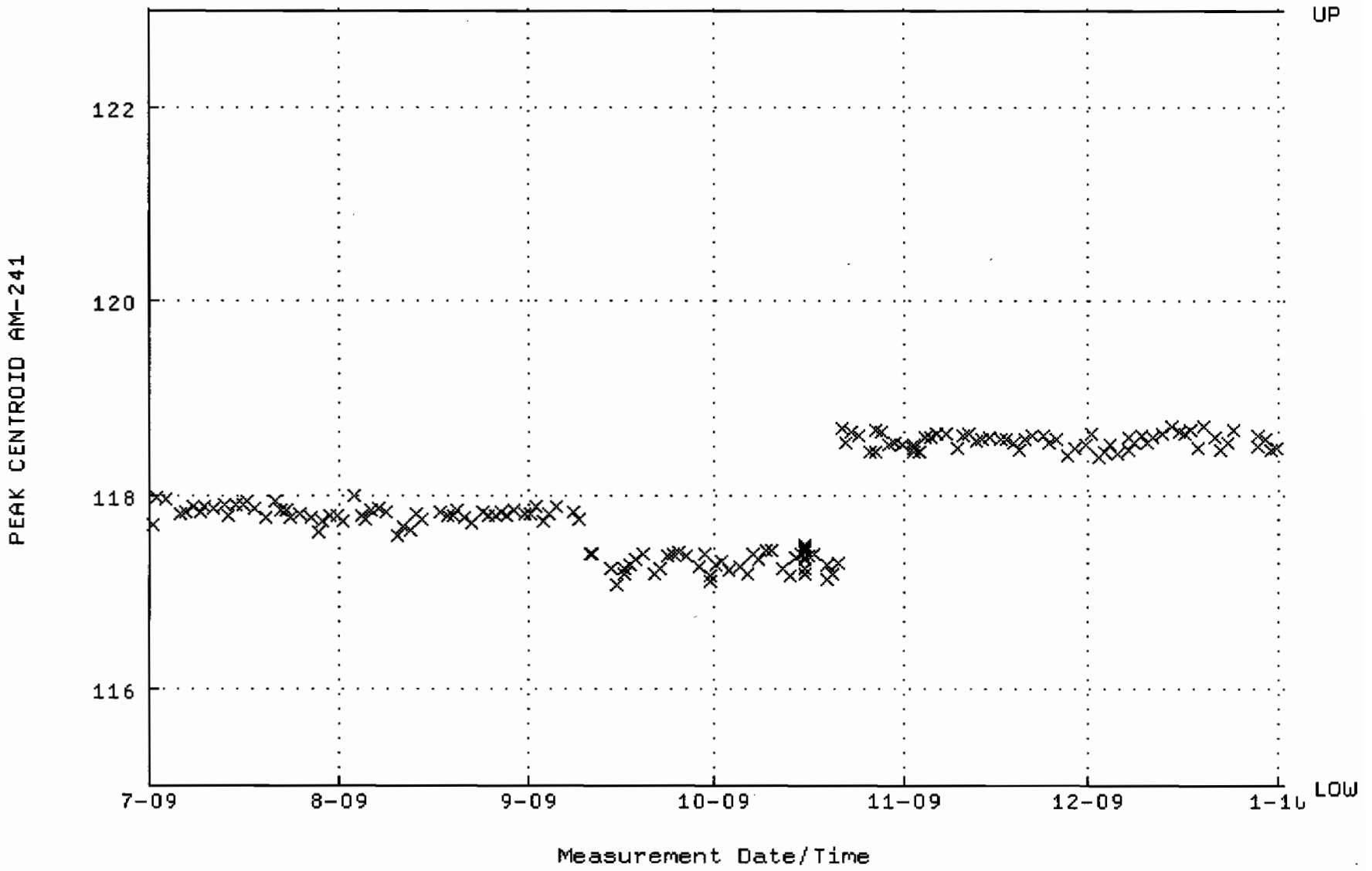
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM05_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 04:59:08 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



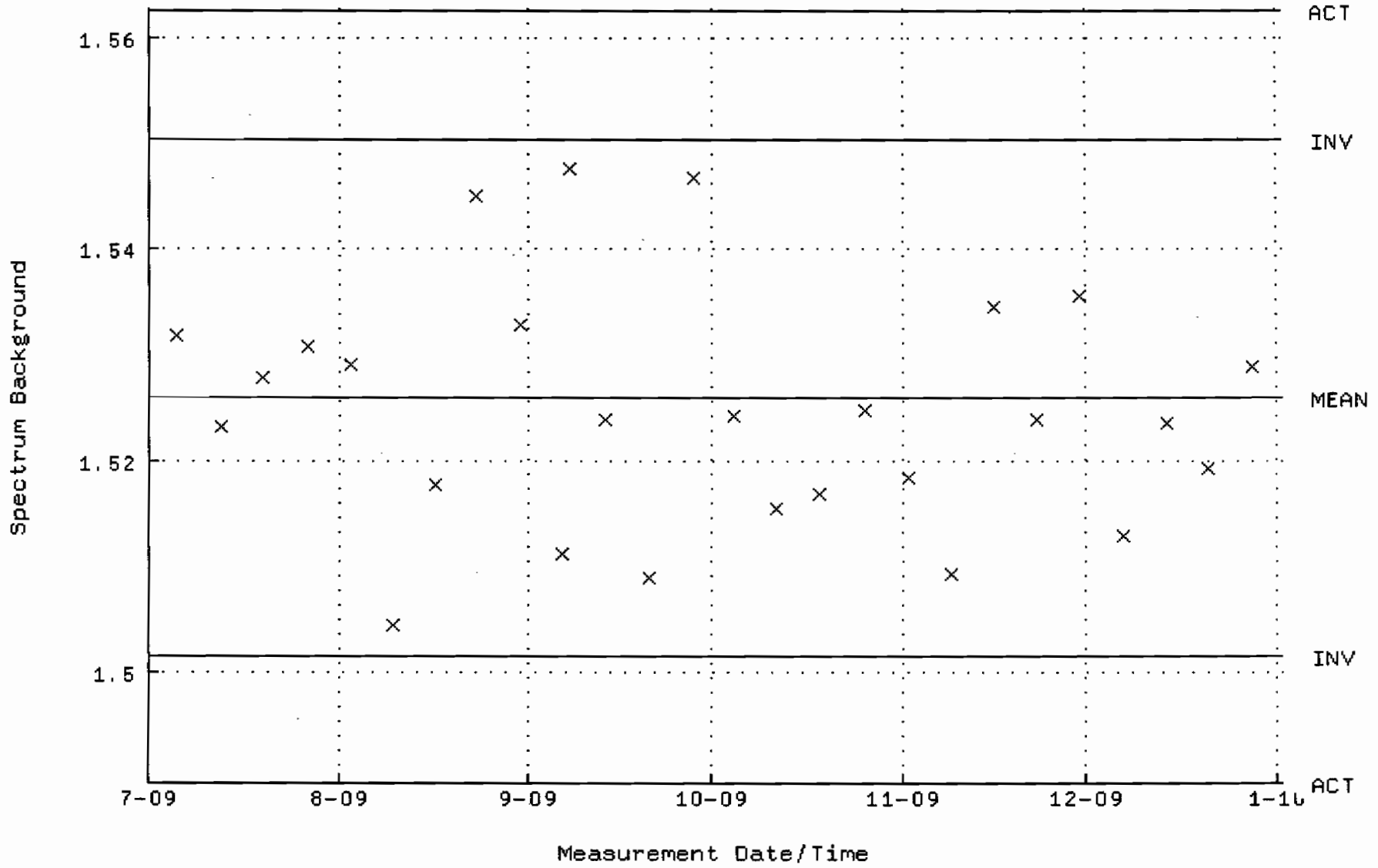
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM05.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:50:04 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.64719 +- 2.547087E-02 (1.55 %)



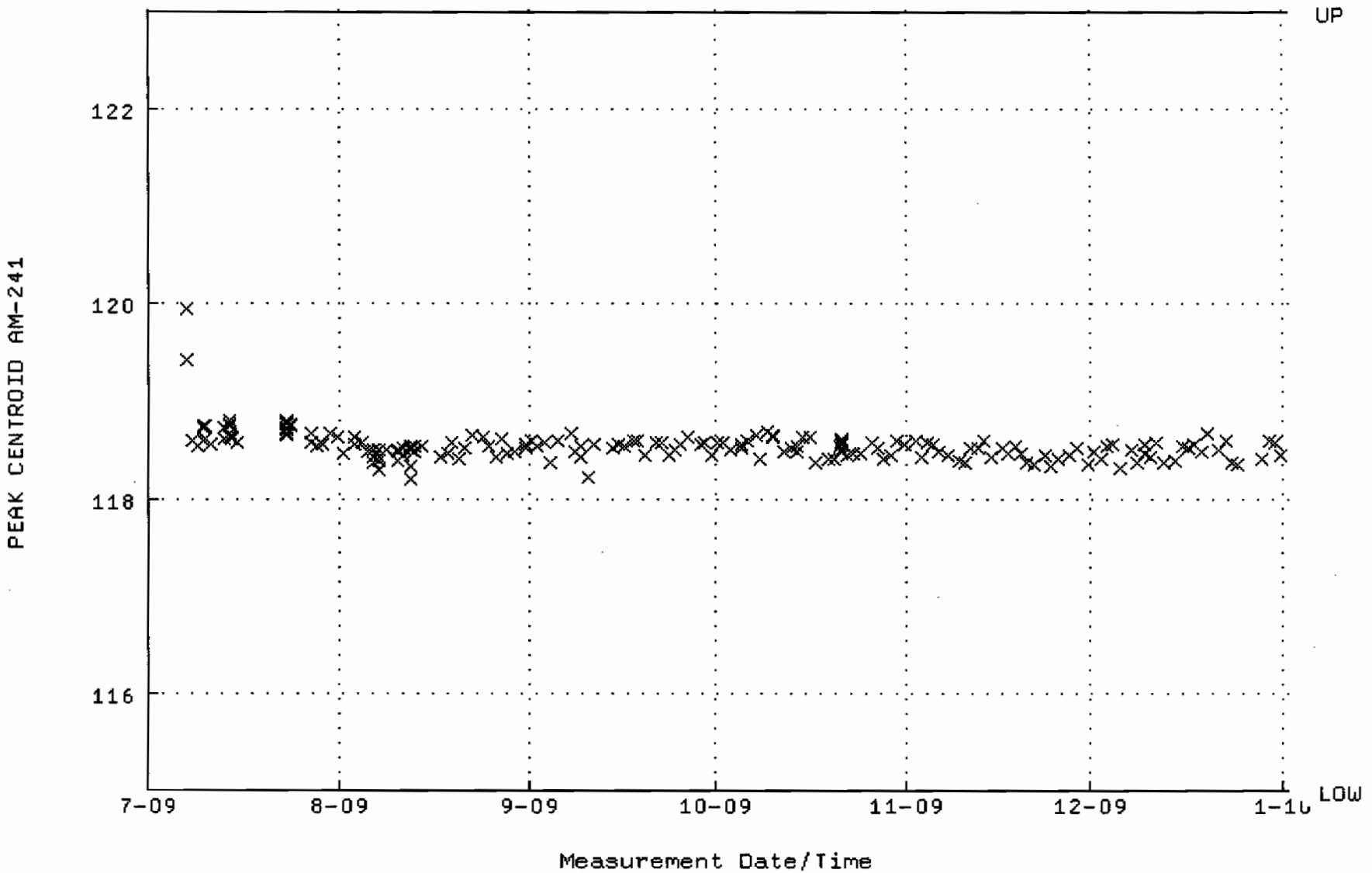
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM06_500MLMB.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 1-JUL-2009 14:30:59 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



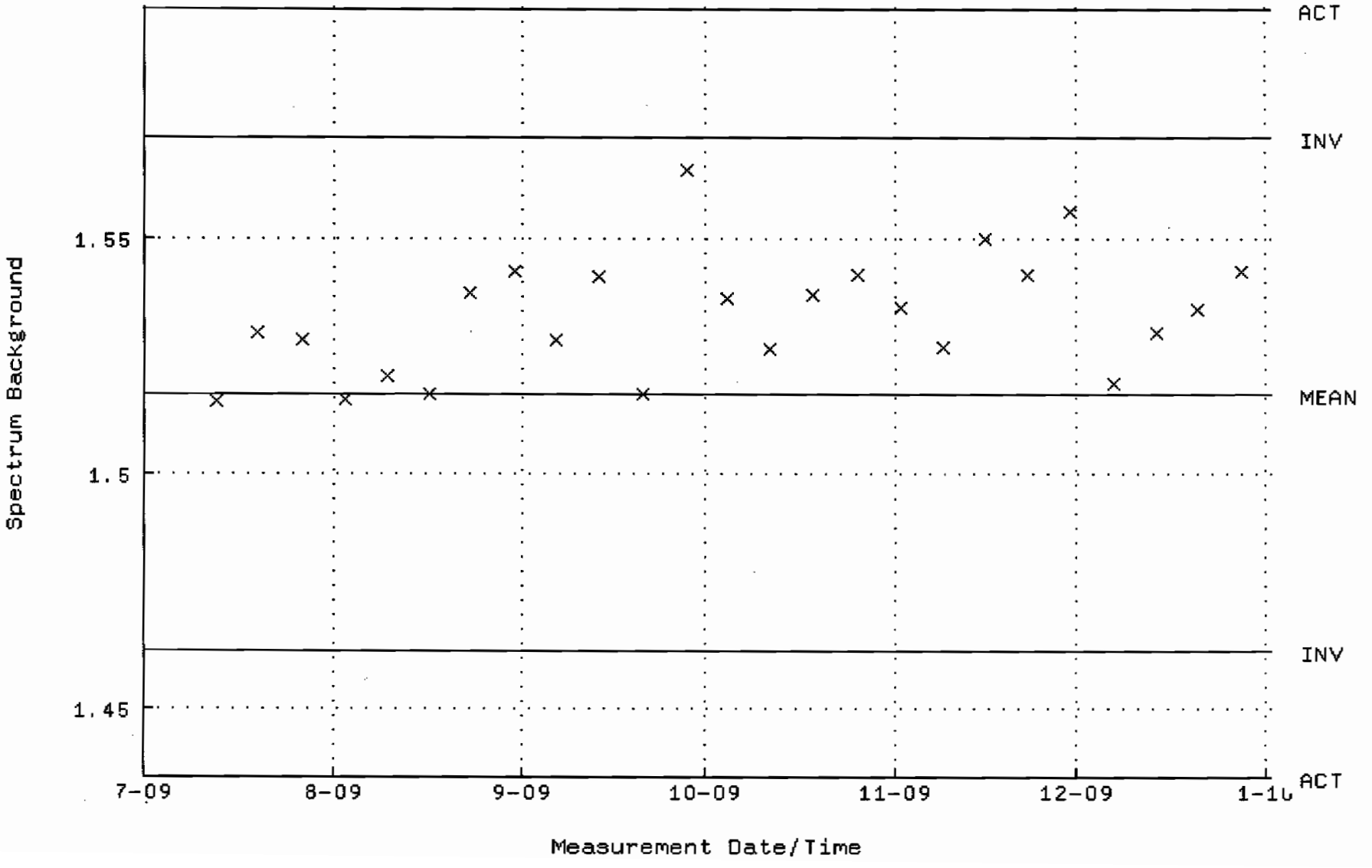
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM06.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:50:15 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.52603 +- 1.215987E-02 (0.80 %)



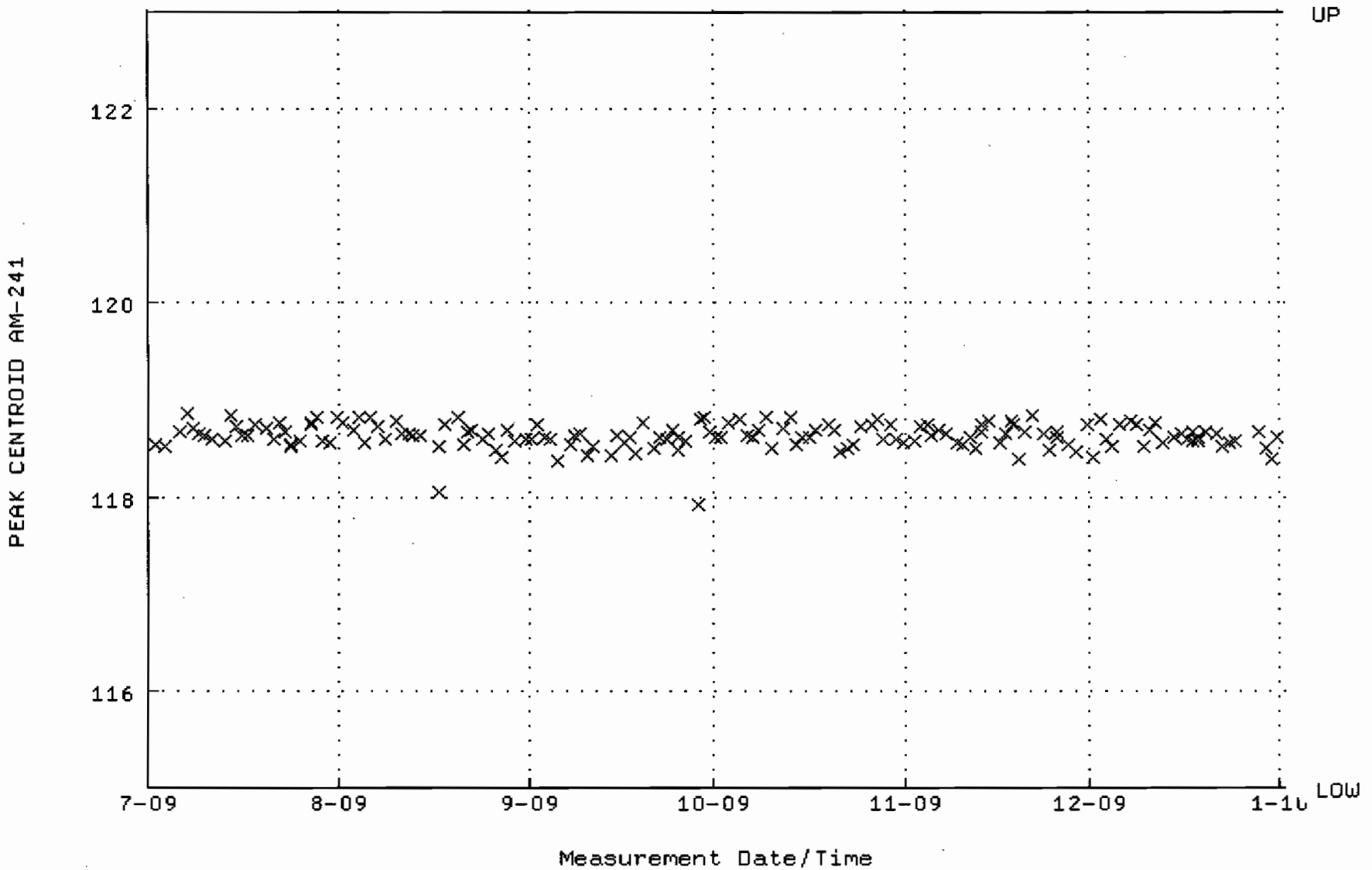
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM07_JAR.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 7-JUL-2009 09:02:00 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



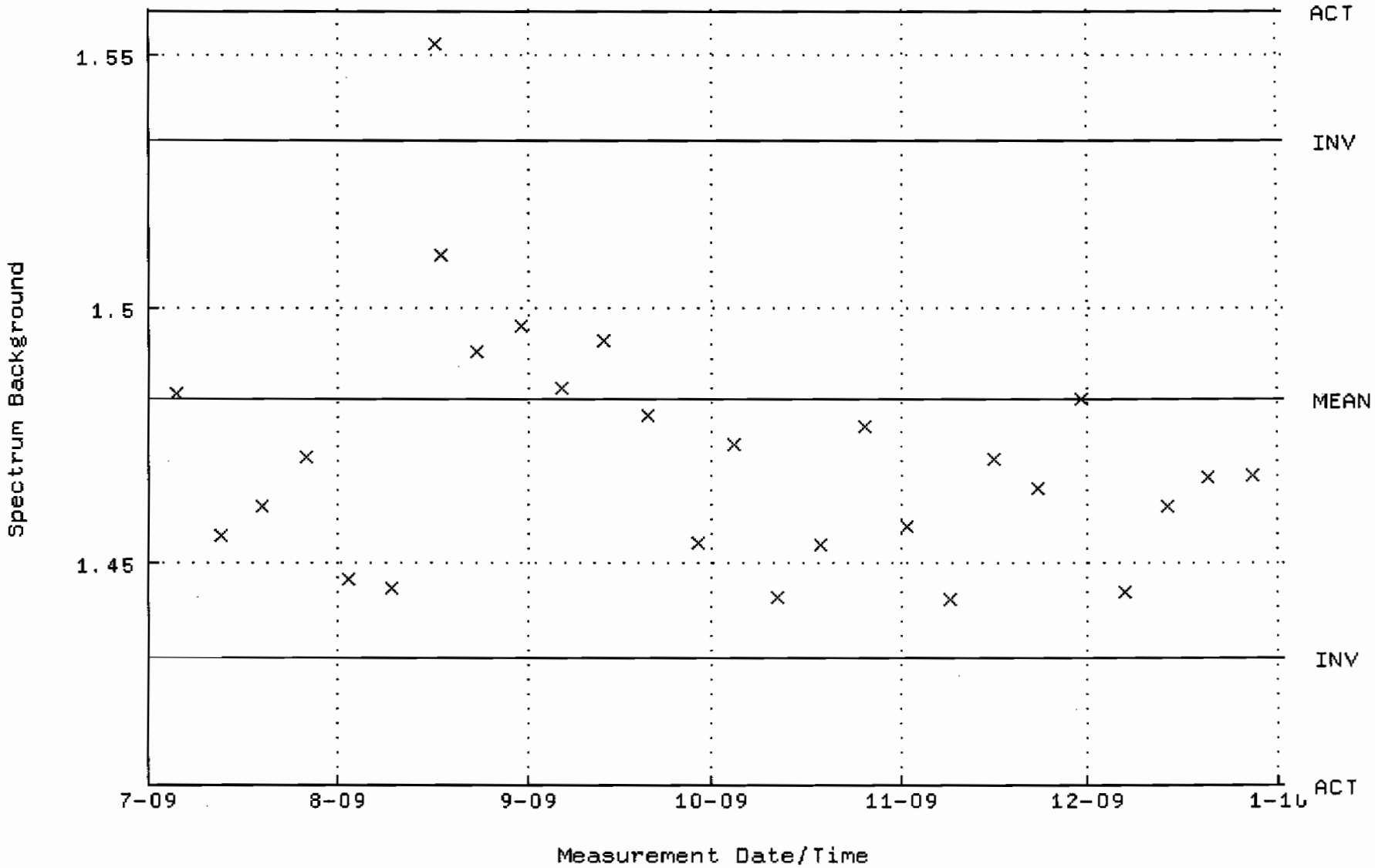
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM07.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 12-JUL-2009 17:17:31 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.51715 +- 2.726376E-02 (1.80 %)



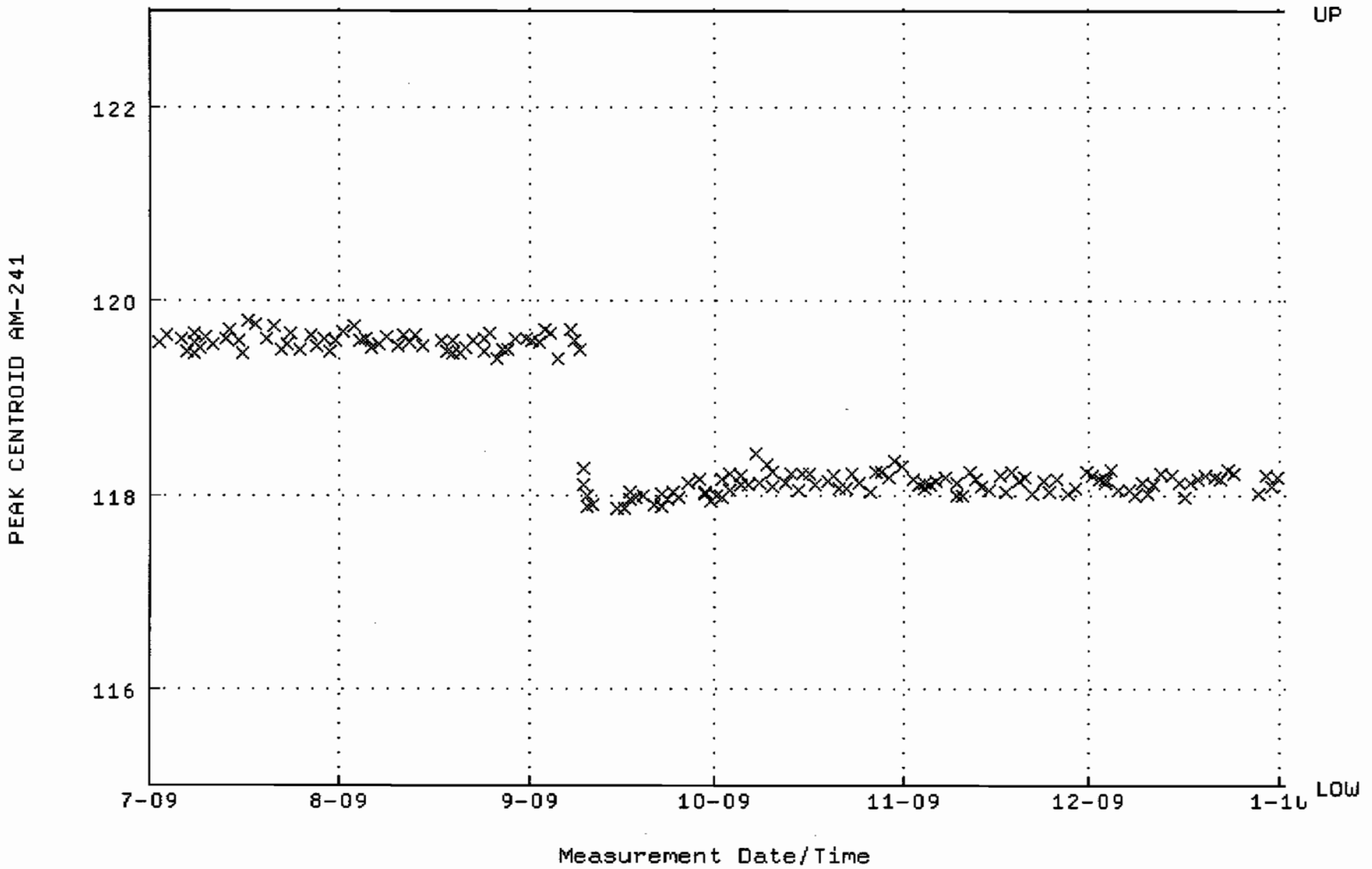
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM14_2LMB.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 04:59:23 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



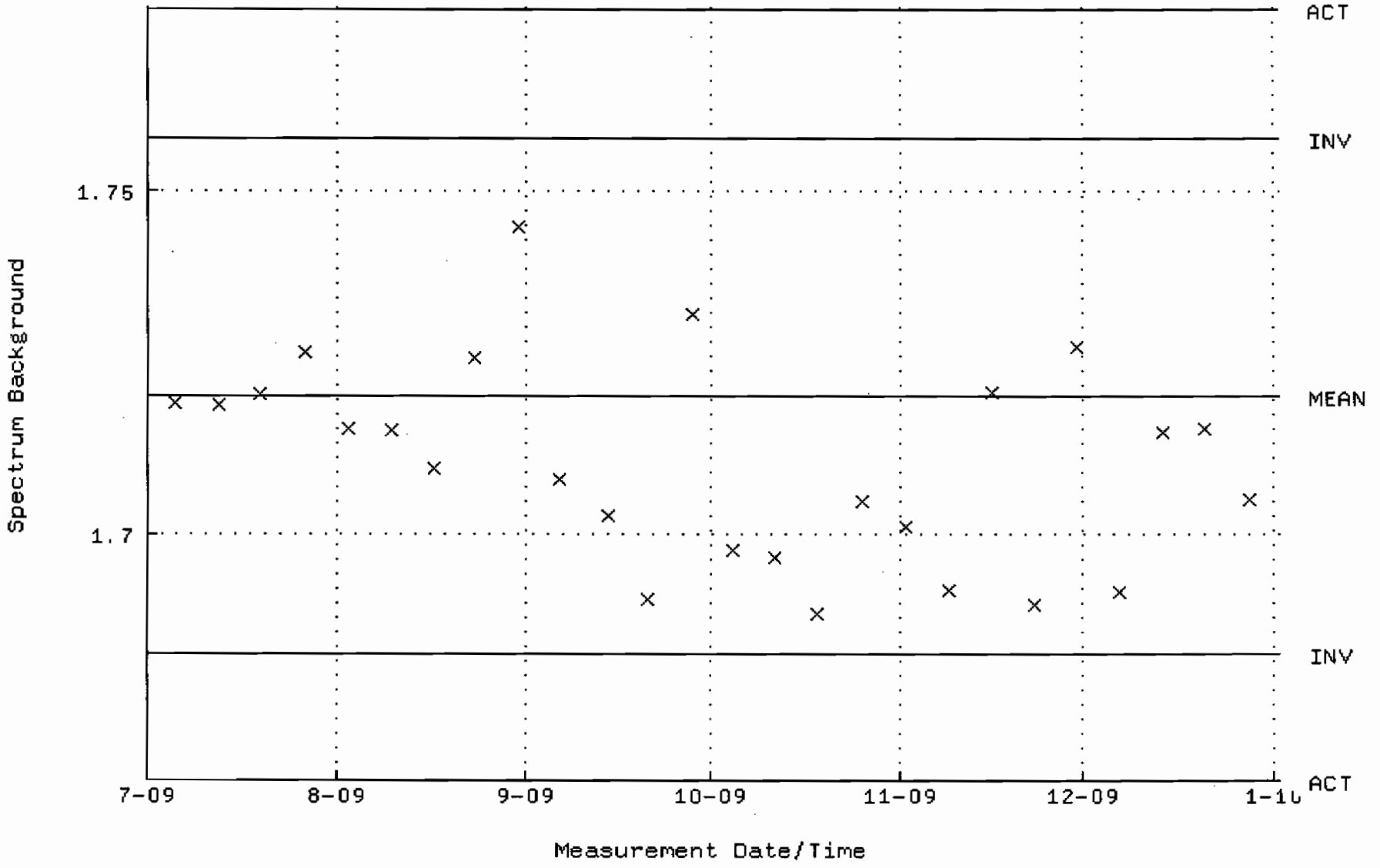
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM14.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:52:31 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.48240 +- 2.535500E-02 (1.71 %)



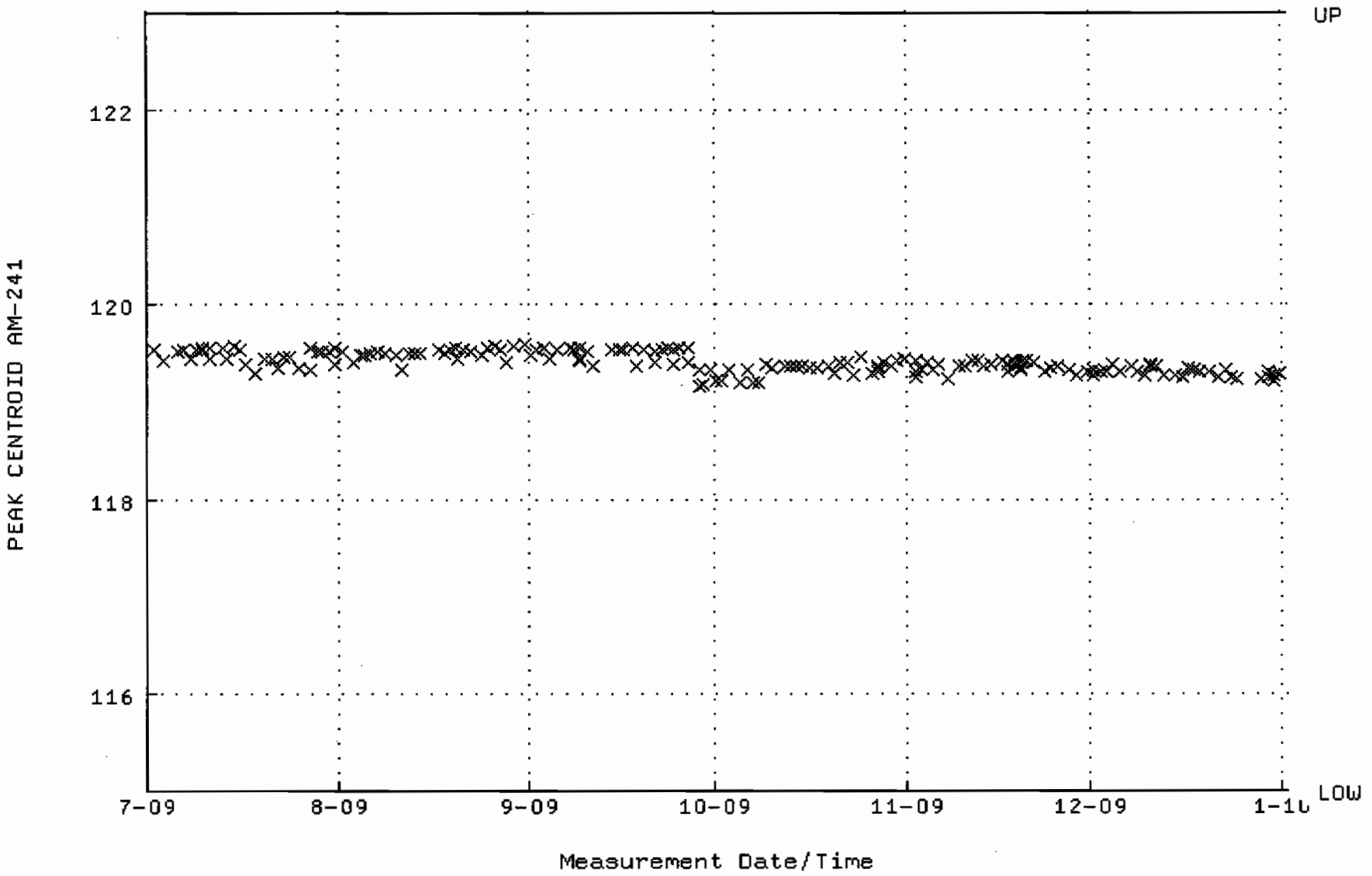
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM15_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 10:47:40 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



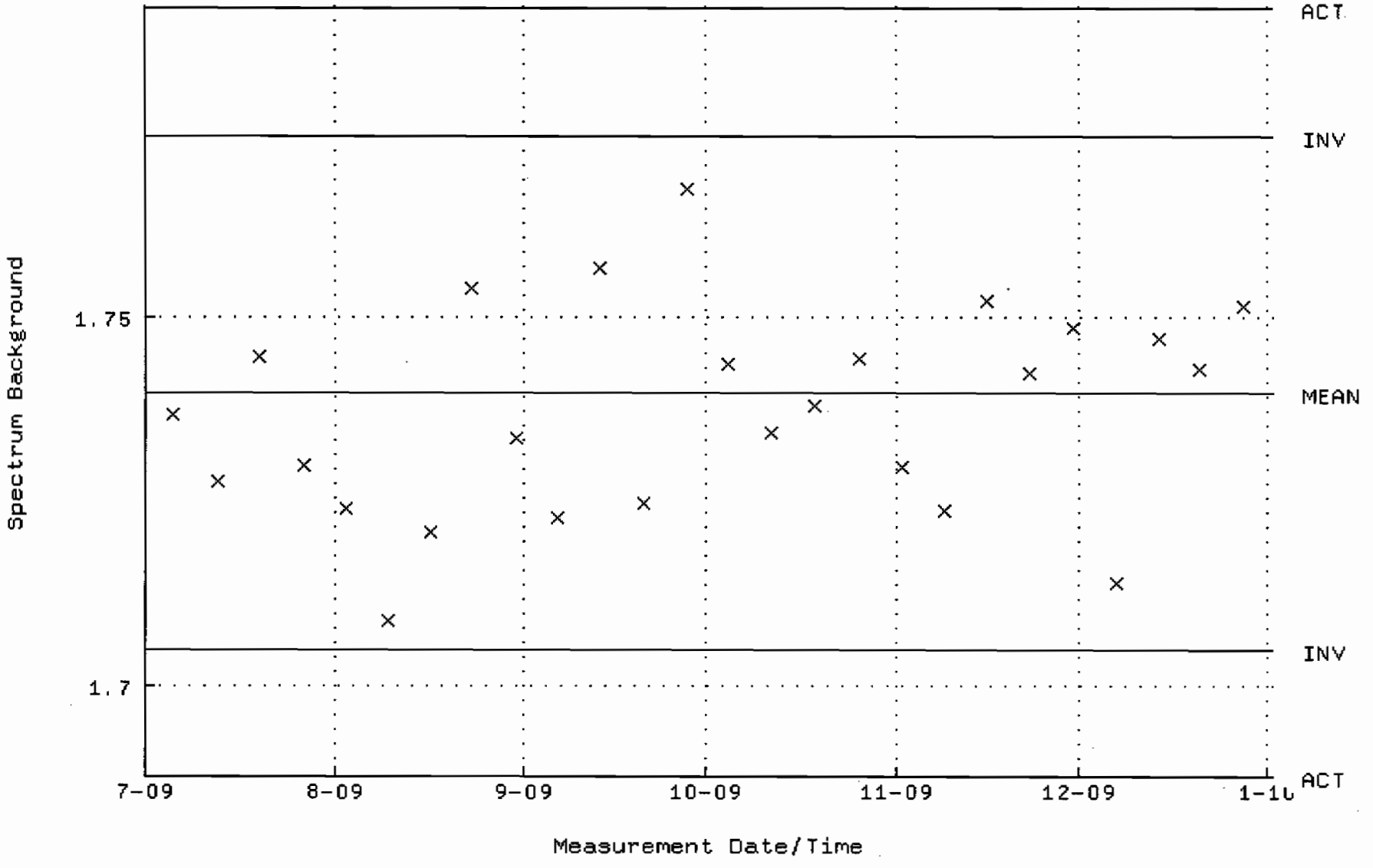
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM15.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:52:45 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.72024 +- 1.875820E-02 (1.09 %)



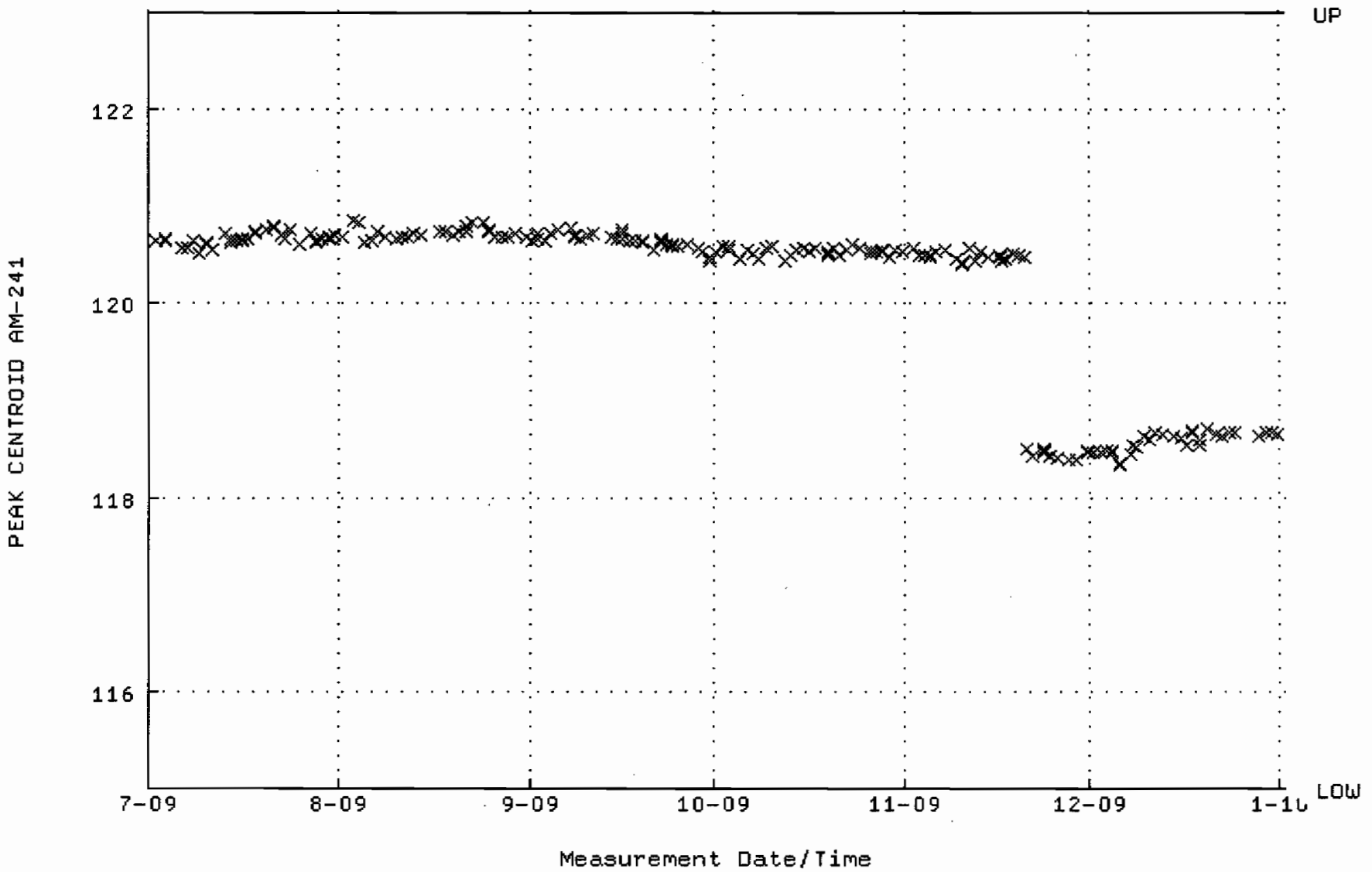
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM16_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 05:29:19 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



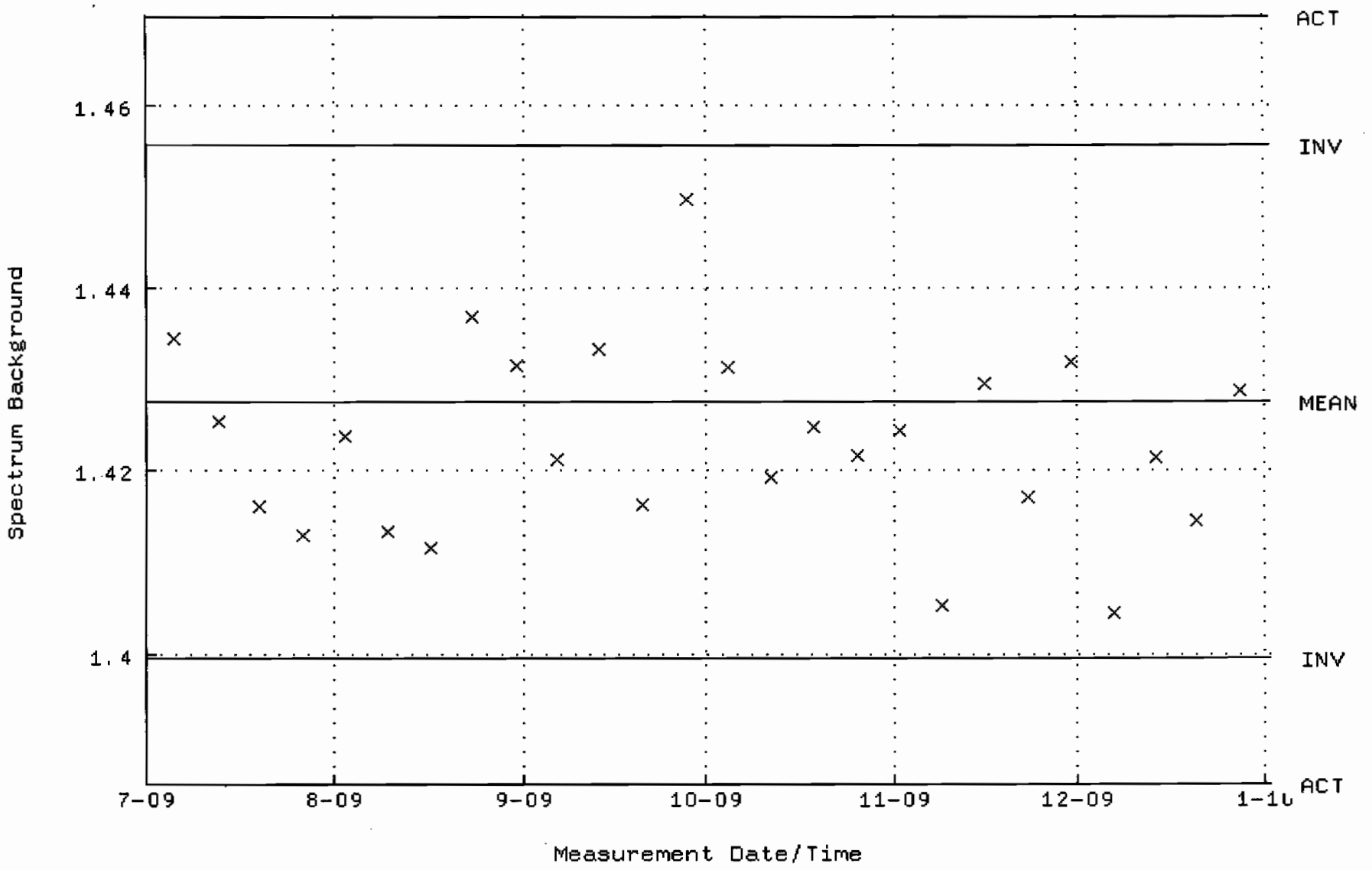
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM16.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:52:58 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.73980 +- 1.729897E-02 (0.99 %)



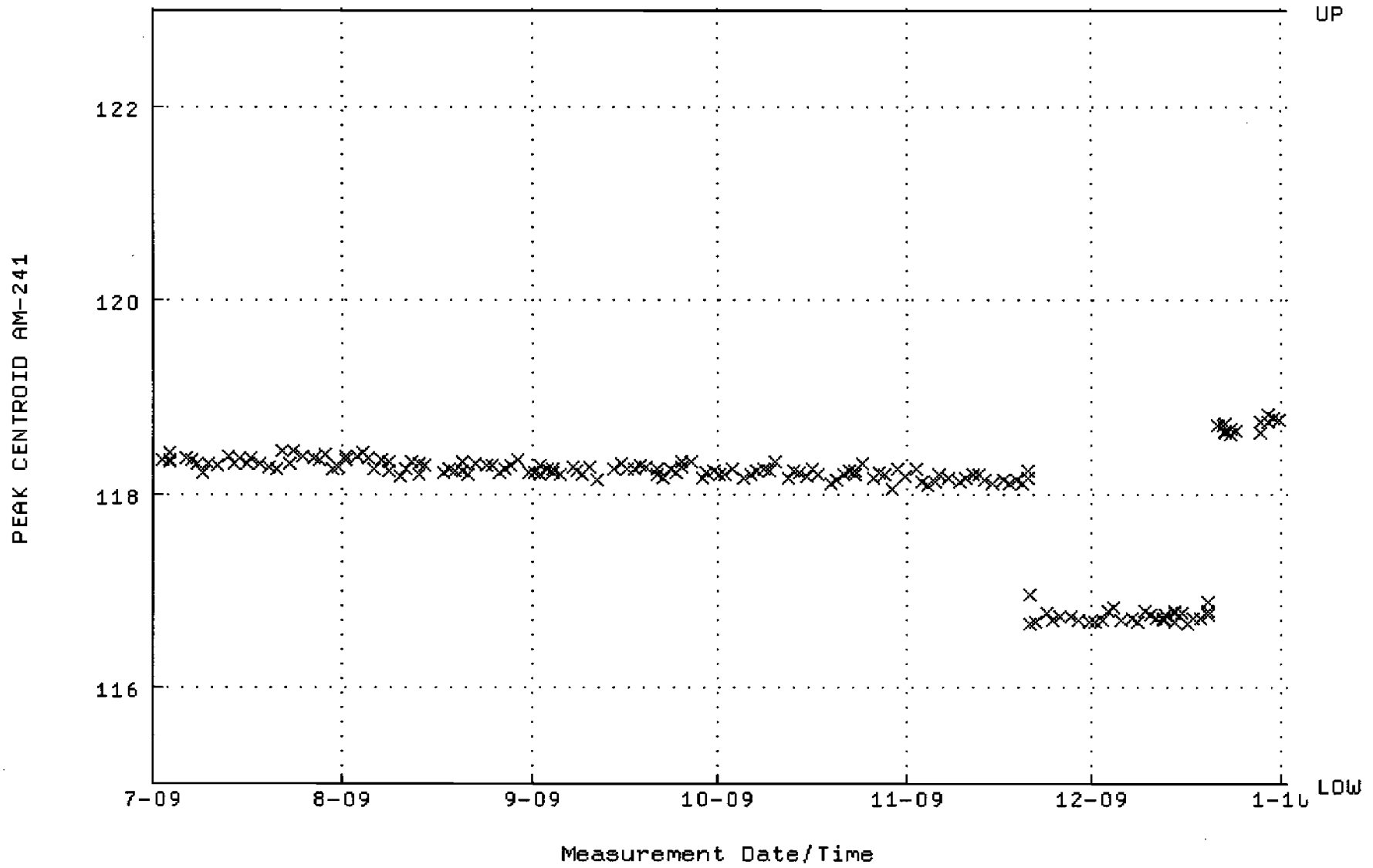
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM17_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 05:29:26 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



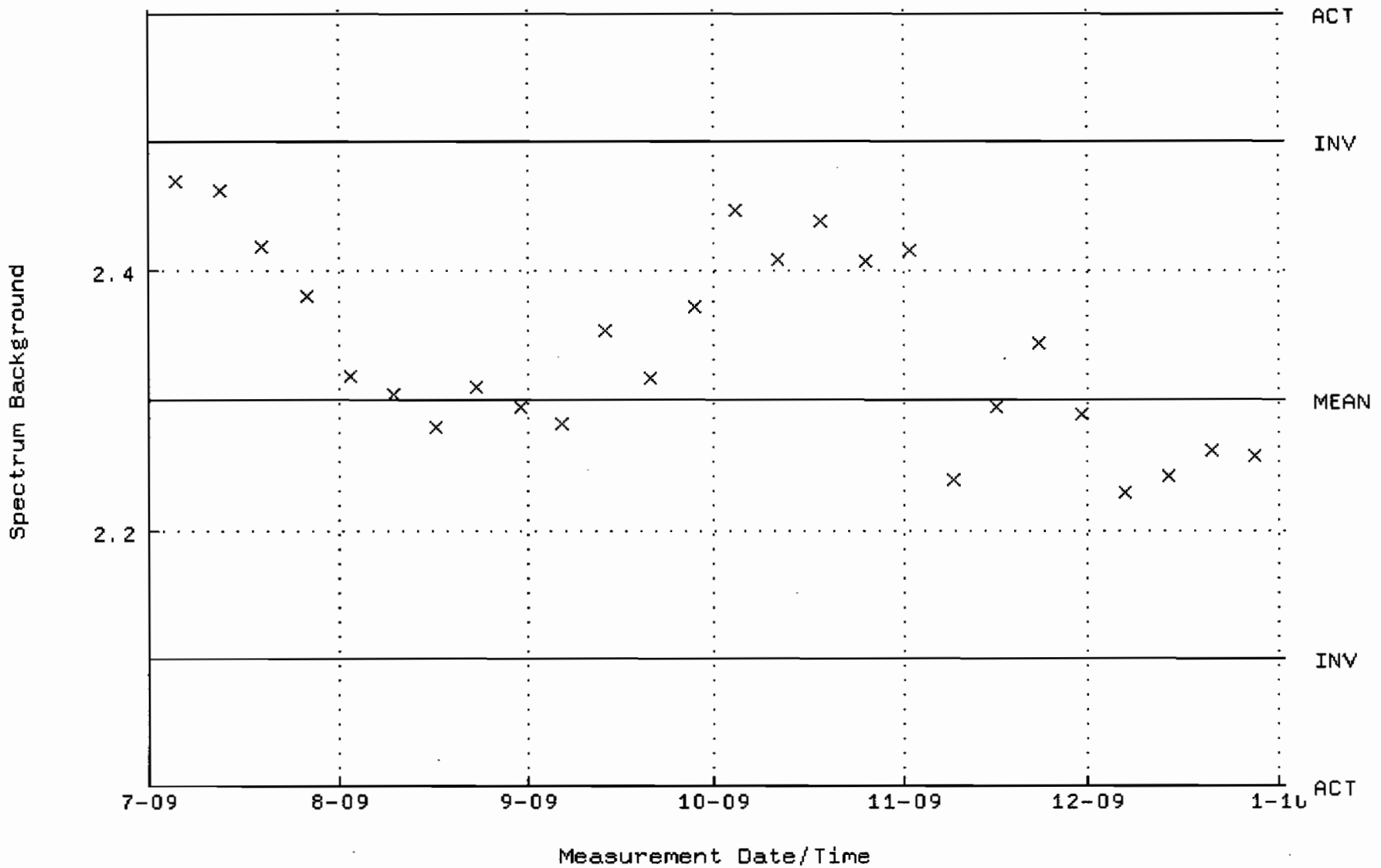
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM17.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:53:11 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.42766 +- 1.396974E-02 (0.98 %)



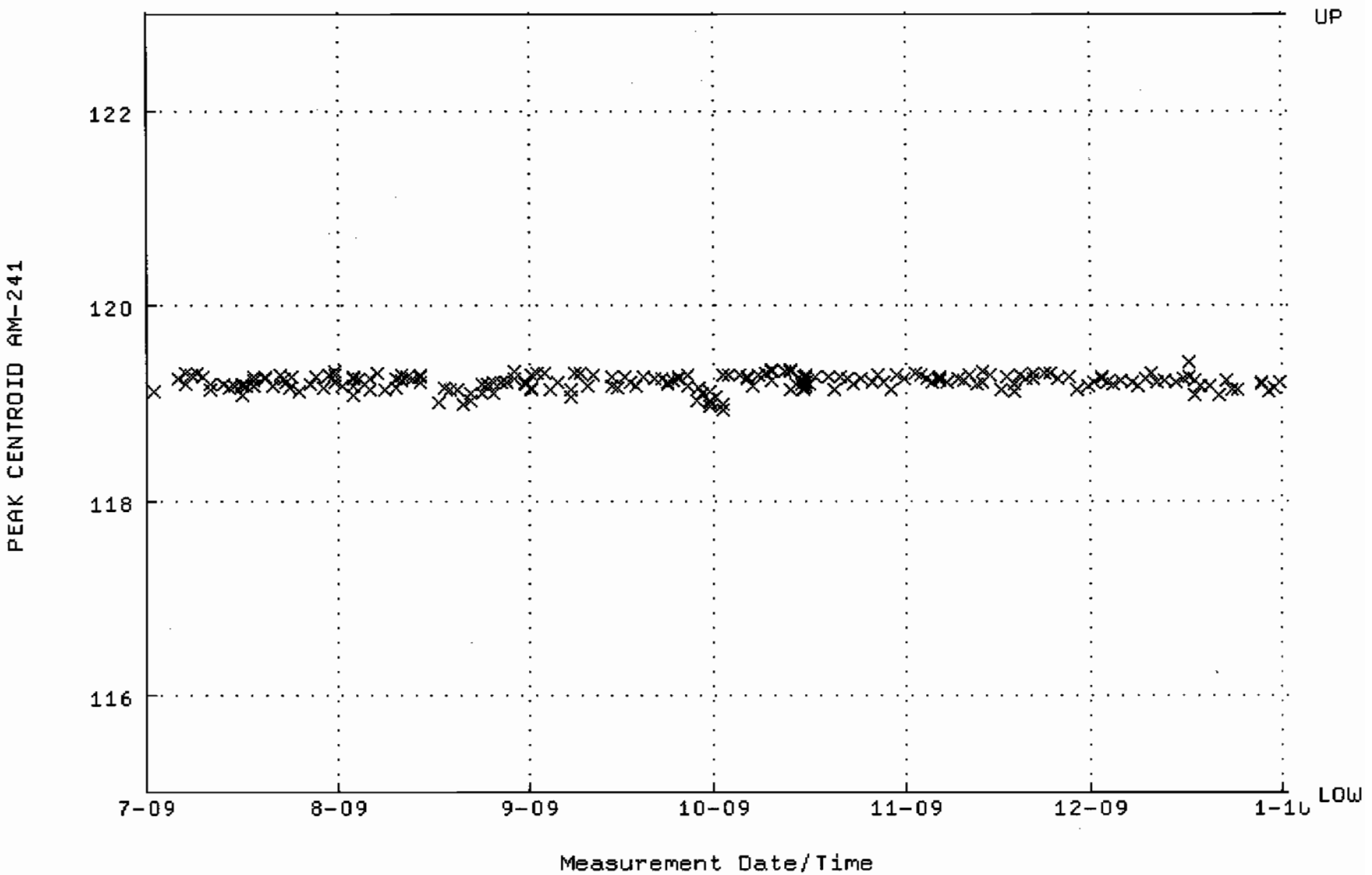
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM18_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 11:04:02 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



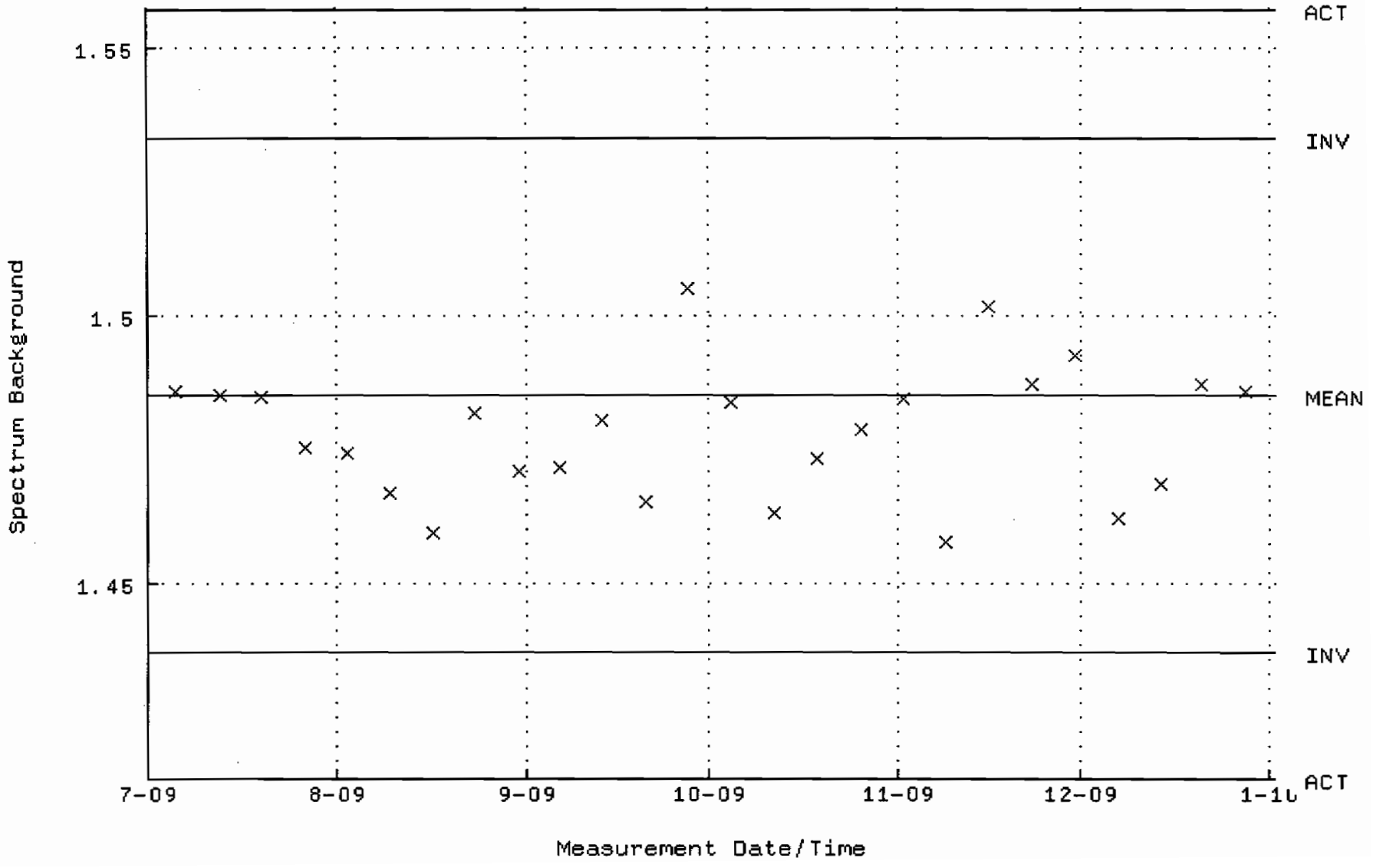
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM18.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:53:23 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 2.30164 +- 9.930626E-02 (4.31 %)



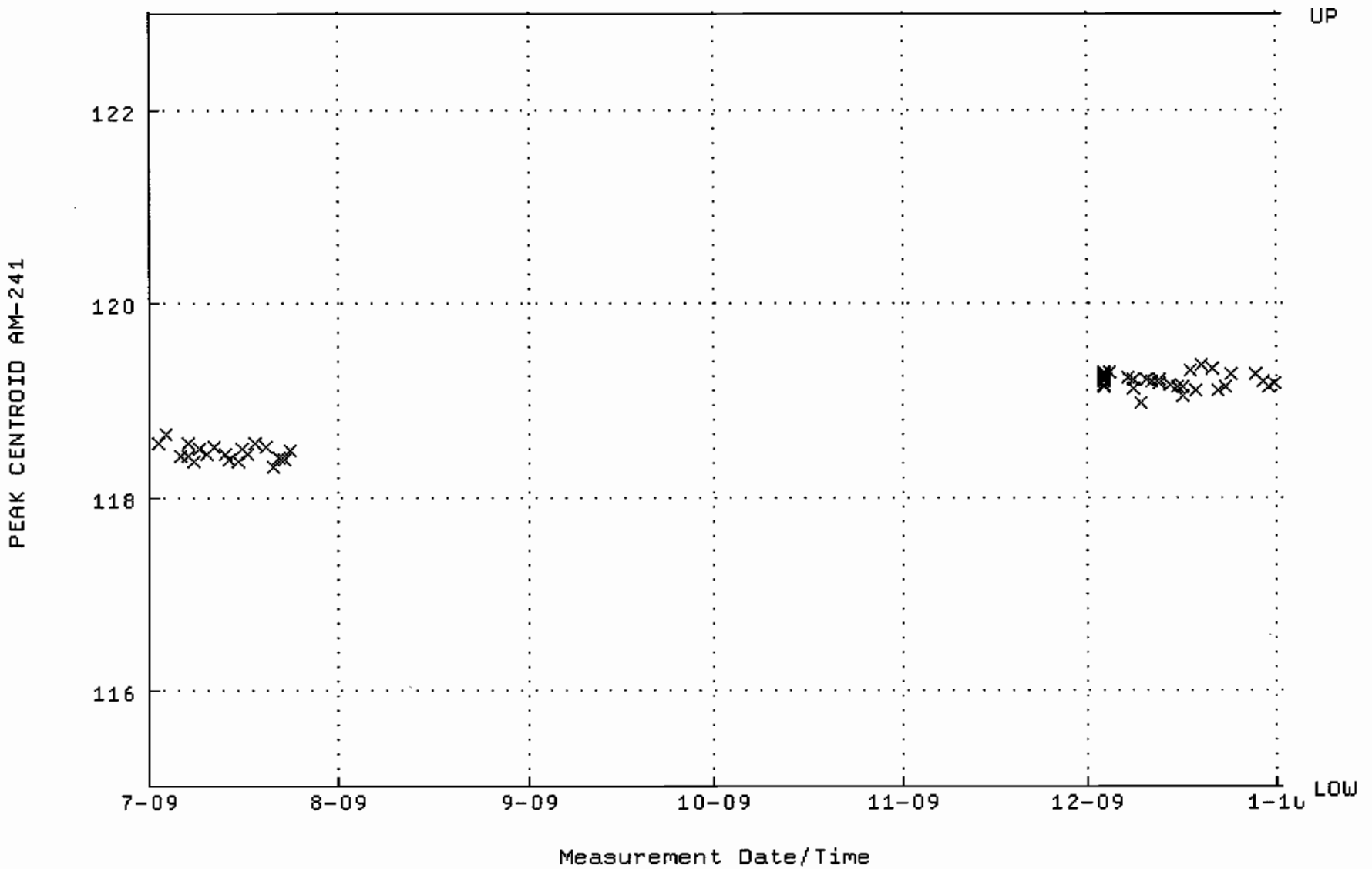
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM20_500MLMB.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 05:29:34 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



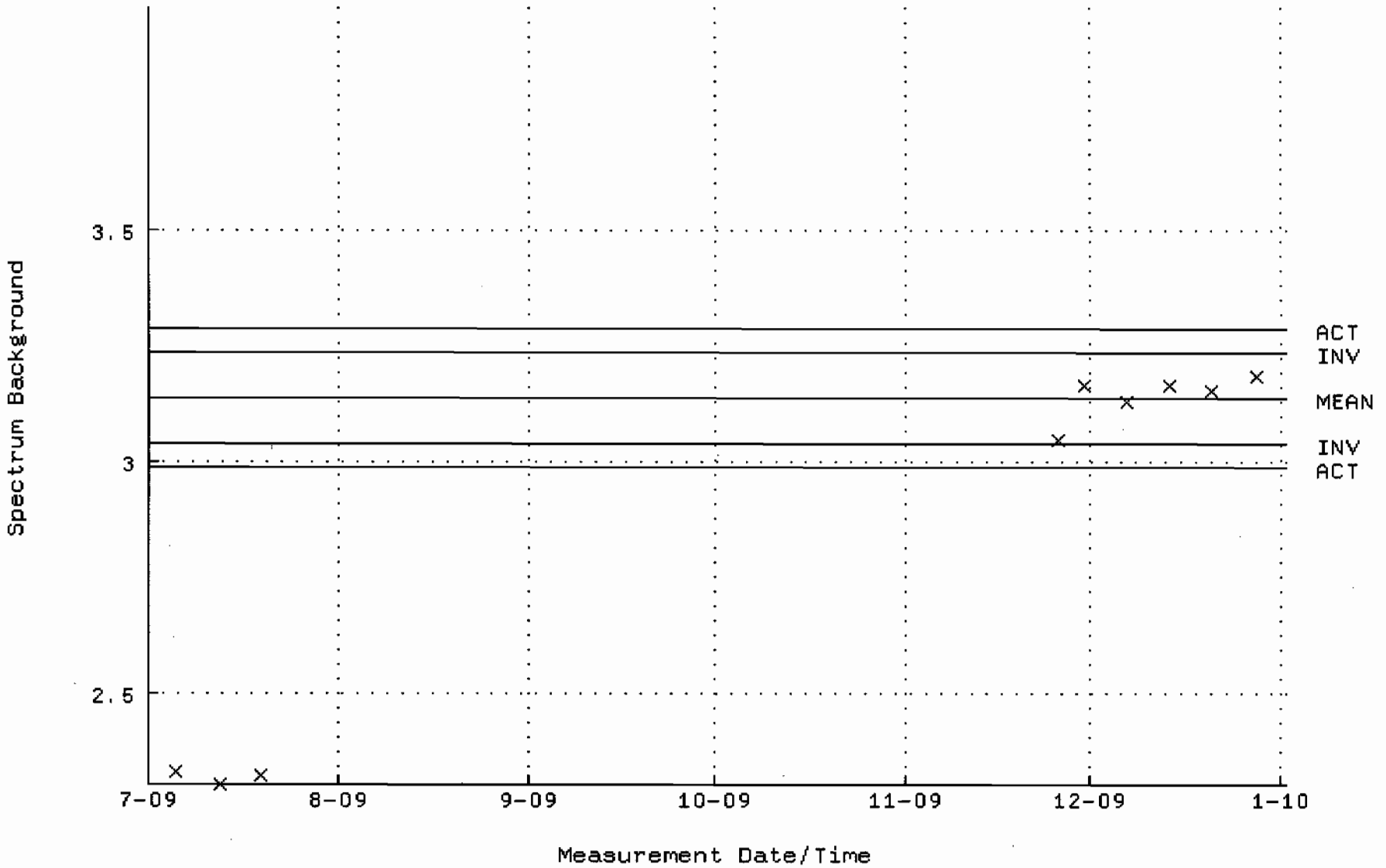
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM20.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:53:49 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.48527 +- 2.388665E-02 (1.61 %)



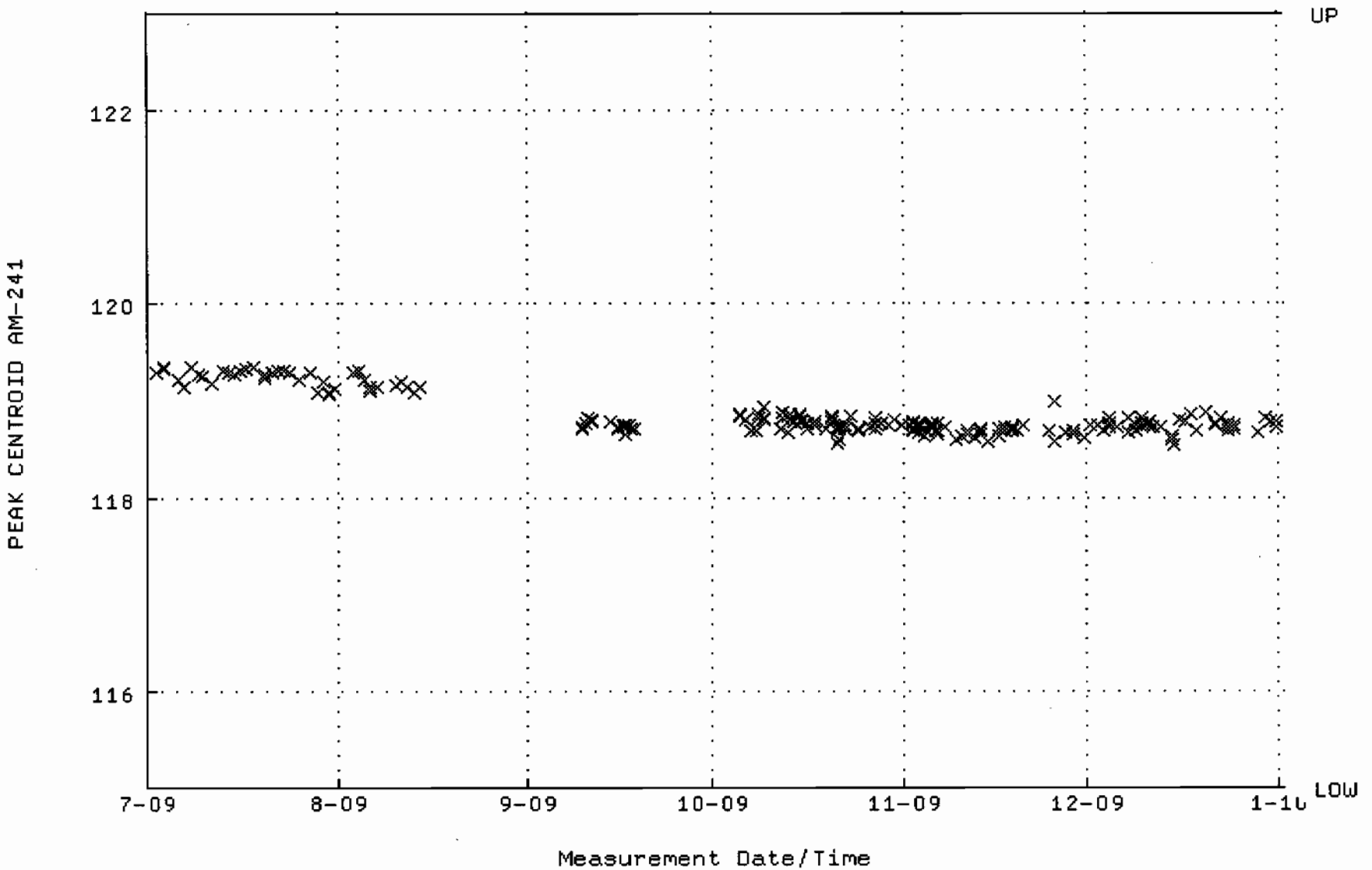
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM22_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 10:47:50 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



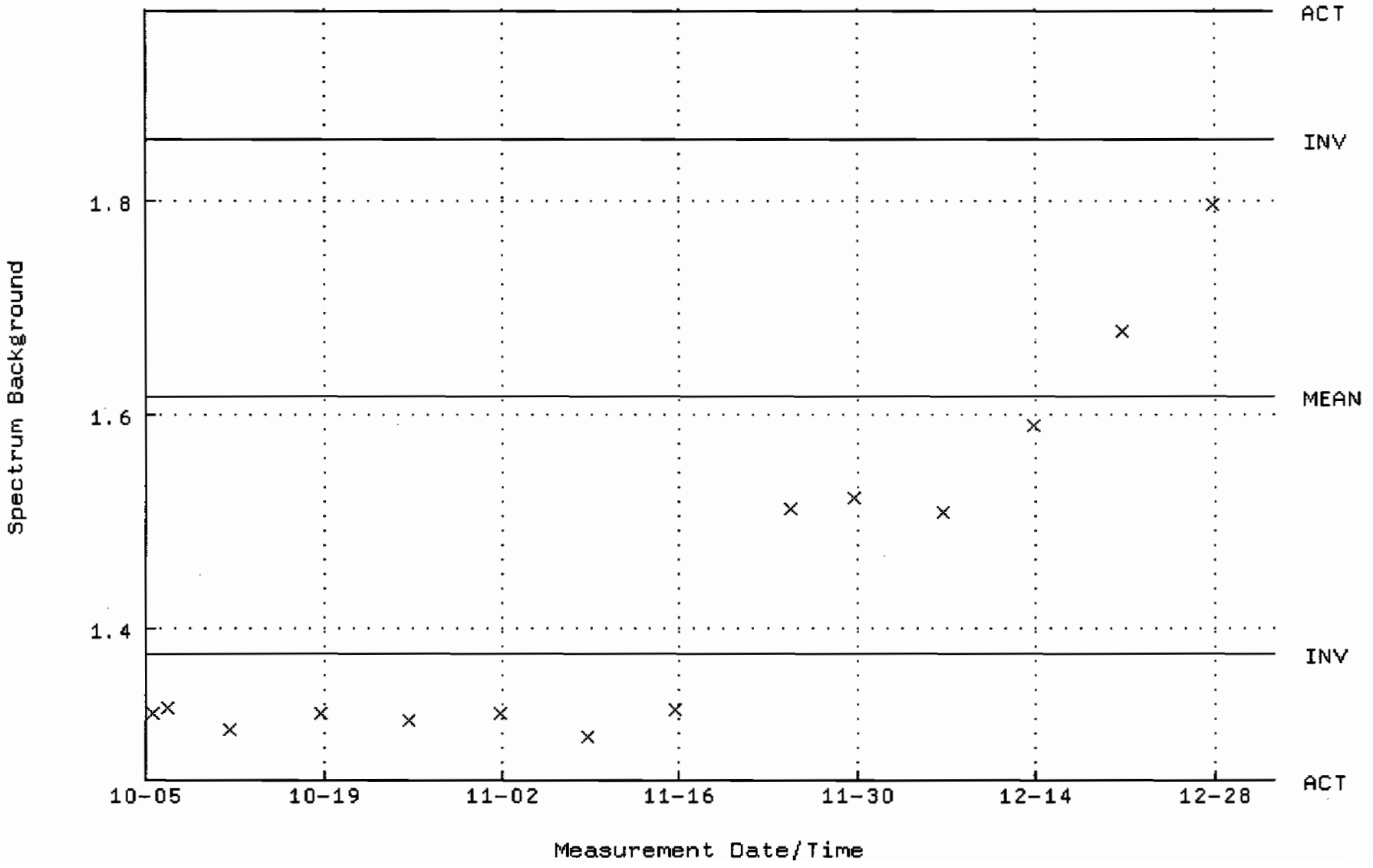
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM22.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:54:18 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 3.13961 +- 4.985064E-02 (1.59 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM23_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 11:00:38 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM23.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-OCT-2009 15:13:53 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.61827 +- 0.119991 (7.41 %)



STANDARDS DATA

ANALYTICS
Isotope Products Laboratories Company

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404·352·8677
Fax 404·352·2837
www.analyticsinc.com

1032

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

74047-278

5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solution sources. The Am-241 was calibrated by 4 pi alpha liquid scintillation counting. All other radionuclides were calibrated using a germanium gamma spectrometer system. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. Analytics maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Rev. 1, February, 1979.

Calibration date: October 1, 2006 12:00 EST

ISOTOPE	GAMMA-RAY ENERGY	HALF-LIFE		GAMMA-RAYS PER SECOND	TOTAL UNCERTAINTY %
Am-241	59.5	432	y	3339	3.0
Cd-109	88	462.6	d	4815	3.3
Co-57	122	271.79	d	2409	3.0
Ce-139	166	137.6	d	3408	2.8
Hg-203	279	46.61	d	7522	2.7
Sn-113	392	115.1	d	4728	2.6
Cs-137	662	30.07	y	2973	3.0
Y-88	898	106.6	d	11600	2.6
Co-60	1173	5.2714	y	5780	2.7
Co-60	1332	5.2714	y	5783	2.6
Y-88	1836	106.6	d	12260	2.6

5.31725 grams 4M HCl solution.
P O NUMBER 2734RD, Item 1

SOURCE PREPARED BY: M. Dimitrova
M. Dimitrova, Radiochemist

Q A APPROVED: 11-28-06

This standard will expire one year after the calibration date.

rec'd 11/30/06
RC-S-045-073-0

ANALYTICS
An Isotope Products Laboratories Company

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318

Tel 404-352-8677
Fax 404-352-2837
www.analyticsinc.com

ANALYSIS OF UNCERTAINTY FOR MIXED GAMMA STANDARDS
BATCH 127
CALIBRATION DATE: October 1, 2006 12:00 EST

Isotope	Energy (keV)	Calibration Method[1]	Statistics[2]	Calibration[2]	Peak Fitting[2]	Geometry[2]	Impurities[2]	Weighing	Combined Standard Uncertainty	Relative Expanded Uncertinty (k=2)
Cd-109	88	HPGe	0.16	1.1	0.88	0.8	0	0.2	1.64	3.3
Co-57	122	HPGe	0.23	1.1	0.71	0.7	0	0.2	1.52	3.0
Ce-139	166	HPGe	0.17	1.0	0.58	0.7	0	0.2	1.38	2.8
Hg-203	279	HPGe	0.11	1.1	0.34	0.7	0	0.2	1.37	2.7
Sn-113	392	HPGe	0.21	1.0	0.35	0.7	0	0.2	1.30	2.6
Cs-137	662	HPGe	0.36	1.1	0.60	0.7	0	0.2	1.49	3.0
Y-88	898	HPGe	0.19	1.0	0.33	0.7	0	0.2	1.29	2.6
Co-60	1173	HPGe	0.31	.97	0.45	0.7	0	0.2	1.33	2.7
Co-60	1332	HPGe	0.33	.93	0.48	0.7	0	0.2	1.32	2.6
Y-88	1836	HPGe	0.24	1.0	0.35	0.7	0	0.2	1.31	2.6

Optional Additional Isotopes

Pb-210	46.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Am-241	59.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Sr-85	514	IC	0.30	1.1	0	0.7	0.17	0.2	1.36	2.7
Cs-134	605	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Cs-134	796	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Mn-54	835	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Zn-65	1116	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7

[1]Calibration Methods:

4π LS (4 pi Liquid Scintillation Counting)
HPGe (High Purity Germanium Gamma Ray Spectrometer)
IC (Gamma Ray Ionization Chamber)

[2]As Percent (%)from counting data

No interfering gamma emitting impurities were detected during calibration. Depending on the resolution and energy dispersion (keV/channel) of the measuring system, the following spectral conflicts may occur: (1) between the 88 keV gamma-ray and the X-rays emitted in the decay of Hg-203, (2) between the 1333 keV gamma-ray and the 1325 keV single escape peak from the 1836 keV gamma-ray.

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1032
Prepared By:	Daniel Roy
Carrier Conc:	4 M HCL
Reference Date:	10/01/2006
Ampoule Mass (g):	5.31725 g
Uncertainty:	+/- 2.81 %
LogBook No:	RC-S-045-073

A Solution Material Info	
Isotope:	Mixed Gamma
Prepared By:	Daniel Roy
Prep Date:	11/30/2006
Verification Date:	12/02/2009
Expiration Date:	12/02/2010
Primary Code:	1032-A
Dilution(mL):	100 mL
Mass of Parent(g):	5.2579 g
Density(g/mL):	1.0611
Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (dpm)) * (conversion dpm to dpm) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (dpm)) * (conversion dpm to dpm) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(5.2579 g) * (218817 dpm) * (1 dpm/dpm) / (5.31725 g * 100 mL) = 2163.7461 dpm/mL
(5.2579 g) * (218817 dpm) * (1 dpm/dpm) / (1.0611 g/mL)/ (5.31725 g * 100 mL) = 2039.2400 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Am-241	Isotope	Result		
	Mixed Gamma N1	2534	pCi/L	- Ver. JAR-1
	Mixed Gamma N2	2510	pCi/L	- Ver. JAR-3
	Mixed Gamma N3	2413	pCi/L	- Ver. JAR-5
Mean Value (Counting) =	2485.67	**100.00**	**Pass**	
Stdev =	64.065		**Rule 3 (Pass/Fail)**	
Certificate Value =	2485.68018	pCi/L		
Lower Limit =	2357.536524	pCi/L		
Upper Limit =	2613.796809	pCi/L		
Rule 1 (Pass/Fail)	**Pass**			
Two sigma =	128.1301422			
10 % of Mean =	248.56666667			
Rule 2 (Pass/Fail)	**Pass**			

M. Stamps 12/2/09 [illegible] 12/4/09

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Cs-137	Isotope	Result		
	Mixed Gamma N1	854.2	pCi/L	- VER-JAR-1
	Mixed Gamma N2	907.6	pCi/L	- VER-JAR-3
	Mixed Gamma N3	898.9	pCi/L	- VER-JAR-2
Mean Value (Counting) =	886.90	**95.01**	**Pass**	
Stdev =	28.651	**Rule 3 (Pass/Fail)**		
Certificate Value =	933.44144	pCi/L		
Lower Limit =	829.597644	pCi/L		
Upper Limit =	944.202356	pCi/L		
Rule 1 (Pass/Fail)	**Pass**			
Two sigma =	57.30235597			
10 % of Mean =	88.69000000			
Rule 2 (Pass/Fail)	**Pass**			

M. Stamps 12/2/09

12/4/09

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Co-60 (1332.5)	Isotope	Result		
	Mixed Gamma N1	1572	pCi/L	- VER-JAR-5
	Mixed Gamma N2	1495	pCi/L	- VER-JAR-2
	Mixed Gamma N3	1501	pCi/L	- VER-JAR-3
Mean Value (Counting) =	1522.67	**98.50**	**Pass**	
Stdev =	42.829	**Rule 3 (Pass/Fail)**		
Certificate Value =	1545.8378	pCi/L		
Lower Limit =	1437.008431	pCi/L		
Upper Limit =	1608.324902	pCi/L		
Rule 1 (Pass/Fail)	**Pass**			
Two sigma =	85.65823564			
10 % of Mean =	152.26666667			
Rule 2 (Pass/Fail)	**Pass**			

M. Stamps 12/2/09 [illegible] 12/4/09

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

0244-A Characterization

Sample #	Uranium-233/234 Result (pCi/g)	Uranium-238 Result (pCi/g)	Thorium-230 Result (pCi/g)
0244-A 1	6.59	6.12	25.3
0244-A 2	6.36	6.07	28.5
0244-A 3	5.78	5.53	26.5
0244-A 4	6.48	5.97	25.5
0244-A 5	5.65	5.59	26.2
0244-A 6	6.96	5.78	27.0
0244-A 7	5.95	5.75	24.2
0244-A 8	5.29	5.67	27.2
0244-A 9	5.51	6.05	24.3
0244-A 10	6.37	5.57	25.6
0244-A 11	6.50	5.80	25.8
0244-A 12	6.13	5.42	22.4
0244-A 13	5.49	5.24	24.7
0244-A 14	6.19	5.21	26.9
0244-A 15	6.50	6.27	27.6
0244-A 16	6.50	5.24	24.9
0244-A 17	6.25	6.05	24.7
0244-A 18	6.14	6.00	25.4
0244-A 19	6.19	6.14	26.4
0244-A 20	5.67	5.61	23.2
Mean Value	6.13	5.75	25.62
1 sigma	0.439	0.325	1.493
2 sigma	0.878	0.650	2.986
75% Limit	4.60	4.31	19.22
125% Limit	7.66	7.19	32.03
Expected Result	6.2 +/- 4.0	6.0 +/- 4.0	24.5 +/- 0.6
Achieved Results	6.13 +/- 0.439	5.75 +/- 0.325	25.62 +/- 1.493

REFERENCE DATE 4/14/2000 Scott C Reid 12/1/04

Angela A. Johnson 12/3/04

TRM

Invoice:

5 boxes of TRM-1
10 " " TRM-2 and 3
5 " each of NRM-1 through 6
7 " baghouse dirt

Use 1/4 gm x 10 Samples WITH Together for TRM-2

Table 7. Recommended Concentrations of Tailings Reference Materials (pCi/g)

	TRM–1	TRM–2	TRM–3	TRM–4
U–238	99 ± 6	6.0 ± 4.0	19.6 ± 1.4	44.9 ± 1.6
U–234	105 ± 6	6.2 ± 4.0	19.6 ± 1.9	44.6 ± 1.2
Th–230	471 ± 11	24.5 ± 0.6	58.5 ± 2.1	44.0 ± 1.6
Ra–226	489 ± 17	25.4 ± 0.9	60.3 ± 2.3	42.9 ± 1.2
Pb–210	425 ± 24	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0

Attention Nancy Slater At GEL
Not For Log In

9911627-01->0

SF 2001-COC (10-97)
Supersedes (5-97) issue

Internal Lab Batch No.

ANALYSIS REQUEST AND CHAIN OF CUSTODY

SAR/WR No. N/A

Press F1 for instructions for each field.

Page 1 of 1

AR/COC- 602945

Dept. No./Mail Stop: 7132 / 1042
Project/Task Manager: PAM PUISSANT
Project Name:
Record Center Code: N/A
Logbook Ref. No.: N/A
Service Order No.:

Date Samples Shipped: 11-16-99 SMO USE
Carrier/Waybill No.: 7-26-99
Lab Contact: EDIE KENT
Lab Destination: G.E.L.
SMO Contact/Phone: Doug Salmi / 844-3110
Send Report to SMO: Suzi Jensen/844-3184

Contract No.: AJ-2480A
Case No.: 10204 1.3
SMO Authorization: Doug Salmi
Bill to: Sandia National Laboratories
Supplier Services, Dept. _____
P.O. Box 5800 MS 0154

Location — Tech Area VI
Building N/A — Room N/A

Reference LOV (available at SMO)

Sample No. - Fraction	ER Sample ID or Sample Location Detail	Beginning Depth in Ft.	ER Site No.	Date/Time Collected	Sample Matrix	Container Type	Container Volume	Preservative	Sample Collection Method	Sample Type	Parameter & Method Requested	Lab Sample ID (LAB USE)
050484 - 001	PEM-1	N/A	N/A	11/15/9 1100	S	P	1 L	4 C	G	SA	See Special	
050485 - 001	TRM-2	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA	Instructions	
050486 - 001	~~NRM-2~~ NBHD	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA	Below	
-												
-												
-												
-												
-												
-												
-												

RMMA ☐ Yes ☒ No Ref. No.
Sample Disposal ☐ Return to Client ☒ Disposal by lab
Turnaround Time ☒ Normal ☐ Rush Required Report Date

Sample Tracking SMO USE
Date Entered (mm/dd/yy)
Entered by
QC Limits

Special Instructions/QC Requirements
EDD ☐ Yes ☒ No
Raw data package ☐ Yes ☒ No
These "samples" are well characterized and materials being sent to GEL on behalf of Mark Mintzer
Please list as separate report.

Abnormal Conditions on Receipt LAB USE

Sample Team Members	Name	Signature	Init	Company/Organization/Phone
	Douglas E. Perry	[signature]	DEP	Weston / 7577 / 845-0867

1. Relinquished by [signature]	Org. 7577	Date 11-16-99	Time 0900	4. Relinquished by	Org.	Date
1. Received by	Org.	Date	Time	4. Received by	Org.	Date
2. Relinquished by	Org.	Date	Time	5. Relinquished by	Org.	Date
2. Received by	Org.	Date	Time	5. Received by	Org.	Date
3. Relinquished by	Org.	Date	Time	6. Relinquished by	Org.	Date
3. Received by	Org.	Date	Time	6. Received by	Org.	Date

Original To Accompany Samples, Laboratory Copy (White) — 1st Copy To Accompany Samples, Return to SMO (Blue) — 2nd Copy SMO Suspense Copy (Yellow) — 3rd Copy Field Copy (Pink)

0244-B Characterization

Sample #	Plutonium-239 Result (pCi/g)	Plutonium-238 Result (pCi/g)	Americium-241 Result (pCi/g)
0244-B 1	39.9	7.88	38.4
0244-B 2	44.1	7.97	40.6
0244-B 3	45.8	6.56	31.8
0244-B 4	43.6	7.69	31.5
0244-B 5	43	7.9	40.2
0244-B 6	43.5	7.84	29.4
0244-B 7	41.3	7.67	36
0244-B 8	44.3	6.95	33.2
0244-B 9	42.7	7.2	29.2
0244-B 10	44.9	7.69	30
0244-B 11	41.4	7.22	30.2
0244-B 12	41.3	7.74	36
0244-B 13	39.2	6.65	33.8
0244-B 14	39.6	7.78	31.1
0244-B 15	45.3	8.41	37.3
0244-B 16	38.1	6.74	33.6
0244-B 17	48.5	8.51	30.5
0244-B 18	36.5	7.23	38.6
0244-B 19	35.3	6.98	30.9
0244-B 20	37.4	8.55	31.3
Mean Value	41.79	7.56	33.68
1 sigma	3.418	0.596	3.724
2 sigma	6.835	1.193	7.448
75% Limit	30.75	6.02	24.38
125% Limit	51.25	10.04	40.63
Expected Result	41.0 +/- 3.0	8.03 +/- 0.37	32.5 +/- 1.1
Achieved Results	41.79 +/- 3.418	7.56 +/- .596	33.68 +/- 3.724

REFERENCE DATE 4/14/2000

Amanda L. Fehr 4/30/04
[illegible] 5/1/04

PEM-1

PREPARATION AND CHARACTERIZATION OF THE PERFORMANCE EVALUATION SOIL SAMPLE PEM-1

INTRODUCTION

Rust Geotech (Rust) was contracted by Los Alamos National Laboratory (LANL) to prepare and characterize a soil performance evaluation sample designated PEM-1. This report describes sample preparation, homogeneity assessment, and determination of the concentrations of 28 elements and radioactive isotopes in the sample.

SAMPLE PREPARATION

Rust received nine five-gallon buckets of soil from LANL. The soils were dried overnight in ovens at 103 °C. The large pieces of leaves and sticks were removed and the soils were ground with ceramic-plate grinders to a particle size that passed through a 325 mesh screen. The samples were blended at the proportions specified by LANL for 48 hours in a 3-cubic-foot cross-flow blender. The sample identifications and the amounts used are listed in Table 1.

Table 1. Sample Identifications and Amounts Used to Prepare PEM-1

LANL Sample ID	Amount Used (kg)
AAA 1592	1.7
AAA 2505-1	10.9
AAA 2505-2	12.8
AAA 2750-1	8.4
AAA 2750-2	8.4
AAA 3205	12.6
AAA 8581	4.2
AAB 3417	12.8
AAB 3475	12.6

The blended sample was transferred to three five-gallon plastic containers. While the sample was being transferred, 10 samples were taken at pre-determined time intervals to be used for homogeneity assessment and sample characterization. These samples are believed to be representative of the bulk material.

Attention Nancy Slater At GEL
Not For Log-In

9911627-01-70

SF 2001-COC (10-97)
Supersedes (5-97) issue

Internal Lab Batch No.

ANALYSIS REQUEST AND CHAIN OF CUSTODY

SAR/WR No. N/A

Press F1 for instructions for each field.

Page 1 of 1

AR/COC- 602945

Dept. No./Mail Stop: 7132 / 1042
Project/Task Manager: PAM PUISSANT
Project Name:
Record Center Code: N/A
Logbook Ref. No.: N/A
Service Order No.:

Date Samples Shipped: 11-16-99 SMO USE
Carrier/Waybill No.: 726494
Lab Contact: EDIE KENT
Lab Destination: G.E.L.
SMO Contact/Phone: Doug Salmi / 844-3110
Send Report to SMO: Suzi Jensen/844-3184

Contract No.: AJ-2480A
Case No.: 10204 1.3
SMO Authorization: Doug Salmi
Bill to: Sandia National Laboratories
Supplier Services, Dept. _____
P.O. Box 5800 MS 0154

Location Tech Area VI
Building N/A Room N/A

Sample No. - Fraction	ER Sample ID or Sample Location Detail	Beginning Depth in Ft.	ER Site No.	Date/Time Collected	Sample Matrix	Container Type	Container Volume	Preservative	Sample Collection Method	Sample Type	Parameter & Method Requested	Lab Sample ID
050484 - 001	PEM-1	N/A	N/A	11/15/9 1100	S	P	1 L	4 C	G	SA	See Special	
050485 - 001	TRM-2	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA	Instructions	
050486 - 001	~~NRM-2~~ NBHD	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA	Below	
-												
-												
-												
-												
-												
-												
-												

Reference LOV (available at SMO)

LAB USE

RMMA ☐Yes ☒No Ref. No.
Sample Disposal ☐Return to Client ☒Disposal by lab
Turnaround Time ☒Normal ☐Rush Required Report Date

Sample Tracking SMO USE
Date Entered (mm/dd/yy)
Entered by

QC Units

Special Instructions/QC Requirements
EDD ☐Yes ☒No
Raw data package ☐Yes ☒No
These "samples" are well characterized rad materials being sent to GEL on behalf of Mark Mintzer
Please list as separate report.

Abnormal Conditions on Receipt LAB USE

Sample Team Members	Name	Signature	Init	Company/Organization/Phone
	Douglas E. Perry	[signature]	[initials]	Weston / 7577 / 845-0867

1. Relinquished by	[signature]	Org. 7577	Date 11-16-99	Time 0900	4. Relinquished by	Org.	Date
1. Received by		Org.	Date	Time	4. Received by	Org.	Date
2. Relinquished by		Org.	Date	Time	5. Relinquished by	Org.	Date
2. Received by		Org.	Date	Time	5. Received by	Org.	Date
3. Relinquished by		Org.	Date	Time	6. Relinquished by	Org.	Date
3. Received by		Org.	Date	Time	6. Received by	Org.	Date

Original To Accompany Samples, Laboratory Copy (White) | 1st Copy To Accompany Samples, Return to SMO (Blue) | 2nd Copy SMO Suspense Copy (Yellow) | 3rd Copy Field Copy (Pink)

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOLUTION

Radionuclide	Am-243	Customer:	GENERAL ENGINEERING LABS
Half Life:	7380 ± 40 years	P.O.No.:	9290-RAD
Catalog No.:	7243	Reference Date:	January 1 1994 12:00 PST.
Source No.:	445-96-2	Contained Radioactivity:	(Am-243) 101.2 μCi
		Contained Radioactivity:	(Am-243) 3750 kBq

Description of Solution

a. Mass of solution: 5.3739 g (in a 5 ml Flame Sealed Ampoule)

b. Chemical form: Am(NO3)3 in 2N HNO3

c. Carrier content: None added

d. Density: 1.0651 g/ml @ 20°C.

Radioimpurities None detected

Radioactive Daughters

Np-239 (beta active) in equilibrium

Radionuclide Concentration

(Am-243) 18.84 μCi/g

Method of Calibration

Weighed aliquots of the solution were assayed using gamma spectrometry for Np-239:

Energy peak(s) intergrated under: 228, 278 keV.

Branching ratio(s) used: 0.108, 0.1420 gamma rays per decay.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration: ±3.0%

b. Random uncertainty in assay: ±0.4%

c. Random uncertainty in weighing(s): ±0.0%

d. Total uncertainty at the 99% confidence level: ±3.0%

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)

See reverse side for Leak Test(s) applied to this source.

Notes

1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).

Anna U. Khan
QUALITY CONTROL

Jan 3, 1994
Date Signed

ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
Burbank, California 91504
(818) 843 - 7000

RC-S-005-32

THE LEAK TEST(S) INDICATED BY THE CHECKED BOX(ES) WAS(WERE) APPLIED TO DETERMINE THE INTEGRITY OF THE SOURCE DESCRIBED ON THE FRONT SIDE

☑ 1. STANDARD WIPE TEST

The source is wiped over its entire surface with a moistened filter paper disk. After drying, the disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 2. SOAK TEST

The source is immersed in distilled water and maintained at 50 ± 10° C for a minimum of four hours. After removal of the source, the liquid is a) checked for activity using a liquid scintillation counter, or b) evaporated in a planchet and the residue is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 3. SOAK TEST – BERYLLIUM WINDOW

The source is immersed in distilled water and maintained at 50 ± 10° C for 20 minutes. The entire surface of the source is then wiped with a moistened cotton swab or filter paper disk. After drying, the swab or disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 4. GAS SOURCE TEST (Radioactive Gas)

The source is placed in a vacuum desiccator and maintained at a pressure of less than 1 mm Hg for not less than 12 hours. The activity is checked by introducing air into the desiccator and monitoring the air with an end-window G.M. tube. Activity levels exceeding 1000 cpm are cause for rejection of the source.

☑ 5. OTHER LEAK TEST

The ampoule is kept in an inverted position on a filter paper disk for a minimum of 16 hours. The filter paper disk is then checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 6. LEAK TEST NOT APPLICABLE

The active area of this source is uncovered or is protected by a very thin coating. Although the deposit is adherent, it is not designed or certified to pass a standard leak test. The inactive portions of the source have been checked using the standard wipe test. Levels of removable activity did not exceed 0.001 μCi beta-gamma or 0.0001 μCi alpha at the time of shipment.

Standard Traceability Log Rad

Source Material Info	
Parent Code:	445-96-2
Prepared By:	Genie Bost
Carrier Conc:	2M HNO3
Reference Date:	01/01/1994
Ampoule Mass (g):	5.3739 g
Uncertainty:	+/- 3 %
LogBook No:	RC S 005 032

A Solution Material Info	
Isotope:	Americium-243
Prepared By:	Angela Johnson
Prep Date:	01/05/1994
Verification Date:	05/11/2009
Expiration Date:	05/11/2010
Primary Code:	445-96-2-A
Dilution(mL):	100 mL
Mass of Parent(g):	5.3419 g
Density(g/mL):	1.0785
Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (uCi/g)) * (conversion dpm to uCi) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (uCi/g)) * (conversion dpm to uCi) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(5.3419 g) * (18.84 uCi/g) * (2220000 dpm/uCi) / (100 mL) = 2234238.9912 dpm/mL
(5.3419 g) * (18.84 uCi/g) * (2220000 dpm/uCi) / (1.0785 g/mL) / (100 mL) = 2071617.0528 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/05/1994	Genie Bost	.0058	100	445-96-2-B	120.1 dpm/ml	01/05/1995	01/05/1996
09/10/2004	Amanda Fehr	.0325	1000	445-96-2-BB	67.328 dpm/mL	09/10/2005	09/10/2006
01/05/1994	Genie Bost	.0025	100	445-96-2-C	51.77 dpm/ml	01/05/1995	01/05/1996
05/27/2005	Brenda Burke	.000246	100	445-96-2-CC	5.10613 dpm/mL	05/31/2005	05/31/2006
03/25/1994	Genie Bost	.0064	100	445-96-2-D	132.53 dpm/ml	01/05/1995	01/05/1996
08/16/2005	Brenda Burke	.001224	500	445-96-2-DD	5.07144 dpm/mL	08/18/2007	08/18/2008
08/04/1994	Genie Bost	.0094	100	445-96-2-E	194.65 dpm/ml	01/05/1995	01/05/1996
10/13/2005	Brenda Burke	.0017	500	445-96-2-EE	7.0435 dpm/mL	11/15/2005	11/15/2006
08/04/1994	Genie Bost	.0046	100	445-96-2-F	95.25 dpm/ml	01/05/1995	01/05/1996
10/14/2005	Mary Aders	.0141	500	445-96-2-FF	58.4196 dpm/mL	10/14/2005	10/14/2006
09/01/1994	Genie Bost	.0031	100	445-96-2-G	64.19 dpm/ml	01/05/1995	01/05/1996
05/10/2006	Mary Aders	2.0753	1000	445-96-2-GG	4299.227 dpm/mL	09/30/2008	09/30/2009
10/17/1994	Genie Bost	.0969	100	445-96-2-H	2006.52 dpm/ml	01/05/1995	01/05/1996
06/07/2006	Mary Aders	.0365	1000	445-96-2-HH	75.614 dpm/mL	06/19/2006	06/19/2007
02/06/1995	Genie Bost	.0043	100	445-96-2-I	89.04 dpm/ml	01/05/1995	01/05/1996
05/11/2006	Brenda Burke	.000009739	100	445-96-2-II	.201761 dpm/mL	07/26/2006	07/26/2007
07/20/1995	Theresa Austin	.0041	100	445-96-2-J	84.9 dpm/ml	01/05/1995	01/05/1996
05/01/2007	Daniel Roy	.0352	1000	445-96-2-JJ	72.9209 dpm/ml	04/30/2008	04/30/2009
08/10/1995	Garret Ray	.0952	100	445-96-2-K	1971.32 dpm/ml	01/05/1995	01/05/1996
06/12/2007	Julie Strock	.01038	250	445-96-2-KK	22.1496 dpm/mL	05/28/2008	05/28/2009

09/11/1995	Theresa Austin	1.0525	100	445-96-2-L	21794.23 dpm/ml	01/05/1995	01/05/1996
09/11/1995	Theresa Austin	.5107	100	445-96-2-L-1	111.3 dpm/ml	01/05/1995	01/05/1996
04/28/1998	Richard Kinney	.1264	100	445-96-2-M	2617.4 dpm/ml	04/28/1998	04/28/1999
11/01/2007	Eric Williamson	.001274	500	445-96-2-MM	5.27945 dpm/mL	04/06/2008	04/06/2010
10/12/1998	Gregory Smith	.1348	100	445-96-2-N	2791.32 dpm/mL	01/05/1995	01/05/1996
01/25/1999	Gregory Smith	1.9382	100	445-96-2-N-1	50.16 dpm/ml	01/05/1995	01/05/1996
04/19/2008	Daniel Roy	.0424	1000	445-96-2-NN	87.8366 dpm/ml	04/16/2009	04/16/2010
04/21/1999	Greg Smith	.1645	100	445-96-2-O	3406.32 dpm/mL	04/21/1999	04/21/2000
07/27/1999	Gregory Smith	1.567	100	445-96-2-O-2	50.56 dpm/ml	05/13/1999	05/13/2000
10/12/1999	Richard Kinney	1.5589	100	445-96-2-O-3	50.31 dpm/mL	05/13/1999	05/13/2000
04/21/1999	Greg Smith	1.5309	100	445-96-2-O-1	49.4 dpm/mL	04/21/1999	04/21/2000
11/10/1999	Joe Davis	.1809	100	445-96-2-P	3745.92 dpm/mL	05/13/1999	05/13/2000
01/04/2008	Julie Strock	.00001005	100	445-96-2-PP	.20819 dpm/mL	12/29/2008	12/29/2009
01/28/2000	Angela Johnson	.0354	1000	445-96-2-Q	73.3 dpm/mL	02/08/2001	02/08/2002
09/29/2008	Julie Strock	.0025219	250	445-96-2-QQ	20.8977 dpm/mL	09/30/2008	09/29/2009
04/18/2000	Robert Timm	.429	250	445-96-2-R	3553.34 dpm/mL	04/18/2000	04/18/2001
04/23/2009	Tina Schoneman	.001251	500	445-96-2-RR	4.8075 dpm/mL	04/23/2009	04/23/2010
04/13/2001	Angela Johnson	.1869	100	445-96-2-S	3870.16 dpm/mL	04/13/2001	04/13/2002
05/08/2009	Mary Aders	.0141	1000	445-96-2-SS	29.2098 dpm/ml	05/11/2009	05/11/2010
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-103	4153.225 dpm/mL	07/03/2002	07/03/2003
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-203	4153.225 dpm/mL	07/03/2002	07/03/2003

07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-303	4153.225 dpm/mL	07/03/2002	07/03/2003
06/03/2009	Julie Strock	.00000927	100	445-96-2-TT	.1923 dpm/mL	06/05/2009	06/03/2010
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-103	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-203	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-303	80.34 dpm/ml	08/23/2001	08/23/2002
06/02/2009	Mary Aders	2.1177	1000	445-96-2-UU	4385.1449 dpm/ml	06/04/2009	06/04/2010
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-103	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-203	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-303	81.586 dpm/mL	08/27/2002	08/27/2003
03/17/2003	Angela Johnson	2.1108	1000	445-96-2-W	4370.857 dpm/mL	03/14/2006	03/14/2007
04/14/2003	Lonnie Morris	.0315	1000	445-96-2-X	65.2559 dpm/mL	04/14/2004	04/14/2005
05/03/2003	Tim Chandler	.0103	1000	445-96-2-Y	21.3376 dpm/mL	05/05/2003	05/05/2004
05/05/2003	Eric Williamson	.011	1000	445-96-2-Z	22.7877 dpm/mL	04/03/2007	04/03/2008

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Am-243 Standard *445-96-2-SS*

M. Aders	Isotope	Value	Uncertainty
5/15/2009	445-96-2-SS #1	1.360	0.1690
	445-96-2-SS #2	1.370	0.1690
	445-96-2-SS #3	1.290	0.1590

Mean Value (Counting) =	1.340	101.99	**Pass**
Stdev =	0.043588989		**Rule 3 (Pass/Fail)**

Target =	1.314
Lower Limit =	1.252822021
Upper Limit =	1.427177979
Rule 1 Pass/Fail	**Pass**
Two sigma =	0.087177979
10 % of Mean =	0.134
Rule 2 (Pass/Fail)	**Pass**

The analyst prepared three standard verification sources for standard ***445-96-2-SS*** using 0.1 mL for each source. Each standard was combined with 0.1 mL of ***Cm-244*** standard ***0533-O*** and 50 micrograms of neodymium carrier in a disposable centrifuge tube. Each standard was diluted with 4 mL of 2 M HCl and 6 mL of DI Water. Two mL of 48% HF was added to precipitate Nd(and Americium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Am-243 were calculated by comparison to Am-241certified values.

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Mary Linden 5/15/09

[signature] 007509

1374

National Institute of Standards & Technology
Certificate

Standard Reference Material 4334H
Plutonium-242 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive plutonium-242 nitrate and nitric acid dissolved in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of alpha-particle counting instruments and for the monitoring of radiochemical procedures.

Radiological Hazard: The SRM ampoule contains plutonium-242 with a total activity of approximately 150 Bq. Plutonium-242 decays by alpha-particle emission. None of the alpha particles escape from the SRM ampoule. During the decay process, X-rays and gamma rays with energies from 10 keV to 160 keV are also emitted. Most of these photons escape from the SRM ampoule but their intensities are so small that they do not represent a radiation hazard. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]*. The SRM should be used only by persons qualified to handle radioactive material.

Chemical Hazard: The SRM ampoule contains nitric acid (HNO_3) with a concentration of 3 moles per liter of water. The solution is corrosive and represents a health hazard if it comes in contact with eyes or skin. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2. The ampoule should be opened only by persons qualified to handle both radioactive material and strong acid solution.

Storage and Handling: The SRM should be stored and used at a temperature between 5 °C and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least January 2015. The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) both because of the radioactivity and because of the strong acid.

Preparation: This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, M.P. Unterweger, Acting Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas of the Radioactivity Group. The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program.

RECEIVED 12/21/04

Lisa R. Karam, Acting Chief
Ionizing Radiation Division

Gaithersburg, Maryland 20899
January 2005

Robert L. Watters, Jr., Chief
Measurement Services Division

*Notes and references are on pages 5 to 7.

DC-S-051-C513

Recommended Procedure for Opening the SRM Ampoule

1) If the SRM solution is to be diluted, it is recommended that the diluting solution have a composition comparable to that of the SRM solution.

2) Wear eye protection, gloves, and protective clothing and work over a tray with absorbent paper in it. Work in a fume hood. In addition to the radioactive material, the solution contains strong acid and is corrosive.

3) Shake the ampoule to wet all of the inside surface of the ampoule. Return the ampoule to the upright position.

4) Check that all of the liquid has drained out of the neck of the ampoule. If necessary, gently tap the neck to speed the process.

5) Holding the ampoule upright, score the narrowest part of the neck with a scribe or diamond pencil.

6) Lightly wet the scored line. This reduces the crack propagation velocity and makes for a cleaner break.

7) Hold the ampoule upright with a paper towel, a wiper, or a support jig. Position the scored line away from you. Using a paper towel or wiper to avoid contamination, snap off the top of the ampoule by pressing the narrowest part of the neck away from you while pulling the tip of the ampoule towards you.

8) Transfer the solution from the ampoule using a pycnometer or a pipet with dispenser handle. NEVER PIPETTE BY MOUTH.

9) Seal any unused SRM solution in a flame-sealed glass ampoule, if possible, to minimize the evaporation loss.

See also reference [4]*.

*Notes and references are on pages 5 to 7.

PROPERTIES OF SRM 4334H

Certified values

Radionuclide	**Plutonium-242**
Reference time	**1200 EST, 07 June 1994 [b]***
Massic activity of the solution [c]	**26.31 $Bq \cdot g^{-1}$**
Relative expanded uncertainty (k=2)	**0.72% [d] [e]**
Solution density	**(1.105 ± 0.002) $g \cdot mL^{-1}$ at 20 °C [f]**

Uncertified values

Physical Properties:			
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule		
Ampoule specifications	Body outside diameter Wall thickness Barium content Lead-oxide content Other heavy elements	(16.5 ± 0.5) mm (0.60 ± 0.04) mm Less than 2.5% Less than 0.02% Trace quantities	
Solution mass	Approximately 5.5 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration ($mol \cdot L^{-1}$)	Mass Fraction ($g \cdot g^{-1}$)
	H_2O HNO_3 $^{242}Pu^{+6}$	50 3.2 8×10^{-7}	0.81 0.19 2×10^{-7}
Radiological Properties:			
Alpha-particle-emitting impurities	None detected [g] [h]. See table on page 5.		
Beta-particle-emitting impurities	Plutonium-241: (0.092 ± 0.018) $Bq \cdot g^{-1}$ [f] [h]		
Photon-emitting impurities	None detected [i]		
Half lives used	Plutonium-242: (373 500 ± 1100) a [j] [5] Plutonium-241: (14.35 ± 0.10) a [j] [5] Americium-241: (432.2 ± 0.7) a [j] [5]		
Calibration method and measuring instrument(s)	Three $4\pi\alpha$ liquid-scintillation counters, a calibrated germanium detector system, and a silicon surface-barrier detector		

*Notes and references are on pages 5 to 7.

EVALUATION OF THE UNCERTAINTY OF THE MASSIC ACTIVITY [d] [e]*

Input Quantity x_i, the source of uncertainty (and individual uncertainty components where appropriate)	Method Used To Evaluate $u(x_i)$, the standard uncertainty of x_i (A) denotes evaluation by statistical methods (B) denotes evaluation by other methods	Relative Uncertainty Of Input Quantity, $u(x_i)/x_i$, (%) [k]	Relative Sensitivity Factor, $\lvert\partial y/\partial x_i\rvert \cdot (x_i/y)$ [m]	Relative Uncertainty Of Output Quantity, $u_i(y)/y$, (%) [n]
Massic alpha-particle emission rate, corrected for background and decay	Standard deviation of the mean for 80 sets of $4\pi\alpha$ liquid-scintillation measurements (A)	0.05	1.0	0.05
Half life of Pu-242	Standard uncertainty of the half life (A)	0.32 [p]	0.00001 [q]	0.000003
Decay-scheme data	Standard uncertainty of the probability of decay by alpha-particle emission (A)	0.001	1.0	0.001
Extrapolation of alpha-particle-count-rate-versus-energy to zero energy	Estimated (B)	0.25	1.0	0.25
Gravimetric measurements	Estimated (B)	0.10	1.0	0.10
Live time [r]	Estimated (B)	0.10	1.0	0.10
Alpha-particle detection efficiency of scintillators	Estimated (B)	0.15	1.0	0.15
Alpha-particle-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Photon-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Relative Combined Standard Uncertainty of the Output Quantity, $u_c(y)/y$, (%)				0.36
Coverage Factor, k				x 2
Relative Expanded Uncertainty of the Output Quantity, U/y, (%)				0.72

*Notes and references are on pages 5 to 7.

RELATIVE ACTIVITIES OF RADIONUCLIDIC IMPURITIES AT THE REFERENCE TIME [b]

Radionuclide	Half Life (years) [j] [5]	Relative Activity As Determined By	
		LLNL	NIST
Plutonium-242	373 500 ± 1100	1.000 000	1.000 000
Plutonium-241	14.35 ± 0.10	- -	0.0035 ± 0.0004 [t]
Plutonium-240	6 564 ± 11	^{239}Pu + ^{240}Pu <0.000 001 [u]	^{239}Pu + ^{240}Pu 0.000 020 ± 0.000 021 [v]
Plutonium-239	24 110 ± 30		
Plutonium-238	87.7 ± 0.1	^{238}Pu + ^{241}Am <0.000 016 [u]	0.000 009 ± 0.000 016 [v]
Americium-241	432.2 ± 0.7		0.000 000 assumed [t]

NOTES

[a] The Sievert is the SI unit for dose equivalent. See reference [1]. One µSv is equal to 0.1 mrem.

Distance from Ampoule (cm):	1	30	100
Approximate Dose Rate (µSv/h):	<0.1	-	-

[b] The plutonium-242 master solution was chemically purified at 1200 EST, 07 June 1994.

[c] **Massic activity** is the preferred name for the quantity activity divided by the total mass of the sample. See reference [1].

[d] The reported value, y, of massic activity (activity per unit mass) at the reference time was not measured directly but was derived from measurements and calculations of other quantities. This can be expressed as $y = f(x_1, x_2, x_3, \ldots x_n)$, where f is a mathematical function derived from the assumed model of the measurement process. The value, x_i, used for each input quantity i has a **standard uncertainty**, $u(x_i)$, that generates a corresponding uncertainty in y, $u_i(y) \equiv |\partial y/\partial x_i| \cdot u(x_i)$, called a **component of combined standard uncertainty** of y. The **combined standard uncertainty** of y, $u_c(y)$, is the positive square root of the sum of the squares of the components of combined standard uncertainty. The combined standard uncertainty is multiplied by a **coverage factor** of $k = 2$ to obtain U, the **expanded uncertainty** of y.

Since it can be assumed that the possible estimated values of the massic activity are approximately normally distributed with approximate standard deviation $u_c(y)$, the unknown value of the massic activity is believed to lie in the interval $y \pm U$ with a level of confidence of approximately 95 percent.

For further information on the expression of uncertainties, see references [2] and [3].

[e] The value of each component of combined standard uncertainty, and hence the value of the expanded uncertainty itself, is a best estimate based upon all available information, but is only approximately known. That is to say, the "uncertainty of the uncertainty" is large and not well known. This is true for uncertainties evaluated by statistical methods (e.g., the relative standard deviation of the standard deviation of the mean for the massic response is approximately 50%) and for uncertainties evaluated by other methods (which could easily be over estimated or under estimated by substantial amounts). The unknown value of the expanded uncertainty is believed to lie in the interval $U/2$ to $2U$ (i.e., within a factor of 2 of the estimated value).

[f] The stated uncertainty is two times the standard uncertainty.

[g] Estimated limits of detection for alpha-particle-emitting impurities, expressed as massic alpha-particle emission rates (numbers of alpha particles per second per gram), are:
0.003 $s^{-1} \cdot g^{-1}$ for energies less than 3.1 MeV,
0.03 $s^{-1} \cdot g^{-1}$ for energies between 3.1 and 4.4 MeV, and
0.003 $s^{-1} \cdot g^{-1}$ for energies greater than 5.0 MeV.

[h] The plutonium-242 master solution was chemically purified at 1200 EST, 07 June 1994. Americium-241, the daughter of plutonium-241, was removed but has been growing in since that time.

[i] Estimated limits of detection for photon-emitting impurities, expressed as massic photon emission rates (numbers of photons per second per gram), are:
5×10^{-5} $s^{-1} \cdot g^{-1}$ for energies between 19 and 39 keV,
7×10^{-5} $s^{-1} \cdot g^{-1}$ for energies between 49 and 92 keV,
2×10^{-5} $s^{-1} \cdot g^{-1}$ for energies between 106 and 507 keV,
1×10^{-5} $s^{-1} \cdot g^{-1}$ for energies between 515 and 1456 keV, and
5×10^{-6} $s^{-1} \cdot g^{-1}$ for energies between 1465 and 2750 keV,
provided that the photons are separated in energy by 4 keV or more from photons emitted in the decay of plutonium-242, plutonium-241, or americium-241.

[j] The stated uncertainty is the standard uncertainty.

[k] Relative standard uncertainty of the input quantity x_i.

[m] The relative change in the output quantity y divided by the relative change in the input quantity x_i. If $|\partial y/\partial x_i| \cdot (x_i/y) = 1.0$, then a 1% change in x_i results in a 1% change in y. If $|\partial y/\partial x_i| \cdot (x_i/y) = 0.05$, then a 1% change in x_i results in a 0.05% change in y.

[n] Relative component of combined standard uncertainty of output quantity y, rounded to two significant figures or less. The relative component of combined standard uncertainty of y is given by $u_i(y)/y \equiv |\partial y/\partial x_i| \cdot u(x_i)/y = |\partial y/\partial x_i| \cdot (x_i/y) \cdot u(x_i)/x_i$. The numerical values of $u(x_i)/x_i$, $|\partial y/\partial x_i| \cdot (x_i/y)$, and $u_i(y)/y$, all dimensionless quantities, are listed in columns 3, 4, and 5, respectively. Thus, the value in column 5 is equal to the value in column 4 multiplied by the value in column 3. The input quantities are independent, or very nearly so. Hence the covariances are zero or negligible.

[p] The relative standard uncertainty of $\lambda \cdot t$ is determined by the relative standard uncertainty of λ (i.e., of the half life). The relative standard uncertainty of t is negligible.

[q] $|\partial y/\partial x_i| \cdot (x_i/y) = |\lambda \cdot t|$

[r] The live time is determined by counting the pulses from a gated crystal-controlled oscillator.

[s] The standard uncertainty for each undetected impurity that might reasonably be expected to be present is estimated to be equal to the estimated limit of detection for that impurity, i.e. $u(x_i)/x_i$ = 100%. $|\partial y/\partial x_i| \cdot (x_i/y)$ = {(response per Bq of impurity)/(response per Bq of Pu-242)}•{(Bq of impurity)/(Bq of Pu-242)}. Thus $u_i(y)/y$ is the relative change in y if the impurity were present with a massic activity equal to the estimated limit of detection.

[t] The stated uncertainty is the standard uncertainty. The plutonium-241 activity was calculated from a gamma-ray measurement of the americium-241 ingrowth as of 25 November 1998, assuming that americium-241 was completely removed at the time of chemical purification.

[u] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The value shown is an estimated upper limit based upon background and counting statistics. Measurements were made at the Lawrence Livermore National Laboratory (LLNL) in July of 1994.

[v] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The stated uncertainty is the standard uncertainty. Measurements were made at the National Institute of Standards and Technology (NIST) in June and July of 1999.

REFERENCES

[1] International Organization for Standardization (ISO), *ISO Standards Handbook - Quantities and Units*, 1993. Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.

[2] International Organization for Standardization (ISO), *Guide to the Expression of Uncertainty in Measurement*, 1993 (corrected and reprinted, 1995). Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.

[3] B.N. Taylor and C.E. Kuyatt, *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*, NIST Technical Note 1297, 1994. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20407, U.S.A.

[4] National Council on Radiation Protection and Measurements Report No. 58, *A Handbook of Radioactivity Measurements Procedures*, Second Edition, 1985. Available from the National Council on Radiation Protection and Measurements, 7910 Woodmont Avenue, Bethesda, MD 20814 U.S.A.

[5] Evaluated Nuclear Structure Data File (ENSDF), January 2005.

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1374
Prepared By:	Mary Aders
Carrier Conc:	0.5M HNO3
Reference Date:	06/07/1994
Ampoule Mass (g):	5.5 g
Uncertainty:	+/- .72 %
LogBook No:	RC-S-051-093

A Solution Material Info	
Isotope:	Plutonium-242
Prepared By:	Ashley Drochter
Prep Date:	12/02/2009
Verification Date:	12/08/2009
Expiration Date:	12/08/2010
Primary Code:	1374-A
Dilution(mL):	250 mL
Mass of Parent(g):	5.3616 g
Density(g/mL):	1.0136
Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq/g)) * (conversion dpm to Bq) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq/g)) * (conversion dpm to Bq) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(5.3616 g) * (26.31 Bq/g) * (60 dpm/Bq) / (250 mL) = 33.8553 dpm/mL
(5.3616 g) * (26.31 Bq/g) * (60 dpm/Bq) / (1.0136 g/mL) / (250 mL) = 33.4010 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Pu-242 Standard 1374-*A*

A.Drochter	Isotope	Value	Uncertainty
12/8/2009	1374-A	1.610	0.2480
	1374-A	1.580	0.2510
	1374-A	1.530	0.2440
Mean Value (Counting) =	1.573	103.17	**Pass**
Stdev =	0.040414519		**Rule 3 (Pass/Fail)**
Target =	1.52		
Lower Limit =	1.492504296		
Upper Limit =	1.654162371		
Rule 1 Pass/Fail	**Pass**		
Two sigma =	0.080829038		
10 % of Mean =	0.157333333		
Rule 2 (Pass/Fail)	**Pass**		

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for standard 1374-A using 0.1 mL for each source. Each standard was combined with 0.1 mL of Pu239 standard 0338-BB and 50 micrograms of neodymium carrier in a disposable centrifuge tube containing 4 mL of 2 M HCl and 6 mL of DI water. Four drops of 25% Hydrazine dihydrochloride were added to each centrifuge tube and swirled. Two mL of 49% HF was added to precipitate neodymium(and plutonium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Pu-242 were calculated by comparison to Pu-239 certified values.

12/9/09

Eckert & Ziegler
Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404·352·8677
Fax 404·352·2837
www.analyticsinc.com

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

1283

78747-278

U-232 5 mL Liquid in Flame Sealed Vial

Customer: GEL Laboratories, LLC
P.O. No.: 7319 RD, Item 1

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

Isotope:	U-232
Activity (Bq):	3.754 E3
Half-Life:	68.9 years
Calibration Date:	December 9, 2008 12:00 EST
Relative Expanded Uncertainty (k=2):	5.0%

Comments:
Impurities: U-233 <0.3%, Am-241 <0.15%
5.20453 grams 1M HNO_3 solution.

Source Prepared By: _____
W. Mao, Radiochemist

QA Approved: _____ Date: 12-11-08
D. M. Montgomery, QA Manager

End of Certificate

RECEIVED 12/15/08
RC-5-05

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1283
Prepared By:	Daniel Roy
Carrier Conc:	1M HNO3
Reference Date:	12/09/2008
Ampoule Mass (g):	5.20453 g
Uncertainty:	+/- 5 %
LogBook No:	RC-S-051-002

A Solution Material Info	
Isotope:	Uranium-232
Prepared By:	Daniel Roy
Prep Date:	12/16/2008
Verification Date:	12/30/2008
Expiration Date:	12/30/2009
Primary Code:	1283-A
Dilution(mL):	100 mL
Mass of Parent(g):	5.0245 g
Density(g/mL):	1.0285
Balance ID:	

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(5.0245 g) * (3754 Bq) * (60 dpm/Bq) / (5.20453 g * 100 mL) = 2174.4872 dpm/mL
(5.0245 g) * (3754 Bq) * (60 dpm/Bq) / (1.0285 g/mL)/ (5.20453 g * 100 mL) = 2114.1700 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
12/16/2008	Daniel Roy	25.1813	1000	1283-B	53.2375 dpm/ml	12/16/2008	12/16/2009
12/30/2008	Tina Schoneman	2.05	250	1283-C	17.336 dpm/mL	12/30/2008	12/30/2009
12/30/2008	Tina Schoneman	.49	250	1283-D	4.1438 dpm/mL	01/09/2009	01/09/2010
01/14/2009	Mary Aders	25.0528	1000	1283-E	52.9659 dpm/ml	01/15/2009	01/15/2010
12/02/2009	Julie Strock	2.076	250	1283-F	17.5561 dpm/mL	01/09/2009	12/30/2009
12/02/2009	Julie Strock	.517	250	1283-G	4.3721 dpm/mL	01/09/2009	12/30/2009
12/09/2009	Ashley Drochter	21.56	1000	1283-H	45.58 dpm/mL	12/09/2009	12/09/2010

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Uranium-232 Standard *1283-H*

Analyst: A. Drochter	Serial #	Value		Uncertainty	
Date: 12/10/09	1283-H N1	2.020	pCi/L	0.238	pCi/L
	1283-H N2	2.000	pCi/L	0.234	pCi/L
	1283-H N3	2.060	pCi/L	0.242	pCi/L
Mean Value (Counting) =	2.027	pCi/L		**99.66904**	**Pass**
Stdev =	0.030550505	pCi/L			**Rule 3 (Pass/Fail)**
Target =	2.033	pCi/L			
Lower Limit =	1.965565657	pCi/L			
Upper Limit =	2.087767676	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	0.061101009				
10 % of Mean =	0.202666667				
Rule 2 (Pass/Fail)	**Pass**				

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 10% of the certificate value.

The analyst prepared three standard verification sources for standard **1283-H** using 0.1 mL for each source. Each standard was combined with 0.1 mL of **U-238** standard **1163-G** and was diluted to 10 mL with DI water. 50 micrograms of neodymium carrier and 1ml of Titanium Chloride were added. The solution was allowed to sit for 30 seconds. One mL of 49% HF was then added to precipitate neodymium (and uranium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for U-238 were calculated by comparison to U-232 certified values.

A Drochter 12/14/09

RUNLOGS

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER **Batch ID: 936285**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
243385001	SAMPLE	MJH1	GAM17	31-DEC-09 09:16	DONE CAN		27-JAN-09 00:00
243385002	SAMPLE	MJH1	GAM20	31-DEC-09 09:20	DONE CAN		26-AUG-09 00:00
243385003	SAMPLE	MJH1	GAM02	31-DEC-09 09:30	DONE CAN		29-OCT-09 00:00
243385004	SAMPLE	MJH1	GAM18	31-DEC-09 09:31	DONE CAN		23-APR-09 00:00
243385005	SAMPLE	MJH1	GAM16	31-DEC-09 09:39	DONE CAN		16-NOV-09 00:00
243385006	SAMPLE	MJH1	GAM22	31-DEC-09 09:40	DONE CAN		02-DEC-09 00:00
243385007	SAMPLE	MJH1	GAM23	31-DEC-09 09:54	DONE CAN		02-JUN-09 00:00
243385008	SAMPLE	MJH1	GAM15	31-DEC-09 10:18	DONE CAN		16-FEB-09 00:00
243385009	SAMPLE	MJH1	GAM01	31-DEC-09 10:54	DONE CAN		30-JAN-09 00:00
243385010	SAMPLE	MJH1	GAM04	31-DEC-09 10:54	DONE CAN		05-MAY-09 00:00
243385011	SAMPLE	MJH1	GAM05	31-DEC-09 10:55	DONE CAN		11-JUN-09 00:00
243403001	SAMPLE	MJH1	GAM06	31-DEC-09 10:55	DONE CAN		04-FEB-09 00:00
243403002	SAMPLE	MJH1	GAM07	31-DEC-09 10:56	DONE CAN		20-JUL-09 00:00
243403003	SAMPLE	MJH1	GAM14	31-DEC-09 10:56	DONE CAN		06-MAR-09 00:00
243403004	SAMPLE	MJH1	GAM10	31-DEC-09 12:01	DONE CAN		16-MAR-09 00:00
243403005	SAMPLE	MJH1	GAM23	31-DEC-09 12:01	DONE CAN		02-JUN-09 00:00
243403006	SAMPLE	MJH1	GAM15	31-DEC-09 12:29	DONE CAN		16-FEB-09 00:00
243403007	SAMPLE	MJH1	GAM22	31-DEC-09 13:06	DONE CAN		02-DEC-09 00:00
243403008	SAMPLE	MJH1	GAM25	31-DEC-09 13:06	DONE CAN		07-OCT-09 00:00
243403009	SAMPLE	MJH1	GAM05	31-DEC-09 13:17	DONE CAN		11-JUN-09 00:00
1202003352	MB	MJH1	GAM06	31-DEC-09 13:18	DONE CAN		04-FEB-09 00:00
1202003353	DUP	MJH1	GAM07	31-DEC-09 13:18	DONE CAN		20-JUL-09 00:00
1202003354	LCS	MJH1	GAM14	31-DEC-09 13:19	DONE CAN		06-MAR-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 937596**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202006343	MB	JXD2	1110	05-JAN-10 14:30	DONE		
1202006344	DUP	JXD2	1111	05-JAN-10 14:30	DONE		
1202006345	LCS	JXD2	1112	05-JAN-10 14:30	DONE		
243385001	SAMPLE	JXD2	1029	05-JAN-10 15:09	DONE		
243385002	SAMPLE	JXD2	1030	05-JAN-10 15:09	DONE		
243385003	SAMPLE	JXD2	1031	05-JAN-10 15:09	DONE		
243385004	SAMPLE	JXD2	1033	05-JAN-10 15:09	DONE		
243385005	SAMPLE	JXD2	1035	05-JAN-10 15:09	DONE		
243385006	SAMPLE	JXD2	1036	05-JAN-10 15:09	DONE		
243385007	SAMPLE	JXD2	1037	05-JAN-10 15:09	DONE		
243385008	SAMPLE	JXD2	1038	05-JAN-10 15:09	DONE		
243385009	SAMPLE	JXD2	1039	05-JAN-10 15:09	DONE		
243385010	SAMPLE	JXD2	1040	05-JAN-10 15:09	DONE		
243385011	SAMPLE	JXD2	1041	05-JAN-10 15:09	DONE		
243492001	SAMPLE	JXD2	1042	05-JAN-10 15:09	DONE		
243492002	SAMPLE	JXD2	1043	05-JAN-10 15:09	DONE		
243492003	SAMPLE	JXD2	1044	05-JAN-10 15:09	DONE		
243492004	SAMPLE	JXD2	1045	05-JAN-10 15:09	DONE		
243492005	SAMPLE	JXD2	1046	05-JAN-10 15:09	DONE		
243492006	SAMPLE	JXD2	1047	05-JAN-10 15:09	DONE		
243492007	SAMPLE	JXD2	1048	05-JAN-10 15:09	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 937598**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202006348	LCS	JXD2	1234	04-JAN-10 10:37	DONE		
243492005	SAMPLE	JXD2	1216	04-JAN-10 11:23	DONE		
1202006346	MB	JXD2	1218	04-JAN-10 11:23	DONE		
1202006347	DUP	JXD2	1221	04-JAN-10 11:23	DONE		
243492006	SAMPLE	JXD2	1236	04-JAN-10 11:24	DONE		
243492007	SAMPLE	JXD2	1242	04-JAN-10 11:24	DONE		
243492002	SAMPLE	JXD2	1246	04-JAN-10 15:46	DONE		
243492003	SAMPLE	JXD2	1252	04-JAN-10 15:47	DONE		
243492004	SAMPLE	JXD2	1253	04-JAN-10 15:47	DONE		
243385001	SAMPLE	JXD2	1083	04-JAN-10 18:14	DONE		
243385002	SAMPLE	JXD2	1084	04-JAN-10 18:14	DONE		
243385003	SAMPLE	JXD2	1085	04-JAN-10 18:14	DONE		
243385004	SAMPLE	JXD2	1086	04-JAN-10 18:14	DONE		
243385005	SAMPLE	JXD2	1087	04-JAN-10 18:14	DONE		
243385006	SAMPLE	JXD2	1088	04-JAN-10 18:14	DONE		
243385007	SAMPLE	JXD2	1089	04-JAN-10 18:14	DONE		
243385008	SAMPLE	JXD2	1090	04-JAN-10 18:14	DONE		
243385009	SAMPLE	JXD2	1091	04-JAN-10 18:14	DONE		
243385010	SAMPLE	JXD2	1092	04-JAN-10 18:14	DONE		
243385011	SAMPLE	JXD2	1093	04-JAN-10 18:14	DONE		
243492001	SAMPLE	JXD2	1094	04-JAN-10 18:14	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 937600**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
243385001	SAMPLE	JXD2	1125	05-JAN-10 20:20	DONE		
243385002	SAMPLE	JXD2	1126	05-JAN-10 20:20	DUSE		
243385003	SAMPLE	JXD2	1127	05-JAN-10 20:20	DONE		
243385004	SAMPLE	JXD2	1128	05-JAN-10 20:20	DONE		
243385005	SAMPLE	JXD2	1129	05-JAN-10 20:20	DONE		
243385006	SAMPLE	JXD2	1130	05-JAN-10 20:20	DONE		
243385007	SAMPLE	JXD2	1133	05-JAN-10 20:20	DONE		
243385008	SAMPLE	JXD2	1134	05-JAN-10 20:20	DONE		
243385009	SAMPLE	JXD2	1153	05-JAN-10 20:20	DONE		
243385010	SAMPLE	JXD2	1154	05-JAN-10 20:20	DUSE		
243385011	SAMPLE	JXD2	1155	05-JAN-10 20:20	DONE		
243492001	SAMPLE	JXD2	1156	05-JAN-10 20:20	DONE		
243492002	SAMPLE	JXD2	1157	05-JAN-10 20:20	DONE		
243492003	SAMPLE	JXD2	1158	05-JAN-10 20:20	DONE		
243492004	SAMPLE	JXD2	1159	05-JAN-10 20:20	DONE		
243492005	SAMPLE	JXD2	1160	05-JAN-10 20:20	DONE		
243492006	SAMPLE	JXD2	1161	05-JAN-10 20:20	DONE		
243492007	SAMPLE	JXD2	1162	05-JAN-10 20:20	DONE		
1202006349	MB	JXD2	1163	05-JAN-10 20:21	DONE		
1202006350	DUP	JXD2	1164	05-JAN-10 20:21	DONE		
1202006351	LCS	JXD2	1165	05-JAN-10 20:21	DONE		
243385002	SAMPLE	JXD2	1161	07-JAN-10 11:16	DONE		
243385010	SAMPLE	JXD2	1162	07-JAN-10 11:16	DONE		