Thursday, January 07, 2010

REQUEST NUMBER: 10-1126

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

These Samples are on:

LANL Request Number:10-1126

Per Agreement Number:126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 1/7/2010

TURNAROUND/REPORT DUE: 2/6/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	HASL-300:AM-241	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	

Thursday, January 07, 2010

REQUEST NUMBER: 10-1126

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:AM-241	1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	HASL-300:ISOPU	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	HASL-300:ISOU	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:6020	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:6850	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	

Thursday, January 07, 2010

REQUEST NUMBER: 10-1126

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:6850	1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:7471A	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:8082	1	RE12-10-7859	R	1/4/2010	
	SW-846:8321A_MOD	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:9012A	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	

Thursday, January 07, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1126

REQUEST NUMBER: 10-1126

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

TURNAROUND/REPORT DUE: 2/6/2010

TURNAROUND REQ'D: 30

LAB REQUEST COMMENTS:

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7859	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7859	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7859	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7851	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7851	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7851	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7852	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7852	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7852	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7850	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7850	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7850	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7853	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7853	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7853	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7848	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7848	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7848	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7849	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7849	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7849	1	AMBER GLASS	NMED Explosives list	Ice	R

Relinquished By:		Date	Time	Received By:		Date	Time
Printed Name	Signature	1/7/10	1400	Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

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

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2498 **EVENT NAME:** 4th Qtr. FY09 - SWMU 12-001(a) of CU 12-001(a)-99 - Threemile Cyn

SAMPLE ID: RE12-10-7848 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/04/2010	MEDIA:	QBT3	ALLH
TIME COLLECTED (HH:MM)		9:19	SUB-MEDIA:	TUFF I	N/A
PRS ID:	12-001(a)	ok	SAMPLE TECH CODE:	HA	OK
LOCATION ID:	12-610698	↓	FIELD QC TYPE:	NA	OK
LOCATION TYPE:	GENERIC		FIELD PREP:	NA	OK
TOP DEPTH:	0	0.0	SAMPLE USAGE:	INV	OK
BOTTOM DEPTH:	0	0.75	SCREEN/PORT DESC:		N/A
FIELD MATRIX:	R	~~0.75~~ S 12m 1/4/10	EXCAVATED: YES / (NO) / NA		

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

BOREHOLE: YES / (NO) / NA BOREHOLE DECLINATION: N/A BOREHOLE DIRECTION: N/A

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	NORMAL	AM241+GS+ISOPU+ISOU	1 LITER POLY 12m 12/22/09	None	Yes	
1	Normal	Met+U+CLO4+CN	~~1 GAL~~ POLY 1 L	Ice	Yes	
1	Normal	NMED Explosives list	250 ML AMBER GLASS	Ice	Yes	
1	Normal	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC: Brown sandy silt ~~siltey~~ moist and few roots 12m 1/04/10

SAMPLE COMMENTS: N/A

LOCATION DESC: 1a-10 ~~06~~ 12m 1/4/10
Southeast of firing pit

FIELD SCREENING/MEASUREMENT RESULTS:
α ≤ 22 dpm PID ambient reading 0.0 / 0.0 ppm HE Neg
Bγ ≤ 1845 dpm

COLLECTED BY (PRINT) Rolenda Saunders REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	01/04/10	(Printed Name) K. Green	1/4/10
(Signature) Tracy [signature]	1600	(Signature) [signature]	4:00
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2498 **EVENT NAME:** 4th Qtr. FY09 - SWMU 12-001(a) of CU 12-001(a)-99 - Threemile Cyn

SAMPLE ID: RE12-10-7849 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/04/2010	MEDIA:	OBT3	ALLH
TIME COLLECTED (HH:MM)		9:29	SUB-MEDIA:	TUFF 1	N/A
PRS ID:	12-001(a)	OK	SAMPLE TECH CODE:	HA	OK
LOCATION ID:	12-610698	OK	FIELD QC TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH:	0	2.0	SAMPLE USAGE:	INV	OK
BOTTOM DEPTH:	0	3.0	SCREEN/PORT DESC:		N/A
FIELD MATRIX:	R	S	EXCAVATED: YES / (NO) / NA		

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

BOREHOLE: YES / (NO) / NA BOREHOLE DECLINATION: N/A BOREHOLE DIRECTION: N/A

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISOPU+ISOU	1 LITER POLY TJM 12/22/09	None	Yes	
1	Normal	Met+U+CLO4+CN	1 ~~GAL~~ 1 L POLY	Ice	Yes	
1	Normal	NMED Explosives list	250 ML AMBER GLASS	Ice	Yes	
1	Normal	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC:
Brown Sandy Silt ~~Slitley~~ TJM 1/04/10 moist and RS 01/04/10

SAMPLE COMMENTS: N/A

LOCATION DESC:
Southeast of firing Pit 06 RS 01/04/10 1a-10

FIELD SCREENING/MEASUREMENT RESULTS:
α ≤ 16 dpm PID ambient reading 0.0 ppm HE Neg
BY ≤ 2140 dpm 0.0

COLLECTED BY (PRINT) Rokenda Saunders **REVIEWED BY (PRINT)** TLMcFarland

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	1/04/10	(Printed Name) K. Grice	1/4/10
(Signature) Tracy	1600	(Signature)	4:00
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2498 **EVENT NAME:** 4th Qtr. FY09 - SWMU 12-001(a) of CU 12-001(a)-99 - Threemile Cyn

SAMPLE ID: RE12-10-7850 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/04/2010	MEDIA:	QBT3	ALLH
TIME COLLECTED (HH:MM)		9:38	SUB-MEDIA:	TUFF 1	N/A
PRS ID:	12-001(a)	OK	SAMPLE TECH CODE:	HA	OK
LOCATION ID:	12-610699	OK	FIELD QC TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH:	0	0.0	SAMPLE USAGE:	INV	OK
BOTTOM DEPTH:	0	0.5	SCREEN/PORT DESC:		N/A
FIELD MATRIX:	R	S	EXCAVATED: YES / NO / NA		

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

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

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY TAM 12/22/09	None	Yes	
1	Normal	Met+U+CLO4+C N	1 ~~GAL~~ POLY 1 L	Ice	Yes	
1	Normal	NMED Explosives list	250 ML AMBER GLASS	Ice	Yes	
1	Normal	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC:
Brown Sandy Silt, some clay and rocks

SAMPLE COMMENTS: N/A

LOCATION DESC: 1a-2
east of firing Pit

RS 01/04/10

FIELD SCREENING/MEASUREMENT RESULTS:

$\alpha \leq 16$ ~~pdm~~ dpm
$B\gamma \leq 1824$ ~~pdm~~ dpm
TAM 1/4/10

PID ambient reading 0.0 / 0.0 ppm HE Neg

COLLECTED BY (PRINT) Rolenda Saunders **REVIEWED BY (PRINT)** TL McFarland

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TL McFarland	01/04/10	(Printed Name) K. [illegible]	1/4/10
(Signature) [signature]	1600	(Signature) [signature]	4100
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2498 **EVENT NAME:** 4th Qtr. FY09 - SWMU 12-001(a) of CU 12-001(a)-99 - Threemile Cyn

SAMPLE ID: RE12-10-7851 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/04/2010	MEDIA:	OBT3	ALLH
TIME COLLECTED (HH:MM)		9:50	SUB-MEDIA:	TUFF 1	N/A
PRS ID:	12-001(a)	ok	SAMPLE TECH CODE:	HA	ok
LOCATION ID:	12-610699	ok	FIELD QC TYPE:	NA	ok
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	NA	OK
TOP DEPTH:	0	2.0	SAMPLE USAGE:	INV	ok
BOTTOM DEPTH:	0	2.5	SCREEN/PORT DESC:		N/A
FIELD MATRIX:	R	S	EXCAVATED: YES / NO / NA		

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

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

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY TZM 12/22/09	None	Yes	
1	Normal	Met+U+CLO4+C N	1 ~~GAL~~ POLY 1 L	Ice	Yes	
1	Normal	NMED Explosives list	250 ML AMBER GLASS	Ice	Yes	
1	Normal	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC: ~~Soil slitley moist~~ TZM 01/04/10
moist sandy silt

SAMPLE COMMENTS: N/A

LOCATION DESC:
east of firing Pit RS 01/04/10 La ~2

FIELD SCREENING/MEASUREMENT RESULTS:
α ≤ 71 ~~pdm~~ dpm ambient reading 0.0 RS 01/04/10 ppm
Bγ ≤ 1928 ~~pdm~~ dpm 0.0
TZM 1/4/10

COLLECTED BY (PRINT) Rolenda Saunders REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	01/04/10	(Printed Name) K. Greene	1/4/10
(Signature) [signature]	1600	(Signature) [signature]	4:00
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2498 **EVENT NAME:** 4th Qtr. FY09 - SWMU 12-001(a) of CU 12-001(a)-99 - Threemile Cyn

SAMPLE ID: RE12-10-7852 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/04/2010	MEDIA:	QBT3	ALLH
TIME COLLECTED (HH:MM)		10:02	SUB-MEDIA:	TUFF 1	N/A
PRS ID:	12-001(a)	OK	SAMPLE TECH CODE:	HA	OK
LOCATION ID:	12-610700	OK	FIELD QC TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH:	0	0.0	SAMPLE USAGE:	INV	OK
BOTTOM DEPTH:	0	0.6	SCREEN/PORT DESC:		N/A
FIELD MATRIX:	R	S	EXCAVATED: YES / NO / NA		

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

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

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISOPU+ISOU	1 LITER POLY TJM 12/22/09	None	Yes	
1	Normal	Met+U+CLO4+CN	1 ~~GAL~~ POLY 1L	Ice	Yes	
1	Normal	NMED Explosives list	250 ML AMBER GLASS	Ice	Yes	
1	Normal	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC: Brown silty sand some rocks Slightly moist

SAMPLE COMMENTS:
~~east of firing Pit~~ RS 01/04/10
~~0-9~~ RS 01/04/10 1a-9

LOCATION DESC:
east of firing Pit

FIELD SCREENING/MEASUREMENT RESULTS:
α ≤ 33 ~~pdm~~ dpm PID ambient reading 0.0 / 0.0 ppm HE Neg
BY ≤ 1893 ~~pdm~~ dpm TJM 1/4/10

COLLECTED BY (PRINT) Rolenda Saunders **REVIEWED BY (PRINT)** TL McFarland

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TL McFarland	01/04/10	(Printed Name) K. Green	1/4/10
(Signature) [signature]	1600	(Signature) [signature]	4:00
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2498 **EVENT NAME:** 4th Qtr. FY09 - SWMU 12-001(a) of CU 12-001(a)-99 - Threemile Cyn

SAMPLE ID: RE12-10-7853 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/04/2010	MEDIA:	QBT3	ALLH
TIME COLLECTED (HH:MM)		10:21	SUB-MEDIA:	TUFF I	N/A
PRS ID:	12-001(a)	OK	SAMPLE TECH CODE:	HA	OK
LOCATION ID:	12-610700	OK	FIELD QC TYPE:	NA	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH:	0	2.0	SAMPLE USAGE:	INV	OK
BOTTOM DEPTH:	0	3.5	SCREEN/PORT DESC:		N/A
FIELD MATRIX:	R	S	EXCAVATED: YES / (NO) / NA		

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

BOREHOLE: YES / (NO) / NA BOREHOLE DECLINATION: N/A BOREHOLE DIRECTION: N/A

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY 72m 12/22/09	None	Yes	
1	Normal	Met+U+CLO4+C N	~~1 GAL~~ POLY 1 L	Ice	Yes	
1	Normal	NMED Explosives list	250 ML AMBER GLASS	Ice	Yes	
1	Normal	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC: grayish brown silt, few Rocks

FD: RE 12-10-7859

SAMPLE COMMENTS:

NA

LOCATION DESC: east of firing Pit ~~09~~ RS 01/04/10 1a-9

FIELD SCREENING/MEASUREMENT RESULTS:

$\alpha \leq 55$ ~~pdm~~ 72m 1/4/10 dpm

$\beta\gamma \leq 1879$ ~~pdm~~ 72m 1/4/10 dpm

Pid ambient reading 0.0 / 0.0 ppm

COLLECTED BY (PRINT) Rolenda Saunders **REVIEWED BY (PRINT)** TLMcFarland

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	01/04/10	(Printed Name) K. Grace	1/4/10
(Signature)	1600	(Signature)	4:00
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2498 **EVENT NAME:** 4th Qtr. FY09 - SWMU 12-001(a) of CU 12-001(a)-99 - Threemile Cyn

SAMPLE ID: RE12-10-7859 **WORK ORDER:**

	AS PLANNED	AS COLLECTED		AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/04/2010	MEDIA:	QBT3	ALLH
TIME COLLECTED (HH:MM)		10:21	SUB-MEDIA:	TUFF 1	N/A
PRS ID:	12-001(a)	OK	SAMPLE TECH CODE:	HA	OK
LOCATION ID:	UNK	12-610700	FIELD QC TYPE:	FD	OK
LOCATION TYPE:	GENERIC	OK	FIELD PREP:	NA	OK
TOP DEPTH:	0	2.0	SAMPLE USAGE:	QC	OK
BOTTOM DEPTH:	0	3.5	SCREEN/PORT DESC:		N/A
FIELD MATRIX:	R	S	EXCAVATED: YES / NO / NA		

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

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

#	PRIORITY	ORDER 12m 1/4/10	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	~~8082+~~NMED-HEXP	250 ML AMBER GLASS	Ice	Yes	
1	normal	AM241+GS+ISOPU+ISOU	1 LITER POLY 12m 12/22/09	None	Yes	
1	normal	Met+U+CLO4+CN	1 ~~GAL~~ L POLY	Ice	Yes	
1	normal	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC: QC Sample of RE12-10-7853
grayish brown silt few Rocks

SAMPLE COMMENTS:
NA

LOCATION DESC: 1a-9
east of firing Pit

FIELD SCREENING/MEASUREMENT RESULTS:
α ≤ 55 dpm PID ambient reading 0.0 / 0.0 ppm
Bγ ≤ 1879 dpm

COLLECTED BY (PRINT) Roland Saunders **REVIEWED BY (PRINT)** TLMcFarland

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) TLMcFarland	01/04/10	(Printed Name) K. Grace	1/4/10
(Signature) Tracy M	1600	(Signature)	4:00
RELINQUISHED BY	**Date/Time**	**RECEIVED BY**	**Date/Time**
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-10-00002	Request or PO Number:	
Client Sample ID:	RE12-10-7848	ARS Sample ID:	ARS2-10-00002-001
Sample Collection Date:	01/04/10 09:19	Date Received:	01/05/10 00:00
Sample Matrix:	Soil/Solid	Report Date:	01/06/10 09:06

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	55.86	26.07	27.01	26.95		pCi/g	EPA 900.0M	1/5/2010	ME	N/A
GROSS BETA	41.44	11.30	12.49	12.39		pCi/g	EPA 900.0M	1/5/2010	ME	N/A
NA-22	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
K-40	8.92	5.39	1.69	5.40		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CO-60	0.00	11.05	0.11	11.05		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CS-134	0.26	0.18	0.08	0.18		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CS-137	-0.01	14.46	0.07	14.46		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
EU-152	0.36	0.32	0.13	0.32		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
PB-212	1.10	0.47	0.16	0.48		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
RA-228	1.80	0.74	0.29	0.75		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
U-235	0.72	0.62	0.30	0.62		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
U-238	1.44	2.30	1.23	2.32		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
AM-241	0.17	0.26	0.11	0.26		pCi/g	EPA 901.1M	1/5/2010	ME	N/A

NOTES: % Moisture: 1.77

Quality Assurance Review

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

LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-10-00002	Request or PO Number:	
Client Sample ID:	RE12-10-7849	ARS Sample ID:	ARS2-10-00002-002
Sample Collection Date:	01/04/10 09:29	Date Received:	01/05/10 00:00
Sample Matrix:	Soil/Solid	Report Date:	01/06/10 09:06

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	47.95	22.90	22.94	23.64		pCi/g	EPA 900.0M	1/5/2010	ME	N/A
GROSS BETA	47.90	11.79	12.66	13.17		pCi/g	EPA 900.0M	1/5/2010	ME	N/A
NA-22	0.00	0.00	0.14	0.00		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
K-40	-4.75	-90.55	5.53	-90.55		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CO-60	-0.01	39.84	0.14	39.84		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CS-134	0.50	0.26	0.10	0.26		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CS-137	-0.02	52.13	0.09	52.13		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
EU-152	1.08	0.69	0.16	0.69		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
PB-212	1.78	0.67	0.23	0.67		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
RA-228	1.43	0.92	0.73	0.92		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
U-235	-0.17	355.33	0.40	355.33		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
U-238	8.72	5.54	2.14	5.88		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
AM-241	0.08	0.23	0.12	0.23		pCi/g	EPA 901.1M	1/5/2010	ME	N/A

NOTES: % Moisture: 1.15

Quality Assurance Review

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LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-10-00002	Request or PO Number:	
Client Sample ID:	RE12-10-7850	ARS Sample ID:	ARS2-10-00002-003
Sample Collection Date:	01/04/10 09:38	Date Received:	01/05/10 00:00
Sample Matrix:	Soil/Solid	Report Date:	01/06/10 09:06

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	81.50	28.53	19.32	30.22		pCi/g	EPA 900.0M	1/5/2010	ME	N/A
GROSS BETA	45.79	12.85	13.71	14.02		pCi/g	EPA 900.0M	1/5/2010	ME	N/A
NA-22	0.00	0.00	0.10	0.00		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
K-40	17.24	7.21	2.22	7.22		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CO-60	-0.01	29.07	0.10	29.07		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CS-134	0.00	0.00	0.08	0.00		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CS-137	0.02	0.12	0.08	0.12		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
EU-152	0.90	0.53	0.12	0.53		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
PB-212	1.77	0.58	0.20	0.58		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
RA-228	1.59	1.10	0.33	1.11		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
U-235	1.62	1.52	0.54	1.52		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
U-238	1.62	2.61	1.52	2.64		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
AM-241	0.03	0.17	0.10	0.17		pCi/g	EPA 901.1M	1/5/2010	ME	N/A

NOTES: % Moisture: 2.62

Quality Assurance Review

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

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AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-10-00002	Request or PO Number:	
Client Sample ID:	RE12-10-7851	ARS Sample ID:	ARS2-10-00002-004
Sample Collection Date:	01/04/10 09:50	Date Received:	01/05/10 00:00
Sample Matrix:	Soil/Solid	Report Date:	01/06/10 09:06

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	48.66	23.28	23.98	24.03		pCi/g	EPA 900.0M	1/5/2010	ME	N/A
GROSS BETA	48.45	11.98	13.00	13.37		pCi/g	EPA 900.0M	1/5/2010	ME	N/A
NA-22	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
K-40	10.54	7.91	3.13	7.92		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CO-60	0.00	10.92	0.11	10.92		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CS-134	0.21	0.19	0.08	0.19		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CS-137	-0.01	14.29	0.07	14.29		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
EU-152	0.23	0.42	0.15	0.42		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
PB-212	1.49	0.52	0.15	0.52		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
RA-228	1.45	0.83	0.42	0.84		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
U-235	0.84	0.89	0.50	0.89		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
U-238	5.15	3.94	1.51	4.12		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
AM-241	0.07	0.12	0.05	0.12		pCi/g	EPA 901.1M	1/5/2010	ME	N/A

NOTES: % Moisture: 1.00

Quality Assurance Review

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

LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

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505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-10-00002	Request or PO Number:	
Client Sample ID:	RE12-10-7852	ARS Sample ID:	ARS2-10-00002-005
Sample Collection Date:	01/04/10 10:02	Date Received:	01/05/10 00:00
Sample Matrix:	Soil/Solid	Report Date:	01/06/10 09:06

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	107.78	34.28	27.01	36.73		pCi/g	EPA 900.0M	1/5/2010	ME	N/A
GROSS BETA	73.01	13.88	12.49	16.51		pCi/g	EPA 900.0M	1/5/2010	ME	N/A
NA-22	0.00	0.00	0.08	0.00		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
K-40	24.51	7.69	1.88	7.72		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CO-60	-0.01	24.66	0.09	24.66		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CS-134	0.27	0.21	0.06	0.21		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CS-137	0.39	0.23	0.06	0.23		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
EU-152	0.43	0.38	0.15	0.38		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
PB-212	1.35	0.45	0.15	0.45		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
RA-228	2.44	1.05	0.28	1.06		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
U-235	0.69	0.96	0.36	0.96		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
U-238	7.23	5.08	1.85	5.34		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
AM-241	0.51	0.42	0.14	0.42		pCi/g	EPA 901.1M	1/5/2010	ME	N/A

NOTES: % Moisture: 1.36

Quality Assurance Review

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

LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-10-00002	Request or PO Number:	
Client Sample ID:	RE12-10-7853	ARS Sample ID:	ARS2-10-00002-006
Sample Collection Date:	01/04/10 10:21	Date Received:	01/05/10 00:00
Sample Matrix:	Soil/Solid	Report Date:	01/06/10 09:06

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	80.24	28.48	22.94	30.12		pCi/g	EPA 900.0M	1/5/2010	ME	N/A
GROSS BETA	52.13	12.44	12.66	13.98		pCi/g	EPA 900.0M	1/5/2010	ME	N/A
NA-22	0.00	0.00	0.12	0.00		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
K-40	0.93	4.96	2.90	4.96		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CO-60	0.00	12.74	0.13	12.74		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CS-134	0.41	0.34	0.09	0.34		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CS-137	0.04	0.10	0.08	0.10		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
EU-152	0.00	13.24	0.15	13.24		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
PB-212	1.21	0.54	0.19	0.54		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
RA-228	2.68	1.19	0.34	1.20		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
U-235	0.90	0.74	0.38	0.74		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
U-238	4.13	4.24	1.72	4.35		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
AM-241	0.12	0.20	0.09	0.20		pCi/g	EPA 901.1M	1/5/2010	ME	N/A

NOTES: % Moisture: 0.70

Quality Assurance Review

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

LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group:	ARS2-10-00002	Request or PO Number:	
Client Sample ID:	RE12-10-7859	ARS Sample ID:	ARS2-10-00002-007
Sample Collection Date:	01/04/10 10:21	Date Received:	01/05/10 00:00
Sample Matrix:	Soil/Solid	Report Date:	01/06/10 09:06

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	103.23	31.87	19.32	34.28		pCi/g	EPA 900.0M	1/5/2010	ME	N/A
GROSS BETA	64.62	14.36	13.71	16.39		pCi/g	EPA 900.0M	1/5/2010	ME	N/A
NA-22	0.05	0.10	0.09	0.10		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
K-40	15.99	6.41	1.92	6.43		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CO-60	0.14	0.13	0.09	0.13		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CS-134	0.28	0.21	0.07	0.21		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
CS-137	0.33	0.21	0.06	0.22		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
EU-152	0.88	0.63	0.18	0.63		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
PB-212	1.50	0.46	0.13	0.46		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
RA-228	-0.20	328.38	0.37	328.38		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
U-235	2.40	0.91	0.16	0.92		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
U-238	5.57	4.16	1.70	4.35		pCi/g	EPA 901.1M	1/5/2010	ME	N/A
AM-241	0.10	0.20	0.10	0.20		pCi/g	EPA 901.1M	1/5/2010	ME	N/A

NOTES: % Moisture: 0.73

Quality Assurance Review

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LELAP Certificate# 30658 NELAP Certificate # E87558

DATA VALIDATION COVER SHEET

5121-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY

Section I.

REQUEST NUMBER: 10-1126 VALIDATION DATE: 02/17/2010 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Jeanne Peterson ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

☐ OTHER (DESCRIBE):

Section II. Completeness Check

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

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

1. It should be noted that the parent sample for the matrix QC was a LANL sample from another RN. No sample results were qualified.

Reviewed by: Monica Dymerski **Level I** **Date:** 02/18/10

VALIDATOR'S SIGNATURE: Jeanne Peterson DATE: 02/17/2010

LC/MS/MS PERCHLORATE ANALYTICAL DATA VALIDATION CHECKLIST

5121-2

LC/MS/MS Perchlorate Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

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

LC/MS/MS PERCHLORATE ANALYTICAL DATA VALIDATION CHECKLIST

5121-2

LC/MS/MS Perchlorate Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

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

LC/MS/MS PERCHLORATE ANALYTICAL DATA VALIDATION CHECKLIST

5121-2

LC/MS/MS Perchlorate Analytical Data Validation Checklist

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

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7859

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137001

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 93.1

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.537	2.15	0.586	ug/kg	J	1	14-JAN-10 17:59	per0114036a
	Perchlorate Isotope Ratio			3.34			1	14-JAN-10 17:59	per0114036a
14797-73-0	Perchlorate-101	.537	2.15	0.541	ug/kg	J	1	14-JAN-10 17:59	per0114036a
	Perchlorate-O(18)			5.52	ug/kg		1	14-JAN-10 17:59	per0114036a

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

*Concentration =

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

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7851

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137002

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 91

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.549	2.2	0.549	ug/kg	U	1	14-JAN-10 18:09	per0114037a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:09	per0114037a
14797-73-0	Perchlorate-101	.549	2.2	0.549	ug/kg	U	1	14-JAN-10 18:09	per0114037a
	Perchlorate-O(18)			5.35	ug/kg		1	14-JAN-10 18:09	per0114037a

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

*Concentration =

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

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7852

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137003

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 86

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.581	2.32	0.581	ug/kg	U	1	14-JAN-10 18:19	per0114038a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:19	per0114038a
14797-73-0	Perchlorate-101	.581	2.32	0.581	ug/kg	U	1	14-JAN-10 18:19	per0114038a
	Perchlorate-O(18)			5.89	ug/kg		1	14-JAN-10 18:19	per0114038a

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

*Concentration =

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

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7850

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137004

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 79

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.633	2.53	0.633	ug/kg	U	1	14-JAN-10 18:29	per0114039a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:29	per0114039a
14797-73-0	Perchlorate-101	.633	2.53	0.633	ug/kg	U	1	14-JAN-10 18:29	per0114039a
	Perchlorate-O(18)			6.14	ug/kg		1	14-JAN-10 18:29	per0114039a

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

*Concentration =

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

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7853

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137005

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 92.8

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.539	2.16	0.672	ug/kg	J	1	14-JAN-10 18:39	per0114040a
	Perchlorate Isotope Ratio			2.95			1	14-JAN-10 18:39	per0114040a
14797-73-0	Perchlorate-101	.539	2.16	0.703	ug/kg	J	1	14-JAN-10 18:39	per0114040a
	Perchlorate-O(18)			5.71	ug/kg		1	14-JAN-10 18:39	per0114040a

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

*Concentration =

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

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7848

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137006

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 84

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.596	2.38	0.596	ug/kg	U	1	14-JAN-10 18:49	per0114041a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:49	per0114041a
14797-73-0	Perchlorate-101	.596	2.38	0.596	ug/kg	U	1	14-JAN-10 18:49	per0114041a
	Perchlorate-O(18)			5.85	ug/kg		1	14-JAN-10 18:49	per0114041a

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

*Concentration =

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

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7849

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137007

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 89

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.562	2.25	0.562	ug/kg	U	1	14-JAN-10 18:59	per0114042a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:59	per0114042a
14797-73-0	Perchlorate-101	.562	2.25	0.562	ug/kg	U	1	14-JAN-10 18:59	per0114042a
	Perchlorate-O(18)			5.48	ug/kg		1	14-JAN-10 18:59	per0114042a

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

*Concentration =

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

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DATA VALIDATION COVER SHEET

5122-1

Data Validation Cover Sheet

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Section I.

REQUEST NUMBER: 10-1126 VALIDATION DATE: 02/17/2010 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Jeanne Peterson ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

Section II. Completeness Check

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

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

1. The CCV %Ds were >20% with positive bias for RDX and 2,4,6-trinitrotoluene. The associated sample results were NDs and, thus, were not qualified.

Reviewed by: Monica Dymerski **Level I** **Date:** 02/18/10

VALIDATOR'S SIGNATURE: Jeanne M Peterson DATE: 02/17/2010

LC/MS/MS HIGH EXPLOSIVE ANALYTICAL DATA VALIDATION CHECKLIST

5122-2

LC/MS/MS High Explosive Analytical Data Validation Checklist

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

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

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

LC/MS/MS HIGH EXPLOSIVE ANALYTICAL DATA VALIDATION CHECKLIST

5122-2

LC/MS/MS High Explosive Analytical Data Validation Checklist

Records Use only

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

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

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7859

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137001

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125070a

Date Analyzed: 26-JAN-10 21:16

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7859

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137001

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190043.wiff

Date Analyzed: 20-JAN-10 01:13

Units: ug/kg

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

*Concentration =

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

JMP 02/17/2010

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7851

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137002

Sample Amount 2

Moisture: 9.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125071a

Date Analyzed: 26-JAN-10 21:46

Units: ug/kg

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

*Concentration =

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

JMP 02/17/2010

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7851

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137002

Sample Amount 2

Moisture: 9.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190044.wiff

Date Analyzed: 20-JAN-10 01:29

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7852

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137003

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125072a

Date Analyzed: 26-JAN-10 22:15

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7852

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137003

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190045.wiff

Date Analyzed: 20-JAN-10 01:45

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7850

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137004

Sample Amount 2

Moisture: 21.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125076a

Date Analyzed: 27-JAN-10 00:13

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7850

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137004

Sample Amount 2

Moisture: 21.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190046.wiff

Date Analyzed: 20-JAN-10 02:00

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7853

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137005

Sample Amount 2

Moisture: 7.2

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125077a

Date Analyzed: 27-JAN-10 00:43

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7853

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137005

Sample Amount 2

Moisture: 7.2

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190047.wiff

Date Analyzed: 20-JAN-10 02:16

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7848

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137006

Sample Amount 2

Moisture: 16.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125078a

Date Analyzed: 27-JAN-10 01:12

Units: ug/kg

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

*Concentration =

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

JMP 02/17/2010

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7848

Lab Code: GEI

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137006

Sample Amount 2

Moisture: 16.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190051.wiff

Date Analyzed: 20-JAN-10 03:19

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12--10--7849

Lab Code: GEL

GEL Job No (SDG) 10--1126

Matrix: SOIL

GEL Sample ID: 244137007

Sample Amount 2

Moisture: 11.0

Amount Units g

Date Received: 08--JAN--10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14--JAN--10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125081a

Date Analyzed: 27--JAN--10 02:41

Units: ug/kg

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

*Concentration =

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

JMP 02/17/2010

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7849

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137007

Sample Amount 2

Moisture: 11.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190054.wiff

Date Analyzed: 20-JAN-10 04:06

Units: ug/kg

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

*Concentration =

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

JMP 02/17/2010

DATA VALIDATION COVER SHEET

5116-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Section I.

REQUEST NUMBER: 10-1126 VALIDATION DATE: 02/17/2010 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Jeanne Peterson ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

Section II. Completeness Check

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

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

1. It should be noted that the parent sample for the matrix QC was a LANL sample from another RN. In addition, the raw data for the parent sample was not included in the data package. No sample results were qualified.

Reviewed by: Monica Dymerski **Level I** **Date:** 02/18/10

VALIDATOR'S SIGNATURE: Jeanne Peterson DATE: 02/17/2010

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

5116-2

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

Records Use only _____

Los Alamos NATIONAL LABORATORY EST. 1943

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

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

5116-2

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

Records Use only _____

Los Alamos NATIONAL LABORATORY

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

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

5116-2

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

Records Use only _____

Los Alamos NATIONAL LABORATORY EST 1943

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

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

5116-2

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

Records Use only

Los Alamos NATIONAL LABORATORY EST 1943

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

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**10–1126**	**Date Collected:**	**01/04/2010 12:00**	**Matrix:**	**R**
Lab Sample ID:	**244137001**	**Date Received:**	**01/08/2010 09:05**	**%Moisture:**	**6.9**
		Client:	**LANL010**	**Project:**	**LANL01004**
Client ID:	**RE12–10–7859**	**Method:**	**SW846 8082**	**SOP Ref:**	**GL–OA–E–040**
Batch ID:	**940403**	**Inst:**	**ECD1A.I**	**Dilution:**	**1**
Run Date:	**01/12/2010 13:01**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**01/11/2010 19:04**	**Aliquot:**	**30.03 g**	**Final Volume:**	**1 mL**
Data File:	**029f2901.d**	**Column:**	**1 CLP1**	**Level:**	**LOW**
	029b2901.d		**2 CLP2**		

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

DATA VALIDATION COVER SHEET

5118-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Section I.

REQUEST NUMBER: 10-1126 VALIDATION DATE: 02/17/2010 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Jeanne Peterson ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

Section II. Completeness Check

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

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

1. Pb was detected in the MB. The associated sample results were detects >50X the MB concentration and, thus, were not qualified based on professional judgment.
2. Pb was detected in one of the CCBs. The associated sample results were detects >5X the CCB concentration and, thus, were not qualified.
3. The MS %R for Sb was < the laboratory LAL but ≥10%. The associated sample results were NDs and, thus, were qualified UJ,I6a. The MS %Rs for Fe, Mg, Mn, K, Al, and Ba were > the laboratory UAL. The associated sample results for Mg, K, and Ba were detects and, thus, were qualified J+,I6b. The parent sample results for Fe, Mn, and Al were >4X the spike amount and, thus, no sample results were qualified.
4. It should be noted that the parent sample for the mercury matrix QC was a LANL sample from another RN. No sample results were qualified.

Reviewed by: Monica Dymerski **Level I** **Date:** 02/18/10

VALIDATOR'S SIGNATURE: Jeanne Peterson DATE: 02/17/2010

METALS ANALYTICAL DATA VALIDATION CHECKLIST

5118-2

Metals Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

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

METALS ANALYTICAL DATA VALIDATION CHECKLIST

5118-2

Metals Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

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

METALS ANALYTICAL DATA VALIDATION CHECKLIST

5118-2

Metals Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

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

METALS ANALYTICAL DATA VALIDATION CHECKLIST

5118-2

Metals Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

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

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1126 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 244137001 **BASIS:** Dry Weight **DATE COLLECTED** 04-JAN-10

CLIENT ID: RE12-10-7859 **LEVEL:** Low **DATE RECEIVED** 08-JAN-10

MATRIX: SOIL **%SOLIDS:** 93.1

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	10400000	ug/Kg		7090	20900	20900	1	P	HSC	01/25/10 12:31	012510-1	940177
7440-36-0	Antimony UJ,I6a	1040	ug/Kg	UN	344	1040	1040	1	P	HSC	01/25/10 12:31	012510-1	940177
7440-38-2	Arsenic	2.23	mg/kg		0.209	1.05	1.05	2	MS	SKJ	01/15/10 21:40	100115-2	940086
7440-39-3	Barium J+,I6b	194000	ug/Kg	N	104	521	521	1	P	HSC	01/25/10 12:31	012510-1	940177
7440-41-7	Beryllium	0.962	mg/kg		0.0209	0.105	0.105	2	MS	SKJ	01/15/10 21:40	100115-2	940086
7440-43-9	Cadmium	215	ug/Kg	J	104	521	521	1	P	HSC	01/25/10 12:31	012510-1	940177
7440-70-2	Calcium	2790000	ug/Kg	*	8340	26100	26100	1	P	HSC	01/25/10 12:31	012510-1	940177
7440-47-3	Chromium	12400	ug/Kg		156	521	521	1	P	HSC	01/25/10 12:31	012510-1	940177
7440-48-4	Cobalt	5750	ug/Kg		156	521	521	1	P	HSC	01/25/10 12:31	012510-1	940177
7440-50-8	Copper	6860	ug/Kg		313	1040	1040	1	P	HSC	01/25/10 12:31	012510-1	940177
7439-89-6	Iron	13200000	ug/Kg		8340	26100	26100	1	P	HSC	01/25/10 12:31	012510-1	940177
7439-92-1	Lead	15200	ug/Kg		261	1040	1040	1	P	HSC	01/25/10 12:31	012510-1	940177
7439-95-4	Magnesium J+,I6b	1870000	ug/Kg	N	8870	31300	31300	1	P	HSC	01/25/10 12:31	012510-1	940177
7439-96-5	Manganese	488000	ug/Kg		209	1040	1040	1	P	HSC	01/25/10 12:31	012510-1	940177
7439-97-6	Mercury	15.1	ug/kg		4	11.8	11.8	1	AV	JXL1	01/21/10 12:15	012110S1-3	943244
7440-02-0	Nickel	8.11	mg/kg		0.105	0.418	0.418	2	MS	SKJ	01/15/10 21:40	100115-2	940086
7440-09-7	Potassium J+,I6b	1600000	ug/Kg	N	6680	26100	26100	1	P	HSC	01/25/10 12:31	012510-1	940177
7782-49-2	Selenium	1.05	mg/kg	UN	0.523	1.05	1.05	2	MS	SKJ	01/15/10 21:40	100115-2	940086
7440-22-4	Silver	521	ug/Kg	U	104	521	521	1	P	HSC	01/25/10 12:31	012510-1	940177
7440-23-5	Sodium	100000	ug/Kg		7300	26100	26100	1	P	HSC	01/25/10 12:31	012510-1	940177
7440-28-0	Thallium	0.234	mg/kg		0.0627	0.209	0.209	2	MS	SKJ	01/15/10 21:40	100115-2	940086
7440-61-1	Uranium	1.27	mg/kg		0.0138	0.0418	0.0418	2	MS	SKJ	01/15/10 21:40	100115-2	940086
7440-62-2	Vanadium	28000	ug/Kg		104	521	521	1	P	HSC	01/25/10 12:31	012510-1	940177
7440-66-6	Zinc	28400	ug/Kg		344	1040	1040	1	P	HSC	01/25/10 12:31	012510-1	940177

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
940086	940085	SW846 3050B	0.514	g	50	mL	01/12/10	AXG2
940177	940176	SW846 3050B	0.515	g	50	mL	01/12/10	AXG2
943244	943241	SW846 7471A Prep	0.548	g	30	mL	01/20/10	TXB3

JMP 02/17/2010

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1126 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 244137002 **BASIS:** Dry Weight **DATE COLLECTED** 04-JAN-10

CLIENT ID: RE12-10-7851 **LEVEL:** Low **DATE RECEIVED** 08-JAN-10

MATRIX: SOIL **%SOLIDS:** 91

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	13400000	ug/Kg		7140	21000	21000	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-36-0	Antimony UJ,I6a	1050	ug/Kg	UN	347	1050	1050	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-38-2	Arsenic	2.36	mg/kg		0.218	1.09	1.09	2	MS	SKJ	01/15/10 22:24	100115-2	940086
7440-39-3	Barium J+,I6b	224000	ug/Kg	N	105	525	525	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-41-7	Beryllium	1	mg/kg		0.0218	0.109	0.109	2	MS	SKJ	01/15/10 22:24	100115-2	940086
7440-43-9	Cadmium	310	ug/Kg	J	105	525	525	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-70-2	Calcium	2650000	ug/Kg	*	8400	26300	26300	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-47-3	Chromium	13300	ug/Kg		158	525	525	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-48-4	Cobalt	7490	ug/Kg		158	525	525	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-50-8	Copper	8030	ug/Kg		315	1050	1050	1	P	HSC	01/25/10 12:57	012510-1	940177
7439-89-6	Iron	15300000	ug/Kg		8400	26300	26300	1	P	HSC	01/25/10 12:57	012510-1	940177
7439-92-1	Lead	16200	ug/Kg		263	1050	1050	1	P	HSC	01/25/10 12:57	012510-1	940177
7439-95-4	Magnesium J+,I6b	2190000	ug/Kg	N	8930	31500	31500	1	P	HSC	01/25/10 12:57	012510-1	940177
7439-96-5	Manganese	492000	ug/Kg		210	1050	1050	1	P	HSC	01/25/10 12:57	012510-1	940177
7439-97-6	Mercury	15	ug/kg		4.12	12.1	12.1	1	AV	JXL1	01/21/10 12:17	012110S1-3	943244
7440-02-0	Nickel	9.05	mg/kg		0.109	0.436	0.436	2	MS	SKJ	01/15/10 22:24	100115-2	940086
7440-09-7	Potassium J+,I6b	2070000	ug/Kg	N	6720	26300	26300	1	P	HSC	01/25/10 12:57	012510-1	940177
7782-49-2	Selenium	1.09	mg/kg	UN	0.545	1.09	1.09	2	MS	SKJ	01/15/10 22:24	100115-2	940086
7440-22-4	Silver	525	ug/Kg	U	105	525	525	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-23-5	Sodium	77800	ug/Kg		7350	26300	26300	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-28-0	Thallium	0.247	mg/kg		0.0654	0.218	0.218	2	MS	SKJ	01/15/10 22:24	100115-2	940086
7440-61-1	Uranium	1.36	mg/kg		0.0144	0.0436	0.0436	2	MS	SKJ	01/15/10 22:24	100115-2	940086
7440-62-2	Vanadium	32200	ug/Kg		105	525	525	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-66-6	Zinc	31100	ug/Kg		347	1050	1050	1	P	HSC	01/25/10 12:57	012510-1	940177

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
940086	940085	SW846 3050B	0.504	g	50	mL	01/12/10	AXG2
940177	940176	SW846 3050B	0.523	g	50	mL	01/12/10	AXG2
943244	943241	SW846 7471A Prep	0.544	g	30	mL	01/20/10	TXB3

JMP 02/17/2010

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1126 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 244137003 **BASIS:** Dry Weight **DATE COLLECTED** 04-JAN-10

CLIENT ID: RE12-10-7852 **LEVEL:** Low **DATE RECEIVED** 08-JAN-10

MATRIX: SOIL **%SOLIDS:** 86

CAS No.	Analyte		Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum		11200000	ug/Kg		7780	22900	22900	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-36-0	Antimony	UJ,I6a	1140	ug/Kg	UN	378	1140	1140	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-38-2	Arsenic		1.8	mg/kg		0.228	1.14	1.14	2	MS	SKJ	01/15/10 22:30	100115-2	940086
7440-39-3	Barium	J+,I6b	200000	ug/Kg	N	114	572	572	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-41-7	Beryllium		0.90	mg/kg		0.0228	0.114	0.114	2	MS	SKJ	01/15/10 22:30	100115-2	940086
7440-43-9	Cadmium		210	ug/Kg	J	114	572	572	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-70-2	Calcium		2210000	ug/Kg	*	9150	28600	28600	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-47-3	Chromium		31000	ug/Kg		172	572	572	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-48-4	Cobalt		6110	ug/Kg		172	572	572	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-50-8	Copper		7630	ug/Kg		343	1140	1140	1	P	HSC	01/25/10 13:01	012510-1	940177
7439-89-6	Iron		13800000	ug/Kg		9150	28600	28600	1	P	HSC	01/25/10 13:01	012510-1	940177
7439-92-1	Lead		15400	ug/Kg		286	1140	1140	1	P	HSC	01/25/10 13:01	012510-1	940177
7439-95-4	Magnesium	J+,I6b	1890000	ug/Kg	N	9730	34300	34300	1	P	HSC	01/25/10 13:01	012510-1	940177
7439-96-5	Manganese		485000	ug/Kg		229	1140	1140	1	P	HSC	01/25/10 13:01	012510-1	940177
7439-97-6	Mercury		15.4	ug/kg		4.54	13.4	13.4	1	AV	JXL1	01/21/10 12:19	012110S1-3	943244
7440-02-0	Nickel		9.27	mg/kg		0.114	0.457	0.457	2	MS	SKJ	01/15/10 22:30	100115-2	940086
7440-09-7	Potassium	J+,I6b	2260000	ug/Kg	N	7320	28600	28600	1	P	HSC	01/25/10 13:01	012510-1	940177
7782-49-2	Selenium		1.14	mg/kg	UN	0.571	1.14	1.14	2	MS	SKJ	01/15/10 22:30	100115-2	940086
7440-22-4	Silver		572	ug/Kg	U	114	572	572	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-23-5	Sodium		52100	ug/Kg		8010	28600	28600	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-28-0	Thallium		0.199	mg/kg	J	0.0685	0.228	0.228	2	MS	SKJ	01/15/10 22:30	100115-2	940086
7440-61-1	Uranium		1.84	mg/kg		0.0151	0.0457	0.0457	2	MS	SKJ	01/15/10 22:30	100115-2	940086
7440-62-2	Vanadium		29800	ug/Kg		114	572	572	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-66-6	Zinc		28600	ug/Kg		378	1140	1140	1	P	HSC	01/25/10 13:01	012510-1	940177

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
940086	940085	SW846 3050B	0.509	g	50	mL	01/12/10	AXG2
940177	940176	SW846 3050B	0.508	g	50	mL	01/12/10	AXG2
943244	943241	SW846 7471A Prep	0.522	g	30	mL	01/20/10	TXB3

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METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1126 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 244137004 **BASIS:** Dry Weight **DATE COLLECTED** 04-JAN-10

CLIENT ID: RE12-10-7850 **LEVEL:** Low **DATE RECEIVED** 08-JAN-10

MATRIX: SOIL **%SOLIDS:** 79

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	10600000	ug/Kg		8300	24400	24400	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-36-0	Antimony UJ,I6a	1220	ug/Kg	UN	403	1220	1220	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-38-2	Arsenic	1.84	mg/kg		0.238	1.19	1.19	2	MS	SKJ	01/15/10 22:49	100115-2	940086
7440-39-3	Barium J+,I6b	190000	ug/Kg	N	122	610	610	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-41-7	Beryllium	0.810	mg/kg		0.0238	0.119	0.119	2	MS	SKJ	01/15/10 22:49	100115-2	940086
7440-43-9	Cadmium	234	ug/Kg	J	122	610	610	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-70-2	Calcium	2490000	ug/Kg	*	9760	30500	30500	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-47-3	Chromium	43000	ug/Kg		183	610	610	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-48-4	Cobalt	6050	ug/Kg		183	610	610	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-50-8	Copper	9360	ug/Kg		366	1220	1220	1	P	HSC	01/25/10 13:04	012510-1	940177
7439-89-6	Iron	14400000	ug/Kg		9760	30500	30500	1	P	HSC	01/25/10 13:04	012510-1	940177
7439-92-1	Lead	15000	ug/Kg		305	1220	1220	1	P	HSC	01/25/10 13:04	012510-1	940177
7439-95-4	Magnesium J+,I6b	1900000	ug/Kg	N	10400	36600	36600	1	P	HSC	01/25/10 13:04	012510-1	940177
7439-96-5	Manganese	451000	ug/Kg		244	1220	1220	1	P	HSC	01/25/10 13:04	012510-1	940177
7439-97-6	Mercury	14.9	ug/kg		4.96	14.6	14.6	1	AV	JXL1	01/21/10 12:20	012110S1-3	943244
7440-02-0	Nickel	10.9	mg/kg		0.119	0.475	0.475	2	MS	SKJ	01/15/10 22:49	100115-2	940086
7440-09-7	Potassium J+,I6b	2130000	ug/Kg	N	7810	30500	30500	1	P	HSC	01/25/10 13:04	012510-1	940177
7782-49-2	Selenium	1.19	mg/kg	UN	0.594	1.19	1.19	2	MS	SKJ	01/15/10 22:49	100115-2	940086
7440-22-4	Silver	610	ug/Kg	U	122	610	610	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-23-5	Sodium	56900	ug/Kg		8540	30500	30500	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-28-0	Thallium	0.196	mg/kg	J	0.0713	0.238	0.238	2	MS	SKJ	01/15/10 22:49	100115-2	940086
7440-61-1	Uranium	2.07	mg/kg		0.0157	0.0475	0.0475	2	MS	SKJ	01/15/10 22:49	100115-2	940086
7440-62-2	Vanadium	30300	ug/Kg		122	610	610	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-66-6	Zinc	28600	ug/Kg		403	1220	1220	1	P	HSC	01/25/10 13:04	012510-1	940177

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
940086	940085	SW846 3050B	0.533	g	50	mL	01/12/10	AXG2
940177	940176	SW846 3050B	0.519	g	50	mL	01/12/10	AXG2
943244	943241	SW846 7471A Prep	0.521	g	30	mL	01/20/10	TXB3

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METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1126 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 244137005 **BASIS:** Dry Weight **DATE COLLECTED** 04-JAN-10

CLIENT ID: RE12-10-7853 **LEVEL:** Low **DATE RECEIVED** 08-JAN-10

MATRIX: SOIL **%SOLIDS:** 92.8

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	12800000	ug/Kg		7320	21500	21500	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-36-0	Antimony UJ,I6a	1080	ug/Kg	UN	355	1080	1080	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-38-2	Arsenic	2.12	mg/kg		0.215	1.07	1.07	2	MS	SKJ	01/15/10 22:55	100115-2	940086
7440-39-3	Barium J+,I6b	206000	ug/Kg	N	108	538	538	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-41-7	Beryllium	0.853	mg/kg		0.0215	0.107	0.107	2	MS	SKJ	01/15/10 22:55	100115-2	940086
7440-43-9	Cadmium	165	ug/Kg	J	108	538	538	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-70-2	Calcium	3160000	ug/Kg	*	8610	26900	26900	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-47-3	Chromium	14300	ug/Kg		161	538	538	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-48-4	Cobalt	5700	ug/Kg		161	538	538	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-50-8	Copper	7380	ug/Kg		323	1080	1080	1	P	HSC	01/25/10 13:08	012510-1	940177
7439-89-6	Iron	14600000	ug/Kg		8610	26900	26900	1	P	HSC	01/25/10 13:08	012510-1	940177
7439-92-1	Lead	16700	ug/Kg		269	1080	1080	1	P	HSC	01/25/10 13:08	012510-1	940177
7439-95-4	Magnesium J+,I6b	2030000	ug/Kg	N	9150	32300	32300	1	P	HSC	01/25/10 13:08	012510-1	940177
7439-96-5	Manganese	457000	ug/Kg		215	1080	1080	1	P	HSC	01/25/10 13:08	012510-1	940177
7439-97-6	Mercury	15.8	ug/kg		4.04	11.9	11.9	1	AV	JXL1	01/21/10 12:22	012110S1-3	943244
7440-02-0	Nickel	7.88	mg/kg		0.107	0.43	0.43	2	MS	SKJ	01/15/10 22:55	100115-2	940086
7440-09-7	Potassium J+,I6b	1710000	ug/Kg	N	6890	26900	26900	1	P	HSC	01/25/10 13:08	012510-1	940177
7782-49-2	Selenium	1.07	mg/kg	UN	0.537	1.07	1.07	2	MS	SKJ	01/15/10 22:55	100115-2	940086
7440-22-4	Silver	538	ug/Kg	U	108	538	538	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-23-5	Sodium	102000	ug/Kg		7530	26900	26900	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-28-0	Thallium	0.187	mg/kg	J	0.0644	0.215	0.215	2	MS	SKJ	01/15/10 22:55	100115-2	940086
7440-61-1	Uranium	1.23	mg/kg		0.0142	0.043	0.043	2	MS	SKJ	01/15/10 22:55	100115-2	940086
7440-62-2	Vanadium	30800	ug/Kg		108	538	538	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-66-6	Zinc	28900	ug/Kg		355	1080	1080	1	P	HSC	01/25/10 13:08	012510-1	940177

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
940086	940085	SW846 3050B	0.502	g	50	mL	01/12/10	AXG2
940177	940176	SW846 3050B	0.501	g	50	mL	01/12/10	AXG2
943244	943241	SW846 7471A Prep	0.545	g	30	mL	01/20/10	TXB3

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METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1126 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 244137006 **BASIS:** Dry Weight **DATE COLLECTED** 04-JAN-10

CLIENT ID: RE12-10-7848 **LEVEL:** Low **DATE RECEIVED** 08-JAN-10

MATRIX: SOIL **%SOLIDS:** 84

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	11000000	ug/Kg		7880	23200	23200	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-36-0	Antimony UJ,I6a	1160	ug/Kg	UN	383	1160	1160	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-38-2	Arsenic	1.83	mg/kg		0.231	1.15	1.15	2	MS	SKJ	01/15/10 23:01	100115-2	940086
7440-39-3	Barium J+,I6b	180000	ug/Kg	N	116	580	580	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-41-7	Beryllium	0.718	mg/kg		0.0231	0.115	0.115	2	MS	SKJ	01/15/10 23:01	100115-2	940086
7440-43-9	Cadmium	207	ug/Kg	J	116	580	580	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-70-2	Calcium	2280000	ug/Kg	*	9270	29000	29000	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-47-3	Chromium	17000	ug/Kg		174	580	580	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-48-4	Cobalt	6340	ug/Kg		174	580	580	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-50-8	Copper	11000	ug/Kg		348	1160	1160	1	P	HSC	01/25/10 13:12	012510-1	940177
7439-89-6	Iron	15800000	ug/Kg		9270	29000	29000	1	P	HSC	01/25/10 13:12	012510-1	940177
7439-92-1	Lead	41000	ug/Kg		290	1160	1160	1	P	HSC	01/25/10 13:12	012510-1	940177
7439-95-4	Magnesium J+,I6b	2090000	ug/Kg	N	9850	34800	34800	1	P	HSC	01/25/10 13:12	012510-1	940177
7439-96-5	Manganese	519000	ug/Kg		232	1160	1160	1	P	HSC	01/25/10 13:12	012510-1	940177
7439-97-6	Mercury	15.2	ug/kg		4.23	12.4	12.4	1	AV	JXL1	01/21/10 12:24	012110S1-3	943244
7440-02-0	Nickel	7.76	mg/kg		0.115	0.462	0.462	2	MS	SKJ	01/15/10 23:01	100115-2	940086
7440-09-7	Potassium J+,I6b	1990000	ug/Kg	N	7420	29000	29000	1	P	HSC	01/25/10 13:12	012510-1	940177
7782-49-2	Selenium	1.15	mg/kg	UN	0.577	1.15	1.15	2	MS	SKJ	01/15/10 23:01	100115-2	940086
7440-22-4	Silver	580	ug/Kg	U	116	580	580	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-23-5	Sodium	63100	ug/Kg		8110	29000	29000	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-28-0	Thallium	0.162	mg/kg	J	0.0693	0.231	0.231	2	MS	SKJ	01/15/10 23:01	100115-2	940086
7440-61-1	Uranium	1.75	mg/kg		0.0152	0.0462	0.0462	2	MS	SKJ	01/15/10 23:01	100115-2	940086
7440-62-2	Vanadium	33400	ug/Kg		116	580	580	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-66-6	Zinc	33900	ug/Kg		383	1160	1160	1	P	HSC	01/25/10 13:12	012510-1	940177

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
940086	940085	SW846 3050B	0.516	g	50	mL	01/12/10	AXG2
940177	940176	SW846 3050B	0.514	g	50	mL	01/12/10	AXG2
943244	943241	SW846 7471A Prep	0.575	g	30	mL	01/20/10	TXB3

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METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1126 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 244137007 **BASIS:** Dry Weight **DATE COLLECTED** 04-JAN-10

CLIENT ID: RE12-10-7849 **LEVEL:** Low **DATE RECEIVED** 08-JAN-10

MATRIX: SOIL **%SOLIDS:** 89

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	14500000	ug/Kg		7350	21600	21600	1	P	HSC	01/25/10 13:15	012510-1	940177
7440-36-0	Antimony UJ,I6a	1080	ug/Kg	UN	357	1080	1080	1	P	HSC	01/25/10 13:15	012510-1	940177
7440-38-2	Arsenic	2.77	mg/kg		0.221	1.11	1.11	2	MS	SKJ	01/15/10 23:07	100115-2	940086
7440-39-3	Barium J+,I6b	232000	ug/Kg	N	108	540	540	1	P	HSC	01/25/10 13:15	012510-1	940177
7440-41-7	Beryllium	0.965	mg/kg		0.0221	0.111	0.111	2	MS	SKJ	01/15/10 23:07	100115-2	940086
7440-43-9	Cadmium	265	ug/Kg	J	108	540	540	1	P	HSC	01/25/10 13:15	012510-1	940177
7440-70-2	Calcium	2290000	ug/Kg	*	8640	27000	27000	1	P	HSC	01/25/10 13:15	012510-1	940177
7440-47-3	Chromium	12600	ug/Kg		162	540	540	1	P	HSC	01/25/10 13:15	012510-1	940177
7440-48-4	Cobalt	6990	ug/Kg		162	540	540	1	P	HSC	01/25/10 13:15	012510-1	940177
7440-50-8	Copper	8430	ug/Kg		324	1080	1080	1	P	HSC	01/25/10 13:15	012510-1	940177
7439-89-6	Iron	16300000	ug/Kg		8640	27000	27000	1	P	HSC	01/25/10 13:15	012510-1	940177
7439-92-1	Lead	16300	ug/Kg		270	1080	1080	1	P	HSC	01/25/10 13:15	012510-1	940177
7439-95-4	Magnesium J+,I6b	2550000	ug/Kg	N	9180	32400	32400	1	P	HSC	01/25/10 13:15	012510-1	940177
7439-96-5	Manganese	471000	ug/Kg		216	1080	1080	1	P	HSC	01/25/10 13:15	012510-1	940177
7439-97-6	Mercury	15.1	ug/kg		4.3	12.6	12.6	1	AV	JXL1	01/21/10 12:25	012110S1-3	943244
7440-02-0	Nickel	9.07	mg/kg		0.111	0.442	0.442	2	MS	SKJ	01/15/10 23:07	100115-2	940086
7440-09-7	Potassium J+,I6b	2080000	ug/Kg	N	6910	27000	27000	1	P	HSC	01/25/10 13:15	012510-1	940177
7782-49-2	Selenium	1.11	mg/kg	UN	0.553	1.11	1.11	2	MS	SKJ	01/15/10 23:07	100115-2	940086
7440-22-4	Silver	540	ug/Kg	U	108	540	540	1	P	HSC	01/25/10 13:15	012510-1	940177
7440-23-5	Sodium	79200	ug/Kg		7560	27000	27000	1	P	HSC	01/25/10 13:15	012510-1	940177
7440-28-0	Thallium	0.203	mg/kg	J	0.0664	0.221	0.221	2	MS	SKJ	01/15/10 23:07	100115-2	940086
7440-61-1	Uranium	0.962	mg/kg		0.0146	0.0442	0.0442	2	MS	SKJ	01/15/10 23:07	100115-2	940086
7440-62-2	Vanadium	34000	ug/Kg		108	540	540	1	P	HSC	01/25/10 13:15	012510-1	940177
7440-66-6	Zinc	32400	ug/Kg		357	1080	1080	1	P	HSC	01/25/10 13:15	012510-1	940177

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
940086	940085	SW846 3050B	0.508	g	50	mL	01/12/10	AXG2
940177	940176	SW846 3050B	0.52	g	50	mL	01/12/10	AXG2
943244	943241	SW846 7471A Prep	0.533	g	30	mL	01/20/10	TXB3

JMP 02/17/2010

DATA VALIDATION COVER SHEET

5120-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY EST. 1943

Section I.

REQUEST NUMBER: 10-1126 VALIDATION DATE: 02/17/2010 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Jeanne Peterson ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

Section II. Completeness Check

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

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

1. Total cyanide was detected in one of the CCBs associated with samples RE12-10-7859, -7851, -7852, and -7850. The associated sample results were NDs and, thus, were not qualified.
2. It should be noted that the parent sample for the matrix QC associated with samples -7859, -7851, -7852, and -7850 was a LANL sample from another RN. No sample results were qualified.

Reviewed by: Monica Dymerski **Level I** **Date:** 02/18/10

VALIDATOR'S SIGNATURE: Jeanne Peterson DATE: 02/17/2010

GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST

5120-2

General Chemistry Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

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

GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST

5120-2

General Chemistry Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

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

GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST

5120-2

General Chemistry Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

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

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

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

Report Date: January 22, 2010

Client SDG: 10-1126

Client Sample ID:	RE12-10-7850	Project:	LANL01004
Sample ID:	244137004	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10 12:00		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	21.1%		

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
SW9012A Cyanide, Total Federal "Dry Weight Corrected"											
Cyanide, Total	U	ND	84.5	311	ug/kg	1	AXC2	01/12/10	1126	940215	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/11/10	1539	940213

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

JMP 02/17/2010

GEL LABORATORIES LLC

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Certificate of Analysis

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

Report Date: January 22, 2010

Client SDG: 10-1126

Client Sample ID:	RE12-10-7853	Project:	LANL01004
Sample ID:	244137005	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10 12:00		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	7.24%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	J	76.5	73.3	270	ug/kg	1	AXC2 01/13/10	1134	940229	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/12/10	1551	940226

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

JMP 02/17/2010

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

Report Date: January 22, 2010

Client SDG: 10-1126

Client Sample ID: RE12-10-7848
Sample ID: 244137006
Matrix: R
Collect Date: 04-JAN-10 12:00
Receive Date: 08-JAN-10
Collector: Client
Moisture: 16.1%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	77.9	286	ug/kg	1	AXC2 01/13/10	1138	940229	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/12/10	1551	940226

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

JMP 02/17/2010

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Certificate of Analysis

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TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 22, 2010

Client SDG: 10-1126

Client Sample ID:	RE12-10-7849	Project:	LANL01004
Sample ID:	244137007	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10 12:00		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	11%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	70.8	260	ug/kg	1	AXC2 01/13/10	1141	940229	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/12/10	1551	940226

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

JMP 02/17/2010

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Certificate of Analysis

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

Report Date: January 22, 2010

Client SDG: 10-1126

Client Sample ID:	RE12-10-7859	Project:	LANL01004
Sample ID:	244137001	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10 12:00		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	6.91%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	63.0	232	ug/kg	1	AXC2 01/12/10	1123	940215	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/11/10	1539	940213

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

JMP 02/17/2010

GEL LABORATORIES LLC

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Certificate of Analysis

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

Report Date: January 22, 2010

Client SDG: 10-1126

Client Sample ID:	RE12-10-7851	Project:	LANL01004
Sample ID:	244137002	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10 12:00		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	8.99%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	71.8	264	ug/kg	1	AXC2 01/12/10	1124	940215	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/11/10	1539	940213

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

JMP 02/17/2010

GEL LABORATORIES LLC

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Certificate of Analysis

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

Report Date: January 22, 2010

Client SDG: 10-1126

Client Sample ID:	RE12-10-7852	Project:	LANL01004
Sample ID:	244137003	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10 12:00		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	14%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	73.2	269	ug/kg	1	AXC2 01/12/10	1125	940215	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/11/10	1539	940213

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

JMP 02/17/2010

DATA VALIDATION COVER SHEET

5119-1

Data Validation Cover Sheet

Records Use only

Los Alamos NATIONAL LABORATORY

Section I.

REQUEST NUMBER: 10-1126 VALIDATION DATE: 02/17/2010 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Jeanne Peterson ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

Section II. Completeness Check

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

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

1. The gamma spec results that were rejected by the laboratory due to high counting uncertainty, interference, or low abundance were qualified R,R5a. QC sample results were also rejected by the laboratory due to interference or low abundance. Since these were QC samples, no sample data were qualified as a result.
2. It should be noted that the parent samples for the matrix QC were LANL samples from other RNs. No sample results were qualified.

Reviewed by: Monica Dymerski **Level I** **Date:** 02/18/10

VALIDATOR'S SIGNATURE: Jeanne Peterson DATE: 02/17/2010

RAD ANALYTICAL DATA VALIDATION CHECKLIST

5119-2

Rad Analytical Data Validation Checklist

Records Use only

Los Alamos NATIONAL LABORATORY

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

RAD ANALYTICAL DATA VALIDATION CHECKLIST

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

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

RAD ANALYTICAL DATA VALIDATION CHECKLIST

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

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

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7859
Sample ID: 244137001
Matrix: R
Collect Date: 04-JAN-10
Receive Date: 08-JAN-10
Collector: Client
Moisture: 6.91%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	-0.00303		0.021	+/-0.00248	0.050	pCi/g		JXD2	01/16/10	1130	940222	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	0.00427		0.0235	+/-0.00588	0.050	pCi/g		JXD2	01/16/10	1129	940223	3
Plutonium-239/240	U	0.00142		0.0269	+/-0.00247	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		1.11		0.104	+/-0.0997	0.100	pCi/g		JXD2	01/19/10	0935	940225	4
Uranium-235/236		0.121		0.0647	+/-0.0239	0.100	pCi/g						
Uranium-238		1.26		0.0604	+/-0.110	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	0.191		0.348	+/-0.109	0.200	pCi/g		MXR1	01/20/10	1331	940263	5
Bismuth-211	UI	4.17	R,R5a	0.334	+/-0.287		pCi/g						
Bismuth-214		1.25		0.125	+/-0.0999	0.200	pCi/g						
Cadmium-109	UI	2.83	R,R5a	1.44	+/-0.594		pCi/g						
Cerium-139	U	-0.00985		0.0576	+/-0.0175	0.050	pCi/g						
Cesium-134	U	0.0162		0.0922	+/-0.0267	0.100	pCi/g						
Cesium-137	U	-0.0329		0.0714	+/-0.0233	0.100	pCi/g						
Cobalt-60	U	0.00468		0.0802	+/-0.0244	0.100	pCi/g						
Europium-152	U	-0.0608		0.174	+/-0.0708	0.200	pCi/g						
Lanthanum-140	U	-0.0574		0.135	+/-0.0458		pCi/g						
Lead-212		1.49		0.108	+/-0.0797	0.100	pCi/g						
Lead-214		1.45		0.116	+/-0.107	0.100	pCi/g						
Mercury-203	U	0.00775		0.0808	+/-0.0233	0.100	pCi/g						
Potassium-40		18.5		0.583	+/-1.08	1.00	pCi/g						
Radium-223	U	-0.812		1.26	+/-0.397		pCi/g						
Radium-224	UI	4.42	R,R5a	1.23	+/-0.705		pCi/g						
Radium-226		1.25		0.125	+/-0.0999		pCi/g						
Radium-228		1.50		0.202	+/-0.175	0.500	pCi/g						
Ruthenium-106	U	0.0171		0.557	+/-0.169	0.800	pCi/g						

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7859
Sample ID: 244137001

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Sodium-22	U	-0.0161	0.0806	+/-0.0257	0.080	pCi/g						
Strontium-85	U	0.0366	0.0694	+/-0.0196		pCi/g						
Thallium-208		0.471	0.0685	+/-0.049	0.080	pCi/g						
Thorium-227	U	-0.251	0.697	+/-0.222		pCi/g						
Thorium-231	U	-0.812	1.26	+/-0.397		pCi/g						
Thorium-234	U	2.74	2.95	+/-1.10	2.00	pCi/g						
Tin-113	U	-0.0187	0.0811	+/-0.0247	0.100	pCi/g						
Uranium-235	U	-0.112	0.390	+/-0.121	0.500	pCi/g						
Yttrium-88	U	0.00611	0.0575	+/-0.0168	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	76.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	65.2	(50%-105%)

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID: RE12-10-7851
Sample ID: 244137002
Matrix: R
Collect Date: 04-JAN-10
Receive Date: 08-JAN-10
Collector: Client
Moisture: 8.99%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	0.00192		0.0211	+/-0.00234	0.050	pCi/g		JXD2	01/16/10	1130	940222	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	0.00429		0.0236	+/-0.00248	0.050	pCi/g		JXD2	01/16/10	1129	940223	3
Plutonium-239/240	U	0.00286		0.027	+/-0.00404	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		1.31		0.0907	+/-0.110	0.100	pCi/g		JXD2	01/19/10	0935	940225	4
Uranium-235/236		0.0904		0.0563	+/-0.0198	0.100	pCi/g						
Uranium-238		1.14		0.0526	+/-0.098	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	0.0473		0.298	+/-0.0856	0.200	pCi/g		MXR1	01/20/10	1343	940263	5
Bismuth-211	UI	3.82	R,R5a	0.356	+/-0.334		pCi/g						
Bismuth-214		1.17		0.115	+/-0.102	0.200	pCi/g						
Cadmium-109	UI	3.11	R,R5a	1.38	+/-0.543		pCi/g						
Cerium-139	U	0.00862		0.0552	+/-0.0156	0.050	pCi/g						
Cesium-134	U	0.0773		0.103	+/-0.028	0.100	pCi/g						
Cesium-137	U	-0.00656		0.0681	+/-0.0204	0.100	pCi/g						
Cobalt-60	U	0.0292		0.0668	+/-0.018	0.100	pCi/g						
Europium-152	U	0.0643		0.183	+/-0.0636	0.200	pCi/g						
Lanthanum-140	U	-0.0799		0.144	+/-0.0508		pCi/g						
Lead-212		1.73		0.111	+/-0.107	0.100	pCi/g						
Lead-214		1.33		0.124	+/-0.121	0.100	pCi/g						
Mercury-203	U	0.0621		0.0787	+/-0.0217	0.100	pCi/g						
Potassium-40		19.4		0.588	+/-1.15	1.00	pCi/g						
Radium-223	U	0.00726		1.23	+/-0.364		pCi/g						
Radium-224	UI	4.15	R,R5a	1.19	+/-0.737		pCi/g						
Radium-226		1.17		0.115	+/-0.102		pCi/g						
Radium-228		1.35		0.244	+/-0.178	0.500	pCi/g						
Ruthenium-106	U	0.165		0.601	+/-0.170	0.800	pCi/g						
Sodium-22	U	-0.00853		0.0783	+/-0.0238	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID: RE12-10-7851
Sample ID: 244137002
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Strontium-85	UI	0.0884	R,R5a	0.0808	+/-0.0245		pCi/g						
Thallium-208		0.588		0.063	+/-0.0549	0.080	pCi/g						
Thorium-227	U	-0.166		0.682	+/-0.204		pCi/g						
Thorium-231	U	0.00726		1.23	+/-0.364		pCi/g						
Thorium-234	U	-0.868		2.52	+/-0.760	2.00	pCi/g						
Tin-113	U	0.027		0.085	+/-0.0247	0.100	pCi/g						
Uranium-235	U	0.127		0.393	+/-0.113	0.500	pCi/g						
Yttrium-88	U	-0.00939		0.0478	+/-0.016	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	84.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	79.1	(50%-105%)

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID: RE12-10-7852
Sample ID: 244137003
Matrix: R
Collect Date: 04-JAN-10
Receive Date: 08-JAN-10
Collector: Client
Moisture: 14%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	0.00281		0.0195	+/-0.00612	0.050	pCi/g		JXD2	01/16/10	1130	940222	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	-3.24E-10		0.0225	+/-0.00272	0.050	pCi/g		JXD2	01/16/10	1129	940223	3
Plutonium-239/240	U	0.0231		0.0257	+/-0.00635	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		1.47		0.106	+/-0.125	0.100	pCi/g		JXD2	01/19/10	0935	940225	4
Uranium-235/236		0.123		0.0659	+/-0.0251	0.100	pCi/g						
Uranium-238		1.55		0.0616	+/-0.131	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	0.0763		0.176	+/-0.0546	0.200	pCi/g		MXR1	01/20/10	1343	940263	5
Bismuth-211	UI	4.17	R,R5a	0.263	+/-0.357		pCi/g						
Bismuth-214		1.32		0.0877	+/-0.104	0.200	pCi/g						
Cadmium-109	UI	3.16	R,R5a	0.962	+/-0.420		pCi/g						
Cerium-139	U	-0.0147		0.0407	+/-0.0121	0.050	pCi/g						
Cesium-134	UI	0.121	R,R5a	0.0817	+/-0.0344	0.100	pCi/g						
Cesium-137		0.124		0.0576	+/-0.0278	0.100	pCi/g						
Cobalt-60	U	0.0243		0.0622	+/-0.0177	0.100	pCi/g						
Europium-152	U	-0.0733		0.128	+/-0.0423	0.200	pCi/g						
Lanthanum-140	U	-0.00203		0.123	+/-0.037		pCi/g						
Lead-212		1.65		0.0819	+/-0.127	0.100	pCi/g						
Lead-214		1.45		0.0916	+/-0.130	0.100	pCi/g						
Mercury-203	U	0.00942		0.0577	+/-0.017	0.100	pCi/g						
Potassium-40		20.7		0.418	+/-1.14	1.00	pCi/g						
Radium-223	U	-0.432		0.898	+/-0.330		pCi/g						
Radium-224	UI	4.94	R,R5a	0.932	+/-0.561		pCi/g						
Radium-226		1.32		0.0877	+/-0.104		pCi/g						
Radium-228		1.60		0.191	+/-0.155	0.500	pCi/g						
Ruthenium-106	U	0.055		0.416	+/-0.122	0.800	pCi/g						
Sodium-22	U	0.00113		0.0628	+/-0.0192	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID: RE12-10-7852
Sample ID: 244137003
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Strontium-85	U	0.0136		0.054	+/-0.0175		pCi/g						
Thallium-208		0.536		0.047	+/-0.0481	0.080	pCi/g						
Thorium-227	U	-0.176		0.515	+/-0.160		pCi/g						
Thorium-231	U	-0.432		0.898	+/-0.330		pCi/g						
Thorium-234	UI	1.58	R,R5a	1.45	+/-0.638	2.00	pCi/g						
Tin-113	U	-0.0142		0.0643	+/-0.019	0.100	pCi/g						
Uranium-235	U	0.123		0.315	+/-0.0898	0.500	pCi/g						
Yttrium-88	U	0.0031		0.0439	+/-0.013	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	91.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	81.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	64.7	(50%-105%)

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID:	RE12-10-7850	Project:	LANL01004
Sample ID:	244137004	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	21.1%		

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	0.000657		0.0209	+/-0.00196	0.050	pCi/g		JXD2	01/16/10	1130	940222	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	-0.0118		0.0217	+/-0.00657	0.050	pCi/g		JXD2	01/16/10	1129	940223	3
Plutonium-239/240	U	0.0105		0.0248	+/-0.00495	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		1.63		0.0922	+/-0.133	0.100	pCi/g		JXD2	01/19/10	0935	940225	4
Uranium-235/236		0.154		0.0572	+/-0.0266	0.100	pCi/g						
Uranium-238		1.78		0.0535	+/-0.144	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	-0.439		0.512	+/-0.159	0.200	pCi/g		MXR1	01/20/10	1344	940263	5
Bismuth-211	UI	3.85	R,R5a	0.401	+/-0.335		pCi/g						
Bismuth-214		1.18		0.127	+/-0.110	0.200	pCi/g						
Cadmium-109	UI	3.37	R,R5a	2.23	+/-0.704		pCi/g						
Cerium-139	U	-0.0107		0.0621	+/-0.019	0.050	pCi/g						
Cesium-134	U	0.0789		0.101	+/-0.0271	0.100	pCi/g						
Cesium-137		0.158		0.0779	+/-0.0276	0.100	pCi/g						
Cobalt-60	U	-0.00487		0.0676	+/-0.0213	0.100	pCi/g						
Europium-152	U	-0.168		0.194	+/-0.0781	0.200	pCi/g						
Lanthanum-140	U	-0.0321		0.168	+/-0.0556		pCi/g						
Lead-212		1.69		0.113	+/-0.0975	0.100	pCi/g						
Lead-214		1.34		0.140	+/-0.122	0.100	pCi/g						
Mercury-203	U	0.0395		0.0842	+/-0.0269	0.100	pCi/g						
Potassium-40		19.7		0.669	+/-1.11	1.00	pCi/g						
Radium-223	U	-0.253		1.36	+/-0.473		pCi/g						
Radium-224	UI	5.64	R,R5a	1.28	+/-0.895		pCi/g						
Radium-226		1.18		0.127	+/-0.110		pCi/g						
Radium-228		1.64		0.199	+/-0.179	0.500	pCi/g						
Ruthenium-106	U	0.103		0.636	+/-0.191	0.800	pCi/g						
Sodium-22	U	-0.0272		0.0706	+/-0.0236	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID: RE12-10-7850
Sample ID: 244137004

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0687	0.078	+/-0.024		pCi/g						
Thallium-208		0.543	0.0668	+/-0.0505	0.080	pCi/g						
Thorium-227	U	0.380	0.869	+/-0.247		pCi/g						
Thorium-231	U	-0.253	1.36	+/-0.473		pCi/g						
Thorium-234	U	1.21	4.16	+/-1.20	2.00	pCi/g						
Tin-113	U	-0.00559	0.0934	+/-0.028	0.100	pCi/g						
Uranium-235	U	0.278	0.471	+/-0.140	0.500	pCi/g						
Yttrium-88	U	0.00302	0.0676	+/-0.0204	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	85.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	77.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	73.7	(50%-105%)

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

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

JMP 02/17/2010

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7853
Sample ID: 244137005
Matrix: R
Collect Date: 04-JAN-10
Receive Date: 08-JAN-10
Collector: Client
Moisture: 7.24%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	-0.00319		0.024	+/-0.002	0.050	pCi/g		JXD2	01/16/10	1130	940222	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	-0.00587		0.0243	+/-0.00689	0.050	pCi/g		JXD2	01/16/10	1129	940223	3
Plutonium-239/240	U	0.00147		0.0277	+/-0.00328	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		1.11		0.0921	+/-0.096	0.100	pCi/g		JXD2	01/19/10	0935	940225	4
Uranium-235/236		0.106		0.0572	+/-0.0217	0.100	pCi/g						
Uranium-238		1.11		0.0534	+/-0.0958	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	0.046		0.103	+/-0.0311	0.200	pCi/g		MXR1	01/20/10	1344	940263	5
Bismuth-211	UI	3.85	R,R5a	0.346	+/-0.297		pCi/g						
Bismuth-214		1.52		0.120	+/-0.129	0.200	pCi/g						
Cadmium-109	UI	2.67	R,R5a	0.947	+/-0.679		pCi/g						
Cerium-139	U	-0.0185		0.0469	+/-0.0145	0.050	pCi/g						
Cesium-134	UI	0.123	R,R5a	0.104	+/-0.0326	0.100	pCi/g						
Cesium-137	U	-0.0416		0.076	+/-0.0258	0.100	pCi/g						
Cobalt-60	U	0.00563		0.0869	+/-0.0256	0.100	pCi/g						
Europium-152	U	-0.0342		0.159	+/-0.0494	0.200	pCi/g						
Lanthanum-140	U	-0.0401		0.184	+/-0.0593		pCi/g						
Lead-212		1.57		0.0994	+/-0.100	0.100	pCi/g						
Lead-214		1.34		0.121	+/-0.109	0.100	pCi/g						
Mercury-203	U	0.049		0.0783	+/-0.0237	0.100	pCi/g						
Potassium-40		19.6		0.426	+/-1.24	1.00	pCi/g						
Radium-223	U	-0.559		1.11	+/-0.344		pCi/g						
Radium-224	UI	4.88	R,R5a	1.13	+/-0.690		pCi/g						
Radium-226		1.52		0.120	+/-0.129		pCi/g						
Radium-228		1.28		0.273	+/-0.198	0.500	pCi/g						
Ruthenium-106	U	0.469		0.684	+/-0.188	0.800	pCi/g						
Sodium-22	U	0.0417		0.0952	+/-0.0268	0.080	pCi/g						

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7853
Sample ID: 244137005

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0485	0.0738	+/-0.0227		pCi/g						
Thallium-208		0.493	0.0723	+/-0.0526	0.080	pCi/g						
Thorium-227	U	-0.364	0.632	+/-0.210		pCi/g						
Thorium-231	U	-0.559	1.11	+/-0.344		pCi/g						
Thorium-234		1.66	0.990	+/-0.558	2.00	pCi/g						
Tin-113	U	-0.0167	0.0841	+/-0.0255	0.100	pCi/g						
Uranium-235	U	0.208	0.380	+/-0.110	0.500	pCi/g						
Yttrium-88	U	-0.00764	0.0659	+/-0.0213	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	78.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	74.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	75.8	(50%-105%)

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

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

JMP 02/17/2010

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7848
Sample ID: 244137006
Matrix: R
Collect Date: 04-JAN-10
Receive Date: 08-JAN-10
Collector: Client
Moisture: 16.1%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.00333		0.0219	+/-0.00331	0.050	pCi/g		JXD2	01/16/10 1130	940222	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	0.00262		0.0216	+/-0.00693	0.050	pCi/g		JXD2	01/16/10 1129	940223	3
Plutonium-239/240	U	0.00393		0.0247	+/-0.00472	0.050	pCi/g					
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.34		0.101	+/-0.115	0.100	pCi/g		JXD2	01/19/10 0935	940225	4
Uranium-235/236		0.105		0.0627	+/-0.0218	0.100	pCi/g					
Uranium-238		1.42		0.0586	+/-0.121	0.100	pCi/g					
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	0.112		0.197	+/-0.0619	0.200	pCi/g		MXR1	01/20/10 1345	940263	5
Bismuth-211	UI	4.53	R,R5a	0.325	+/-0.311		pCi/g					
Bismuth-214		1.38		0.111	+/-0.112	0.200	pCi/g					
Cadmium-109	UI	4.01	R,R5a	1.06	+/-0.524		pCi/g					
Cerium-139	U	0.00306		0.0486	+/-0.0149	0.050	pCi/g					
Cesium-134	UI	0.131	R,R5a	0.0875	+/-0.036	0.100	pCi/g					
Cesium-137		0.142		0.0583	+/-0.0344	0.100	pCi/g					
Cobalt-60	U	0.0215		0.0585	+/-0.0167	0.100	pCi/g					
Europium-152	U	-0.0831		0.143	+/-0.0495	0.200	pCi/g					
Lanthanum-140	U	-0.0256		0.126	+/-0.0402		pCi/g					
Lead-212		1.67		0.0904	+/-0.105	0.100	pCi/g					
Lead-214		1.58		0.111	+/-0.116	0.100	pCi/g					
Mercury-203	U	-0.0137		0.0659	+/-0.0198	0.100	pCi/g					
Potassium-40		24.6		0.517	+/-1.34	1.00	pCi/g					
Radium-223	U	-0.46		1.01	+/-0.317		pCi/g					
Radium-224	UI	5.43	R,R5a	1.03	+/-0.611		pCi/g					
Radium-226		1.38		0.111	+/-0.112		pCi/g					
Radium-228		1.53		0.194	+/-0.183	0.500	pCi/g					
Ruthenium-106	U	-0.268		0.476	+/-0.161	0.800	pCi/g					
Sodium-22	U	-0.00994		0.0612	+/-0.0196	0.080	pCi/g					

JMP 02/17/2010

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7848
Sample ID: 244137006
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Strontium-85	U	0.063		0.0659	+/-0.0202		pCi/g						
Thallium-208		0.533		0.0549	+/-0.0526	0.080	pCi/g						
Thorium-227	U	0.115		0.629	+/-0.182		pCi/g						
Thorium-231	U	-0.46		1.01	+/-0.317		pCi/g						
Thorium-234	UI	1.71	R,R5a	1.67	+/-0.730	2.00	pCi/g						
Tin-113	U	-0.0216		0.0689	+/-0.0215	0.100	pCi/g						
Uranium-235	U	0.0083		0.343	+/-0.106	0.500	pCi/g						
Yttrium-88	U	-0.000189		0.0585	+/-0.0179	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	93.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	85.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	69.2	(50%-105%)

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

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7849
Sample ID: 244137007
Matrix: R
Collect Date: 04-JAN-10
Receive Date: 08-JAN-10
Collector: Client
Moisture: 11%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result		DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids													
"As Received"													
Rad Alpha Spec Analysis													
AM241 "Dry Weight Corrected"													
Americium-241	U	-0.00182		0.022	+/-0.00277	0.050	pCi/g		JXD2	01/16/10	1130	940222	2
ISOPU "Dry Weight Corrected"													
Plutonium-238	U	0.0014		0.0231	+/-0.0014	0.050	pCi/g		JXD2	01/16/10	1129	940223	3
Plutonium-239/240	U	-0.0056		0.0265	+/-0.00396	0.050	pCi/g						
ISOU "Dry Weight Corrected"													
Uranium-233/234		1.06		0.0883	+/-0.0917	0.100	pCi/g		JXD2	01/19/10	0935	940225	4
Uranium-235/236		0.0669		0.0548	+/-0.016	0.100	pCi/g						
Uranium-238		1.04		0.0512	+/-0.0903	0.100	pCi/g						
Rad Gamma Spec Analysis													
GAMMA SPEC "Dry Weight Corrected"													
Americium-241	U	-0.00728		0.0748	+/-0.0245	0.200	pCi/g		MXR1	01/20/10	1345	940263	5
Bismuth-211	UI	4.32	R,R5a	0.266	+/-0.316		pCi/g						
Bismuth-214		1.31		0.110	+/-0.112	0.200	pCi/g						
Cadmium-109	UI	3.53	R,R5a	0.708	+/-0.361		pCi/g						
Cerium-139	U	0.0268		0.0429	+/-0.012	0.050	pCi/g						
Cesium-134	UI	0.0951	R,R5a	0.0861	+/-0.0287	0.100	pCi/g						
Cesium-137	U	-0.0199		0.0771	+/-0.0225	0.100	pCi/g						
Cobalt-60	U	-0.00717		0.0675	+/-0.021	0.100	pCi/g						
Europium-152	U	0.0349		0.154	+/-0.0453	0.200	pCi/g						
Lanthanum-140	U	-0.0523		0.159	+/-0.0512		pCi/g						
Lead-212		1.65		0.0946	+/-0.112	0.100	pCi/g						
Lead-214		1.50		0.0927	+/-0.117	0.100	pCi/g						
Mercury-203	U	0.0122		0.0618	+/-0.0209	0.100	pCi/g						
Potassium-40		20.6		0.411	+/-1.16	1.00	pCi/g						
Radium-223	U	0.0292		0.998	+/-0.327		pCi/g						
Radium-224	UI	3.58	R,R5a	1.23	+/-0.465		pCi/g						
Radium-226		1.31		0.110	+/-0.112		pCi/g						
Radium-228		1.73		0.196	+/-0.178	0.500	pCi/g						
Ruthenium-106	U	0.0237		0.546	+/-0.159	0.800	pCi/g						
Sodium-22	U	-0.0236		0.0684	+/-0.0221	0.080	pCi/g						

JMP 02/17/2010

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7849
Sample ID: 244137007
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0684	0.0689	+/-0.021		pCi/g						
Thallium-208		0.585	0.0581	+/-0.0514	0.080	pCi/g						
Thorium-227	U	0.0102	0.542	+/-0.165		pCi/g						
Thorium-231	U	0.0292	0.998	+/-0.327		pCi/g						
Thorium-234		1.21	0.724	+/-0.354	2.00	pCi/g						
Tin-113	U	-0.00803	0.0698	+/-0.0209	0.100	pCi/g						
Uranium-235	U	0.0862	0.291	+/-0.0846	0.500	pCi/g						
Yttrium-88	U	0.000316	0.0668	+/-0.0203	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	76.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	78.3	(50%-105%)

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

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

JMP 02/17/2010

Thursday, January 07, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1126

REQUEST NUMBER: 10-1126

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

TURNAROUND/REPORT DUE: 2/6/2010

TURNAROUND REQ'D: 30

LAB REQUEST COMMENTS: 244137/

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7859	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7859	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7859	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7851	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7851	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7851	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7852	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7852	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7852	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7850	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7850	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7850	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7853	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7853	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7853	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7848	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7848	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7848	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7849	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7849	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7849	1	AMBER GLASS	NMED Explosives list	Ice	R

Relinquished By:		Date	Time	Received By:		Date	Time
		1/7/10	1400	Greg Tyler		1-8-10	0905
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

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

Thursday, January 07, 2010

REQUEST NUMBER: 10-1126

LOS ALAMOS
NATIONAL LABORATORY

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

These Samples are on:
LANL Request Number:10-1126
Per Agreement Number:126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 1/7/2010
TURNAROUND/REPORT DUE: 2/6/2010
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:
Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	HASL-300:AM-241	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	

Thursday, January 07, 2010

REQUEST NUMBER: 10-1126

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:AM-241	1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	HASL-300:ISOPU	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	HASL-300:ISOU	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:6020	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:6850	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	

Thursday, January 07, 2010

REQUEST NUMBER: 10-1126

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:6850	1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:7471A	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:8082	1	RE12-10-7859	R	1/4/2010	
	SW-846:8321A_MOD	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:9012A	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	

GEL Laboratories LLC

a member of The GEL Group INC

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

P 843.556.8171 F 843.766.1178

www.gel.com

January 12, 2010

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

Re: LANL ER Project
Work Order: 244137
SDG: 10-1126

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on January 08, 2010, and analyzed for Explosives by LCMSMS, GC Semivolatile PCB, General Chemistry, Metals, Perchlorates by LCMSMS and Radiochemistry. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

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

Sincerely,

for

Valerie Davis
Project Manager

Purchase Order: 72733-001-09
Chain of Custody: 10-1126
Enclosures

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 244137
SDG: 10-1126

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Case Narrative

Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 244137
SDG # : 10-1126

January 12, 2010

Laboratory Identification:

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

Summary

Sample receipt The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on January 08, 2010 for analysis. The samples were prepared/analyzed within the required holding time. Shipping container temperatures were checked, documented, and within specifications. The samples were screened according to GEL Standard Operating Procedure. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. The containers for radiochemistry were received at 9,13,14C temperatures. Shipping container temperature was within specification (0 - 6C).

Sample Identification The laboratory received the following samples:

Laboratory ID	Client ID
244137001	RE12-10-7859
244137002	RE12-10-7851
244137003	RE12-10-7852
244137004	RE12-10-7850
244137005	RE12-10-7853
244137006	RE12-10-7848
244137007	RE12-10-7849

Case Narrative

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

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

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

for

Valerie Davis
Project Manager

List of current GEL Certifications as of 12 January 2010

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

Chain of Custody and Supporting Documentation

Thursday, January 07, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1126

REQUEST NUMBER: 10-1126

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

TURNAROUND/REPORT DUE: 2/6/2010

TURNAROUND REQ'D: 30

LAB REQUEST COMMENTS: 244137%

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7859	1	AMBER GLASS	8082+NMED-HEXP	Ice	R
RE12-10-7859	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7859	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7851	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7851	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7851	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7852	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7852	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7852	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7850	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7850	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7850	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7853	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7853	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7853	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7848	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7848	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7848	1	AMBER GLASS	NMED Explosives list	Ice	R
RE12-10-7849	1	POLY	AM241+GS+ISOPU+ISOU	None	R
RE12-10-7849	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7849	1	AMBER GLASS	NMED Explosives list	Ice	R

Relinquished By:	Date	Time	Received By:	Date	Time
[illegible]	1/7/10	1400	Greg Tyler	1-8-10	0905
Printed Name / Signature			Printed Name / Signature		
Printed Name / Signature			Printed Name / Signature		
Printed Name / Signature			Printed Name / Signature		

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

Thursday, January 07, 2010

REQUEST NUMBER: 10-1126

LOS ALAMOS
NATIONAL LABORATORY

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

These Samples are on:
LANL Request Number:10-1126
Per Agreement Number:126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 1/7/2010
TURNAROUND/REPORT DUE: 2/6/2010
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:
Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	HASL-300:AM-241	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	

Thursday, January 07, 2010

REQUEST NUMBER: 10-1126

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:AM-241	1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	HASL-300:ISOPU	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	HASL-300:ISOU	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:6020	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:6850	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	

Thursday, January 07, 2010

REQUEST NUMBER: 10-1126

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	SW-846:6850	1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:7471A	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:8082	1	RE12-10-7859	R	1/4/2010	
	SW-846:8321A_MOD	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	
	SW-846:9012A	1	RE12-10-7848	R	1/4/2010	
		1	RE12-10-7849	R	1/4/2010	
		1	RE12-10-7850	R	1/4/2010	
		1	RE12-10-7851	R	1/4/2010	
		1	RE12-10-7852	R	1/4/2010	
		1	RE12-10-7853	R	1/4/2010	
		1	RE12-10-7859	R	1/4/2010	

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: LANL	**SDG/ARCOC/Work Order: 10-1126**
Received By: Greg Tyler	**Date Received: 1/08/10**

Suspected Hazard Information	**Yes**	**No**	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		X	Maximum Counts Observed*: **20cpm**
Classified Radioactive II by RSO?		X	
COC/Samples marked containing PCBs?		X	
Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		X	

	Sample Receipt Criteria	**Yes**	**NA**	**No**	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?	X			Preservation Method: ice bags **blue ice** dry ice **none** other **1, 2C** **9, 13, 14C**
3	Chain of custody documents included with shipment?	X			
4	Sample containers intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?		X		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		X		Sample ID's and containers affected:
7	Are Encore containers present?			X	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	X			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?		X		Sample ID's affected: **No time on Chain of Custody.**
11	Number of containers received match number indicated on COC?	X			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	X			

Comments:
Fed Ex Tracking Numbers:
7209 7849 4203 1C **7209 7849 4133 13C**
7209 7849 4188 1C **7209 7849 4122 14C**
7209 7849 4166 2C
7209 7849 4155 2C
7209 7849 4199 2C
7209 7849 4177 2C
7209 7849 4144 9C

PM (or PMA) review: Initials _____ Date 1/11/10

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 07JAN10
ACTWGT: 37.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A05529E00

1C

FedEx Express

2 of 2
PS# 263 7209 7849 4203
str# 7209 7849 4199 0201

FRI - 08JAN A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 07JAN10
ACTWGT: 58.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A05529E00

1C

FedEx Express

1 of 2
MPS# 0263 7209 7849 4188
MstrA 7209 7849 4177 0201

FRI - 08JAN A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS

156148-434 NRIT-V3 09-08

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A05529E00

2C

FedEx Express

2 of 2
PS# 263 7209 7849 4166
Mstr# 7209 7849 4155 0201

FRI - 08JAN A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 07JAN10
ACTWGT: 56.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A05529E00

2C

FedEx Express

1 of 2
TRK# 0201 7209 7849 4155
MASTER

FRI - 08JAN A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS

V3 09-08

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 07JAN10
ACTWGT: 55.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A05529E00

2c

FedEx Express

1 of 2
TRK# 0201 7209 7849 4177
FRI - 08JAN A1
PRIORITY OVERNIGHT
MASTER
XX CHSA
29407
SC-US
CHS

Part # 156149-434 NRIT V3 08-09

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 07JAN10
ACTWGT: 23.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR2A0515BYD0

9c

FedEx Express

TRK# 0201 7209 7849 4144
FRI - 08JAN A1
PRIORITY OVERNIGHT
XX CHSA
29407
SC-US
CHS

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 07JAN10
ACTWGT: 55.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR2A0515BYD0

13c

FedEx Express

3 of 3
TRK# 0203 7209 7849 4133
Mstr# 7209 7849 4111 0201
FRI - 08JAN A1
PRIORITY OVERNIGHT
XX CHSA
29407
SC-US
CHS

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP
AC DATE: 07JAN10
WGT: 57.0 LB MAN
: 0014176/CAFE2449

ILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERIN LAB
2040 SAVAGE RD

CHARLESTON SC 29 107
(843) 556-8171
REF: 6B010AMR2A0515

14C

BYDO

FedEx
Express

E

2 of 3
MPS# 7209 7849 4122
0263
Mstr# 72 09 7849 4111 0201

FRI - 08JAN A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

Part # 156148-434 NRIT 09-08

Data Review Qualifier Flag Definition Sheet

Data Review Qualifier Definitions

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

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LC/MS/MS PERCHLORATE ANALYSIS

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Perchlorate by LC/MSMS
Los Alamos National Laboratory (LANL)
SDG 10-1126

Method/Analysis Information

Procedure:	**Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)**
Analytical Method:	SW846 6850 Modified
Prep Method:	SW846 6850 Modified
Analytical Batch Number:	940129
Prep Batch Number:	940125

Sample Analysis

Sample ID	Client ID
244137001	RE12-10-7859
244137002	RE12-10-7851
244137003	RE12-10-7852
244137004	RE12-10-7850
244137005	RE12-10-7853
244137006	RE12-10-7848
244137007	RE12-10-7849
1202011801	Interference Check Sample (ICS)
1202011797	Method Blank (MB)
1202011798	Laboratory Control Sample (LCS)
1202011799	244228001(RE12-10-7709) Matrix Spike (MS)
1202011800	244228001(RE12-10-7709) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

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Preparation/Analytical Method Verification

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-067 REV# 6.

Calibration Information

Initial Calibration
All initial calibration requirements have been met for this SDG. Due to software constraints, all Initial Calibration Blanks must be designated as IPB001.

CCV Requirements
All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

CCB Requirements
All continuing calibration blanks (CCB) bracketing the analyses associated with this batch were within acceptance criteria.

CCV Requirements
All continuing calibration checks (CCV) requirements were met by all bracketing CCV standards.

Low Level Standard (CRI) Requirements
All low level calibration verification (CRI) requirements were met by all bracketing CRI standards.

Quality Control (QC) Information

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

Interference Check Sample (ICS)
The interference check sample (ICS) met all recovery acceptance criteria.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

QC Sample Designation
Client sample 244228001 (RE12-10-7709) from SDG 10-1161-1 was chosen for matrix spike and matrix spike duplicate analysis. Please see the raw data in the Miscellaneous Section.

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

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

MS/MSD Relative Percent Difference (RPD) Statement
The RPD(s) between the MS and MSD met the acceptance limits.

Retention Time Standard Area Acceptance
The retention time standard areas were within the required acceptance criteria for all samples and QC.

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Retention Time
During the analysis of Perchlorate by LC/MS/MS, retention time shifts are commonly observed. These retention time shifts, which are caused by fouling of the column by the sample matrices, are problematic when the retention time is used as one of the criterion for confirmation. To overcome this problem, a known amount of O(18) labeled Perchlorate was added to each sample as a retention time standard. The presence of Perchlorate was confirmed by the relative retention time (RRT) of the Perchlorate peak and the O(18) standard. A RRT window of 0.98 to 1.02, as required by Method 332.0, has been used. In addition to the isotopic ratio, the presence of Perchlorate in the samples associated with this data package have been confirmed using the relative retention criteria stated above, not the absolute retention time.

Technical Information

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

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

Sample Dilutions
The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis
The SDG was re-analyzed due to a CVS failing acceptance criteria. The re-analysis passed acceptance criteria and is reported.

Miscellaneous Information

Data Exception (DER) Documentation
Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception reports (DER) was not generated for this SDG.

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

Method Comments
The samples in this SDG were not originally analyzed using EPA Method 314.0.

Additional Comments
The Perchlorate Isotope Ratio on the Form I may differ slightly from the ratio on the corresponding raw data due to rounding rules and/or significant figures or due to software limitations when there are manual integrations, dilutions or other factors. The ratio value of the Form I is the correct value.

The retention time marker, Perchlorate-O (18), is added to all samples, instrument blanks, and standards prior to injection. It is used to verify the retention time of Perchlorate and Perchlorate-101 and to insure an accurate injection occurred. Due to various anions affecting the recovery of Perchlorate-O (18) and not Perchlorate and Perchlorate-101, the calibration curves of Perchlorate and Perchlorate-101 are not internally corrected for using Perchlorate-O (18). They are external calibrations.

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Perchlorate Isotope Ratio
The Perchlorate isotope ratio met acceptance criteria for all samples and QC samples. Please see the isotope ratio criteria in the Miscellaneous Section.

System Configuration

The laboratory utilizes a Waters LC 2795 liquid chromatography instrument for perchlorate analysis. It is coupled with either a Micromass Quattro Micro Mass Spectrometer/ Mass Spectrometer, or a Micromass Quattro Ultima Mass Spectrometer/ Mass Spectrometer. Each being designated as LCMSMS #1, and LCMSMS #2, respectively. It is fitted with an electrospray probe that is operated in the negative electrospray ionization mode for perchlorate analysis. The laboratory may also utilize an Agilent 1100 liquid chromatography instrument for perchlorate analysis. It is coupled with an Applied Biosystems 4000 Mass Spectrometer/ Mass Spectrometer, designated as LCMSMS #3 or LCMSMS #4. It is also fitted with an electrospray probe that is operated in the negative electrospray ionization mode for perchlorate analysis.

Chromatographic Columns

Chromatographic separation of perchlorate is accomplished through analysis on the following anion column:

Dionex: IonPac AG-16 2 x 50 mm.

Certification Statement

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

Review Validation:

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

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

Reviewer: Heather M Maier **Date:** 01/19/10

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SAMPLE DATA SUMMARY

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7859

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137001

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 93.1

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.537	2.15	0.586	ug/kg	J	1	14-JAN-10 17:59	per0114036a
	Perchlorate Isotope Ratio			3.34			1	14-JAN-10 17:59	per0114036a
14797-73-0	Perchlorate-101	.537	2.15	0.541	ug/kg	J	1	14-JAN-10 17:59	per0114036a
	Perchlorate-O(18)			5.52	ug/kg		1	14-JAN-10 17:59	per0114036a

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

*Concentration =

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

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7851

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137002

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 91

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.549	2.2	0.549	ug/kg	U	1	14-JAN-10 18:09	per0114037a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:09	per0114037a
14797-73-0	Perchlorate-101	.549	2.2	0.549	ug/kg	U	1	14-JAN-10 18:09	per0114037a
	Perchlorate-O(18)			5.35	ug/kg		1	14-JAN-10 18:09	per0114037a

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

*Concentration =

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

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7852

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137003

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 86

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.581	2.32	0.581	ug/kg	U	1	14-JAN-10 18:19	per0114038a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:19	per0114038a
14797-73-0	Perchlorate-101	.581	2.32	0.581	ug/kg	U	1	14-JAN-10 18:19	per0114038a
	Perchlorate-O(18)			5.89	ug/kg		1	14-JAN-10 18:19	per0114038a

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

*Concentration =

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

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7850

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137004

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 79

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.633	2.53	0.633	ug/kg	U	1	14-JAN-10 18:29	per0114039a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:29	per0114039a
14797-73-0	Perchlorate-101	.633	2.53	0.633	ug/kg	U	1	14-JAN-10 18:29	per0114039a
	Perchlorate-O(18)			6.14	ug/kg		1	14-JAN-10 18:29	per0114039a

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

*Concentration =

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

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7853

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137005

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 92.8

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.539	2.16	0.672	ug/kg	J	1	14-JAN-10 18:39	per0114040a
	Perchlorate Isotope Ratio			2.95			1	14-JAN-10 18:39	per0114040a
14797-73-0	Perchlorate-101	.539	2.16	0.703	ug/kg	J	1	14-JAN-10 18:39	per0114040a
	Perchlorate-O(18)			5.71	ug/kg		1	14-JAN-10 18:39	per0114040a

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

*Concentration =

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

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7848

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137006

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 84

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.596	2.38	0.596	ug/kg	U	1	14-JAN-10 18:49	per0114041a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:49	per0114041a
14797-73-0	Perchlorate-101	.596	2.38	0.596	ug/kg	U	1	14-JAN-10 18:49	per0114041a
	Perchlorate-O(18)			5.85	ug/kg		1	14-JAN-10 18:49	per0114041a

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

*Concentration =

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

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7849

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137007

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 89

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.562	2.25	0.562	ug/kg	U	1	14-JAN-10 18:59	per0114042a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:59	per0114042a
14797-73-0	Perchlorate-101	.562	2.25	0.562	ug/kg	U	1	14-JAN-10 18:59	per0114042a
	Perchlorate-O(18)			5.48	ug/kg		1	14-JAN-10 18:59	per0114042a

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

*Concentration =

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

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QUALITY CONTROL SUMMARY

Perchlorate Laboratory Control Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No. (SDG): 10–1126

Extract Batch Code: 940125

Date Filtered: 12–JAN–10

Matrix: SOIL

Sample ID: 1202011798

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	2.01	ug/kg	100		70 – 130
Perchlorate Isotope Ratio		3.01				–
Perchlorate–101	2.00	2.06	ug/kg	103		70 – 130
Perchlorate–O(18)		5.04	ug/kg			–

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

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Perchlorate Interference Check Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No. (SDG): 10–1126

Extract Batch Code: 940125

Date Filtered: 12–JAN–10

Matrix: SOIL

Sample ID: 1202011801

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	2.09	ug/kg	104		70 – 130
Perchlorate Isotope Ratio		3.1				
Perchlorate–101	2.00	2.08	ug/kg	104		70 – 130
Perchlorate–O(18)		5.13	ug/kg			

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

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

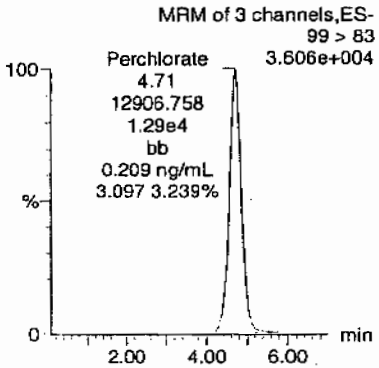
Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

Name: per0114028a
Date: 14-Jan-2010
Time: 16:38:36
ID: 1202011801
Vial: 1:4,C

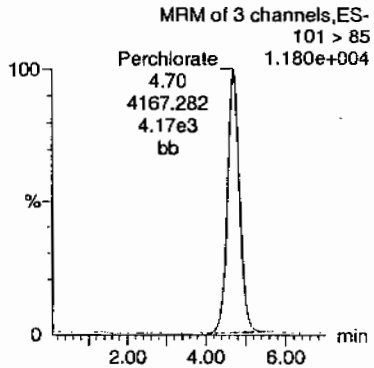
|LANL|940129|SOLID|ICS|1|RA

01-15-10

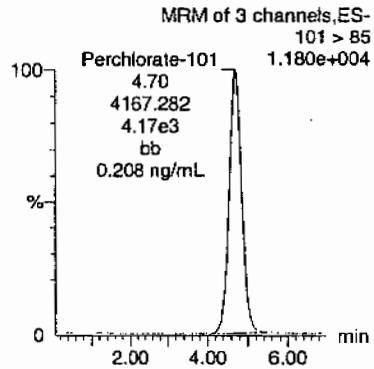
Perchlorate



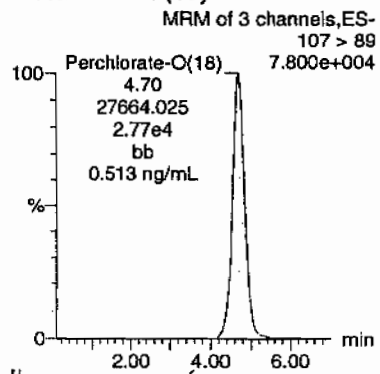
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hum 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202011801	Perchlorate	99 > 83	4.71	12906.758	12906.758	bb			0.2089	104.47	4.47	1389.3...	3.10
1202011801	Perchlorate-101	101 > 85	4.70	4167.282	4167.282	bb			0.2080	104.00	4.00	1115.1...	
1202011801	Perchlorate-O(18)	107 > 89	4.70	27664.025	27664.025	bb			0.5128	102.57	2.57	4164.5...	

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Perchlorate Spike/Spike Duplicate Summary

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No (SDG): 10–1126

Extract Batch Code: 940125

Date Extracted: 12–JAN–10

GEL MS/PS ID: 1202011799

Client ID: RE12–10–7709

GEL MSD/PSD ID: 1202011800

QC Type: MS

Compound^	Spike Added	Sample Conc	Units	MS Conc	MS Rec #	MSD Conc	MSD Rec #	RPD #	RPD Limit	Recovery Limit
Perchlorate	2.37	0.262	ug/kg	2.64	100	2.57	97.3	2.52	30	75 – 125
Perchlorate Isotope Ratio	0	0.00		3.23		3.23		0		–
Perchlorate–101	2.37	0.264	ug/kg	2.52	94.9	2.46	92.3	2.46	30	75 – 125
Perchlorate–O(18)	0	5.62	ug/kg	5.88		5.78		1.81		–

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

Comments:

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Perchlorate Initial Calibration Blank

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10–1126

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	14–JAN–10	per0114001a	IPB001
Perchlorate–101	0.00	0	NA	14–JAN–10	per0114001a	IPB001
Perchlorate	0.00	0	NA	14–JAN–10	per0114002a	IPB001
Perchlorate–101	0.00	0	NA	14–JAN–10	per0114002a	IPB001

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

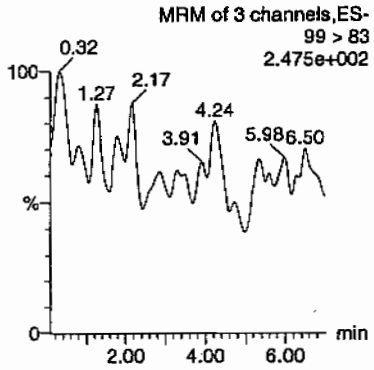
Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per011410a.mdb 15 Jan 2010 07:52:49
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per011410a.cdb 15 Jan 2010 07:53:05

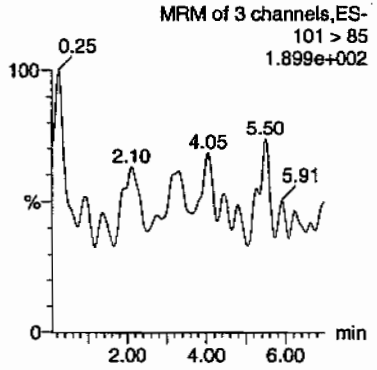
Name: per0114001a
Date: 14-Jan-2010
Time: 12:07:30
ID: IPB001
Vial: 1:1,A

CWW
01-15-10

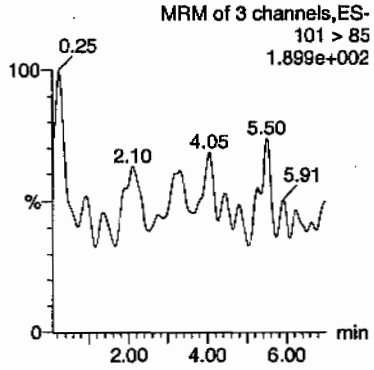
Perchlorate



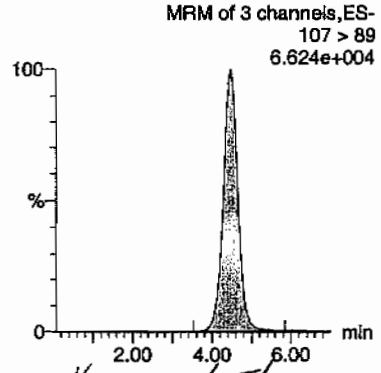
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hnm 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83											0.00
IPB001	Perchlorate-101	101 > 85											
IPB001	Perchlorate-O(18)	107 > 89	4.46	28151.078	28151.078	bb			0.5219	104.37	4.37	5021.0...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

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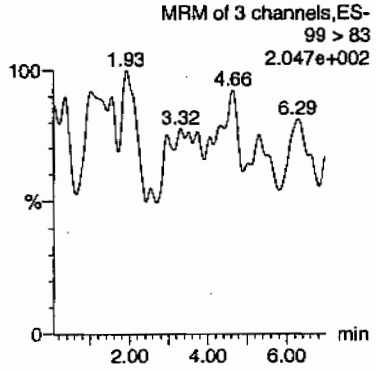
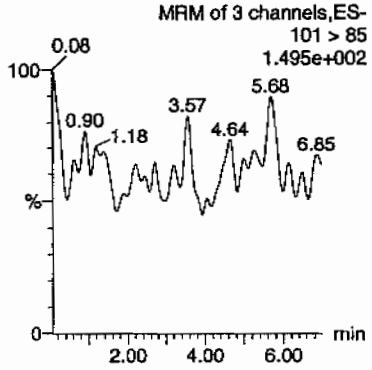
Name: per0114002a
Date: 14-Jan-2010
Time: 12:17:32
ID: IPB001
Vial: 1:1,A

CW 01-15-10

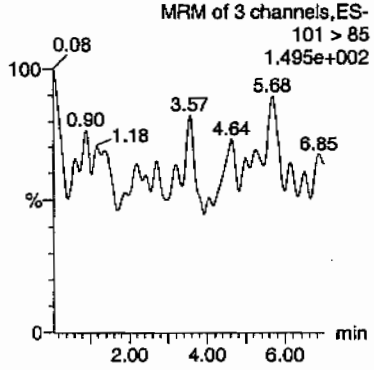
Perchlorate



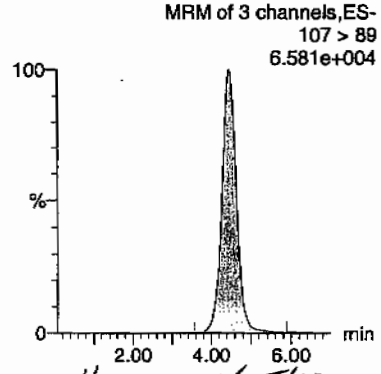
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hnm 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB001	Perchlorate	99 > 83											0.00
IPB001	Perchlorate-101	101 > 85											
IPB001	Perchlorate-O(18)	107 > 89	4.45	27733.281	27733.281	bb			0.5141	102.82	2.82	1554.1...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Perchlorate Continuing Calibration Blank

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10–1126

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	14–JAN–10	per0114008a	IPB002
Perchlorate–101	0.00	0	NA	14–JAN–10	per0114008a	IPB002
Perchlorate	0.00	0	NA	14–JAN–10	per0114010a	IPB003
Perchlorate–101	0.00	0	NA	14–JAN–10	per0114010a	IPB003
Perchlorate	0.00	0	NA	14–JAN–10	per0114019a	IPB004
Perchlorate–101	0.00	0	NA	14–JAN–10	per0114019a	IPB004
Perchlorate	0.00	0	NA	14–JAN–10	per0114025a	IPB005
Perchlorate–101	0.00	0	NA	14–JAN–10	per0114025a	IPB005
Perchlorate	0.00	0	NA	14–JAN–10	per0114032a	IPB006
Perchlorate–101	0.00	0	NA	14–JAN–10	per0114032a	IPB006
Perchlorate	0.00	0	NA	14–JAN–10	per0114044a	IPB007
Perchlorate–101	0.00	0	NA	14–JAN–10	per0114044a	IPB007

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

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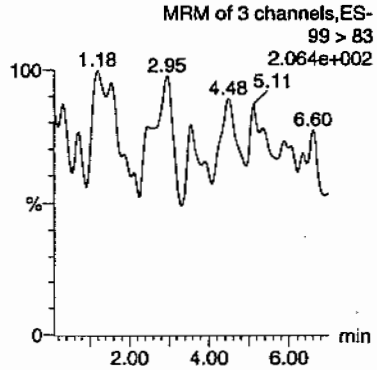
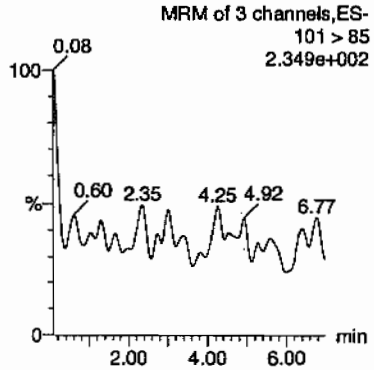
Name: per0114008a
Date: 14-Jan-2010
Time: 13:17:39
ID: IPB002
Vial: 1:1,A

CW
01-15-10

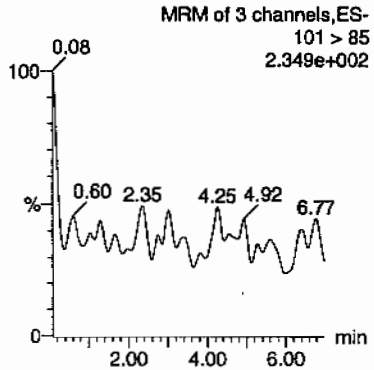
Perchlorate



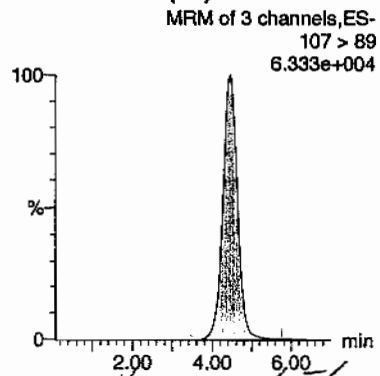
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HMM 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB002	Perchlorate	99 > 83											0.00
IPB002	Perchlorate-101	101 > 85											
IPB002	Perchlorate-O(18)	107 > 89	4.44	26947.334	26947.334	bb			0.4995	99.91	-0.09	5879.1...	

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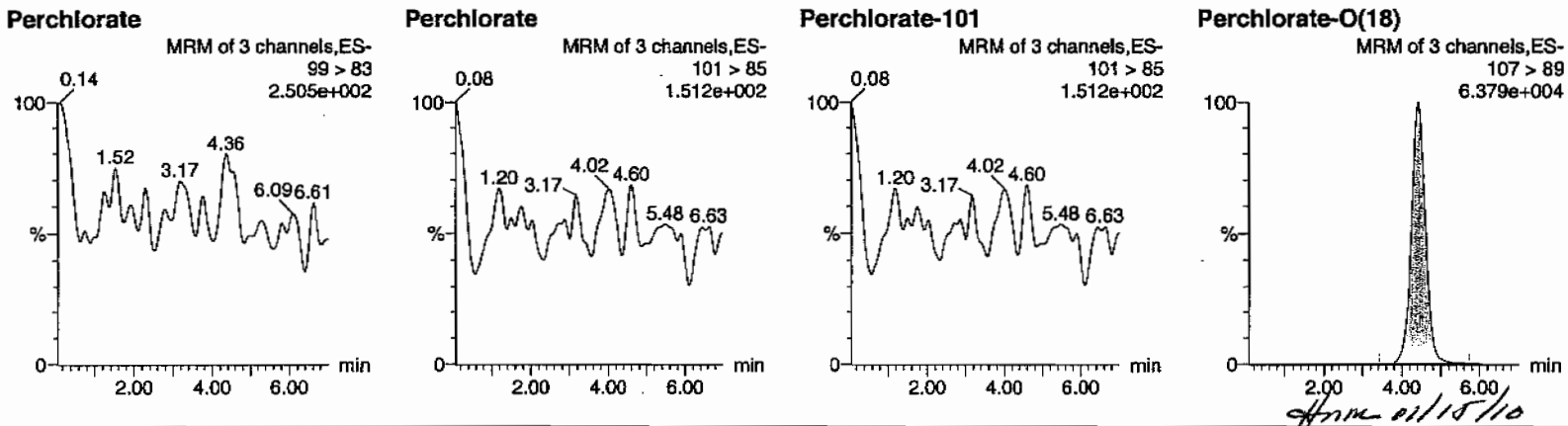
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

Name: per0114010a
Date: 14-Jan-2010
Time: 13:37:44
ID: IPB003
Vial: 1:1,A

CWW
01-15-10



ffmk 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB003	Perchlorate	99 > 83											0.00
IPB003	Perchlorate-101	101 > 85											
IPB003	Perchlorate-O(18)	107 > 89	4.43	26662.340	26662.340	bb			0.4943	98.85	-1.15	8197.9...	

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

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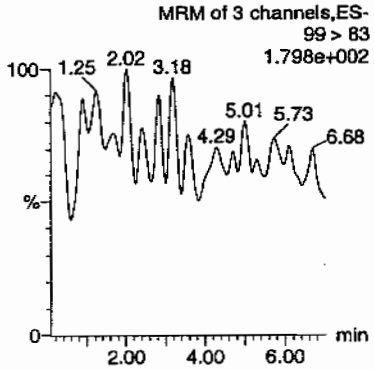
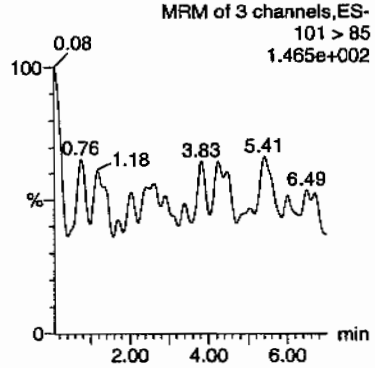
Name: per0114019a
Date: 14-Jan-2010
Time: 15:08:15
ID: IPB004
Vial: 1:1,A

CWO
01-13-10

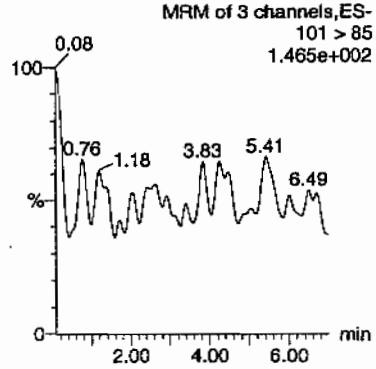
Perchlorate



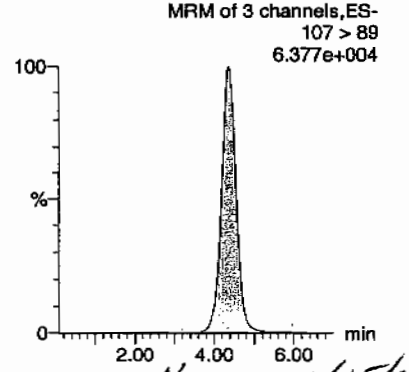
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HMM 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB004	Perchlorate	99 > 83											0.00
IPB004	Perchlorate-101	101 > 85											
IPB004	Perchlorate-O(18)	107 > 89	4.36	26505.346	26505.346	bb			0.4914	98.27	-1.73	772.109	

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

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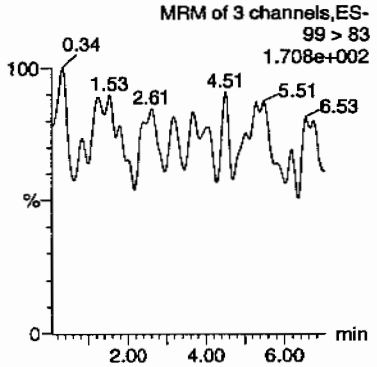
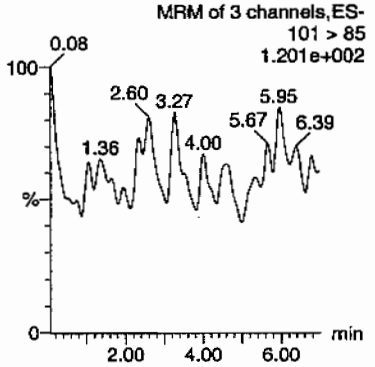
Name: per0114025a
Date: 14-Jan-2010
Time: 16:08:28
ID: IPB005
Vial: 1:1,A

CW
01-15-10

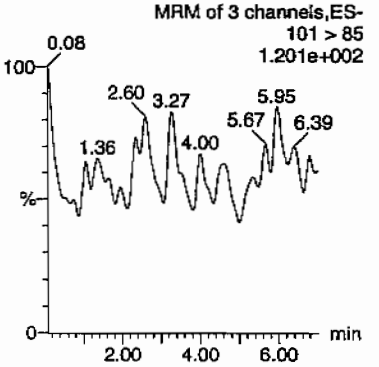
Perchlorate



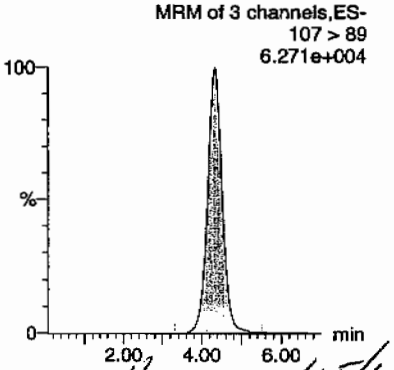
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HMM 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB005	Perchlorate	99 > 83											0.00
IPB005	Perchlorate-101	101 > 85											
IPB005	Perchlorate-O(18)	107 > 89	4.34	26369.939	26369.939	bb			0.4888	97.77	-2.23	1558.9...	

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

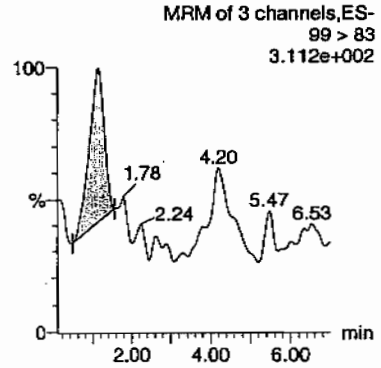
Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

Page 1 of 710

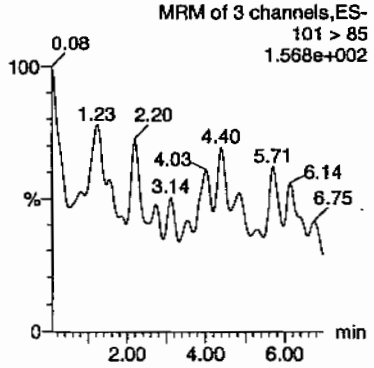
Name: per0114032a
Date: 14-Jan-2010
Time: 17:18:55
ID: IPB006
Vial: 1:1,A

CW 01-15-10

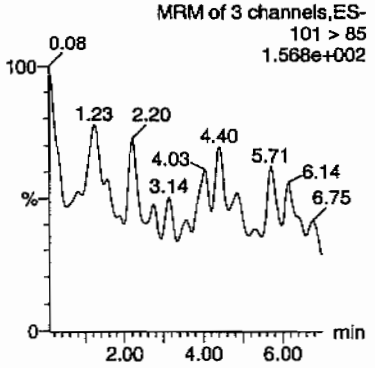
Perchlorate



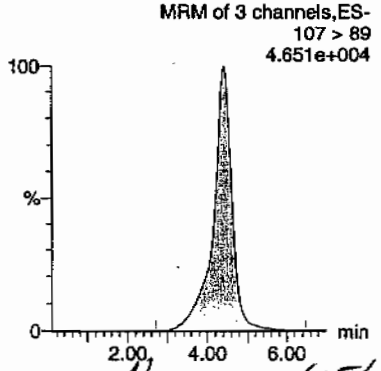
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Anne 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB006	Perchlorate	99 > 83	1.15	83.529	83.529	bb			0.0014			6.486	0.00
IPB006	Perchlorate-101	101 > 85											
IPB006	Perchlorate-O(18)	107 > 89	4.43	25032.135	25032.135	bb			0.4640	92.81	-7.19	3012.7...	

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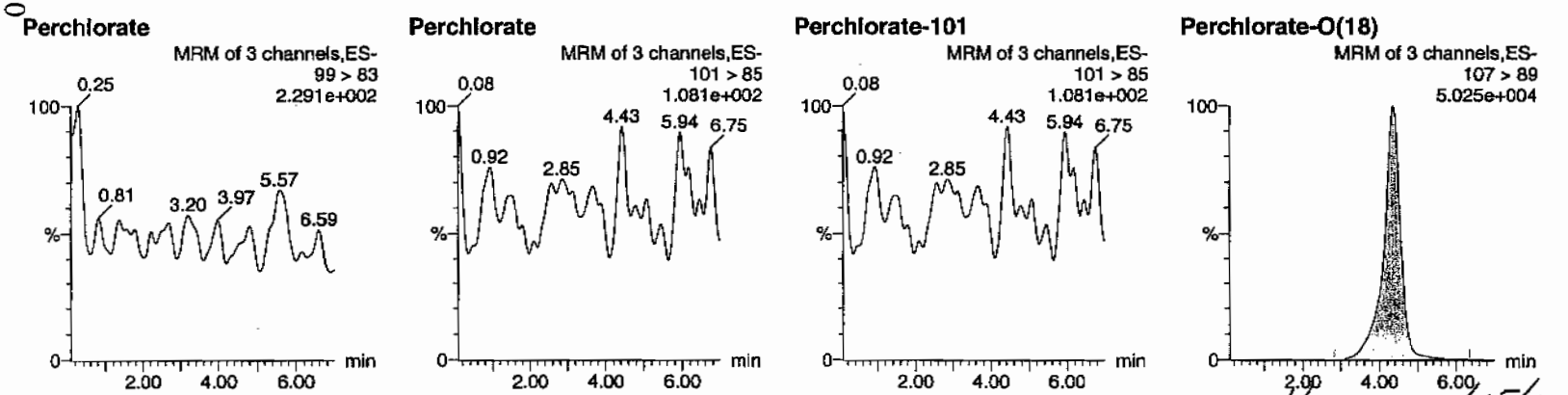
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

Name: per0114044a
Date: 14-Jan-2010
Time: 19:19:39
ID: IPB007
Vial: 1:1,A

01-15-10



Hmm 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB007	Perchlorate	99 > 83											0.00
IPB007	Perchlorate-101	101 > 85											
IPB007	Perchlorate-O(18)	107 > 89	4.35	25878.777	25878.777	bb			0.4797	95.95	-4.05	3560.3...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Nairb.ref

;Positive ion monoisotopic and average masses from solution
;of NaI/Rbi (2.0/0.05ug/ul) in 50/20 2-propanol/H2O.
;Most useful general purpose calibrant for all low
;MW applications, including MS/MS work.
;At high resolution, readily covers from m/z 50-2000.
;At reduced resolution, can be used to over m/z 3000.
;NOT RECOMMENDED FOR PROTEIN WORK. USE MYO, MYOTRP or TRP.
Updated 20 April '95

22.9898	100
84.9118	100
172.8840	100
322.7782	100
472.6725	100
622.5667	100
772.4610	100
922.3552	100
1072.2494	100
; 1222.1437	100
; 1372.0379	100
; 1521.9321	100
; 1671.8264	100
; 1821.7206	100
; 1971.6149	100
; 2121.5091	100
; 2271.4033	100
; 2421.2976	100
; 2571.1918	100
; 2721.0861	100
; 2870.9803	100
; 3020.8745	100
; 3170.7688	100
; 3320.6630	100
; 3470.5572	100
; 3620.4515	100
; 3770.3457	100
; 3920.2400	100

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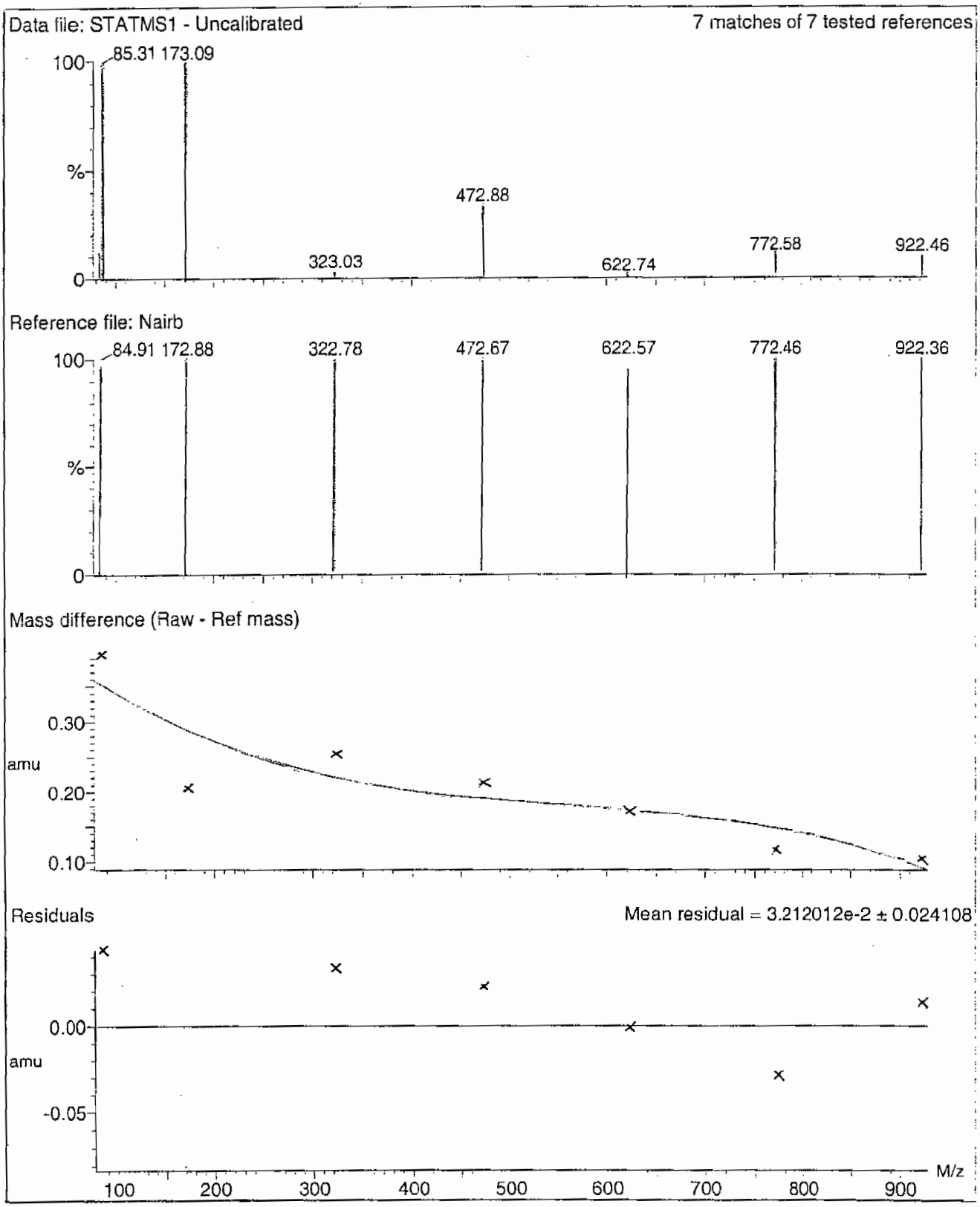
QUATRO ULTIMA: nairb_01_08_08.cal

Calibration Report - MS1 Static

Printed: Tue Jan 08 12:19:12 2008

PARTS HIGHLIGHTED BY CWW 01-09-08



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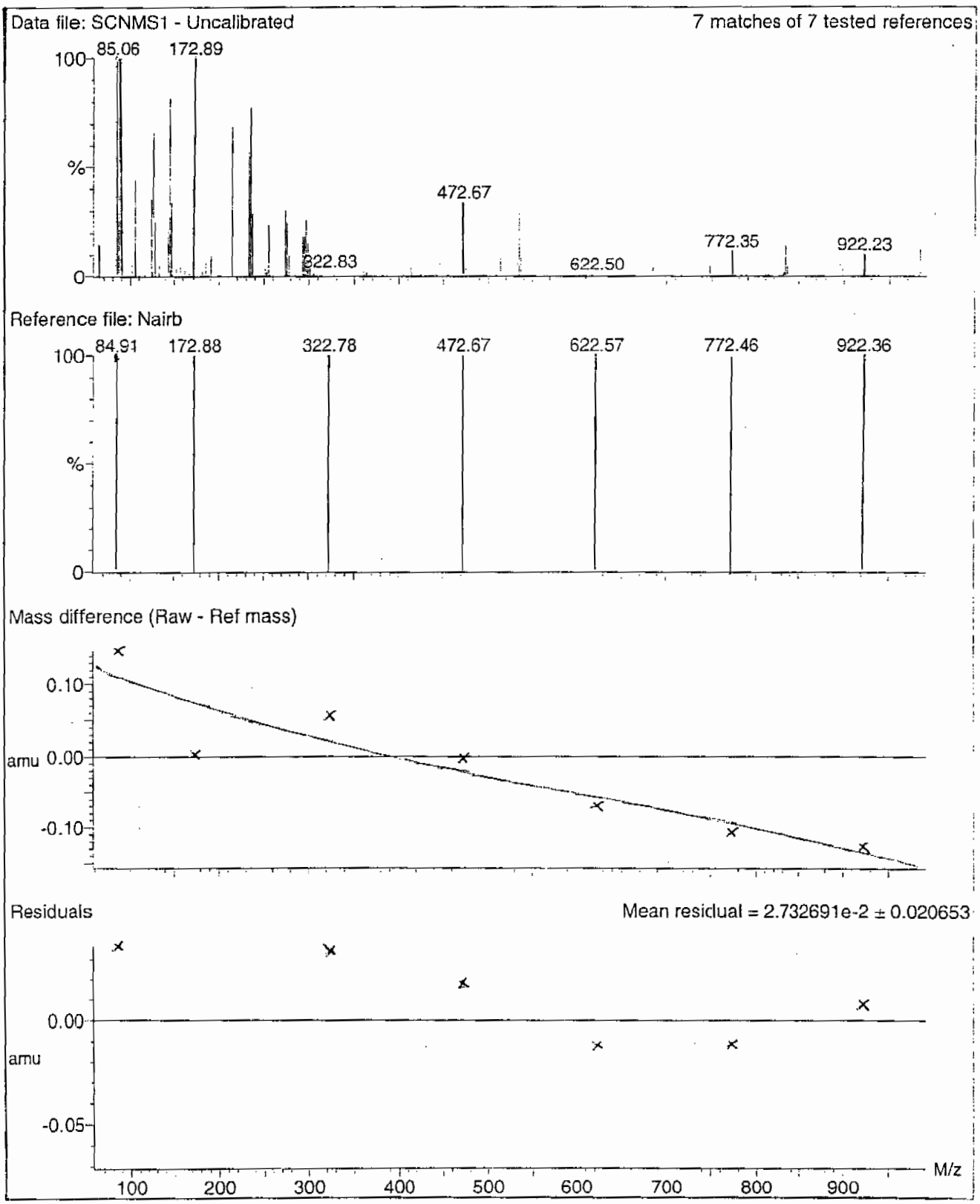
Calibration Report - MS1 Scanning

Printed: Tue Jan 08 12:20:09 2008



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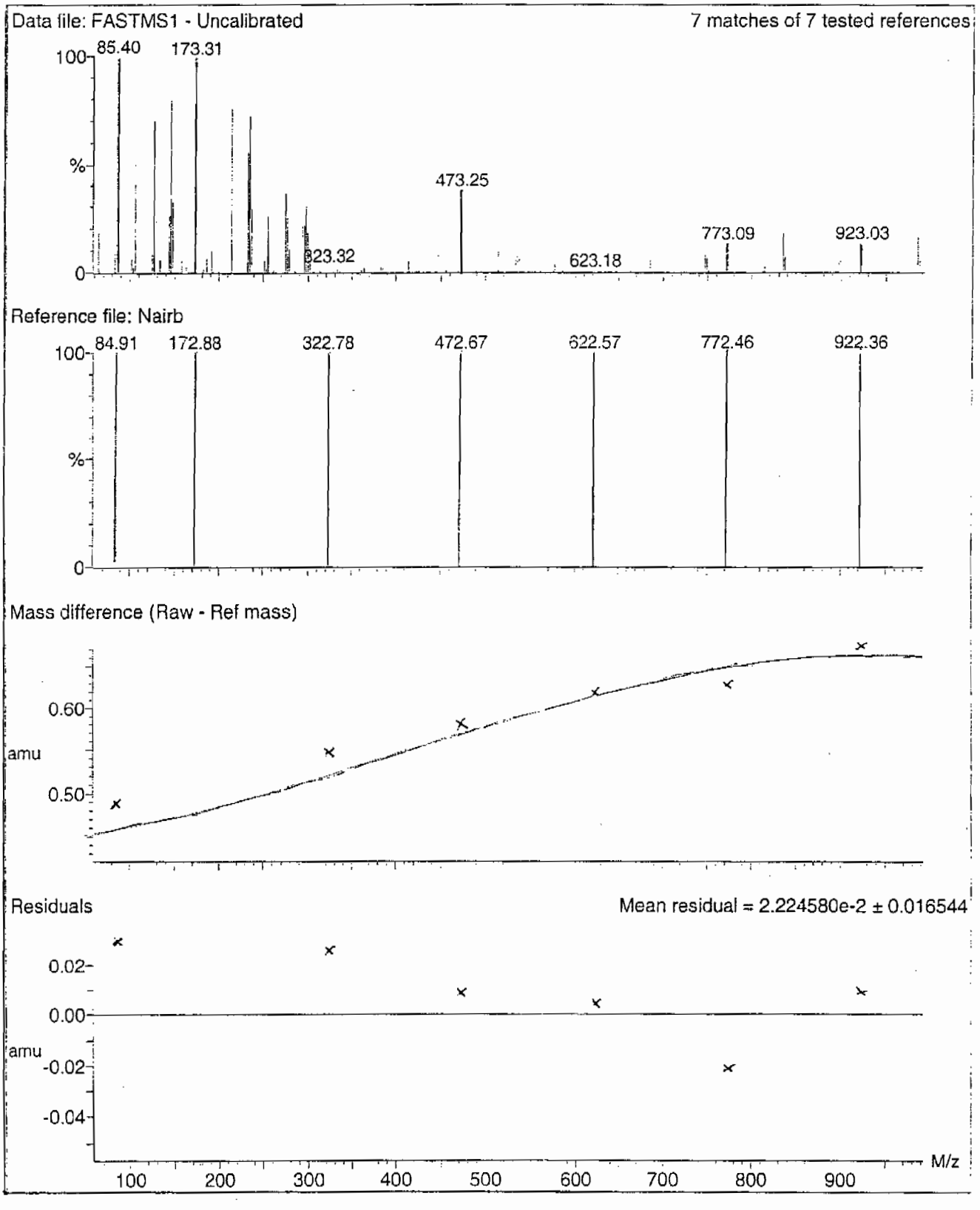
Calibration Report - MS1 Scan Speed Compensation

Printed: Tue Jan 08 12:21:04 2008



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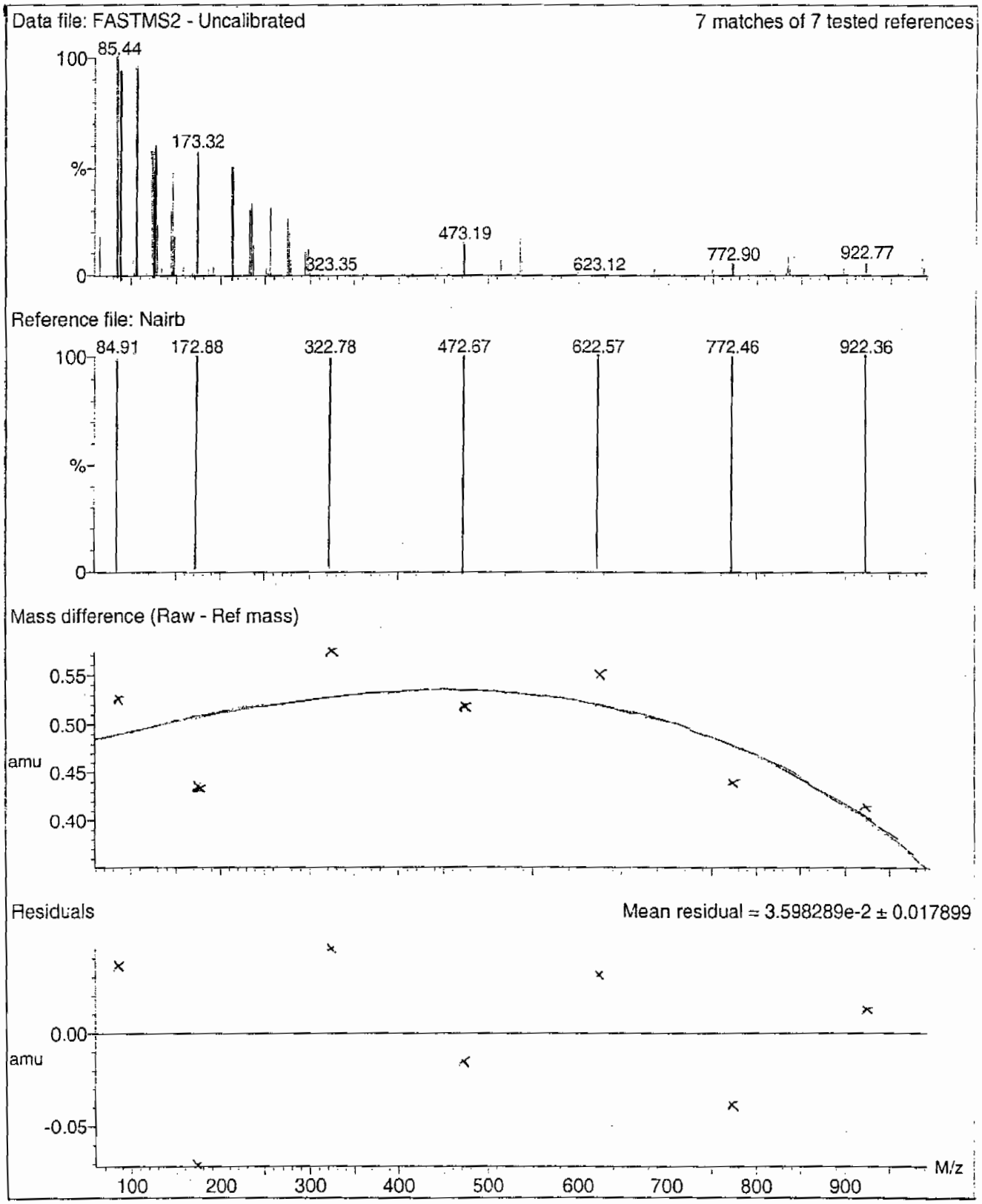
Calibration Report - MS2 Scan Speed Compensation

Printed: Tue Jan 08 12:23:51 2008



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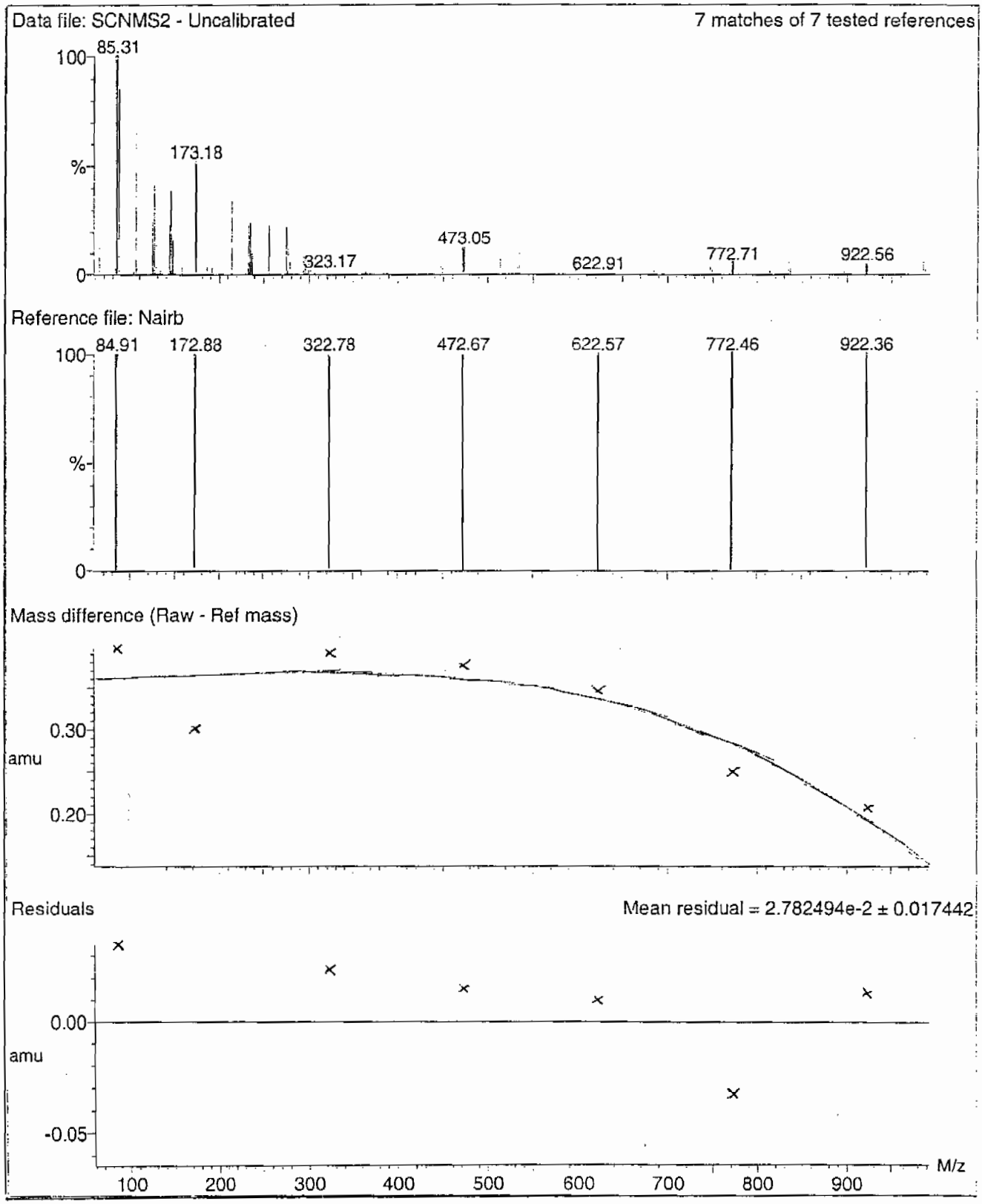
Calibration Report - MS2 Scanning

Printed: Tue Jan 08 12:22:56 2008



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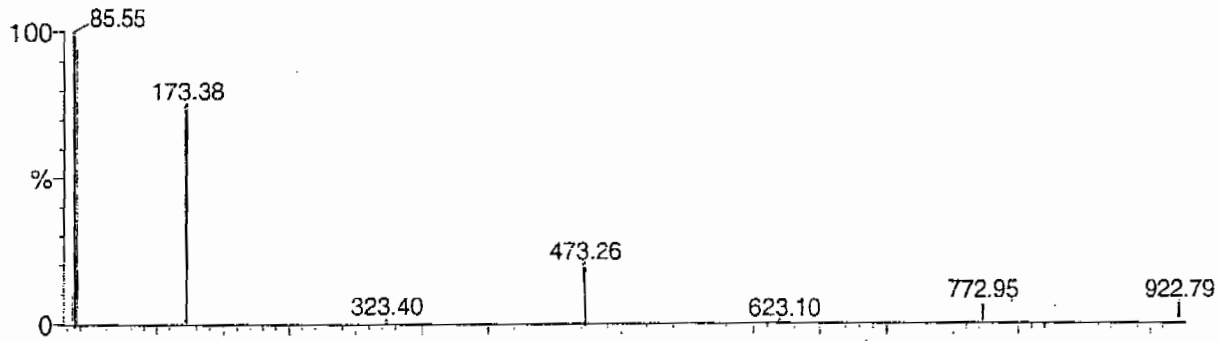
Calibration Report - MS2 Static

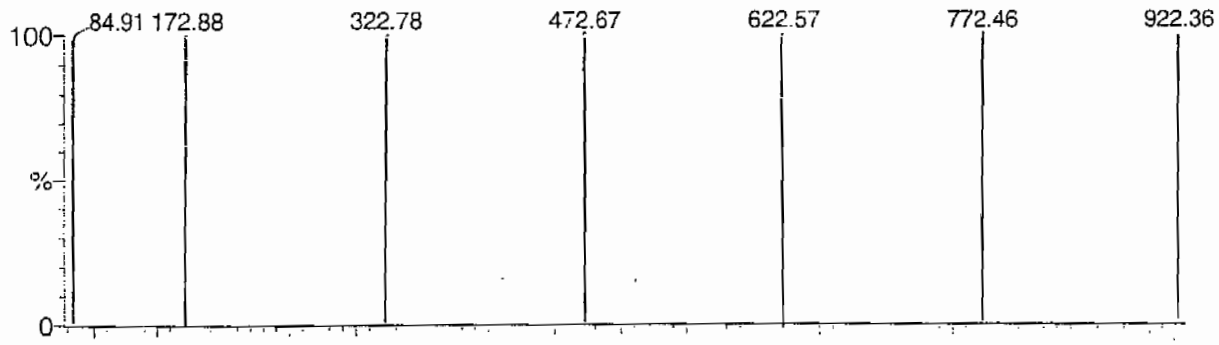
Printed: Tue Jan 08 12:21:59 2008

Data file: STATMS2 - Uncalibrated

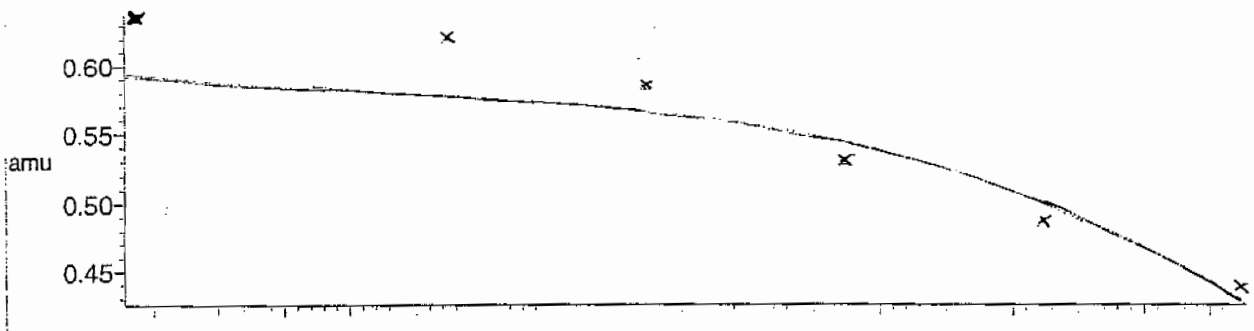
7 matches of 7 tested references



Reference file: Nairb

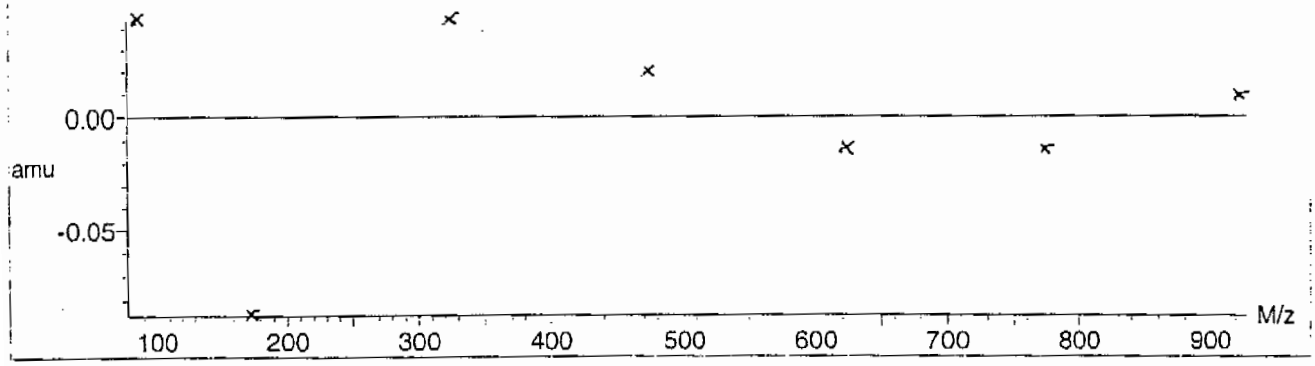


Mass difference (Raw - Ref mass)



Residuals

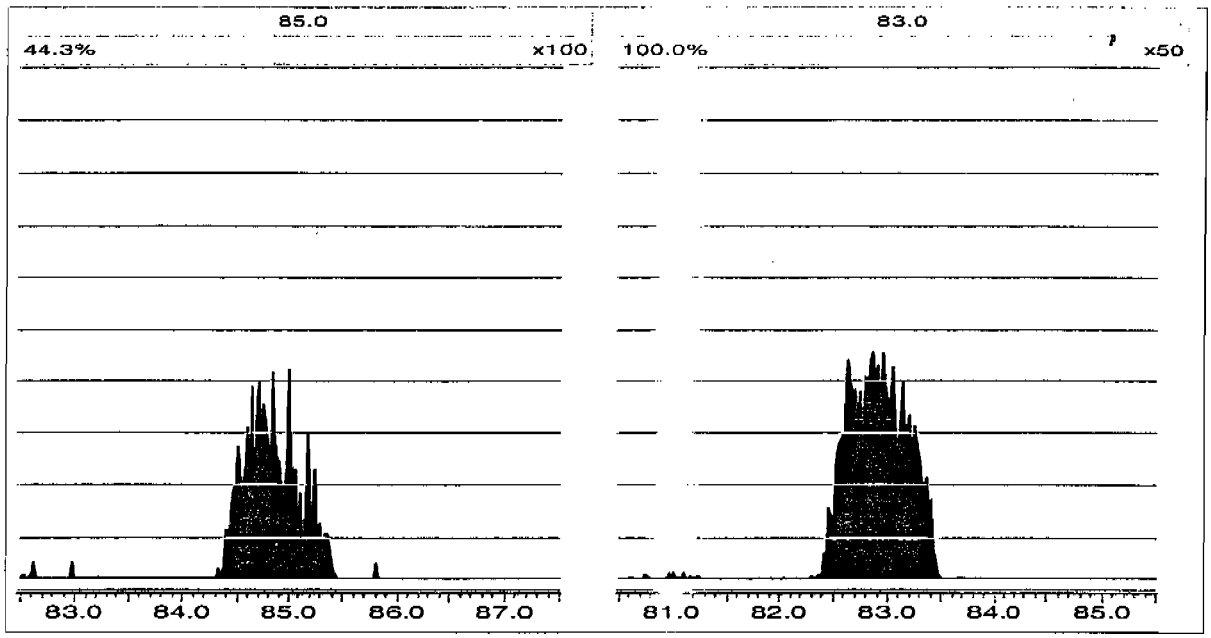
Mean residual = 3.295980e-2 ± 0.025603



PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

File: C:\MassLynx\Perchlorate.PRO\ACQUDB\Perchlorate.IPR

Printed: Thursday, January 14, 2010 10:32:26 Eastern Standard Time



Perchlorate RT And Area Summary

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10–1126

Lab Code: GEL

Instrument ID: LCMSMS

HPLC Column: Phenomenex Ion Pac AG–16 2 X 50 mm

Sample ID	Datafile	Run Date	Area	RT	RT CLO4	RRT	Q 0.98–1.02
MidLevel Standard Area	**per0114006a**	**14–JAN–10**	**27456.1**				
Lower Area Limit			**13728.05**				
Upper Area Limit			**54912.2**				
1202011797	per0114026a	14–JAN–10 16:18	26278.3	4.32			
1202011798	per0114027a	14–JAN–10 16:28	27192.7	4.3	4.3276	1.006	
1202011801	per0114028a	14–JAN–10 16:38	27664	4.7	4.71258	1.003	
244137001	per0114036a	14–JAN–10 17:59	27717.5	4.38	4.4145	1.008	
244137002	per0114037a	14–JAN–10 18:09	26243.2	4.38	4.4021	1.005	
244137003	per0114038a	14–JAN–10 18:19	27352.2	4.39	4.41443	1.006	
244137004	per0114039a	14–JAN–10 18:29	26137.6	4.38	4.3772	.999	
244137005	per0114040a	14–JAN–10 18:39	28546.8	4.36	4.38965	1.007	

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Perchlorate RT And Area Summary

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10–1126

Lab Code: GEL

Instrument ID: LCMSMS

HPLC Column: Phenomenex Ion Pac AG–16 2 X 50 mm

Sample ID	Datafile	Run Date	Area	RT	RT CLO4	RRT	Q 0.98–1.02
MidLevel Standard Area	**per0114006a**	**14–JAN–10**	**27456.1**				
Lower Area Limit			**13728.05**				
Upper Area Limit			**54912.2**				
244137006	per0114041a	14–JAN–10 18:49	26488.3	4.35	4.3772	1.006	
244137007	per0114042a	14–JAN–10 18:59	26284.6	4.35	4.37722	1.006	

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SAMPLE DATA

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7859

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137001

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 93.1

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.537	2.15	0.586	ug/kg	J	1	14-JAN-10 17:59	per0114036a
	Perchlorate Isotope Ratio			3.34			1	14-JAN-10 17:59	per0114036a
14797-73-0	Perchlorate-101	.537	2.15	0.541	ug/kg	J	1	14-JAN-10 17:59	per0114036a
	Perchlorate-O(18)			5.52	ug/kg		1	14-JAN-10 17:59	per0114036a

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

*Concentration =

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

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

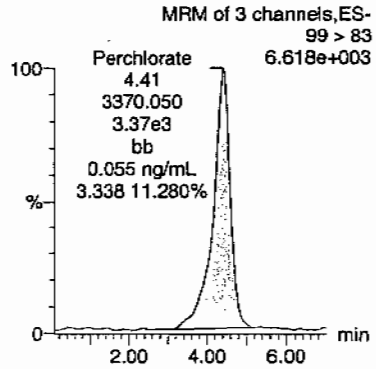
Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

Name: per0114036a
Date: 14-Jan-2010
Time: 17:59:16
ID: 244137001
Vial: 1:5,B

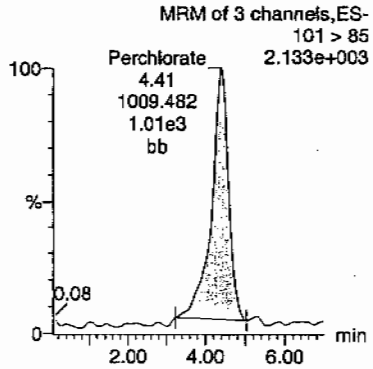
|LANL|940129|SOLID|1|RA

01-15-10

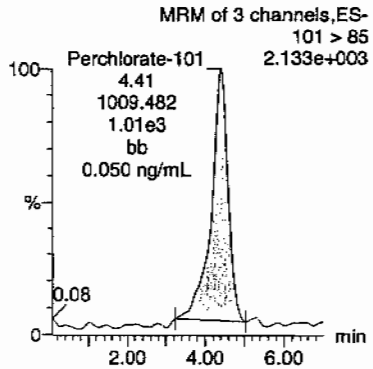
Perchlorate



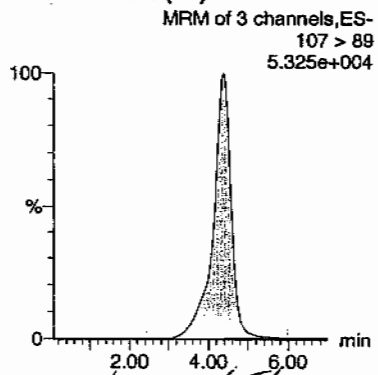
Perchlorate



Perchlorate-101



Perchlorate-O(18)



01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
244137001	Perchlorate	99 > 83	4.41	3370.050	3370.050	bb			0.0546			464.180	3.34
244137001	Perchlorate-101	101 > 85	4.41	1009.482	1009.482	bb			0.0504			142.219	
244137001	Perchlorate-O(18)	107 > 89	4.38	27717.500	27717.500	bb			0.5138	102.76	2.76	701.220	

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7851

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137002

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 91

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.549	2.2	0.549	ug/kg	U	1	14-JAN-10 18:09	per0114037a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:09	per0114037a
14797-73-0	Perchlorate-101	.549	2.2	0.549	ug/kg	U	1	14-JAN-10 18:09	per0114037a
	Perchlorate-O(18)			5.35	ug/kg		1	14-JAN-10 18:09	per0114037a

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

*Concentration =

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

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

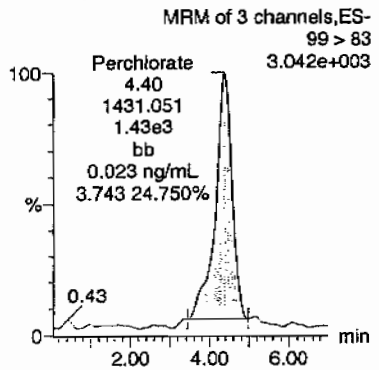
Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

Name: per0114037a
Date: 14-Jan-2010
Time: 18:09:19
ID: 244137002
Vial: 1:5,C

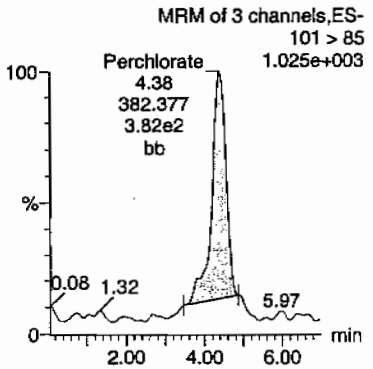
|LANL|940129|SOLID|1|RA

01-15-10

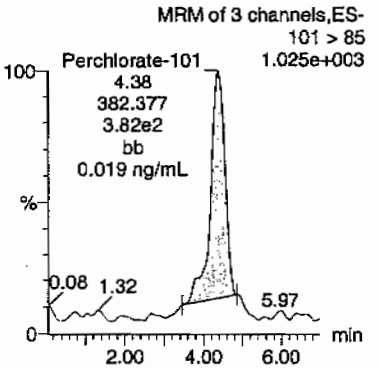
Perchlorate



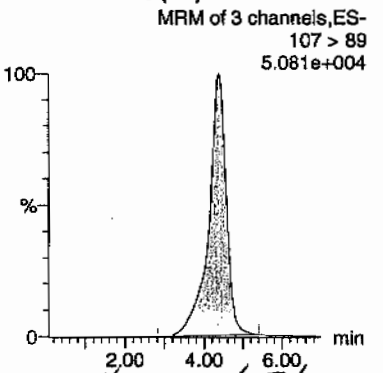
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
244137002	Perchlorate	99 > 83	4.40	1431.051	1431.051	bb			0.0232			114.063	3.74
244137002	Perchlorate-101	101 > 85	4.38	382.377	382.377	bb			0.0191			94.661	
244137002	Perchlorate-O(18)	107 > 89	4.38	26243.184	26243.184	bb			0.4865	97.30	-2.70	2571.5...	

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7852

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137003

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 86

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.581	2.32	0.581	ug/kg	U	1	14-JAN-10 18:19	per0114038a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:19	per0114038a
14797-73-0	Perchlorate-101	.581	2.32	0.581	ug/kg	U	1	14-JAN-10 18:19	per0114038a
	Perchlorate-O(18)			5.89	ug/kg		1	14-JAN-10 18:19	per0114038a

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

*Concentration =

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

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

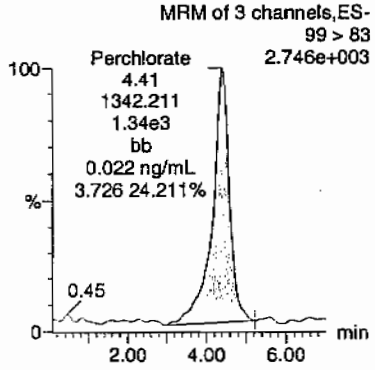
Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

Name: per0114038a
Date: 14-Jan-2010
Time: 18:19:21
ID: 244137003
Vial: 1:5,D

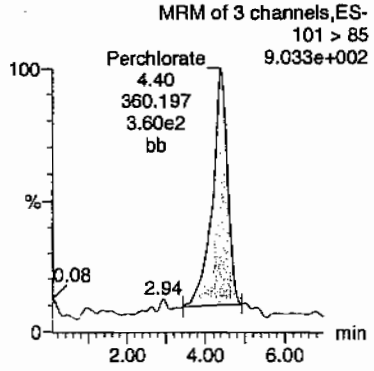
|LANL|940129|50L2D|1|RA

01-15-10

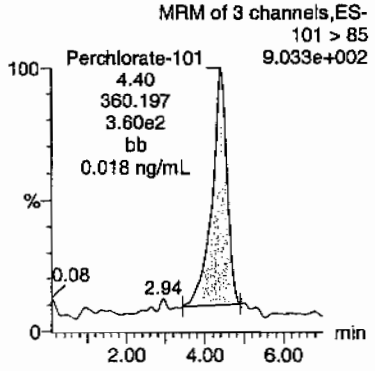
Perchlorate



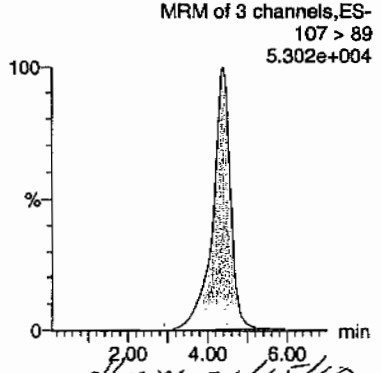
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hnm 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
244137003	Perchlorate	99 > 83	4.41	1342.211	1342.211	bb			0.0217			191.897	3.73
244137003	Perchlorate-101	101 > 85	4.40	360.197	360.197	bb			0.0180			33.474	
244137003	Perchlorate-O(18)	107 > 89	4.39	27352.154	27352.154	bb			0.5071	101.41	1.41	3813.4...	

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7850

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137004

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 79

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.633	2.53	0.633	ug/kg	U	1	14-JAN-10 18:29	per0114039a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:29	per0114039a
14797-73-0	Perchlorate-101	.633	2.53	0.633	ug/kg	U	1	14-JAN-10 18:29	per0114039a
	Perchlorate-O(18)			6.14	ug/kg		1	14-JAN-10 18:29	per0114039a

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

*Concentration =

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

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

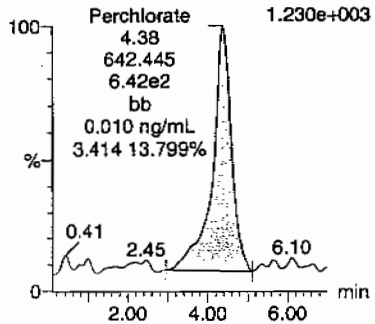
Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

Name: per0114039a
Date: 14-Jan-2010
Time: 18:29:24
ID: 244137004
Vial: 1:5,E

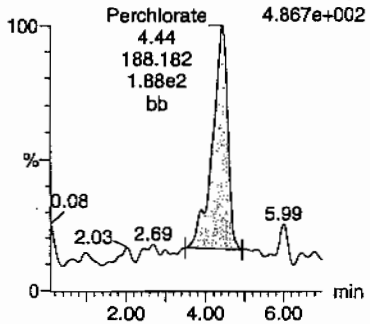
|LANL|940129|50120|1|RA

01-15-10

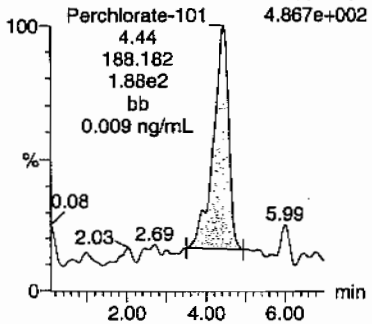
Perchlorate



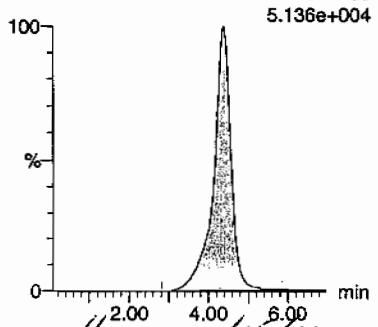
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HMM 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
244137004	Perchlorate	99 > 83	4.38	642.445	642.445	bb			0.0104			52.648	3.41
244137004	Perchlorate-101	101 > 85	4.44	188.182	188.182	bb			0.0094			55.192	
244137004	Perchlorate-O(18)	107 > 89	4.38	26137.557	26137.557	bb			0.4845	96.91	-3.09	5751.9...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7853

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137005

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 92.8

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.539	2.16	0.672	ug/kg	J	1	14-JAN-10 18:39	per0114040a
	Perchlorate Isotope Ratio			2.95			1	14-JAN-10 18:39	per0114040a
14797-73-0	Perchlorate-101	.539	2.16	0.703	ug/kg	J	1	14-JAN-10 18:39	per0114040a
	Perchlorate-O(18)			5.71	ug/kg		1	14-JAN-10 18:39	per0114040a

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

*Concentration =

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

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Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

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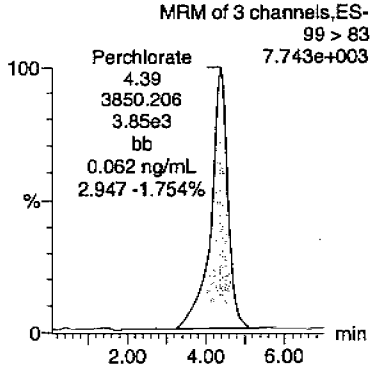
Name: per0114040a
Date: 14-Jan-2010
Time: 18:39:26
ID: 244137005
Vial: 1:5,F

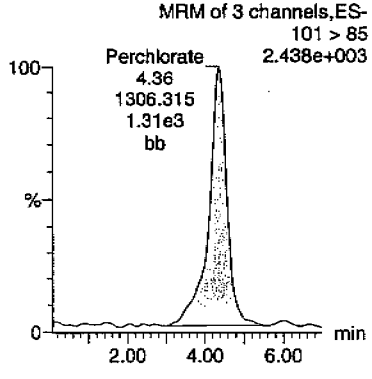
|LANL|940129|SOLID|1|RA

01-15-10

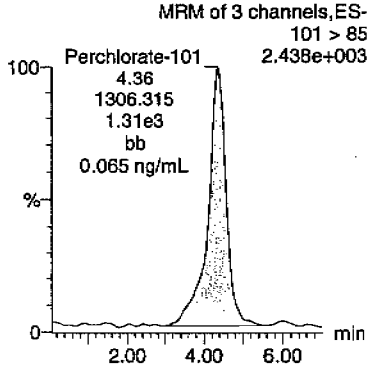
Perchlorate



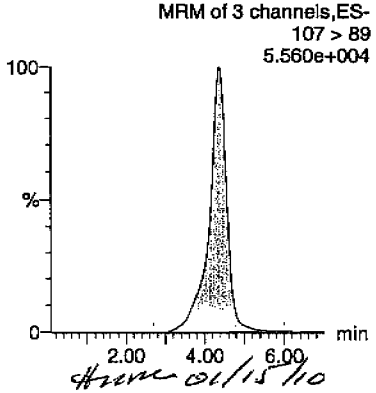
Perchlorate



Perchlorate-101



Perchlorate-O(18)



01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
244137005	Perchlorate	99 > 83	4.39	3850.206	3850.206	bb			0.0623			370.759	2.95
244137005	Perchlorate-101	101 > 85	4.36	1306.315	1306.315	bb			0.0652			165.875	
244137005	Perchlorate-O(18)	107 > 89	4.36	28546.795	28546.795	bb			0.5292	105.84	5.84	1402.3...	

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7848

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137006

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 84

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.596	2.38	0.596	ug/kg	U	1	14-JAN-10 18:49	per0114041a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:49	per0114041a
14797-73-0	Perchlorate-101	.596	2.38	0.596	ug/kg	U	1	14-JAN-10 18:49	per0114041a
	Perchlorate-O(18)			5.85	ug/kg		1	14-JAN-10 18:49	per0114041a

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

*Concentration =

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

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

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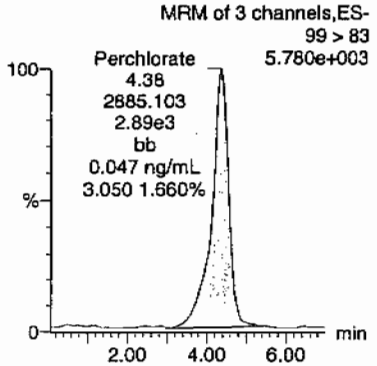
Name: per0114041a
Date: 14-Jan-2010
Time: 18:49:27
ID: 244137006
Vial: 1:6,A

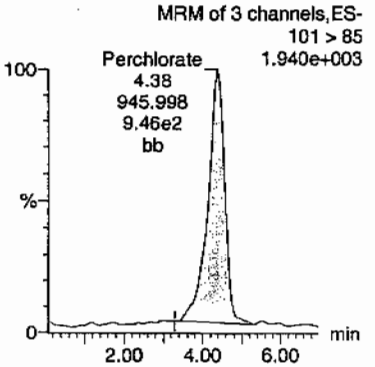
|LANL|940129|SOL20|1|RA

01-15-10

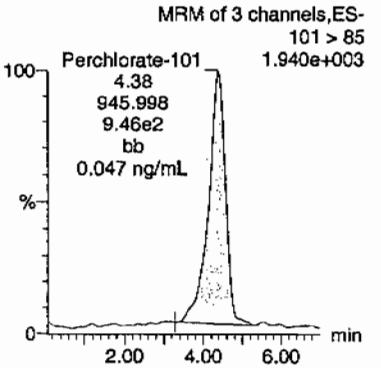
Perchlorate



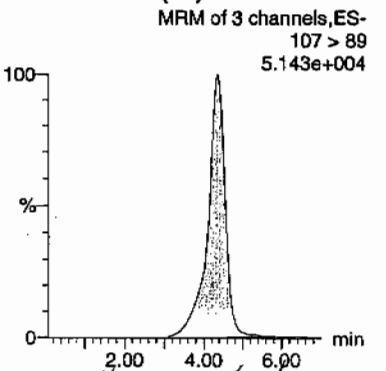
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
244137006	Perchlorate	99 > 83	4.38	2885.103	2885.103	bb			0.0467			296.013	3.05
244137006	Perchlorate-101	101 > 85	4.38	945.998	945.998	bb			0.0472			88.022	
244137006	Perchlorate-O(18)	107 > 89	4.35	26488.336	26488.336	bb			0.4910	98.21	-1.79	510.274	

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
RE12-10-7849

Date Received: 08-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 244137007

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 89

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.562	2.25	0.562	ug/kg	U	1	14-JAN-10 18:59	per0114042a
	Perchlorate Isotope Ratio						1	14-JAN-10 18:59	per0114042a
14797-73-0	Perchlorate-101	.562	2.25	0.562	ug/kg	U	1	14-JAN-10 18:59	per0114042a
	Perchlorate-O(18)			5.48	ug/kg		1	14-JAN-10 18:59	per0114042a

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

*Concentration =

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

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

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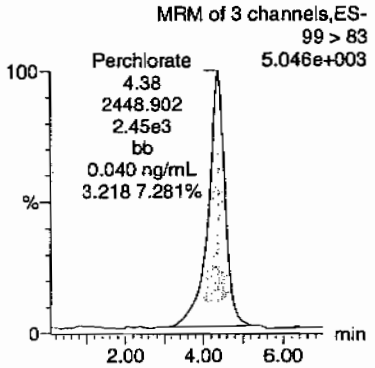
Name: per0114042a
Date: 14-Jan-2010
Time: 18:59:32
ID: 244137007
Vial: 1:6,B

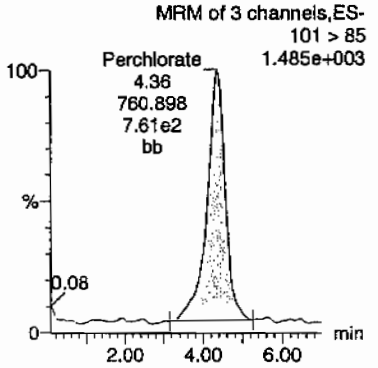
|LANL|940129|SOLID|1|NA

01-15-10

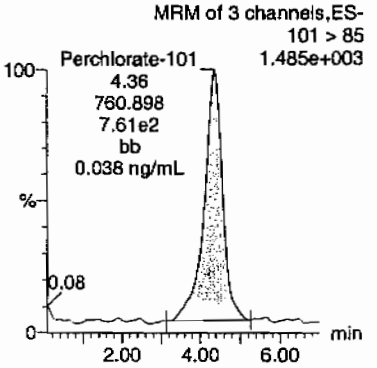
Perchlorate



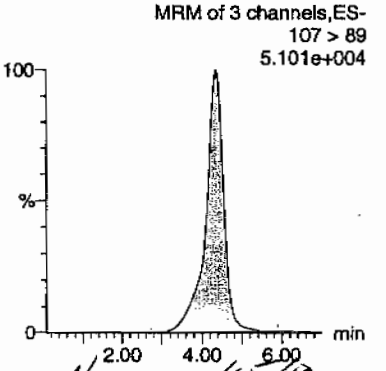
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
244137007	Perchlorate	99 > 83	4.38	2448.902	2448.902	bb			0.0396			390.812	3.22
244137007	Perchlorate-101	101 > 85	4.36	760.898	760.898	bb			0.0380			65.108	
244137007	Perchlorate-O(18)	107 > 89	4.35	26284.643	26284.643	bb			0.4873	97.45	-2.55	971.438	

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STANDARDS DATA

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10–1126

Lab Code: GEL

Instrument ID: LCMSMS **Date Analyzed:** 14–JAN–10

HPLC Column: Phenomenex Ion Pac AG–16 2 X 50 mm

Calibration Level	1	2	3	4	5
Cal Concentration (ug/L)	0.05	0.1	0.25	0.50	1.0

Parmname Perchlorate

Coefficient of Determination:

Calibration Curve: 61773.18

Response Type: External Standard

Curve Type: RF

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Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories **GEL Job No.(SDG):** 10–1126

Lab Code: GEL

Instrument ID: LCMSMS **Date Analyzed:** 14–JAN–10

HPLC Column: Phenomenex Ion Pac AG–16 2 X 50 mm

Calibration Level	1	2	3	4	5
Cal Concentration (ug/L)	0.05	0.1	0.25	0.50	1.0

Parmname Perchlorate–101

Coefficient of Determination:

Calibration Curve: 20035.48

Response Type: External Standard

Curve Type: RF

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Quantify Calibration Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

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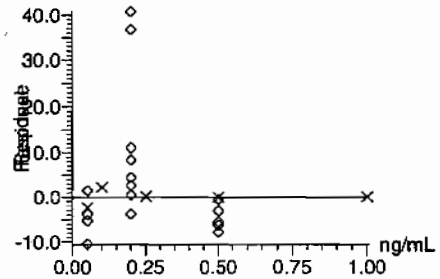
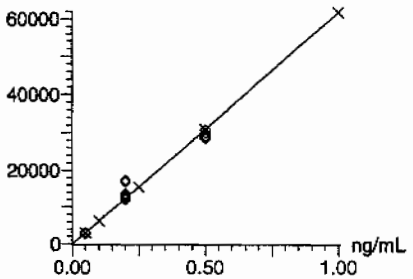
Method: C:\MassLynx\Perchlorate.PRO\MethDB\per011410a.mdb 15 Jan 2010 07:52:49
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per011410a.cdb 15 Jan 2010 07:53:05

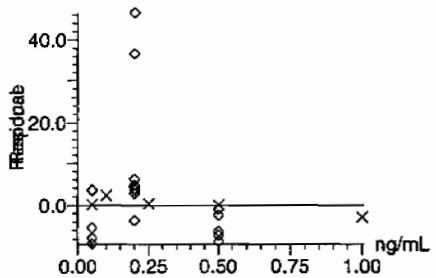
Compound name: Perchlorate
Response Factor: 61773.2
RRF SD: 1017.11, % Relative SD: 1.64652
Response type: External Std, Area
Curve type: RF

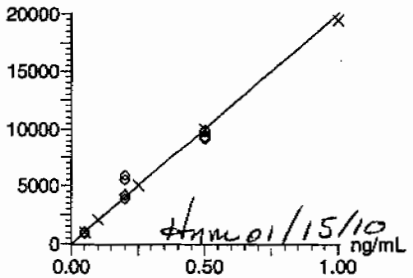




CW
01-15-10

Compound name: Perchlorate-101
Response Factor: 20035.5
RRF SD: 375.03, % Relative SD: 1.87183
Response type: External Std, Area
Curve type: RF





HMM 01/15/10

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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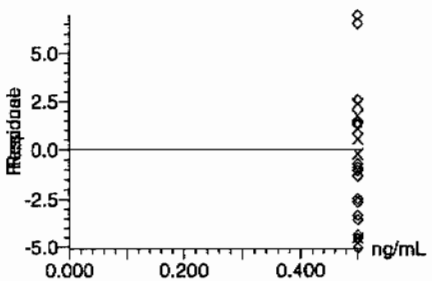
Quantify Calibration Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

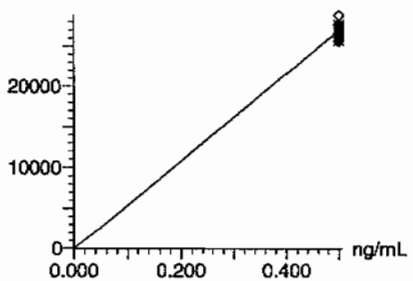
Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

Page 7 of 710

Compound name: Perchlorate-O(18)
Response Factor: 53943.5
RRF SD: 1468.17, % Relative SD: 2.72168
Response type: External Std, Area
Curve type: RF





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Perchlorate Initial Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10–1126

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.5	99.47	14–JAN–10 13:27	per0114009a
Perchlorate Isotope Ratio		3.09		14–JAN–10 13:27	per0114009a
Perchlorate–101	.5	.5	99.1	14–JAN–10 13:27	per0114009a

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Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

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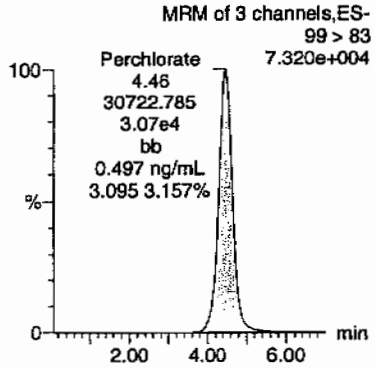
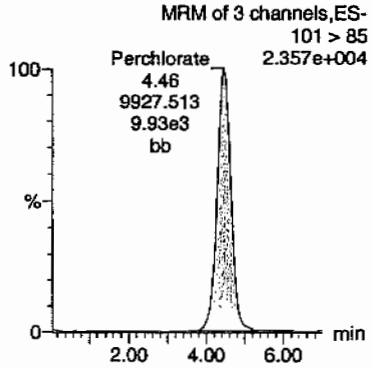
Name: per0114009a
Date: 14-Jan-2010
Time: 13:27:42
ID: WCL100104-06ICV
Vial: 1:2,A

Pass
01-15-10

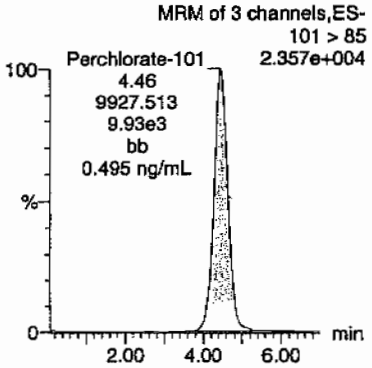
Perchlorate



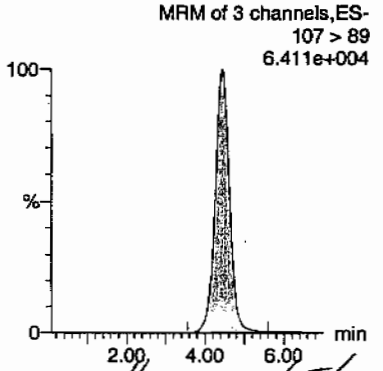
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-06ICV	Perchlorate	99 > 83	4.46	30722.785	30722.785	bb			0.4973	99.47	-0.53	7933.4...	3.09
WCL100104-06ICV	Perchlorate-101	101 > 85	4.46	9927.513	9927.513	bb			0.4955	99.10	-0.90	1335.6...	
WCL100104-06ICV	Perchlorate-O(18)	107 > 89	4.44	26691.609	26691.609	bb			0.4948	98.96	-1.04	1434.0...	

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Perchlorate Continuing Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1126

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.48	96.9	14-JAN-10 14:58	per0114018a
Perchlorate Isotope Ratio		3.06		14-JAN-10 14:58	per0114018a
Perchlorate-101	.5	.49	97.63	14-JAN-10 14:58	per0114018a
Perchlorate	.5	.47	93.83	14-JAN-10 17:08	per0114031a
Perchlorate Isotope Ratio		3.09		14-JAN-10 17:08	per0114031a
Perchlorate-101	.5	.47	93.76	14-JAN-10 17:08	per0114031a
Perchlorate	.5	.47	94.52	14-JAN-10 19:09	per0114043a
Perchlorate Isotope Ratio		3.19		14-JAN-10 19:09	per0114043a
Perchlorate-101	.5	.46	91.36	14-JAN-10 19:09	per0114043a

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

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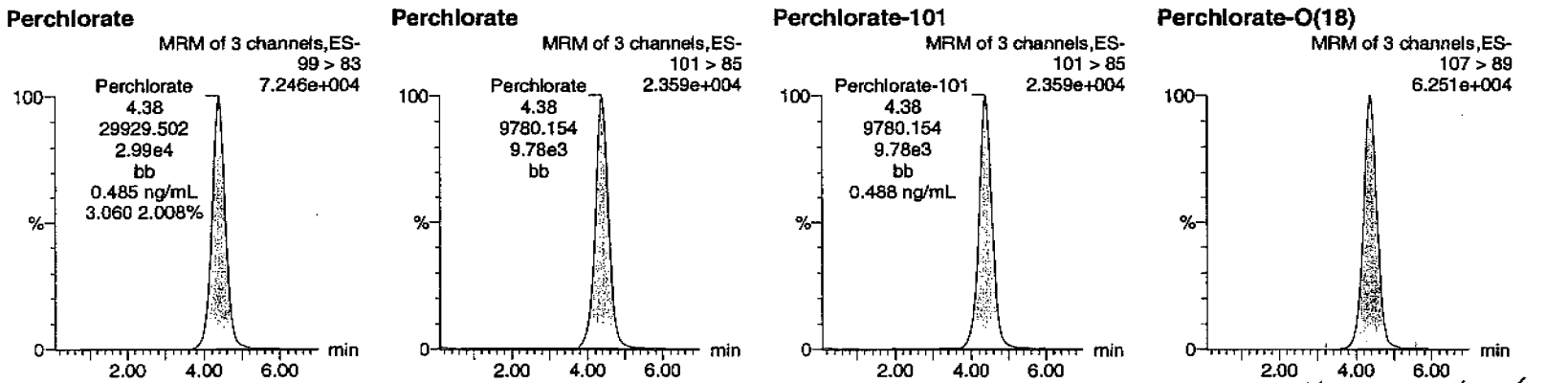
Name: per0114018a
Date: 14-Jan-2010
Time: 14:58:13
ID: WCL100104-06CCV
Vial: 1:2,A

Pass
aw
01-15-10



Hmm 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-06CCV	Perchlorate	99 > 83	4.38	29929.502	29929.502	bb			0.4845	96.90	-3.10	2092.1...	3.06
WCL100104-06CCV	Perchlorate-101	101 > 85	4.38	9780.154	9780.154	bb			0.4881	97.63	-2.37	4252.2...	
WCL100104-06CCV	Perchlorate-O(18)	107 > 89	4.36	26014.844	26014.844	bb			0.4823	96.45	-3.55	3850.4...	

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

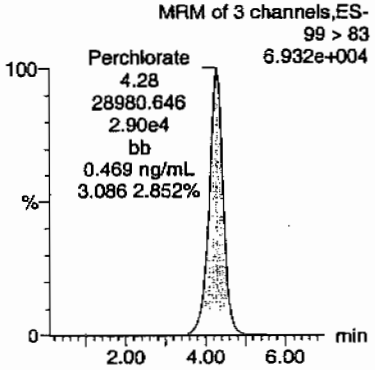
Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

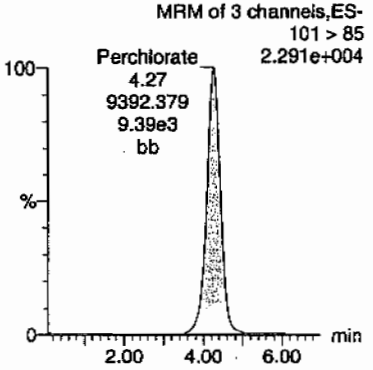
Name: per0114031a
Date: 14-Jan-2010
Time: 17:08:42
ID: WCL100104-06CCV
Vial: 1:2,A

Pass
01-15-10

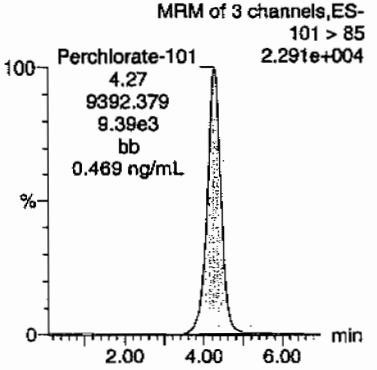
Perchlorate



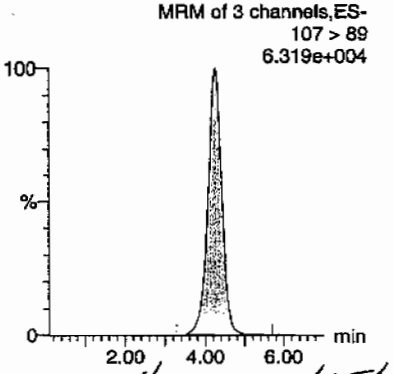
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HMM 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-06CCV	Perchlorate	99 > 83	4.28	28980.646	28980.646	bb			0.4691	93.83	-6.17	2926.1...	3.09
WCL100104-06CCV	Perchlorate-101	101 > 85	4.27	9392.379	9392.379	bb			0.4688	93.76	-6.24	1878.1...	
WCL100104-06CCV	Perchlorate-O(18)	107 > 89	4.25	26075.045	26075.045	bb			0.4834	96.68	-3.32	5377.2...	

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

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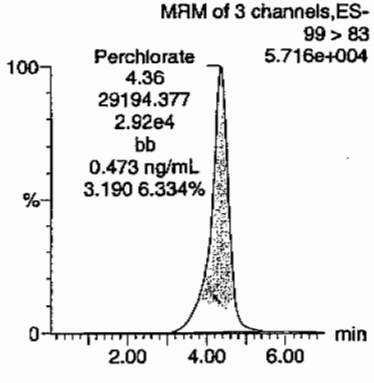
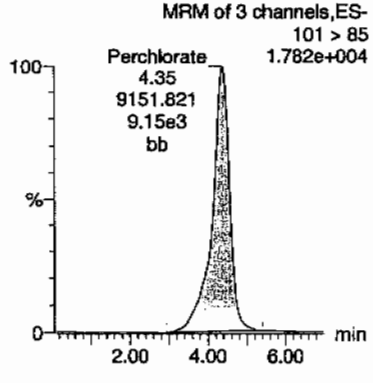
Name: per0114043a
Date: 14-Jan-2010
Time: 19:09:36
ID: WCL100104-06CCV
Vial: 1:2,A

CWW
01-15-10

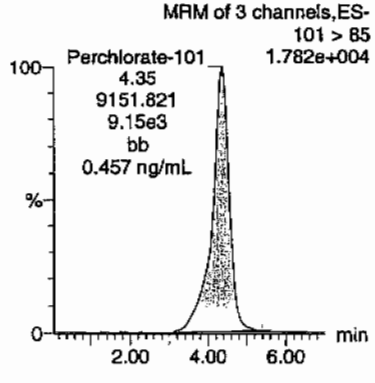
Perchlorate



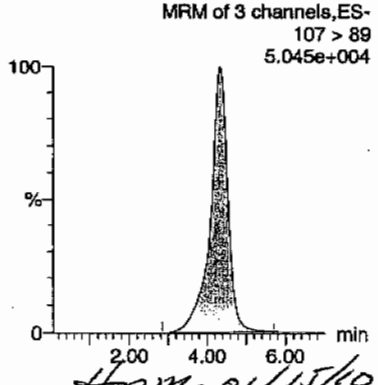
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-06CCV	Perchlorate	99 > 83	4.36	29194.377	29194.377	bb			0.4726	94.52	-5.48	1537.3...	3.19
WCL100104-06CCV	Perchlorate-101	101 > 85	4.35	9151.821	9151.821	bb			0.4568	91.36	-8.64	1154.8...	
WCL100104-06CCV	Perchlorate-O(18)	107 > 89	4.34	25742.227	25742.227	bb			0.4772	95.44	-4.56	1360.6...	

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10–1126

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.05	.05	96.16	14–JAN–10 13:47	per0114011a
Perchlorate Isotope Ratio		2.87		14–JAN–10 13:47	per0114011a
Perchlorate–101	.05	.05	103.46	14–JAN–10 13:47	per0114011a
Perchlorate	.05	.05	101.41	14–JAN–10 15:18	per0114020a
Perchlorate Isotope Ratio		3.02		14–JAN–10 15:18	per0114020a
Perchlorate–101	.05	.05	103.66	14–JAN–10 15:18	per0114020a
Perchlorate	.05	.04	89.58	14–JAN–10 17:29	per0114033a
Perchlorate Isotope Ratio		3.04		14–JAN–10 17:29	per0114033a
Perchlorate–101	.05	.05	90.88	14–JAN–10 17:29	per0114033a
Perchlorate	.05	.05	101.57	14–JAN–10 19:29	per0114045a
Perchlorate Isotope Ratio		3.4		14–JAN–10 19:29	per0114045a

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10–1126

Lab Code: GEL

Reporting Units: ug/kg

Perchlorate–101	.05	.05	92.18	14–JAN–10 19:29	per0114045a

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

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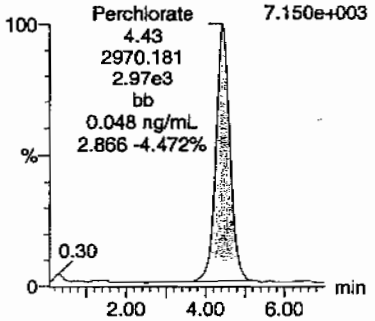
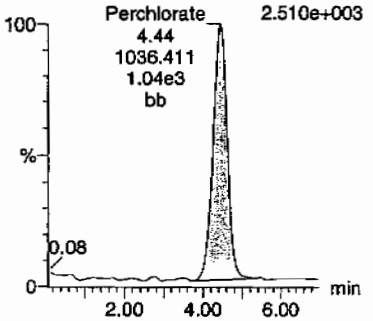
Name: per0114011a
Date: 14-Jan-2010
Time: 13:47:46
ID: WCL100104-07CRI
Vial: 1:2,B

Pass
aw
01-15-10

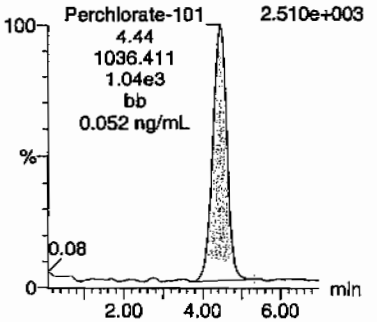
Perchlorate



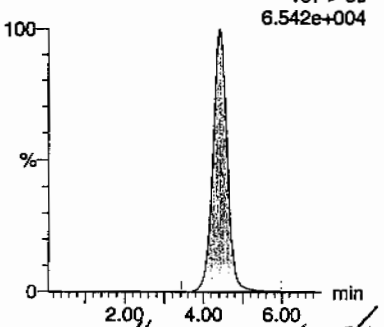
Perchlorate



Perchlorate-101



Perchlorate-O(18)



HMM 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-07CRI	Perchlorate	99 > 83	4.43	2970.181	2970.181	bb			0.0481	96.16	-3.84	337.495	2.87
WCL100104-07CRI	Perchlorate-101	101 > 85	4.44	1036.411	1036.411	bb			0.0517	103.46	3.46	410.631	
WCL100104-07CRI	Perchlorate-O(18)	107 > 89	4.41	27352.369	27352.369	bb			0.5071	101.41	1.41	2099.5...	

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

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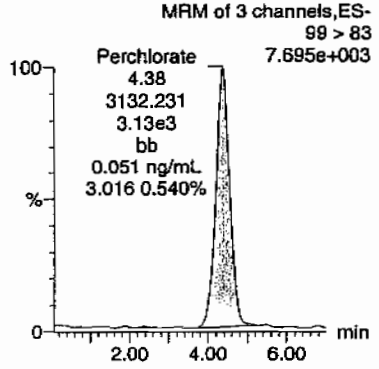
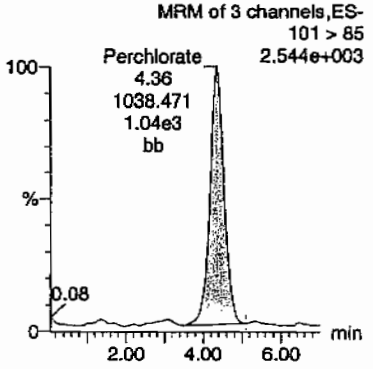
Name: per0114020a
Date: 14-Jan-2010
Time: 15:18:17
ID: WCL100104-07CRI
Vial: 1:2,B

Pers
aw
01-15-10

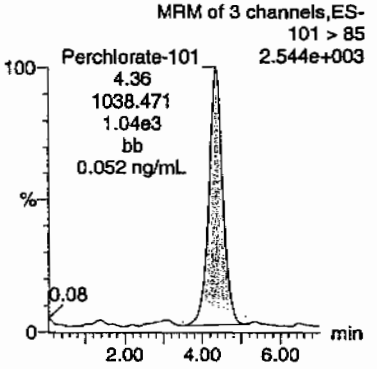
Perchlorate



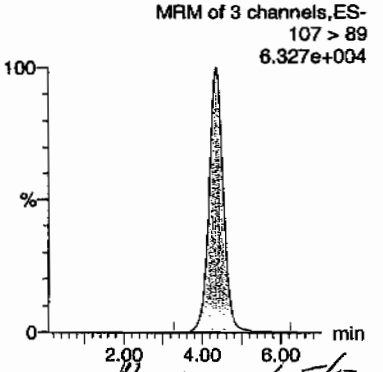
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Anne 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-07CRI	Perchlorate	99 > 83	4.38	3132.231	3132.231	bb			0.0507	101.41	1.41	663.473	3.02
WCL100104-07CRI	Perchlorate-101	101 > 85	4.36	1038.471	1038.471	bb			0.0518	103.66	3.66	192.575	
WCL100104-07CRI	Perchlorate-O(18)	107 > 89	4.35	26616.289	26616.289	bb			0.4934	98.68	-1.32	5978.8...	

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Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

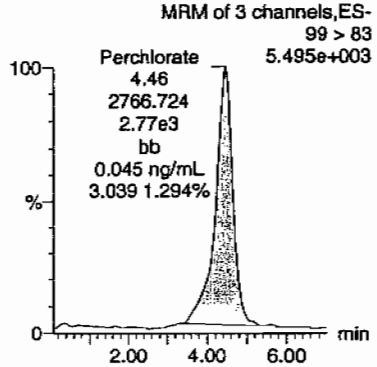
Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

Page 8 of 10

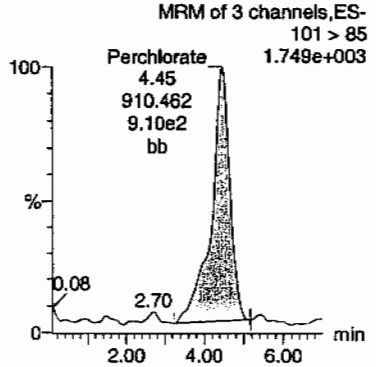
Name: per0114033a
Date: 14-Jan-2010
Time: 17:29:06
ID: WCL100104-07CRI
Vial: 1:2,B

Pass
aw
01-15-10

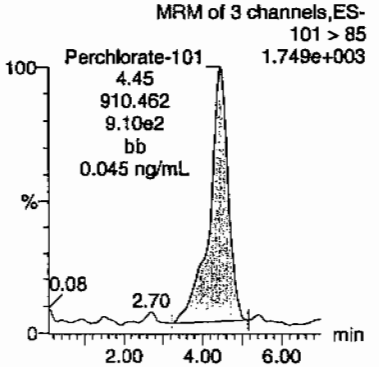
Perchlorate



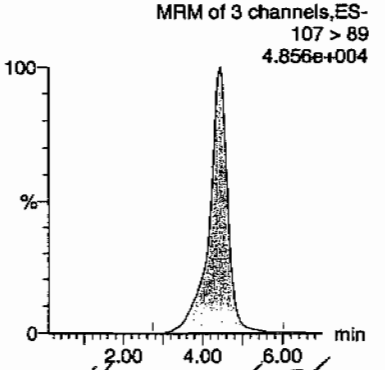
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-07CRI	Perchlorate	99 > 83	4.46	2766.724	2766.724	bb			0.0448	89.58	-10.42	147.450	3.04
WCL100104-07CRI	Perchlorate-101	101 > 85	4.45	910.462	910.462	bb			0.0454	90.88	-9.12	46.735	
WCL100104-07CRI	Perchlorate-O(18)	107 > 89	4.43	25756.949	25756.949	bb			0.4775	95.50	-4.50	3802.0...	

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

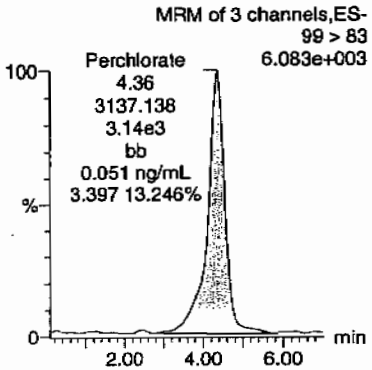
Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

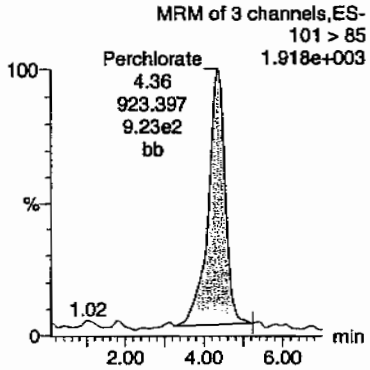
Name: per0114045a
Date: 14-Jan-2010
Time: 19:29:41
ID: WCL100104-07CRI
Vial: 1:2,B

Pass
aw
01-15-10

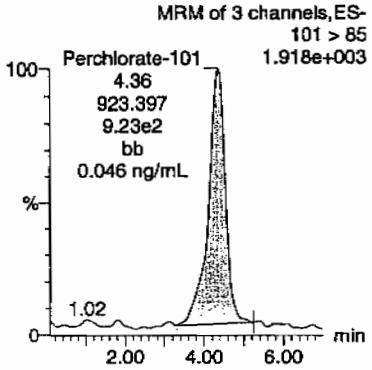
Perchlorate



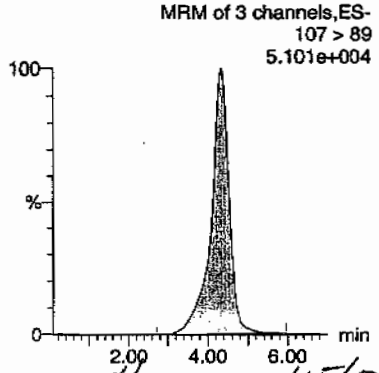
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100104-07CRI	Perchlorate	99 > 83	4.36	3137.138	3137.138	bb			0.0508	101.57	1.57	177.070	3.40
WCL100104-07CRI	Perchlorate-101	101 > 85	4.36	923.397	923.397	bb			0.0461	92.18	-7.82	181.224	
WCL100104-07CRI	Perchlorate-O(18)	107 > 89	4.34	26303.965	26303.965	bb			0.4876	97.52	-2.48	1415.2...	

GEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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QUALITY CONTROL

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
MB

Date Received: 12-JAN-10

GEL Job No (SDG): 10-1126

GEL Sample ID: 1202011797

Date Filtered: 12-JAN-10

Injection Volume (uL): 20

%Solids: 100

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.5	2	0.500	ug/kg	U	1	14-JAN-10 16:18	per0114026a
	Perchlorate Isotope Ratio						1	14-JAN-10 16:18	per0114026a
14797-73-0	Perchlorate-101	.5	2	0.500	ug/kg	U	1	14-JAN-10 16:18	per0114026a
	Perchlorate-O(18)			4.87	ug/kg		1	14-JAN-10 16:18	per0114026a

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

*Concentration =

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

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

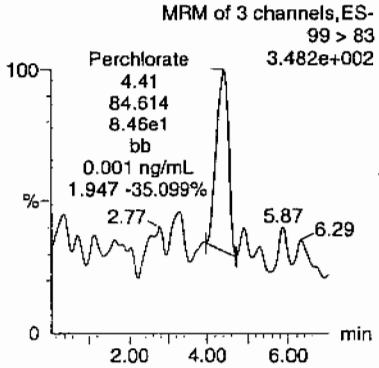
Page 83 of 710

Name: per0114026a
Date: 14-Jan-2010
Time: 16:18:31
ID: 1202011797
Vial: 1:4,A

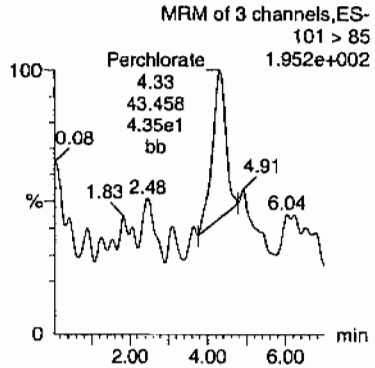
|LANL|940129|50120|MB|1|RA

CWW 01-15-10

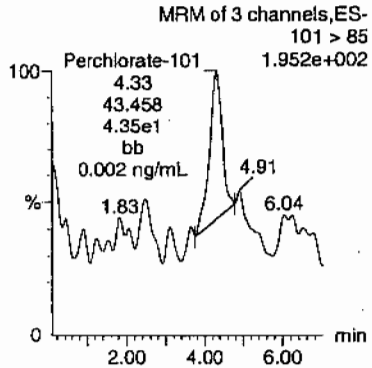
Perchlorate



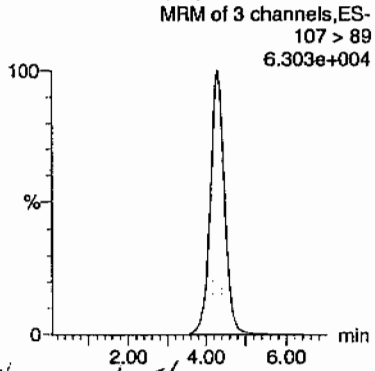
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmm 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio	
1202011797	Perchlorate	99 > 83	4.41	84.614	84.614	bb			0.0014			13.209	1.95	OKAY
1202011797	Perchlorate-101	101 > 85	4.33	43.458	43.458	bb			0.0022			15.496		<0.0500
1202011797	Perchlorate-O(18)	107 > 89	4.32	26278.291	26278.291	bb			0.4871	97.43	-2.57	3363.6...		

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Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: SOIL

Extraction Batch ID: 940125

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.
LCS

Date Received: 12–JAN–10

GEL Job No (SDG): 10–1126

GEL Sample ID: 1202011798

Date Filtered: 12–JAN–10

Injection Volume (uL): 20

%Solids: 100

CAS No.	Analyte^	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797–73–0	Perchlorate	.5	2	2.01	ug/kg		1	14–JAN–10 16:28	per0114027a
	Perchlorate Isotope Ratio			3.01			1	14–JAN–10 16:28	per0114027a
14797–73–0	Perchlorate–101	.5	2	2.06	ug/kg		1	14–JAN–10 16:28	per0114027a
	Perchlorate–O(18)			5.04	ug/kg		1	14–JAN–10 16:28	per0114027a

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

*Concentration =

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

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

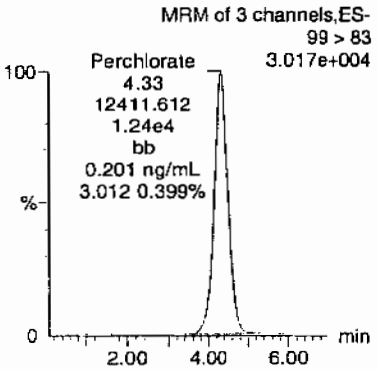
Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

Name: per0114027a
Date: 14-Jan-2010
Time: 16:28:34
ID: 1202011798
Vial: 1:4,B

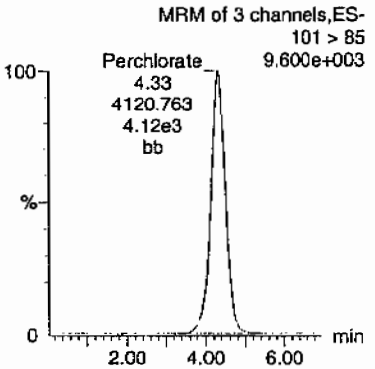
|LANL|940129|SOL20|LCS|1|RA

01-15-10

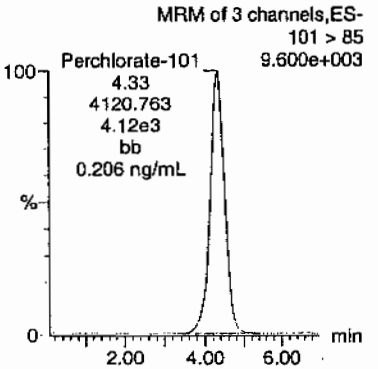
Perchlorate



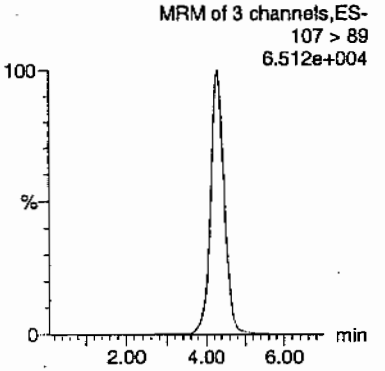
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202011798	Perchlorate	99 > 83	4.33	12411.612	12411.612	bb			0.2009	100.46	0.46	425.116	3.01
1202011798	Perchlorate-101	101 > 85	4.33	4120.763	4120.763	bb			0.2057	102.84	2.84	336.476	
1202011798	Perchlorate-O(18)	107 > 89	4.30	27192.725	27192.725	bb			0.5041	100.82	0.82	5675.7...	

$\frac{12411.612}{61773.2} = 0.2009$

HMK 01/15/10

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MISCELLANEOUS DATA

Prep Logbook

Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)

Batch ID: 940125 **Verified by:** _____

Analyst: Charles Wilson

Method: SW846 6850 Modified

Lab SOP: GL-OA-E-067 REV# 6

Instrument: MicroMass Quatro Ultima

Sample ID	Run Date	Aliquot (g)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1202011797 MB	12-JAN-2010 14:39:16	2	20	10
1202011798 LCS	12-JAN-2010 14:39:16	2	20	10
244125001	12-JAN-2010 14:39:16	2	20	10
244125002	12-JAN-2010 14:39:16	2	20	10
244125003	12-JAN-2010 14:39:16	2	20	10
244125004	12-JAN-2010 14:39:16	2	20	10
244137001	12-JAN-2010 14:39:16	2	20	10
244137002	12-JAN-2010 14:39:16	2	20	10
244137003	12-JAN-2010 14:39:16	2	20	10
244137004	12-JAN-2010 14:39:16	2	20	10
244137005	12-JAN-2010 14:39:16	2	20	10
244137006	12-JAN-2010 14:39:16	2	20	10
244137007	12-JAN-2010 14:39:16	2	20	10
244228001	12-JAN-2010 14:39:16	2	20	10
1202011799 MS (244228001)	12-JAN-2010 14:39:16	2	20	10
1202011800 MSD (244228001)	12-JAN-2010 14:39:16	2	20	10
244228002	12-JAN-2010 14:39:16	2	20	10
244228003	12-JAN-2010 14:39:16	2	20	10
244228004	12-JAN-2010 14:39:16	2	20	10
244228005	12-JAN-2010 14:39:16	2	20	10
244228006	12-JAN-2010 14:39:16	2	20	10
1202011801 ICS	12-JAN-2010 14:39:16	2	20	10

Type	Sample Id	Description	Serial Number	Spike Amt	Units
ICS	1202011801	10 ug/L ICV/CCV Second Source	UCL091230-01.1	.4	mL
LCS	1202011798	10 ug/L ICV/CCV Second Source	UCL091230-01.1	.4	mL
MS	1202011799	10 ug/L ICV/CCV Second Source	UCL091230-01.1	.4	mL
MSD	1202011800	10 ug/L ICV/CCV Second Source	UCL091230-01.1	.4	mL

Comments:

Desalting cartridges used: 091006-1-H & 090810-1-Ba

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GEL ORGANIC RUN LOG INSTRUMENT ID: LCMSMS#2

Date: 01/14/10
Extr. Injection Volume: 20uL
Sequence Number: per011410a
Initial Calibration Date: 01/14/10

Method: EPA 6850-Modified
Int. Std.: UCL091019-03.2
Mobile Phase Lot#: 1254342, 1246195
Standard-Samp Reagent Lot#:: 1233976

Reviewed BY:_____
Date:_____
SOP: GL-OA-E-067 Rev.6
Alt Check Std. ID: WCL100104-06

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
per0114001a	IPB001	CWW	1/14/2010 12:07			1		USE	B
per0114002a	IPB001	CWW	1/14/2010 12:17			1		USE	B
per0114003a	WCLICAL-01	CWW	1/14/2010 12:27			1		USE	I
per0114004a	WCLICAL-02	CWW	1/14/2010 12:37			1		USE	I
per0114005a	WCLICAL-03	CWW	1/14/2010 12:47			1		USE	I
per0114006a	WCLICAL-04	CWW	1/14/2010 12:57			1		USE	I
per0114007a	WCLICAL-05	CWW	1/14/2010 13:07			1		USE	I
per0114008a	IPB002	CWW	1/14/2010 13:17			1		USE	B
per0114009a	WCLICV	CWW	1/14/2010 13:27			1		USE	C
per0114010a	IPB003	CWW	1/14/2010 13:37			1		USE	B
per0114011a	WCLCRI	CWW	1/14/2010 13:47			1		USE	C
per0114012a	1202014474	CWW	1/14/2010 13:57	941221	10-1208	1	LANL	USE	S
per0114013a	1202014475	CWW	1/14/2010 14:07	941221	10-1208	1	LANL	USE	S
per0114014a	1202014478	CWW	1/14/2010 14:17	941221	10-1208	1	LANL	USE	S
per0114015a	244522001	CWW	1/14/2010 14:28	941221	10-1208	1	LANL	USE	S
per0114016a	1202014476	CWW	1/14/2010 14:38	941221	10-1208	1	LANL	USE	S
per0114017a	1202014477	CWW	1/14/2010 14:48	941221	10-1208	1	LANL	USE	S
per0114018a	WCLCCV	CWW	1/14/2010 14:58			1		USE	C
per0114019a	IPB004	CWW	1/14/2010 15:08			1		USE	B
per0114020a	WCLCRI	CWW	1/14/2010 15:18			1		USE	C
per0114021a	244218002	CWW	1/14/2010 15:28	940121	10-1152-1	1	LANL	USE	S
per0114022a	244218003	CWW	1/14/2010 15:38	940121	10-1152-~~2~~ 1	1	LANL	USE	S
per0114023a	244218004	CWW	1/14/2010 15:48	940121	10-1152-~~3~~ 1	1	LANL	USE	S
per0114024a	244218005	CWW	1/14/2010 15:58	940121	10-1152-~~4~~ 1	1	LANL	USE	S
per0114025a	IPB005	CWW	1/14/2010 16:08		HMC 01/15/10	1		USE	B
per0114026a	1202011797	CWW	1/14/2010 16:18	940129	VARIOUS	1	LANL	USE	S
per0114027a	1202011798	CWW	1/14/2010 16:28	940129	VARIOUS	1	LANL	USE	S
per0114028a	1202011801	CWW	1/14/2010 16:38	940129	VARIOUS	1	LANL	USE	S
per0114029a	244125001	CWW	1/14/2010 16:48	940129	10-1130	1	LANL	USE	S

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per0114030a	244125002	CWW	1/14/2010 16:58	940129	10-1130	1	LANL	USE	S
per0114031a	WCLCCV	CWW	1/14/2010 17:08			1		USE	C
per0114032a	IPB006	CWW	1/14/2010 17:18			1		USE	B
per0114033a	WCLCRI	CWW	1/14/2010 17:29			1		USE	C
per0114034a	244125003	CWW	1/14/2010 17:39	940129	10-1130	1	LANL	USE	S
per0114035a	244125004	CWW	1/14/2010 17:49	940129	10-1130	1	LANL	USE	S
per0114036a	244137001	CWW	1/14/2010 17:59	940129	10-1126	1	LANL	USE	S
per0114037a	244137002	CWW	1/14/2010 18:09	940129	10-1126	1	LANL	USE	S
per0114038a	244137003	CWW	1/14/2010 18:19	940129	10-1126	1	LANL	USE	S
per0114039a	244137004	CWW	1/14/2010 18:29	940129	10-1126	1	LANL	USE	S
per0114040a	244137005	CWW	1/14/2010 18:39	940129	10-1126	1	LANL	USE	S
per0114041a	244137006	CWW	1/14/2010 18:49	940129	10-1126	1	LANL	USE	S
per0114042a	244137007	CWW	1/14/2010 18:59	940129	10-1126	1	LANL	USE	S
per0114043a	WCLCCV	CWW	1/14/2010 19:09			1		USE	C
per0114044a	IPB007	CWW	1/14/2010 19:19			1		USE	B
per0114045a	WCLCRI	CWW	1/14/2010 19:29			1		USE	C
per0114046a	244228001	CWW	1/14/2010 19:39	940129	10-1161-2	1	LANL	USE	S
per0114047a	1202011799	CWW	1/14/2010 19:49	940129	10-1161-2	1	LANL	USE	S
per0114048a	1202011800	CWW	1/14/2010 19:59	940129	10-1161-2	1	LANL	USE	S
per0114049a	244228002	CWW	1/14/2010 20:09	940129	10-1161-2	1	LANL	USE	S
per0114050a	244228003	CWW	1/14/2010 20:19	940129	10-1161-2	1	LANL	USE	S
per0114051a	244228004	CWW	1/14/2010 20:29	940129	10-1161-2	1	LANL	USE	S
per0114052a	244228005	CWW	1/14/2010 20:40	940129	10-1161-2	1	LANL	USE	S
per0114053a	244228006	CWW	1/14/2010 20:50	940129	10-1161-2	1	LANL	USE	S
per0114054a	IPB008	CWW	1/14/2010 21:00			1		USE	B
per0114055a	244609001	CWW	1/14/2010 21:10	Screen		10	GEL	DUSE	S
per0114056a	WCLCCV	CWW	1/14/2010 21:20			1		USE	C
per0114057a	IPB009	CWW	1/14/2010 21:31			1		USE	B
per0114058a	WCLCRI	CWW	1/14/2010 21:41			1		USE	C

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

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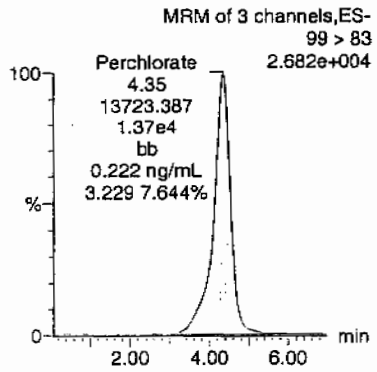
Name: per0114047a
Date: 14-Jan-2010
Time: 19:49:46
ID: 1202011799
Vial: 1:6,D

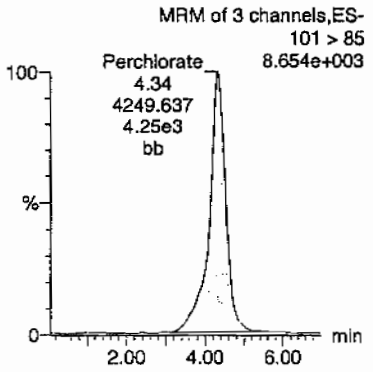
|LANL|940129|SOLID|MS|1|RA

GW
01-15-10

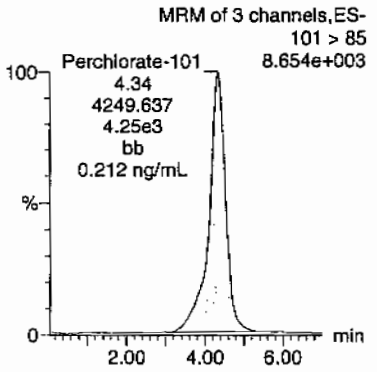
Perchlorate



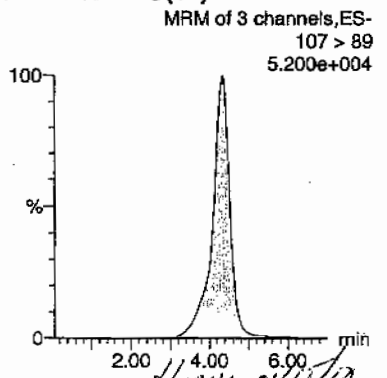
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Hmw 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202011799	Perchlorate	99 > 83	4.35	13723.387	13723.387	bb			0.2222	111.08	11.08	697.565	3.23
1202011799	Perchlorate-101	101 > 85	4.34	4249.637	4249.637	bb			0.2121	106.05	6.05	282.807	
1202011799	Perchlorate-O(18)	107 > 89	4.34	26735.686	26735.686	bb			0.4956	99.12	-0.88	5717.1...	

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Quantify Sample Report **MassLynx 4.0 SP4**
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per011410a.qld

Last Altered: Friday, January 15, 2010 7:53:06 AM Eastern Standard Time
Printed: Friday, January 15, 2010 8:09:48 AM Eastern Standard Time

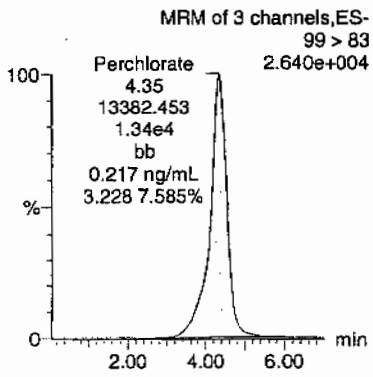
Page 9 of 17/10

Name: per0114048a
Date: 14-Jan-2010
Time: 19:59:49
ID: 1202011800
Vial: 1:6,E

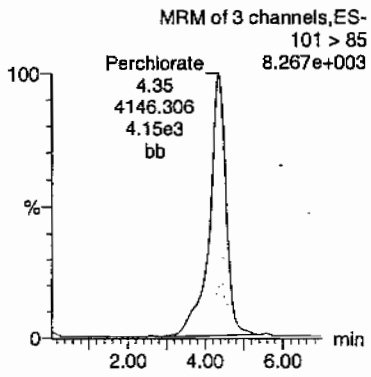
|LANL|940129|SOLID|MSD|1|

01-15-10

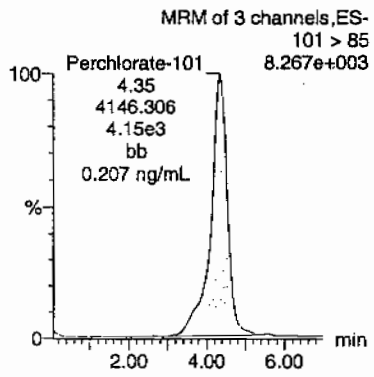
Perchlorate



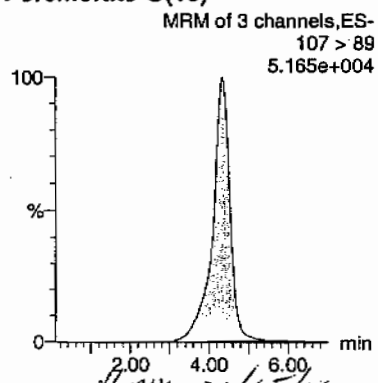
Perchlorate



Perchlorate-101



Perchlorate-O(18)



AMK 01/15/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202011800	Perchlorate	99 > 83	4.35	13382.453	13382.453	bb			0.2166	108.32	8.32	1189.7...	3.23
1202011800	Perchlorate-101	101 > 85	4.35	4146.306	4146.306	bb			0.2069	103.47	3.47	328.191	
1202011800	Perchlorate-O(18)	107 > 89	4.34	26255.121	26255.121	bb			0.4867	97.34	-2.66	2609.0...	

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Isotope Ratio Criteria

Isotope Ratio $_{35}Cl/_{37}CL$

2.31-3.85

Tune Criteria

The tuning solution is introduced directly into the mass spectrometer using the ESI interface in the positive ion mode. The mass range scanned is 20 to 1100 amu using at least six scans. The observed mass for the target compound in the daily calibration standards must be within 0.2 amu of the expected value. If it is greater than 0.2 amu, then a mass calibration is performed and the instrument is re-calibrated.

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LC/MS/MS EXPLOSIVES ANALYSIS

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LC/MS/MS Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1126

Method/Analysis Information

Procedure:	**Definitive Low Level Analysis of Nitroaromatic Explosives Utilizing Liquid Chromatography / Mass Spectrometry / Mass Spectrometry (LC/MS/MS) by SW-846 Method 8321 Modified (8321M)**
Analytical Method:	SW846 8321A Modified
Prep Method:	SW846 8330 PREP
Analytical Batch Number:	940049
Prep Batch Number:	940045

Sample Analysis

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

Sample ID	Client ID
244137001	RE12-10-7859
244137002	RE12-10-7851
244137003	RE12-10-7852
244137004	RE12-10-7850
244137005	RE12-10-7853
244137006	RE12-10-7848
244137007	RE12-10-7849
1202011636	Method Blank (MB)
1202011639	Laboratory Control Sample (LCS)
1202011637	244137006(RE12-10-7848) Matrix Spike (MS)
1202011638	244137006(RE12-10-7848) Matrix Spike Duplicate (MSD)

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Preparation/Analytical Method Verification

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

Primary Analyte Analysis

Calibration Information

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

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

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

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

Quality Control (QC) Information

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

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

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

QC Sample Designation
Sample 244137006 (RE12-10-7848) was chosen for matrix spike and matrix spike duplicate analysis.

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

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

MS/MSD Relative Percent Difference (RPD) Statement
The RPD(s) between the MS and MSD met the acceptance limits.

Internal Standard (ISTD) Acceptance
The internal standard responses were within the required acceptance criteria for all samples and QC.

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Technical Information

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

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

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

Sample Re-extraction/Re-analysis
QC sample 1202011638 (RE12-10-7848MSD) failed ISTD acceptance criteria. It was re-analyzed and passed acceptance criteria. The re-analysis is reported.

Secondary Analyte Analysis

Calibration Information

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

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

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

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

Quality Control (QC) Information

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

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

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

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QC Sample Designation
Sample 244137006 (RE12-10-7848) was chosen for matrix spike and matrix spike duplicate analysis.

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

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

MS/MSD Relative Percent Difference (RPD) Statement
The RPD(s) between the MS and MSD met the acceptance limits.

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

Technical Information

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

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

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

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

Miscellaneous Information

Data Exception (DER) Documentation
Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

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

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

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

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

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

System Configuration

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

Chromatographic Columns

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

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

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

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

Certification Statement

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

Review Validation:

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

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

Reviewer: Heather M Maier **Date:** 01/29/10

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SAMPLE DATA SUMMARY

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7859

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137001

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125070a

Date Analyzed: 26-JAN-10 21:16

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7859

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137001

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190043.wiff

Date Analyzed: 20-JAN-10 01:13

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7851

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137002

Sample Amount 2

Moisture: 9.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125071a

Date Analyzed: 26-JAN-10 21:46

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7851

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137002

Sample Amount 2

Moisture: 9.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190044.wiff

Date Analyzed: 20-JAN-10 01:29

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7852

Lab Code: GEI

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137003

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125072a

Date Analyzed: 26-JAN-10 22:15

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7852

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137003

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190045.wiff

Date Analyzed: 20-JAN-10 01:45

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7850

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137004

Sample Amount 2

Moisture: 21.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125076a

Date Analyzed: 27-JAN-10 00:13

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7850

Lab Code: GEI

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137004

Sample Amount 2

Moisture: 21.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190046.wiff

Date Analyzed: 20-JAN-10 02:00

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7853

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137005

Sample Amount 2

Moisture: 7.2

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125077a

Date Analyzed: 27-JAN-10 00:43

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7853

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137005

Sample Amount 2

Moisture: 7.2

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190047.wiff

Date Analyzed: 20-JAN-10 02:16

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7848

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137006

Sample Amount 2

Moisture: 16.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125078a

Date Analyzed: 27-JAN-10 01:12

Units: ug/kg

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

*Concentration =

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

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High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7848

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137006

Sample Amount 2

Moisture: 16.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190051.wiff

Date Analyzed: 20-JAN-10 03:19

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7849

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137007

Sample Amount 2

Moisture: 11.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125081a

Date Analyzed: 27-JAN-10 02:41

Units: ug/kg

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

*Concentration =

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7849

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137007

Sample Amount 2

Moisture: 11.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190054.wiff

Date Analyzed: 20-JAN-10 04:06

Units: ug/kg

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

*Concentration =

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

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QUALITY CONTROL SUMMARY

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2

High Explosives Surrogate Recovery Summary

Lab Name: GEL Laboratories LLC **GEL Job No (SDG):** 10–1126

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

Lab Sample ID	Client Sample ID	DNT	QC Limits	Flg
244137001	RE12–10–7859	112	73.7 – 133.3	
244137001	RE12–10–7859	112	73.7 – 133.3	
244137002	RE12–10–7851	112	73.7 – 133.3	
244137002	RE12–10–7851	107	73.7 – 133.3	
244137003	RE12–10–7852	101	73.7 – 133.3	
244137003	RE12–10–7852	106	73.7 – 133.3	
244137004	RE12–10–7850	104	73.7 – 133.3	
244137004	RE12–10–7850	109	73.7 – 133.3	
244137005	RE12–10–7853	108	73.7 – 133.3	
244137005	RE12–10–7853	111	73.7 – 133.3	
244137006	RE12–10–7848	106	73.7 – 133.3	
244137006	RE12–10–7848	111	73.7 – 133.3	
244137007	RE12–10–7849	101	73.7 – 133.3	
244137007	RE12–10–7849	113	73.7 – 133.3	
1202011636	MB for batch 940045	104	73.7 – 133.3	
1202011636	MB for batch 940045	106	73.7 – 133.3	
1202011637	RE12–10–7848(244137006MS)	111	73.7 – 133.3	
1202011637	RE12–10–7848(244137006MS)	113	73.7 – 133.3	
1202011638	RE12–10–7848(244137006MSD)	111	73.7 – 133.3	
1202011638	RE12–10–7848(244137006MSD)	110	73.7 – 133.3	
1202011639	LCS for batch 940045	109	73.7 – 133.3	
1202011639	LCS for batch 940045	106	73.7 – 133.3	

DNT = 3,4–Dinitrotoluene

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3B
High Explosives LCS/LCS Duplicate Summary

Lab Name: GEL Laboratories LLC

Client ID: LCS

Lab Code: GEL

GEL Job No (SDG) 10–1126

Extract Batch Code: 940045

Date Extracted: 14–JAN–10

GEL LCS ID: 1202011639

GEL LCSDUP ID:

Analysis Date/Time: 26–JAN–10 20:47

DUP Analysis Date/Time:

Reporting Units: ug/kg

QC Type: LCS/LCSD

Compound	Spike Added	LCS Conc	LCS Rec	#	LCSD Conc	LCSD Rec	#	RPD	#	RPD	Recovery Limits
Nitrobenzene	5000	4910	98.1								71.8 – 126
PETN	5000	5630	113								64.6 – 147
1,3,5–Trinitrobenzene	5000	4900	98.1								62.1 – 124
2,4–Dinitrotoluene	5000	5280	106								82.7 – 132
HMX	5000	4870	97.4								66.5 – 142
4–Amino–2,6–dinitrotoluene	5000	6340	127								85.6 – 133
2–Amino–4,6–dinitrotoluene	5000	5650	113								84.2 – 149
2,6–Dinitrotoluene	5000	5070	101								86.9 – 122
2,4,6–Trinitrotoluene	5000	6250	125								78.3 – 132
RDX	5000	5490	110								78.7 – 144
Tetryl	5000	3120	62.3								31.2 – 119
m–Dinitrobenzene	5000	5180	104								80.9 – 127
m–Nitrotoluene	5000	4830	96.5								71.9 – 126
o–Nitrotoluene	5000	4460	89.3								75 – 123
p–Nitrotoluene	5000	4700	93.9								73.7 – 124

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

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3B
High Explosives LCS/LCS Duplicate Summary

Lab Name: GEL Laboratories LLC

Client ID: LCS

Lab Code: GEL

GEL Job No (SDG) 10–1126

Extract Batch Code: 940045

Date Extracted: 14–JAN–10

GEL LCS ID: 1202011639

GEL LCSDUP ID:

Analysis Date/Time: 20–JAN–10 00:58

DUP Analysis Date/Time:

Reporting Units: ug/kg

QC Type: LCS/LCSD

Compound	Spike Added	LCS Conc	LCS Rec #	LCSD Conc	LCSD Rec #	RPD #	RPD	Recovery Limits
2,4–Diamino–6–nitrotoluene	5000	5220	104					64.8 – 128
2,6–Diamino–4–nitrotoluene	5000	5220	104					69.6 – 133
3,5–Dinitroaniline	5000	5400	108					77.3 – 123
TATB	5000	6610	132					46.8 – 166
tris(o–cresyl) phosphate	5000	4860	97.2					84.3 – 120

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

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3

High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE12-10-7848

Lab Code: GEL

GEL Job No (SDG) 10-1126

Extract Batch Code: 940045

Date Extracted: 14-JAN-10

GEL Spike ID: 1202011637

GEL SpikeDup ID: 1202011638

Analysis Date/Time: 27-JAN-10 01:42

MSD Analysis Date/Time:

Reporting Units: ug/kg

QC Type: MS/MSD

Compound	Spike Added	Sample Conc	MS Conc	MS Rec #	MSD Conc	MSD Rec #	RPD #	RPD Limit	Rec Limits
1,3,5-Trinitrobenzene	5000	0	5460	109	5380	108	1.59	30	70.7 - 130
2,4,6-Trinitrotoluene	5000	0	5460	109	5410	108	.901	30	83.4 - 138
2,4-Dinitrotoluene	5000	0	5220	104	5360	107	2.7	30	79.1 - 137
2,6-Dinitrotoluene	5000	0	5000	100	5010	100	.196	30	85.4 - 125
2-Amino-4,6-dinitrotoluene	5000	0	5620	112	5800	116	3.27	30	77.4 - 154
4-Amino-2,6-dinitrotoluene	5000	0	5650	113	5640	113	.261	30	77.3 - 140
HMX	5000	0	5460	109	5070	101	7.52	30	66.7 - 144
Nitrobenzene	5000	0	4400	88	4620	92.3	4.73	30	70.4 - 129
PETN	5000	0	5720	114	5530	111	3.41	30	61.9 - 153
RDX	5000	0	5450	109	5150	103	5.7	30	73 - 140
Tetryl	5000	0	3960	79.3	3330	66.6	17.4	30	46.8 - 138
m-Dinitrobenzene	5000	0	5050	101	5080	102	.717	30	83.5 - 126
m-Nitrotoluene	5000	0	4880	97.5	4400	88	10.3	30	68.6 - 135
o-Nitrotoluene	5000	0	4490	89.8	4470	89.3	.586	30	71.2 - 131
p-Nitrotoluene	5000	0	4630	92.7	4280	85.7	7.85	30	69.3 - 133

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

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3

High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE12-10-7848

Lab Code: GEL

GEL Job No (SDG) 10-1126

Extract Batch Code: 940045

Date Extracted: 14-JAN-10

GEL Spike ID: 1202011637

GEL SpikeDup ID: 1202011638

Analysis Date/Time: 20-JAN-10 03:35

MSD Analysis Date/Time:

Reporting Units: ug/kg

QC Type: MS/MSD

Compound	Spike Added	Sample Conc	MS Conc	MS Rec #	MSD Conc	MSD Rec #	RPD #	RPD Limit	Rec Limits
2,4-Diamino-6-nitrotoluene	5000	0	4620	92.4	4770	95.4	3.2	30	51.6 – 127
2,6-Diamino-4-nitrotoluene	5000	0	5320	106	5470	109	2.78	30	58.9 – 135
3,5-Dinitroaniline	5000	0	5090	102	5040	101	.987	30	72.8 – 125
tris(o-cresyl) phosphate	5000	0	4970	99.4	4920	98.4	1.01	30	79.1 – 124
TATB	5000	0	4860	97.2	4670	93.4	3.99	30	43.9 – 166

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

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4

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 25–JAN–10 11:20

GEL Data File: EXP0125001a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	557.589
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	586.101
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0

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

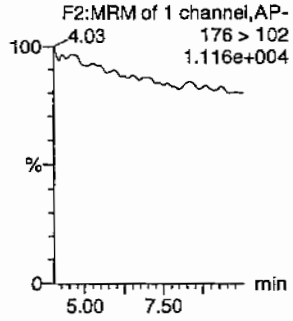
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Method: C:\MASSLYNX\New_Exp.PRO\MethDB\012510expa.mdb, Time: Mon Jan 25 16:14:14 2010
Calibration: Untitled, Time: Tue Jan 26 09:24:51 2010

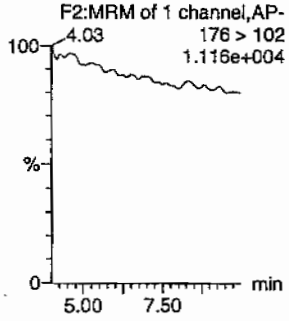
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125001a
Date: 25-Jan-2010
Time: 11:20:43
ID: XIBLK01
Vial: 1:1,A

MMT 1/26/10

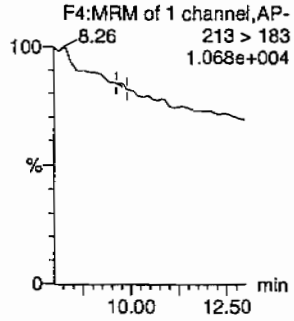
HMX



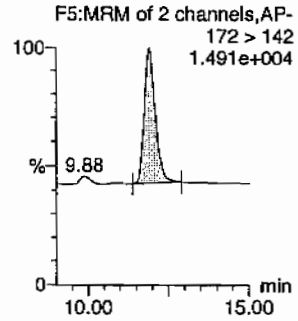
RDX



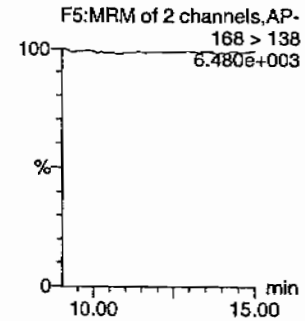
135-Trinitrobenzene



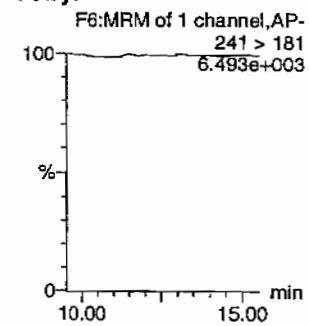
13-Dinitrobenzene-d4



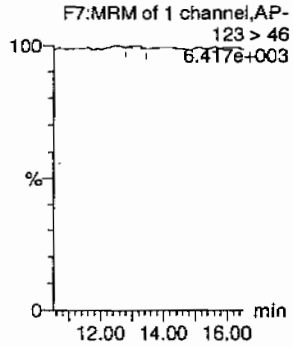
13-Dinitrobenzene



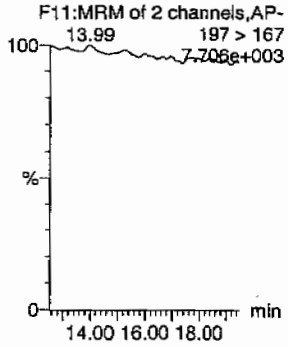
Tetryl



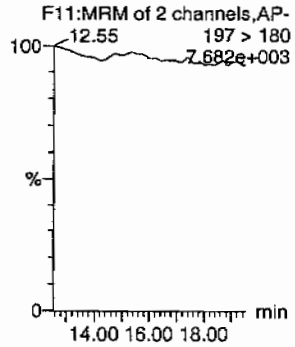
Nitrobenzene



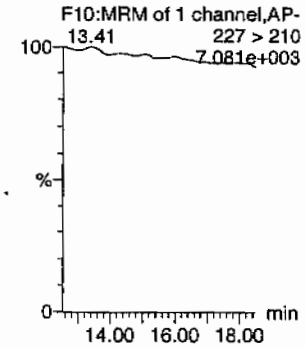
4-Amino-26-dinitrotoluene



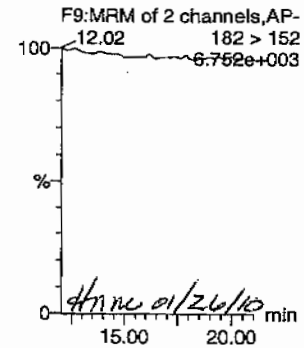
2-Amino-46-dinitrotoluene



246-Trinitrotoluene

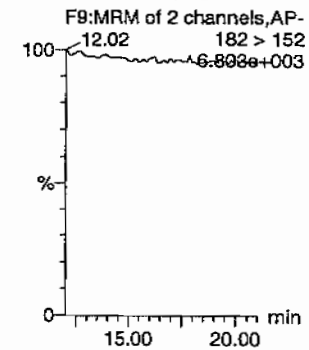


34-dinitrotoluene



HMM 01/26/10

26-dinitrotoluene



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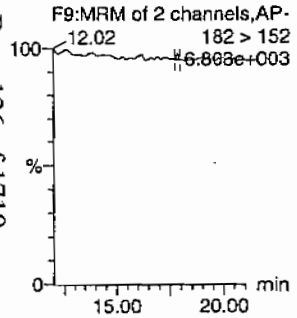
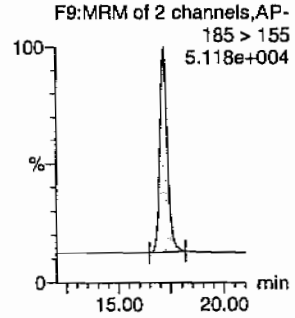
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

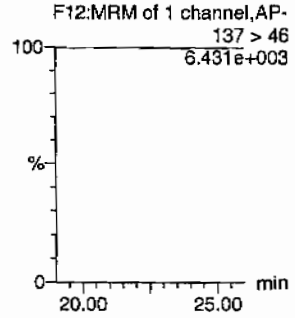
24-dinitrotoluene



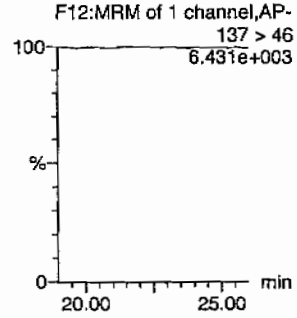
26-dinitrotoluene-d3



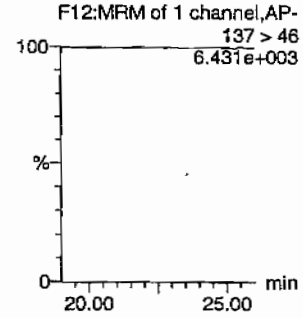
2-Nitrotoluene



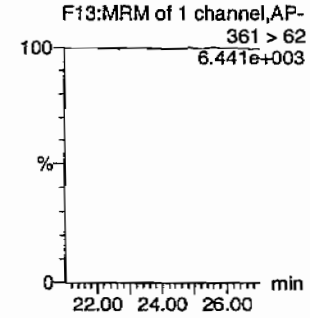
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/ml	%Rec	%Dev	S/N
XIBLK01	HMX	176 > 102			3310.292									
XIBLK01	RDX	176 > 102			3310.292									
XIBLK01	135-Trinitrobenzene	213 > 183			3310.292			MM-	26-Jan-10	09:16:08				
XIBLK01	13-Dinitrobenzene-d4	172 > 142	11.89	3310.292		3310.292	3310.292	bb			557.5886	111.5	11.5	80.1
XIBLK01	13-Dinitrobenzene	168 > 138			3310.292									
XIBLK01	Tetryl	241 > 181			3310.292									
XIBLK01	Nitrobenzene	123 > 46			3310.292			MM-	26-Jan-10	09:17:34				
XIBLK01	4-Amino-26-dinitrotoluene	197 > 167			19104.934									
XIBLK01	2-Amino-46-dinitrotoluene	197 > 180			19104.934									
XIBLK01	246-Trinitrotoluene	227 > 210			19104.934									
XIBLK01	34-dinitrotoluene	182 > 152			19104.934									
XIBLK01	26-dinitrotoluene	182 > 152			19104.934									
XIBLK01	24-dinitrotoluene	182 > 152			19104.934			MM-	26-Jan-10	09:22:07				
XIBLK01	26-dinitrotoluene-d3	185 > 155	17.15	19104.934		19104.934	19104.934	bb			586.1006	117.2	17.2	1710.6
XIBLK01	2-Nitrotoluene	137 > 46			19104.934									
XIBLK01	4-Nitrotoluene	137 > 46			19104.934									
XIBLK01	3-Nitrotoluene	137 > 46			19104.934									
XIBLK01	PETN	361 > 62			19104.934									

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

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4

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1126

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 25-JAN-10 11:50

GEL Data File: EXP0125002a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	490.527
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	511.129
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

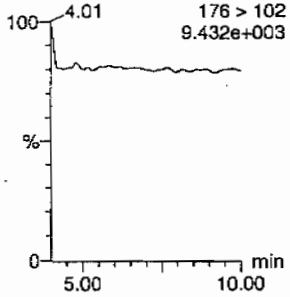
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

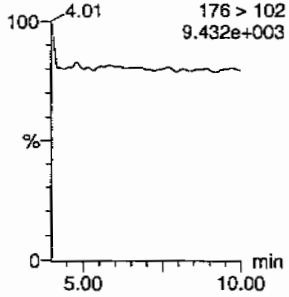
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125002a
Date: 25-Jan-2010
Time: 11:50:16
ID: XIBLK01
Vial: 1:1,A

MMT 1/26/10

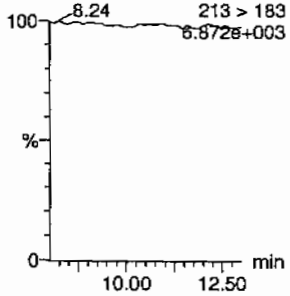
HMX
F2:MRM of 1 channel,AP-
4.01 176 > 102 9.432e+003



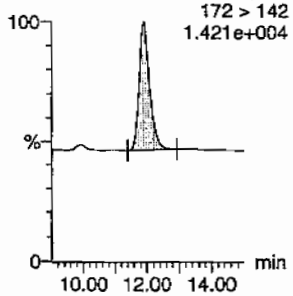
RDX
F2:MRM of 1 channel,AP-
4.01 176 > 102 9.432e+003



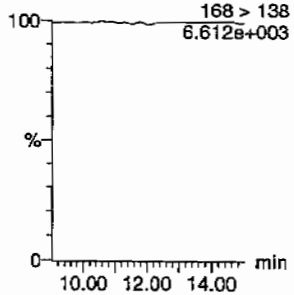
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
8.24 213 > 183 6.872e+003



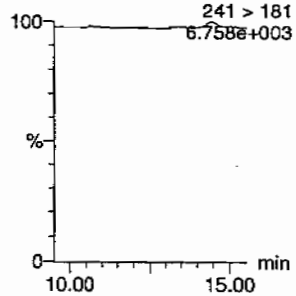
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142 1.421e+004



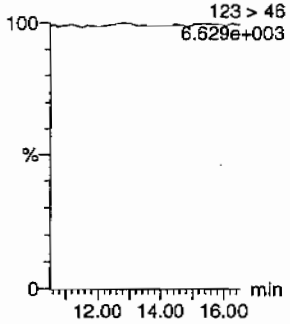
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138 6.612e+003



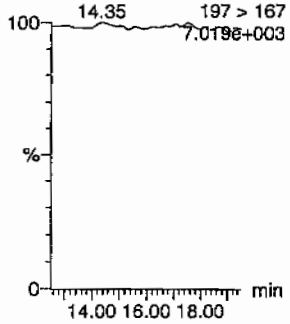
Tetryl
F6:MRM of 1 channel,AP-
241 > 181 6.758e+003



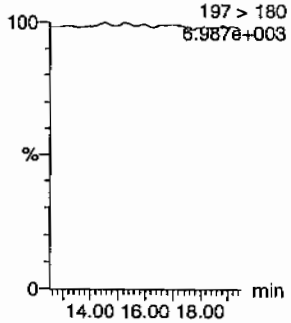
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46 6.629e+003



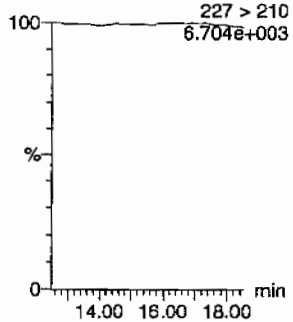
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
14.35 197 > 167 7.019e+003



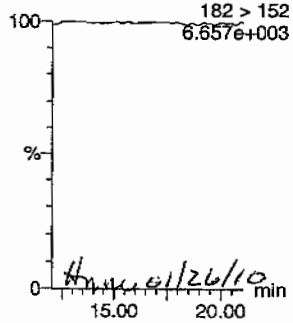
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180 6.987e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210 6.704e+003

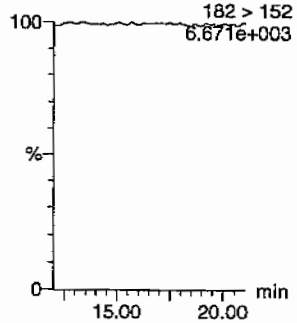


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152 6.657e+003



Hmm 01/26/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152 6.671e+003



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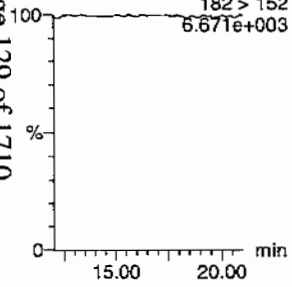
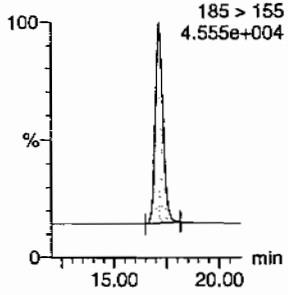
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

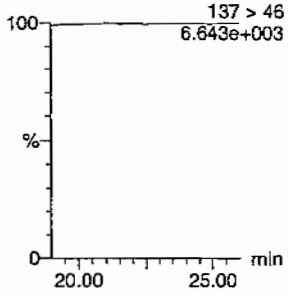
24-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.671e+003



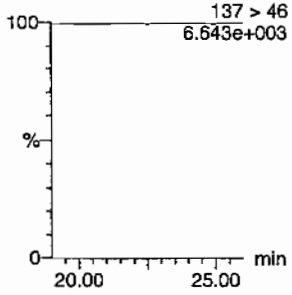
26-dinitrotoluene-d3
F9:MRM of 2 channels,AP-
185 > 155
4.555e+004



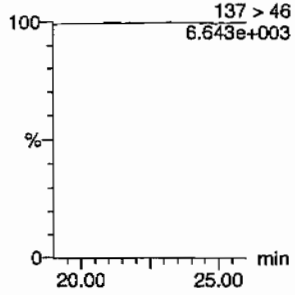
2-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.643e+003



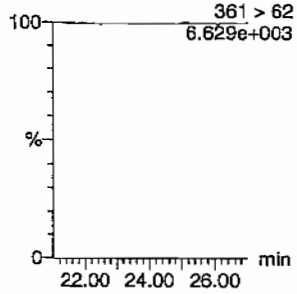
4-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.643e+003



3-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.643e+003



PETN
F13:MRM of 1 channel,AP-
361 > 62
6.629e+003



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK01	HMX	176 > 102			2912.163									
XIBLK01	RDX	176 > 102			2912.163									
XIBLK01	135-Trinitrobenzene	213 > 183			2912.163									
XIBLK01	13-Dinitrobenzene-d4	172 > 142	11.89	2912.163		2912.163	2912.163	bb			490.5274	98.1	-1.9	295.0
XIBLK01	13-Dinitrobenzene	168 > 138			2912.163									
XIBLK01	Tetryl	241 > 181			2912.163									
XIBLK01	Nitrobenzene	123 > 46			2912.163									
XIBLK01	4-Amino-26-dinitrotoluene	197 > 167			16661.119									
XIBLK01	2-Amino-46-dinitrotoluene	197 > 180			16661.119									
XIBLK01	246-Trinitrotoluene	227 > 210			16661.119									
XIBLK01	34-dinitrotoluene	182 > 152			16661.119									
XIBLK01	26-dinitrotoluene	182 > 152			16661.119									
XIBLK01	24-dinitrotoluene	182 > 152			16661.119									
XIBLK01	26-dinitrotoluene-d3	185 > 155	17.16	16661.119		16661.119	16661.119	bb			511.1293	102.2	2.2	1808.5
XIBLK01	2-Nitrotoluene	137 > 46			16661.119									
XIBLK01	4-Nitrotoluene	137 > 46			16661.119									
XIBLK01	3-Nitrotoluene	137 > 46			16661.119									
XIBLK01	PETN	361 > 62			16661.119									

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4

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1126

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 19-JAN-10 14:14

GEL Data File: EXS01190001.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

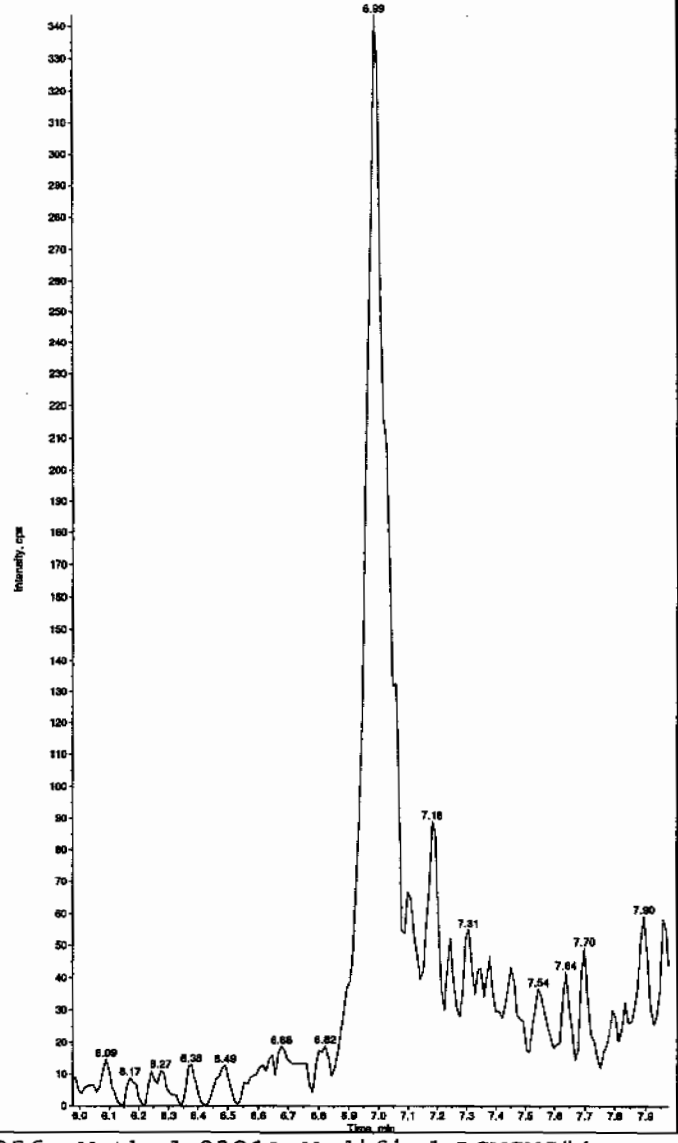
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Ker 1/20/10

Sample Name: "XIBLK01" Sample ID: "|1|LER" File: "EXS01190001.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 2:14:20 PM

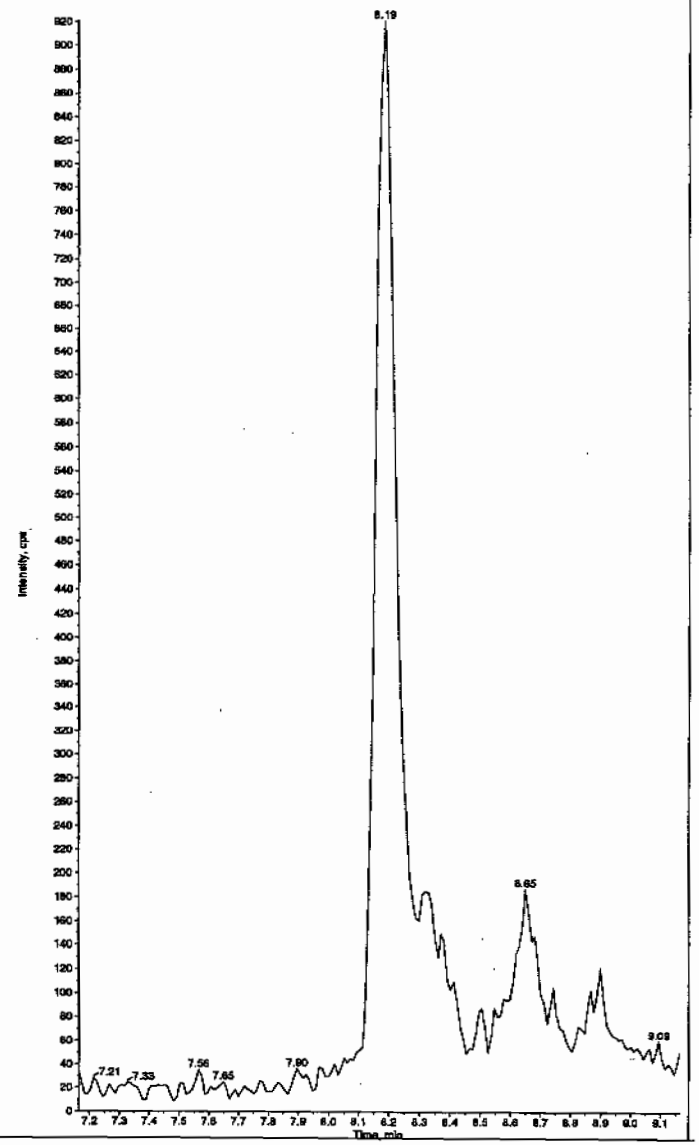
Modified: No



Sample Name: "XIBLK01" Sample ID: "|1|LER" File: "EXS01190001.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 2:14:20 PM

Modified: No



HNM 01/20/10

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

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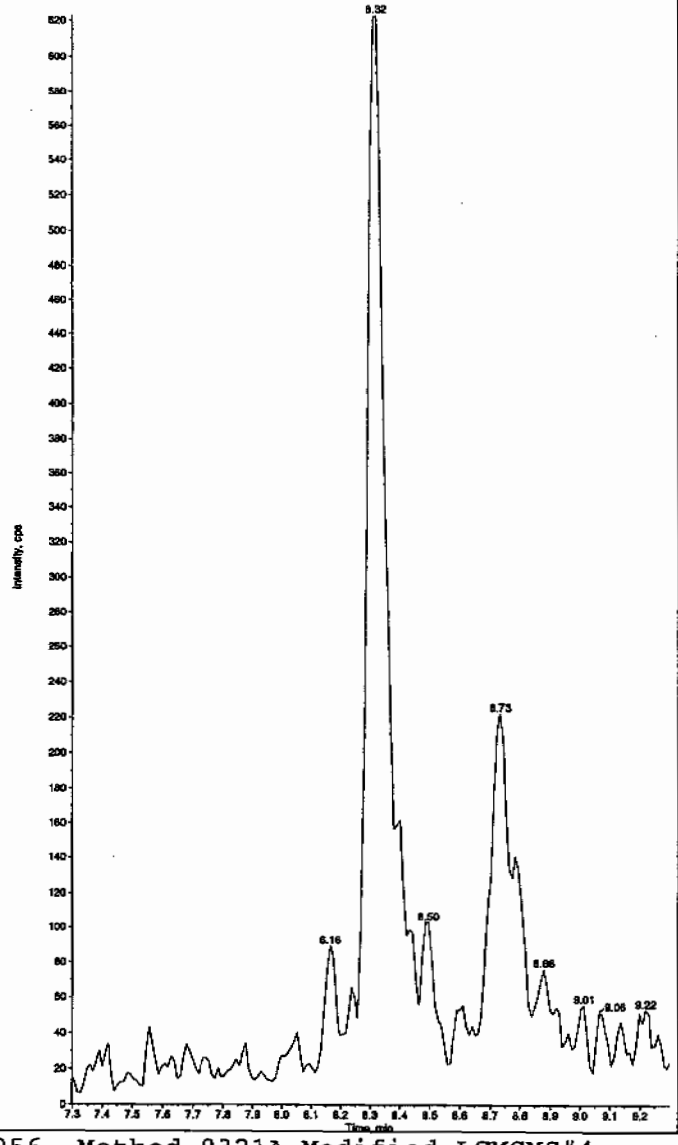
Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01190001.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 2:14:20 PM

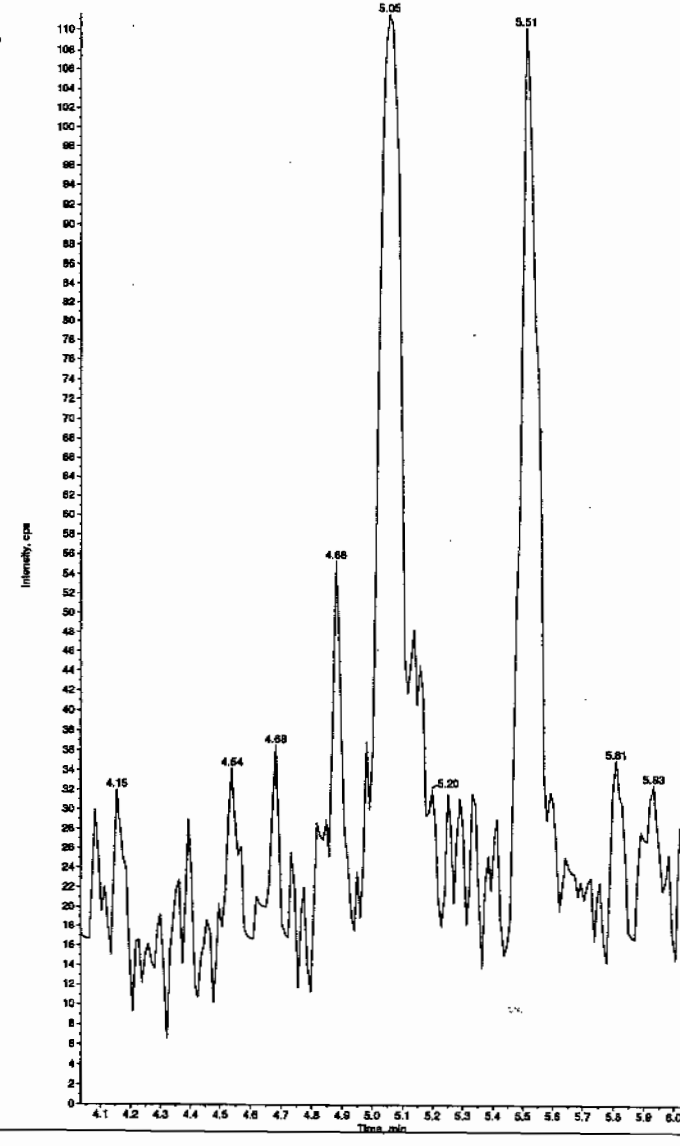
Modified: No



Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01190001.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/45.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 2:14:20 PM

Modified: No



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

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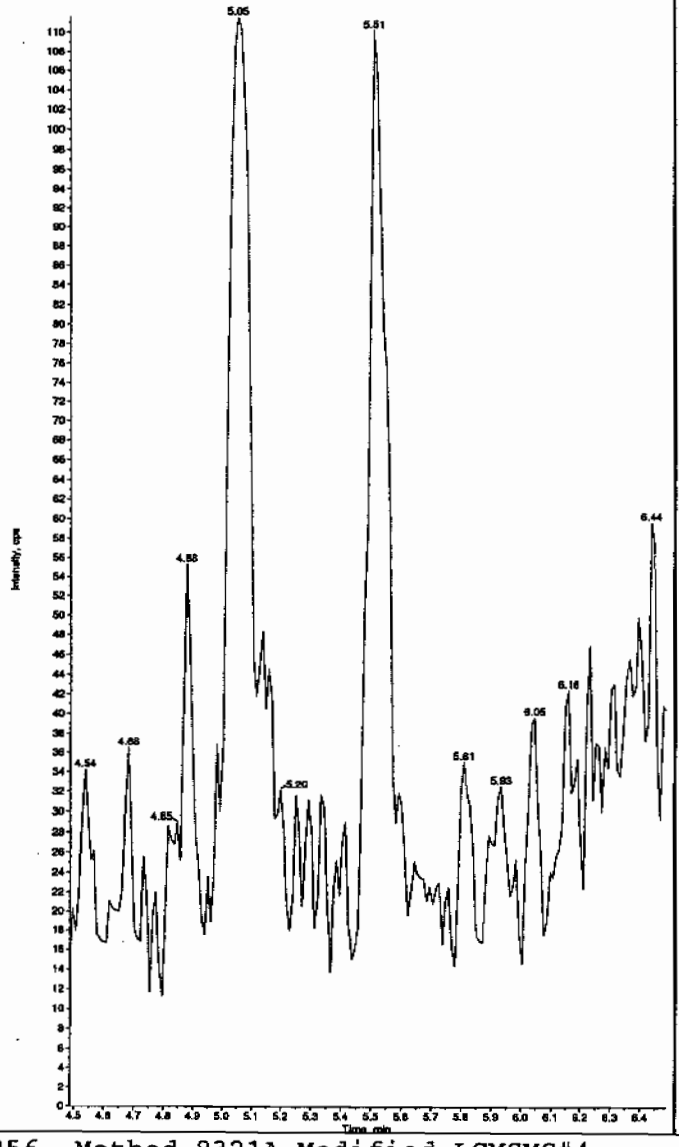
Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01190001.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: "

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 2:14:20 PM

Modified: No

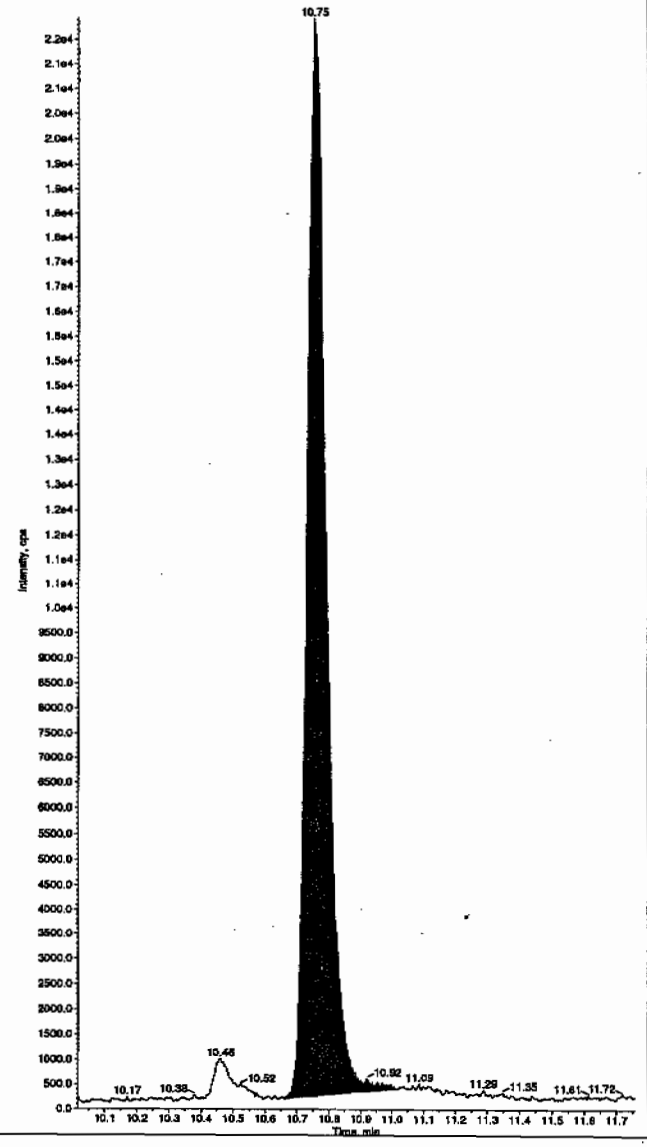


Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01190001.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: "

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: No Intercept
Acq. Date: 1/19/2010
Acq. Time: 2:14:20 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.8 min
Area: 9.30e+004 counts
Height: 21673.861 cps
Start Time: 10.7 min
End Time: 11.0 min



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

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4

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 19–JAN–10 14:30

GEL Data File: EXS01190002.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

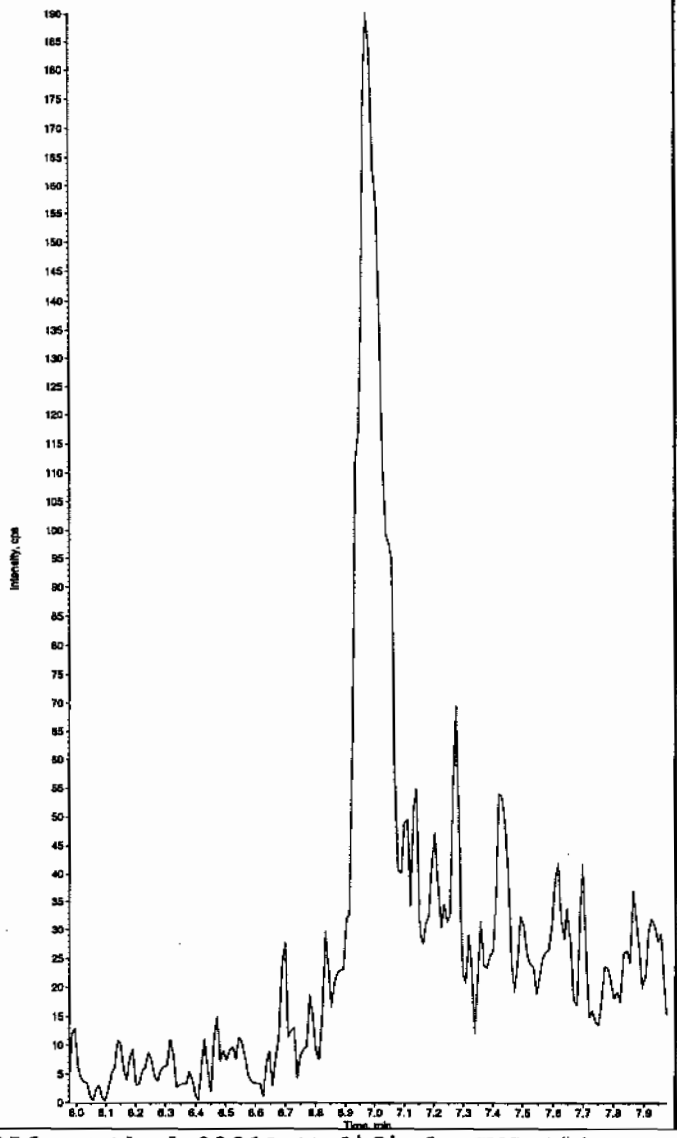
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
tris(o–cresyl) phosphate	0	0
TATB	0	0
3,5–Dinitroaniline	0	0
2,4–Diamino–6–nitrotoluene	0	0
2,6–Diamino–4–nitrotoluene	0	0

Ler 1/20/10

Sample Name: "XIBLK01" Sample ID: "1|LER" File: "EXS01190002.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 2:30:01 PM

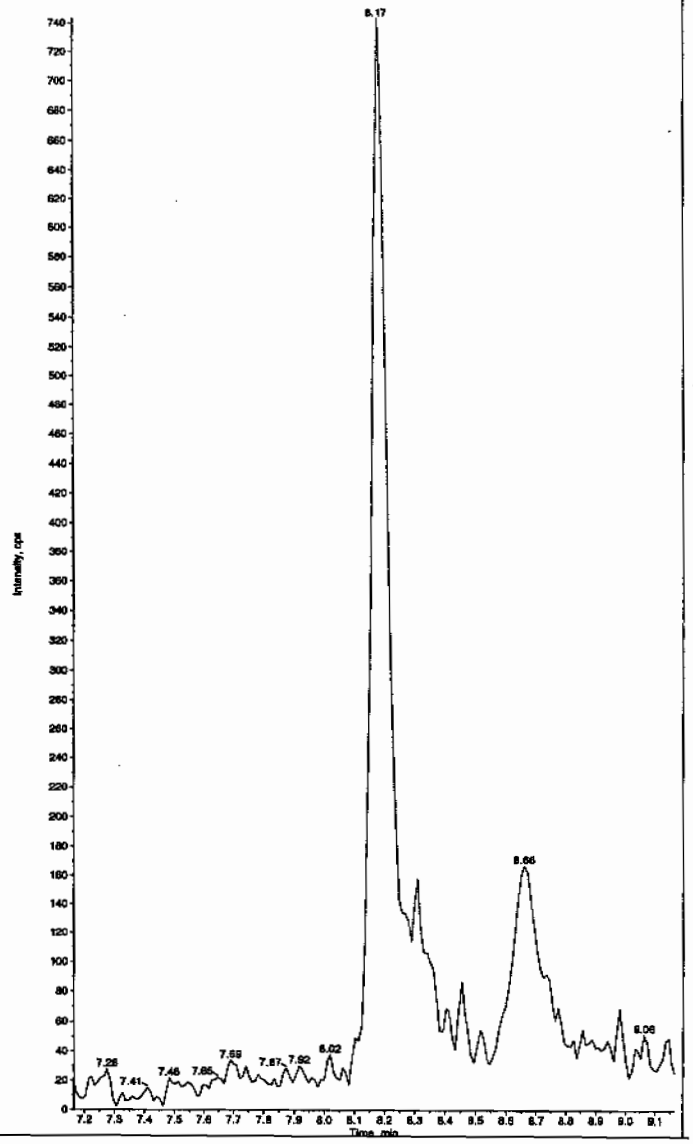
Modified: No



Sample Name: "XIBLK01" Sample ID: "1|LER" File: "EXS01190002.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/45.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 2:30:01 PM

Modified: No



HMW 01/20/10

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

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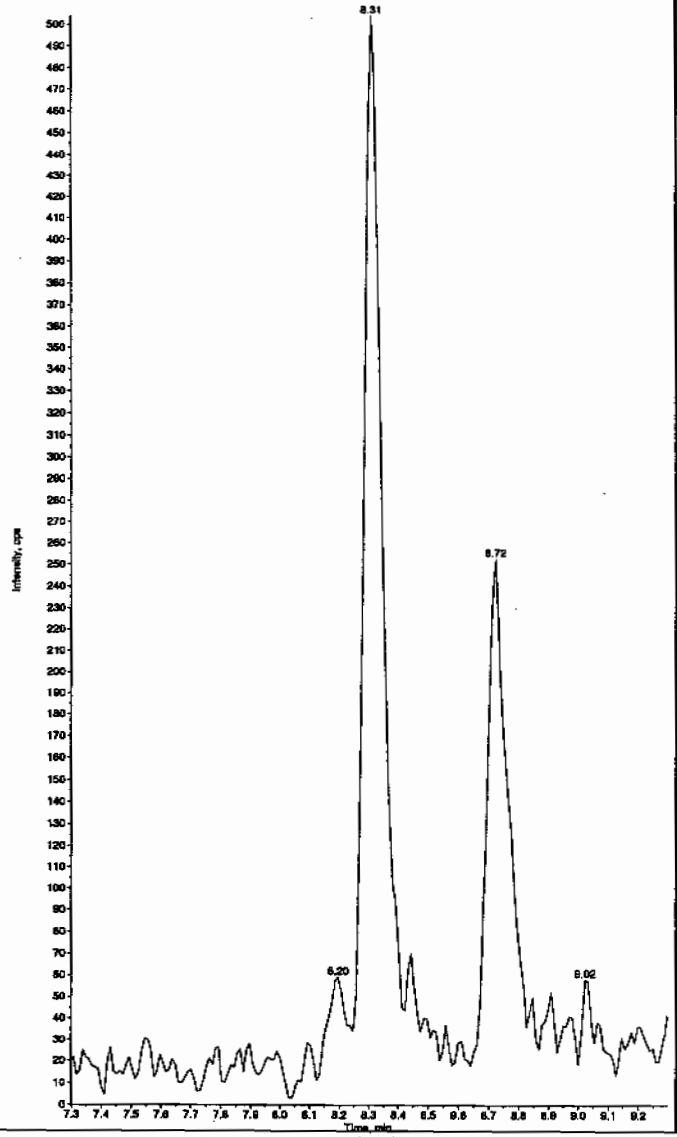
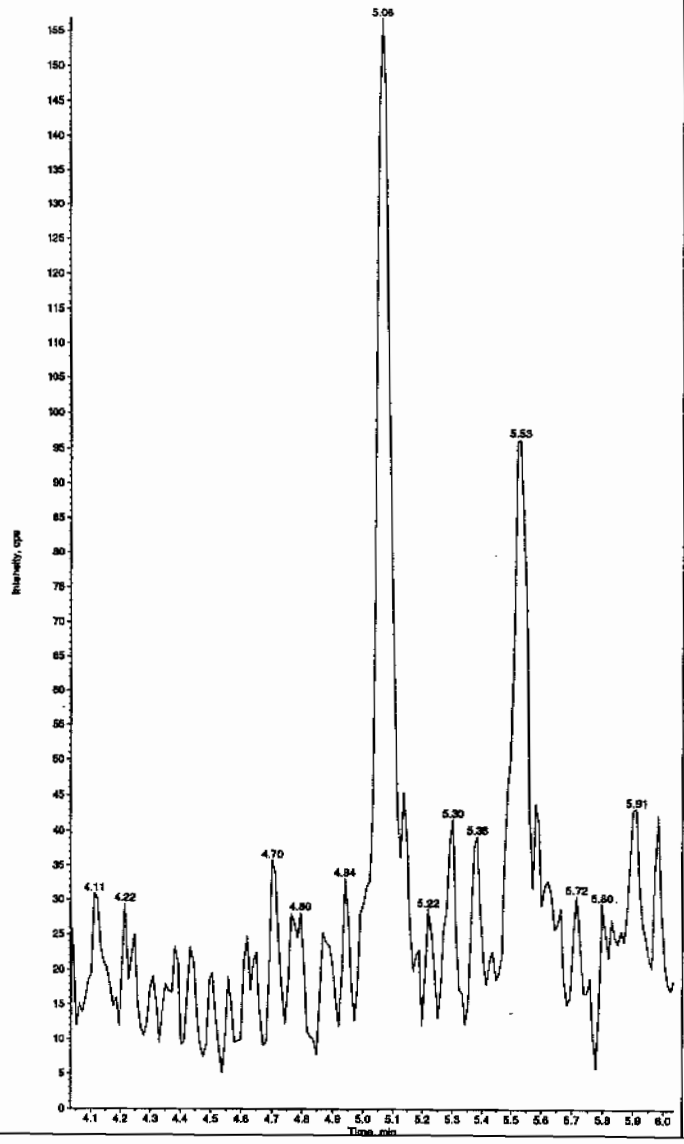
Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01190002.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 2:30:01 PM

Modified: No



Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01190002.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 2:30:01 PM

Modified: No

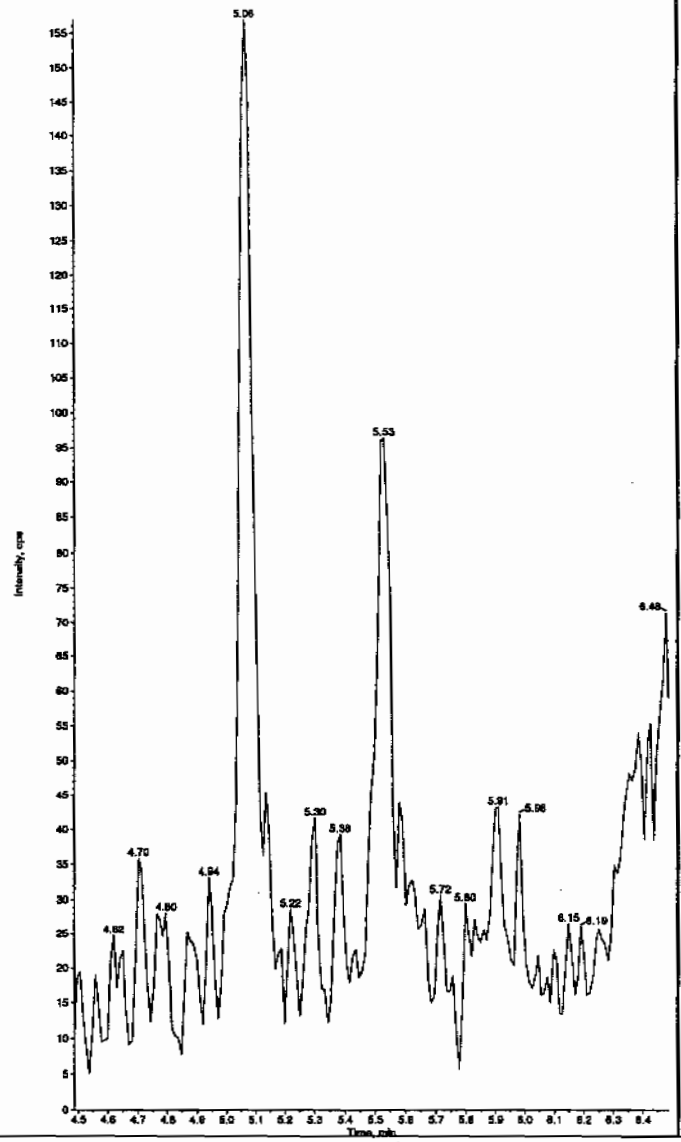


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01190002.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 2:30:01 PM

Modified: No

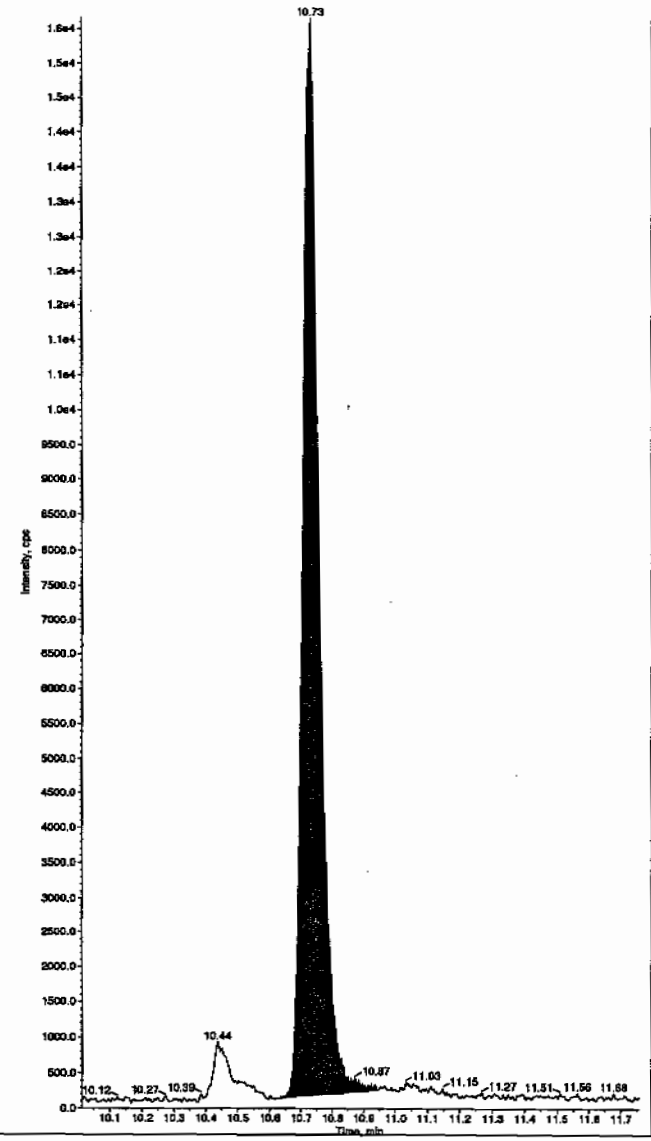


Sample Name: "XIBLK01" Sample ID: "[1]LER" File: "EXS01190002.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: No Intercept
Acq. Date: 1/19/2010
Acq. Time: 2:30:01 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.7 min
Area: 5.86e+004 counts
Height: 15477.725 cps
Start Time: 10.6 min
End Time: 10.9 min



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

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1126

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 25-JAN-10 15:16

GEL Data File: EXP0125009a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

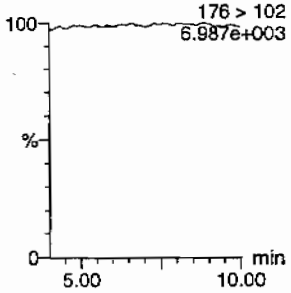
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	502.66
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	519.883
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

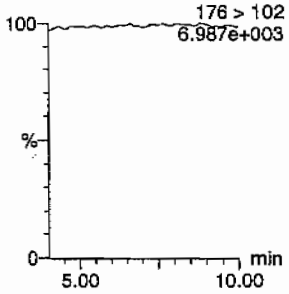
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125009a
Date: 25-Jan-2010
Time: 15:16:35
ID: XIBLK02
Vial: 1:1,A

MAP 1/26/10

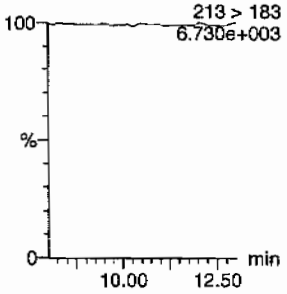
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.987e+003



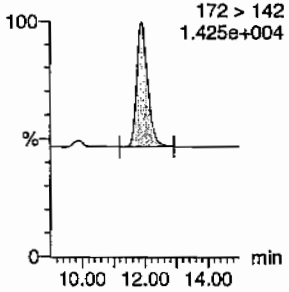
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.987e+003



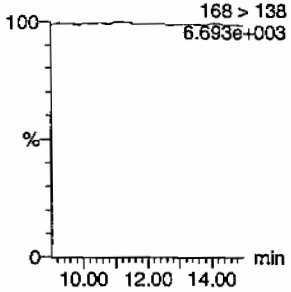
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.730e+003



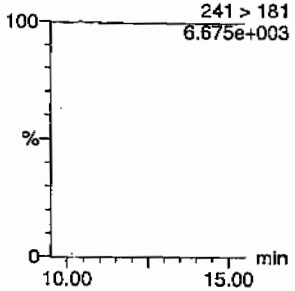
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.425e+004



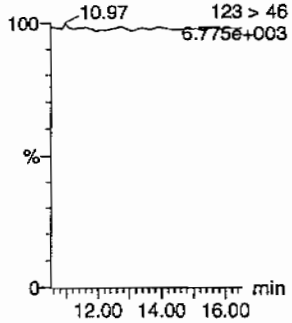
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.693e+003



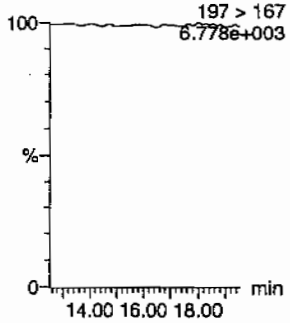
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.675e+003



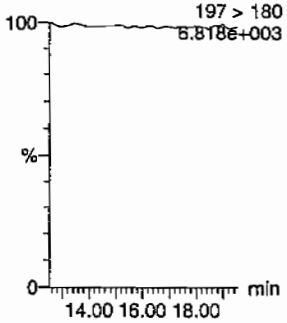
Nitrobenzene
F7:MRM of 1 channel,AP-
10.97
123 > 46
6.775e+003



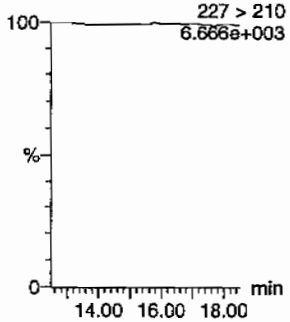
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.778e+003



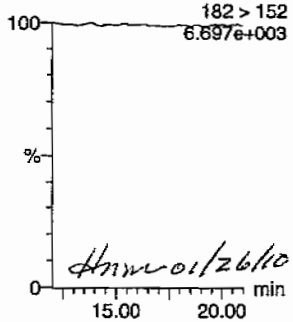
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.818e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.666e+003

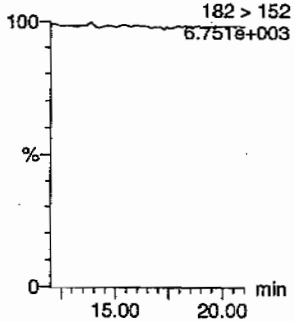


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.697e+003



HMW 01/26/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.751e+003



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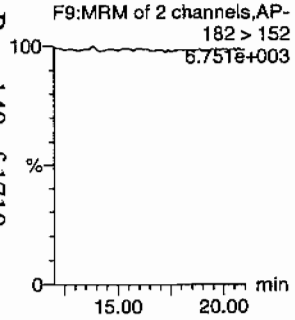
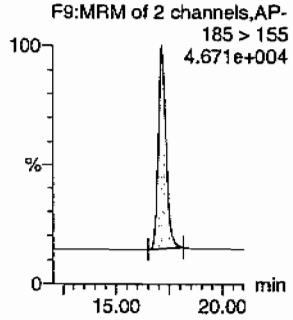
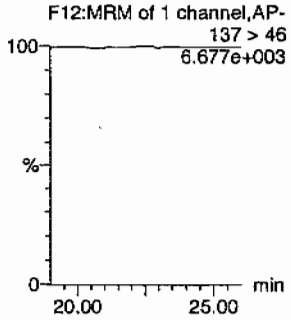
24-dinitrotoluene



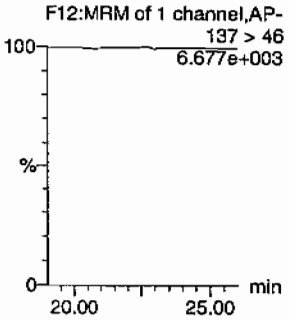
26-dinitrotoluene-d3



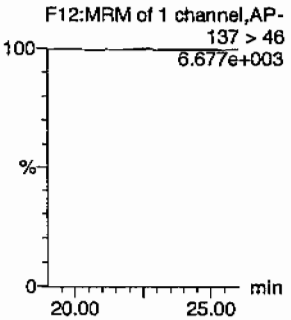
2-Nitrotoluene



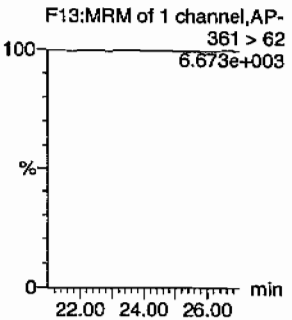
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK02	HMX	176 > 102			2984.192									
XIBLK02	RDX	176 > 102			2984.192									
XIBLK02	135-Trinitrobenzene	213 > 183			2984.192									
XIBLK02	13-Dinitrobenzene-d4	172 > 142	11.89	2984.192		2984.192	2984.192	bb			502.6600	100.5	0.5	236.2
XIBLK02	13-Dinitrobenzene	168 > 138			2984.192									
XIBLK02	Tetryl	241 > 181			2984.192									
XIBLK02	Nitrobenzene	123 > 46			2984.192									
XIBLK02	4-Amino-26-dinitrotoluene	197 > 167			16946.445									
XIBLK02	2-Amino-46-dinitrotoluene	197 > 180			16946.445									
XIBLK02	246-Trinitrotoluene	227 > 210			16946.445									
XIBLK02	34-dinitrotoluene	182 > 152			16946.445									
XIBLK02	26-dinitrotoluene	182 > 152			16946.445									
XIBLK02	24-dinitrotoluene	182 > 152			16946.445									
XIBLK02	26-dinitrotoluene-d3	185 > 155	17.14	16946.445		16946.445	16946.445	bb			519.8826	104.0	4.0	1426.3
XIBLK02	2-Nitrotoluene	137 > 46			16946.445									
XIBLK02	4-Nitrotoluene	137 > 46			16946.445									
XIBLK02	3-Nitrotoluene	137 > 46			16946.445									
XIBLK02	PETN	361 > 62			16946.445									

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

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 25–JAN–10 16:15

GEL Data File: EXP0125011a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

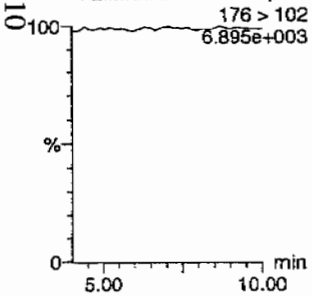
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	508.032
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	524.258
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

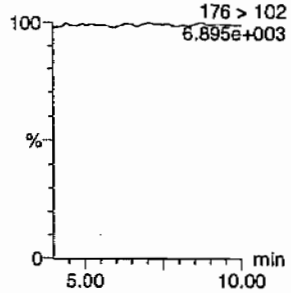
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125011a
Date: 25-Jan-2010
Time: 16:15:32
ID: XIBLK03
Vial: 1:1,A

MA 1/26/10

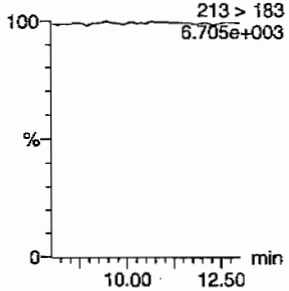
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.895e+003



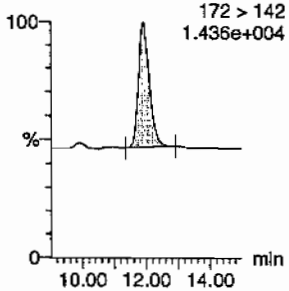
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.895e+003



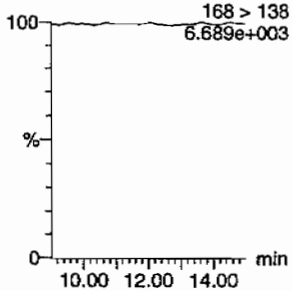
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.705e+003



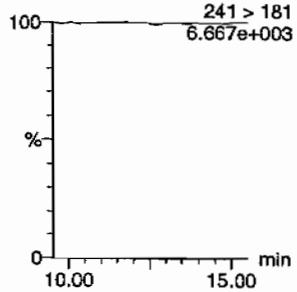
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.436e+004



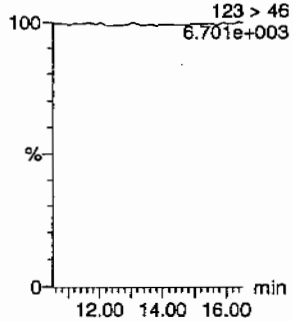
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.689e+003



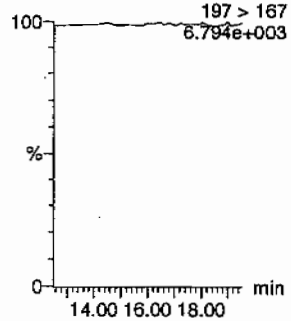
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.667e+003



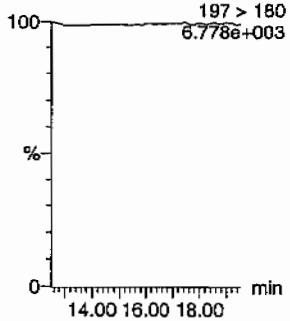
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.701e+003



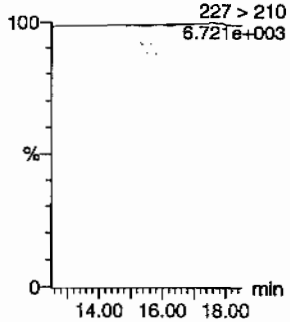
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.794e+003



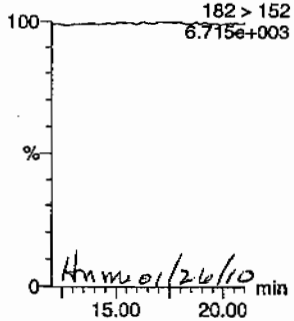
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.778e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.721e+003

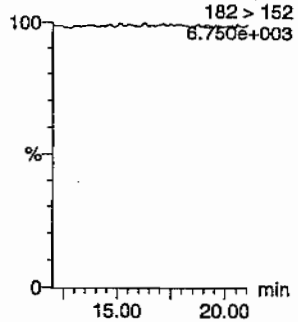


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.715e+003



Hmm 01/26/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.750e+003



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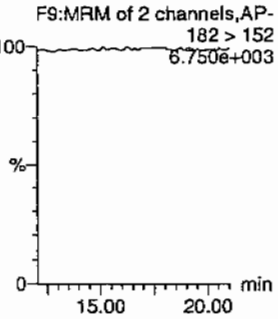
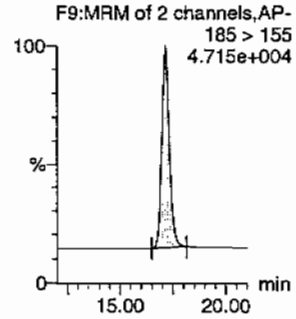
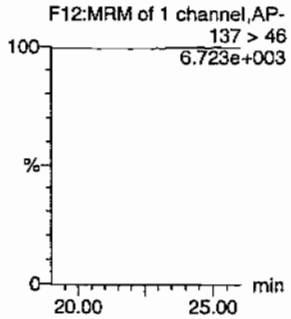
24-dinitrotoluene



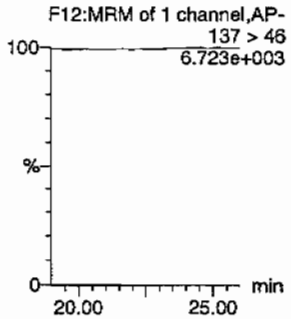
26-dinitrotoluene-d3



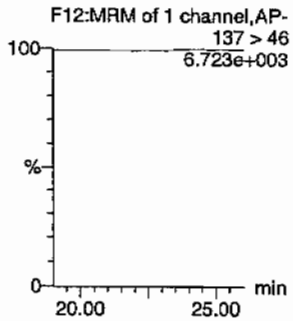
2-Nitrotoluene



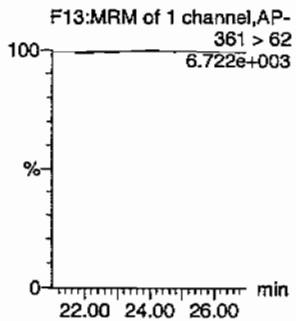
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK03	HMX	176 > 102			3016.087									
XIBLK03	RDX	176 > 102			3016.087									
XIBLK03	135-Trinitrobenzene	213 > 183			3016.087									
XIBLK03	13-Dinitrobenzene-d4	172 > 142	11.89	3016.087		3016.087	3016.087	bb			508.0324	101.6	1.6	215.8
XIBLK03	13-Dinitrobenzene	168 > 138			3016.087									
XIBLK03	Tetryl	241 > 181			3016.087									
XIBLK03	Nitrobenzene	123 > 46			3016.087									
XIBLK03	4-Amino-26-dinitrotoluene	197 > 167			17089.074									
XIBLK03	2-Amino-46-dinitrotoluene	197 > 180			17089.074									
XIBLK03	246-Trinitrotoluene	227 > 210			17089.074									
XIBLK03	34-dinitrotoluene	182 > 152			17089.074									
XIBLK03	26-dinitrotoluene	182 > 152			17089.074									
XIBLK03	24-dinitrotoluene	182 > 152			17089.074									
XIBLK03	26-dinitrotoluene-d3	185 > 155	17.16	17089.074		17089.074	17089.074	bb			524.2581	104.9	4.9	1760.3
XIBLK03	2-Nitrotoluene	137 > 46			17089.074									
XIBLK03	4-Nitrotoluene	137 > 46			17089.074									
XIBLK03	3-Nitrotoluene	137 > 46			17089.074									
XIBLK03	PETN	361 > 62			17089.074									

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1126

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 25-JAN-10 22:39

GEL Data File: EXP0125024a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

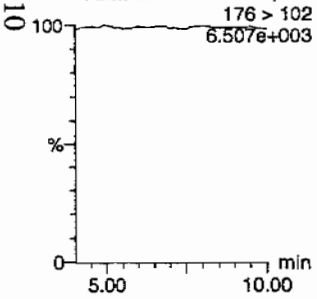
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	536.181
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	610.208
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

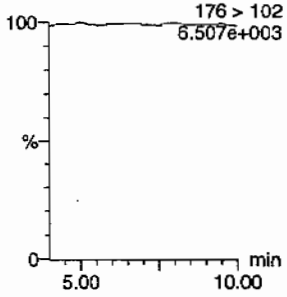
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125024a
Date: 25-Jan-2010
Time: 22:39:19
ID: XIBLK04
Vial: 1:1,A

MMT 1/26/10

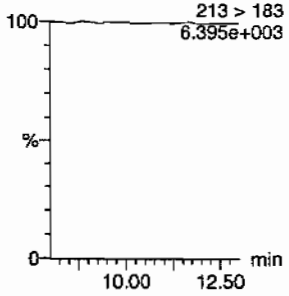
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.507e+003



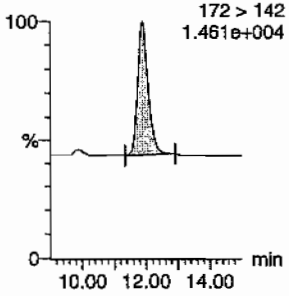
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.507e+003



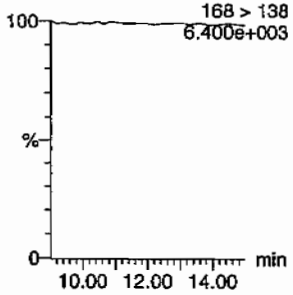
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.395e+003



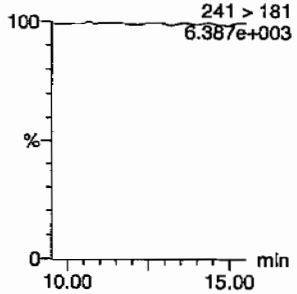
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.461e+004



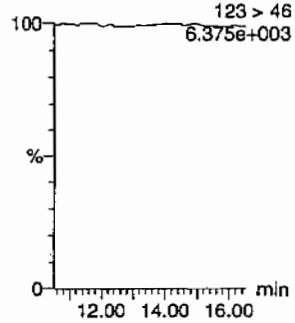
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.400e+003



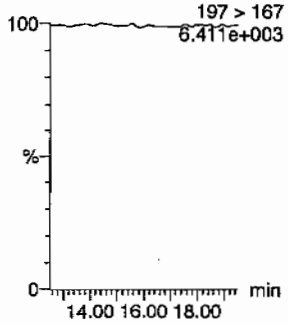
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.387e+003



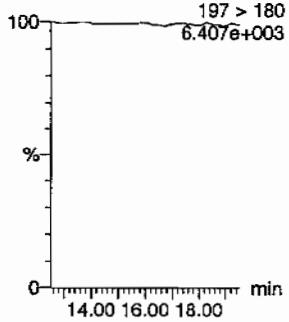
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.375e+003



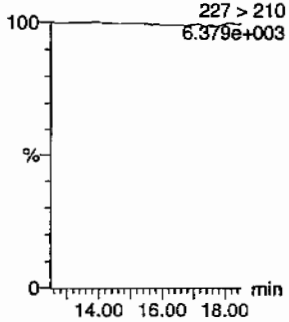
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.411e+003



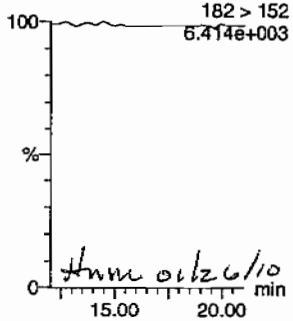
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.407e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.379e+003

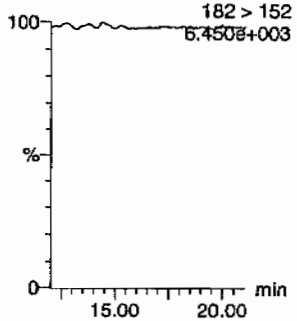


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.414e+003



Hmm 01/26/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.450e+003



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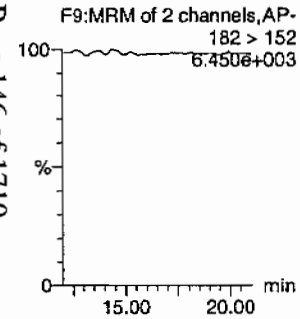
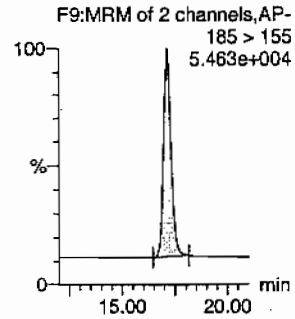
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

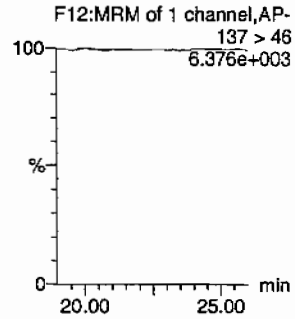
24-dinitrotoluene



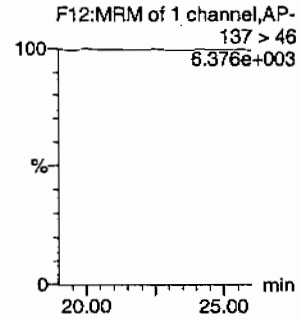
26-dinitrotoluene-d3



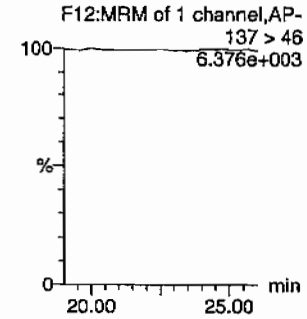
2-Nitrotoluene



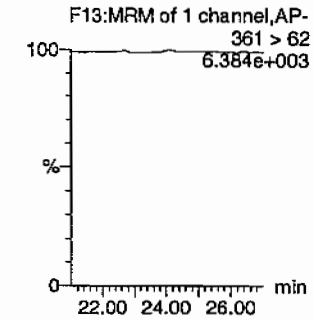
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK04	HMX	176 > 102			3183.197									
XIBLK04	RDX	176 > 102			3183.197									
XIBLK04	135-Trinitrobenzene	213 > 183			3183.197									
XIBLK04	13-Dinitrobenzene-d4	172 > 142	11.89	3183.197		3183.197	3183.197	bb			536.1806	107.2	7.2	325.8
XIBLK04	13-Dinitrobenzene	168 > 138			3183.197									
XIBLK04	Tetryl	241 > 181			3183.197									
XIBLK04	Nitrobenzene	123 > 46			3183.197									
XIBLK04	4-Amino-26-dinitrotoluene	197 > 167			19890.766									
XIBLK04	2-Amino-46-dinitrotoluene	197 > 180			19890.766									
XIBLK04	246-Trinitrotoluene	227 > 210			19890.766									
XIBLK04	34-dinitrotoluene	182 > 152			19890.766									
XIBLK04	26-dinitrotoluene	182 > 152			19890.766									
XIBLK04	24-dinitrotoluene	182 > 152			19890.766									
XIBLK04	26-dinitrotoluene-d3	185 > 155	17.14	19890.766		19890.766	19890.766	bb			610.2084	122.0	22.0	1888.7
XIBLK04	2-Nitrotoluene	137 > 46			19890.766									
XIBLK04	4-Nitrotoluene	137 > 46			19890.766									
XIBLK04	3-Nitrotoluene	137 > 46			19890.766									
XIBLK04	PETN	361 > 62			19890.766									

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC
GEL Job No(SDG): 10-1126
Lab Code: GEL
Lab Sample ID: XIBLK05
Analysis Date: 26-JAN-10 04:03
GEL Data File: EXP0125035a
Instrument ID: LCMSMS
Column: Phenomenex Ultracarb 5u ODS(20)

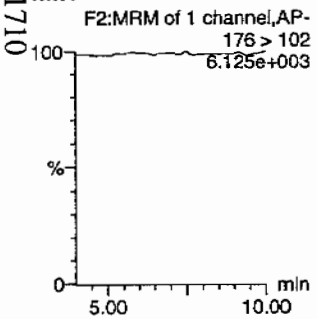
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	530.31
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	567.52
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

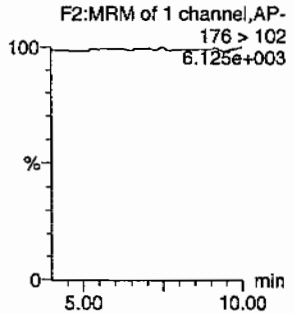
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125035a
Date: 26-Jan-2010
Time: 04:03:54
ID: XIBLK05
Vial: 1:1,A

MAP 1/26/10

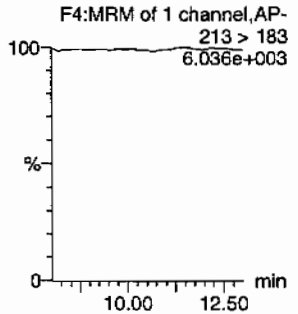
HMX



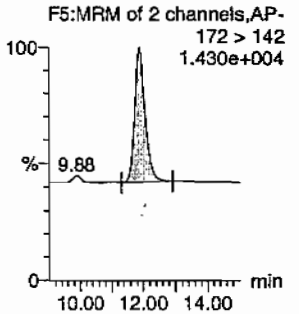
RDX



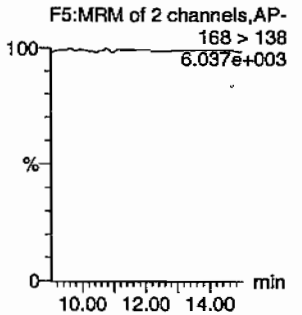
135-Trinitrobenzene



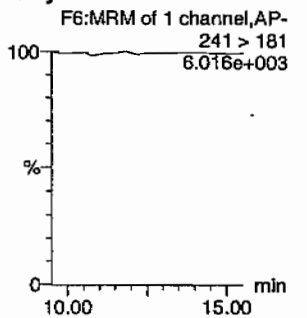
13-Dinitrobenzene-d4



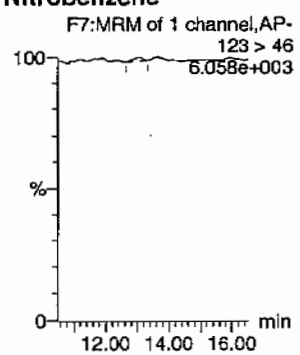
13-Dinitrobenzene



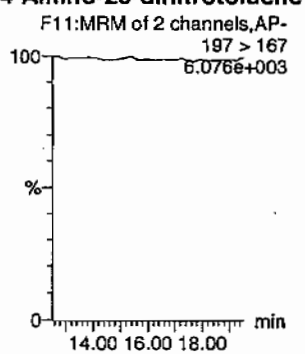
Tetryl



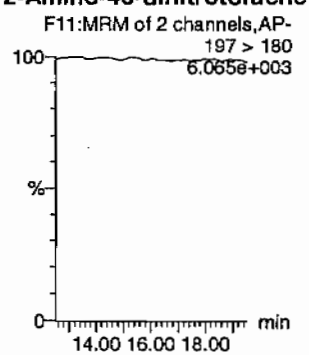
Nitrobenzene



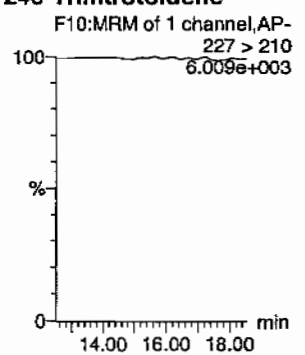
4-Amino-26-dinitrotoluene



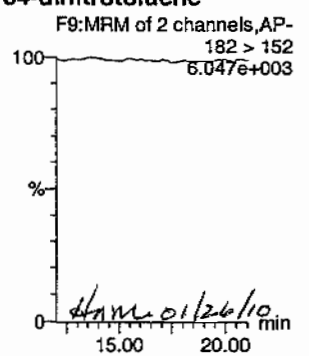
2-Amino-46-dinitrotoluene



246-Trinitrotoluene

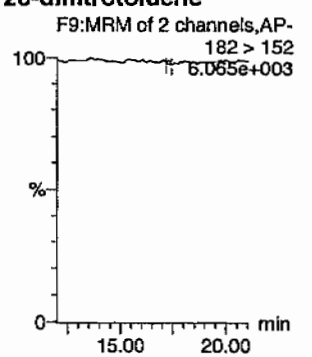


34-dinitrotoluene



HAM 01/26/10

26-dinitrotoluene



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

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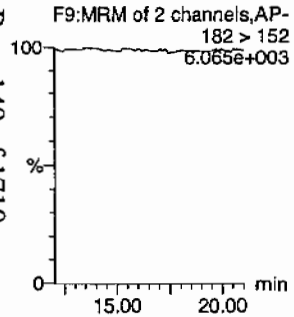
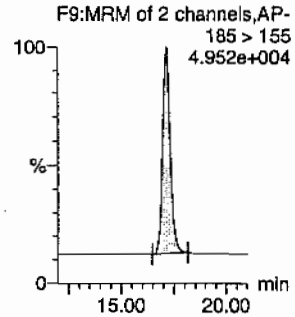
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

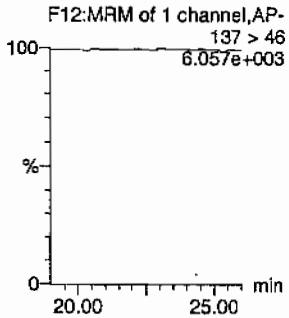
24-dinitrotoluene



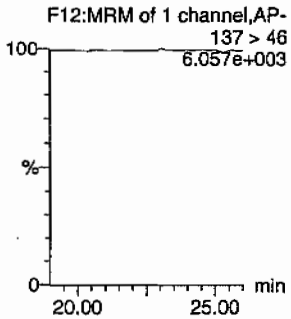
26-dinitrotoluene-d3



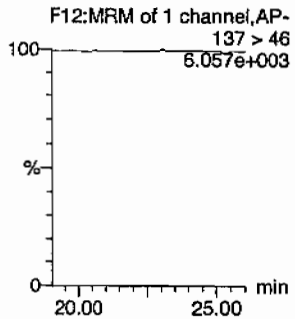
2-Nitrotoluene



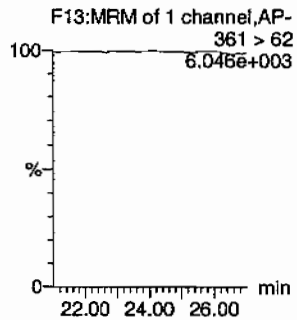
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs:Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK05	HMX	176 > 102			3148.343									
XIBLK05	RDX	176 > 102			3148.343									
XIBLK05	135-Trinitrobenzene	213 > 183			3148.343									
XIBLK05	13-Dinitrobenzene-d4	172 > 142	11.89	3148.343		3148.343	3148.343	bb			530.3097	106.1	6.1	214.9
XIBLK05	13-Dinitrobenzene	168 > 138			3148.343									
XIBLK05	Tetryl	241 > 181			3148.343									
XIBLK05	Nitrobenzene	123 > 46			3148.343			MM-	26-Jan-10	09:18:01				
XIBLK05	4-Amino-26-dinitrotoluene	197 > 167			18499.252									
XIBLK05	2-Amino-46-dinitrotoluene	197 > 180			18499.252									
XIBLK05	246-Trinitrotoluene	227 > 210			18499.252									
XIBLK05	34-dinitrotoluene	182 > 152			18499.252									
XIBLK05	26-dinitrotoluene	182 > 152			18499.252			MM-	26-Jan-10	09:21:53				
XIBLK05	24-dinitrotoluene	182 > 152			18499.252									
XIBLK05	26-dinitrotoluene-d3	185 > 155	17.14	18499.252		18499.252	18499.252	bb			567.5195	113.5	13.5	1179.5
XIBLK05	2-Nitrotoluene	137 > 46			18499.252									
XIBLK05	4-Nitrotoluene	137 > 46			18499.252									
XIBLK05	3-Nitrotoluene	137 > 46			18499.252									
XIBLK05	PETN	361 > 62			18499.252									

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK06

Analysis Date: 26–JAN–10 10:27

GEL Data File: EXP0125048a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

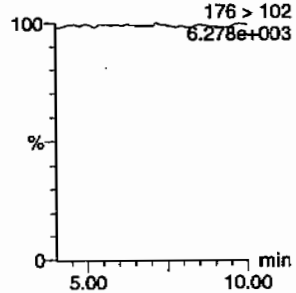
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	526.699
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	549.419
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

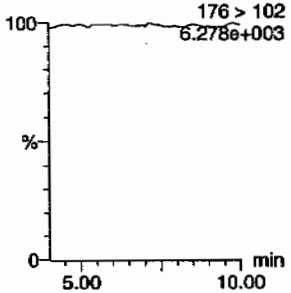
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125048a
Date: 26-Jan-2010
Time: 10:27:39
ID: XIBLK06
Vial: 1:1,A

MAP 1/27/10

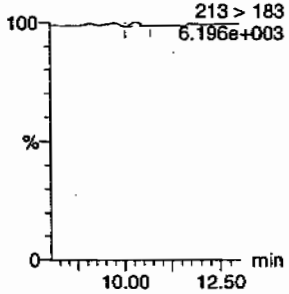
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.278e+003



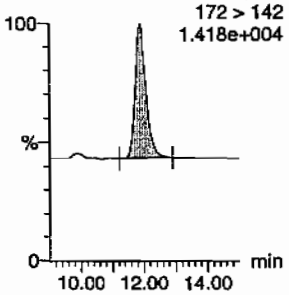
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.278e+003



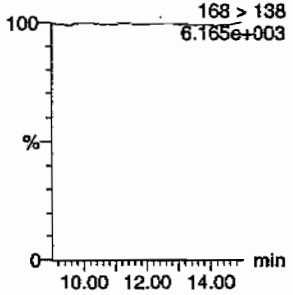
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.196e+003



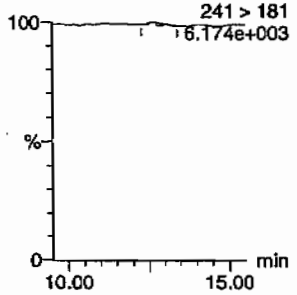
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.418e+004



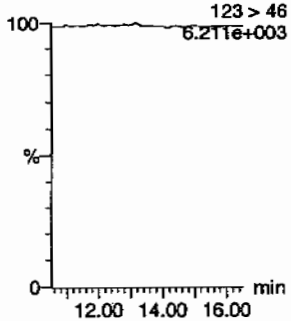
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.165e+003



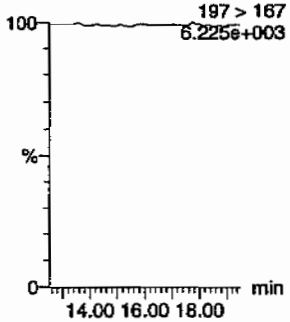
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.174e+003



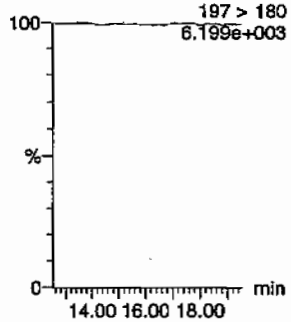
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.211e+003



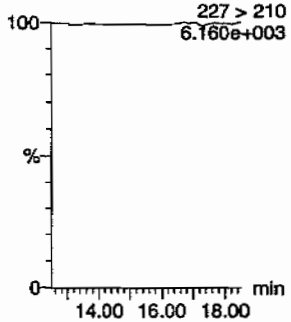
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.225e+003



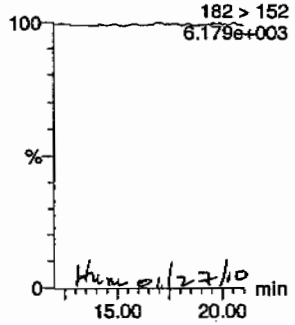
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.199e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.160e+003

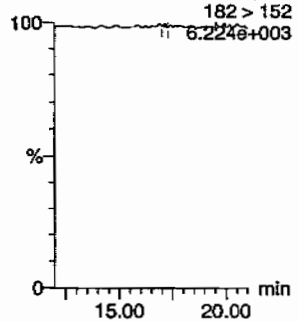


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.179e+003



Hum 01/27/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.224e+003



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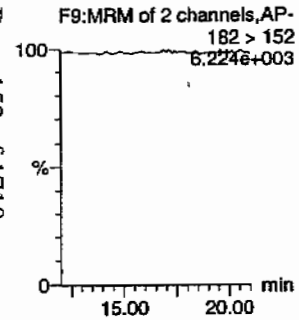
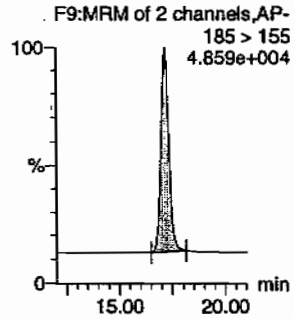
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

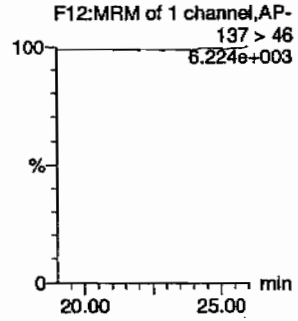
24-dinitrotoluene



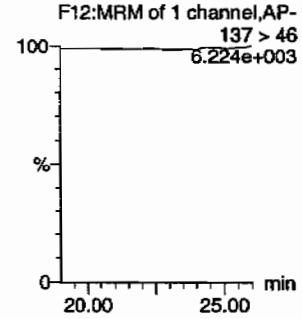
26-dinitrotoluene-d3



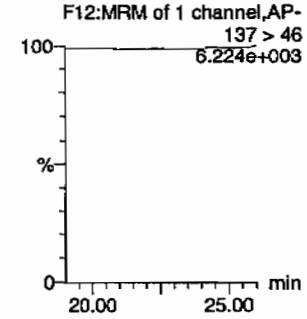
2-Nitrotoluene



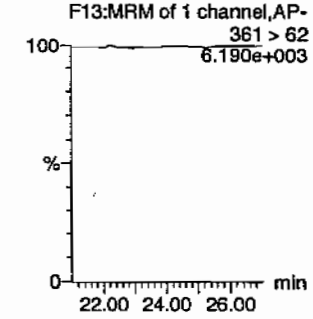
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	S Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%DEV	S/N
XIBLK06	HMX	176 > 102			3126.909									
XIBLK06	RDX	176 > 102			3126.909									
XIBLK06	135-Trinitrobenzene	213 > 183			3126.909			MM-	27-Jan-10	09:08:39				
XIBLK06	13-Dinitrobenzene-d4	172 > 142	11.89	3126.909		3126.909	3126.909	bb			526.6994	105.3	5.3	413.0
XIBLK06	13-Dinitrobenzene	168 > 138			3126.909									
XIBLK06	Tetryl	241 > 181			3126.909			MM-	27-Jan-10	09:10:31				
XIBLK06	Nitrobenzene	123 > 46			3126.909									
XIBLK06	4-Amino-26-dinitrotoluene	197 > 167			17909.232									
XIBLK06	2-Amino-46-dinitrotoluene	197 > 180			17909.232									
XIBLK06	246-Trinitrotoluene	227 > 210			17909.232									
XIBLK06	34-dinitrotoluene	182 > 152			17909.232									
XIBLK06	26-dinitrotoluene	182 > 152			17909.232			MM-	27-Jan-10	09:15:19				
XIBLK06	24-dinitrotoluene	182 > 152			17909.232									
XIBLK06	26-dinitrotoluene-d3	185 > 155	17.14	17909.232		17909.232	17909.232	bb			549.4189	109.9	9.9	1335.7
XIBLK06	2-Nitrotoluene	137 > 46			17909.232									
XIBLK06	4-Nitrotoluene	137 > 46			17909.232									
XIBLK06	3-Nitrotoluene	137 > 46			17909.232									
XIBLK06	PETN	361 > 62			17909.232									

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

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1126

Lab Code: GEL

Lab Sample ID: XIBLK07

Analysis Date: 26-JAN-10 16:50

GEL Data File: EXP0125061a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	597.432
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	608.457
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

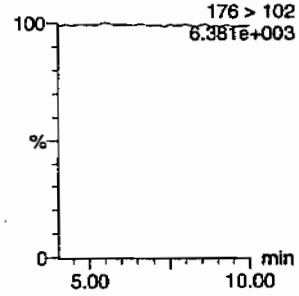
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

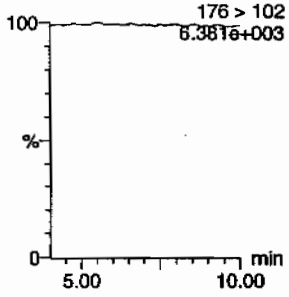
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125061a
Date: 26-Jan-2010
Time: 16:50:59
ID: XIBLK07
Vial: 1:1,A

MATT 1/27/10

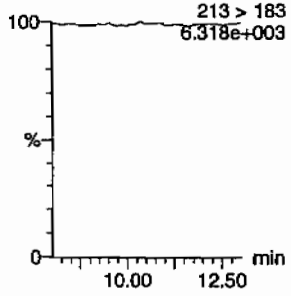
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.381e+003



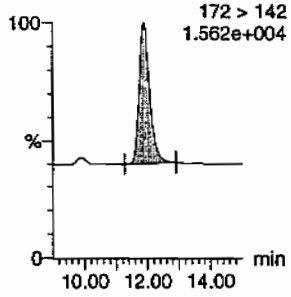
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.381e+003



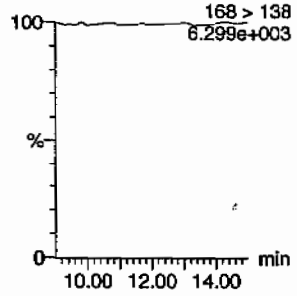
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.318e+003



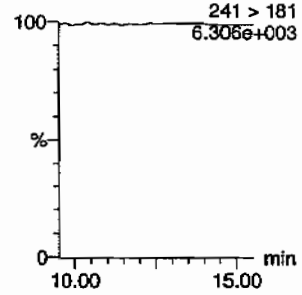
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.562e+004



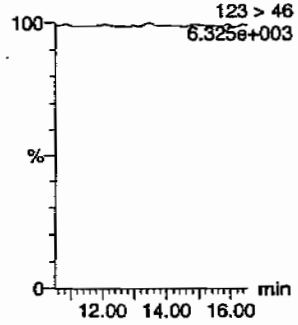
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.299e+003



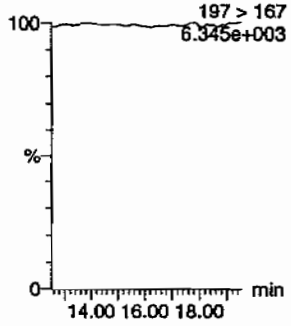
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.306e+003



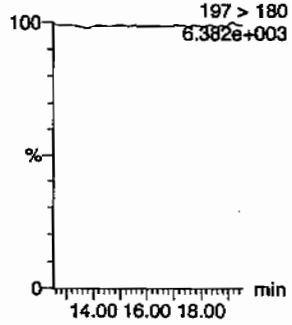
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.325e+003



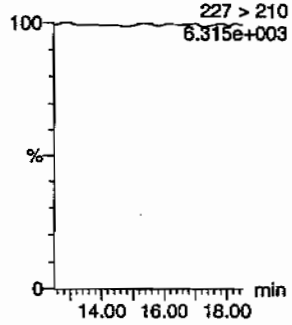
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.345e+003



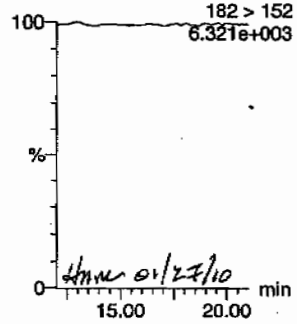
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.382e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.315e+003

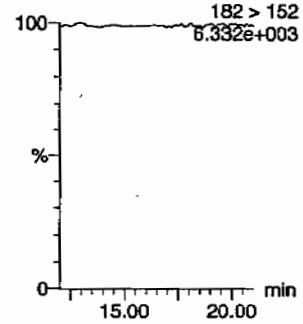


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.321e+003



Hmm 01/27/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.332e+003



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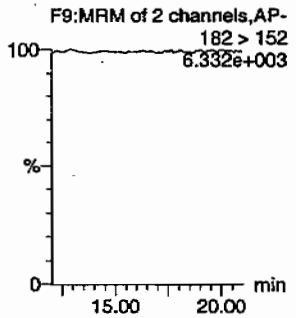
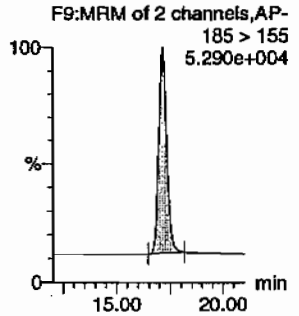
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

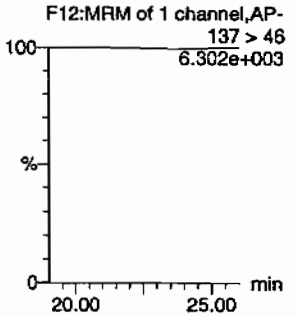
24-dinitrotoluene



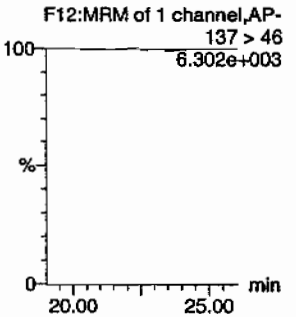
26-dinitrotoluene-d3



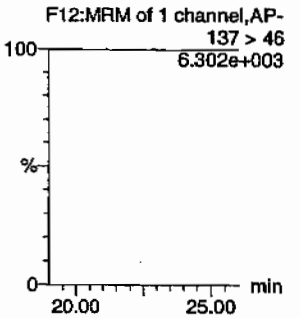
2-Nitrotoluene



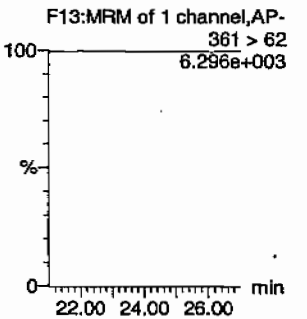
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
XIBLK07	HMX	176 > 102			3546.834									
XIBLK07	RDX	176 > 102			3546.834									
XIBLK07	135-Trinitrobenzene	213 > 183			3546.834									
XIBLK07	13-Dinitrobenzene-d4	172 > 142	11.89	3546.834		3546.834	3546.834	bb			597.4319	119.5	19.5	407.5
XIBLK07	13-Dinitrobenzene	168 > 138			3546.834									
XIBLK07	Tetryl	241 > 181			3546.834									
XIBLK07	Nitrobenzene	123 > 46			3546.834									
XIBLK07	4-Amino-26-dinitrotoluene	197 > 167			19833.693									
XIBLK07	2-Amino-46-dinitrotoluene	197 > 180			19833.693									
XIBLK07	246-Trinitrotoluene	227 > 210			19833.693									
XIBLK07	34-dinitrotoluene	182 > 152			19833.693									
XIBLK07	26-dinitrotoluene	182 > 152			19833.693									
XIBLK07	24-dinitrotoluene	182 > 152			19833.693									
XIBLK07	26-dinitrotoluene-d3	185 > 155	17.14	19833.693		19833.693	19833.693	bb			608.4575	121.7	21.7	957.2
XIBLK07	2-Nitrotoluene	137 > 46			19833.693									
XIBLK07	4-Nitrotoluene	137 > 46			19833.693									
XIBLK07	3-Nitrotoluene	137 > 46			19833.693									
XIBLK07	PETN	361 > 62			19833.693									

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

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK08

Analysis Date: 26–JAN–10 19:48

GEL Data File: EXP0125067a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

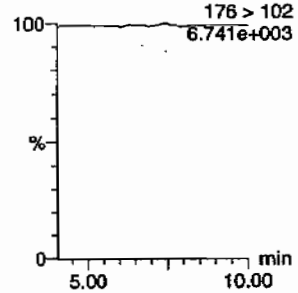
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	538.014
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	566.746
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

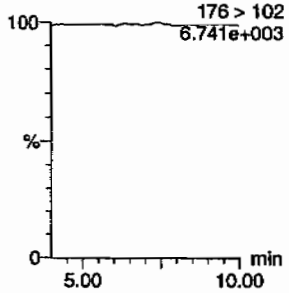
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125067a
Date: 26-Jan-2010
Time: 19:48:13
ID: XIBLK08
Vial: 1:1,A

MMT 1/27/10

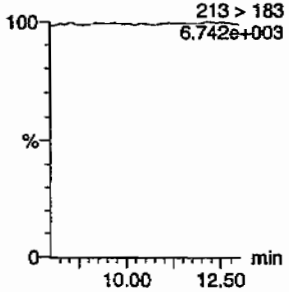
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.741e+003



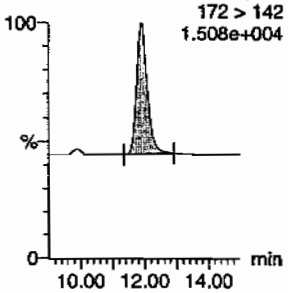
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.741e+003



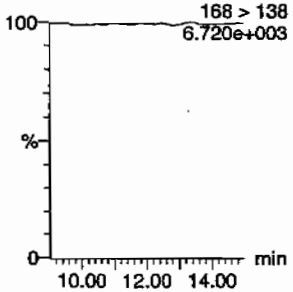
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.742e+003



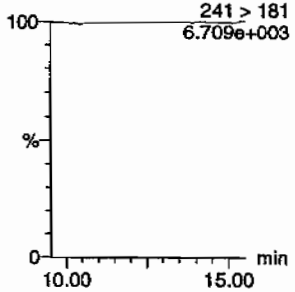
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.508e+004



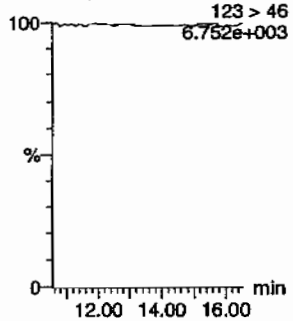
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.720e+003



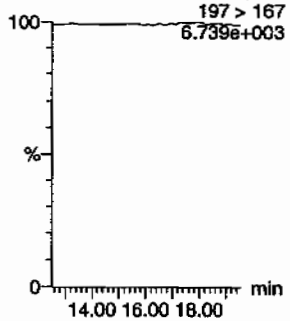
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.709e+003



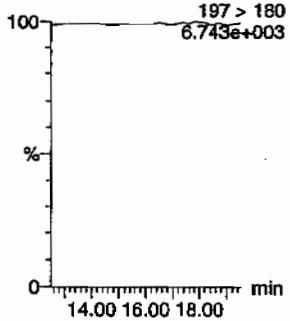
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.752e+003



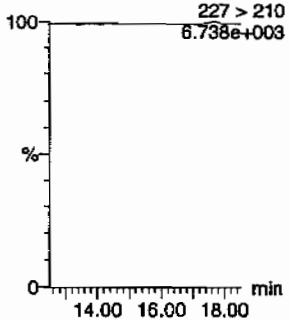
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.739e+003



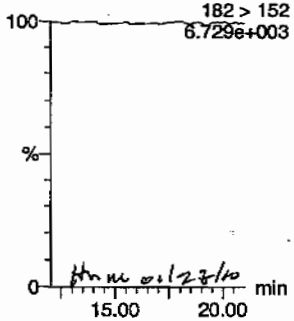
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.743e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.738e+003

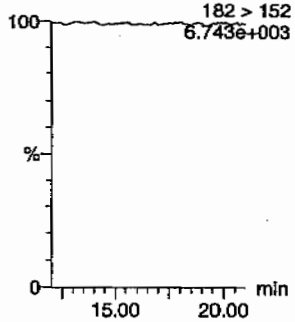


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.729e+003



Hm m 01/27/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.743e+003



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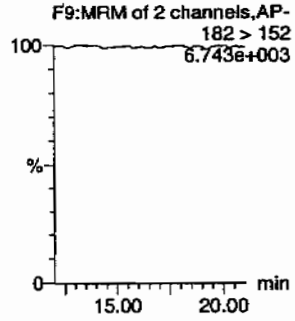
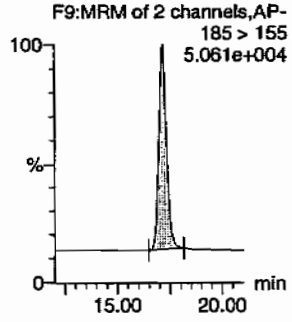
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

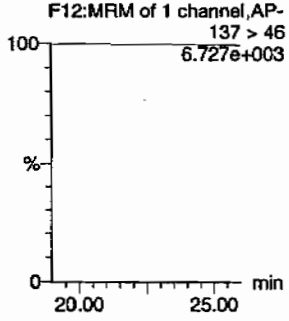
24-dinitrotoluene



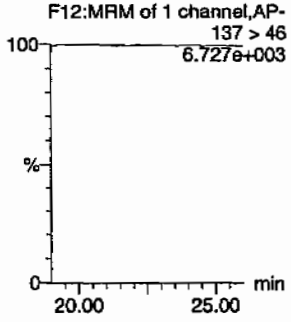
26-dinitrotoluene-d3



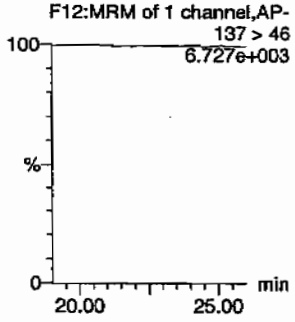
2-Nitrotoluene



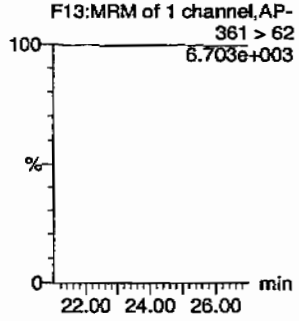
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
XIBLK08	HMX	176 > 102			3194.082									
XIBLK08	RDX	176 > 102			3194.082									
XIBLK08	135-Trinitrobenzene	213 > 183			3194.082									
XIBLK08	13-Dinitrobenzene-d4	172 > 142	11.89	3194.082		3194.082	3194.082	bb			538.0141	107.6	7.6	340.6
XIBLK08	13-Dinitrobenzene	168 > 138			3194.082									
XIBLK08	Tetryl	241 > 181			3194.082									
XIBLK08	Nitrobenzene	123 > 46			3194.082									
XIBLK08	4-Amino-26-dinitrotoluene	197 > 167			18474.023									
XIBLK08	2-Amino-46-dinitrotoluene	197 > 180			18474.023									
XIBLK08	246-Trinitrotoluene	227 > 210			18474.023									
XIBLK08	34-dinitrotoluene	182 > 152			18474.023									
XIBLK08	26-dinitrotoluene	182 > 152			18474.023									
XIBLK08	24-dinitrotoluene	182 > 152			18474.023									
XIBLK08	26-dinitrotoluene-d3	185 > 155	17.14	18474.023		18474.023	18474.023	bb			566.7456	113.3	13.3	1070.5
XIBLK08	2-Nitrotoluene	137 > 46			18474.023									
XIBLK08	4-Nitrotoluene	137 > 46			18474.023									
XIBLK08	3-Nitrotoluene	137 > 46			18474.023									
XIBLK08	PETN	361 > 62			18474.023									

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

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK09

Analysis Date: 26–JAN–10 23:14

GEL Data File: EXP0125074a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

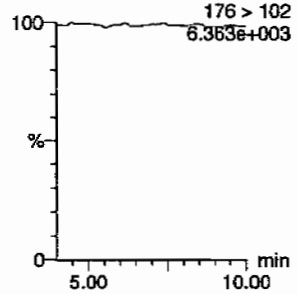
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	524.417
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	524.016
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

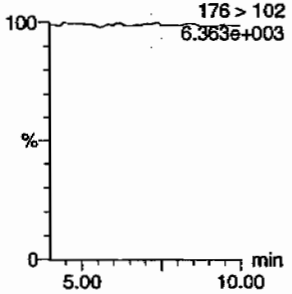
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125074a
Date: 26-Jan-2010
Time: 23:14:40
ID: XIBLK09
Vial: 1:1,A

MMT 1/27/10

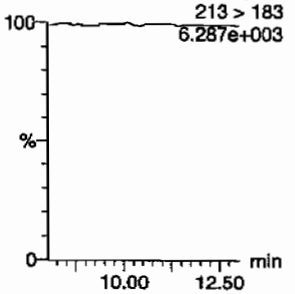
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.363e+003



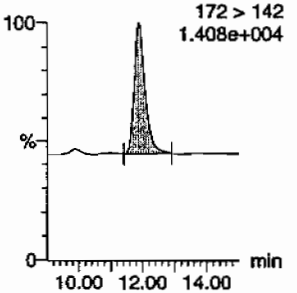
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.363e+003



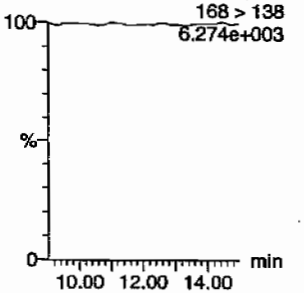
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.287e+003



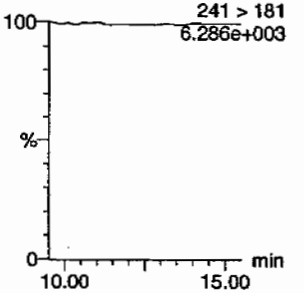
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.408e+004



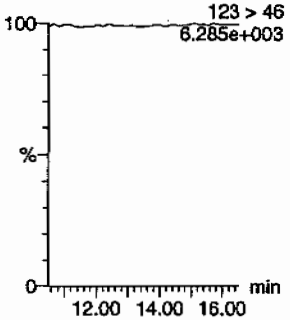
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.274e+003



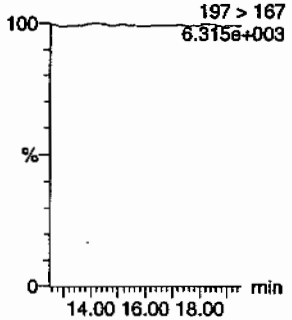
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.286e+003



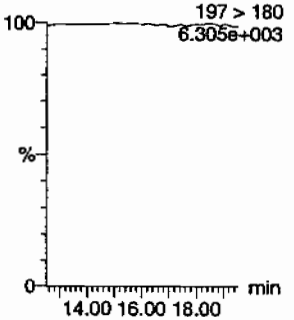
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.285e+003



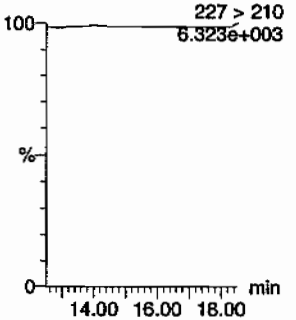
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.315e+003



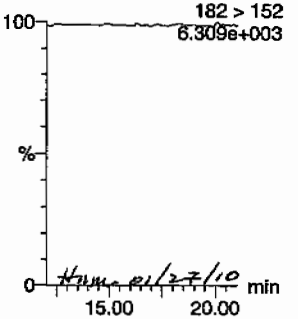
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.305e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.323e+003

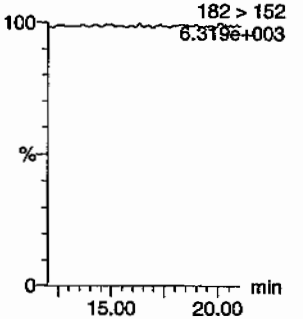


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.309e+003



Hmm 01/27/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.319e+003



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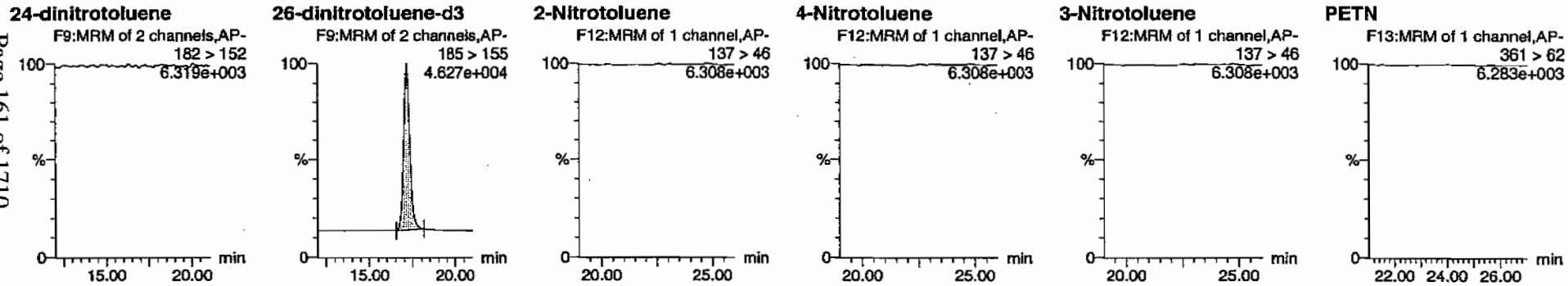
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
XIBLK09	HMX	176 > 102			3113.358									
XIBLK09	RDX	176 > 102			3113.358									
XIBLK09	135-Trinitrobenzene	213 > 183			3113.358									
XIBLK09	13-Dinitrobenzene-d4	172 > 142	11.89	3113.358		3113.358	3113.358	bb			524.4168	104.9	4.9	552.1
XIBLK09	13-Dinitrobenzene	168 > 138			3113.358									
XIBLK09	Tetryl	241 > 181			3113.358									
XIBLK09	Nitrobenzene	123 > 46			3113.358									
XIBLK09	4-Amino-26-dinitrotoluene	197 > 167			17081.178									
XIBLK09	2-Amino-46-dinitrotoluene	197 > 180			17081.178									
XIBLK09	246-Trinitrotoluene	227 > 210			17081.178									
XIBLK09	34-dinitrotoluene	182 > 152			17081.178									
XIBLK09	26-dinitrotoluene	182 > 152			17081.178									
XIBLK09	24-dinitrotoluene	182 > 152			17081.178									
XIBLK09	26-dinitrotoluene-d3	185 > 155	17.14	17081.178		17081.178	17081.178	bb			524.0159	104.8	4.8	1008.4
XIBLK09	2-Nitrotoluene	137 > 46			17081.178									
XIBLK09	4-Nitrotoluene	137 > 46			17081.178									
XIBLK09	3-Nitrotoluene	137 > 46			17081.178									
XIBLK09	PETN	361 > 62			17081.178									

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK10

Analysis Date: 27–JAN–10 03:40

GEL Data File: EXP0125083a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	574.551
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	599.188
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0

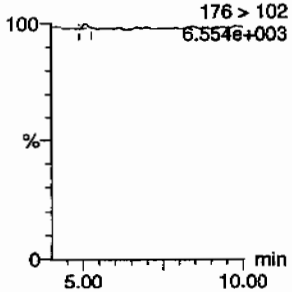
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

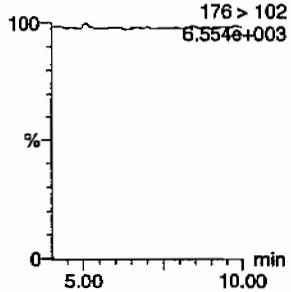
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125083a
Date: 27-Jan-2010
Time: 03:40:01
ID: XIBLK10
Vial: 1:1,A

MATT 1/27/10

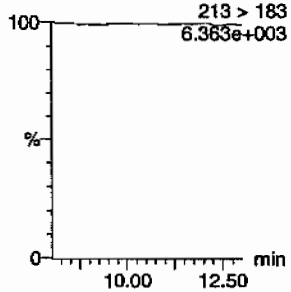
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.554e+003



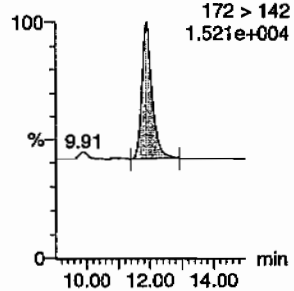
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.554e+003



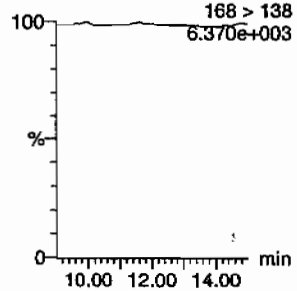
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.363e+003



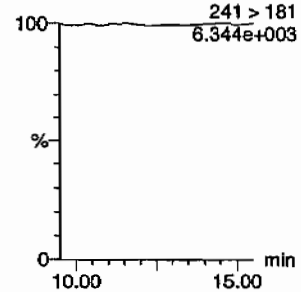
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.521e+004



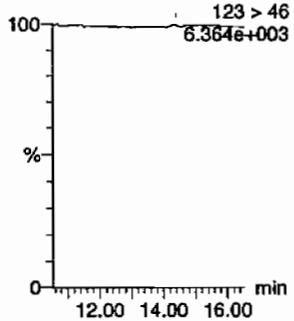
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.370e+003



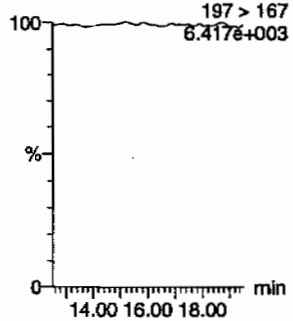
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.344e+003



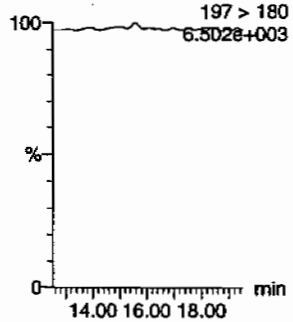
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.364e+003



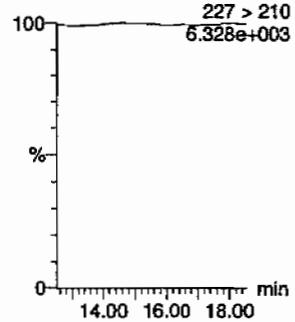
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.417e+003



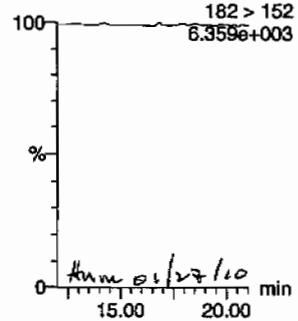
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.502e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.328e+003

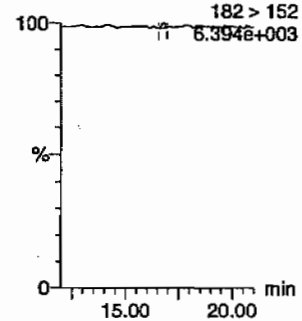


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.359e+003



Hum 01/27/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.394e+003



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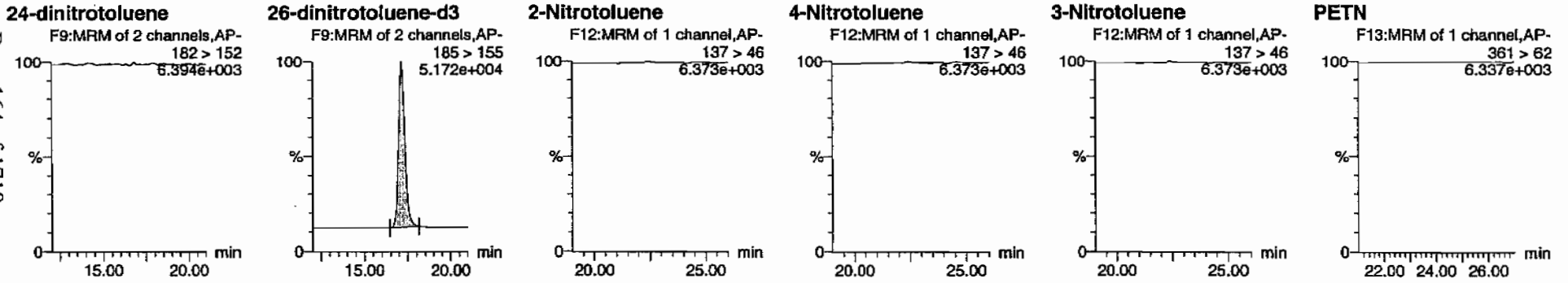
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



ID	Name	Trace	RT	Th Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
XIBLK10	HMX	176 > 102			3410.997			MM-	27-Jan-10	09:07:50				
XIBLK10	RDX	176 > 102			3410.997									
XIBLK10	135-Trinitrobenzene	213 > 183			3410.997									
XIBLK10	13-Dinitrobenzene-d4	172 > 142	11.89	3410.997		3410.997	3410.997	bb			574.5514	114.9	14.9	620.0
XIBLK10	13-Dinitrobenzene	168 > 138			3410.997									
XIBLK10	Tetryl	241 > 181			3410.997									
XIBLK10	Nitrobenzene	123 > 46			3410.997									
XIBLK10	4-Amino-26-dinitrotoluene	197 > 167			19531.555									
XIBLK10	2-Amino-46-dinitrotoluene	197 > 180			19531.555									
XIBLK10	246-Trinitrotoluene	227 > 210			19531.555									
XIBLK10	34-dinitrotoluene	182 > 152			19531.555									
XIBLK10	26-dinitrotoluene	182 > 152			19531.555			MM-	27-Jan-10	09:17:12				
XIBLK10	24-dinitrotoluene	182 > 152			19531.555									
XIBLK10	26-dinitrotoluene-d3	185 > 155	17.14	19531.555		19531.555	19531.555	bb			599.1885	119.8	19.8	576.2
XIBLK10	2-Nitrotoluene	137 > 46			19531.555									
XIBLK10	4-Nitrotoluene	137 > 46			19531.555									
XIBLK10	3-Nitrotoluene	137 > 46			19531.555									
XIBLK10	PETN	361 > 62			19531.555									

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK11

Analysis Date: 27–JAN–10 10:04

GEL Data File: EXP0125096a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

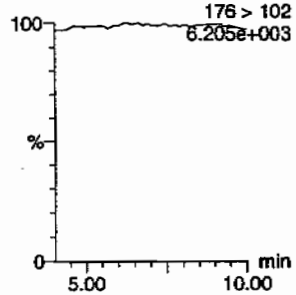
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	558.477
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	528.84
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

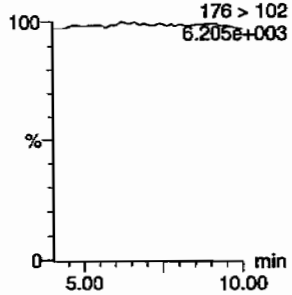
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125096a
Date: 27-Jan-2010
Time: 10:04:30
ID: XIBLK11
Vial: 1:1,A

MMT 1/28/10

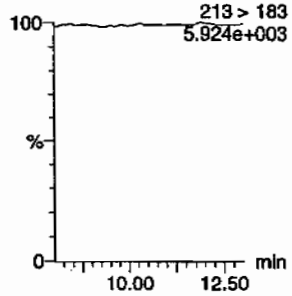
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.205e+003



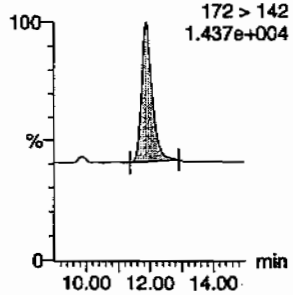
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.205e+003



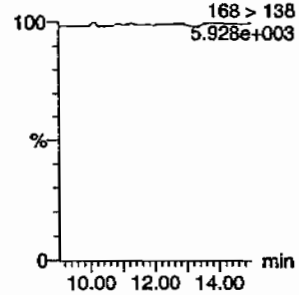
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
5.924e+003



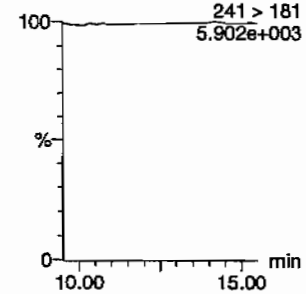
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.437e+004



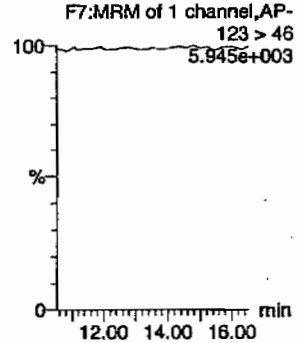
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
5.928e+003



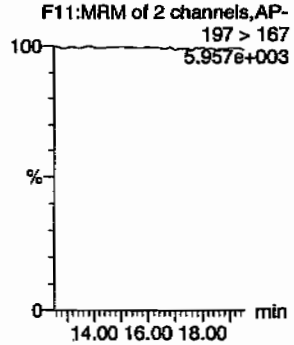
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
5.902e+003



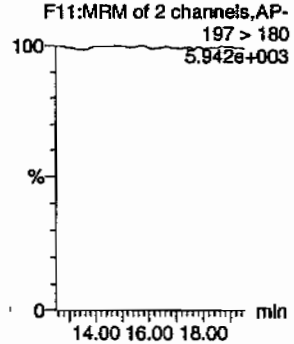
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
5.945e+003



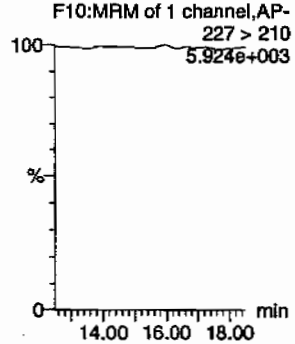
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
5.957e+003



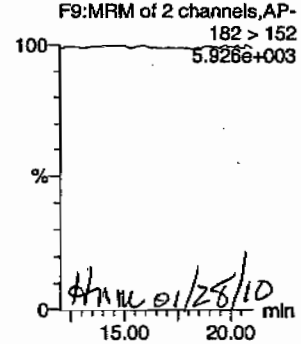
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
5.942e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
5.924e+003

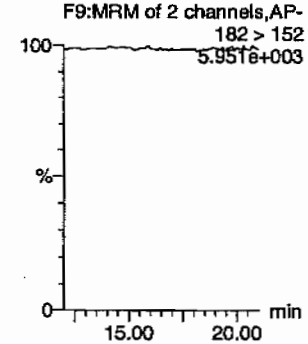


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.926e+003



MMT 01/28/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.951e+003



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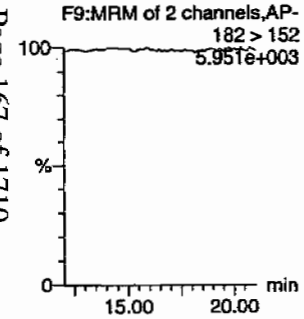
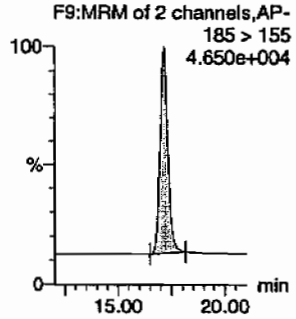
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

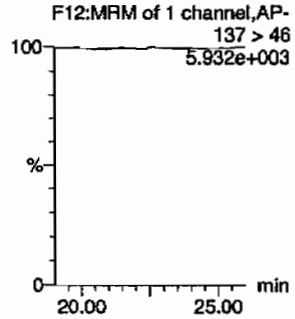
24-dinitrotoluene



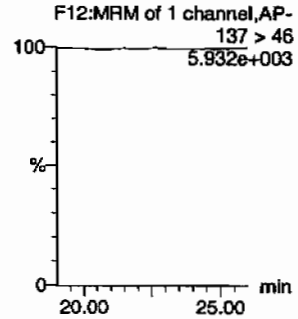
26-dinitrotoluene-d3



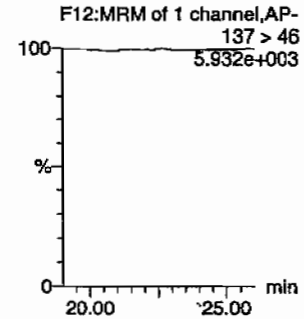
2-Nitrotoluene



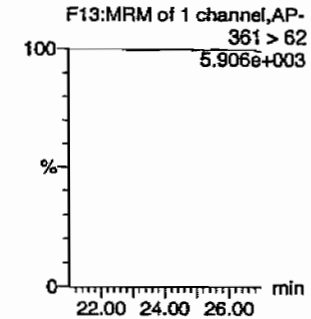
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
XIBLK11	HMX	176 > 102			3315.568									
XIBLK11	RDX	176 > 102			3315.568									
XIBLK11	135-Trinitrobenzene	213 > 183			3315.568									
XIBLK11	13-Dinitrobenzene-d4	172 > 142	11.89	3315.568		3315.568	3315.568	bb			558.4773	111.7	11.7	115.3
XIBLK11	13-Dinitrobenzene	168 > 138			3315.568									
XIBLK11	Tetryl	241 > 181			3315.568									
XIBLK11	Nitrobenzene	123 > 46			3315.568									
XIBLK11	4-Amino-26-dinitrotoluene	197 > 167			17238.420									
XIBLK11	2-Amino-46-dinitrotoluene	197 > 180			17238.420									
XIBLK11	246-Trinitrotoluene	227 > 210			17238.420									
XIBLK11	34-dinitrotoluene	182 > 152			17238.420									
XIBLK11	26-dinitrotoluene	182 > 152			17238.420									
XIBLK11	24-dinitrotoluene	182 > 152			17238.420									
XIBLK11	26-dinitrotoluene-d3	185 > 155	17.13	17238.420		17238.420	17238.420	bb			528.8398	105.8	5.8	1765.2
XIBLK11	2-Nitrotoluene	137 > 46			17238.420									
XIBLK11	4-Nitrotoluene	137 > 46			17238.420									
XIBLK11	3-Nitrotoluene	137 > 46			17238.420									
XIBLK11	PETN	361 > 62			17238.420									

Page 167 of 1710

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1126

Lab Code: GEL

Lab Sample ID: XIBLK12

Analysis Date: 27-JAN-10 16:28

GEL Data File: EXP0125109a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	568.05
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	575.906
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

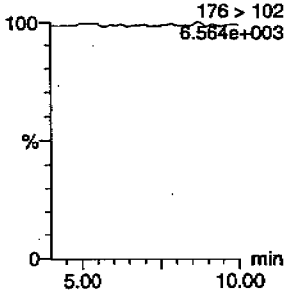
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

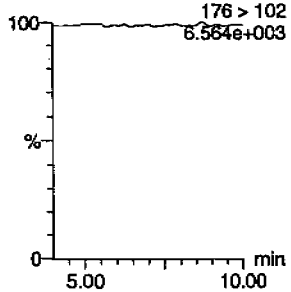
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125109a
Date: 27-Jan-2010
Time: 16:28:07
ID: XIBLK12
Vial: 1:1,A

MAP 1/28/10

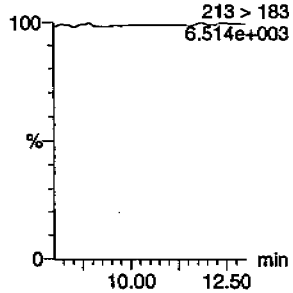
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.564e+003



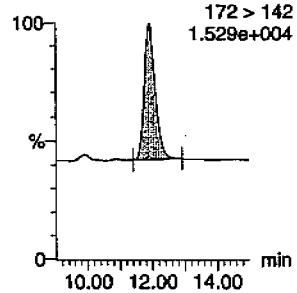
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.564e+003



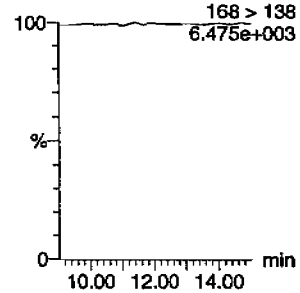
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.514e+003



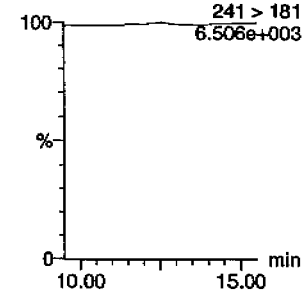
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.529e+004



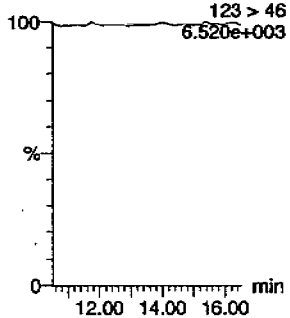
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.475e+003



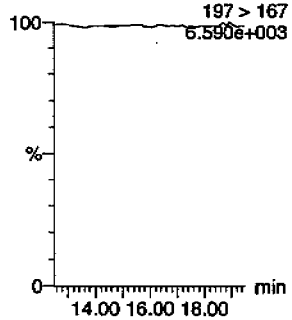
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.506e+003



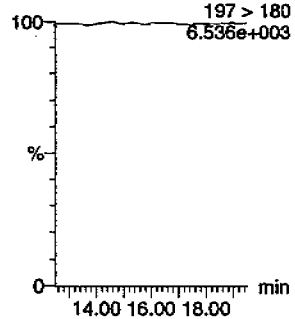
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.520e+003



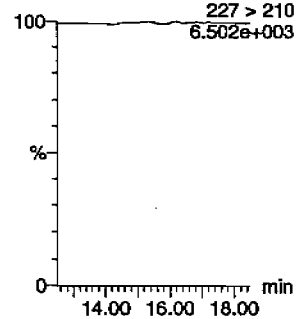
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.590e+003



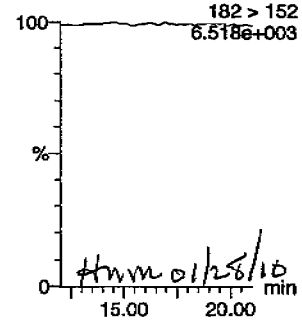
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.536e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.502e+003

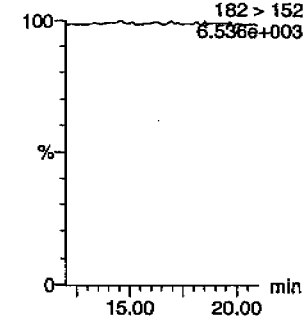


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.518e+003



HMM 01/28/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.536e+003



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

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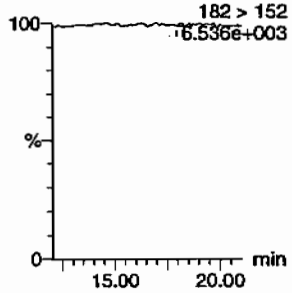
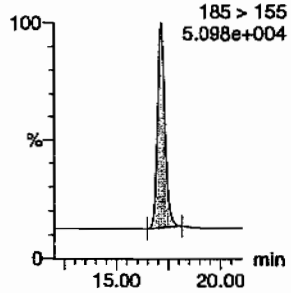
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

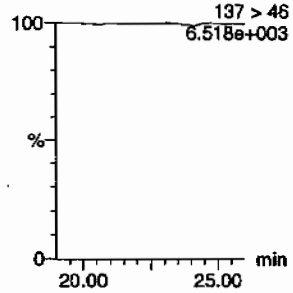
24-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.536e+003



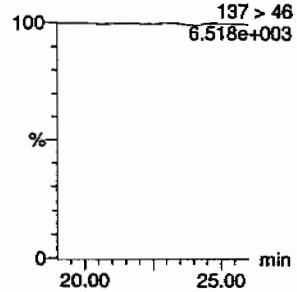
26-dinitrotoluene-d3
F9:MRM of 2 channels,AP-
185 > 155
5.098e+004



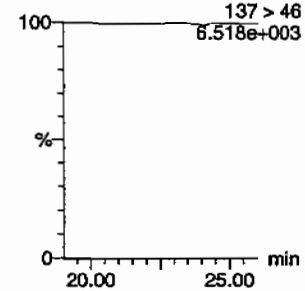
2-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.518e+003



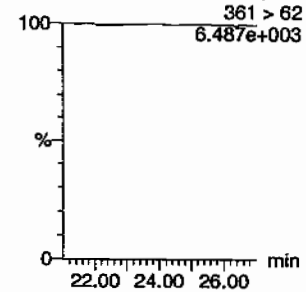
4-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.518e+003



3-Nitrotoluene
F12:MRM of 1 channel,AP-
137 > 46
6.518e+003



PETN
F13:MRM of 1 channel,AP-
361 > 62
6.487e+003



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
XIBLK12	HMX	176 > 102			3372.399									
XIBLK12	RDX	176 > 102			3372.399									
XIBLK12	135-Trinitrobenzene	213 > 183			3372.399									
XIBLK12	13-Dinitrobenzene-d4	172 > 142	11.89	3372.399		3372.399	3372.399	bb			568.0499	113.6	13.6	492.1
XIBLK12	13-Dinitrobenzene	168 > 138			3372.399									
XIBLK12	Tetryl	241 > 181			3372.399									
XIBLK12	Nitrobenzene	123 > 46			3372.399									
XIBLK12	4-Amino-26-dinitrotoluene	197 > 167			18772.621									
XIBLK12	2-Amino-46-dinitrotoluene	197 > 180			18772.621									
XIBLK12	246-Trinitrotoluene	227 > 210			18772.621									
XIBLK12	34-dinitrotoluene	182 > 152			18772.621									
XIBLK12	26-dinitrotoluene	182 > 152			18772.621									
XIBLK12	24-dinitrotoluene	182 > 152			18772.621			MM-	28-Jan-10	10:37:00				
XIBLK12	26-dinitrotoluene-d3	185 > 155	17.16	18772.621		18772.621	18772.621	bb			575.9059	115.2	15.2	2274.7
XIBLK12	2-Nitrotoluene	137 > 46			18772.621									
XIBLK12	4-Nitrotoluene	137 > 46			18772.621									
XIBLK12	3-Nitrotoluene	137 > 46			18772.621									
XIBLK12	PETN	361 > 62			18772.621									

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

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1126

Lab Code: GEL

Lab Sample ID: XIBLK13

Analysis Date: 27-JAN-10 18:55

GEL Data File: EXP0125114a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

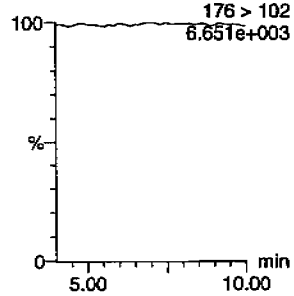
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	505.557
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	509.162
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

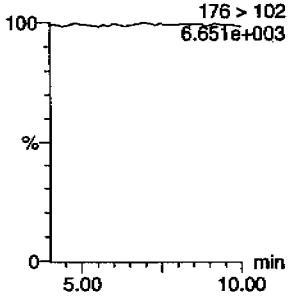
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125114a
Date: 27-Jan-2010
Time: 18:55:56
ID: XIBLK13
Vial: 1:1,A

MMP 1/28/10

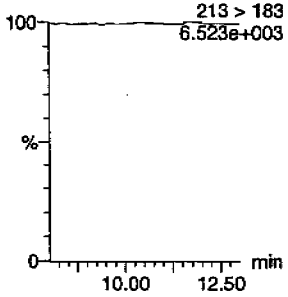
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.651e+003



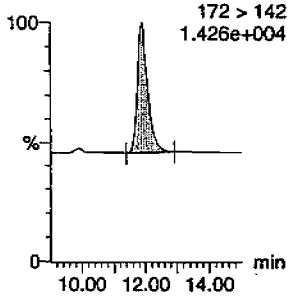
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.651e+003



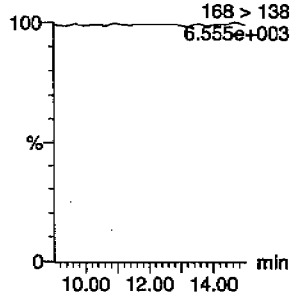
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.523e+003



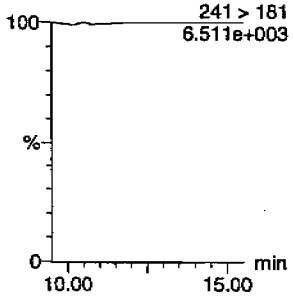
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.426e+004



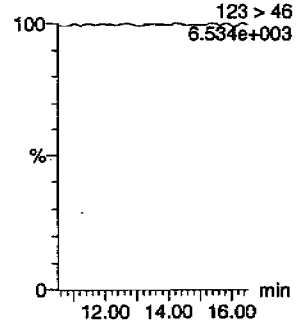
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.555e+003



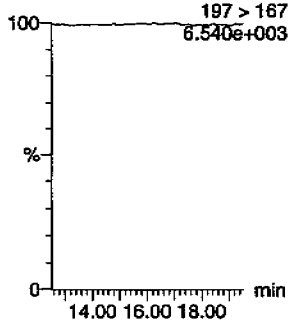
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.511e+003



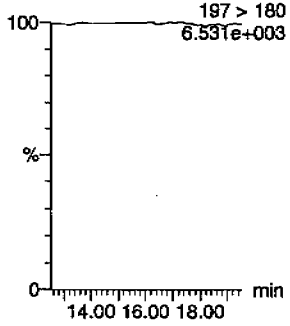
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.534e+003



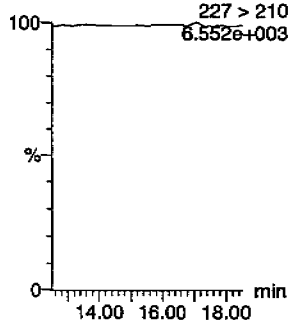
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.540e+003



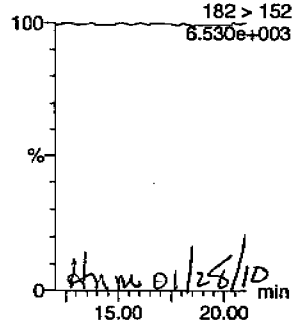
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.531e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.552e+003

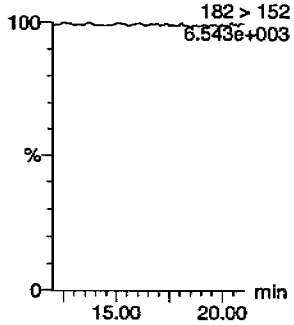


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.530e+003



HMM 01/28/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.543e+003



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

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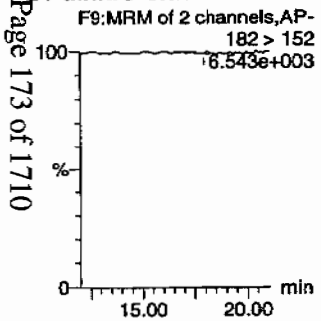
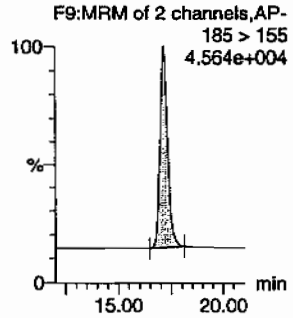
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

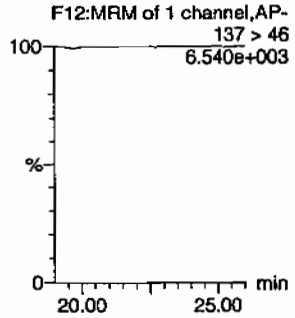
24-dinitrotoluene



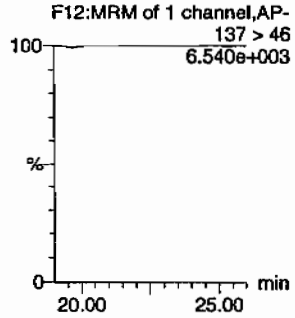
26-dinitrotoluene-d3



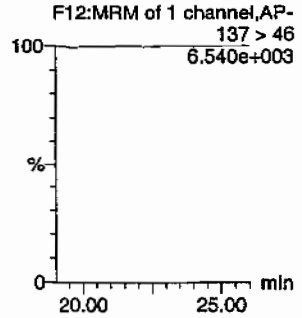
2-Nitrotoluene



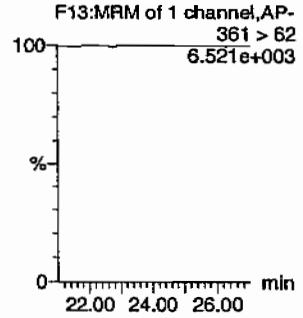
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK13	HMX	176 > 102			3001.392									
XIBLK13	RDX	176 > 102			3001.392									
XIBLK13	135-Trinitrobenzene	213 > 183			3001.392									
XIBLK13	13-Dinitrobenzene-d4	172 > 142	11.89	3001.392		3001.392	3001.392	bb			505.5572	101.1	1.1	321.3
XIBLK13	13-Dinitrobenzene	168 > 138			3001.392									
XIBLK13	Tetryl	241 > 181			3001.392									
XIBLK13	Nitrobenzene	123 > 46			3001.392									
XIBLK13	4-Amino-26-dinitrotoluene	197 > 167			16596.992									
XIBLK13	2-Amino-46-dinitrotoluene	197 > 180			16596.992									
XIBLK13	246-Trinitrotoluene	227 > 210			16596.992									
XIBLK13	34-dinitrotoluene	182 > 152			16596.992									
XIBLK13	26-dinitrotoluene	182 > 152			16596.992									
XIBLK13	24-dinitrotoluene	182 > 152			16596.992			MM-	28-Jan-10	10:37:17				
XIBLK13	26-dinitrotoluene-d3	185 > 155	17.16	16596.992		16596.992	16596.992	bb			509.1621	101.8	1.8	599.9
XIBLK13	2-Nitrotoluene	137 > 46			16596.992									
XIBLK13	4-Nitrotoluene	137 > 46			16596.992									
XIBLK13	3-Nitrotoluene	137 > 46			16596.992									
XIBLK13	PETN	361 > 62			16596.992									

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC
GEL Job No(SDG): 10–1126
Lab Code: GEL
Lab Sample ID: XIBLK14
Analysis Date: 27–JAN–10 20:24
GEL Data File: EXP0125117a
Instrument ID: LCMSMS
Column: Phenomenex Ultracarb 5u ODS(20)

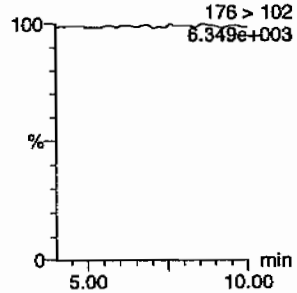
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
1,3,5–Trinitrobenzene	0	0
1,3–Dinitrobenzene–d4	500	487.356
2,4,6–Trinitrotoluene	0	0
2,4–Dinitrotoluene	0	0
2,6–Dinitrotoluene	0	0
2,6–Dinitrotoluene–d3	500	507.261
2–Amino–4,6–dinitrotoluene	0	0
4–Amino–2,6–dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m–Dinitrobenzene	0	0
m–Nitrotoluene	0	0
o–Nitrotoluene	0	0
p–Nitrotoluene	0	0

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

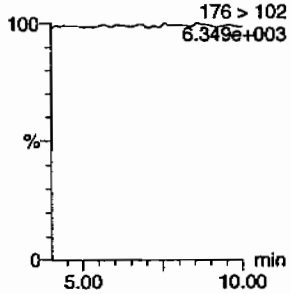
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125117a
Date: 27-Jan-2010
Time: 20:24:27
ID: XIBLK14
Vial: 1:1,A

MMT 1/28/10

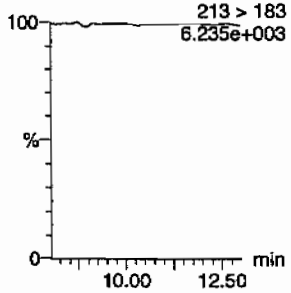
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.349e+003



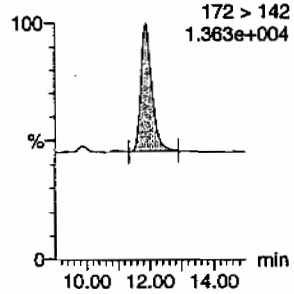
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.349e+003



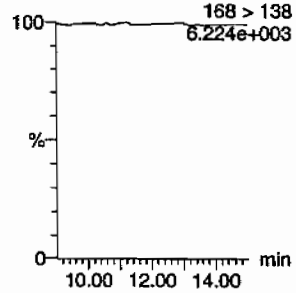
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.235e+003



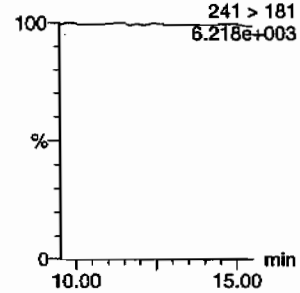
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.363e+004



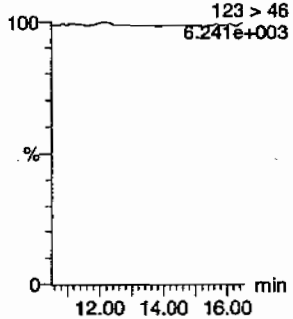
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.224e+003



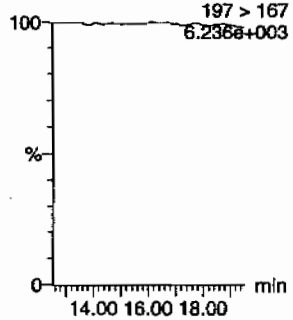
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.218e+003



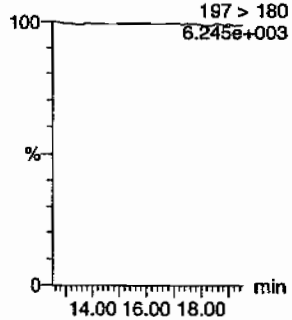
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.241e+003



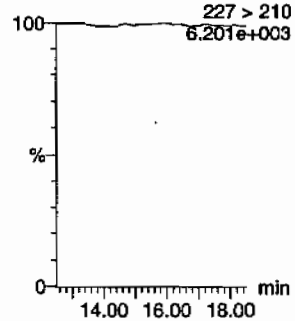
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.236e+003



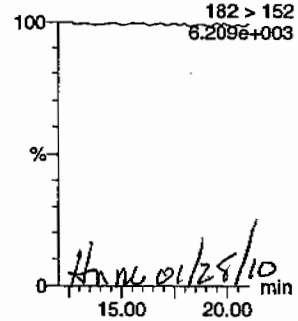
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.245e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.201e+003

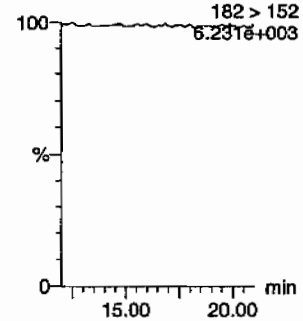


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.209e+003



HMC 01/28/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.231e+003



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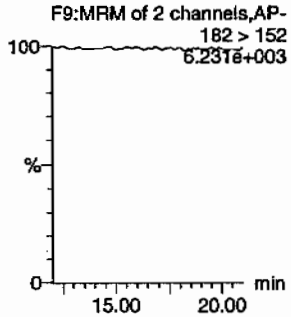
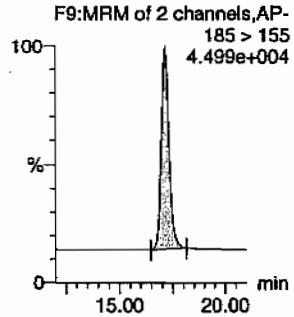
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

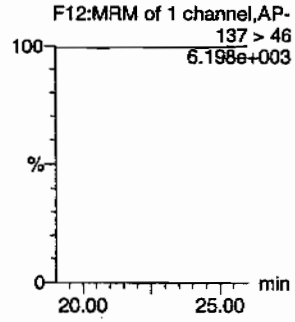
24-dinitrotoluene



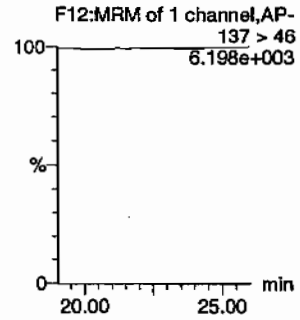
26-dinitrotoluene-d3



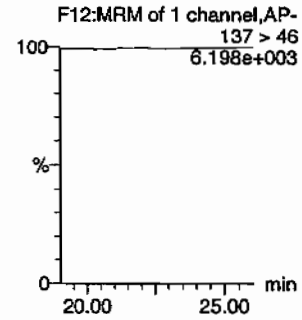
2-Nitrotoluene



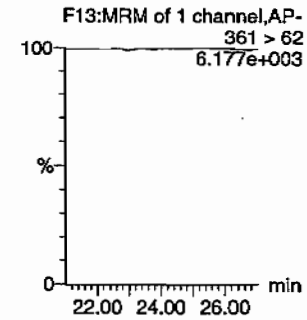
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
XIBLK14	HMX	176 > 102			2893.334									
XIBLK14	RDX	176 > 102			2893.334									
XIBLK14	135-Trinitrobenzene	213 > 183			2893.334									
XIBLK14	13-Dinitrobenzene-d4	172 > 142	11.89	2893.334		2893.334	2893.334	bb			487.3558	97.5	-2.5	441.4
XIBLK14	13-Dinitrobenzene	168 > 138			2893.334									
XIBLK14	Tetryl	241 > 181			2893.334									
XIBLK14	Nitrobenzene	123 > 46			2893.334									
XIBLK14	4-Amino-26-dinitrotoluene	197 > 167			16535.035									
XIBLK14	2-Amino-46-dinitrotoluene	197 > 180			16535.035									
XIBLK14	246-Trinitrotoluene	227 > 210			16535.035									
XIBLK14	34-dinitrotoluene	182 > 152			16535.035									
XIBLK14	26-dinitrotoluene	182 > 152			16535.035									
XIBLK14	24-dinitrotoluene	182 > 152			16535.035									
XIBLK14	26-dinitrotoluene-d3	185 > 155	17.14	16535.035		16535.035	16535.035	bb			507.2613	101.5	1.5	1702.2
XIBLK14	2-Nitrotoluene	137 > 46			16535.035									
XIBLK14	4-Nitrotoluene	137 > 46			16535.035									
XIBLK14	3-Nitrotoluene	137 > 46			16535.035									
XIBLK14	PETN	361 > 62			16535.035									

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 19–JAN–10 16:35

GEL Data File: EXS01190010.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

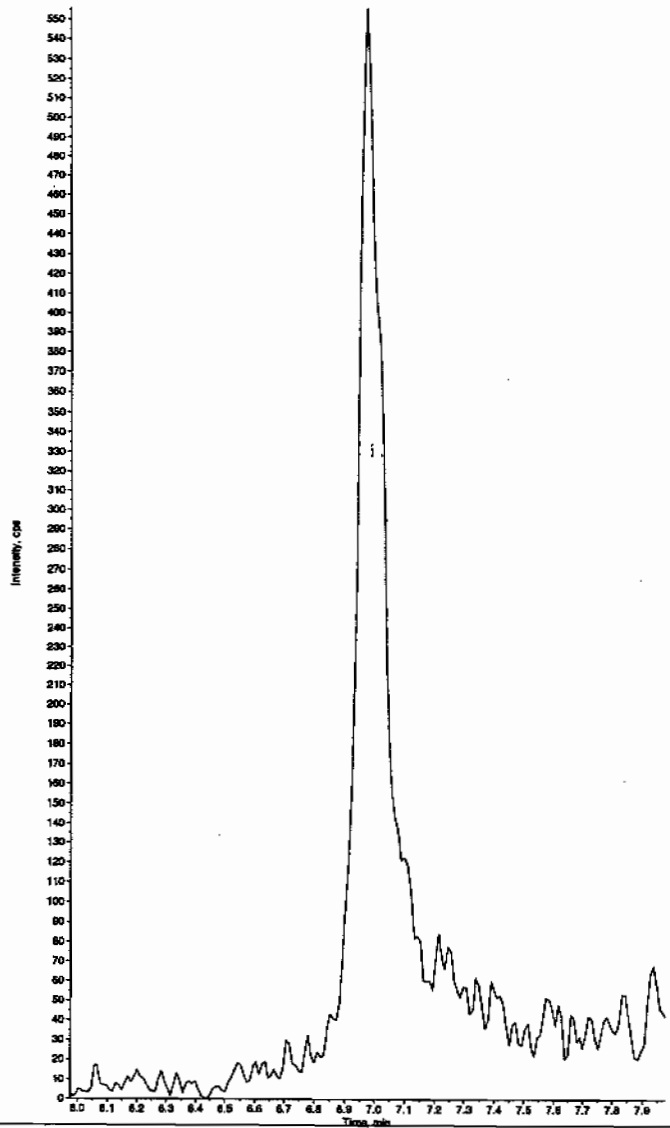
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
tris(o–cresyl) phosphate	0	.0504
TATB	0	0
3,5–Dinitroaniline	0	0
2,4–Diamino–6–nitrotoluene	0	0
2,6–Diamino–4–nitrotoluene	0	0

Dan 1/20/10

Sample Name: "XIBLK02" Sample ID: "[1]LER" File: "EXS01190010.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 4:35:36 PM

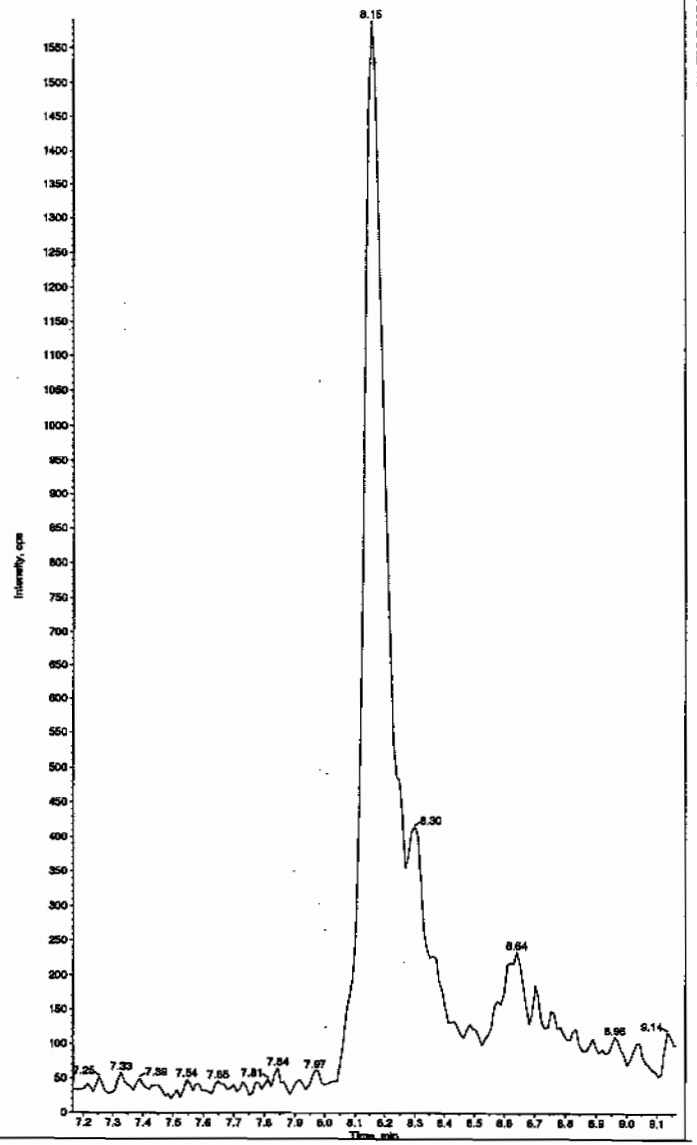
Modified: No



Sample Name: "XIBLK02" Sample ID: "[1]LER" File: "EXS01190010.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 4:35:36 PM

Modified: No



HMM 01/20/10

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

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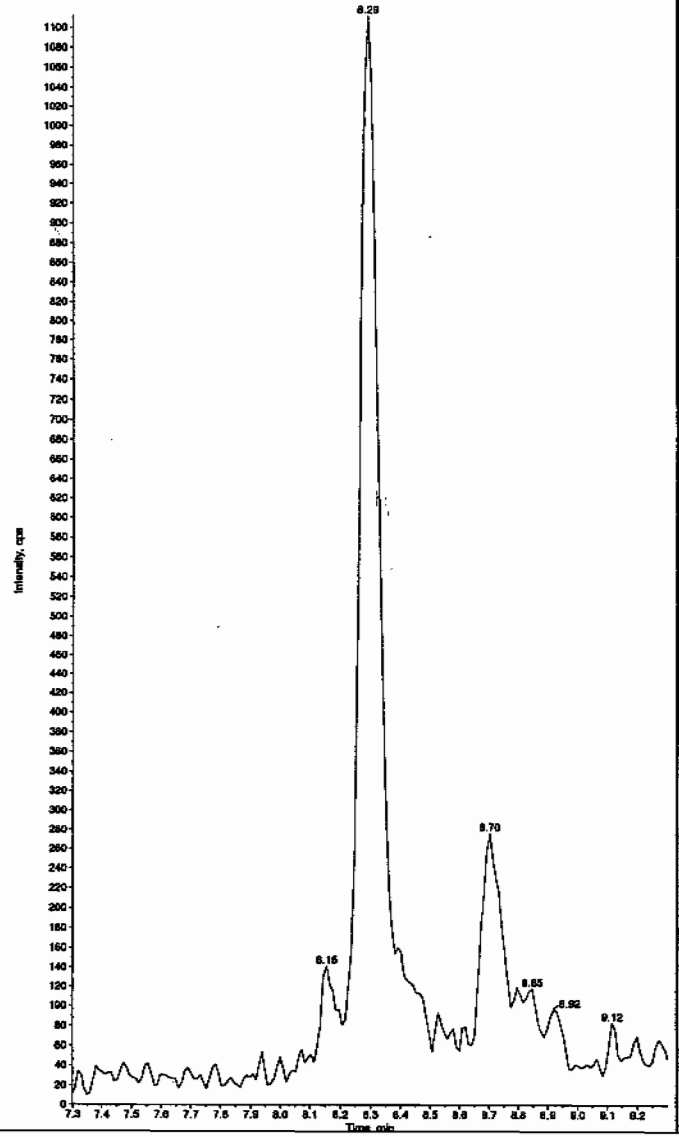
Sample Name: "XIBLK02" Sample ID: "[1]LER" File: "EXS01190010.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 4:35:36 PM

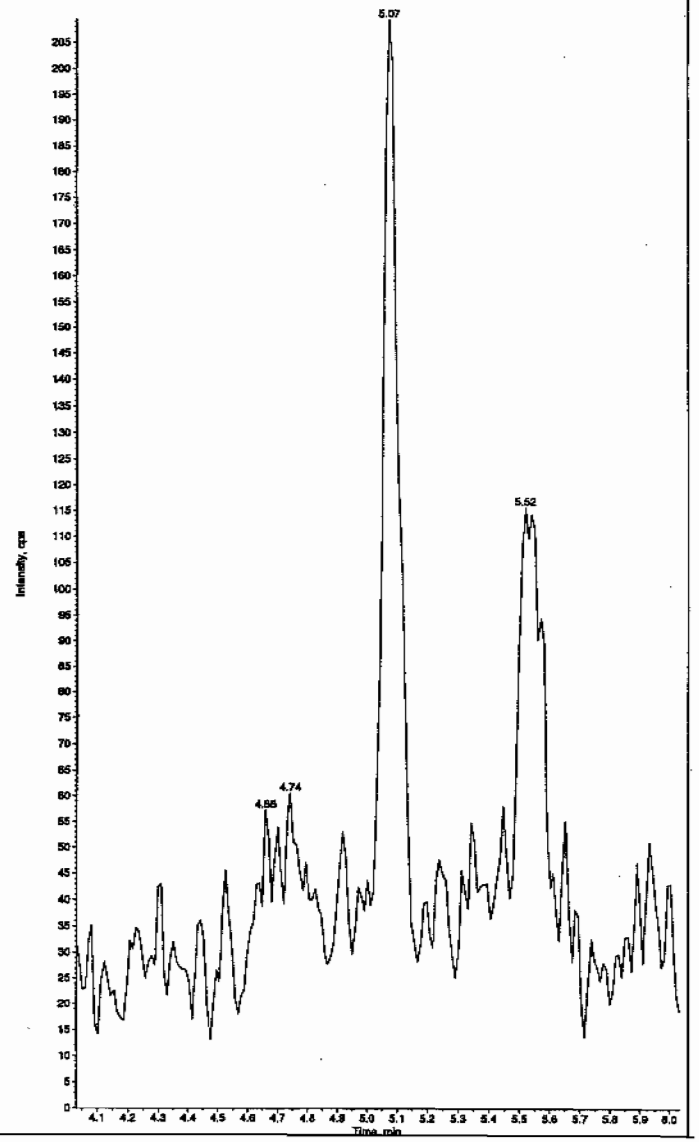
Modified: No



Sample Name: "XIBLK02" Sample ID: "[1]LER" File: "EXS01190010.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 4:35:36 PM

Modified: No



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

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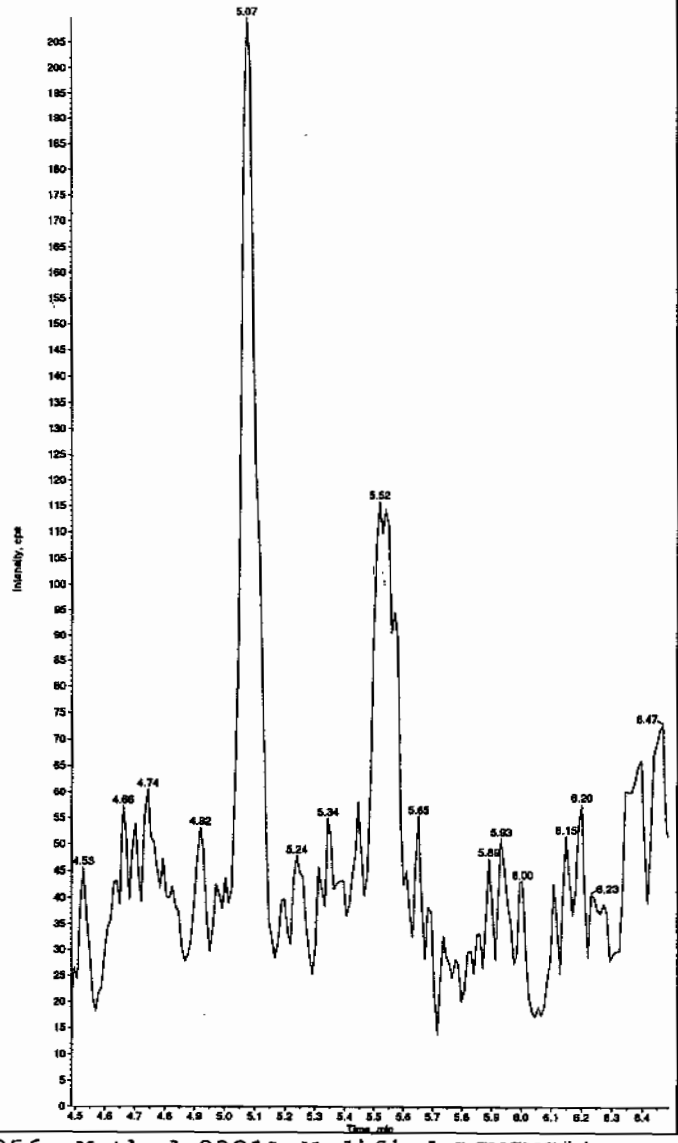
Sample Name: "XIBLK02" Sample ID: "[1]LER" File: "EXS01190010.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 4:35:36 PM

Modified: No

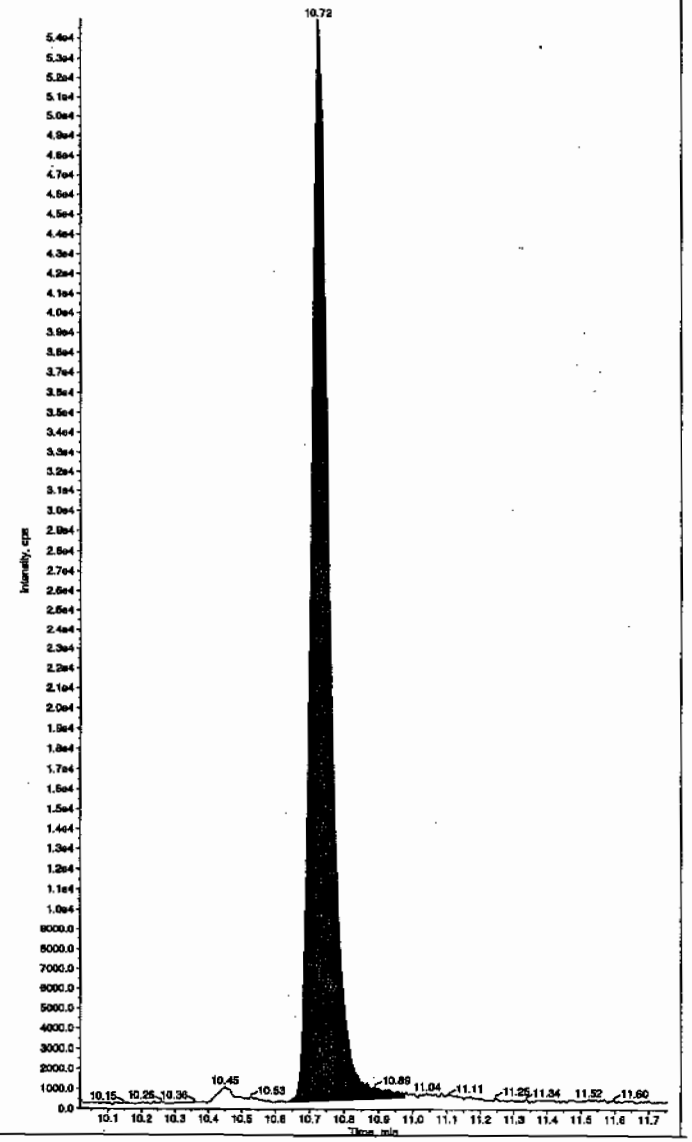


Sample Name: "XIBLK02" Sample ID: "[1]LER" File: "EXS01190010.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.0504 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 4:35:36 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.7 min
Area: 2.07e+005 counts
Height: 54561.787 cps
Start Time: 10.6 min
End Time: 11.0 min



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

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 19–JAN–10 17:07

GEL Data File: EXS01190012.wiff

Instrument ID: LCMSMS

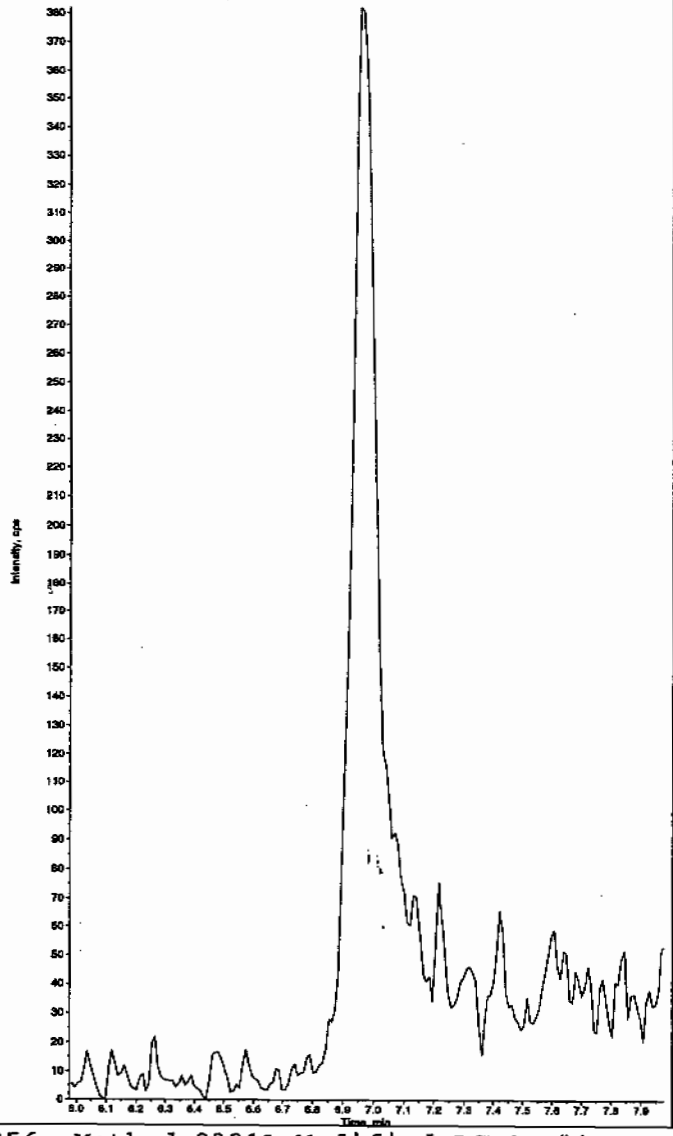
Column: Phenomenex Ultracarb 5u ODS(20)

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

LER 1/20/10

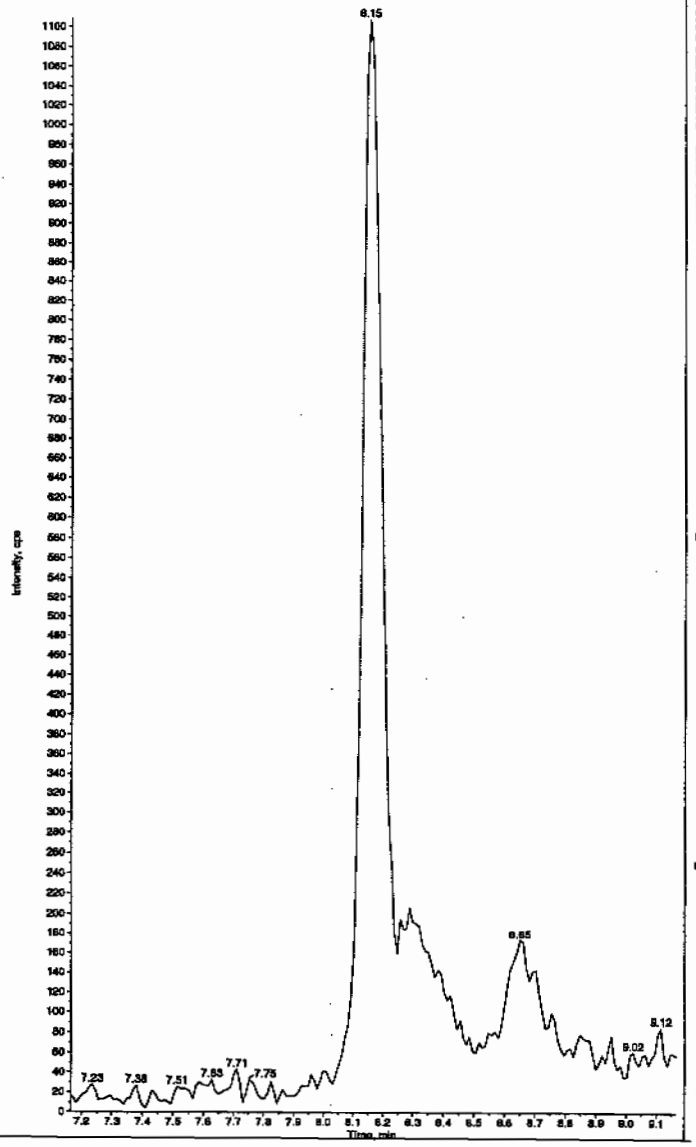
Sample Name: "XIBLK03" Sample ID: "[1]LER" File: "EXS01190012.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 5:07:00 PM

Modified: No



Sample Name: "XIBLK03" Sample ID: "[1]LER" File: "EXS01190012.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 5:07:00 PM

Modified: No



HMM 01/20/10

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

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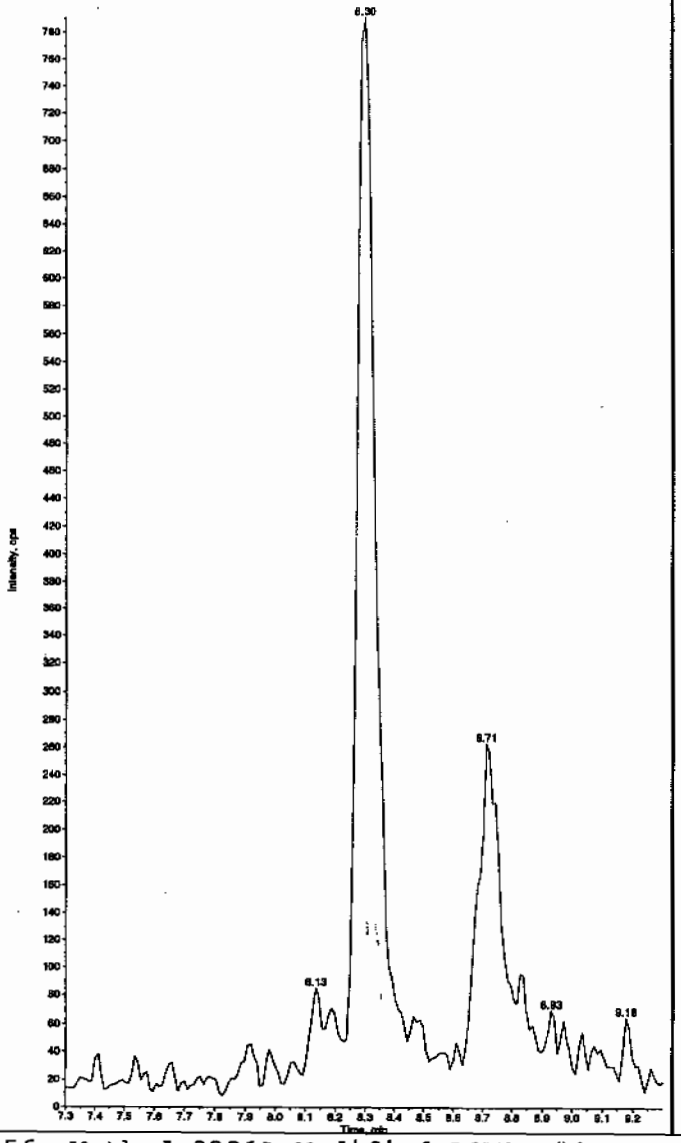
Sample Name: "XIBLK03" Sample ID: "1[LER" File: "EXS01190012.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 5:07:00 PM

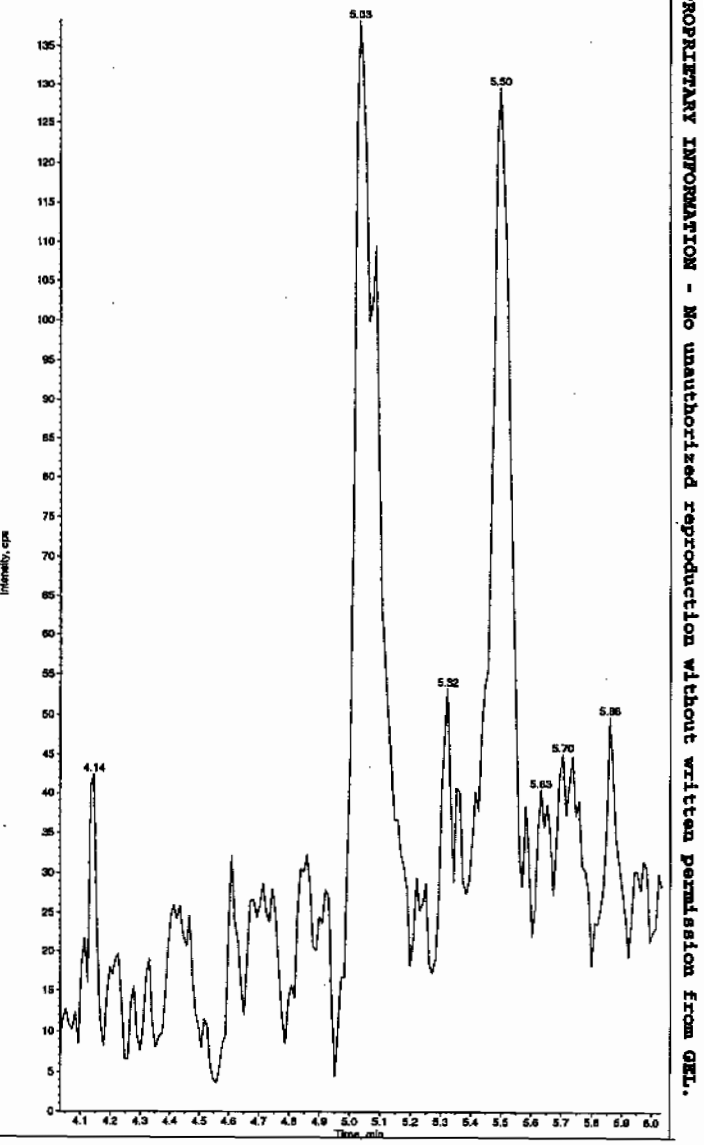
Modified: No



Sample Name: "XIBLK03" Sample ID: "1[LER" File: "EXS01190012.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 5:07:00 PM

Modified: No



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

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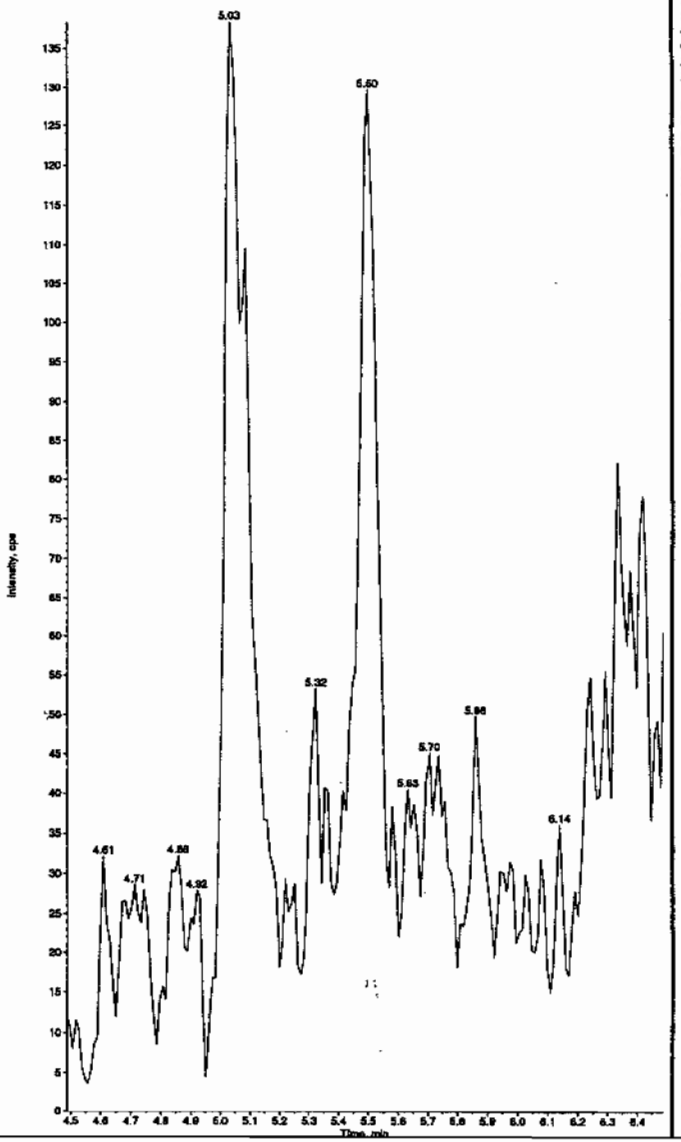
Sample Name: "XIBLK03" Sample ID: "[1]LER" File: "EXS01190012.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 5:07:00 PM

Modified: No

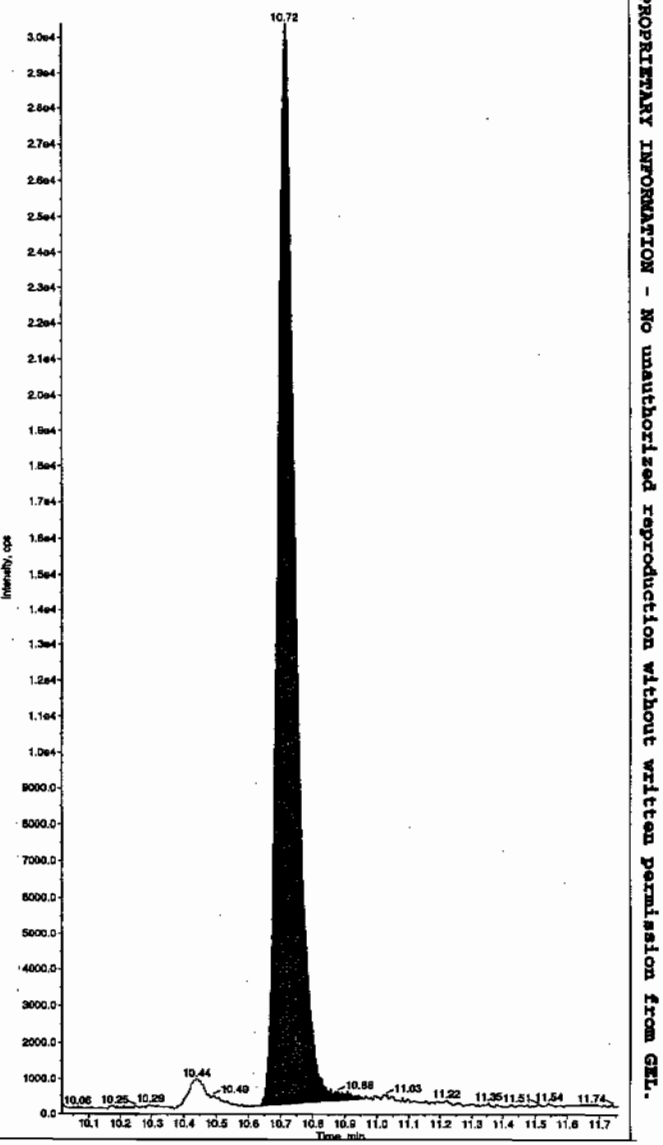


Sample Name: "XIBLK03" Sample ID: "[1]LER" File: "EXS01190012.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: No Intercept
Acq. Date: 1/19/2010
Acq. Time: 5:07:00 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.7 min
Area: 1.20e+005 counts
Height: 30105.431 cps
Start Time: 10.6 min
End Time: 11.0 min



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

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 19–JAN–10 18:25

GEL Data File: EXS01190017.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

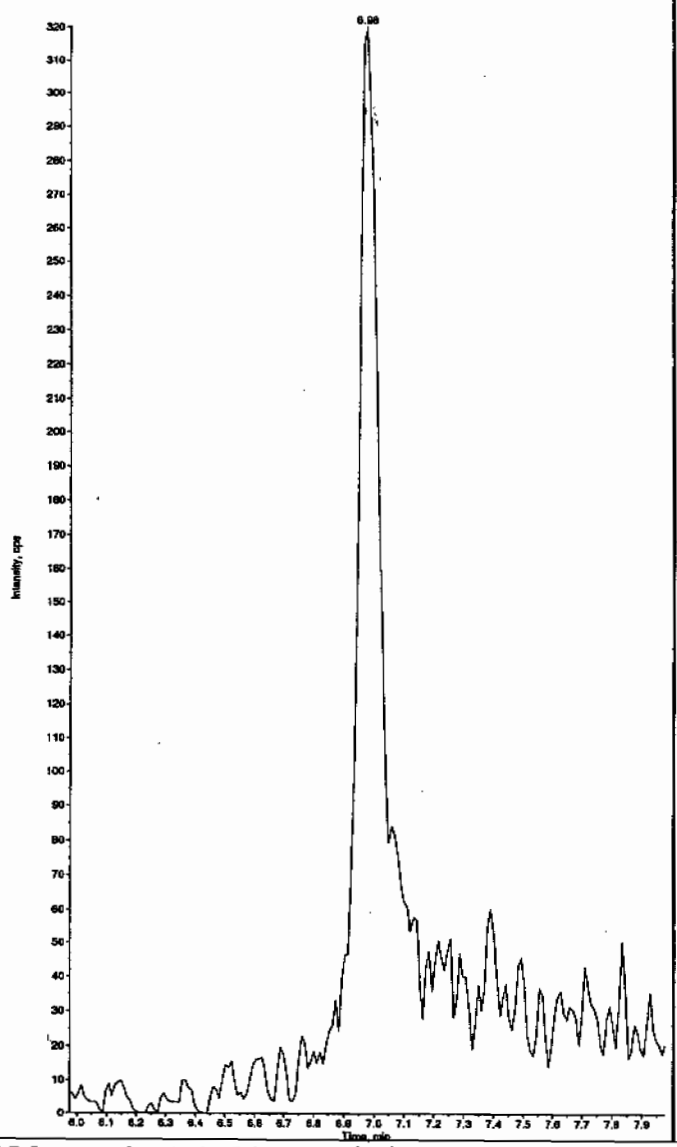
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
tris(o–cresyl) phosphate	0	0
TATB	0	0
3,5–Dinitroaniline	0	0
2,4–Diamino–6–nitrotoluene	0	0
2,6–Diamino–4–nitrotoluene	0	0

Hen 1/20/10

Sample Name: "XIBLK04" Sample ID: "|f|LER" File: "EXS01190017.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 6:25:34 PM

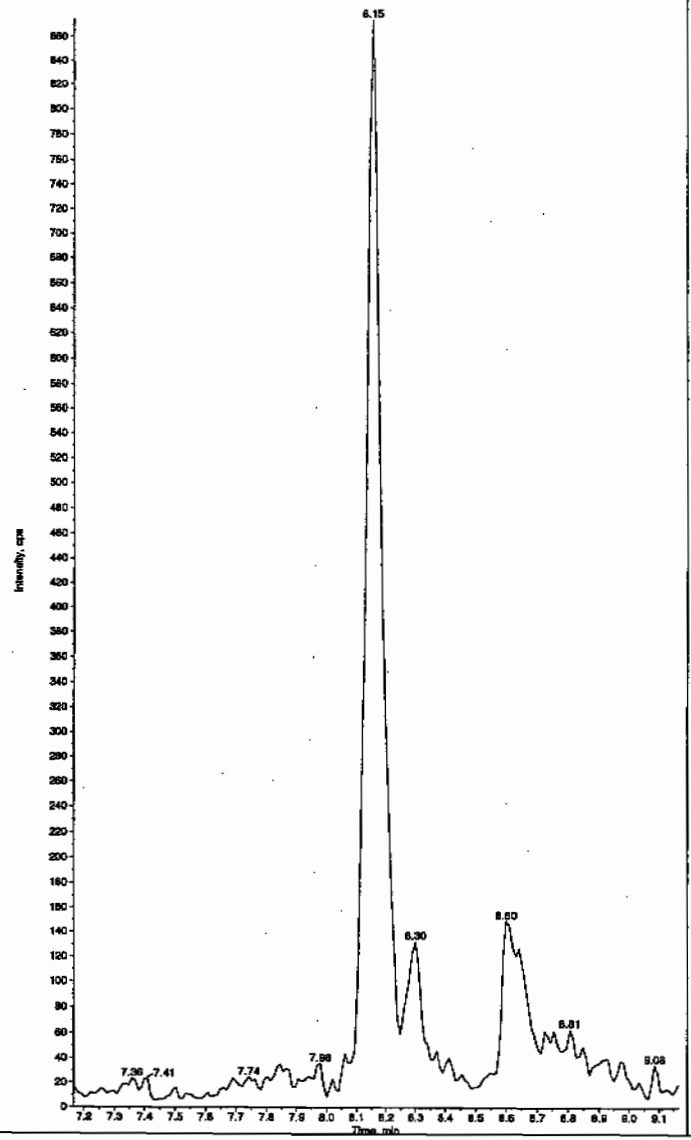
Modified: No



Sample Name: "XIBLK04" Sample ID: "|f|LER" File: "EXS01190017.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 6:25:34 PM

Modified: No



Hnm 01/20/10

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

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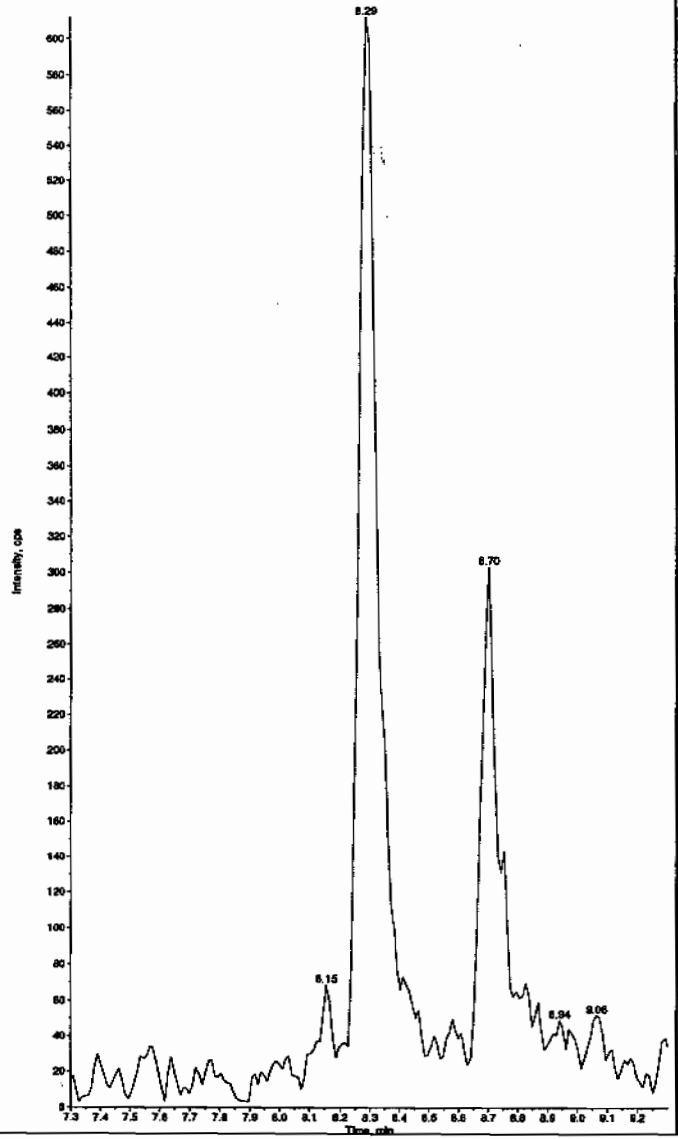
Sample Name: "XIBLK04" Sample ID: "[1]LER" File: "EXS01190017.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 6:25:34 PM

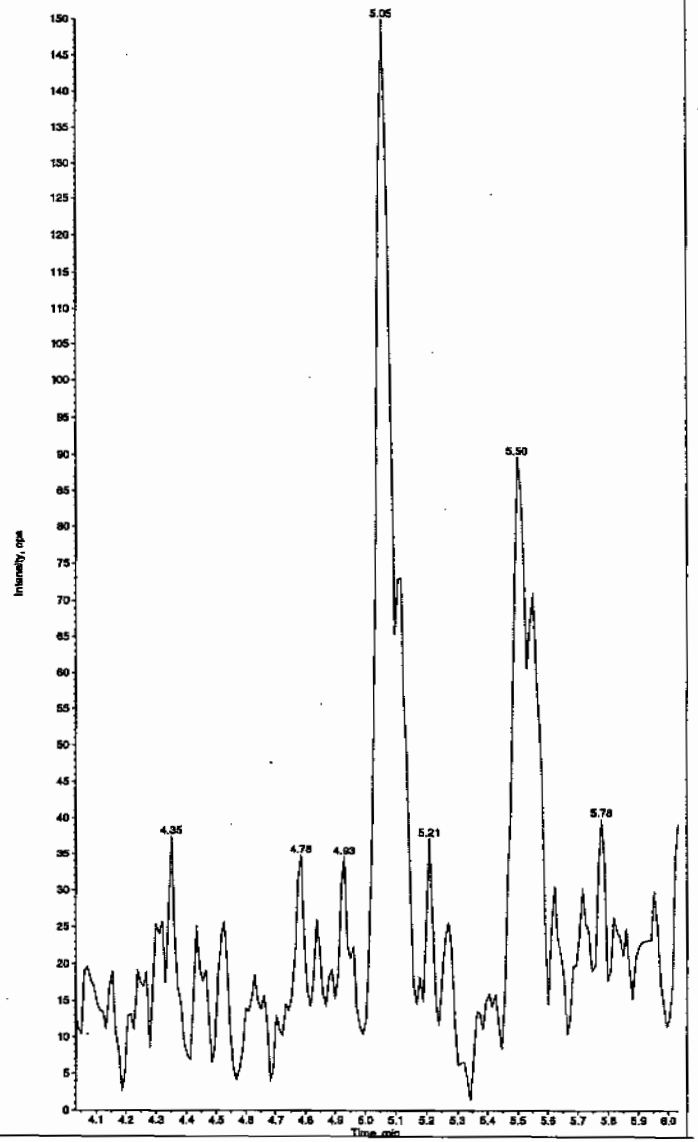
Modified: No



Sample Name: "XIBLK04" Sample ID: "[1]LER" File: "EXS01190017.wiff"
Peak Name: "25-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 6:25:34 PM

Modified: No



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

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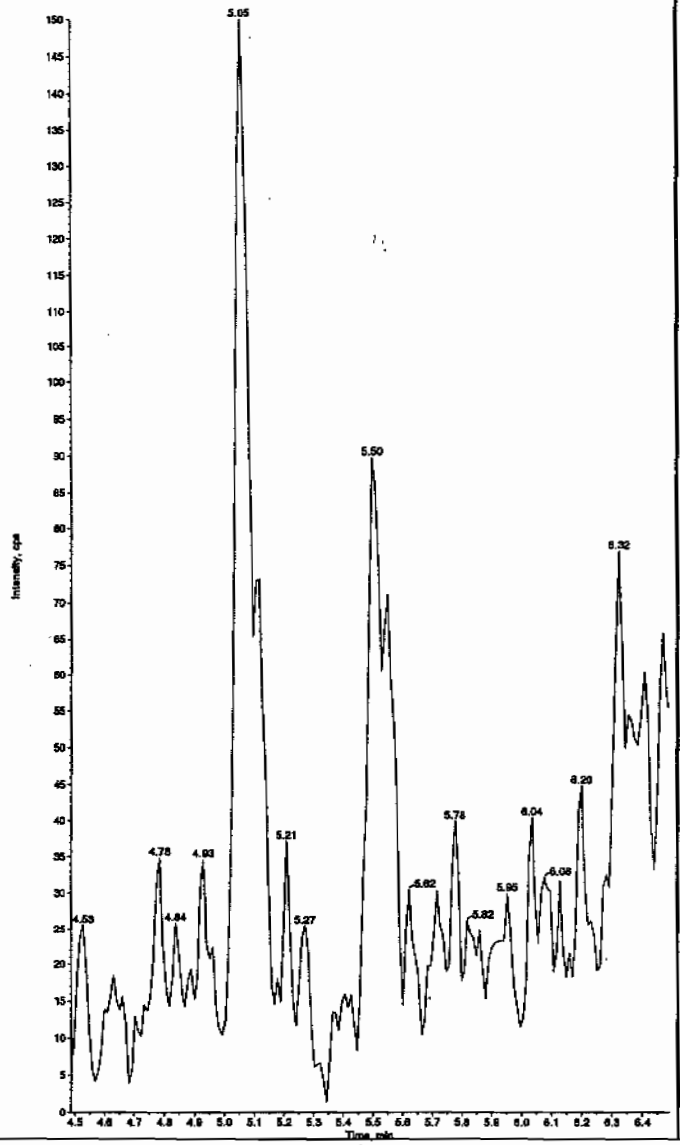
Sample Name: "XIBLK04" Sample ID: "[1]LER" File: "EXS01190017.wiff"
Peak Name: "2,4-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 6:25:34 PM

Modified: No

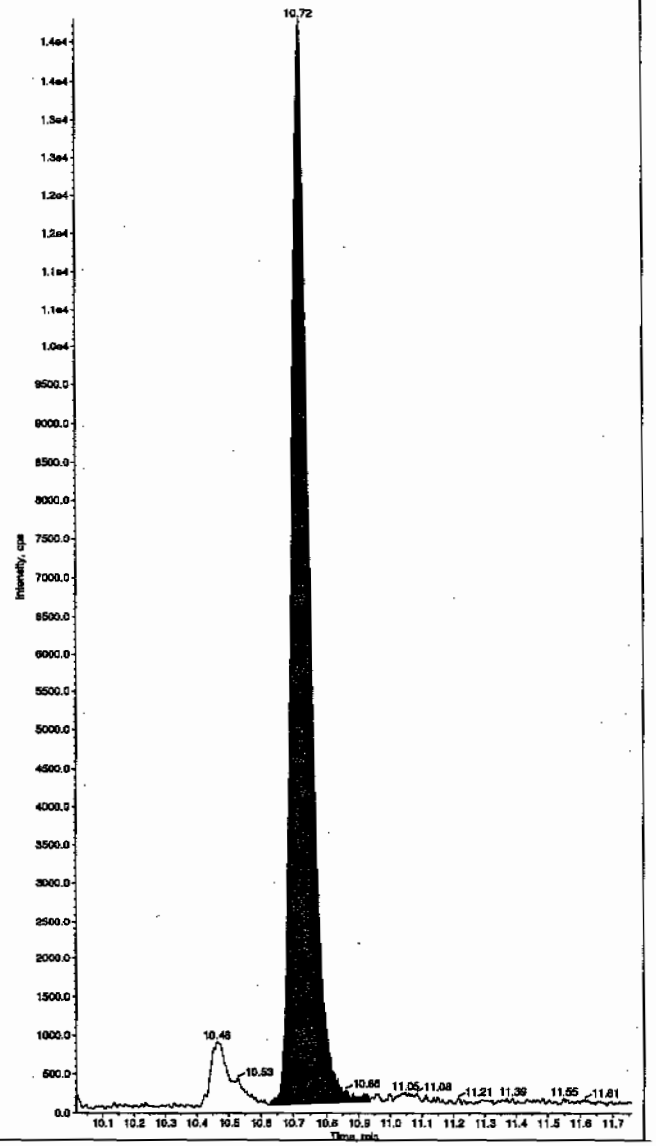


Sample Name: "XIBLK04" Sample ID: "[1]LER" File: "EXS01190017.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: No Intercept
Acq. Date: 1/19/2010
Acq. Time: 6:25:34 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.7 min
Area: 5.36e+004 counts
Height: 14170.783 cps
Start Time: 10.6 min
End Time: 10.9 min



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

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4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 19–JAN–10 20:15

GEL Data File: EXS01190024.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

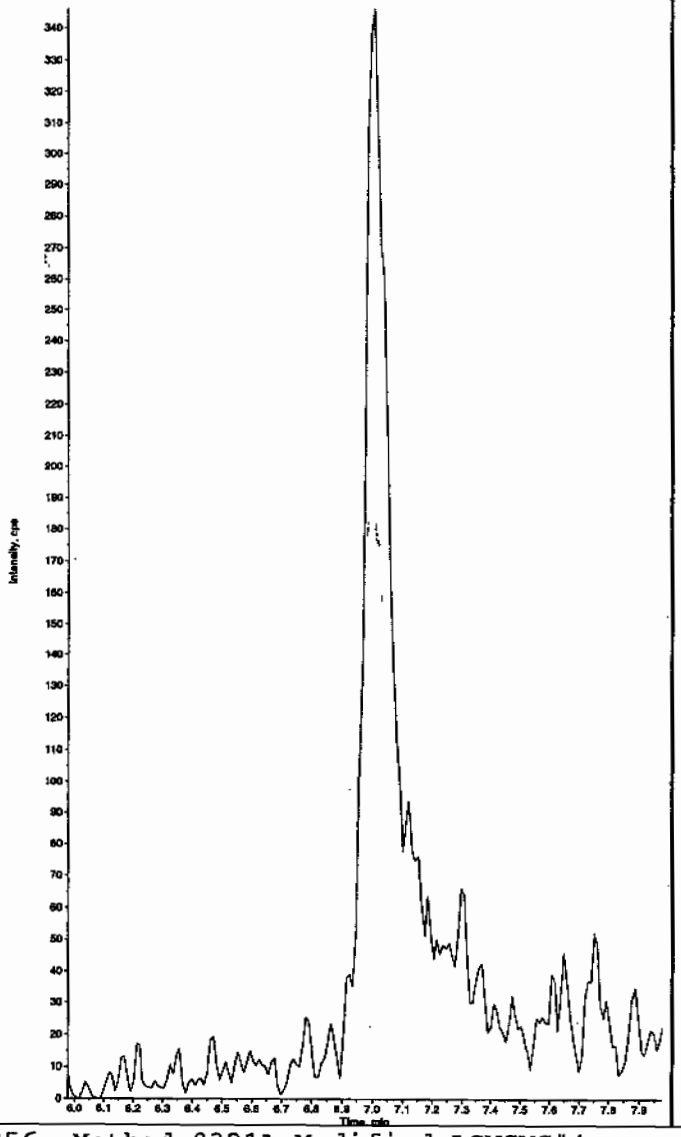
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
tris(o–cresyl) phosphate	0	0
TATB	0	0
3,5–Dinitroaniline	0	0
2,4–Diamino–6–nitrotoluene	0	0
2,6–Diamino–4–nitrotoluene	0	0

Dan 1/20/10

Sample Name: "XIBLK05" Sample ID: "[1]LER" File: "EXS01190024.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 8:15:29 PM

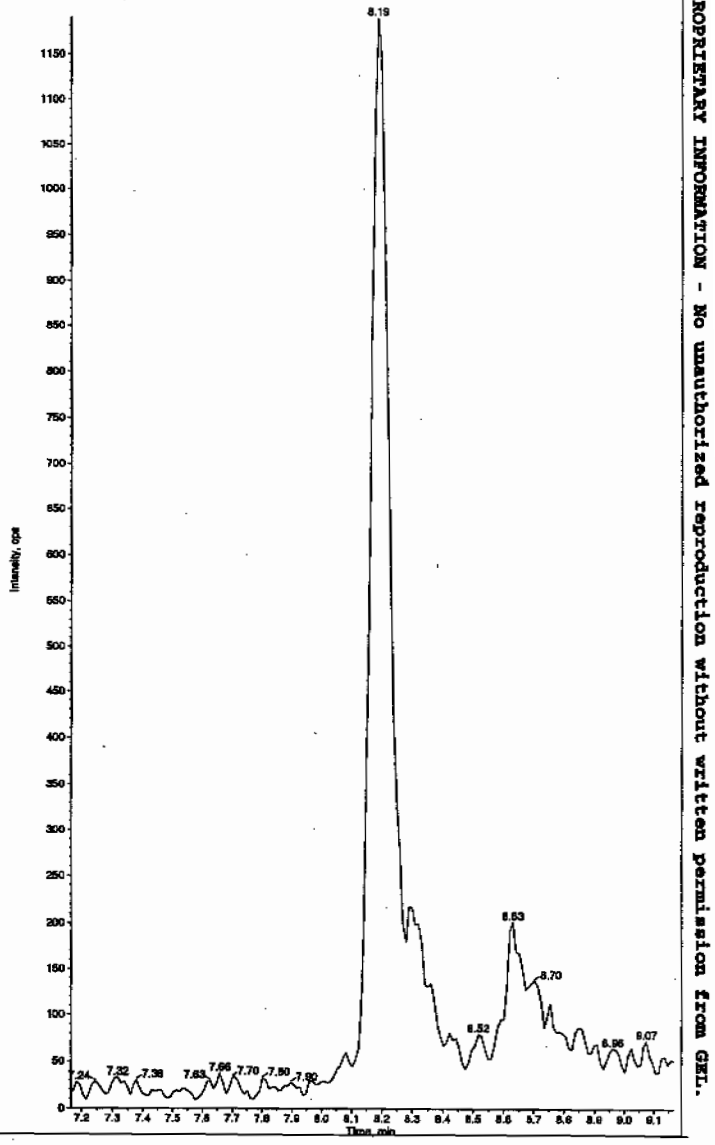
Modified: No



Sample Name: "XIBLK05" Sample ID: "[1]LER" File: "EXS01190024.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/45.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 8:15:29 PM

Modified: No



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

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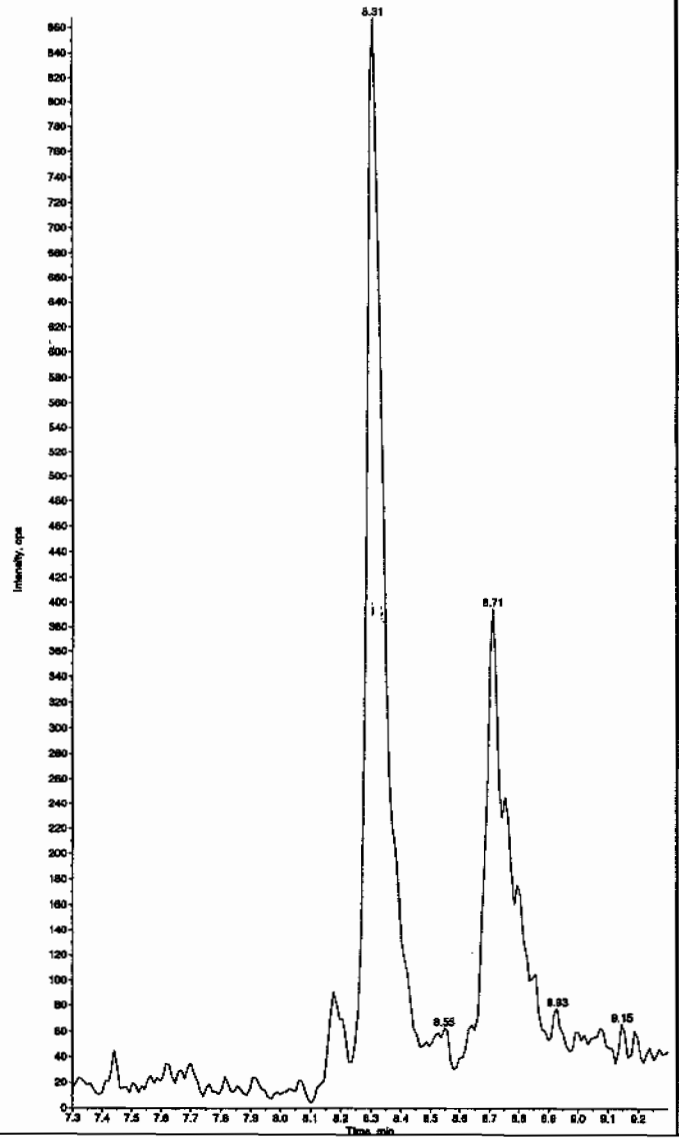
Sample Name: "XtBLK05" Sample ID: "[1]LER" File: "EXS01190024.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 8:15:29 PM

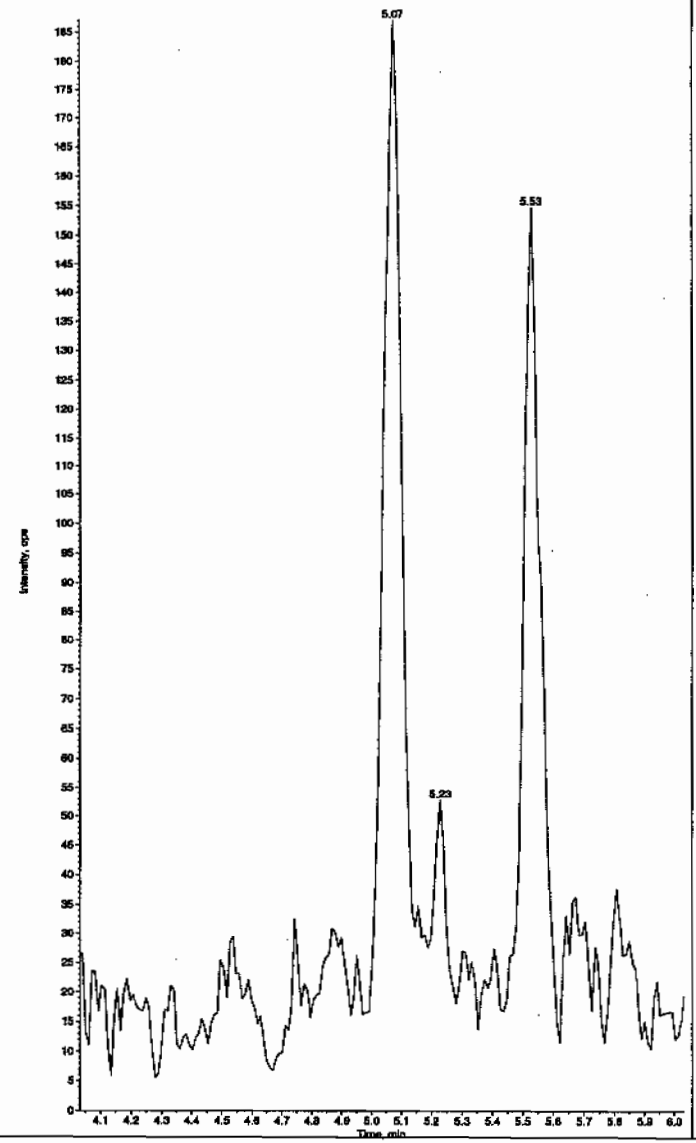
Modified: No



Sample Name: "XtBLK05" Sample ID: "[1]LER" File: "EXS01190024.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 8:15:29 PM

Modified: No

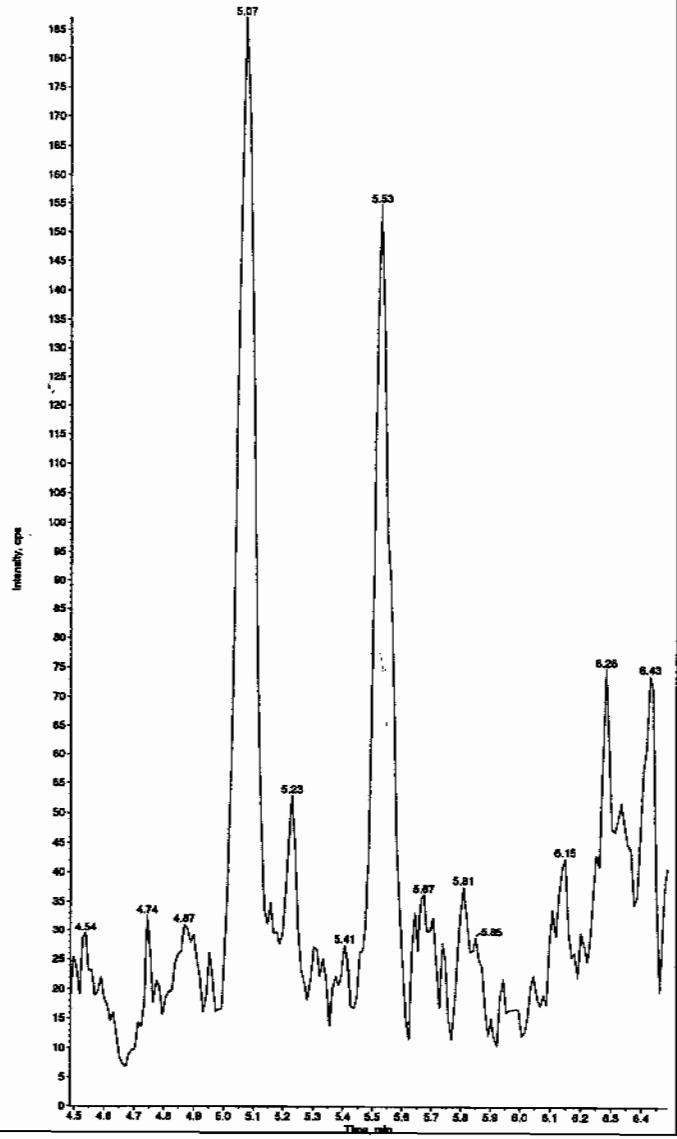


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK05" Sample ID: "|1|LER" File: "EXS01190024.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 8:15:29 PM

Modified: No

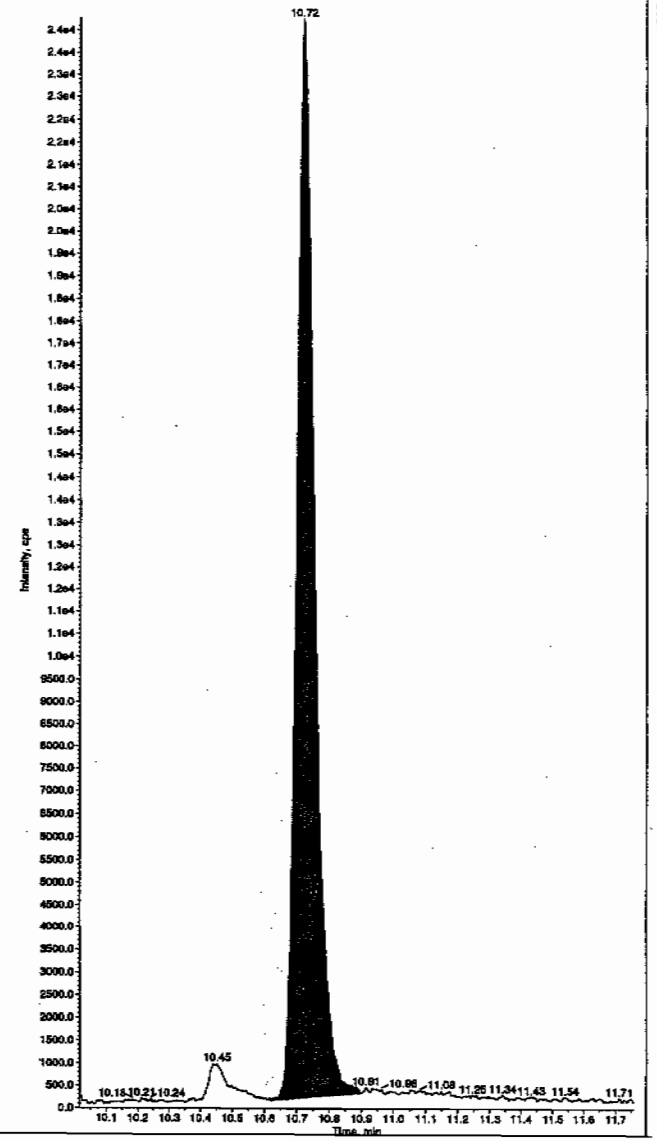


Sample Name: "XIBLK05" Sample ID: "|1|LER" File: "EXS01190024.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: No Intercept
Acq. Date: 1/19/2010
Acq. Time: 8:15:29 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.7 min
Area: 9.52e+004 counts
Height: 24057.533 cps
Start Time: 10.6 min
End Time: 10.9 min



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

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK06

Analysis Date: 19–JAN–10 23:39

GEL Data File: EXS01190037.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

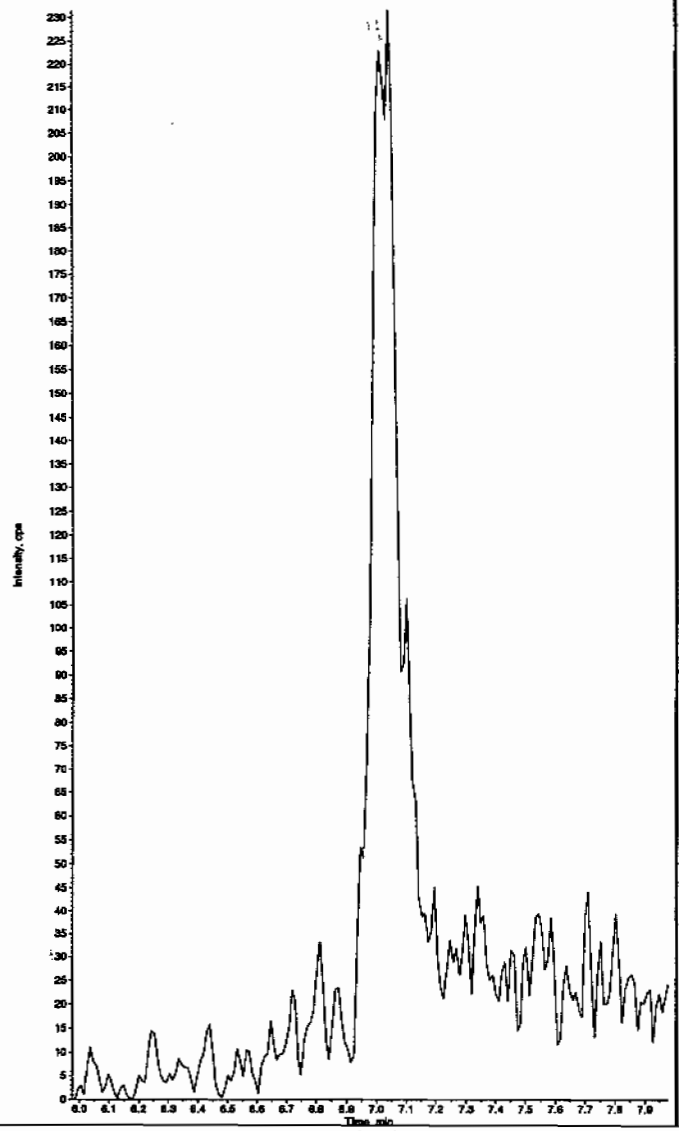
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
tris(o–cresyl) phosphate	0	0
TATB	0	0
3,5–Dinitroaniline	0	0
2,4–Diamino–6–nitrotoluene	0	0
2,6–Diamino–4–nitrotoluene	0	0

Lan 1/20/10

Sample Name: "XIBLK06" Sample ID: "|1|LER" File: "EXS01190037.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:39:35 PM

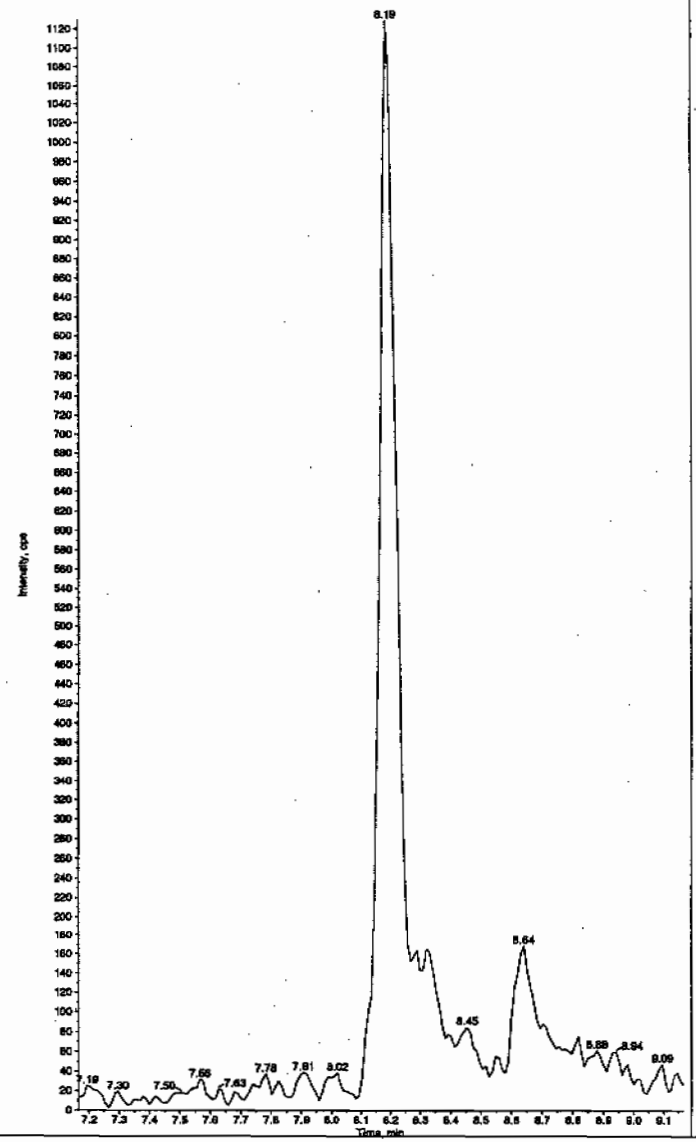
Modified: No



Sample Name: "XIBLK06" Sample ID: "|1|LER" File: "EXS01190037.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:39:35 PM

Modified: No



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

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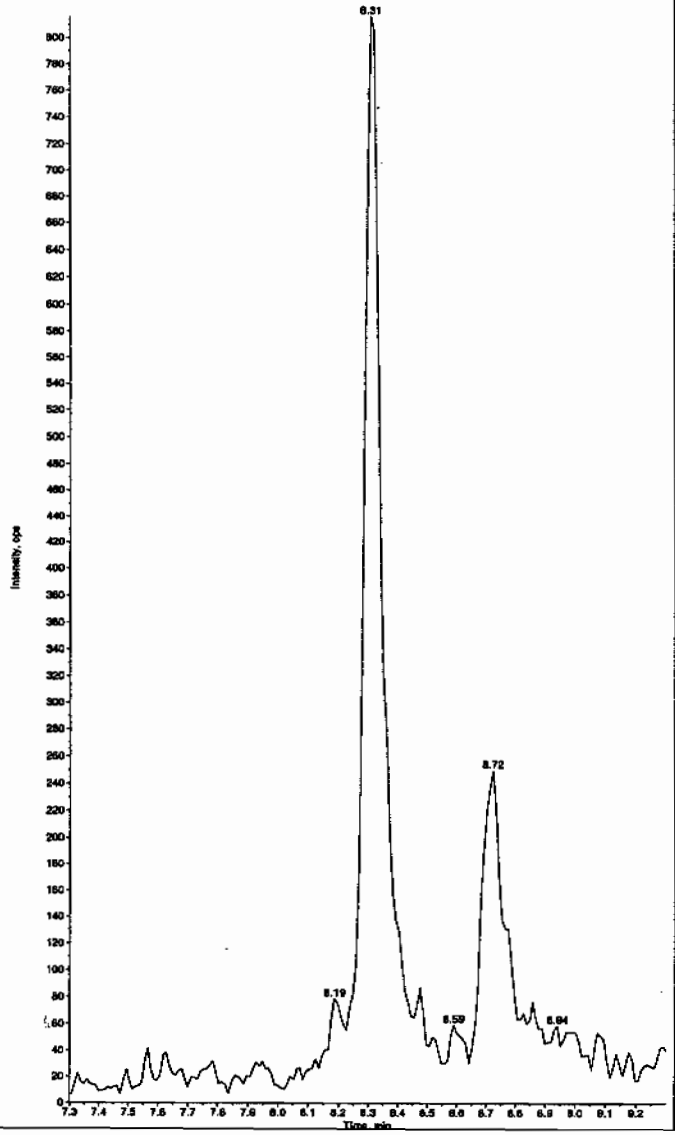
Sample Name: "XIBLK06" Sample ID: "[1]LER" File: "EXS01190037.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:39:35 PM

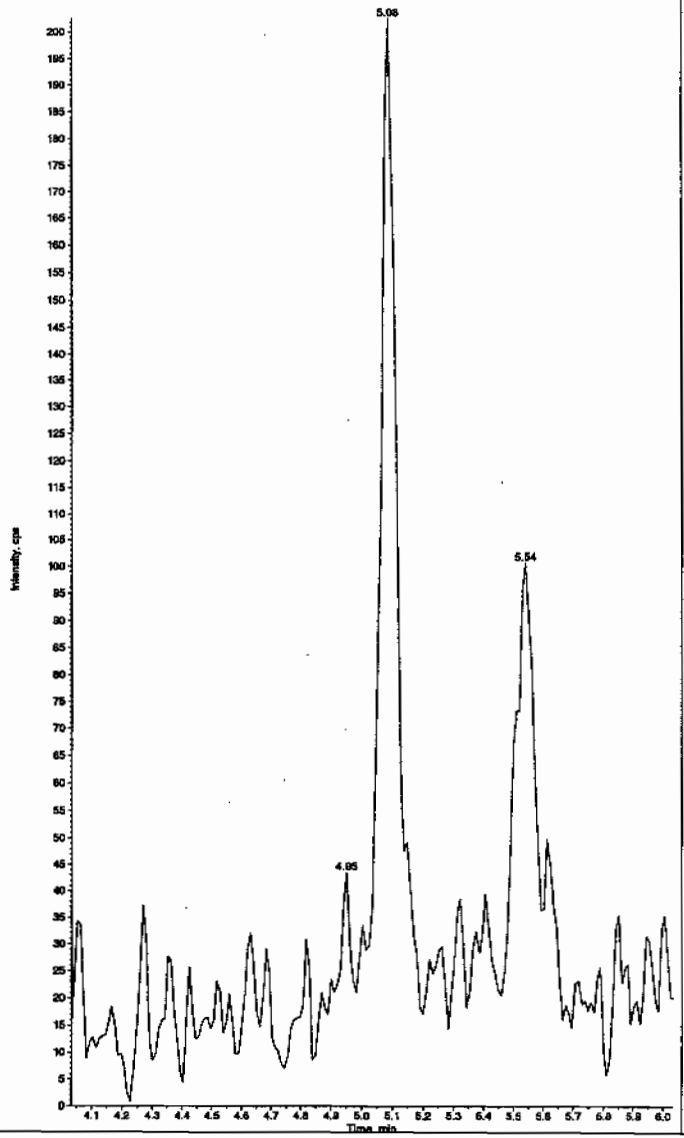
Modified: No



Sample Name: "XIBLK06" Sample ID: "[1]LER" File: "EXS01190037.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "168.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:39:35 PM

Modified: No

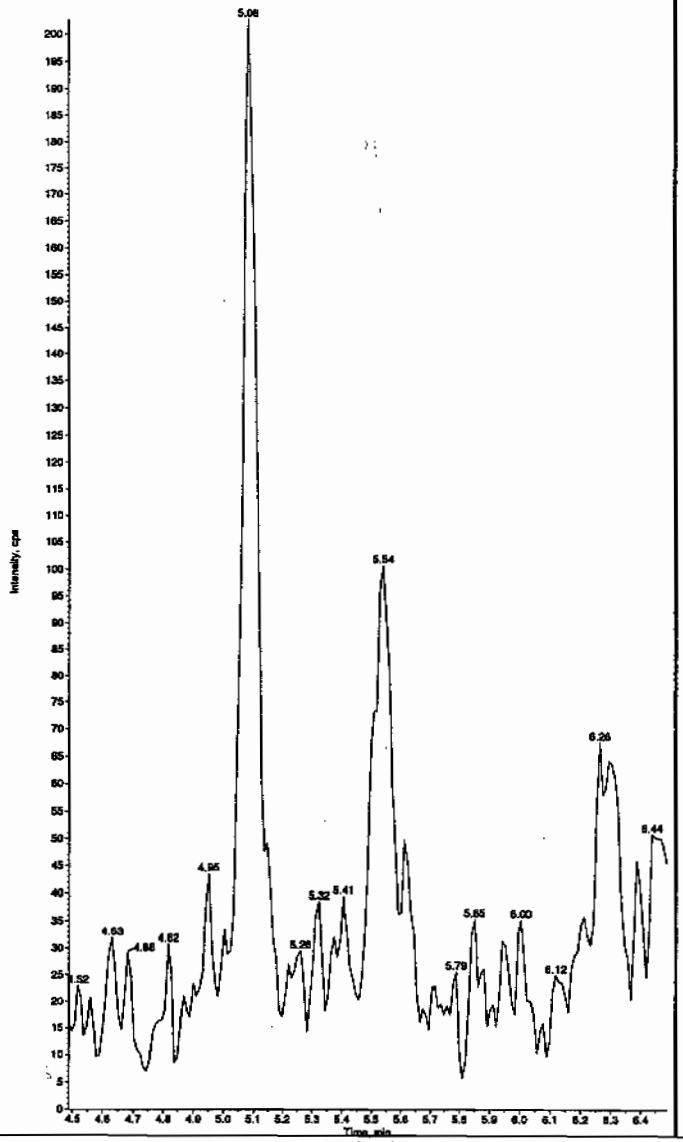


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK06" Sample ID: "[1]LER" File: "EXS01190037.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:39:35 PM

Modified: No

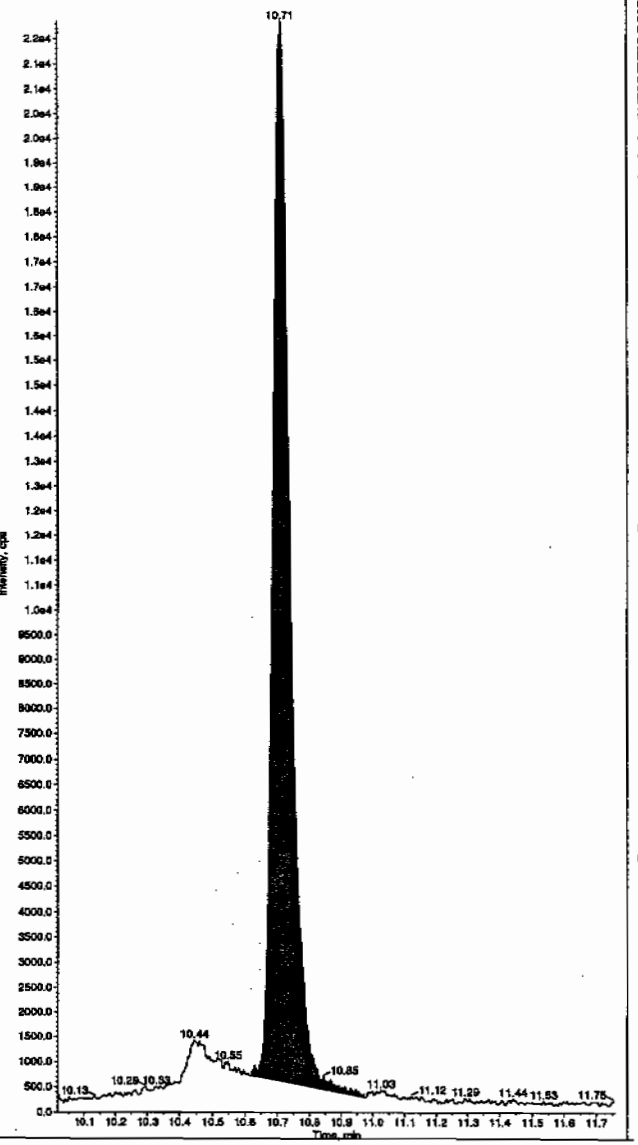


Sample Name: "XIBLK06" Sample ID: "[1]LER" File: "EXS01190037.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: No Intercept
Acq. Date: 1/19/2010
Acq. Time: 11:39:35 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.7 min
Area: 8.22e+004 counts
Height: 21240.715 cps
Start Time: 10.6 min
End Time: 11.0 min



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

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4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK07

Analysis Date: 20–JAN–10 00:26

GEL Data File: EXS01190040.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

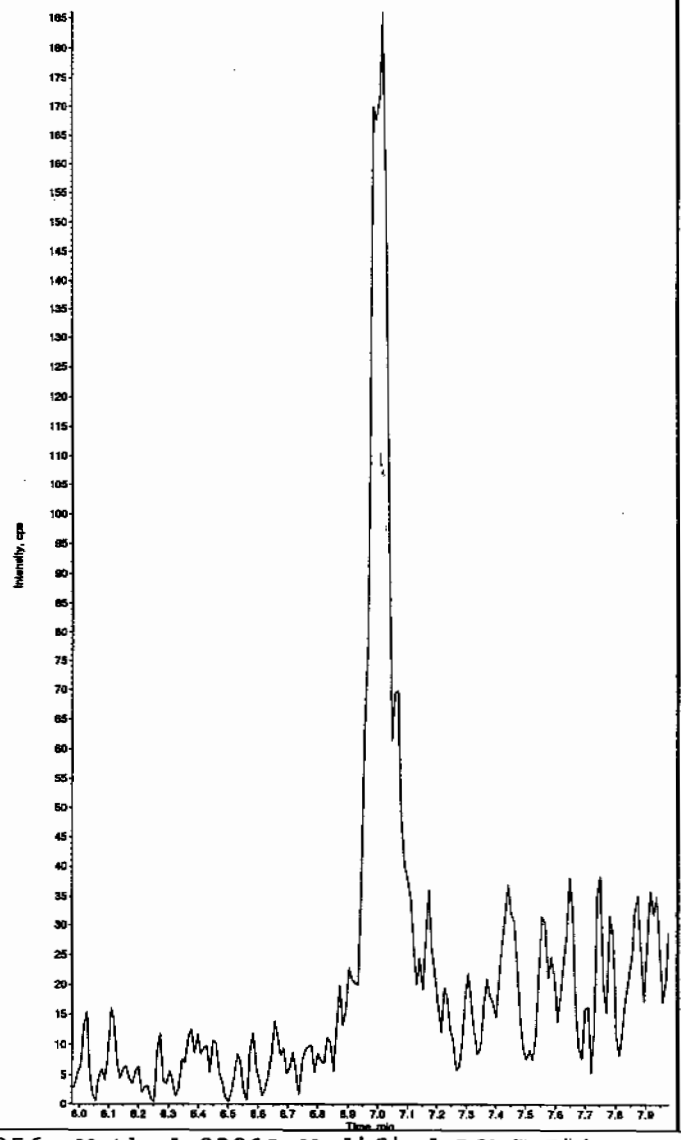
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
tris(o–cresyl) phosphate	0	0
TATB	0	0
3,5–Dinitroaniline	0	0
2,4–Diamino–6–nitrotoluene	0	0
2,6–Diamino–4–nitrotoluene	0	0

LER 1/20/10

Sample Name: "XIBLK07" Sample ID: "[1]LER" File: "EXS01190040.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:26:41 AM

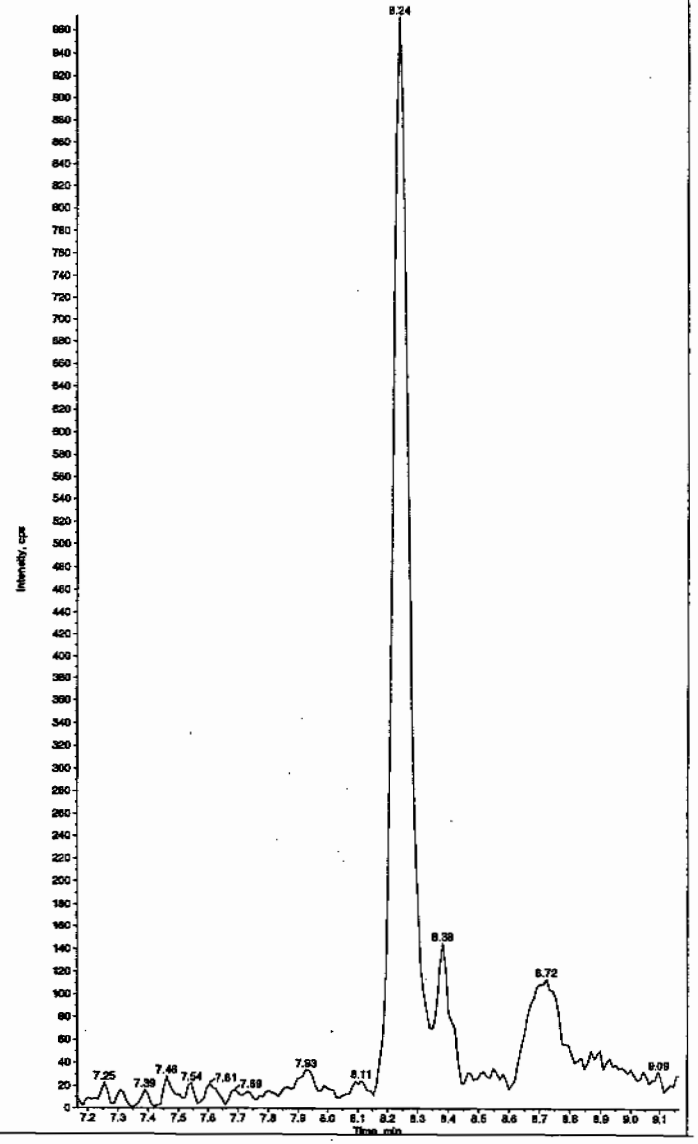
Modified: No



Sample Name: "XIBLK07" Sample ID: "[1]LER" File: "EXS01190040.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:26:41 AM

Modified: No



HMM 01/20/10

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

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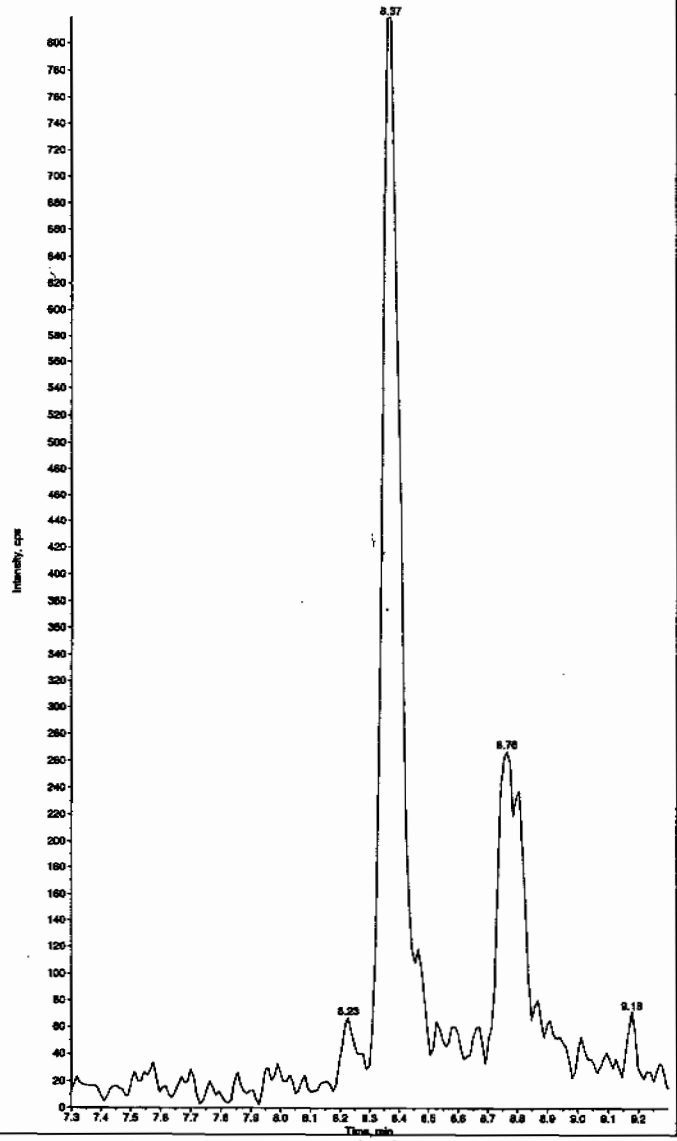
Sample Name: "XIBLK07" Sample ID: "[1]LER" File: "EXS01190040.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:26:41 AM

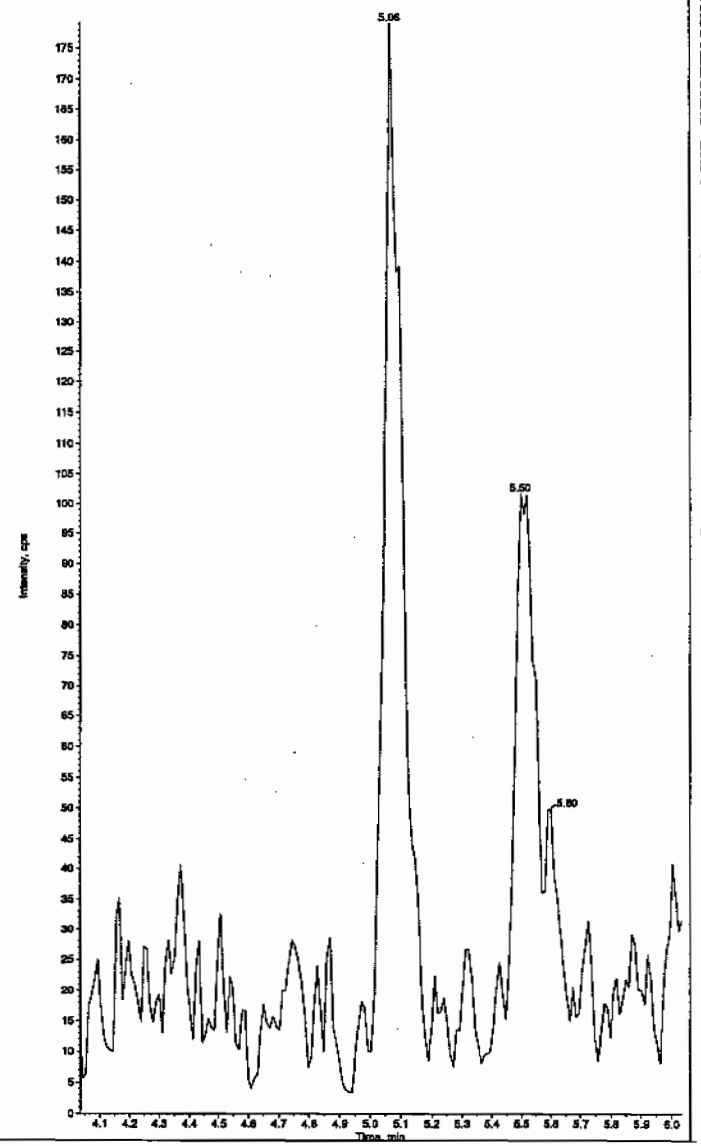
Modified: No



Sample Name: "XIBLK07" Sample ID: "[1]LER" File: "EXS01190040.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:26:41 AM

Modified: No



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

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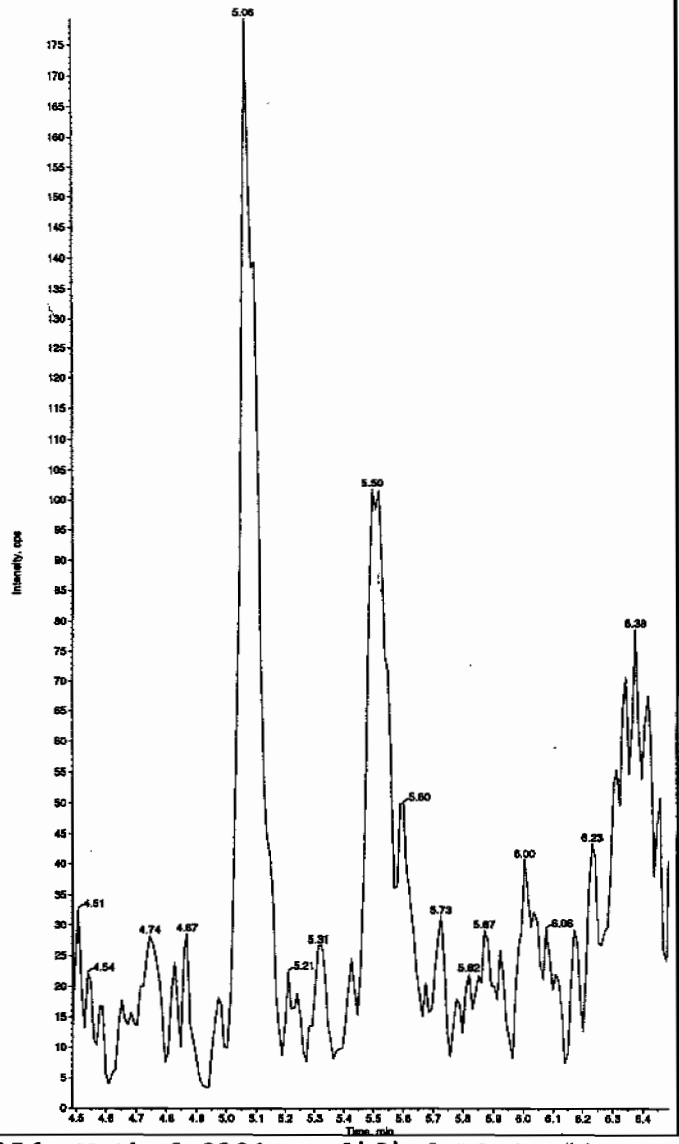
Sample Name: "XIBLK07" Sample ID: "[1]LER" File: "EXS01190040.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:26:41 AM

Modified: No

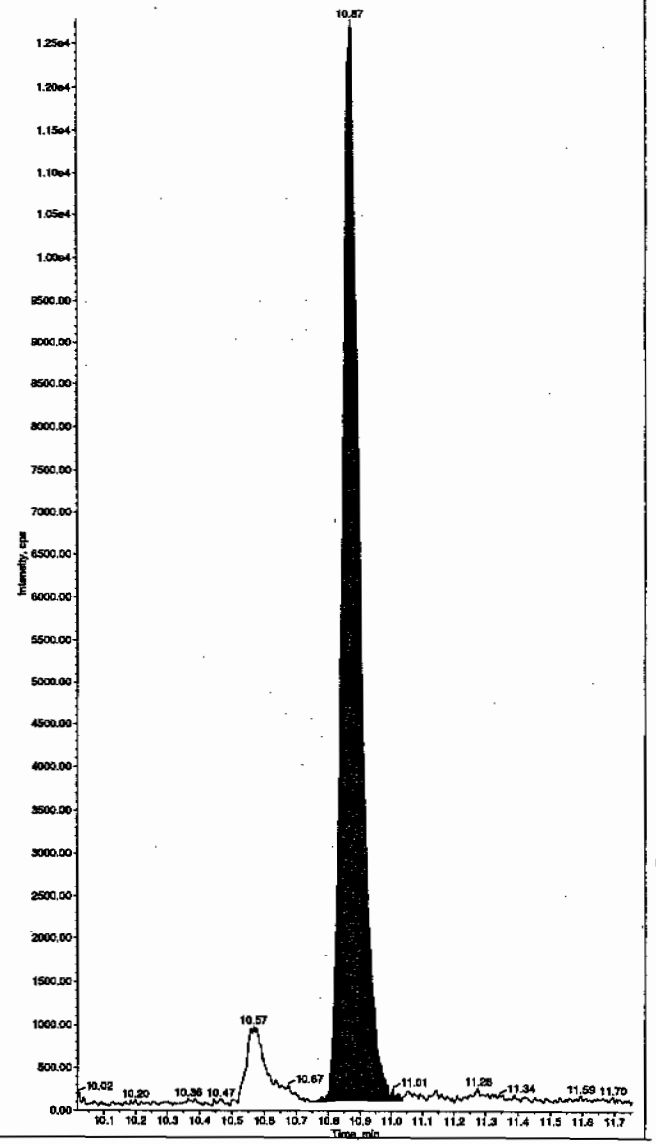


Sample Name: "XIBLK07" Sample ID: "[1]LER" File: "EXS01190040.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: No Intercept
Acq. Date: 1/20/2010
Acq. Time: 12:26:41 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 5.07e+004 counts
Height: 12675.883 cps
Start Time: 10.8 min
End Time: 11.0 min



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

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10–1126

Lab Code: GEL

Lab Sample ID: XIBLK08

Analysis Date: 20–JAN–10 02:48

GEL Data File: EXS01190049.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

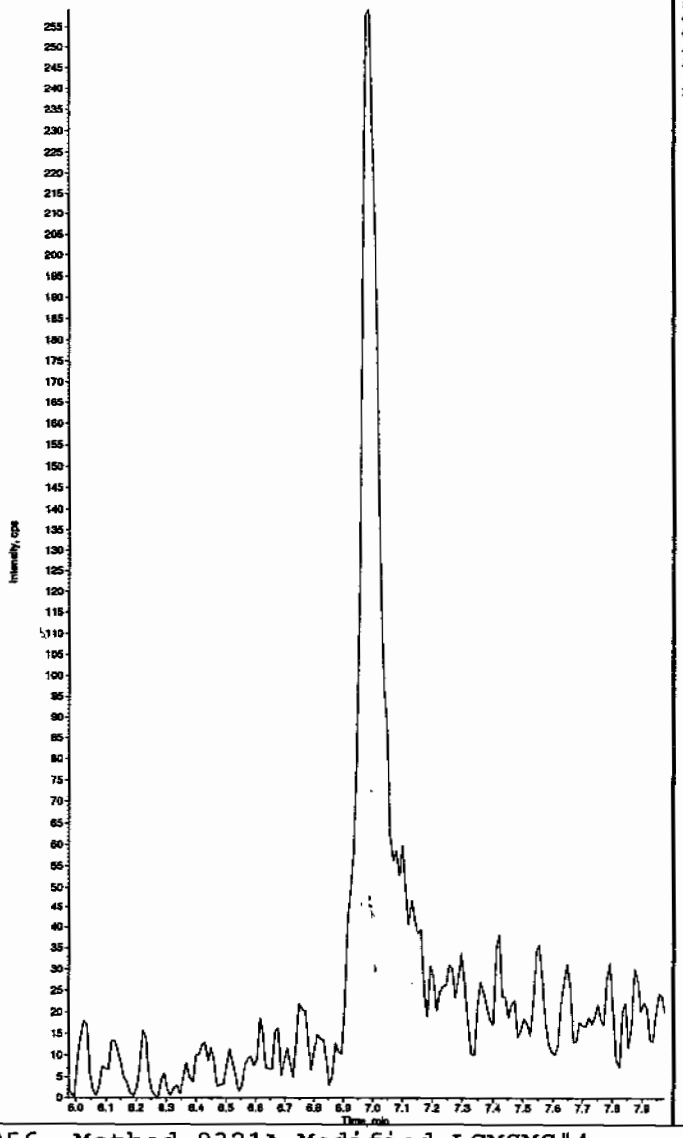
Compound	True	Found (ug/L)
3,4–Dinitrotoluene	0	0
tris(o–cresyl) phosphate	0	0
TATB	0	0
3,5–Dinitroaniline	0	0
2,4–Diamino–6–nitrotoluene	0	0
2,6–Diamino–4–nitrotoluene	0	0

LLer 1/20/10

Sample Name: "XIBLK08" Sample ID: "[1]LER" File: "EXS01190049.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:48:02 AM

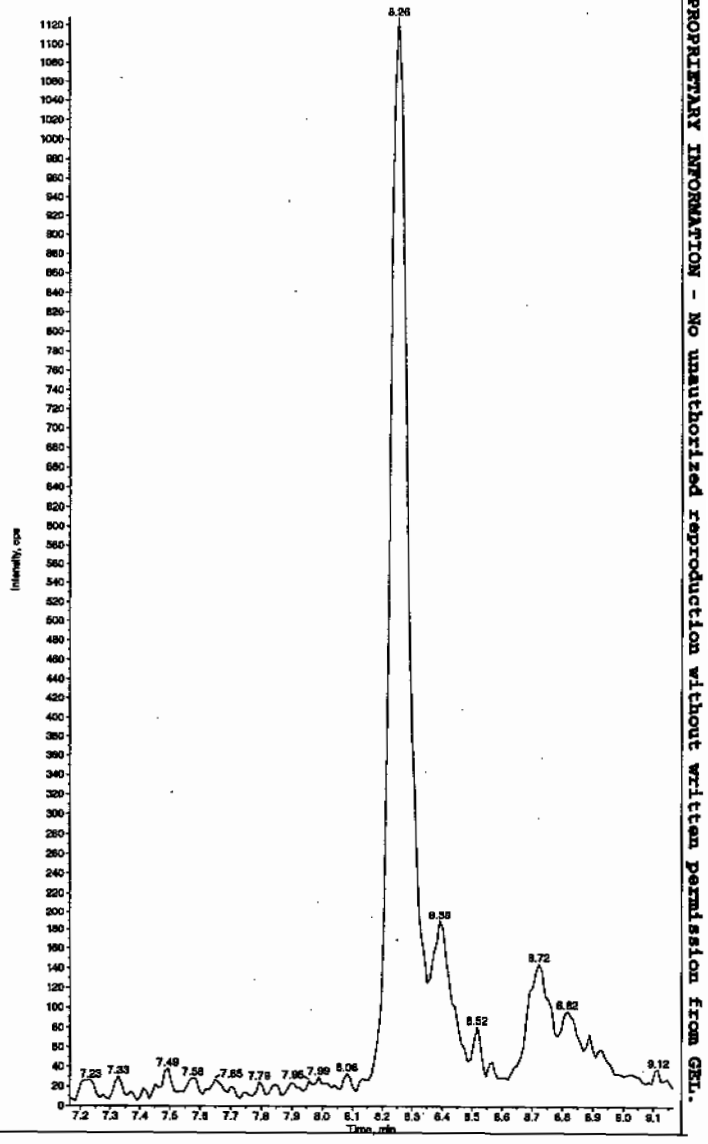
Modified: No



Sample Name: "XIBLK08" Sample ID: "[1]LER" File: "EXS01190049.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:48:02 AM

Modified: No



HMM 01/20/10

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

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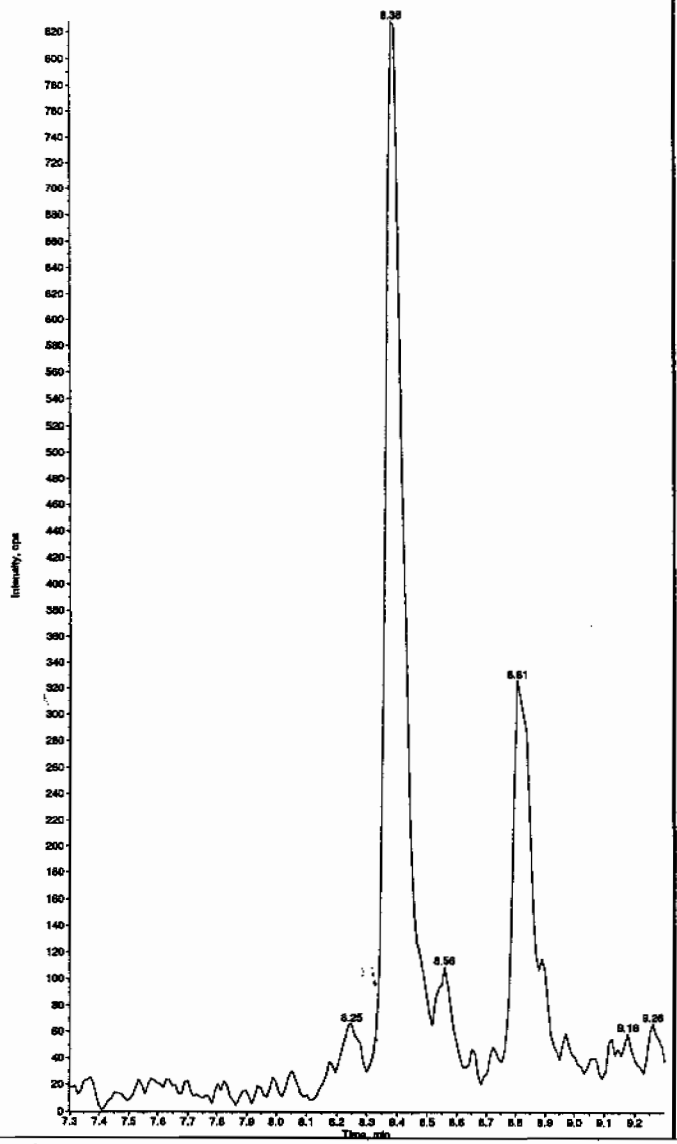
Sample Name: "XIBLK08" Sample ID: "[1]LER" File: "EXS01190049.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:48:02 AM

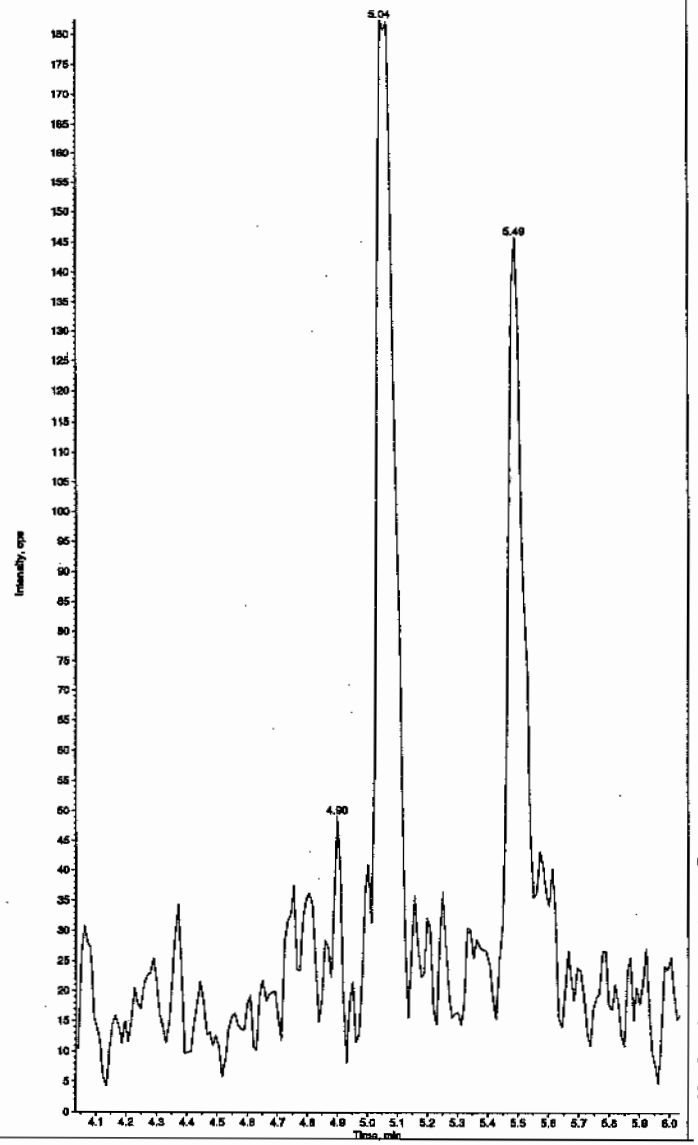
Modified: No



Sample Name: "XIBLK08" Sample ID: "[1]LER" File: "EXS01190049.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:48:02 AM

Modified: No



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

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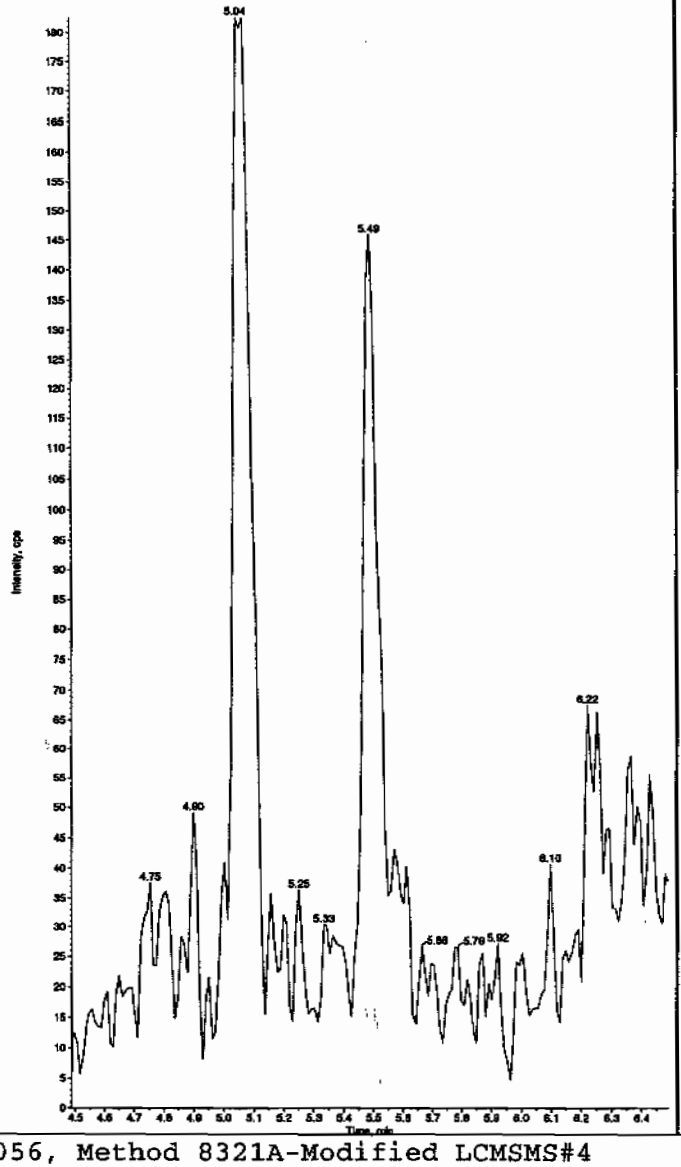
Sample Name: "XIBLK08" Sample ID: "[1]LER" File: "EXS01190049.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:48:02 AM

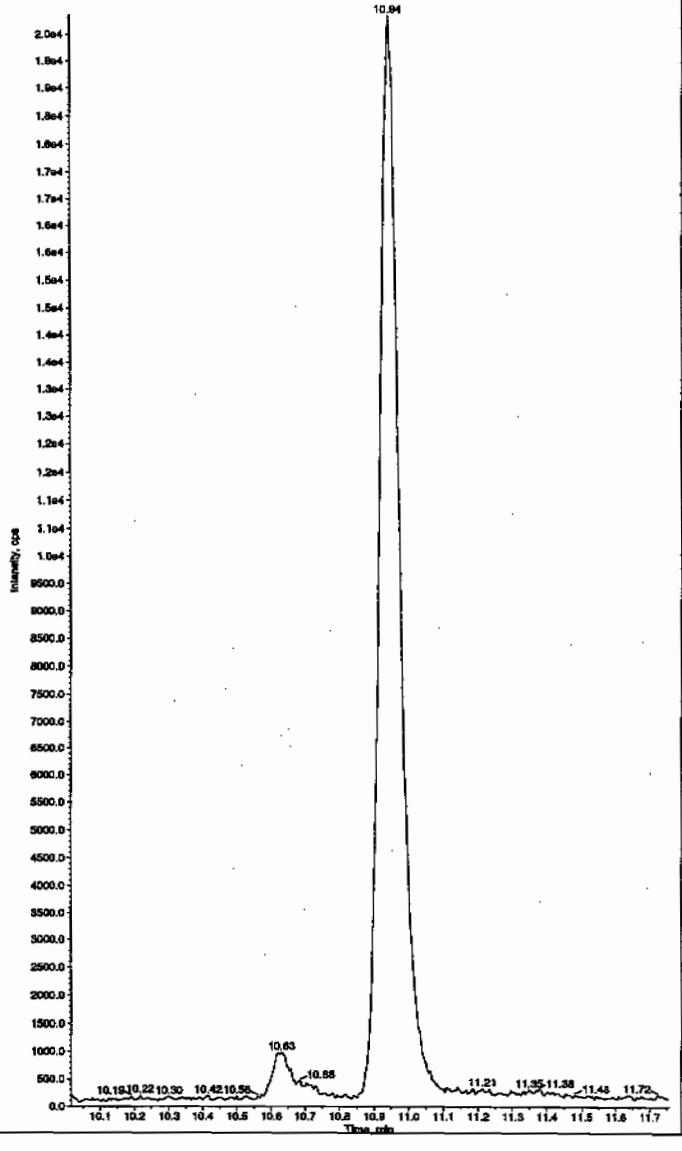
Modified: No



Sample Name: "XIBLK08" Sample ID: "[1]LER" File: "EXS01190049.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:48:02 AM

Modified: No



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

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1126

Lab Code: GEL

Lab Sample ID: XIBLK09

Analysis Date: 20-JAN-10 04:38

GEL Data File: EXS01190056.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

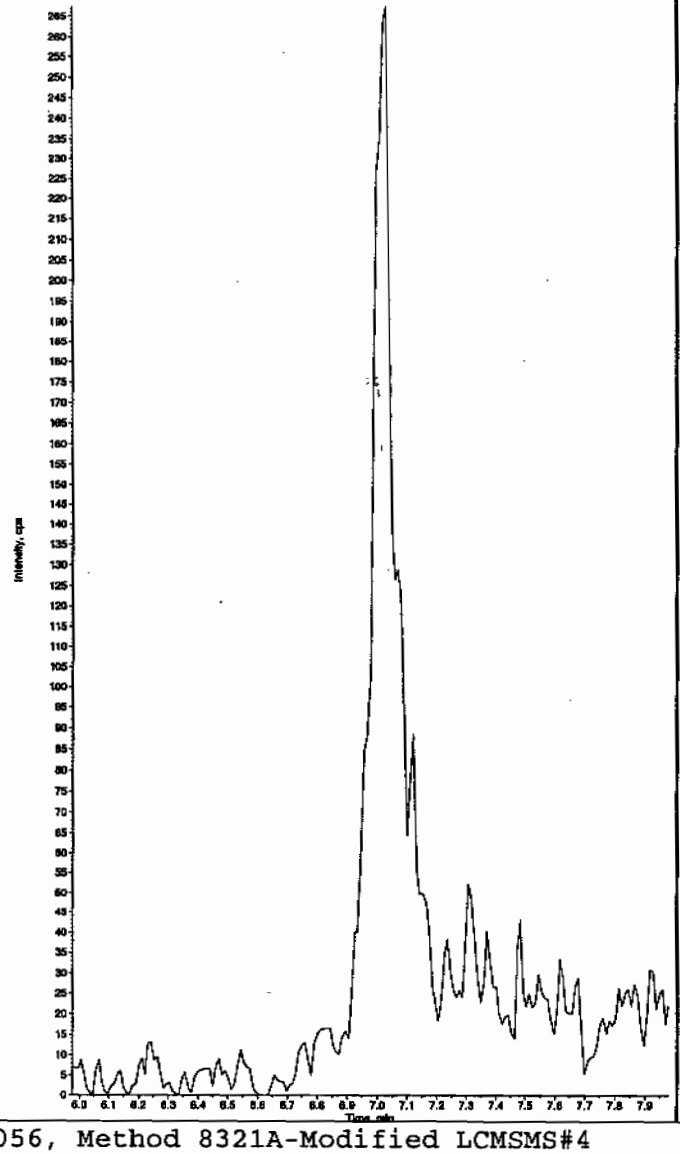
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Ran 1/20/10

Sample Name: "XIBLK09" Sample ID: "[1]LER" File: "EXS01190056.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:38:00 AM

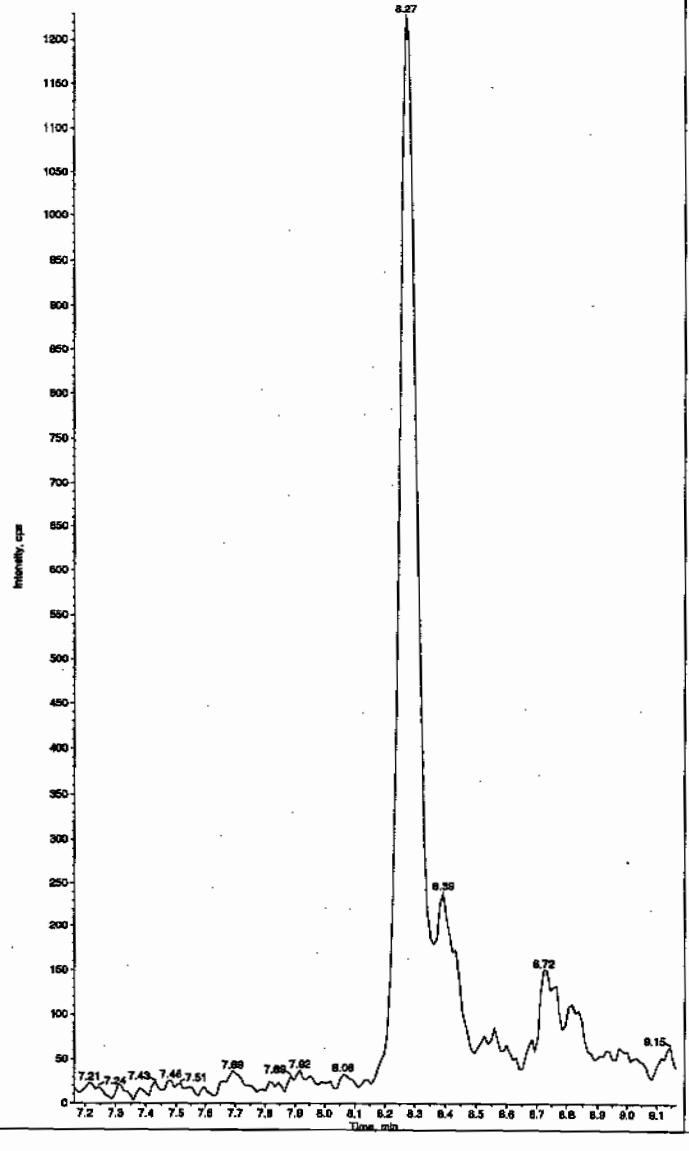
Modified: No



Sample Name: "XIBLK09" Sample ID: "[1]LER" File: "EXS01190056.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:36:00 AM

Modified: No



Hmm 01/20/10

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

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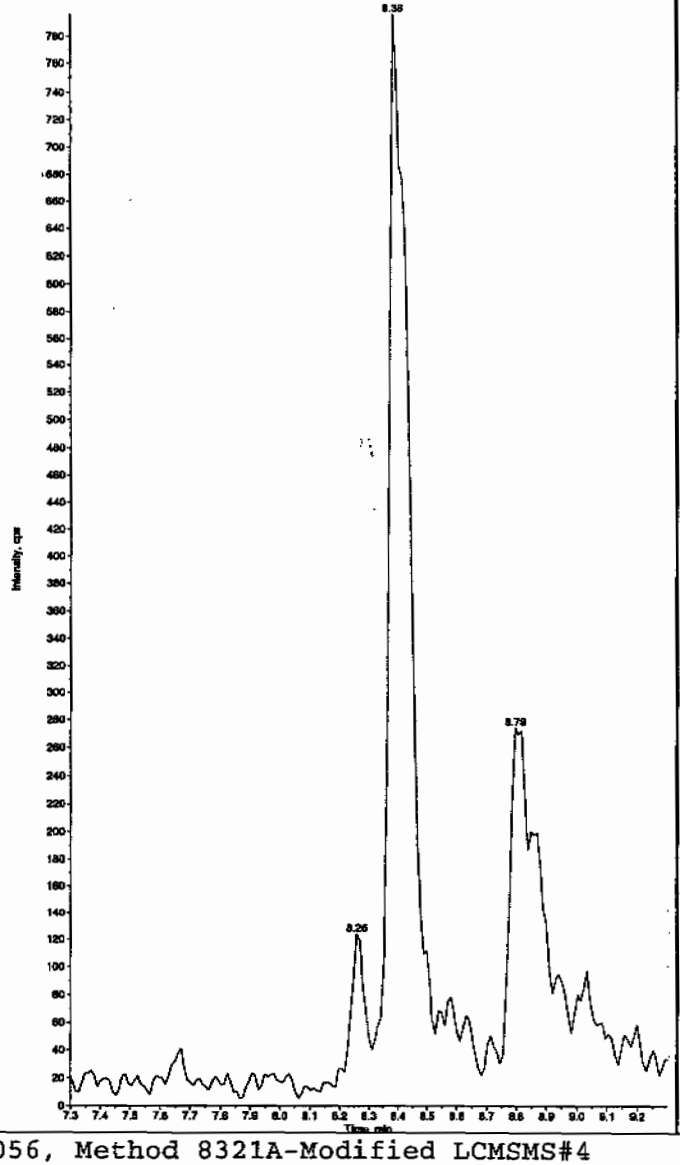
Sample Name: "XIBLK09" Sample ID: "[1]LER" File: "EXS01190056.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:38:00 AM

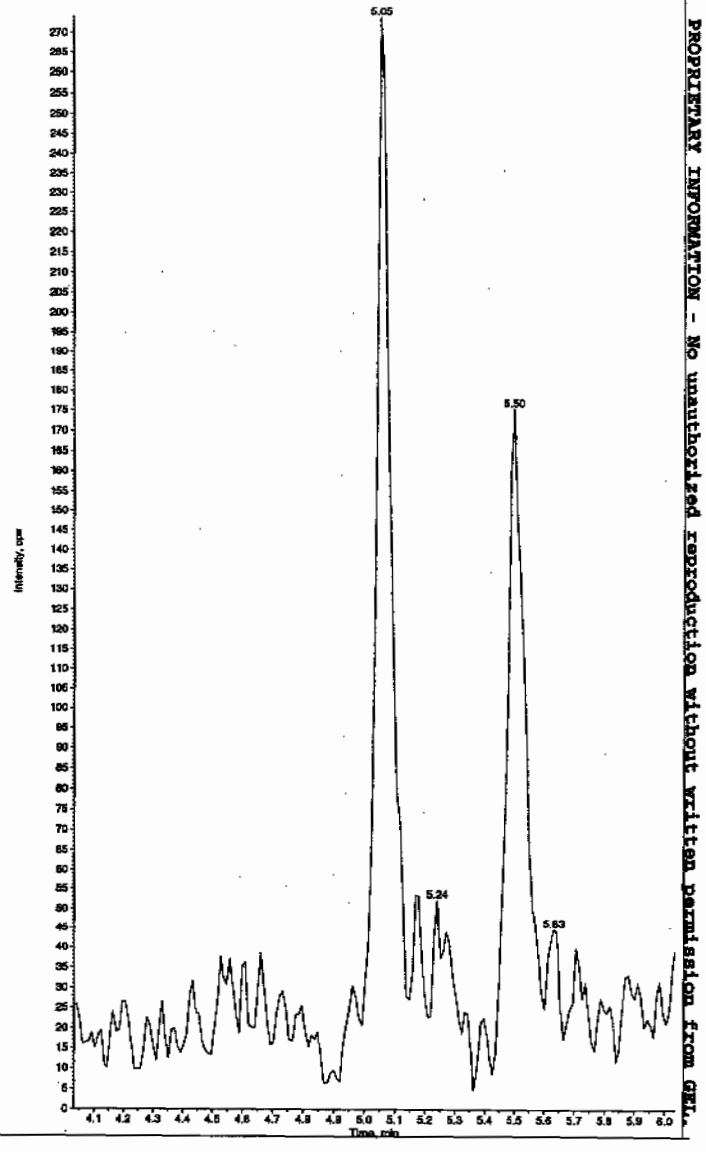
Modified: No



Sample Name: "XIBLK09" Sample ID: "[1]LER" File: "EXS01190056.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:38:00 AM

Modified: No

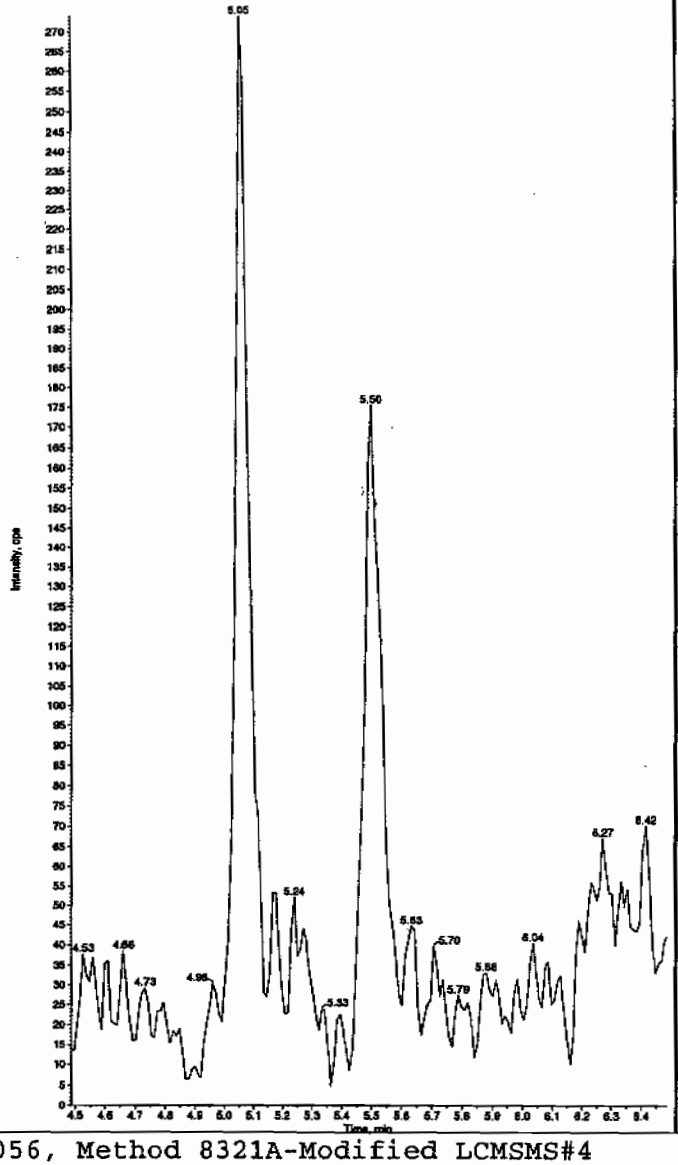


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XIBLK09" Sample ID: "|1|LER" File: "EXS01190056.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:38:00 AM

Modified: No

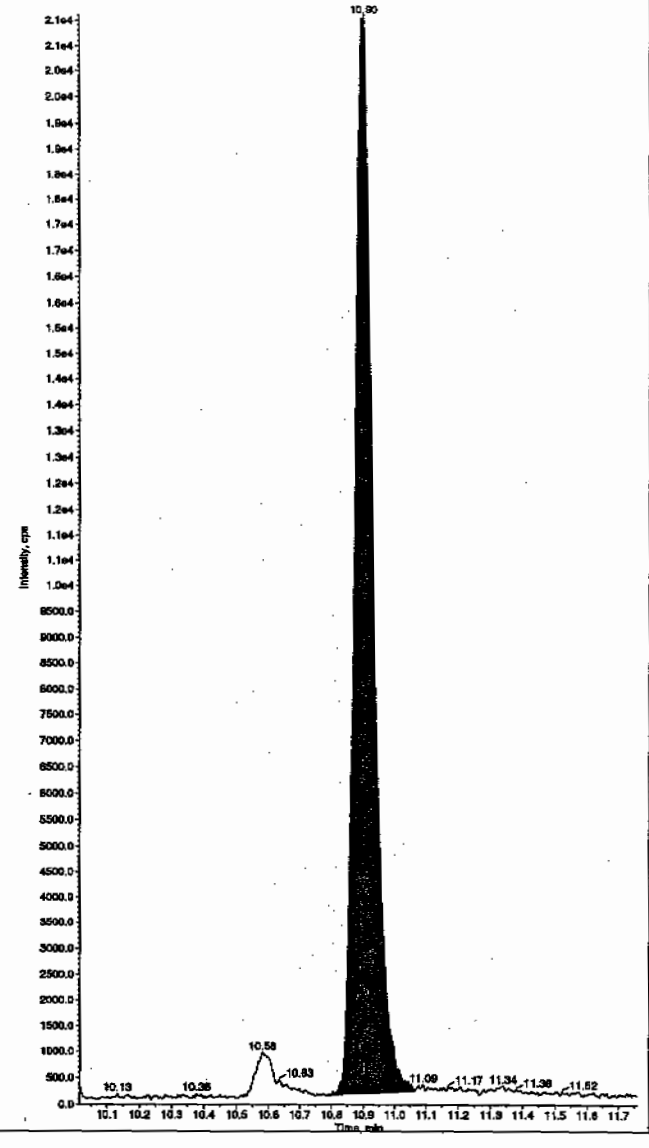


Sample Name: "XIBLK09" Sample ID: "|1|LER" File: "EXS01190056.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: No Intercept
Acq. Date: 1/20/2010
Acq. Time: 4:38:00 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 8.71e+004 counts
Height: 20911.503 cps
Start Time: 10.8 min
End Time: 11.1 min



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

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Nairb.ref

;Positive ion monoisotopic and average masses from solution
;of NaI/Rbi (2.0/0.05ug/ul) in 50/20 2-propanol/H2O.
;Most useful general purpose calibrant for all low
;MW applications, including MS/MS work.
;At high resolution, readily covers from m/z 50-2000.
;At reduced resolution, can be used to over m/z 3000.
;NOT RECOMMENDED FOR PROTEIN WORK. USE MYO, MYOTRP or TRP.
Updated 20 April '95

22.9898	100
84.9118	100
172.8840	100
322.7782	100
472.6725	100
622.5667	100
772.4610	100
922.3552	100
1072.2494	100
; 1222.1437	100
; 1372.0379	100
; 1521.9321	100
; 1671.8264	100
; 1821.7206	100
; 1971.6149	100
; 2121.5091	100
; 2271.4033	100
; 2421.2976	100
; 2571.1918	100
; 2721.0861	100
; 2870.9803	100
; 3020.8745	100
; 3170.7688	100
; 3320.6630	100
; 3470.5572	100
; 3620.4515	100
; 3770.3457	100
; 3920.2400	100

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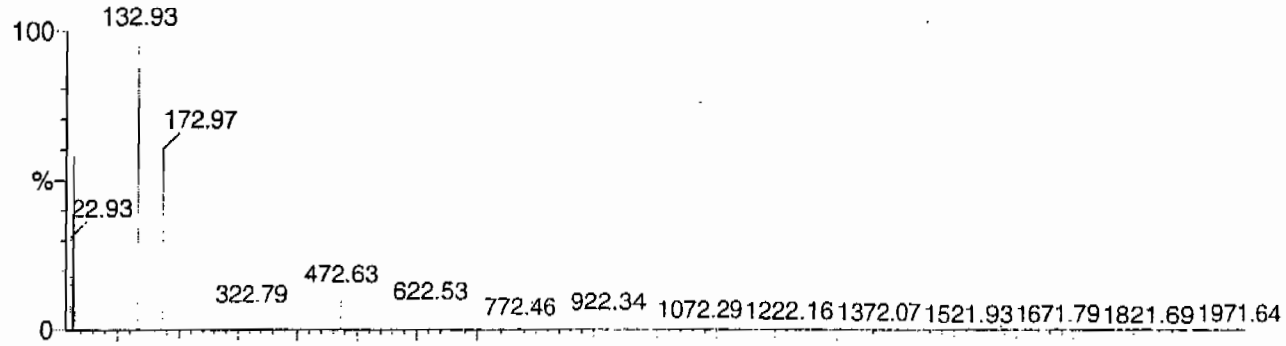
Calibration Report - MS1 Static

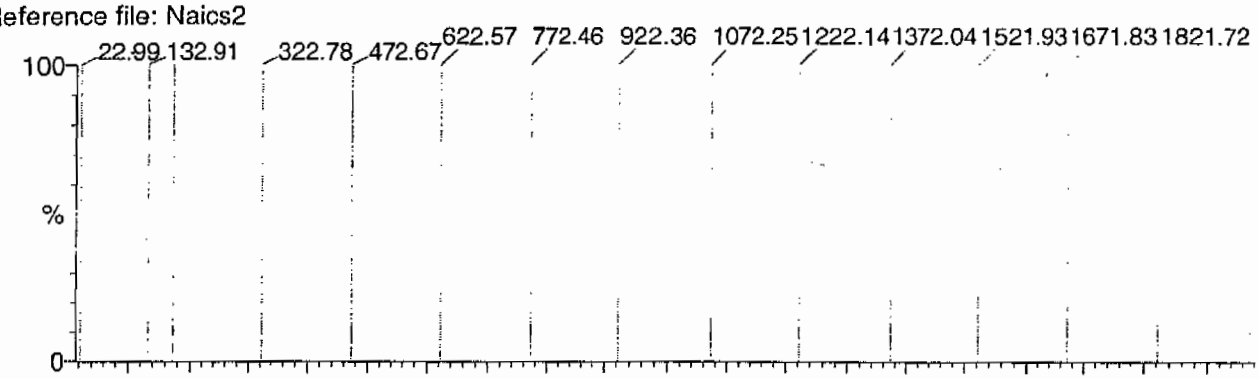
Printed: Fri Aug 25 10:50:01 2006

Data file: STATMS1 - Calibrated

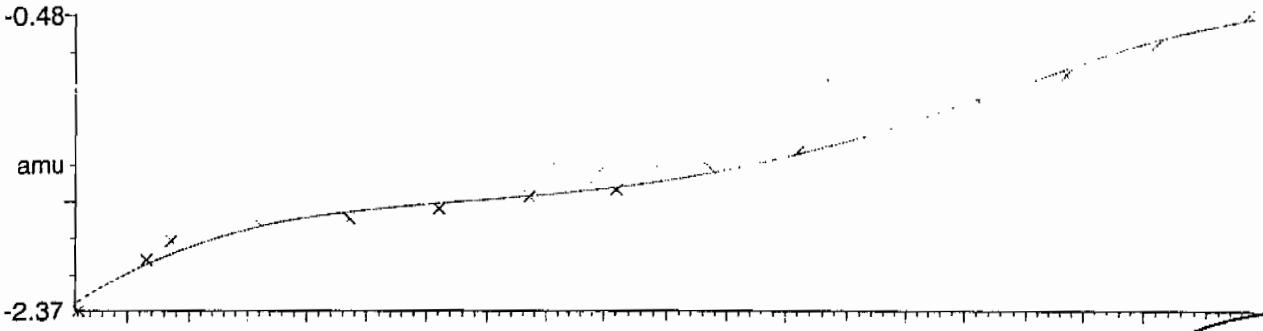
15 matches of 15 tested references



Reference file: Naics2



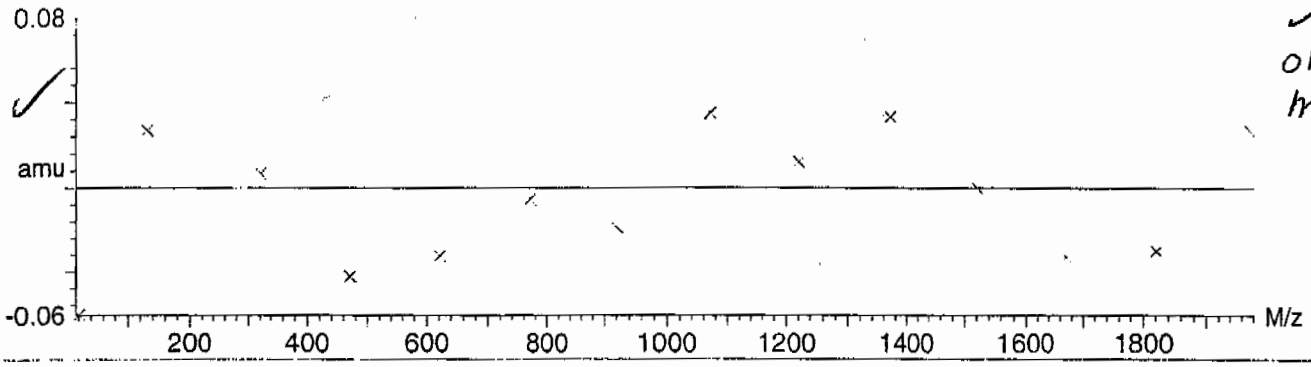
Mass difference (Raw - Ref mass)



Residuals

Mean residual = -1.673470e-9 ± 0.036953

ok
hm



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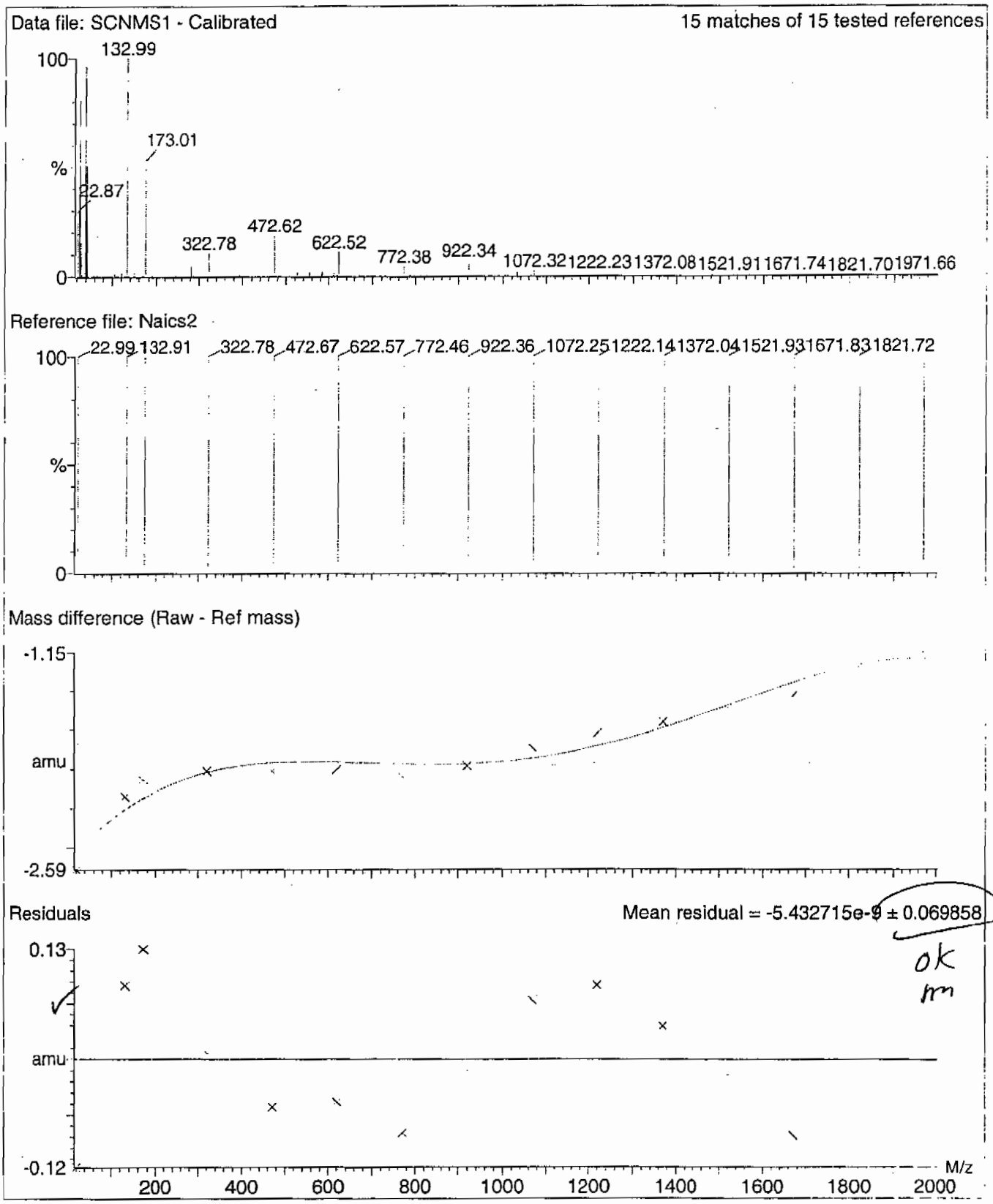
Calibration Report - MS1 Scanning

Printed: Fri Aug 25 10:51:06 2006



ok
m

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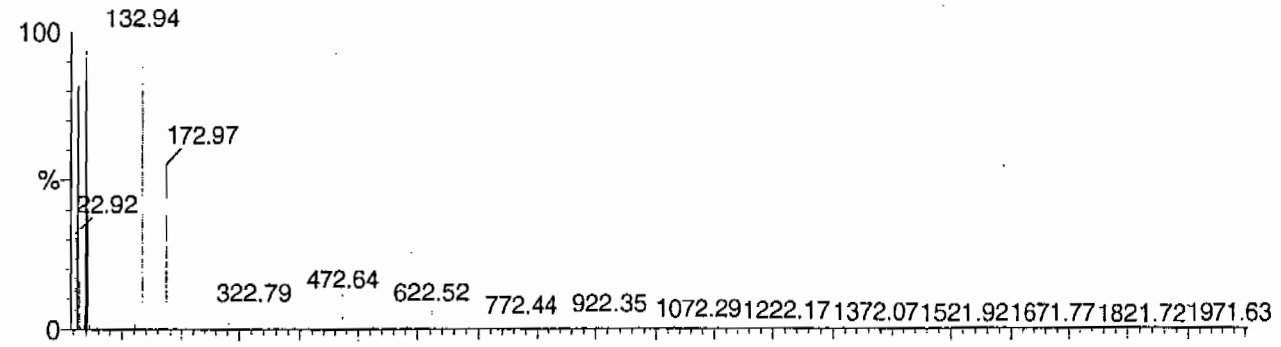
Calibration Report - MS1 Scan Speed Compensation

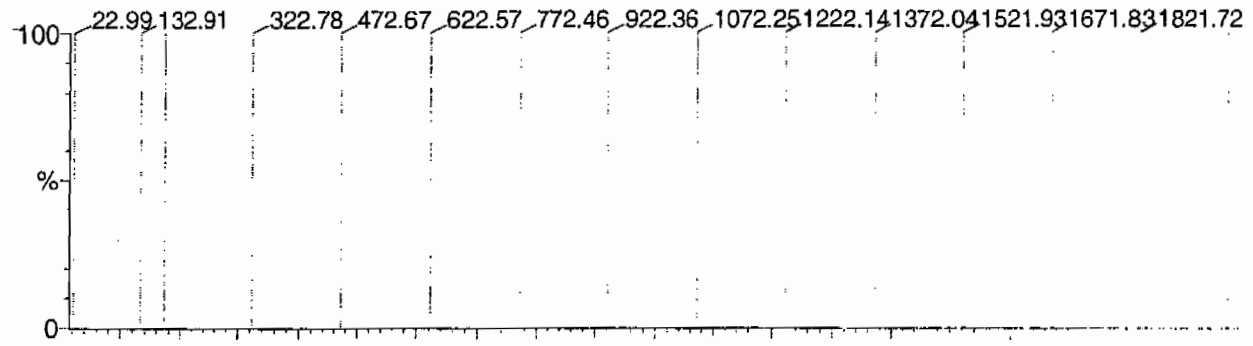
Printed: Fri Aug 25 10:52:01 2006

Data file: FASTMS1 - Calibrated

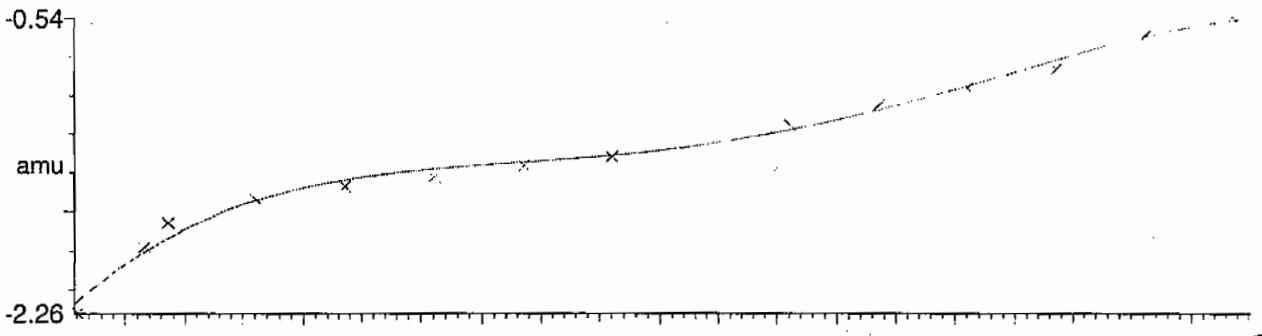
15 matches of 15 tested references



Reference file: Naics2

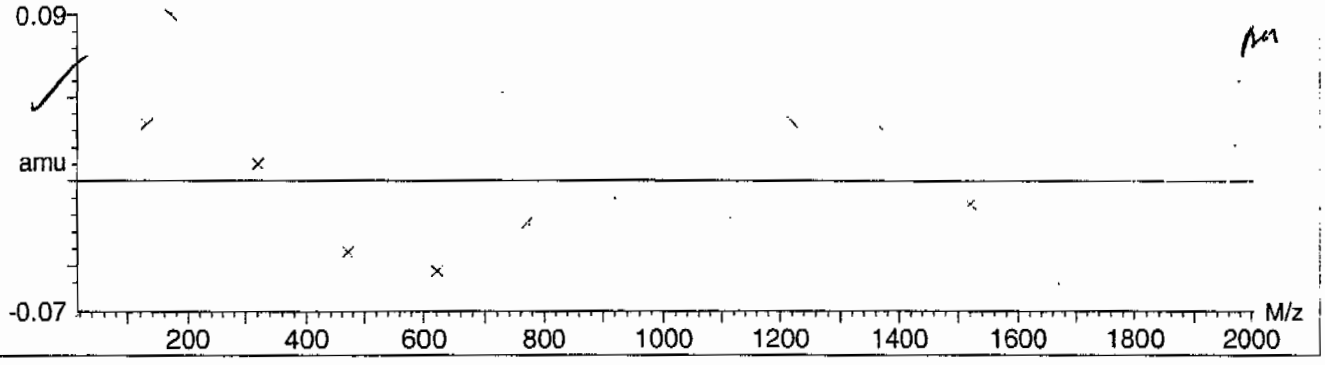


Mass difference (Raw - Ref mass)



Residuals

Mean residual = 3.486639e-9 ± 0.040487



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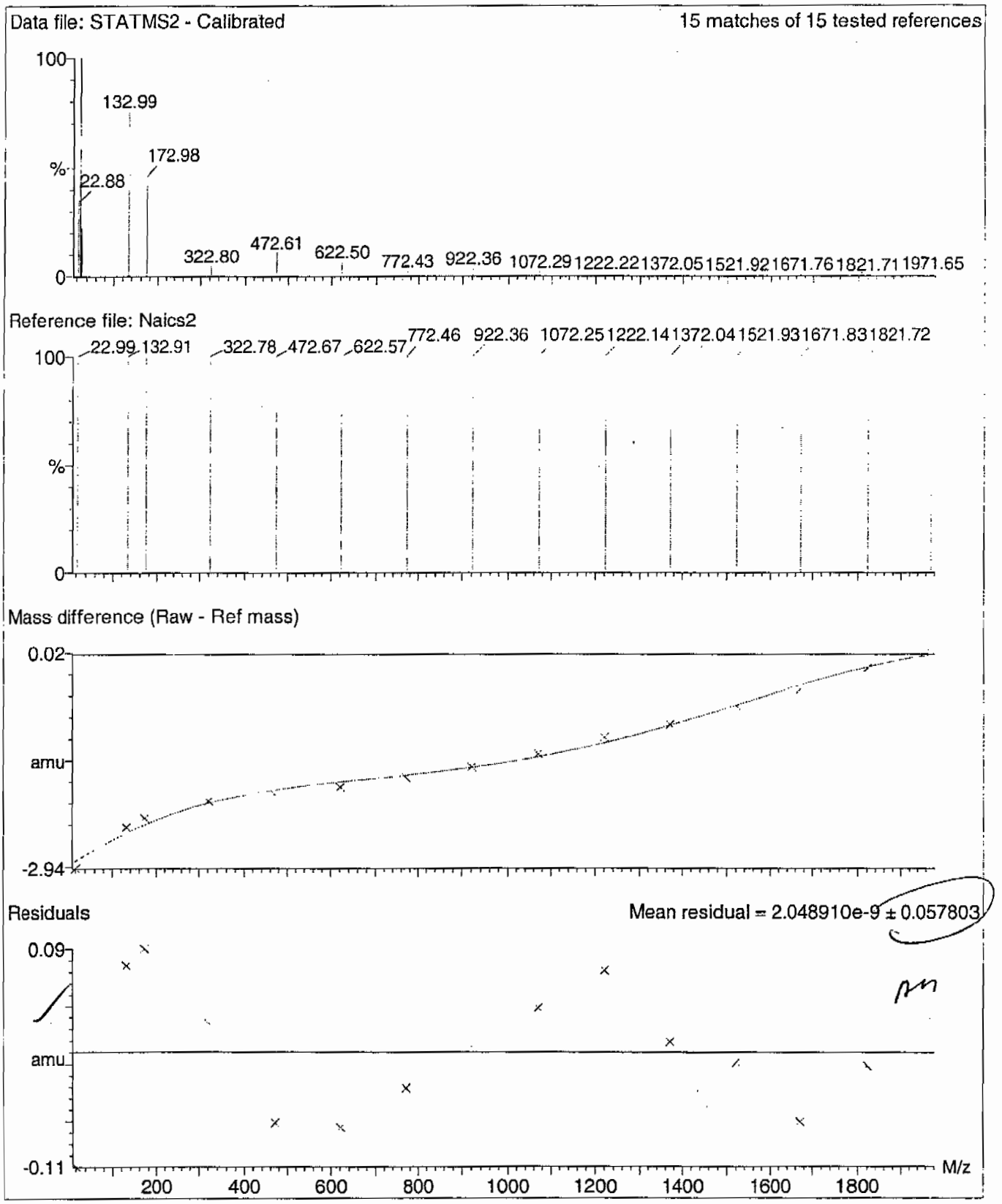
Calibration Report - MS2 Static

Printed: Fri Aug 25 10:52:54 2006



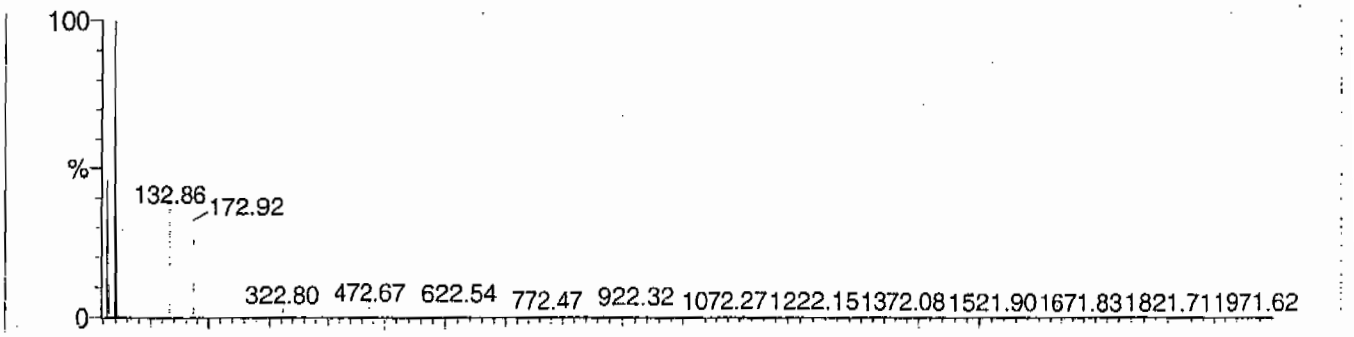
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Calibration Report - MS2 Scanning

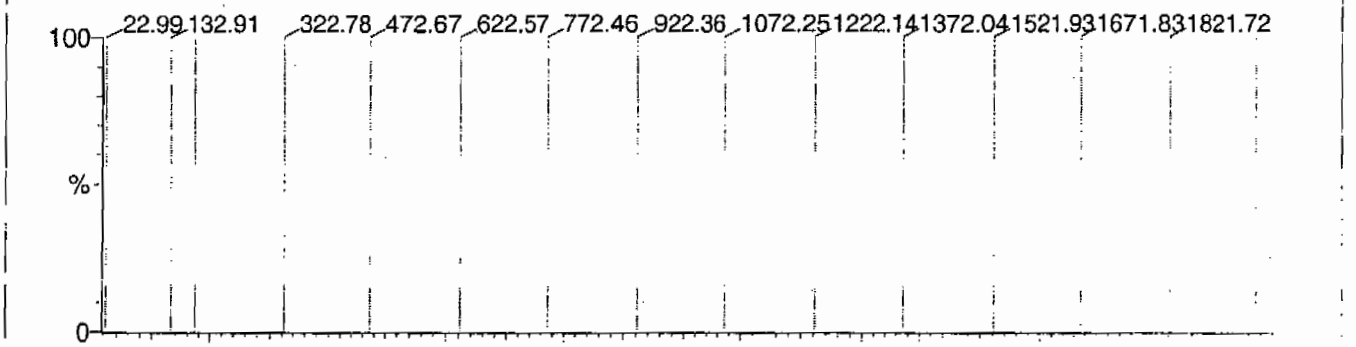
Printed: Fri Aug 25 10:54:00 2006

Data file: SCNMS2 - Calibrated

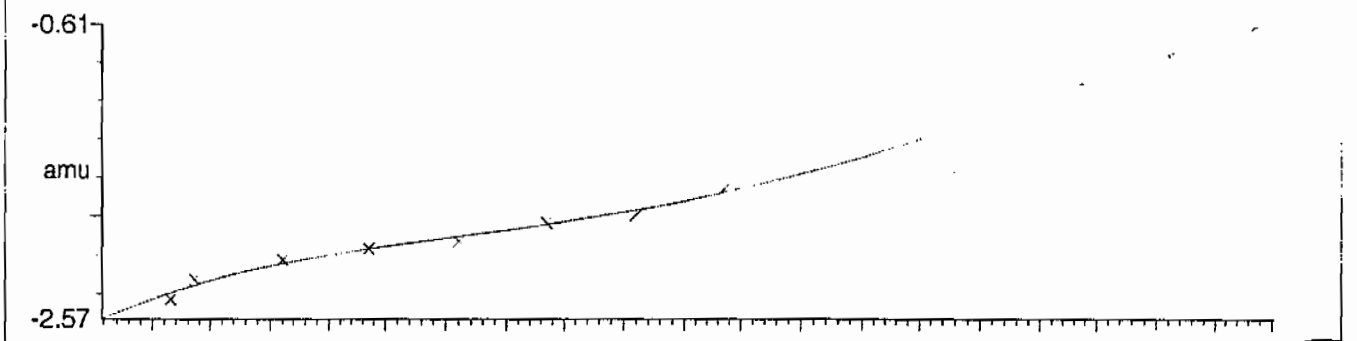
14 matches of 15 tested references



Reference file: Naics2

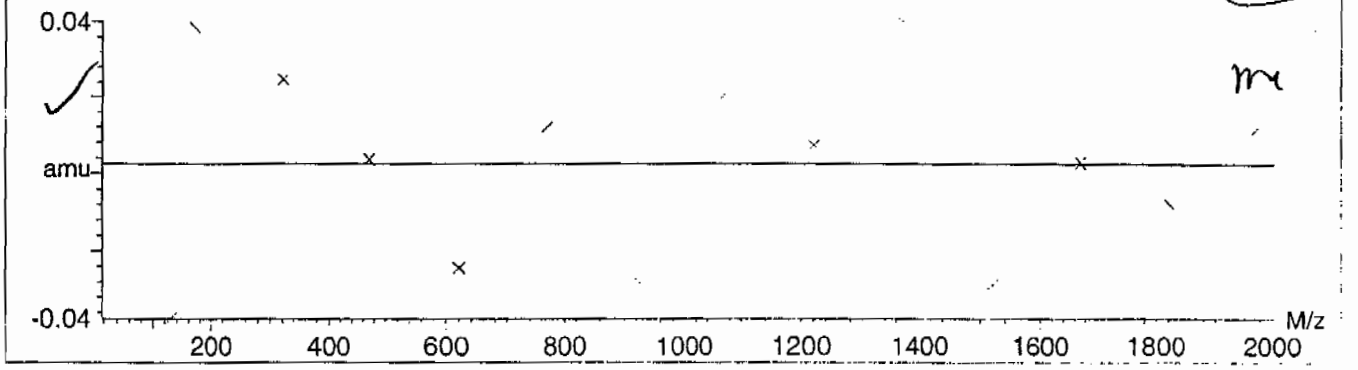


Mass difference (Raw - Ref mass)



Residuals

Mean residual = -2.623502e-9 ± 0.025622



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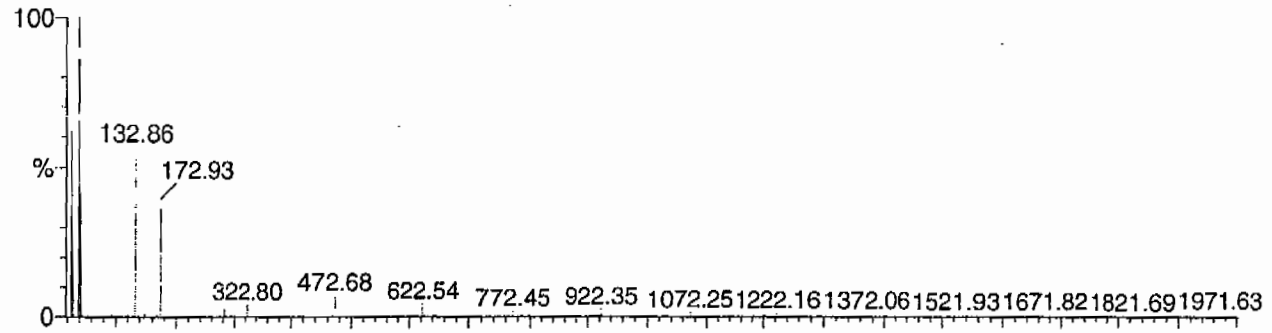
Calibration Report - MS2 Scan Speed Compensation

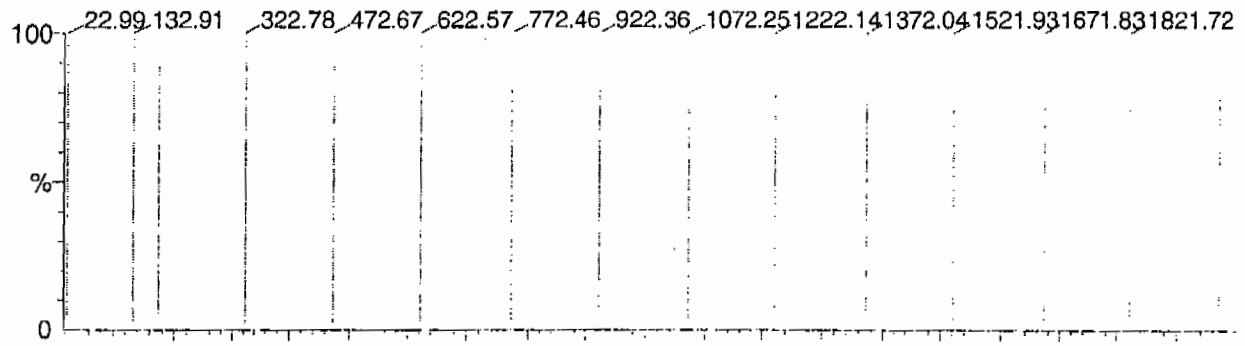
Printed: Fri Aug 25 10:54:54 2006

Data file: FASTMS2 - Calibrated

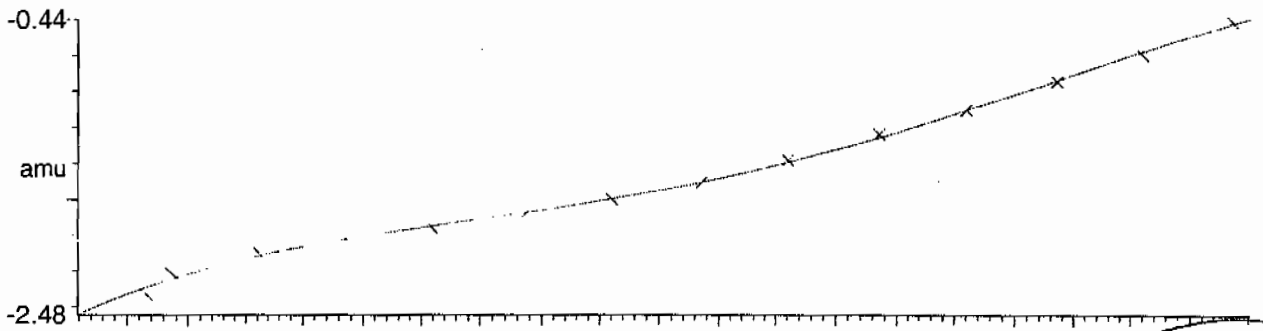
14 matches of 15 tested references



Reference file: Naics2



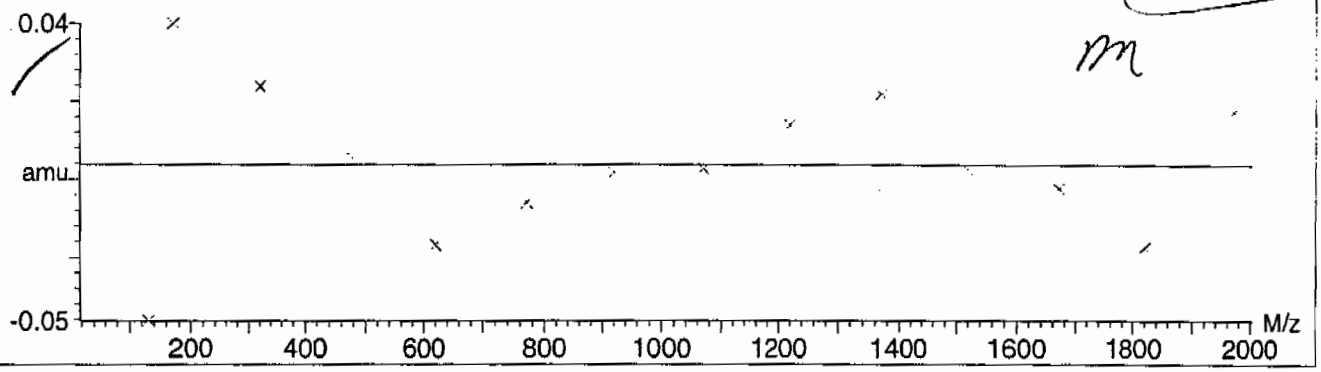
Mass difference (Raw - Ref mass)



Residuals

Mean residual = -6.785350e-9 ± 0.023134

m



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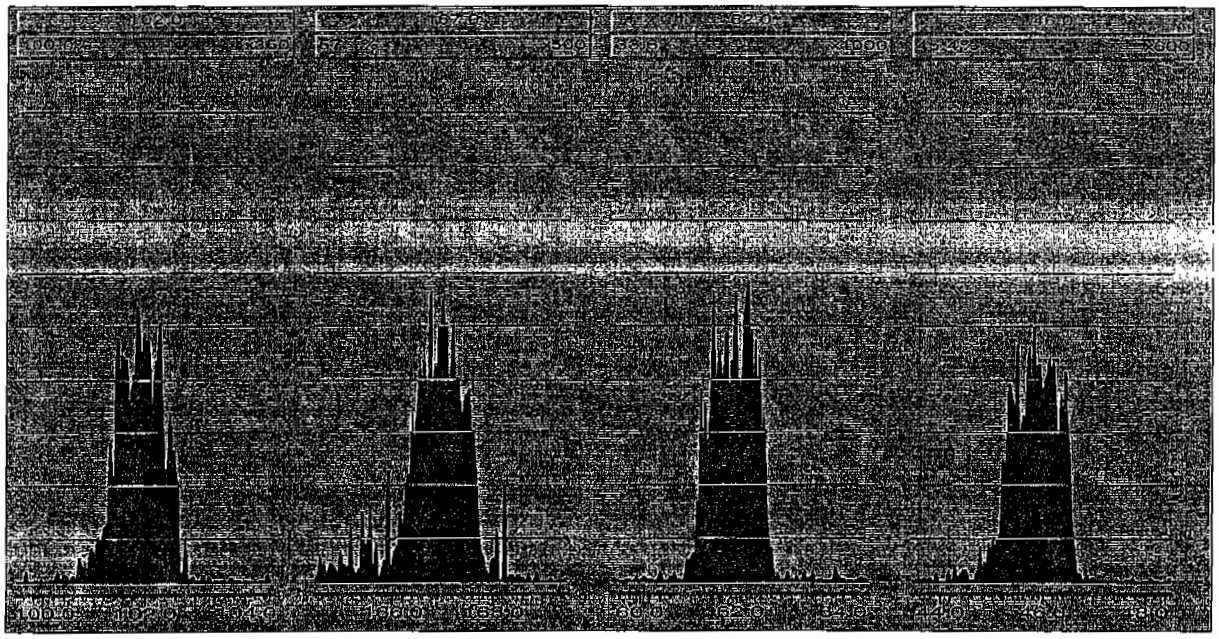
Quattro Micro Tune Parameters

Parameter File: C:\MASSLYNX\NEW_EXP.PRO\ACQUDB\explosives04.ipr

Printed : Mon Jan 25 11:18:26 2010



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8

High Explosives Internal Standard Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10--1126

Lab Code: GEL

HPLC Column: Phenomenex Ultracarb 5u ODS(20)

Instrument ID: LCMSMS

	Analysis Date/Time	GEL Data File	IS1 (DNB) (Area) #	RT (min) #	IS2 (DNT) (Area) #	RT2 (min) #
			2968.4	11.902	16298.333	17.149
Upper Limit			3858.92	12.402	21187.8329	17.649
Lower Limit			2077.88	11.402	11408.8331	16.649
MB for batch 940045	26–jan–10 20:17	EXP0125068a	3162.45	11.891	17008	17.149
LCS for batch 940045	26–jan–10 20:47	EXP0125069a	3351.65	11.893	18080.6	17.138
RE12–10–7859	26–jan–10 21:16	EXP0125070a	3224.99	11.894	16812.7	17.138
RE12–10–7851	26–jan–10 21:46	EXP0125071a	3199.78	11.894	17689	17.138
RE12–10–7852	26–jan–10 22:15	EXP0125072a	3031.21	11.894	17283.9	17.138
RE12–10–7850	27–jan–10 00:13	EXP0125076a	3333.3	11.894	16715.1	17.16
RE12–10–7853	27–jan–10 00:43	EXP0125077a	3265.95	11.893	17733.6	17.159
RE12–10–7848	27–jan–10 01:12	EXP0125078a	2932.59	11.894	16504	17.138
RE12–10–7848(244137006MS)	27–jan–10 01:42	EXP0125079a	3256.76	11.894	18024.1	17.137
RE12–10–7849	27–jan–10 02:41	EXP0125081a	3094.69	11.894	17785.8	17.138
RE12–10–7848(244137006MSD)	27–jan–10 19:25	EXP0125115a	3425.98	11.895	18645.2	17.154

IS1 (DNB) = 1,3–Dinitrobenzene–d4
IS2 (DNT) = 2,6–Dinitrotoluene–d3

Area Upper Limit = + 30% of average IS area from multipoint calibration
Area Lower Limit = – 30% of average IS area from multipoint calibration

RT Upper Limit = +0.5 of average multipoint RT
RT Lower Limit = –0.5 of average multipoint RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits

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SAMPLE
DATA

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7859

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137001

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125070a

Date Analyzed: 26-JAN-10 21:16

Units: ug/kg

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

*Concentration =

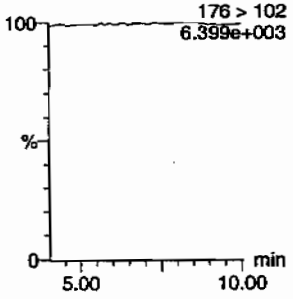
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

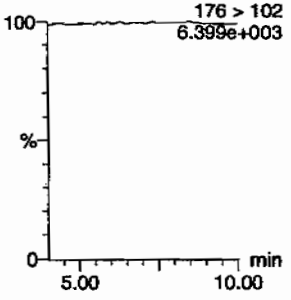
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125070a
Date: 26-Jan-2010
Time: 21:16:47
ID: 244137001 | LAW | 940049 | Soil | 2 |
Vial: 1:4,C

MM 1/27/10

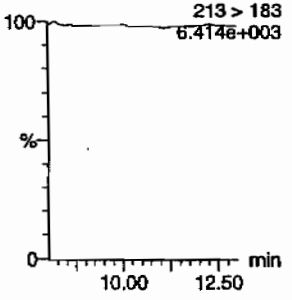
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.399e+003



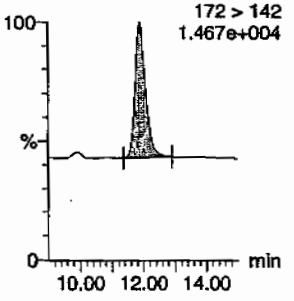
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.399e+003



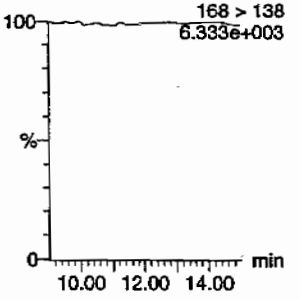
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.414e+003



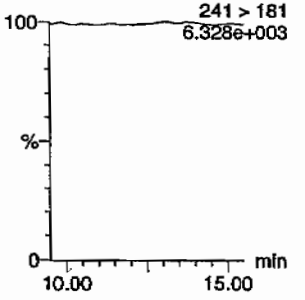
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.467e+004



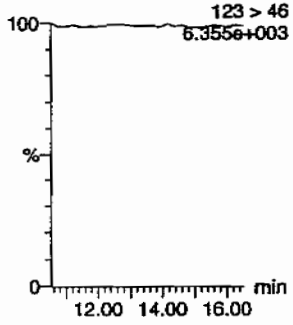
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.333e+003



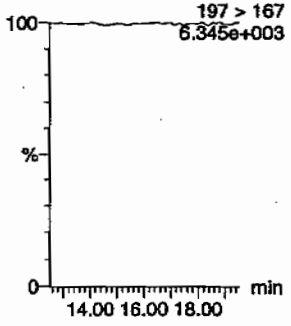
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.328e+003



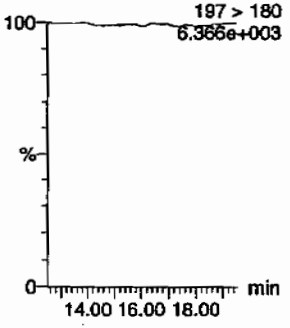
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.355e+003



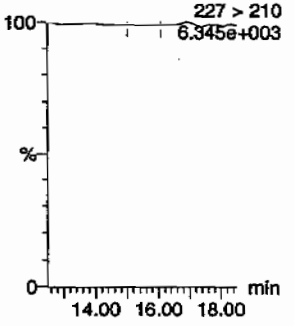
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.345e+003



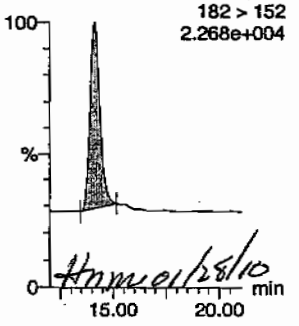
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.355e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.345e+003

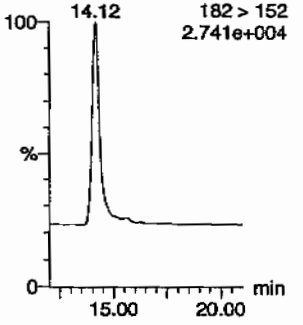


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
2.268e+004



Hmm 01/28/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
14.12
182 > 152
2.741e+004



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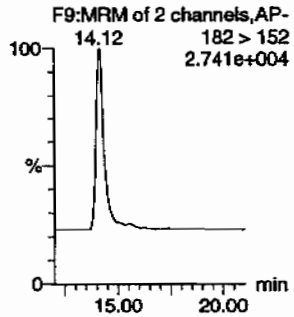
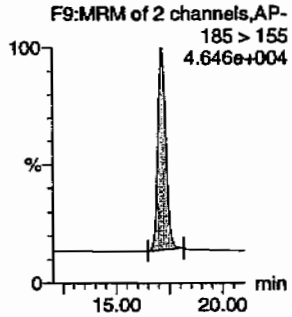
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

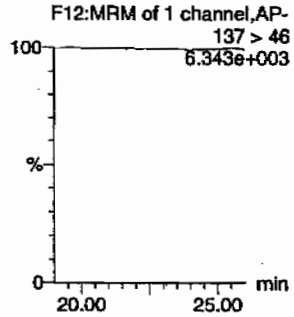
24-dinitrotoluene



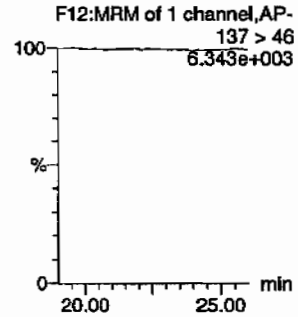
26-dinitrotoluene-d3



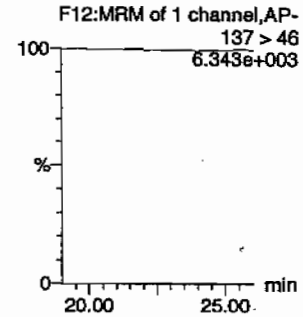
2-Nitrotoluene



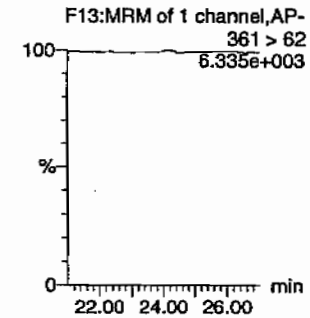
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
244137001	HMX	176 > 102			3224.985									
244137001	RDX	176 > 102			3224.985									
244137001	135-Trinitrobenzene	213 > 183			3224.985									
244137001	13-Dinitrobenzene-d4	172 > 142	11.89	3224.985		3224.985	3224.985	bb			543.2194	108.6	8.6	310.7
244137001	13-Dinitrobenzene	168 > 138			3224.985									
244137001	Tetryl	241 > 181			3224.985									
244137001	Nitrobenzene	123 > 46			3224.985									
244137001	4-Amino-26-dinitrotoluene	197 > 167			16812.680									
244137001	2-Amino-46-dinitrotoluene	197 > 180			16812.680									
244137001	246-Trinitrotoluene	227 > 210			16812.680			MM-	27-Jan-10	09:14:22				
244137001	34-dinitrotoluene	182 > 152	14.17	8559.194	16812.680	8559.194	254.546	bb			280.3324	112.1	12.1	504.7
244137001	26-dinitrotoluene	182 > 152			16812.680									
244137001	24-dinitrotoluene	182 > 152			16812.680									
244137001	26-dinitrotoluene-d3	185 > 155	17.14	16812.680		16812.680	16812.680	bb			515.7789	103.2	3.2	1270.7
244137001	2-Nitrotoluene	137 > 46			16812.680									
244137001	4-Nitrotoluene	137 > 46			16812.680									
244137001	3-Nitrotoluene	137 > 46			16812.680									
244137001	PETN	361 > 62			16812.680									

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7859

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137001

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190043.wiff

Date Analyzed: 20-JAN-10 01:13

Units: ug/kg

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

*Concentration =

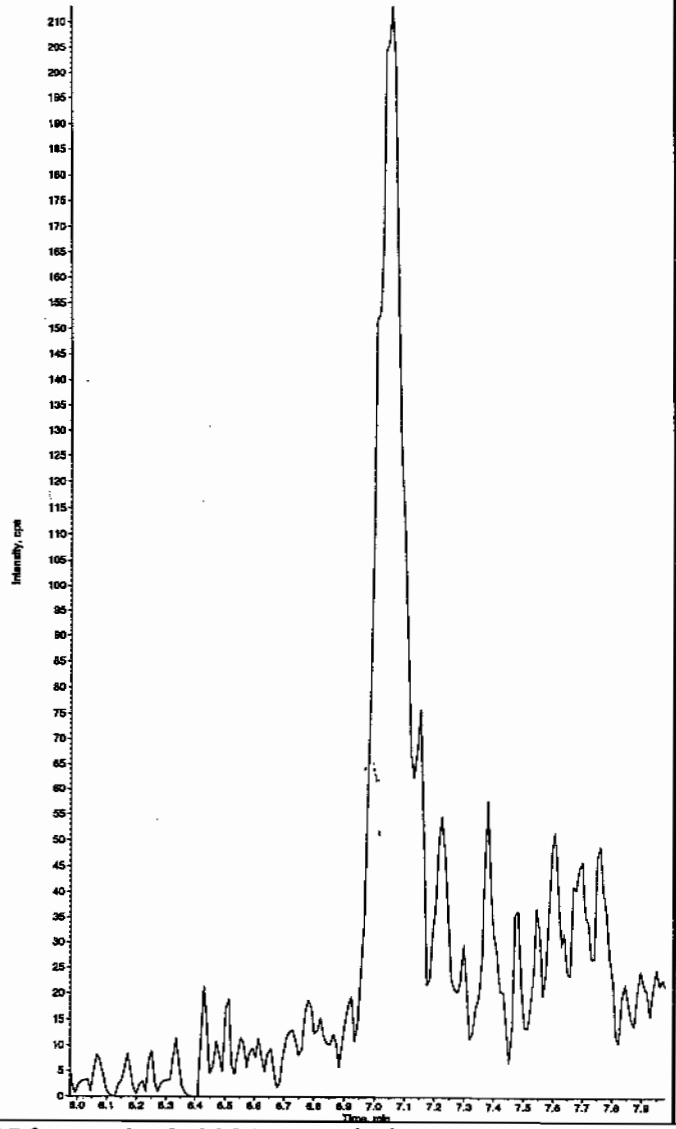
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

LCer 1/20/10

Sample Name: "244137001" Sample ID: "940049|2|LER" File: "EXS01190043.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:13:49 AM

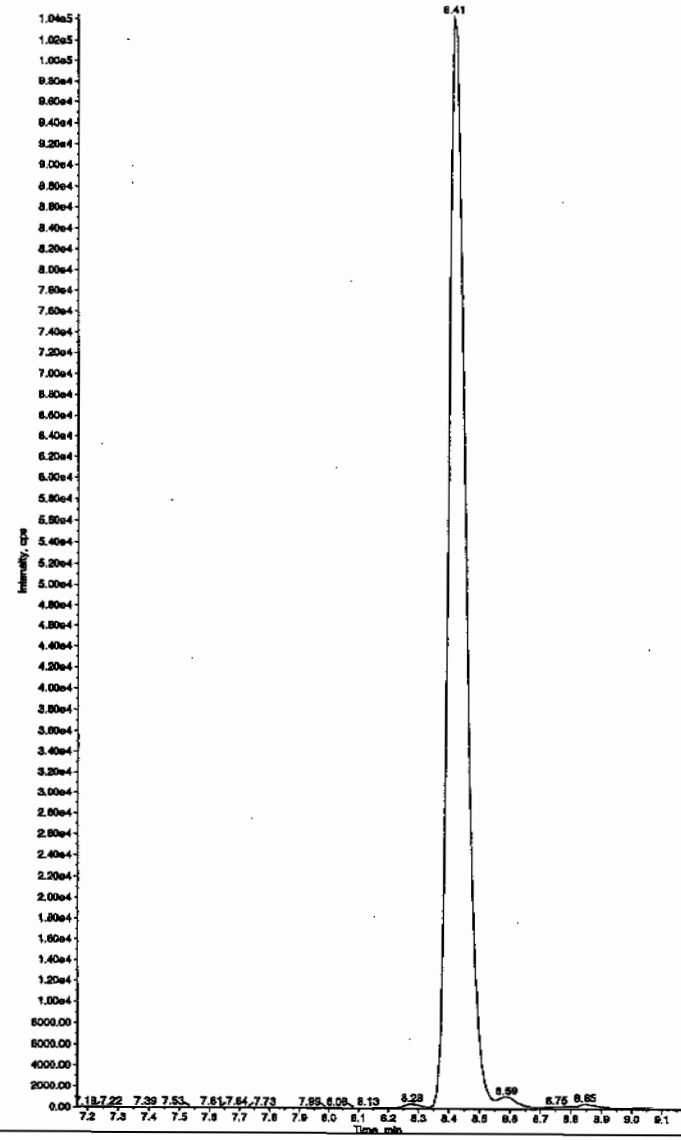
Modified: No



Sample Name: "244137001" Sample ID: "940049|2|LER" File: "EXS01190043.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:13:49 AM

Modified: No



Hmm 01/20/10

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

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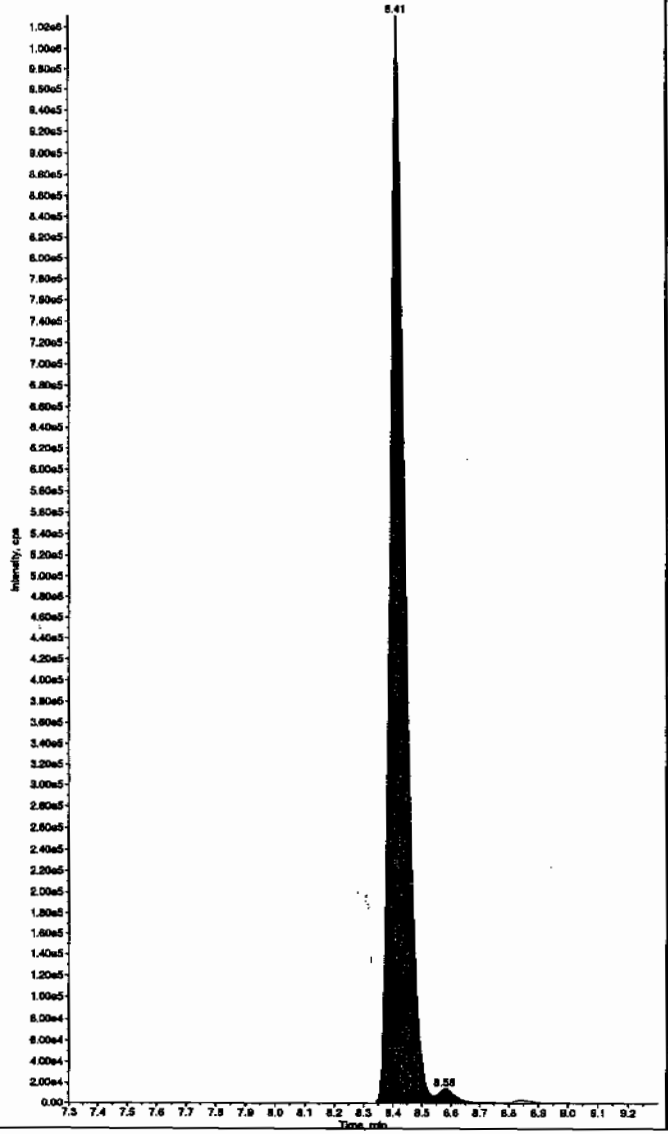
Sample Name: "244137001" Sample ID: "940049|2|LER" File: "EXS01190043.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 279. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:13:49 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

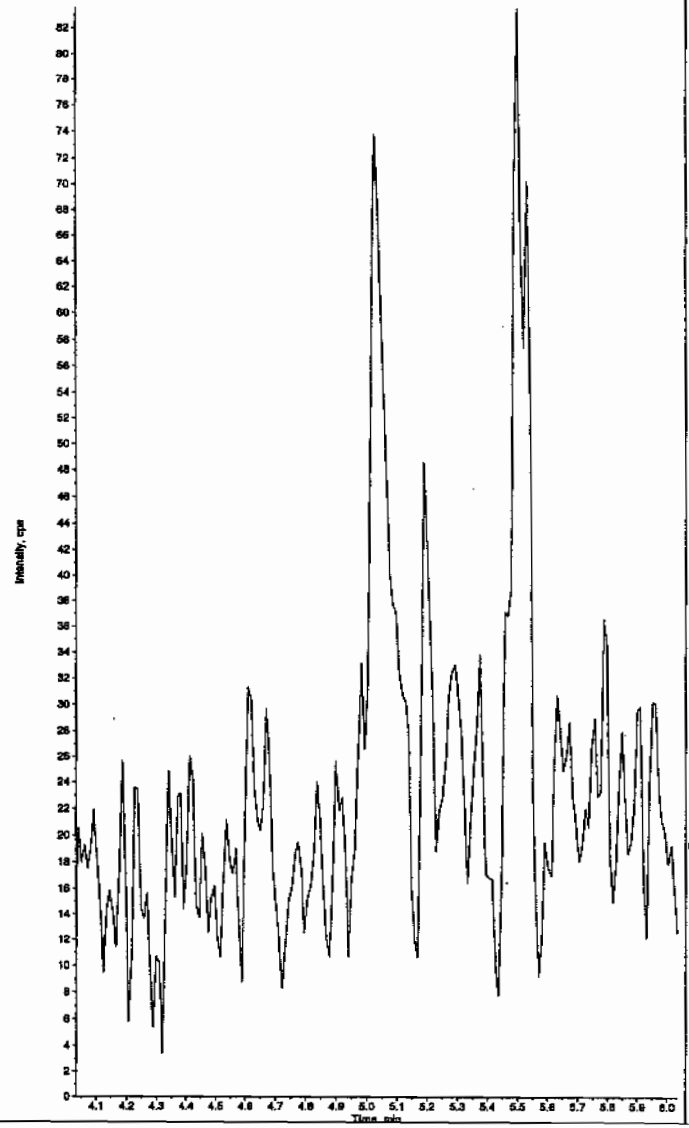
Int. Type: Valley
Retention Time: 8.41 min
Area: 3.90e+006 counts
Height: 1031067.017 cps
Start Time: 8.31 min
End Time: 8.71 min



Sample Name: "244137001" Sample ID: "940049|2|LER" File: "EXS01190043.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/45.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:13:49 AM

Modified: No



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

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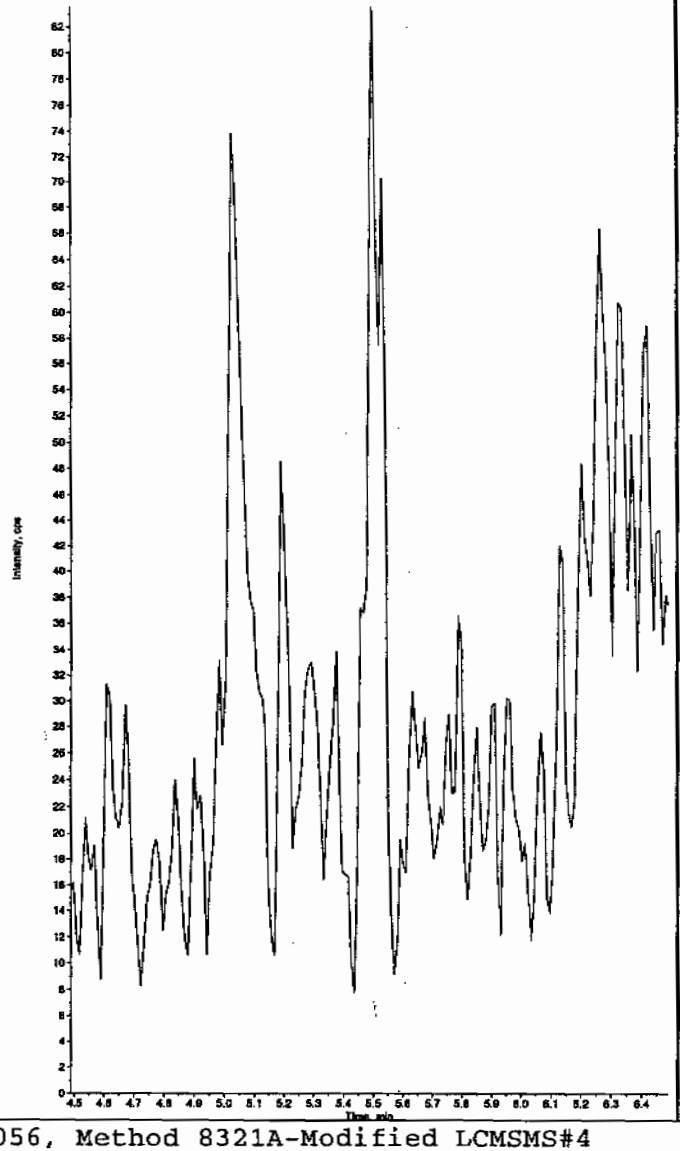
Sample Name: "244137001" Sample ID: "940049|2|LER" File: "EXS01190043.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX832125" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:13:49 AM

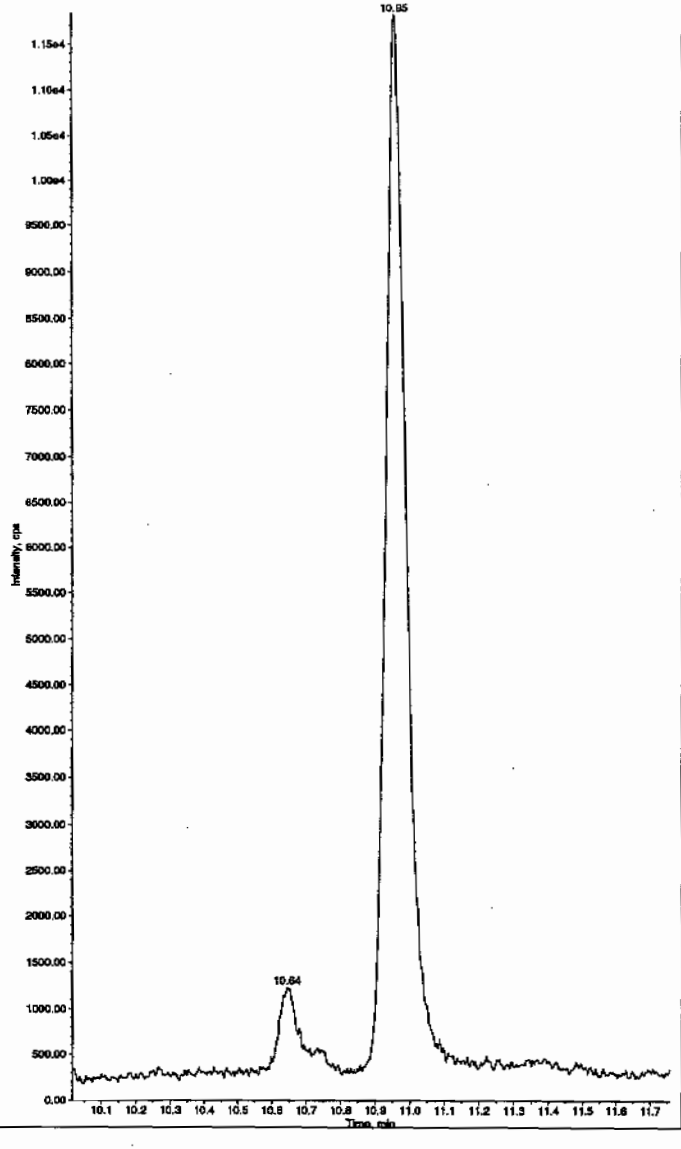
Modified: No



Sample Name: "244137001" Sample ID: "940049|2|LER" File: "EXS01190043.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX832125" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:13:49 AM

Modified: No



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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7851

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137002

Sample Amount 2

Moisture: 9.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125071a

Date Analyzed: 26-JAN-10 21:46

Units: ug/kg

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

*Concentration =

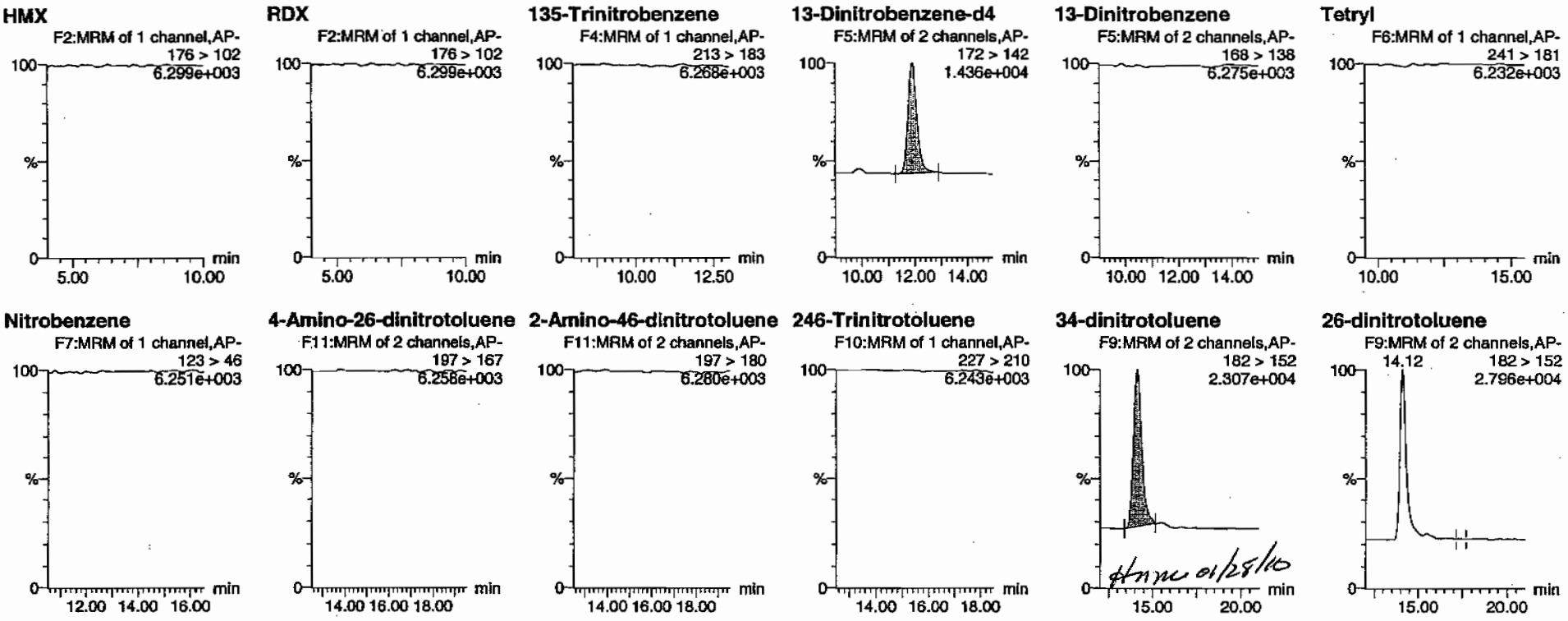
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125071a
Date: 26-Jan-2010
Time: 21:46:15
ID: 244137002
Vial: 1:4,D

LANL | 940049 | SOLID | 21

MAP 1/27/10



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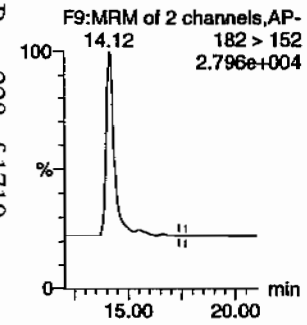
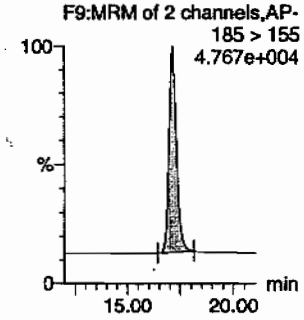
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

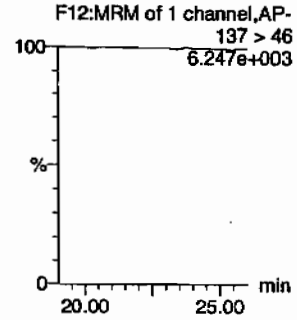
24-dinitrotoluene



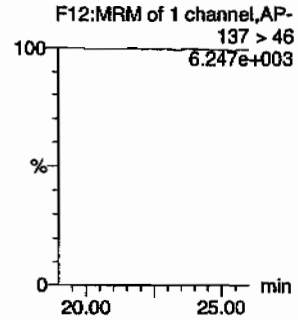
26-dinitrotoluene-d3



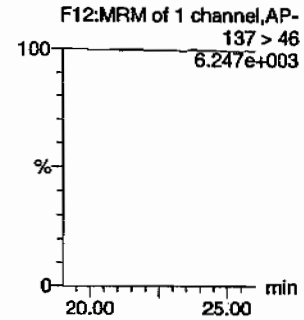
2-Nitrotoluene



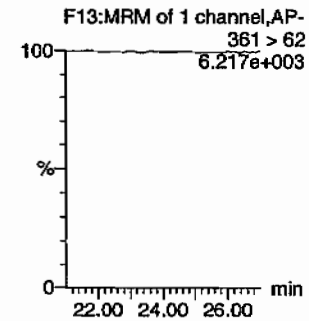
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
244137002	HMX	176 > 102			3199.781									
244137002	RDX	176 > 102			3199.781									
244137002	135-Trinitrobenzene	213 > 183			3199.781									
244137002	13-Dinitrobenzene-d4	172 > 142	11.89	3199.781		3199.781	3199.781	bb			538.9740	107.8	7.8	394.6
244137002	13-Dinitrobenzene	168 > 138			3199.781									
244137002	Tetryl	241 > 181			3199.781									
244137002	Nitrobenzene	123 > 46			3199.781									
244137002	4-Amino-26-dinitrotoluene	197 > 167			17689.004									
244137002	2-Amino-46-dinitrotoluene	197 > 180			17689.004									
244137002	246-Trinitrotoluene	227 > 210			17689.004									
244137002	34-dinitrotoluene	182 > 152	14.17	8973.141	17689.004	8973.141	253.636	bb			279.3306	111.7	11.7	452.3
244137002	26-dinitrotoluene	182 > 152			17689.004			MM-	27-Jan-10	09:16:18				
244137002	24-dinitrotoluene	182 > 152			17689.004			MM-	27-Jan-10	09:18:26				
244137002	26-dinitrotoluene-d3	185 > 155	17.14	17689.004		17689.004	17689.004	bb			542.6628	108.5	8.5	1237.0
244137002	2-Nitrotoluene	137 > 46			17689.004									
244137002	4-Nitrotoluene	137 > 46			17689.004									
244137002	3-Nitrotoluene	137 > 46			17689.004									
244137002	PETN	361 > 62			17689.004									

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7851

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137002

Sample Amount 2

Moisture: 9.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190044.wiff

Date Analyzed: 20-JAN-10 01:29

Units: ug/kg

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

*Concentration =

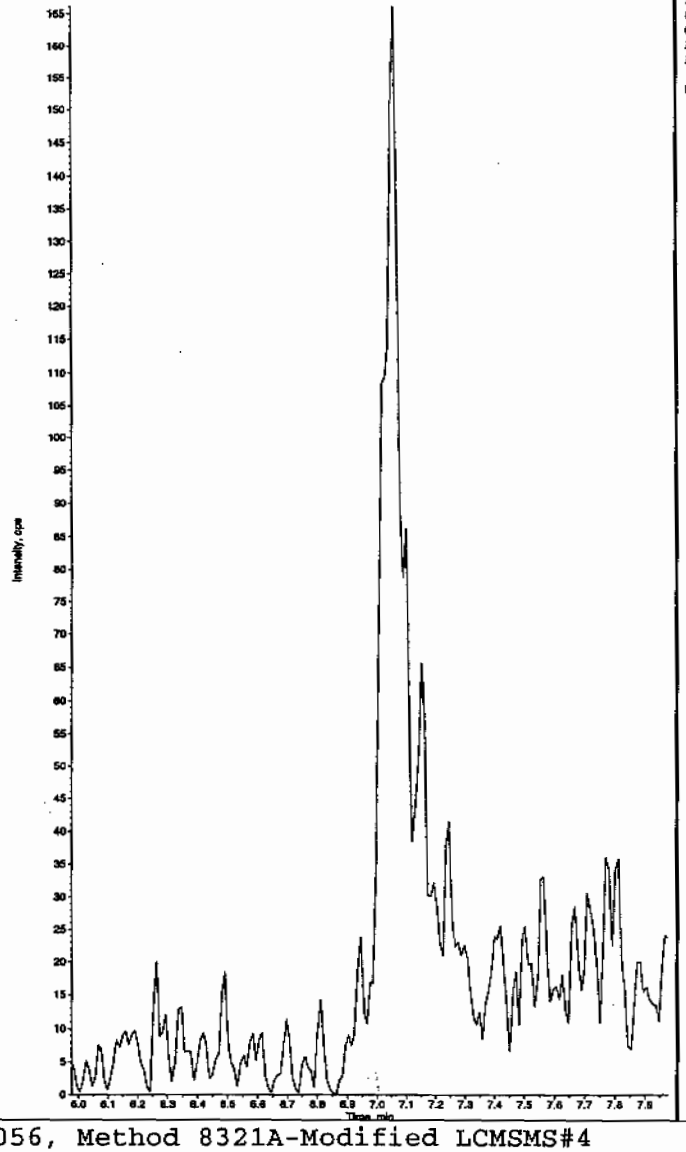
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

LER 1/20/10

Sample Name: "244137002" Sample ID: "940049|2|LER" File: "EXS01190044.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:29:32 AM

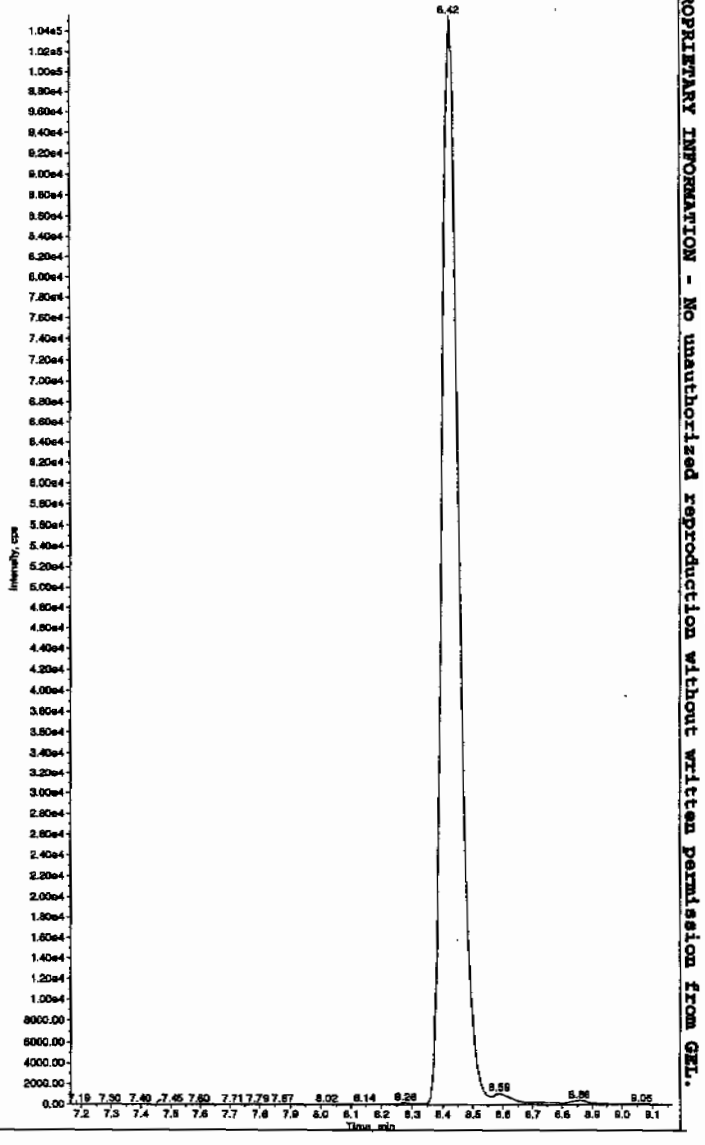
Modified: No



Sample Name: "244137002" Sample ID: "940049|2|LER" File: "EXS01190044.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:29:32 AM

Modified: No



HMM 01/20/10

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

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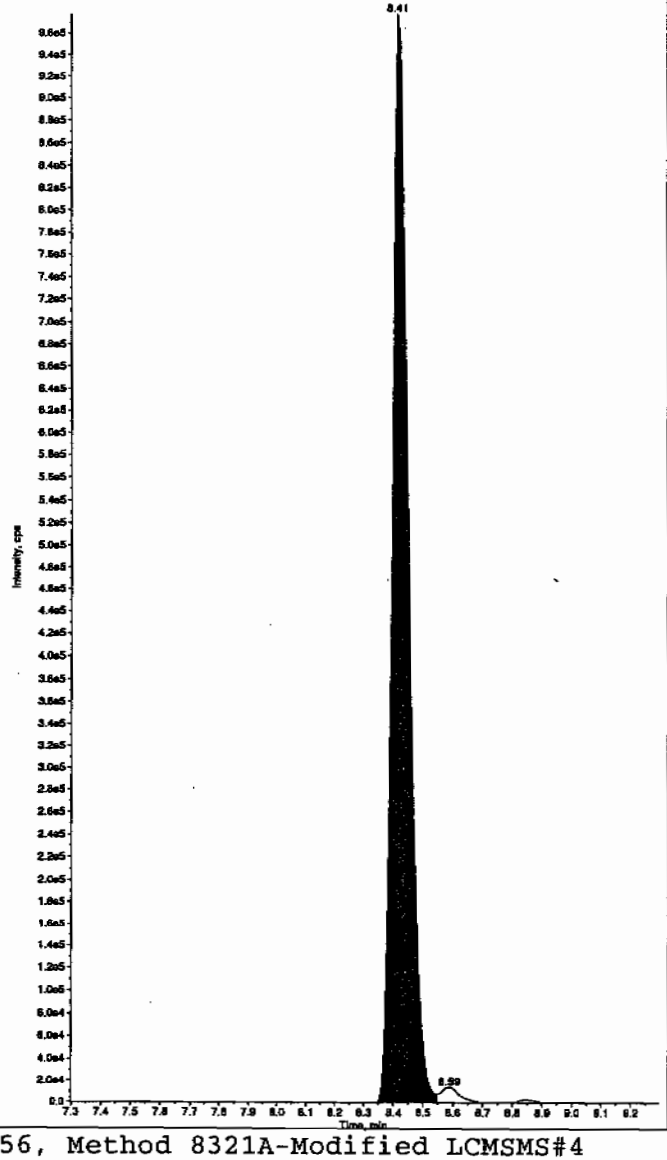
Sample Name: "244137002" Sample ID: "940049|2|LER" File: "EXS01190044.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX832125" Annotation: ""

```
Sample Index:        1
Sample Type:     Unknown
Concentration:       N/A
Calculated Conc:     267.     ng/mL
Acq. Date:       1/20/2010
Acq. Time:       1:29:32 AM

Modified:            No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height:1460.00    cps
Min. Peak Width:     0.00    sec
Smoothing Width:  3        points
RT Window:          15.0     sec
Expected RT:         8.30    min
Use Relative RT:     No

Int. Type:       Valley
Retention Time:      8.41    min
Area:        3.73e+006    counts
Height:        977682.190   cps
Start Time:          8.33    min
End Time:            8.55    min
```



Sample Name: "244137002" Sample ID: "940049|2|LER" File: "EXS01190044.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/45.0 amu"
Comment: "LCX832125" Annotation: ""

```
Sample Index:        1
Sample Type:     Unknown
Concentration:       N/A
Calculated Conc:     0.00     ng/mL
Acq. Date:       1/20/2010
Acq. Time:       1:29:32 AM

Modified:            No
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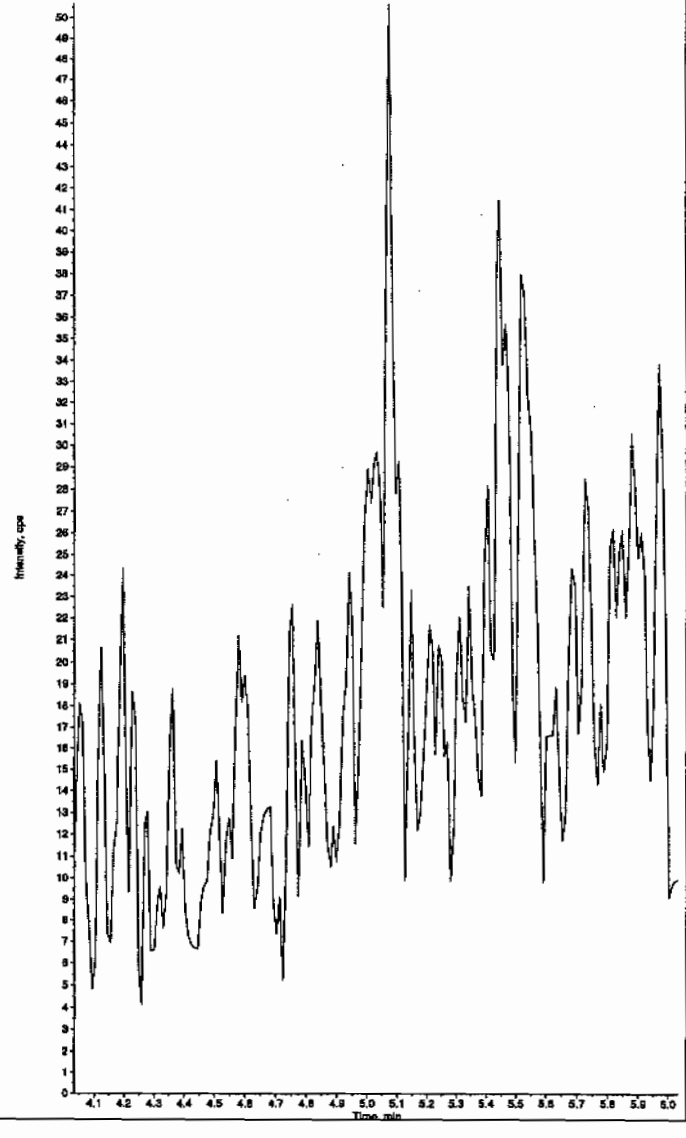

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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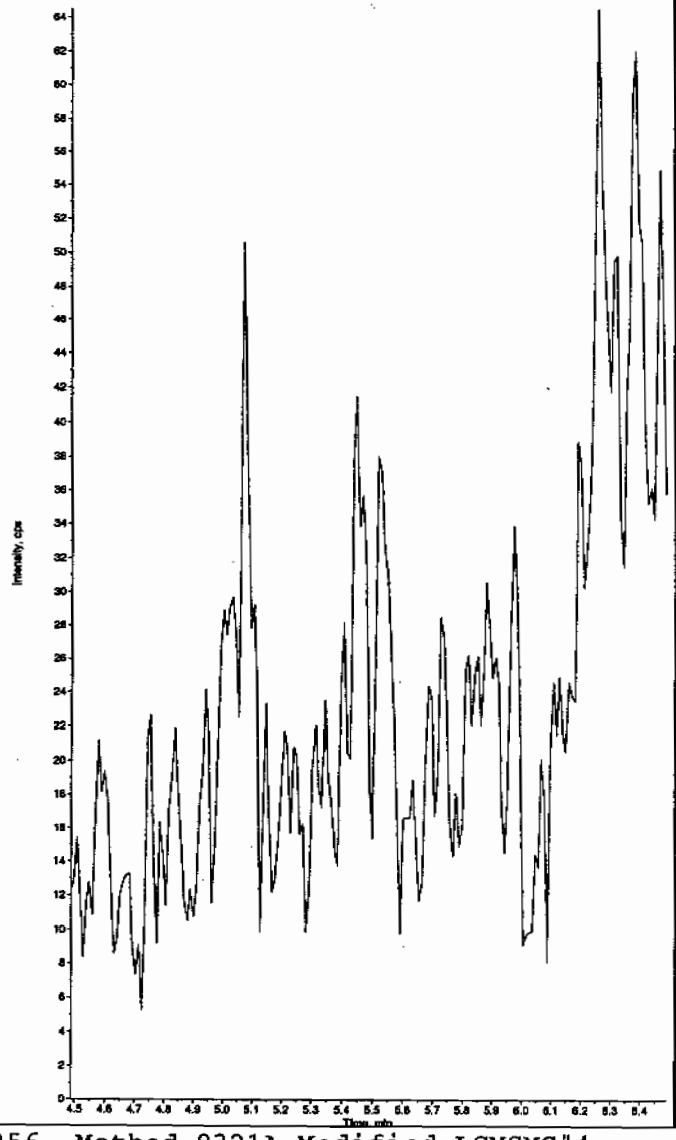
Sample Name: "244137002" Sample ID: "940049|2|LER" File: "EXS01190044.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: "

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:29:32 AM

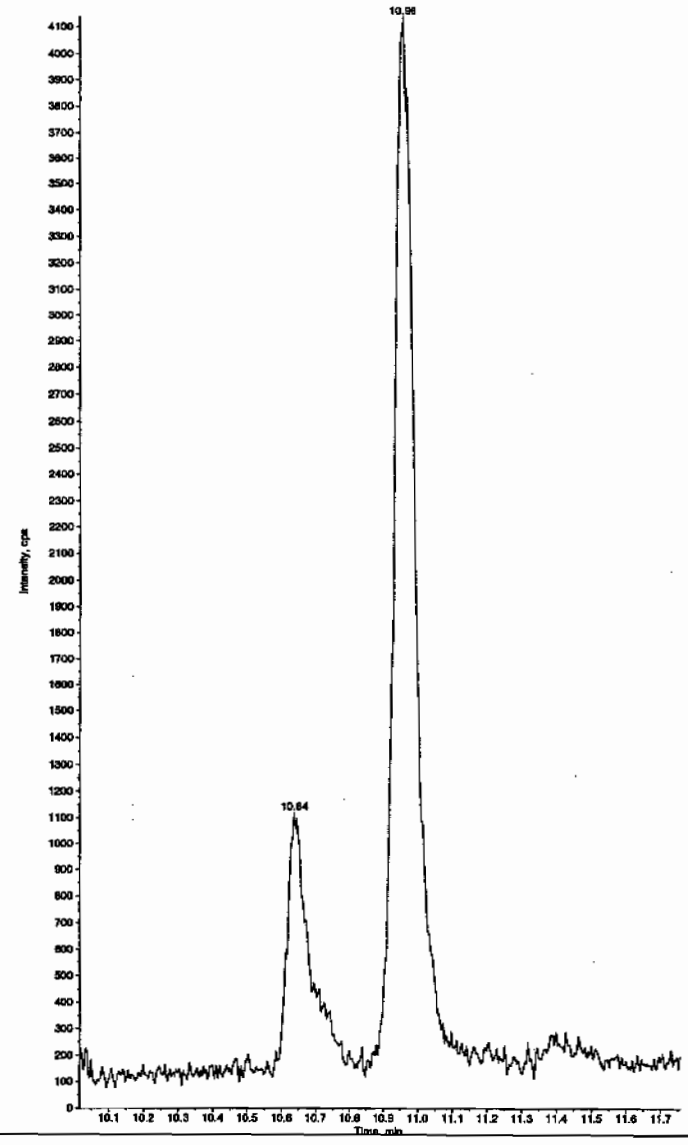
Modified: No



Sample Name: "244137002" Sample ID: "940049|2|LER" File: "EXS01190044.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: "

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:29:32 AM

Modified: No



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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7852

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137003

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125072a

Date Analyzed: 26-JAN-10 22:15

Units: ug/kg

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

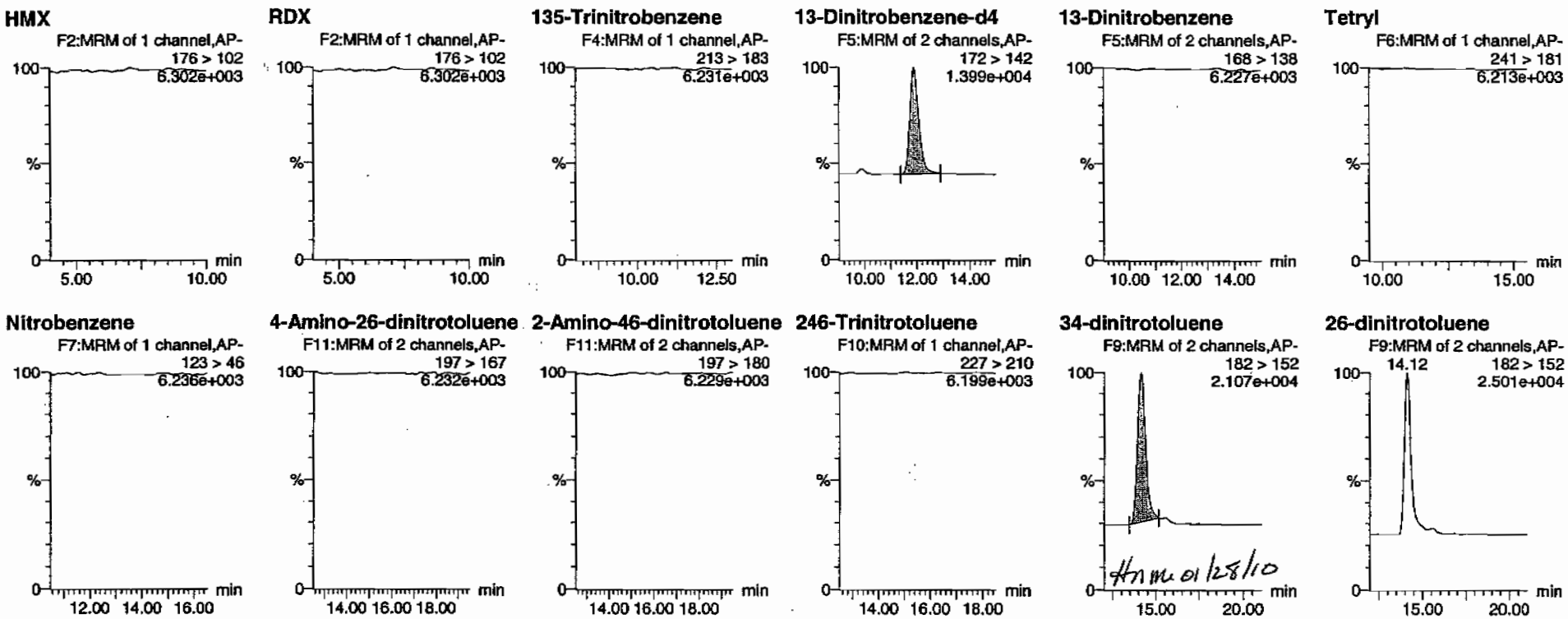
*Concentration =

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

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125072a
Date: 26-Jan-2010
Time: 22:15:44
ID: 244137003 | LANL | 940049 | Soils | 2 |
Vial: 1:4,E

MAP
1/27/10



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

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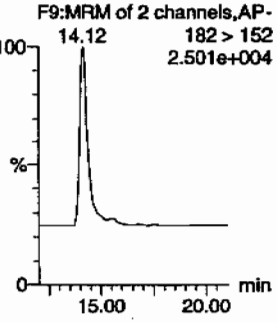
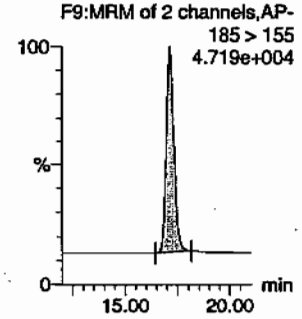
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

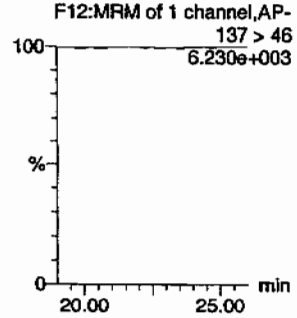
24-dinitrotoluene



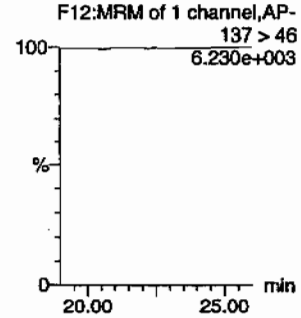
26-dinitrotoluene-d3



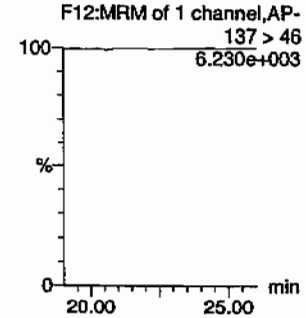
2-Nitrotoluene



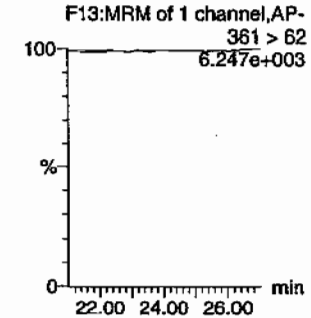
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
244137003	HMX	176 > 102			3031.211									
244137003	RDX	176 > 102			3031.211									
244137003	135-Trinitrobenzene	213 > 183			3031.211									
244137003	13-Dinitrobenzene-d4	172 > 142	11.89	3031.211		3031.211	3031.211	bb			510.5799	102.1	2.1	239.7
244137003	13-Dinitrobenzene	168 > 138			3031.211									
244137003	Tetryl	241 > 181			3031.211									
244137003	Nitrobenzene	123 > 46			3031.211									
244137003	4-Amino-26-dinitrotoluene	197 > 167			17283.941									
244137003	2-Amino-46-dinitrotoluene	197 > 180			17283.941									
244137003	246-Trinitrotoluene	227 > 210			17283.941									
244137003	34-dinitrotoluene	182 > 152	14.17	7914.418	17283.941	7914.418	228.953	bb			252.1469	100.9	0.9	404.4
244137003	26-dinitrotoluene	182 > 152			17283.941									
244137003	24-dinitrotoluene	182 > 152			17283.941									
244137003	26-dinitrotoluene-d3	185 > 155	17.14	17283.941		17283.941	17283.941	bb			530.2363	106.0	6.0	1631.2
244137003	2-Nitrotoluene	137 > 46			17283.941									
244137003	4-Nitrotoluene	137 > 46			17283.941									
244137003	3-Nitrotoluene	137 > 46			17283.941									
244137003	PETN	361 > 62			17283.941									

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7852

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137003

Sample Amount 2

Moisture: 14.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190045.wiff

Date Analyzed: 20-JAN-10 01:45

Units: ug/kg

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

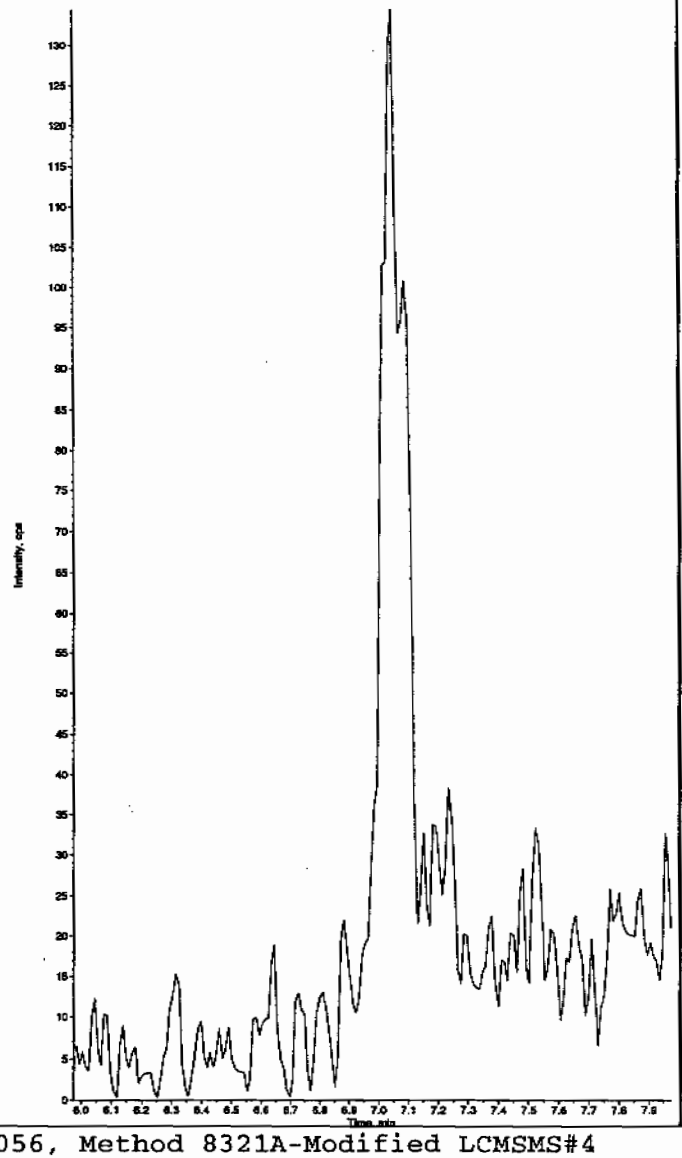
*Concentration =

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

Rar 1/20/10

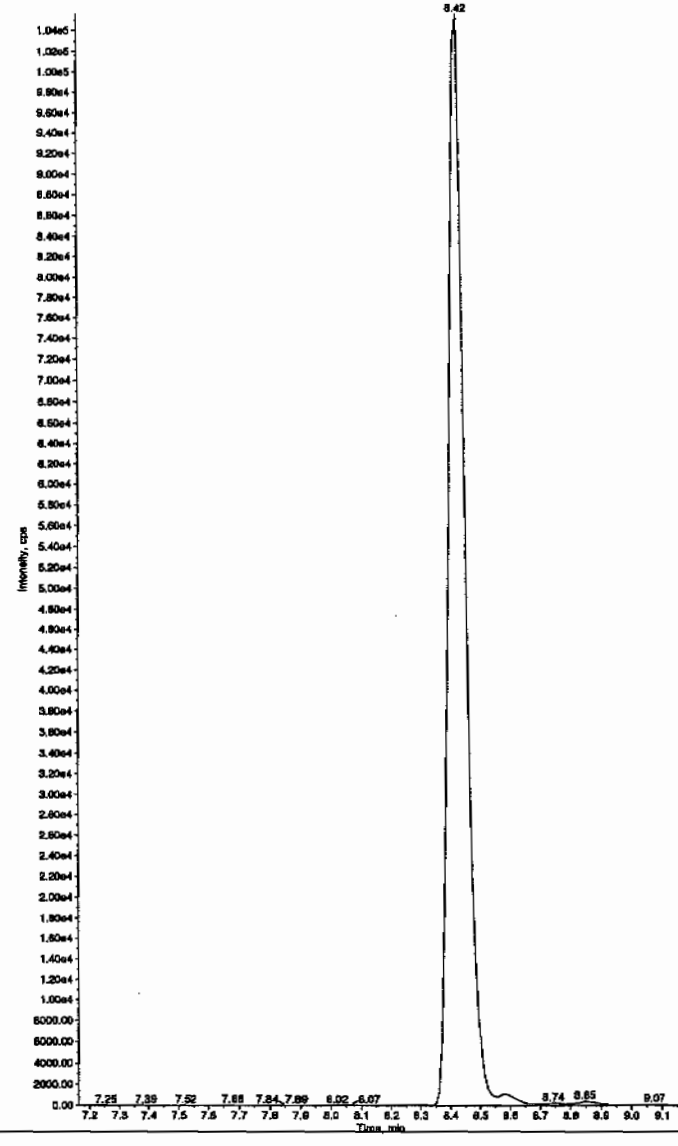
Sample Name: "244137003" Sample ID: "940049[2]LER" File: "EXS01190045.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:45:15 AM

Modified: No



Sample Name: "244137003" Sample ID: "940049[2]LER" File: "EXS01190045.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:45:15 AM

Modified: No



Hnm 01/20/10

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

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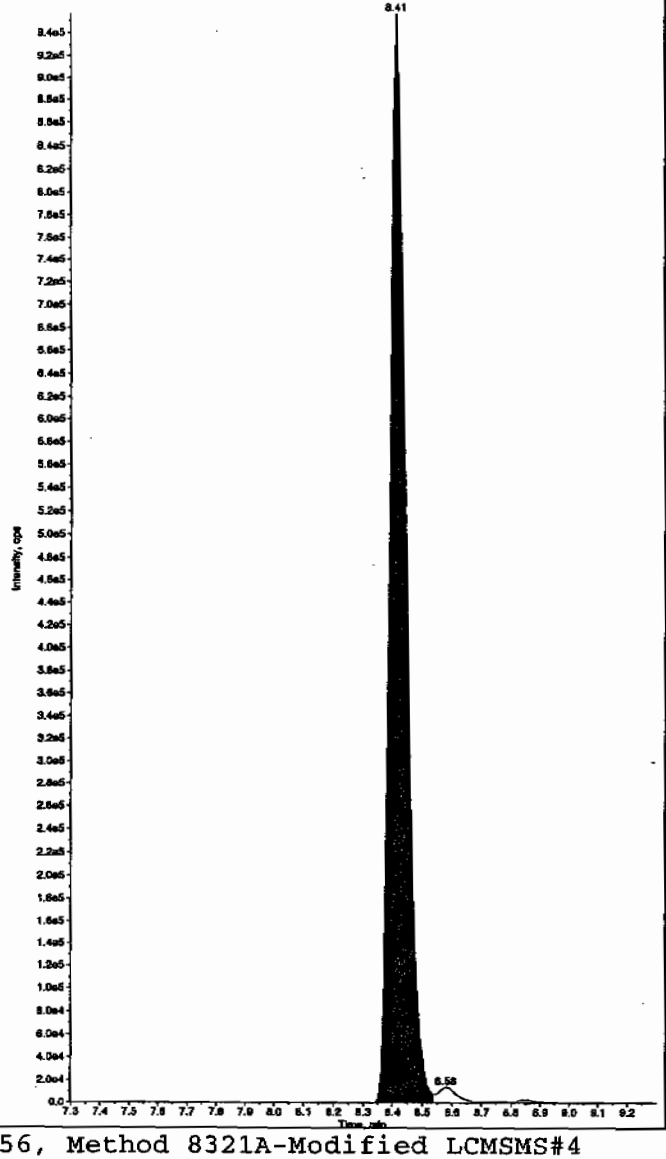
Sample Name: "244137003" Sample ID: "940049|2|LER" File: "EXS01190045.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 264. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:45:15 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

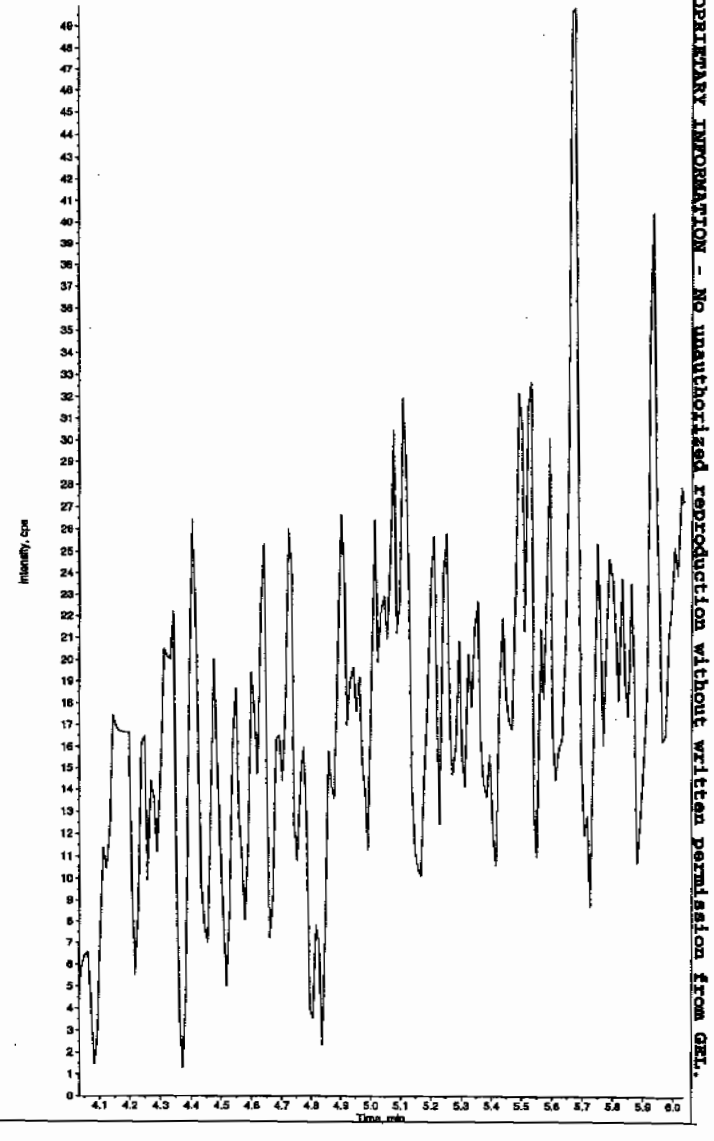
Int. Type: Valley
Retention Time: 8.41 min
Area: 3.69e+006 counts
Height: 956768.005 cps
Start Time: 8.32 min
End Time: 8.54 min



Sample Name: "244137003" Sample ID: "940049|2|LER" File: "EXS01190045.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:45:15 AM

Modified: No



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

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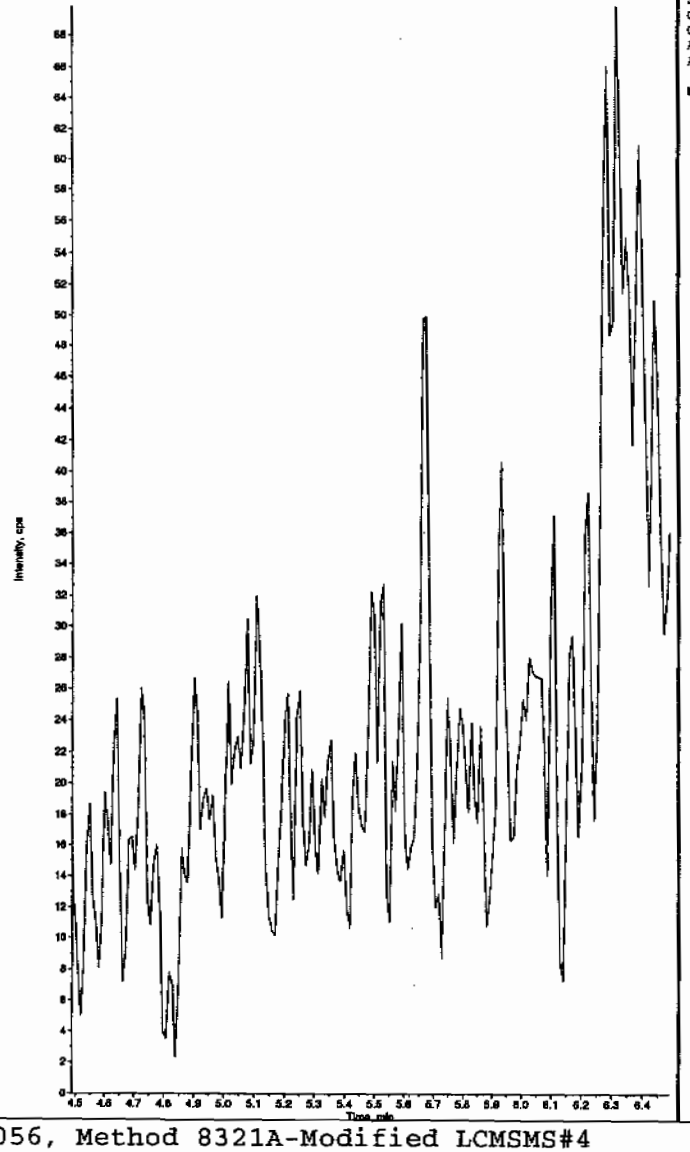
Sample Name: "244137003" Sample ID: "940049[2]LER" File: "EXS01190045.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "165.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:45:15 AM

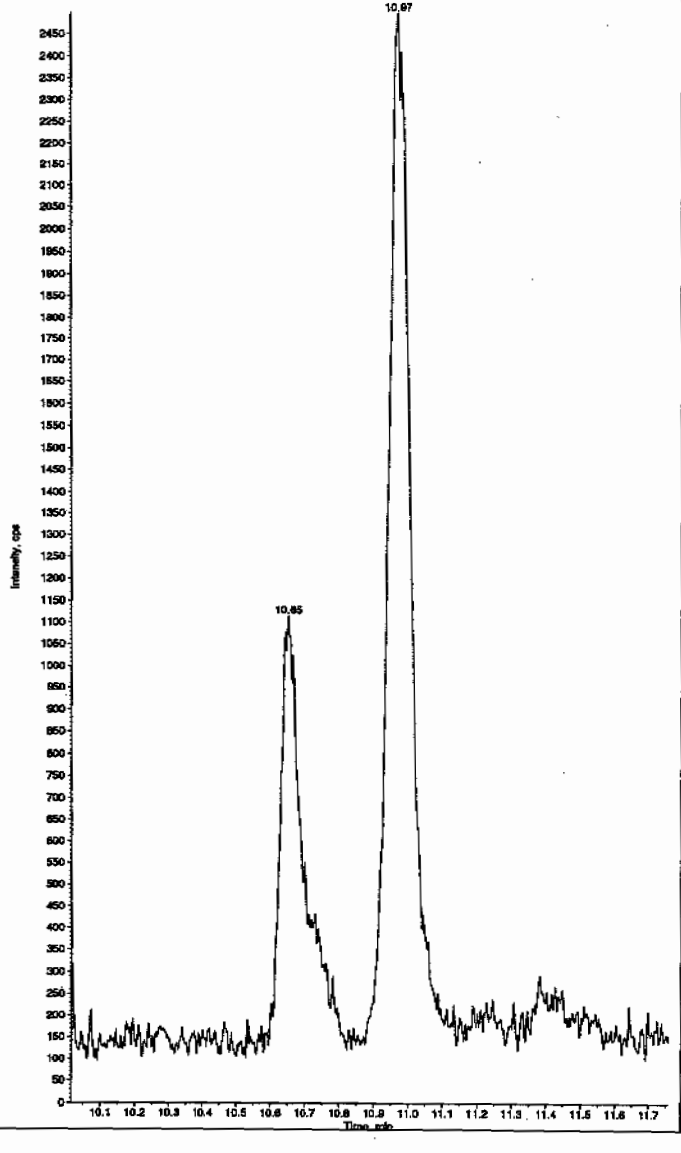
Modified: No



Sample Name: "244137003" Sample ID: "940049[2]LER" File: "EXS01190045.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 1:45:15 AM

Modified: No



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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7850

Lab Code: GEI

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137004

Sample Amount 2

Moisture: 21.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125076a

Date Analyzed: 27-JAN-10 00:13

Units: ug/kg

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

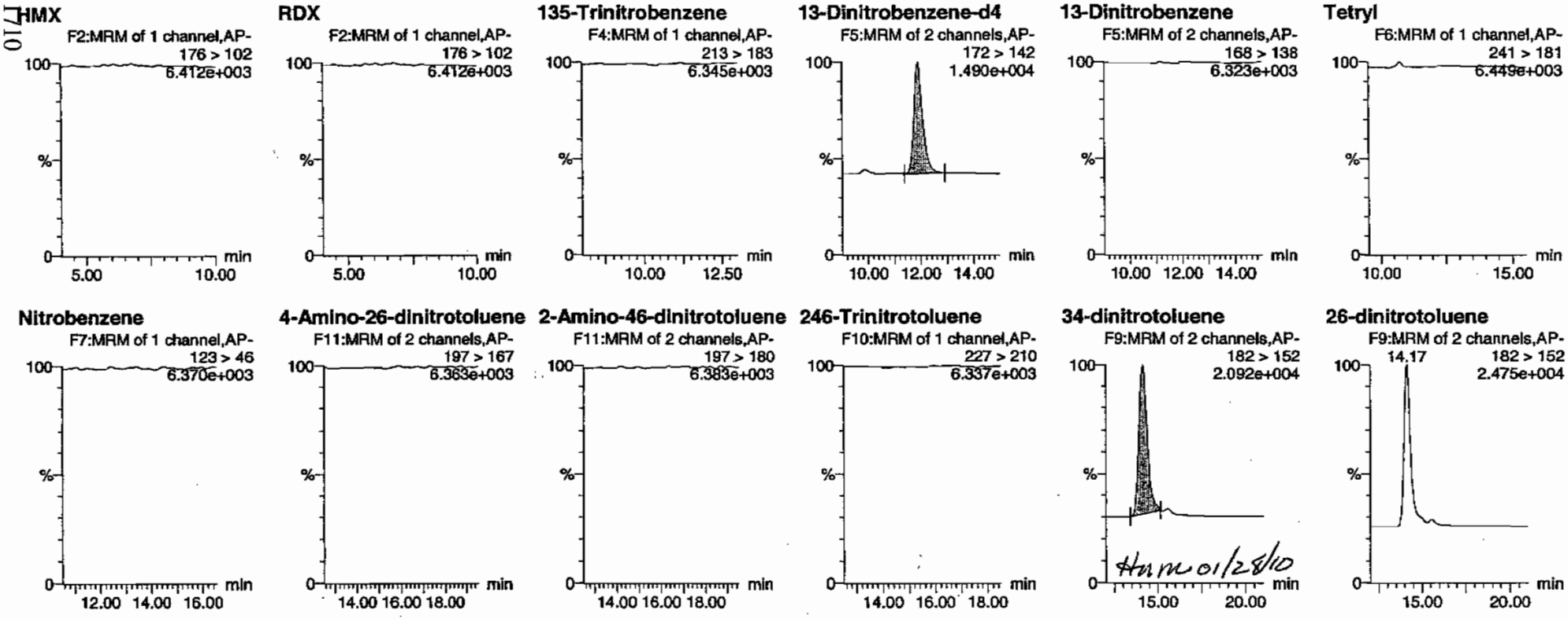
*Concentration =

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

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125076a
Date: 27-Jan-2010
Time: 00:13:37
ID: 244137004 | LANL | 940049 | Solid | 2 |
Vial: 1:4,F

MAP
1/27/10



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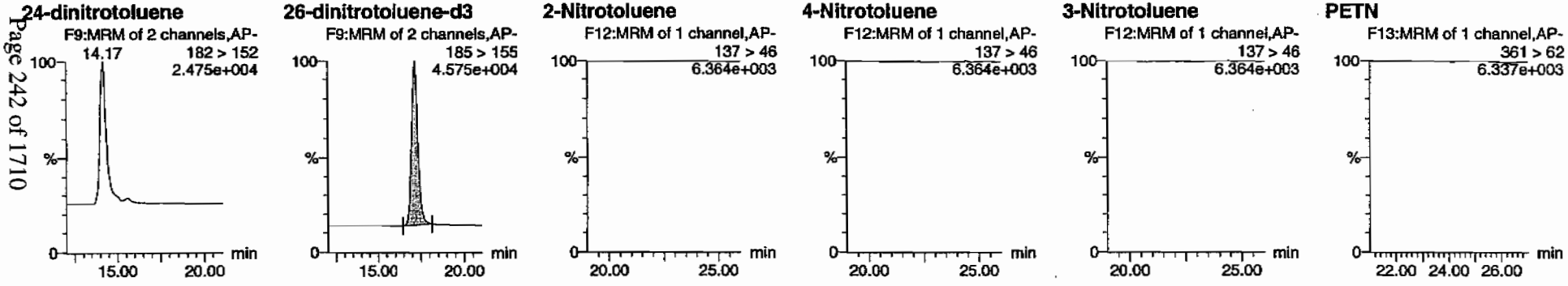
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
244137004	HMX	176 > 102			3333.298									
244137004	RDX	176 > 102			3333.298									
244137004	135-Trinitrobenzene	213 > 183			3333.298									
244137004	13-Dinitrobenzene-d4	172 > 142	11.89	3333.298		3333.298	3333.298	bb			561.4637	112.3	12.3	435.6
244137004	13-Dinitrobenzene	168 > 138			3333.298									
244137004	Tetryl	241 > 181			3333.298									
244137004	Nitrobenzene	123 > 46			3333.298									
244137004	4-Amino-26-dinitrotoluene	197 > 167			16715.148									
244137004	2-Amino-46-dinitrotoluene	197 > 180			16715.148									
244137004	246-Trinitrotoluene	227 > 210			16715.148									
244137004	34-dinitrotoluene	182 > 152	14.17	7884.548	16715.148	7884.548	235.850	bb			259.7431	103.9	3.9	747.7
244137004	26-dinitrotoluene	182 > 152			16715.148									
244137004	24-dinitrotoluene	182 > 152			16715.148									
244137004	26-dinitrotoluene-d3	185 > 155	17.16	16715.148		16715.148	16715.148	bb			512.7868	102.6	2.6	1288.9
244137004	2-Nitrotoluene	137 > 46			16715.148									
244137004	4-Nitrotoluene	137 > 46			16715.148									
244137004	3-Nitrotoluene	137 > 46			16715.148									
244137004	PETN	361 > 62			16715.148									

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7850

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137004

Sample Amount 2

Moisture: 21.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190046.wiff

Date Analyzed: 20-JAN-10 02:00

Units: ug/kg

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

*Concentration =

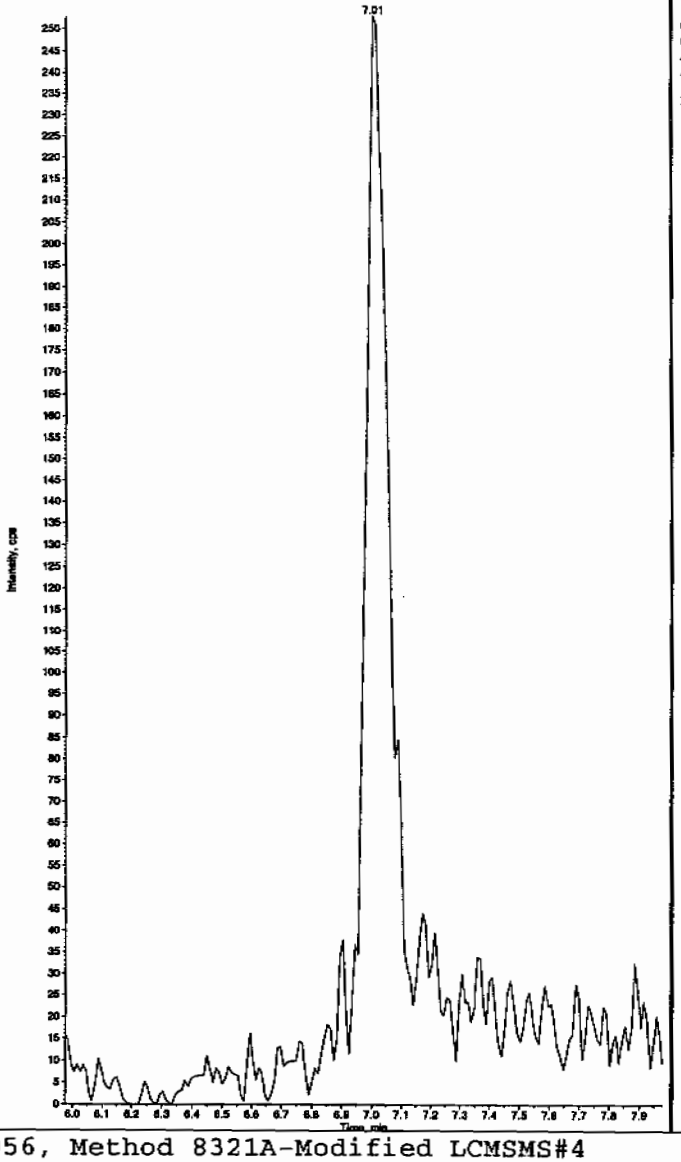
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Dan 1/20/10

Sample Name: "244137004" Sample ID: "940049[2]LER" File: "EXS01190046.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:00:56 AM

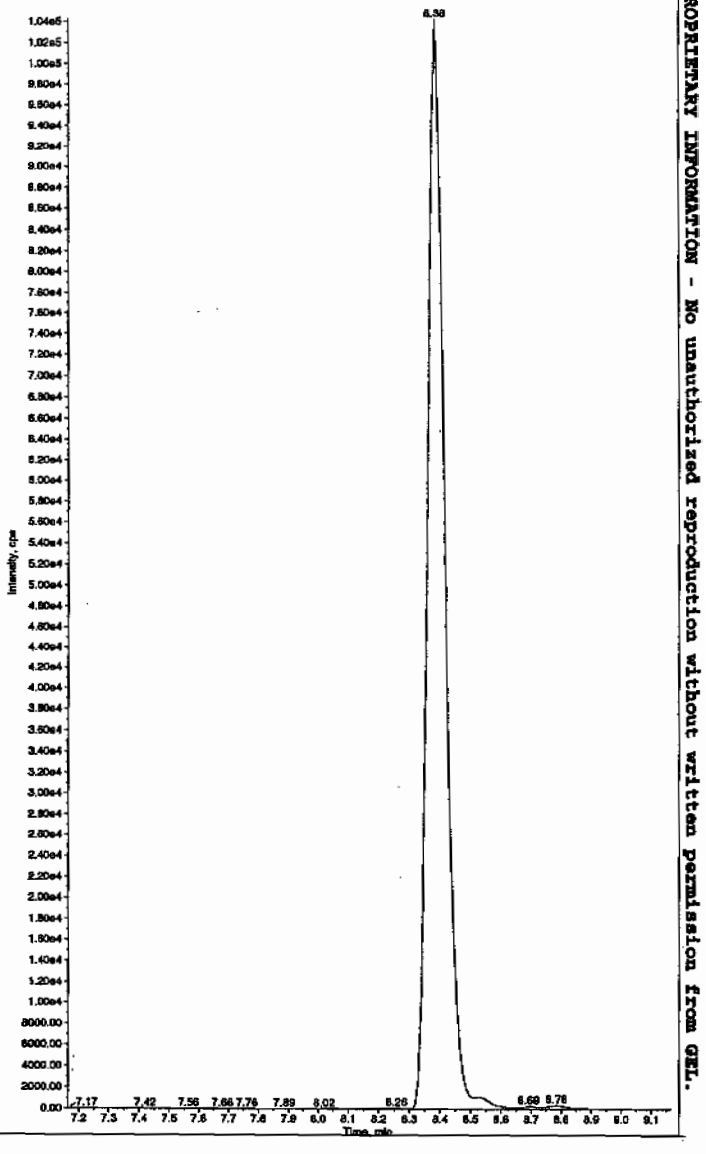
Modified: No



Sample Name: "244137004" Sample ID: "940049[2]LER" File: "EXS01190046.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:00:56 AM

Modified: No



tmm 01/20/10

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

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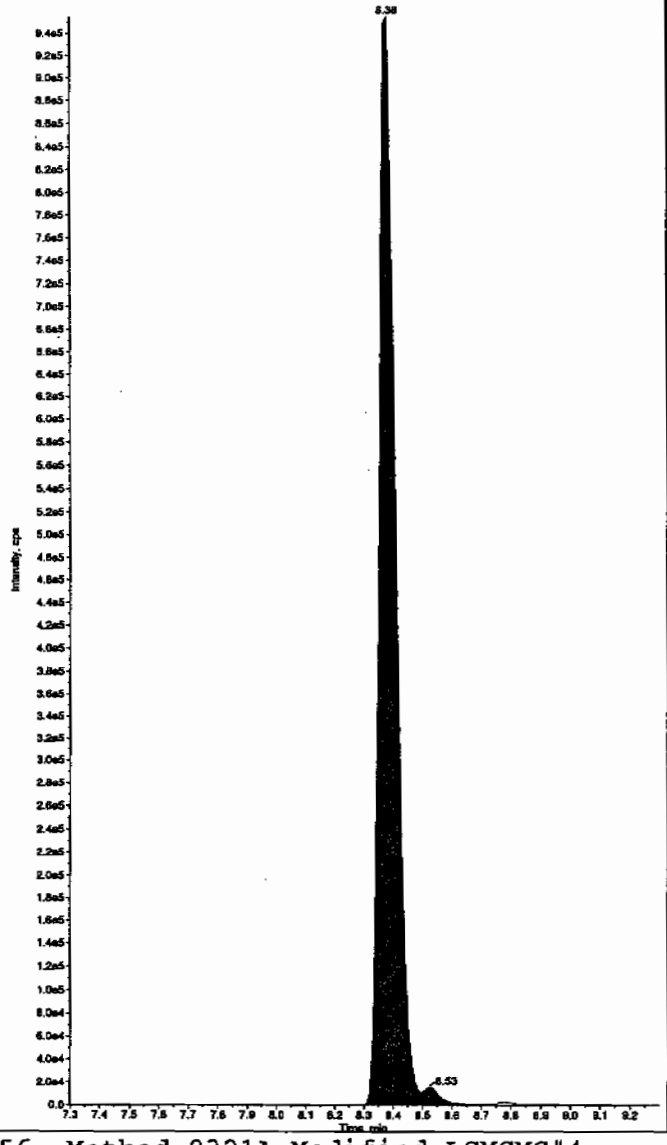
Sample Name: "244137004" Sample ID: "940049|2|LER" File: "EXS01190046.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 272. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:00:56 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

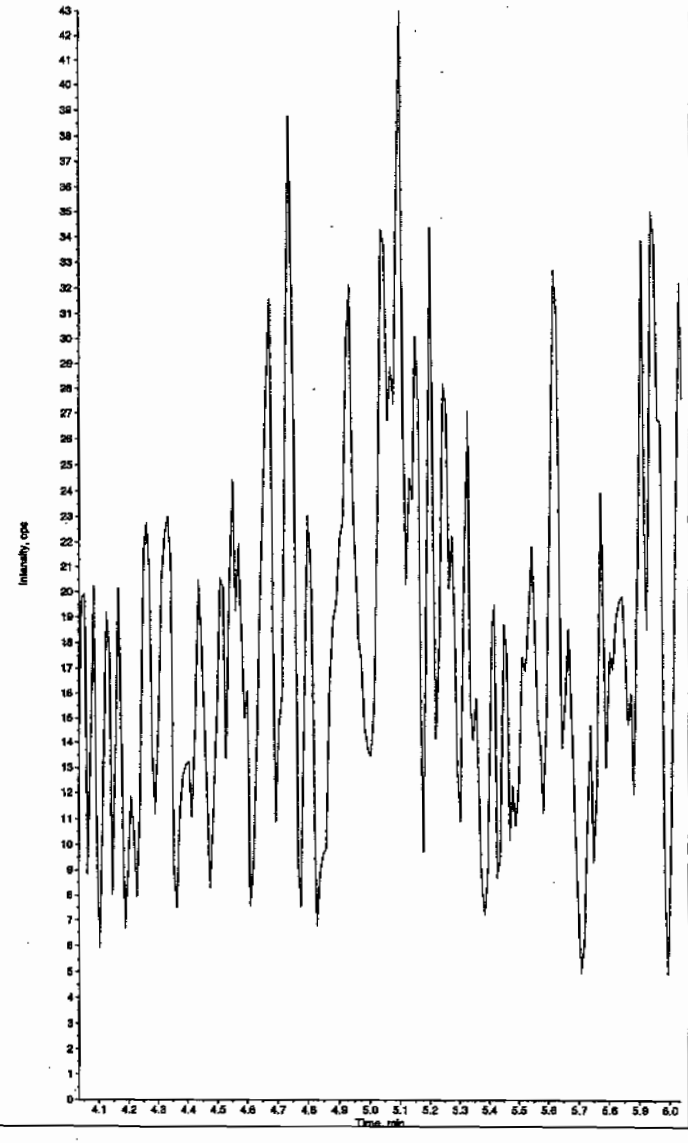
Int. Type: Valley
Retention Time: 8.38 min
Area: 3.80e+006 counts
Height: 955437.805 cps
Start Time: 8.29 min
End Time: 8.67 min



Sample Name: "244137004" Sample ID: "940049|2|LER" File: "EXS01190046.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:00:56 AM

Modified: No



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

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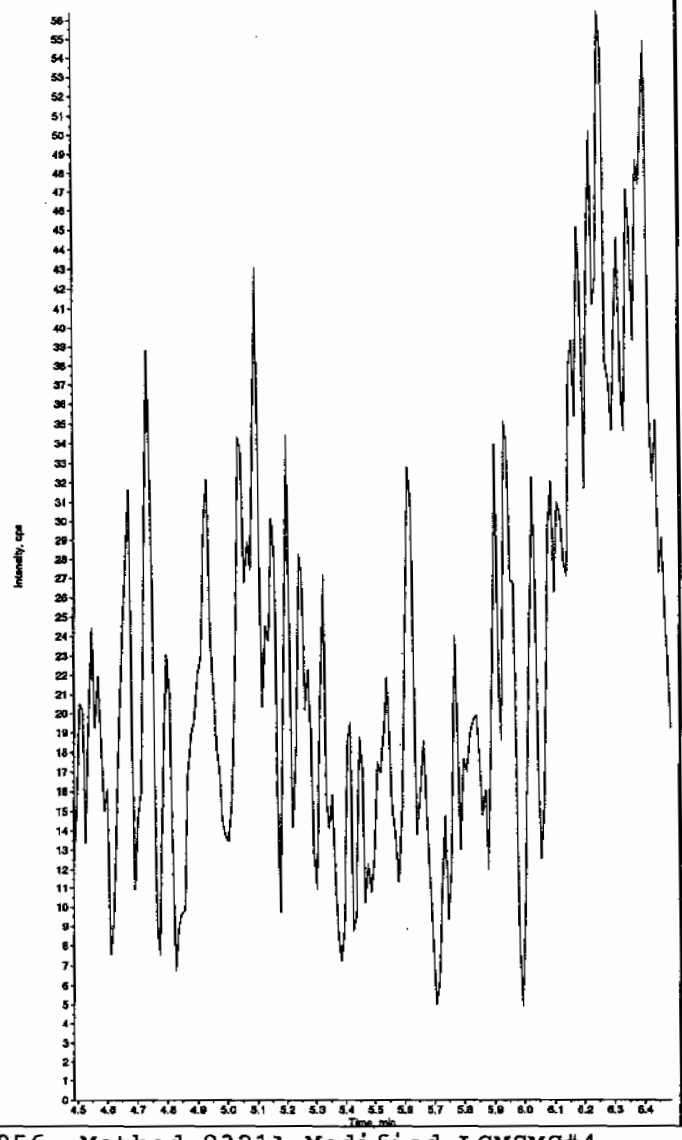
Sample Name: "244137004" Sample ID: "940049|2|LER" File: "EXS01190046.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:00:56 AM

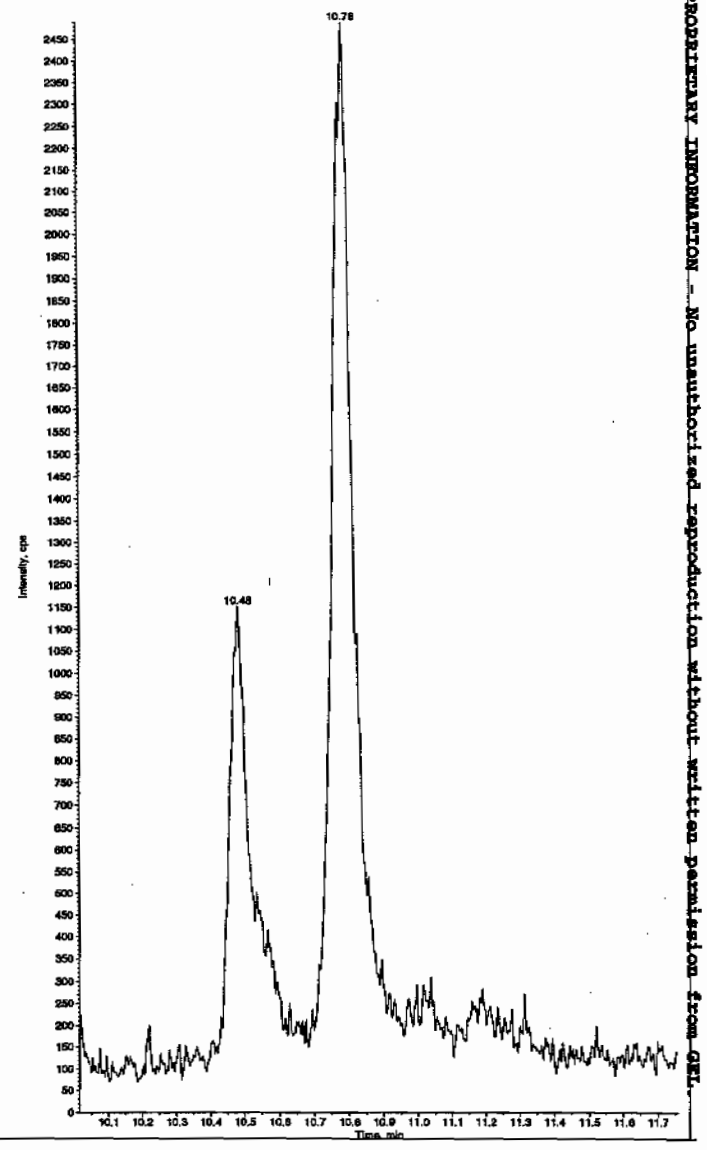
Modified: No



Sample Name: "244137004" Sample ID: "940049|2|LER" File: "EXS01190046.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:00:56 AM

Modified: No



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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7853

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137005

Sample Amount 2

Moisture: 7.2

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125077a

Date Analyzed: 27-JAN-10 00:43

Units: ug/kg

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

*Concentration =

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

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

Printed: Wed Jan 27 09:26:20 2010, Page 81 of 97

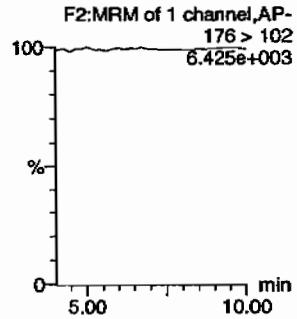
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125077a
Date: 27-Jan-2010
Time: 00:43:05
ID: 244137005
Vial: 1:5,A

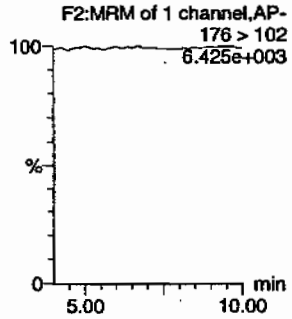
| LANL | 940049 | SOLID | 2 |

MAP 1/27/10

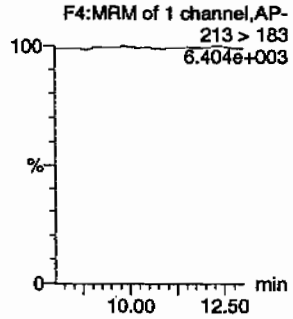
HMX



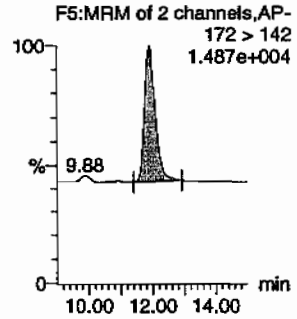
RDX



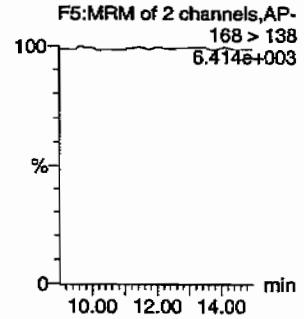
135-Trinitrobenzene



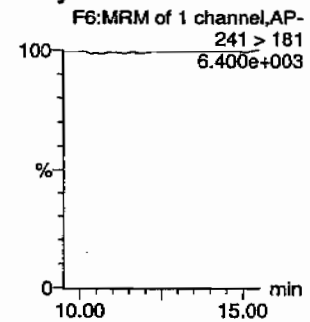
13-Dinitrobenzene-d4



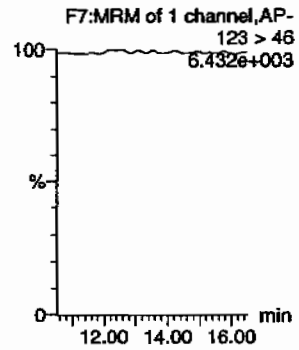
13-Dinitrobenzene



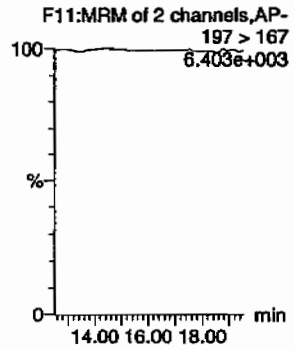
Tetryl



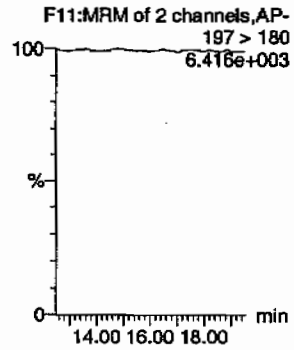
Nitrobenzene



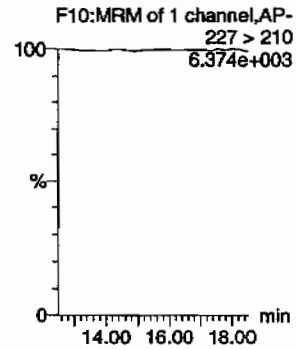
4-Amino-26-dinitrotoluene



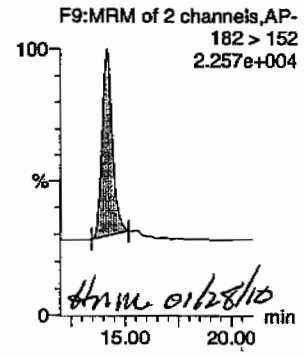
2-Amino-46-dinitrotoluene



246-Trinitrotoluene

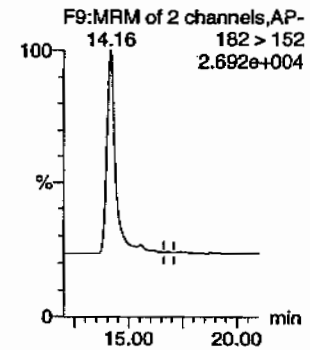


34-dinitrotoluene



Hmm 01/28/10

26-dinitrotoluene



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

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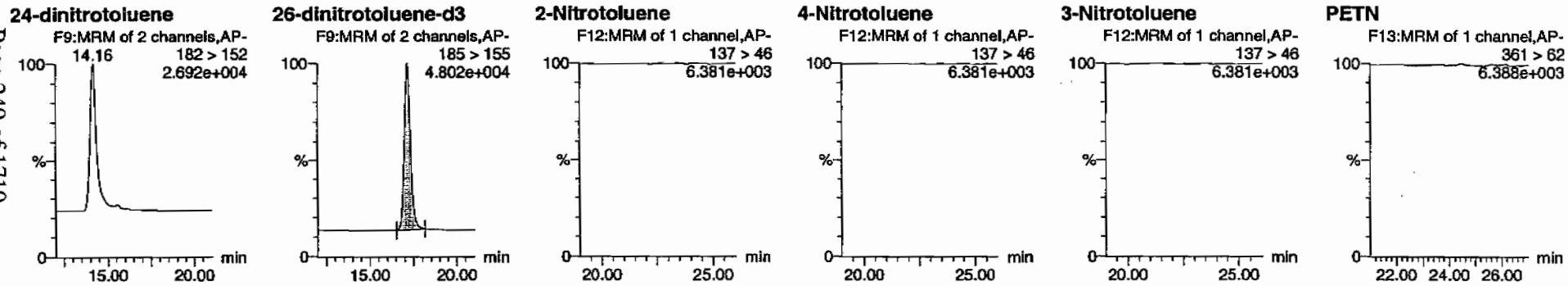
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
244137005	HMX	176 > 102			3265.954									
244137005	RDX	176 > 102			3265.954									
244137005	135-Trinitrobenzene	213 > 183			3265.954									
244137005	13-Dinitrobenzene-d4	172 > 142	11.89	3265.954		3265.954	3265.954	bb			550.1202	110.0	10.0	152.0
244137005	13-Dinitrobenzene	168 > 138			3265.954									
244137005	Tetryl	241 > 181			3265.954									
244137005	Nitrobenzene	123 > 46			3265.954									
244137005	4-Amino-26-dinitrotoluene	197 > 167			17733.625									
244137005	2-Amino-46-dinitrotoluene	197 > 180			17733.625									
244137005	246-Trinitrotoluene	227 > 210			17733.625									
244137005	34-dinitrotoluene	182 > 152	14.16	8670.779	17733.625	8670.779	244.473	bb			269.2390	107.7	7.7	517.1
244137005	26-dinitrotoluene	182 > 152			17733.625			MM-	27-Jan-10	09:16:36				
244137005	24-dinitrotoluene	182 > 152			17733.625									
244137005	26-dinitrotoluene-d3	185 > 155	17.16	17733.625		17733.625	17733.625	bb			544.0316	108.8	8.8	2011.8
244137005	2-Nitrotoluene	137 > 46			17733.625									
244137005	4-Nitrotoluene	137 > 46			17733.625									
244137005	3-Nitrotoluene	137 > 46			17733.625									
244137005	PETN	361 > 62			17733.625									

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

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High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7853

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137005

Sample Amount 2

Moisture: 7.2

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190047.wiff

Date Analyzed: 20-JAN-10 02:16

Units: ug/kg

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

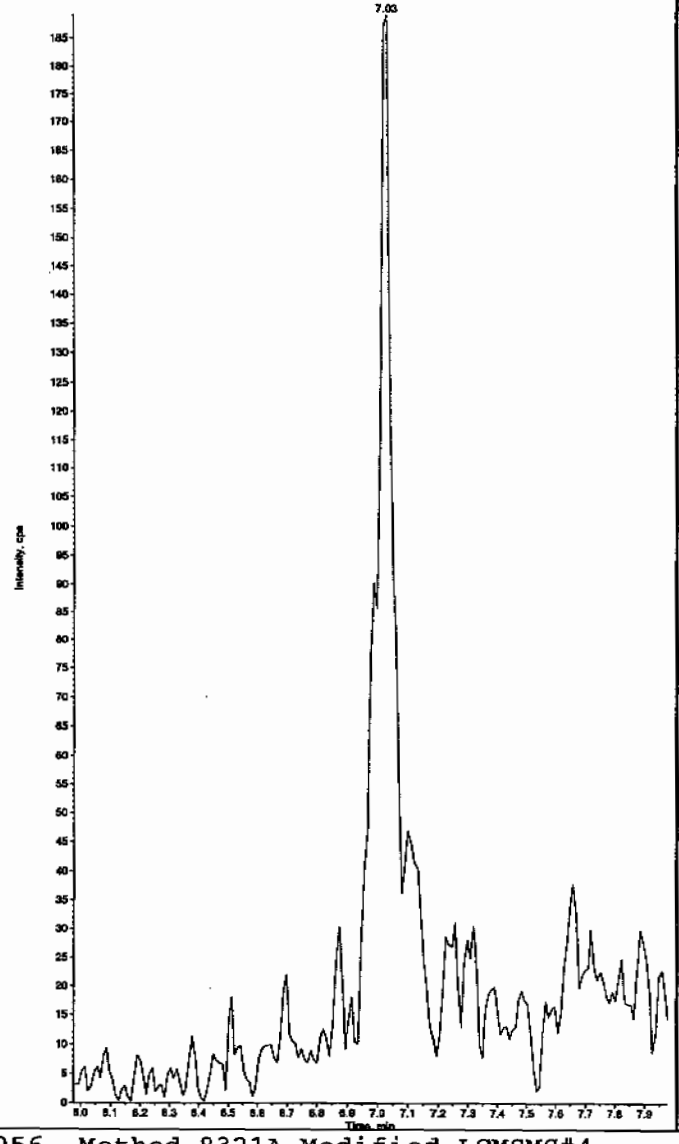
*Concentration =

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

Sler 1/20/10

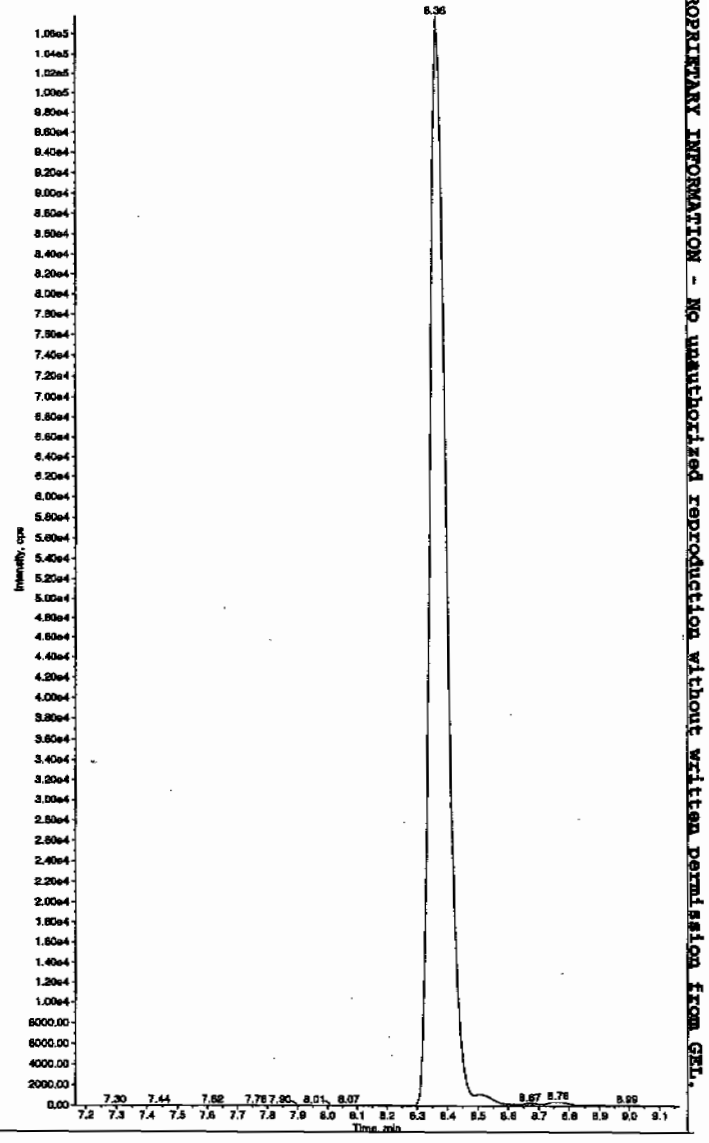
Sample Name: "244137005" Sample ID: "940049|2|LER" File: "EXS01190047.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:16:37 AM

Modified: No



Sample Name: "244137005" Sample ID: "940049|2|LER" File: "EXS01190047.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:16:37 AM

Modified: No



Hmw 01/20/10

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

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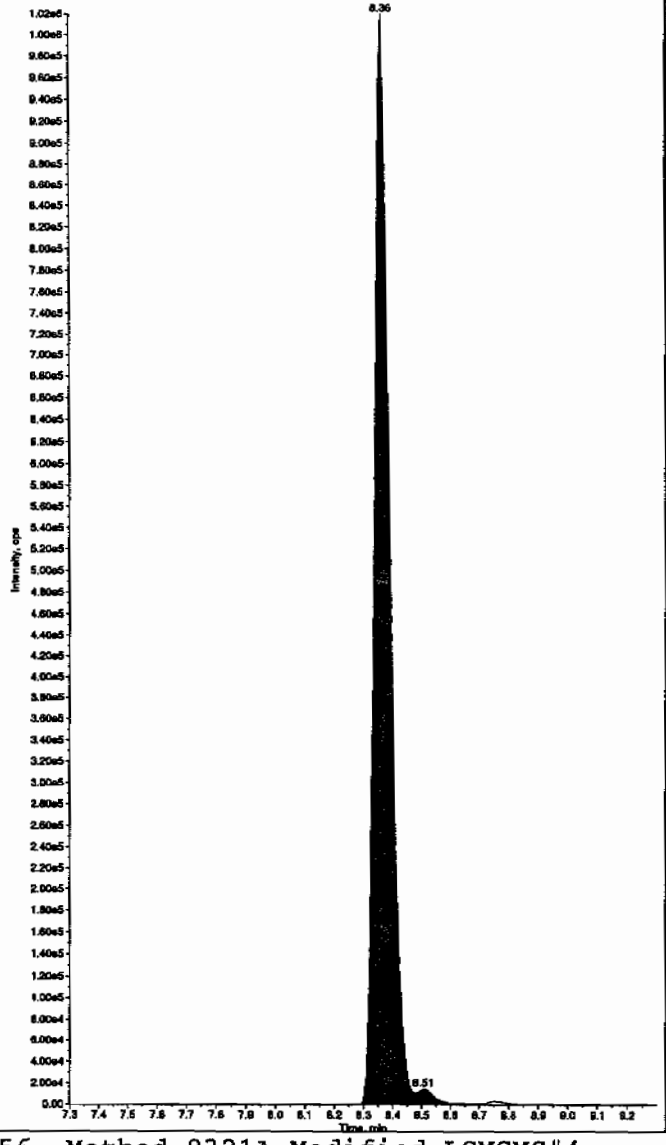
Sample Name: "244137005" Sample ID: "940049|2|LER" File: "EXS01190047.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 277. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:16:37 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

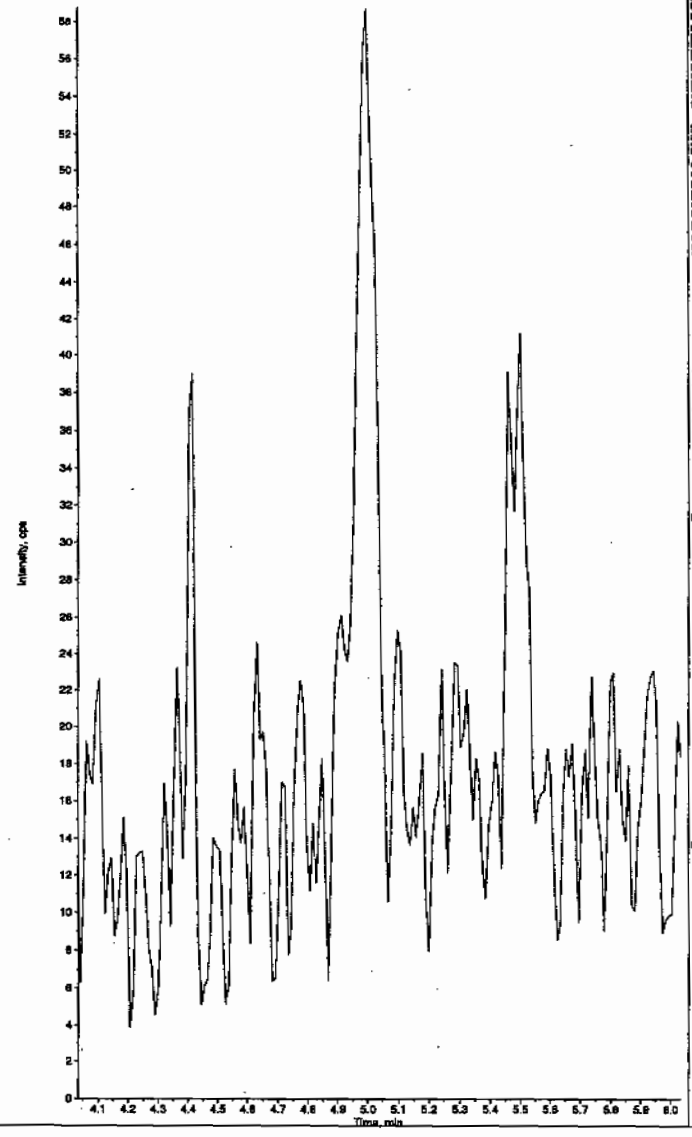
Int. Type: Valley
Retention Time: 8.36 min
Area: 3.87e+006 counts
Height: 1020177.979 cps
Start Time: 8.27 min
End Time: 8.64 min



Sample Name: "244137005" Sample ID: "940049|2|LER" File: "EXS01190047.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:16:37 AM

Modified: No



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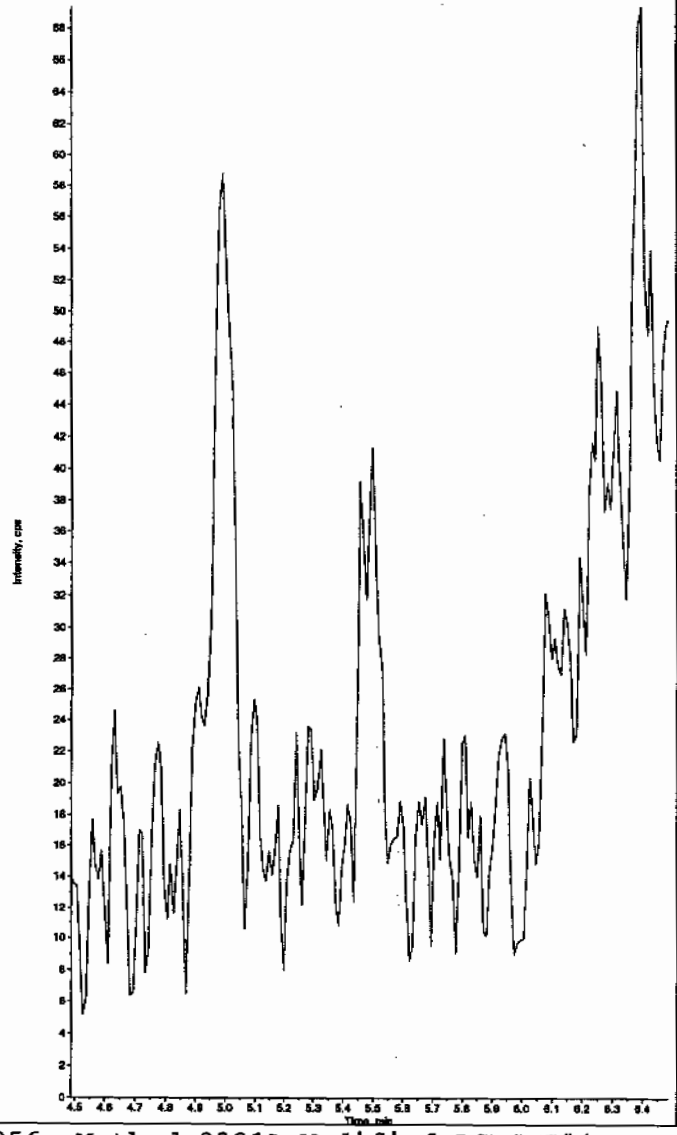
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "244137005" Sample ID: "940049|2|LER" File: "EXS01190047.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: "

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:16:37 AM

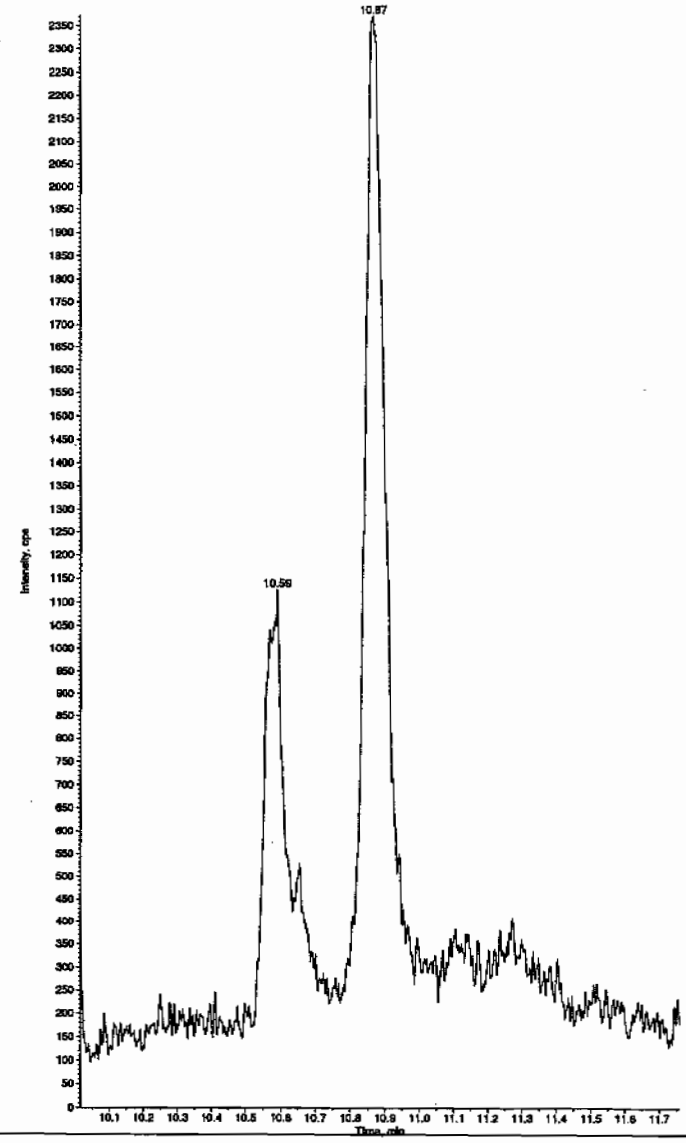
Modified: No



Sample Name: "244137005" Sample ID: "940049|2|LER" File: "EXS01190047.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: "

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:16:37 AM

Modified: No



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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7848

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137006

Sample Amount 2

Moisture: 16.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125078a

Date Analyzed: 27-JAN-10 01:12

Units: ug/kg

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

*Concentration =

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

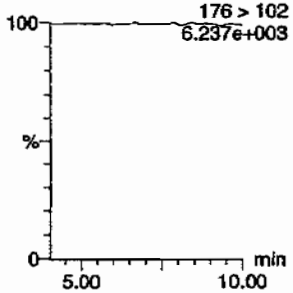
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

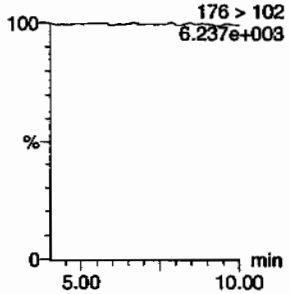
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125078a
Date: 27-Jan-2010
Time: 01:12:36
ID: 244137006 | LANC | 940049 | Soil | 21
Vial: 1:5,B

MAP 1/27/10

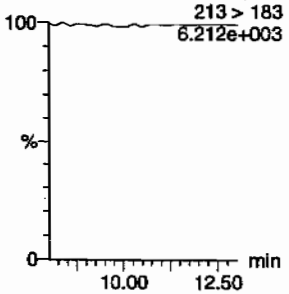
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.237e+003



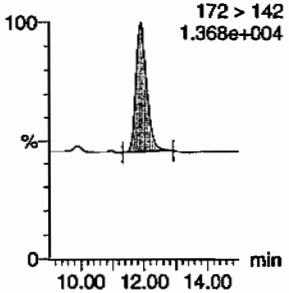
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.237e+003



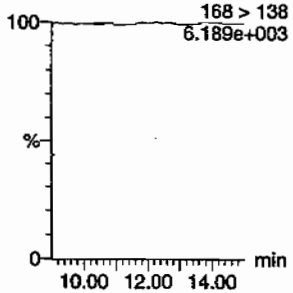
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.212e+003



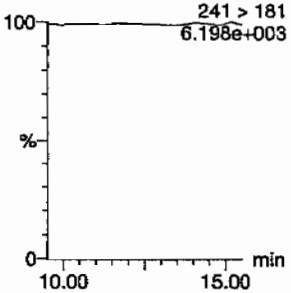
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.368e+004



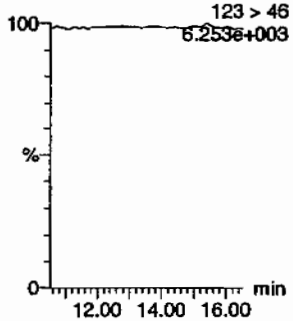
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.189e+003



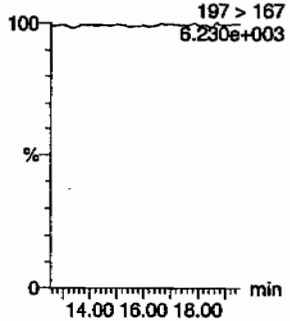
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.198e+003



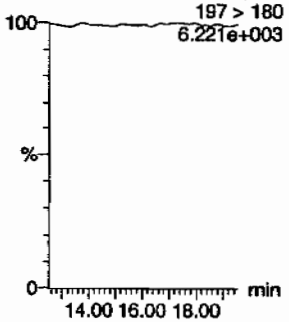
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.253e+003



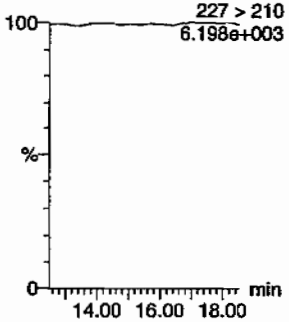
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.230e+003



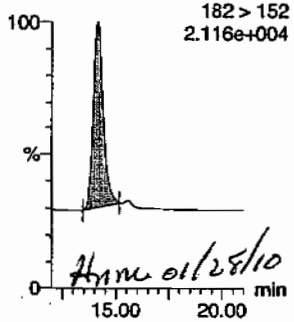
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.221e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.198e+003

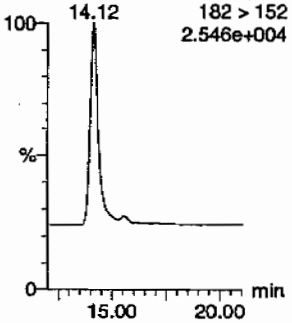


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
2.116e+004



Hmc 01/28/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
14.12
182 > 152
2.546e+004



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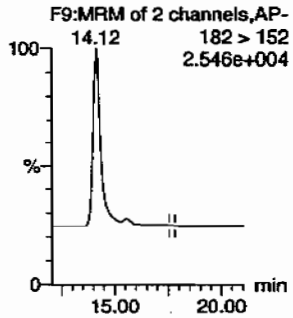
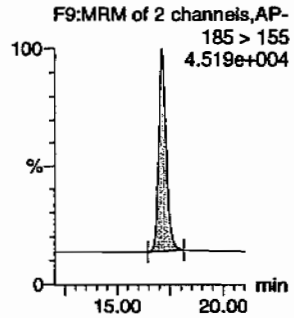
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

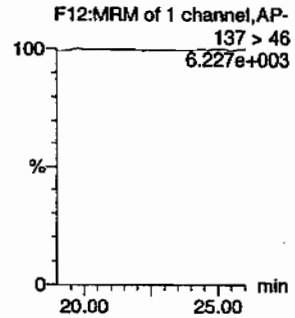
24-dinitrotoluene



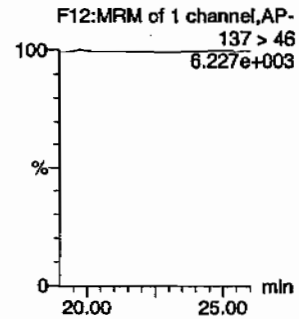
26-dinitrotoluene-d3



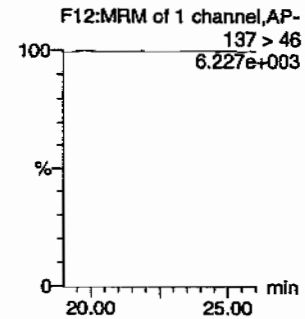
2-Nitrotoluene



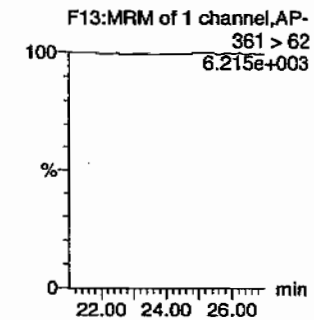
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	S/Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
244137006	HMX	176 > 102			2932.590									
244137006	RDX	176 > 102			2932.590									
244137006	135-Trinitrobenzene	213 > 183			2932.590									
244137006	13-Dinitrobenzene-d4	172 > 142	11.89	2932.590		2932.590	2932.590	bb			493.9681	98.8	-1.2	186.8
244137006	13-Dinitrobenzene	168 > 138			2932.590									
244137006	Tetryl	241 > 181			2932.590									
244137006	Nitrobenzene	123 > 46			2932.590									
244137006	4-Amino-26-dinitrotoluene	197 > 167			16503.959									
244137006	2-Amino-46-dinitrotoluene	197 > 180			16503.959									
244137006	246-Trinitrotoluene	227 > 210			16503.959									
244137006	34-dinitrotoluene	182 > 152	14.17	7921.564	16503.959	7921.564	239.990	bb			264.3018	105.7	5.7	258.4
244137006	26-dinitrotoluene	182 > 152			16503.959									
244137006	24-dinitrotoluene	182 > 152			16503.959			MM-	27-Jan-10	09:18:06				
244137006	26-dinitrotoluene-d3	185 > 155	17.14	16503.959		16503.959	16503.959	bb			506.3080	101.3	1.3	1686.1
244137006	2-Nitrotoluene	137 > 46			16503.959									
244137006	4-Nitrotoluene	137 > 46			16503.959									
244137006	3-Nitrotoluene	137 > 46			16503.959									
244137006	PETN	361 > 62			16503.959									

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

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High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7848

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137006

Sample Amount 2

Moisture: 16.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190051.wiff

Date Analyzed: 20-JAN-10 03:19

Units: ug/kg

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

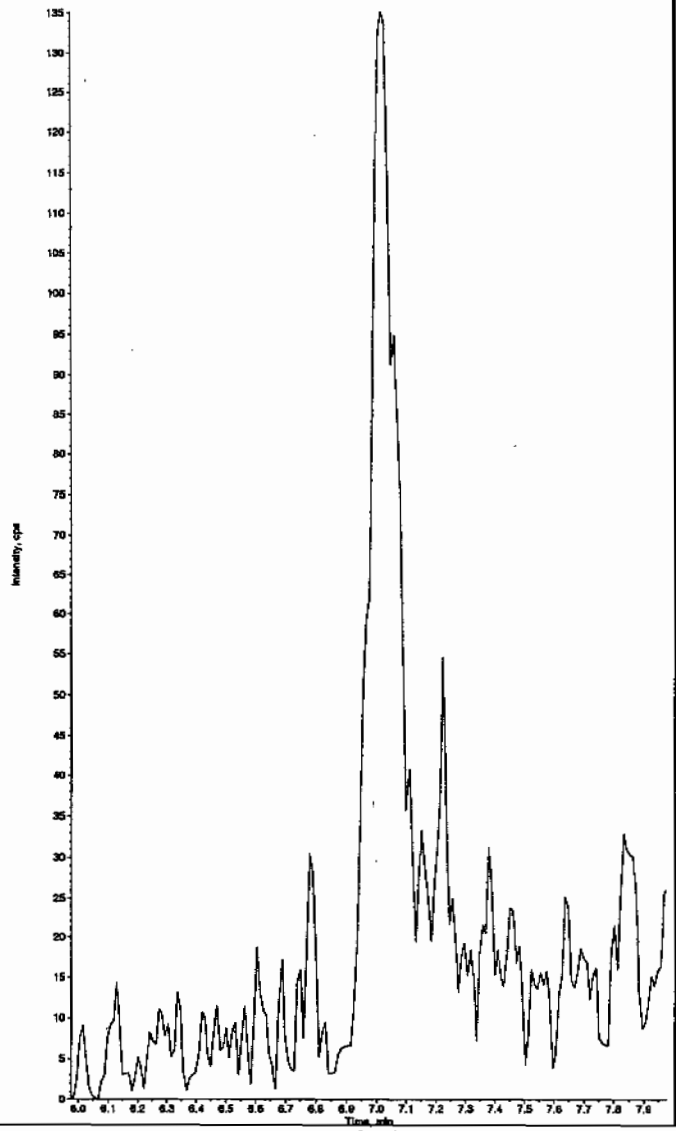
*Concentration =

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

Lan 1/20/10

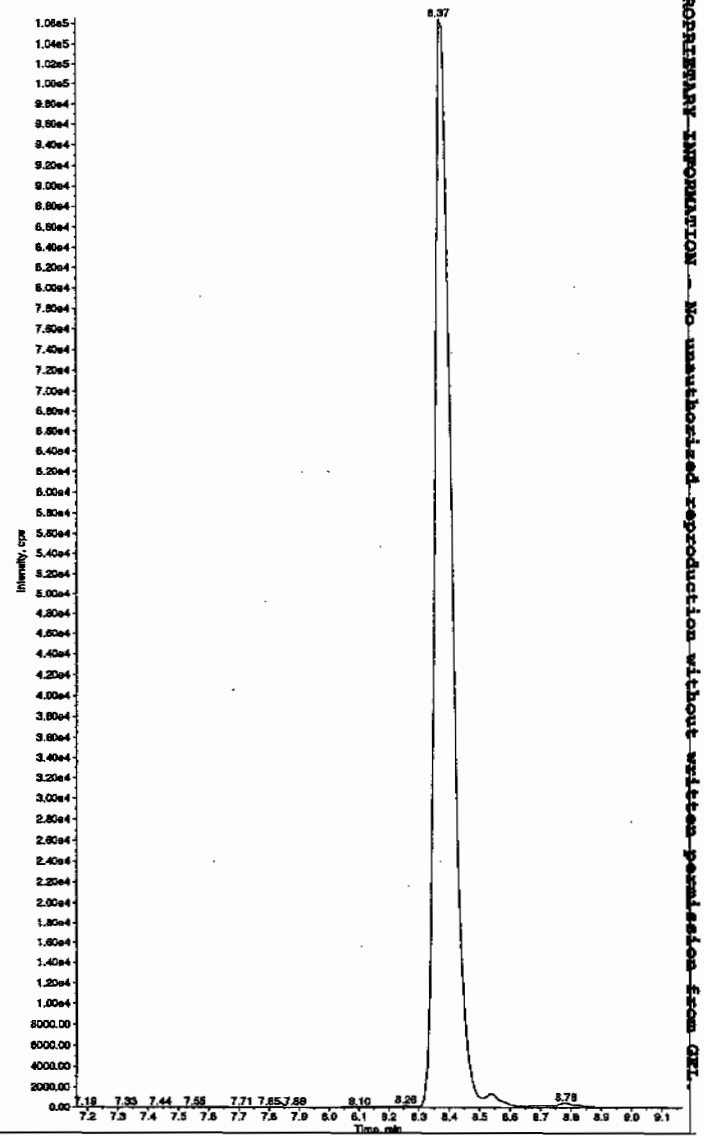
Sample Name: "244137006" Sample ID: "940049|2|LER" File: "EXS01190051.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:19:27 AM

Modified: No



Sample Name: "244137006" Sample ID: "940049|2|LER" File: "EXS01190051.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:19:27 AM

Modified: No



Hmw 01/20/10

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

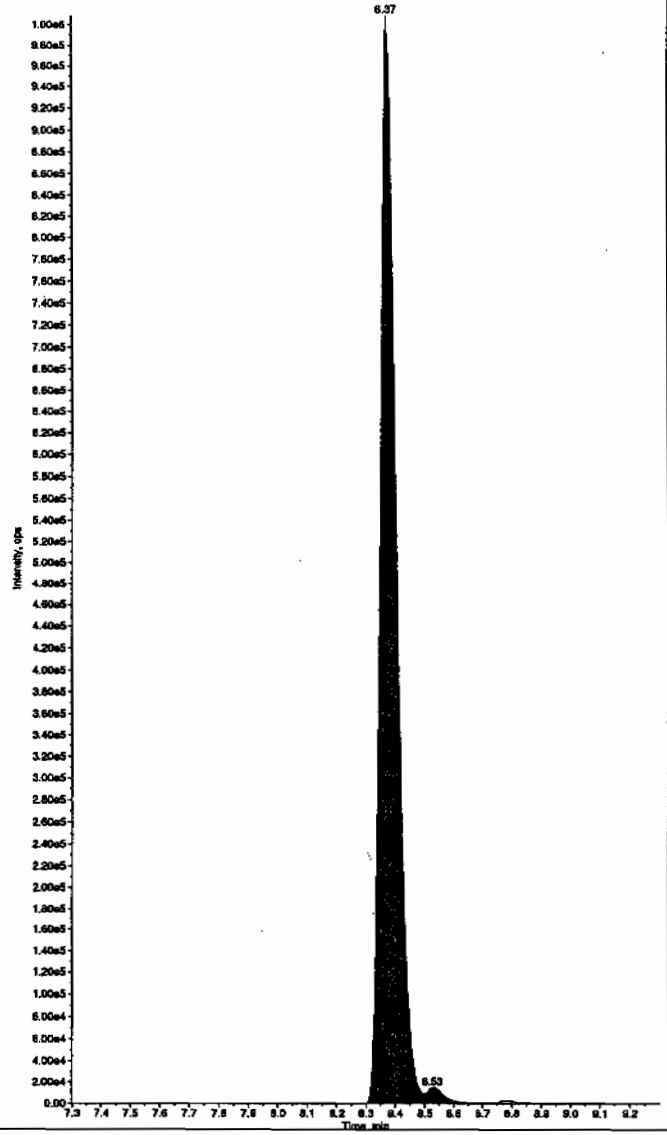
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "244137006" Sample ID: "940049|2|LER" File: "EXS01190051.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 278. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:19:27 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

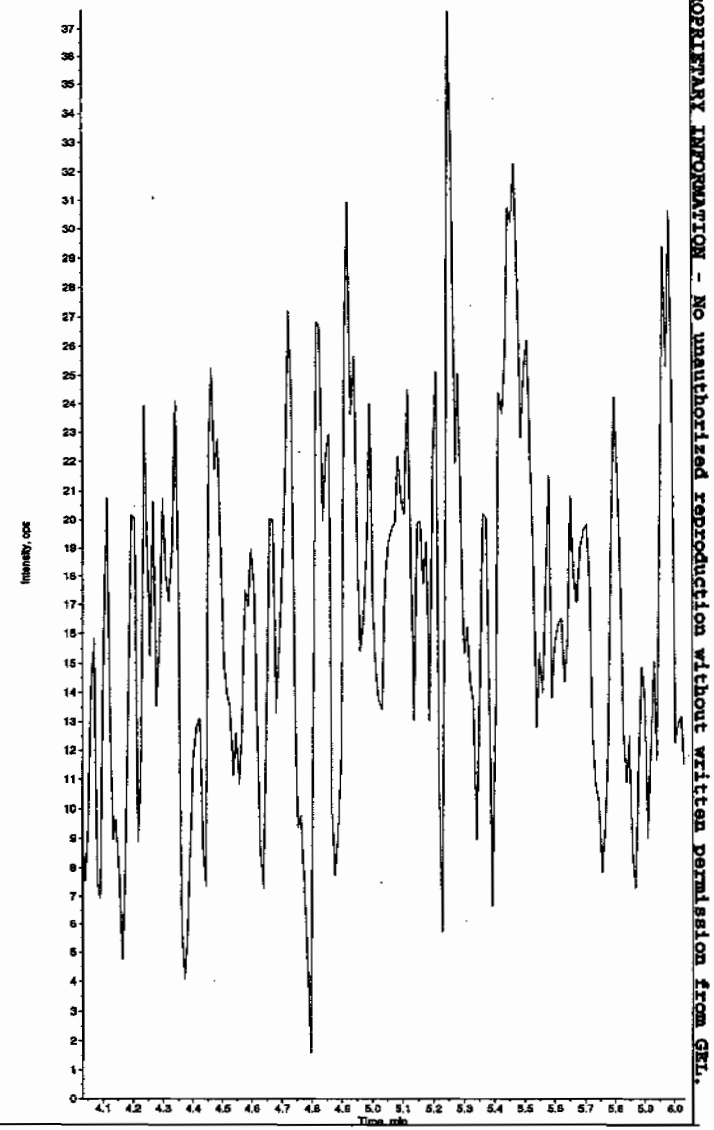
Int. Type: Valley
Retention Time: 8.37 min
Area: 3.88e+006 counts
Height: 1008454.346 cps
Start Time: 8.25 min
End Time: 8.67 min



Sample Name: "244137006" Sample ID: "940049|2|LER" File: "EXS01190051.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:19:27 AM

Modified: No



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

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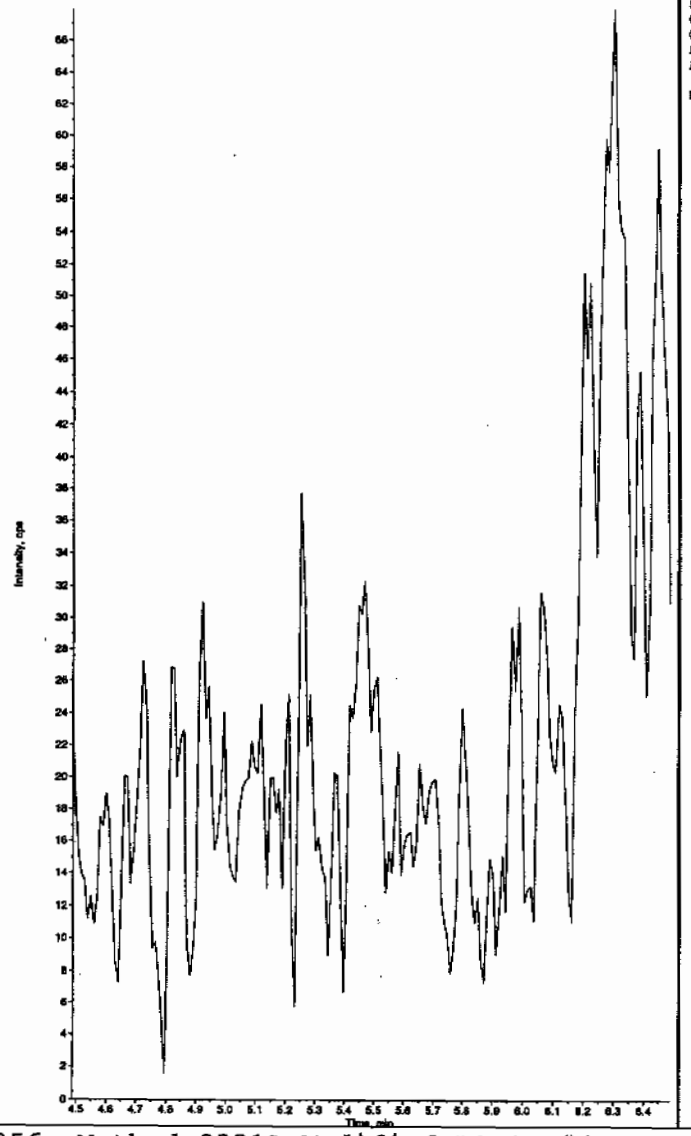
Sample Name: "244137006" Sample ID: "940049[2]LER" File: "EXS01190051.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:19:27 AM

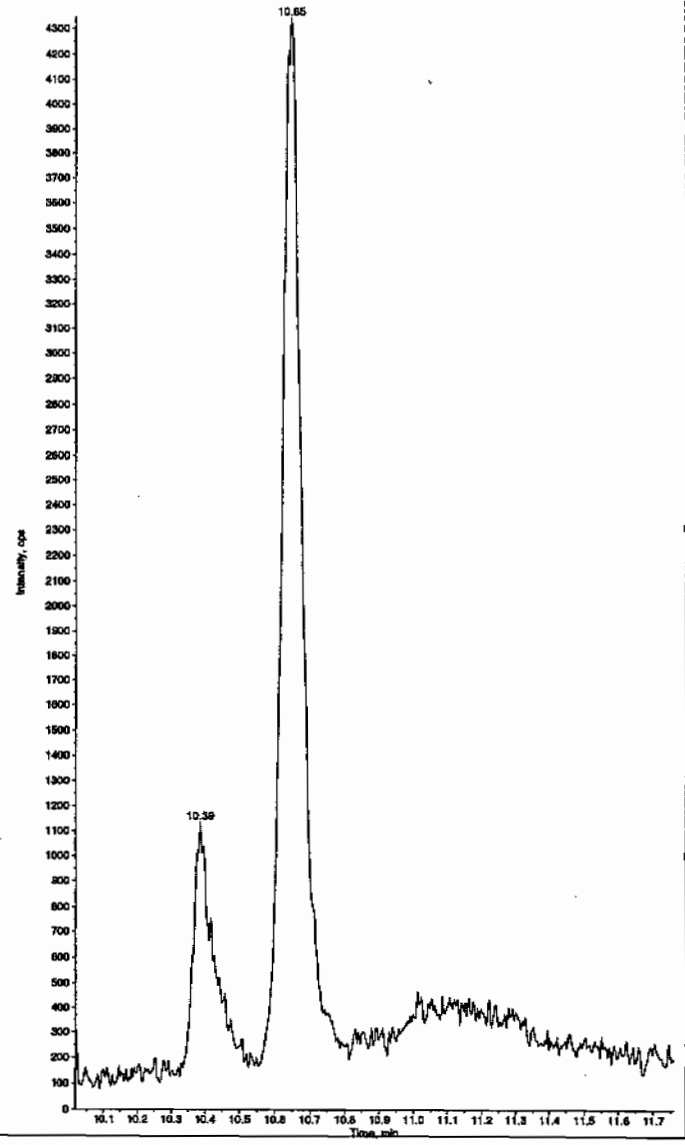
Modified: No



Sample Name: "244137006" Sample ID: "940049[2]LER" File: "EXS01190051.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:19:27 AM

Modified: No



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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7849

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137007

Sample Amount 2

Moisture: 11.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125081a

Date Analyzed: 27-JAN-10 02:41

Units: ug/kg

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

*Concentration =

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

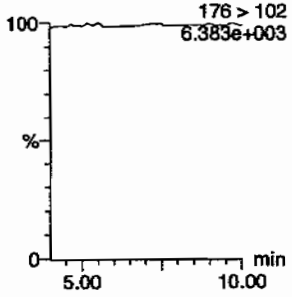
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

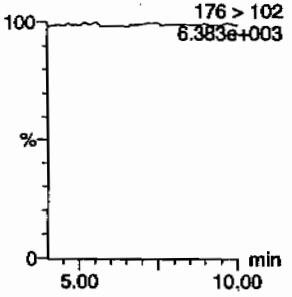
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125081a
Date: 27-Jan-2010
Time: 02:41:04
ID: 244137007 | LANL | 940049 | Soil | 2 |
Vial: 1:5,E

MAP 1/27/10

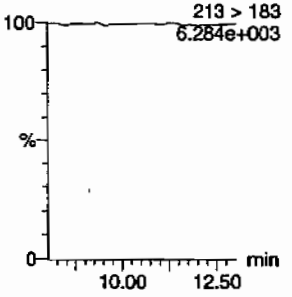
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.383e+003



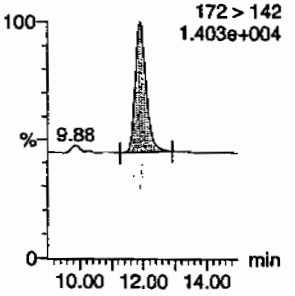
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.383e+003



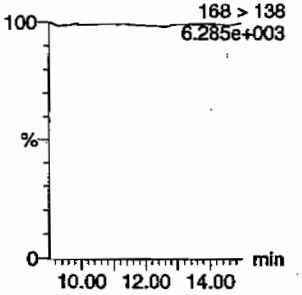
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.284e+003



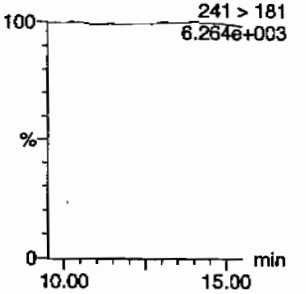
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.403e+004



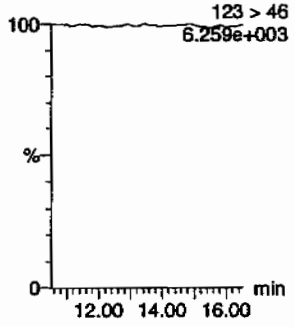
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.285e+003



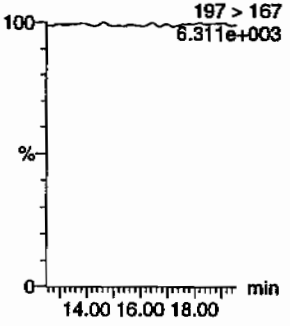
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.264e+003



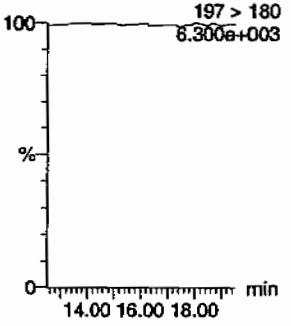
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.259e+003



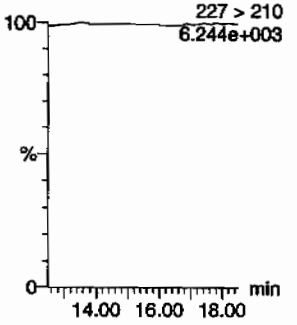
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.311e+003



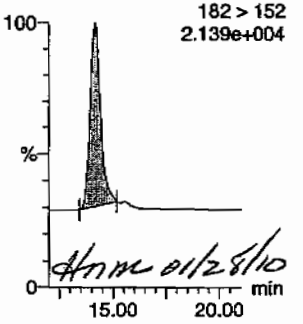
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.300e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.244e+003

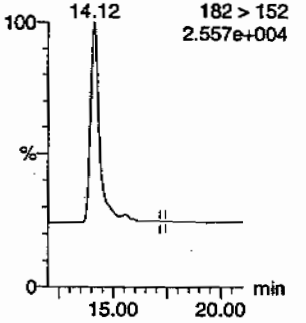


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
2.139e+004



MM 01/28/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
14.12
182 > 152
2.557e+004



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

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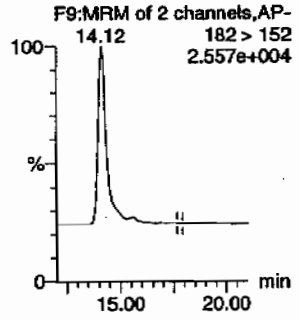
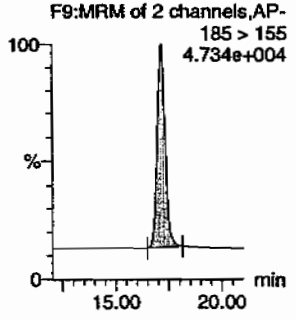
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

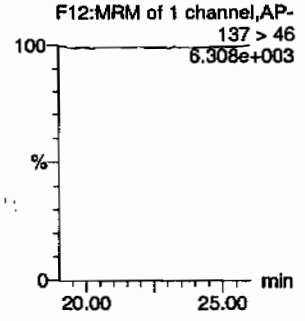
24-dinitrotoluene



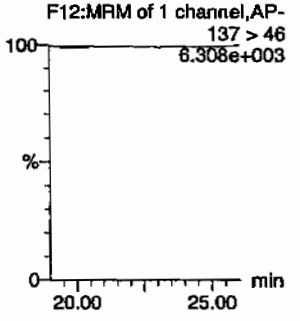
26-dinitrotoluene-d3



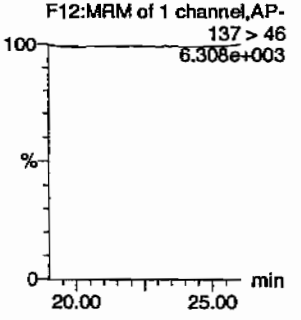
2-Nitrotoluene



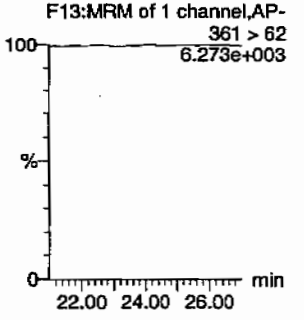
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ug/mL	%Rec	%Dev	S/N
244137007	HMX	176 > 102			3094.692									
244137007	RDX	176 > 102			3094.692									
244137007	135-Trinitrobenzene	213 > 183			3094.692									
244137007	13-Dinitrobenzene-d4	172 > 142	11.89	3094.692		3094.692	3094.692	bb			521.2727	104.3	4.3	492.9
244137007	13-Dinitrobenzene	168 > 138			3094.692									
244137007	Tetryl	241 > 181			3094.692									
244137007	Nitrobenzene	123 > 46			3094.692									
244137007	4-Amino-26-dinitrotoluene	197 > 167			17785.801									
244137007	2-Amino-46-dinitrotoluene	197 > 180			17785.801									
244137007	246-Trinitrotoluene	227 > 210			17785.801									
244137007	34-dinitrotoluene	182 > 152	14.17	8187.164	17785.801	8187.164	230.160	bb			253.4764	101.4	1.4	611.2
244137007	26-dinitrotoluene	182 > 152			17785.801			MM-	27-Jan-10	09:17:00				
244137007	24-dinitrotoluene	182 > 152			17785.801			MM-	27-Jan-10	09:17:43				
244137007	26-dinitrotoluene-d3	185 > 155	17.14	17785.801		17785.801	17785.801	bb			545.6323	109.1	9.1	1501.5
244137007	2-Nitrotoluene	137 > 46			17785.801									
244137007	4-Nitrotoluene	137 > 46			17785.801									
244137007	3-Nitrotoluene	137 > 46			17785.801									
244137007	PETN	361 > 62			17785.801									

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7849

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 244137007

Sample Amount 2

Moisture: 11.0

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190054.wiff

Date Analyzed: 20-JAN-10 04:06

Units: ug/kg

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

*Concentration =

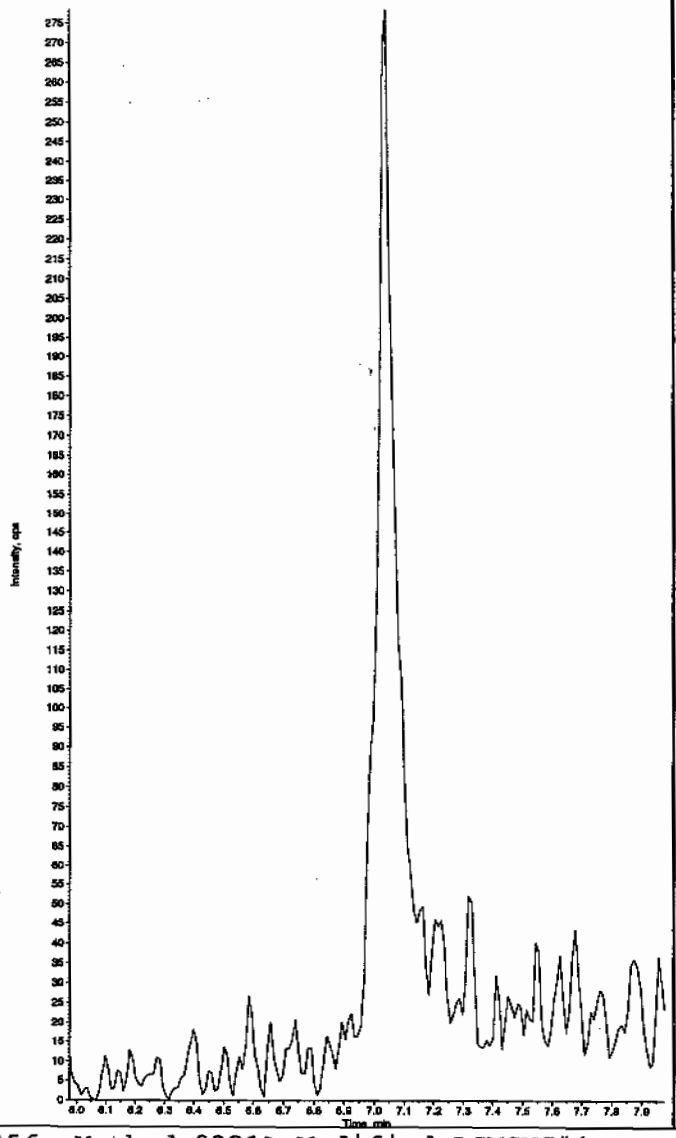
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

LCer 1/20/10

Sample Name: "244137007" Sample ID: "940049[2]LER" File: "EXS01190054.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:06:35 AM

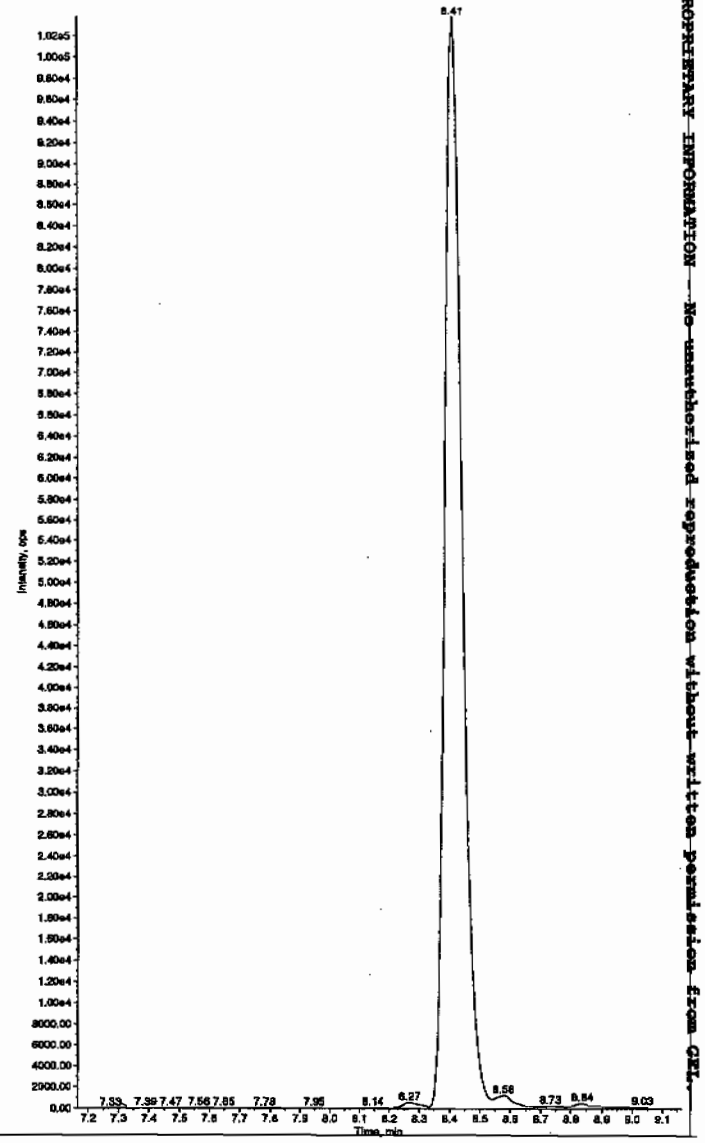
Modified: No



Sample Name: "244137007" Sample ID: "940049[2]LER" File: "EXS01190054.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:06:35 AM

Modified: No



HMM 01/20/10

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

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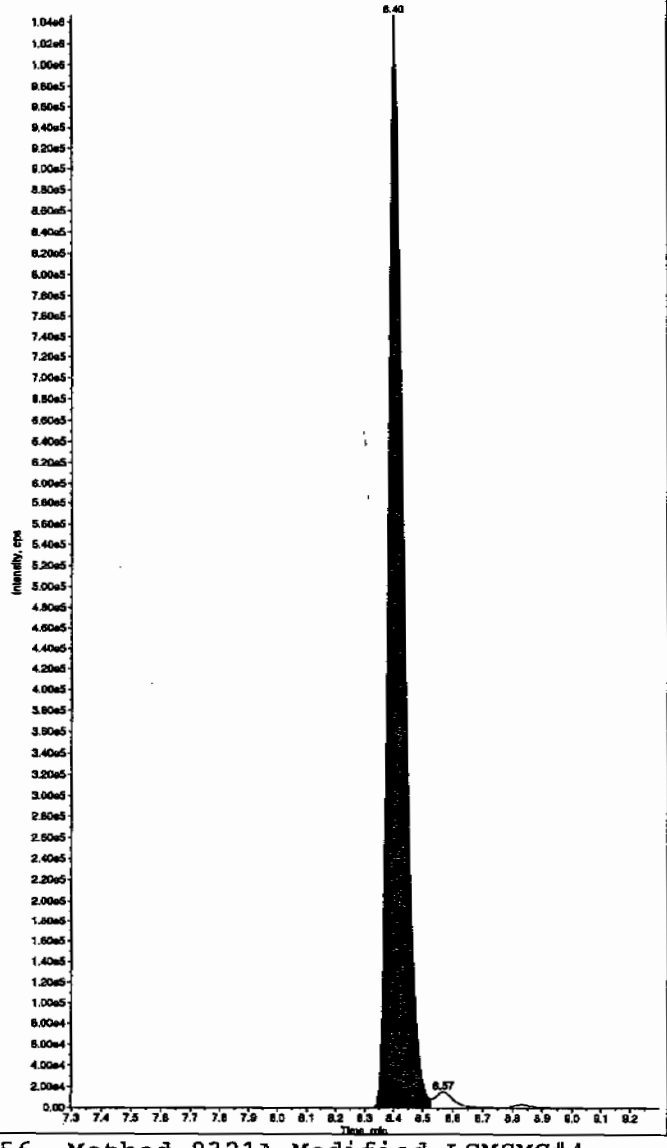
Sample Name: "244137007" Sample ID: "940049[2]LER" File: "EXS01190054.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 283. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:06:35 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

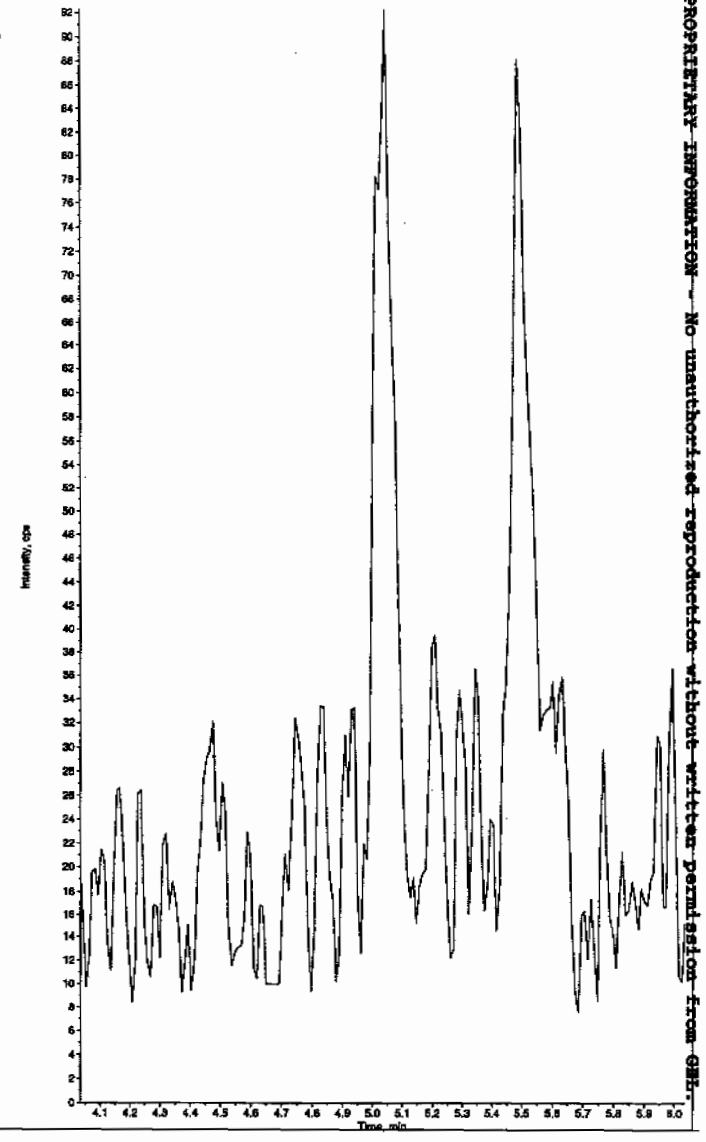
Int. Type: Valley
Retention Time: 8.40 min
Area: 3.95e+006 counts
Height: 1046191.772 cps
Start Time: 8.31 min
End Time: 8.53 min



Sample Name: "244137007" Sample ID: "940049[2]LER" File: "EXS01190054.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:06:35 AM

Modified: No



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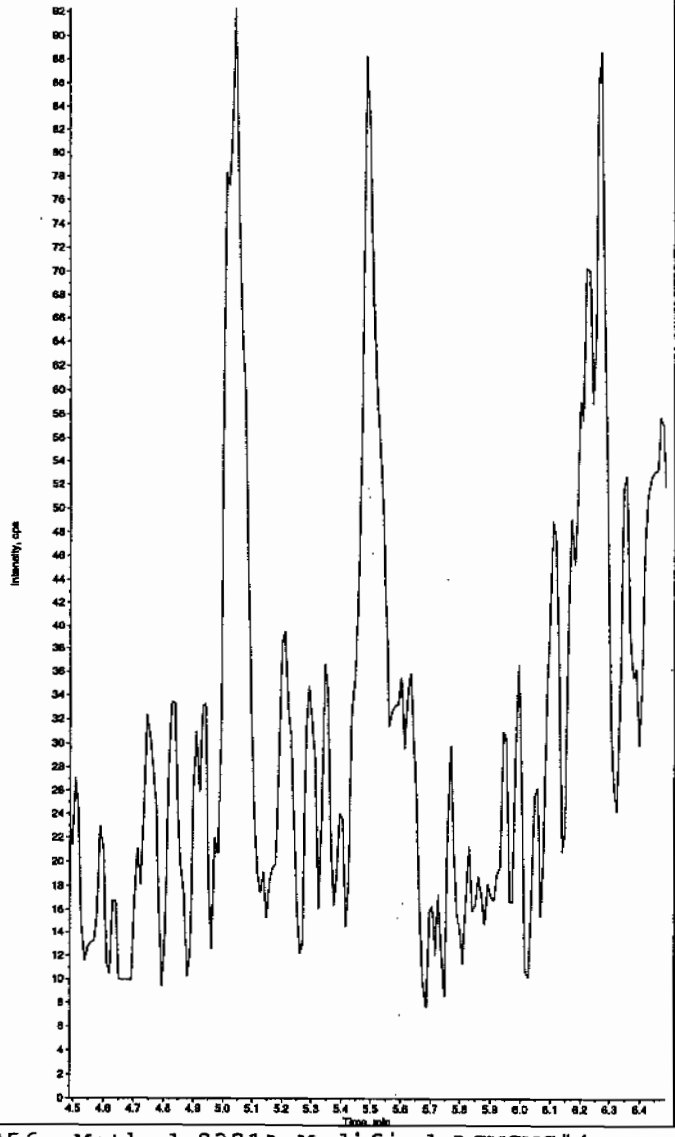
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "244137007" Sample ID: "940049[2]LER" File: "EXS01190054.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:06:35 AM

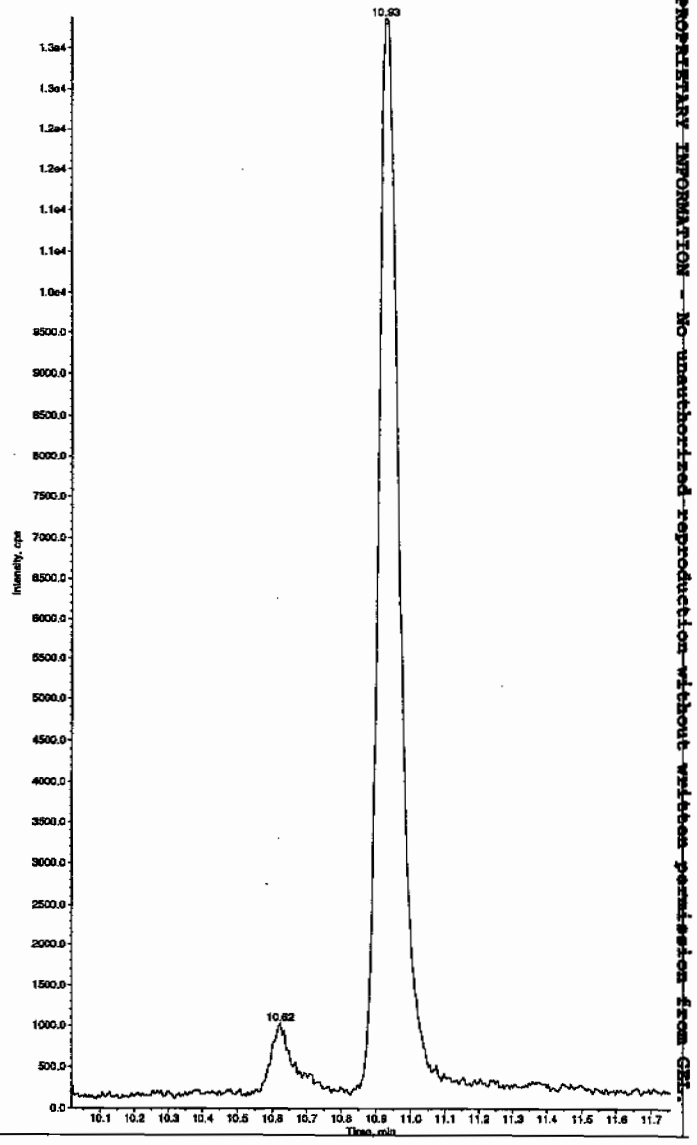
Modified: No



Sample Name: "244137007" Sample ID: "940049[2]LER" File: "EXS01190054.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:06:35 AM

Modified: No



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

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STANDARDS DATA

SW846 8321A Modified-Explosives
Calibration Standard Concentration Levels

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	CCV
3,4-Dinitrotoluene (Surrogate)	12.5	25	100	200	400	500		300
Primary Analytes								
HMX	25	50	200	400	800	1000	na	600
RDX	25	50	200	400	800	1000	na	600
DNX	25	50	200	400	800	1000	na	600
MNX	25	50	200	400	800	1000	na	600
TNX	25	50	200	400	800	1000	na	600
1,3,5-Trinitrobenzene	25	50	200	400	800	1000	na	600
1,3-Dinitrobenzene	25	50	200	400	800	1000	na	600
Nitrobenzene	25	50	200	400	800	1000	na	600
Tetryl	25	50	200	400	800	1000	na	600
Nitroglycerin	50	100	200	400	800	1000	na	600
2,4,6-Trinitrotoluene	25	50	200	400	800	1000	na	600
2-Amino-4,6-dinitrotoluene	25	50	200	400	800	1000	na	600
4-Amino-2,6-dinitrotoluene	25	50	200	400	800	1000	na	600
2,4-Dinitrotoluene	25	50	200	400	800	1000	na	600
2,6-Dinitrotoluene	25	50	200	400	800	1000	na	600
2-Nitrotoluene	25	50	200	400	800	1000	na	600
4-Nitrotoluene	25	50	200	400	800	1000	an	600
3-Nitrotoluene	25	50	200	400	800	1000	na	600
PETN	25	50	200	400	800	1000	na	600
Picric Acid	200	400	1600	3200	6400	8000	na	4800
3,4-Dinitrotoluene (Surrogate)	25	50	125	250	375	500	1000	250
Secondary Analytes								
2,4-Diamino-6-nitrotoluene	50	100	250	500	750	1000	2000	500
2,6-Diamino-4-nitrotoluene	50	100	250	500	750	1000	2000	500
3,5-Dinitroaniline	50	100	250	500	750	1000	2000	500
TATB	50	100	250	500	750	1000	2000	500
tris(o-Cresyl)phosphate	50	100	250	500	750	1000	2000	500

All values are ug/L without the prep factor

Calibration Levels 8321A-Modified-EXPL.xls (08/09A)

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Explosives Initial Calibration

Form 6

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1126

Lab Code: GEL

Run Date: 19-JAN-10,25-JAN-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: Average RF

Calibration Level:	1	2	3	4	5	6	Ave RF	RSD	Q
Data File:	EXP0125003a	EXP0125004a	EXP0125005a	EXP0125006a	EXP0125007a	EXP0125008a			
Parmname									
1,3-Dinitrobenzene-d4	5.832	5.787	6.227	6.458	5.56	5.758	5.937	5.651	
2,4,6-Trinitrotoluene	.291	.314	.307	.33	.315	.35	0.318	6.37	
2,4-Dinitrotoluene	.266	.236	.248	.257	.257	.261	0.254	4.281	
2,6-Dinitrotoluene	1.098	1.063	1.109	1.102	1.101	1.136	1.102	2.135	
2,6-Dinitrotoluene-d3	32.788	34.124	32.326	33.697	32.571	30.074	32.597	4.342	
2-Amino-4,6-dinitrotoluene	.357	.34	.36	.395	.383	.411	0.374	7.093	
3,4-Dinitrotoluene	.897	.857	.859	.974	.897	.964	0.908	5.56	
4-Amino-2,6-dinitrotoluene	.224	.204	.265	.278	.276	.315	0.260	15.398	
HMX	3.197	3.208	2.918	3.261	3.211	3.241	3.173	4.004	
Nitrobenzene	.797	.997	.799	.806	.871	.858	0.855	8.992	
RDX	2.287	2.428	1.935	2.024	2.303	2.216	2.199	8.428	
Tetryl	.914	.973	.905	.866	.809	.744	0.869	9.411	
m-Dinitrobenzene	1.053	1.14	1.161	1.232	1.185	1.188	1.160	5.223	
m-Nitrotoluene	.087	.096	.092	.097	.091	.099	0.094	4.837	
o-Nitrotoluene	.167	.176	.171	.158	.159	.167	0.166	4.11	
p-Nitrotoluene	.087	.091	.082	.08	.076	.081	0.083	6.385	

Q column used to flag RSD values outside of Limit (>20%)
* Values outside of QC Limit

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Explosives Initial Calibration

Form 6

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1126

Lab Code: GEL

Run Date: 19-JAN-10,25-JAN-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: Linear

Calibration Level:	1	2	3	4	5	6	Slope	Intercept	COD	Q
Data File:	EXP0125003a	EXP0125004a	EXP0125005a	EXP0125006a	EXP0125007a	EXP0125008a				
Parmname										
1,3,5-Trinitrobenzene	651.953	1067.5	3665.01	7077.27	12962.6	16285.9	2.817	28.102	.999	

Linear fit : Y=mx +b
where b is Intercept and m is slope

COD is Coefficient of Determination

Q column used to flag COD values outside of Limit (<0.990)
* Values outside of QC Limit

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Explosives Initial Calibration

Form 6

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1126

Lab Code: GEL

Run Date: 19-JAN-10,25-JAN-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: 2nd Order

Calibration Level:	1	2	3	4	5	6	X	X^2	Intercept	COD	Q
Data File:	EXP0125003a	EXP0125004a	EXP0125005a	EXP0125006a	EXP0125007a	EXP0125008a					
Parmname:											
PETN	2319.71	4827.48	15533.2	25594.2	42172.6	47290	2	-.0004964	47.5	.9972	

Quadradic Fit: y = Ax^2 + Bx + C
where X^2 column above is coefficient A
X column above is coefficient B
intercept is C

COD is Coefficient of Determination

Q column used to flag COD outside of Limit (<0.990)
* Values outside of QC Limit

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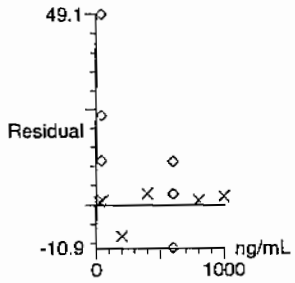
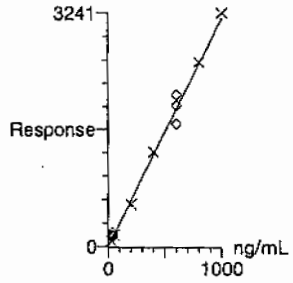
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

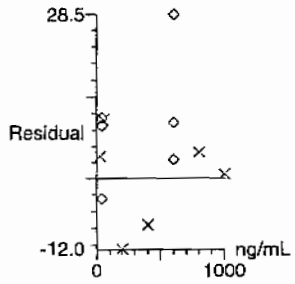
Method: C:\MASSLYNX\New_Exp.PRO\MethDB\012510expa.mdb, Time: Mon Jan 25 16:14:14 2010
Calibration: Untitled, Time: Tue Jan 26 09:24:51 2010

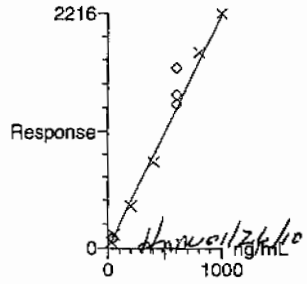
Compound name: HMX
Response Factor: 3.17253
RRF SD: 0.127021, % Relative SD: 4.00378
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF





Compound name: RDX
Response Factor: 2.1986
RRF SD: 0.185302, % Relative SD: 8.42817
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF





1/26/10

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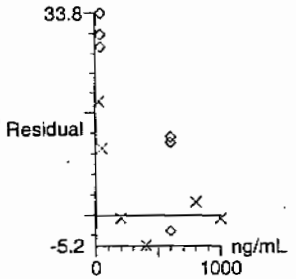
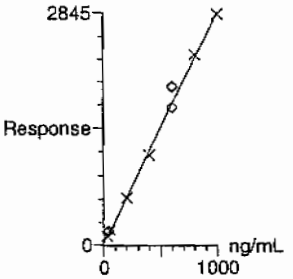
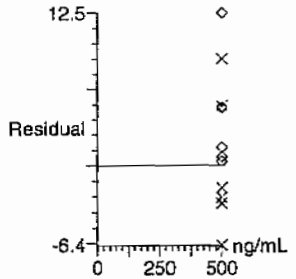
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

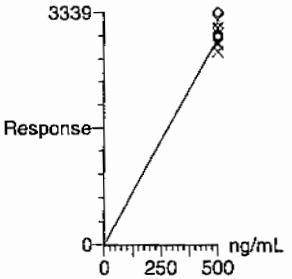
Compound name: 135-Trinitrobenzene
Correlation coefficient: r = 0.999489, r^2 = 0.998979
Calibration curve: 2.81694 * x + 28.1015
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: Null, Axis trans: None





Compound name: 13-Dinitrobenzene-d4
Response Factor: 5.9368
RRF SD: 0.335509, % Relative SD: 5.65134
Response type: External Std, Area
Curve type: RF





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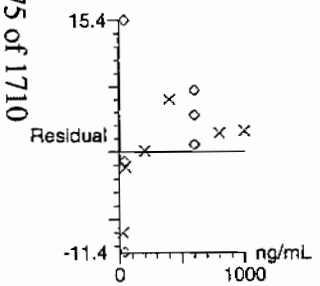
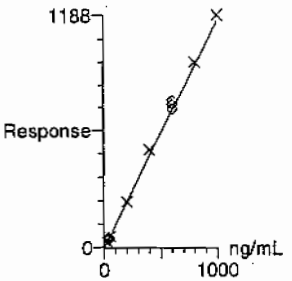
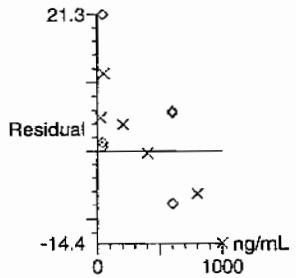
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

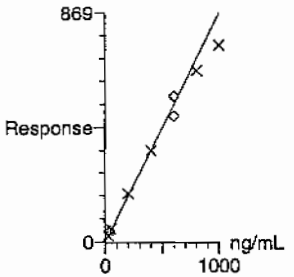
Compound name: 13-Dinitrobenzene
Response Factor: 1.15998
RRF SD: 0.0605914, % Relative SD: 5.22347
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF





Compound name: Tetryl
Response Factor: 0.868613
RRF SD: 0.0817457, % Relative SD: 9.41106
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF





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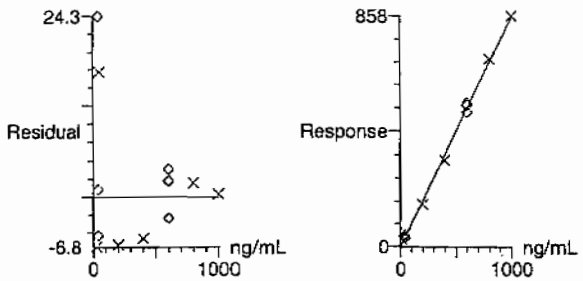
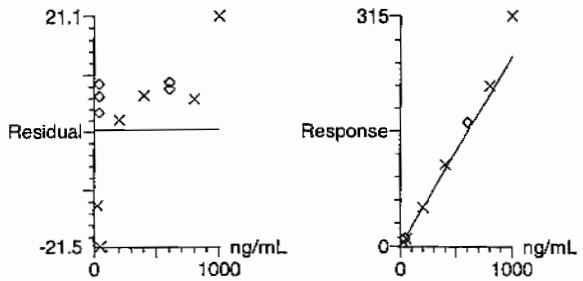
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Compound name: Nitrobenzene
Response Factor: 0.854595
RRF SD: 0.076847, % Relative SD: 8.99222
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: 4-Amino-26-dinitrotoluene
Response Factor: 0.260514
RRF SD: 0.040113, % Relative SD: 15.3977
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



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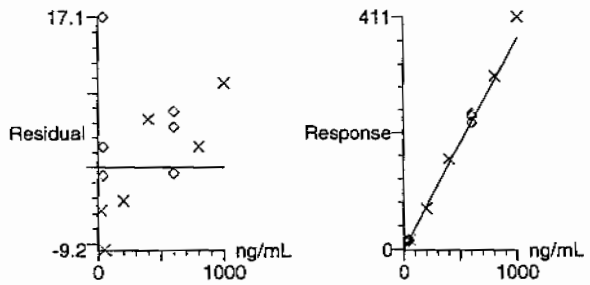
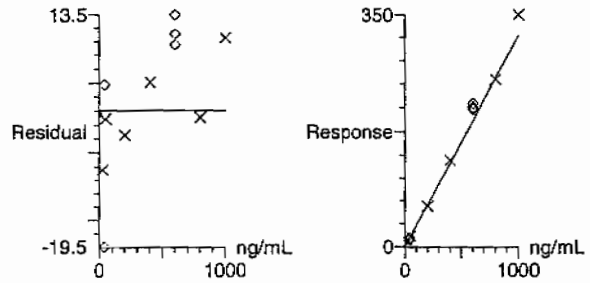
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Compound name: 2-Amino-46-dinitrotoluene
Response Factor: 0.374285
RRF SD: 0.0265466, % Relative SD: 7.09263
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: 246-Trinitrotoluene
Response Factor: 0.318064
RRF SD: 0.020262, % Relative SD: 6.37043
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



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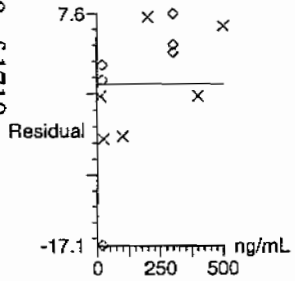
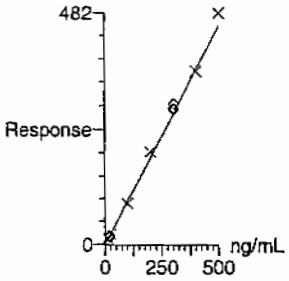
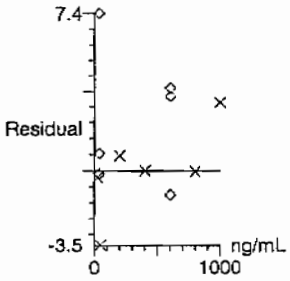
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

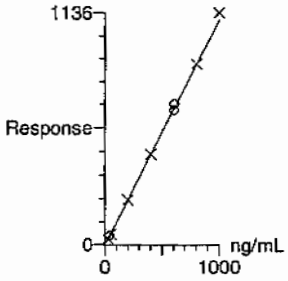
Compound name: 34-dinitrotoluene
Response Factor: 0.908014
RRF SD: 0.0504831, % Relative SD: 5.55973
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF





Compound name: 26-dinitrotoluene
Response Factor: 1.10154
RRF SD: 0.0235225, % Relative SD: 2.13541
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF





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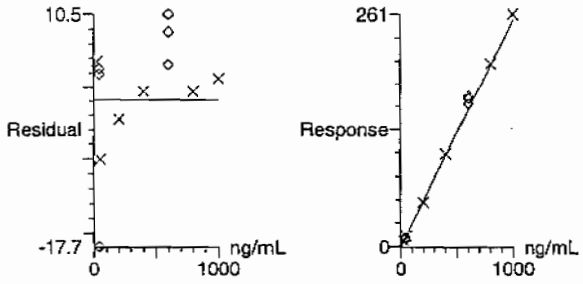
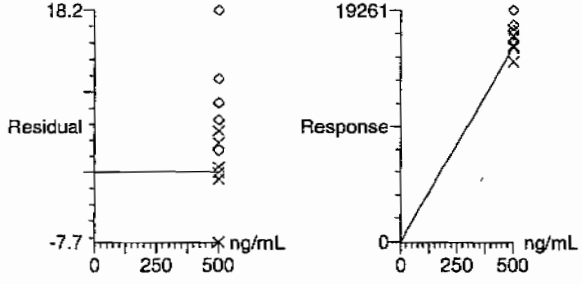
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Compound name: 24-dinitrotoluene
Response Factor: 0.254063
RRF SD: 0.0108762, % Relative SD: 4.28092
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: 26-dinitrotoluene-d3
Response Factor: 32.5967
RRF SD: 1.41533, % Relative SD: 4.34194
Response type: External Std, Area
Curve type: RF



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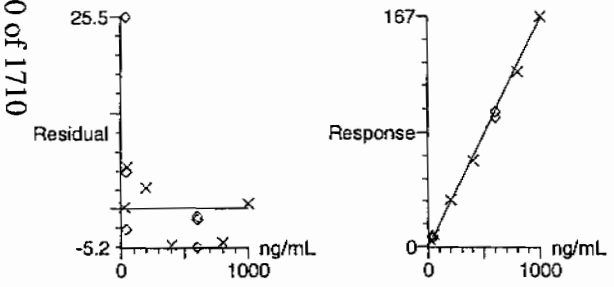
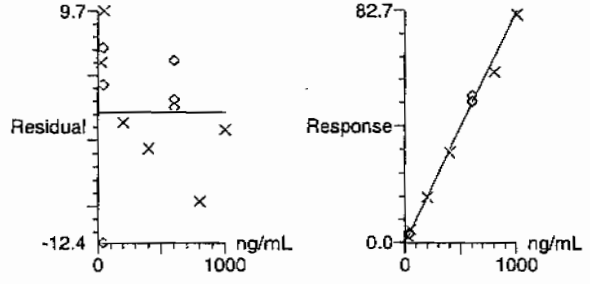
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Compound name: 2-Nitrotoluene
Response Factor: 0.166303
RRF SD: 0.00683474, % Relative SD: 4.10981
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: 4-Nitrotoluene
Response Factor: 0.0826798
RRF SD: 0.00527876, % Relative SD: 6.38459
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



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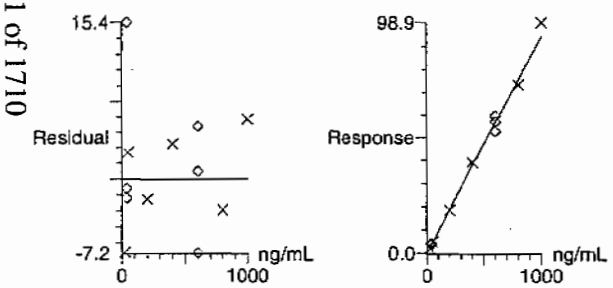
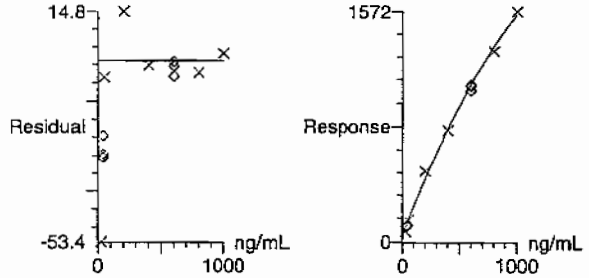
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Compound name: 3-Nitrotoluene
Response Factor: 0.0933598
RRF SD: 0.00451572, % Relative SD: 4.83691
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: PETN
Coefficient of Determination: 0.997185
Calibration curve: -0.000496352 * x^2 + 1.99974 * x + 47.5002
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: Null, Axis trans: None



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Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXP0125010a

Analysis Date: 25-JAN-10 15:46

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	584.029	97	
1,3-Dinitrobenzene-d4	500	523.981	105	
2,4,6-Trinitrotoluene	600	654.852	109	
2,4-Dinitrotoluene	600	662.983	110	
2,6-Dinitrotoluene	600	623.146	104	
2,6-Dinitrotoluene-d3	500	512.68	103	
2-Amino-4,6-dinitrotoluene	600	596.059	99	
3,4-Dinitrotoluene	300	322.78	108	
4-Amino-2,6-dinitrotoluene	600	646.592	108	
HMX	600	534.345	89	
Nitrobenzene	600	582.675	97	
PETN	600	572.063	95	
RDX	600	620.495	103	
Tetryl	600	550.312	92	
m-Dinitrobenzene	600	604.886	101	
m-Nitrotoluene	600	631.363	105	
o-Nitrotoluene	600	591.123	99	
p-Nitrotoluene	600	630.068	105	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

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

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125010a
Date: 25-Jan-2010
Time: 15:46:04
ID: WXX100125-07ICV
Vial: 1:1,B

MMT 1/26/10

HMX
F2:MRM of 1 channel,AP-
176 > 102
6.040e+004
7.51

RDX
F2:MRM of 1 channel,AP-
176 > 102
6.040e+004
5.15
RDX
7.51
8487.54

135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
4.415e+004

13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.456e+004
9.88

13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.836e+004

Tetryl
F6:MRM of 1 channel,AP-
241 > 181
1.315e+004
Tetryl
12.45
2973.95

Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.495e+004

4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
1.961e+004
16.25

2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.433e+004
15.18

246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.115e+004

34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.107e+004
17.31
17.97

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.544e+004
14.17
17.97

Hmm 01/26/10

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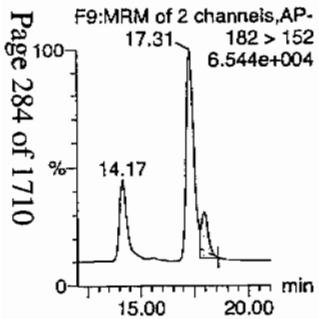
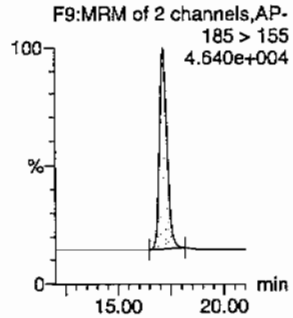
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

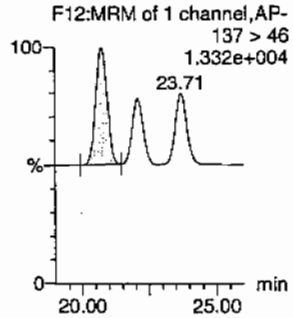
24-dinitrotoluene



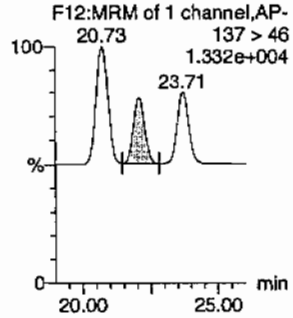
26-dinitrotoluene-d3



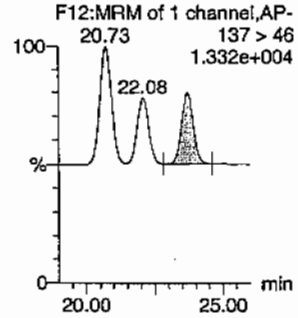
2-Nitrotoluene



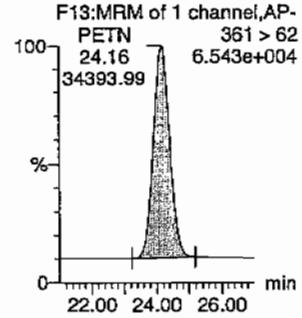
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100125-07ICV	HMX	176 > 102	5.15	10546.914	3110.769	10546.914	1695.226	bb			534.3448	89.1	-10.9	1064.1
WXX100125-07ICV	RDX	176 > 102	7.51	8487.540	3110.769	8487.540	1364.219	bb			620.4949	103.4	3.4	702.9
WXX100125-07ICV	135-Trinitrobenzene	213 > 183	10.07	10410.370	3110.769	10410.370	1673.279	bb			584.0293	97.3	-2.7	558.3
WXX100125-07ICV	13-Dinitrobenzene-d4	172 > 142	11.89	3110.769		3110.769	3110.769	bb			523.9807	104.8	4.8	490.9
WXX100125-07ICV	13-Dinitrobenzene	168 > 138	12.03	4365.390	3110.769	4365.390	701.658	bb			604.8864	100.8	0.8	348.2
WXX100125-07ICV	Tetryl	241 > 181	12.45	2973.947	3110.769	2973.947	478.008	bb			550.3123	91.7	-8.3	262.3
WXX100125-07ICV	Nitrobenzene	123 > 46	13.45	3098.019	3110.769	3098.019	497.951	bb			582.6747	97.1	-2.9	191.2
WXX100125-07ICV	4-Amino-26-dinitrotoluene	197 > 167	15.35	5630.028	16711.664	5630.028	168.446	MM	26-Jan-10	09:19:00	646.5922	107.8	7.8	151.7
WXX100125-07ICV	2-Amino-46-dinitrotoluene	197 > 180	16.25	7456.607	16711.664	7456.607	223.096	bb			596.0593	99.3	-0.7	535.5
WXX100125-07ICV	246-Trinitrotoluene	227 > 210	15.21	6961.575	16711.664	6961.575	208.285	bb			654.8523	109.1	9.1	360.8
WXX100125-07ICV	34-dinitrotoluene	182 > 152	14.17	9795.994	16711.664	9795.994	293.089	bb			322.7797	107.6	7.6	214.3
WXX100125-07ICV	26-dinitrotoluene	182 > 152	17.31	22942.564	16711.664	22942.564	686.424	MM	26-Jan-10	09:21:14	623.1464	103.9	3.9	662.7
WXX100125-07ICV	24-dinitrotoluene	182 > 152	17.97	5629.797	16711.664	5629.797	168.439	MM	26-Jan-10	09:23:04	662.9825	110.5	10.5	148.9
WXX100125-07ICV	26-dinitrotoluene-d3	185 > 155	17.16	16711.664		16711.664	16711.664	bb			512.6800	102.5	2.5	842.3
WXX100125-07ICV	2-Nitrotoluene	137 > 46	20.73	3285.697	16711.664	3285.697	98.306	bb			591.1230	98.5	-1.5	432.4
WXX100125-07ICV	4-Nitrotoluene	137 > 46	22.08	1741.151	16711.664	1741.151	52.094	bb			630.0677	105.0	5.0	238.5
WXX100125-07ICV	3-Nitrotoluene	137 > 46	23.71	1970.103	16711.664	1970.103	58.944	bb			631.3634	105.2	5.2	258.3
WXX100125-07ICV	PETN	361 > 62	24.16	34393.992	16711.664	34393.992	1029.042	bb			572.0632	95.3	-4.7	9765.3

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

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/25/10
Time of Injection: 1546
Standard Number: WXX100125-07ICV
Data File: EXP0125010a

HMX		89.1
RDX		103.4
135-TNB		97.3
13-DNB		100.8
Tetryl		91.7
Nitrobenzene		97.1
4A-26-DNT		107.8
2A-46-DNT		99.3
246-TNT		109.1
34-DNT(surr)		107.6
26-DNT		103.9
24-DNT		110.5
2-NT		98.5
4-NT		105.0
3-NT		105.2
PETN		95.3
	Total	1621.6
	Average	101.4

MAT 1/26/10

Hmm 01/26/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

Explosives Initial Calibration

Form 6

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1126

Lab Code: GEL

Run Date: 19-JAN-10,25-JAN-10

LCMSMS Instrument ID: LCMSMS4

Method: 8321A Modified

HPLC Column: YMC J-Sphere ODS-H8O

Calibration Type: 2nd Order

Calibration Level:	19	20	21	22	23	24	25	X	X^2	Intercept	COD	Q
Data File:	EXS01190003.wifl	EXS01190004.wifl	EXS01190005.wifl	EXS01190006.wifl	EXS01190007.wifl	EXS01190008.wifl	EXS01190009.wifl					
Parmname:												
2,4-Diamino-6-nitrotoluene	136000	278000	705000	1440000	2160000	2790000	5610000	-3940	2870	-.033	.9999	
2,6-Diamino-4-nitrotoluene	204000	410000	1060000	2160000	3230000	4230000	8180000	-26800	4440	-.167	1	
3,4-Dinitrotoluene	347000	668000	1710000	3280000	4960000	6520000	12100000	-57300	15000	-2.81	.9985	
3,5-Dinitroaniline	570000	1080000	2670000	5040000	7470000	9220000	16200000	70100	10600	-1.26	.9998	
TATB	73300	143000	357000	695000	1050000	1390000	2780000	4300	1390	-.003	1	
tris(o-cresyl) phosphate	1360000	2670000	6180000	11600000	16200000	20800000	32600000	206000	24800	-4.31	1	

Quadradic Fit: y = Ax^2 + Bx + C
where X^2 column above is coefficient A
X column above is coefficient B
intercept is C

COD is Coefficient of Determination

Q column used to flag COD outside of Limit (<0.990)
* Values outside of QC Limit

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011910ICAL

Peak Name: TATB
No Internal Standard
Q1/Q3 Masses: 257.20/204.90 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	4.3e+003			
a1	1.39e+003			
a2	-0.0033			

Correlation coefficient 1.0000
Use Area

Peak Name: 35-Dinitroaniline
No Internal Standard
Q1/Q3 Masses: 182.00/46.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	7.01e+004			
a1	1.06e+004			
a2	-1.26			

Correlation coefficient 0.9998
Use Area

Peak Name: 34-Dinitrotoluene
No Internal Standard
Q1/Q3 Masses: 182.08/151.90 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-5.73e+004			
a1	1.5e+004			
a2	-2.81			

Correlation coefficient 0.9985
Use Area

Peak Name: 26-Diamino-4-nitrotoluene
No Internal Standard
Q1/Q3 Masses: 165.97/46.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-2.68e+004			
a1	4.44e+003			
a2	-0.167			

Correlation coefficient 1.0000
Use Area

Rar 1/20/10

tmm 01/20/10

Peak Name: 24-Diamino-6-nitrotoluene
No Internal Standard
Q1/Q3 Masses: 165.97/46.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-3.94e+003			
a1	2.87e+003			
a2	-0.0333			

Correlation coefficient 0.9999
Use Area

Peak Name: tris(o-cresyl) phosphate
No Internal Standard
Q1/Q3 Masses: 369.15/91.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	2.06e+005			
a1	2.48e+004			
a2	-4.31			

Correlation coefficient 1.0000
Use Area

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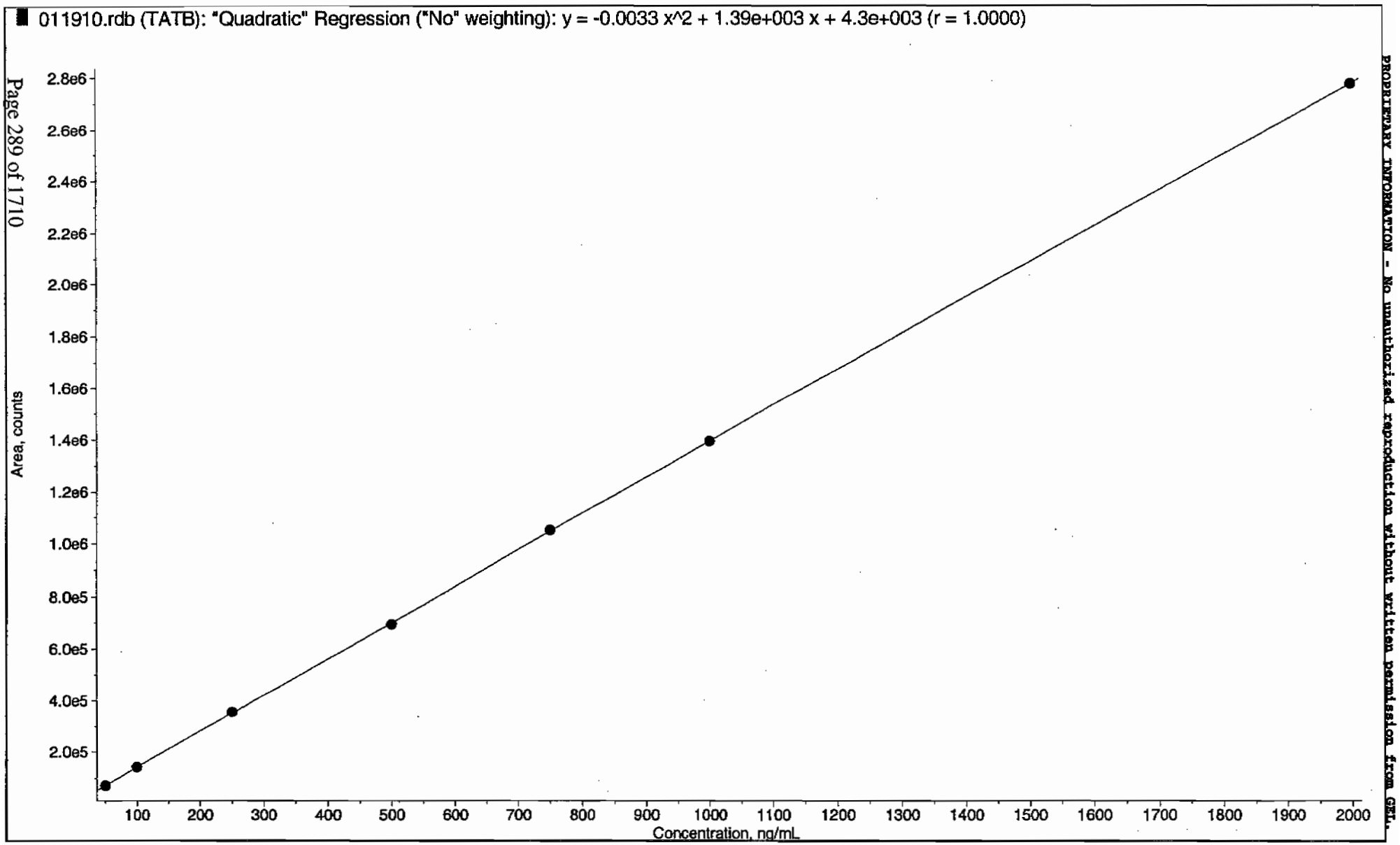

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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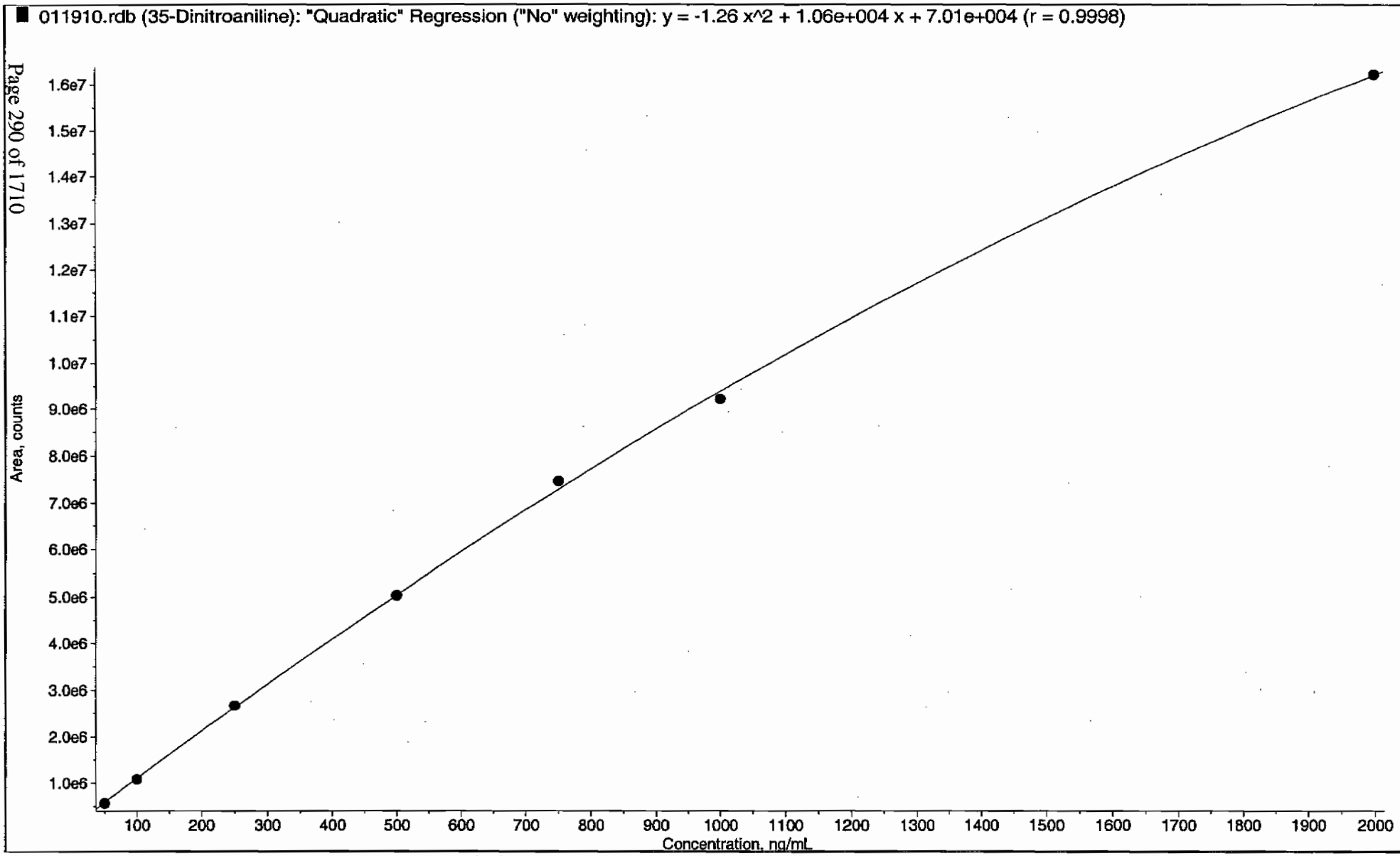

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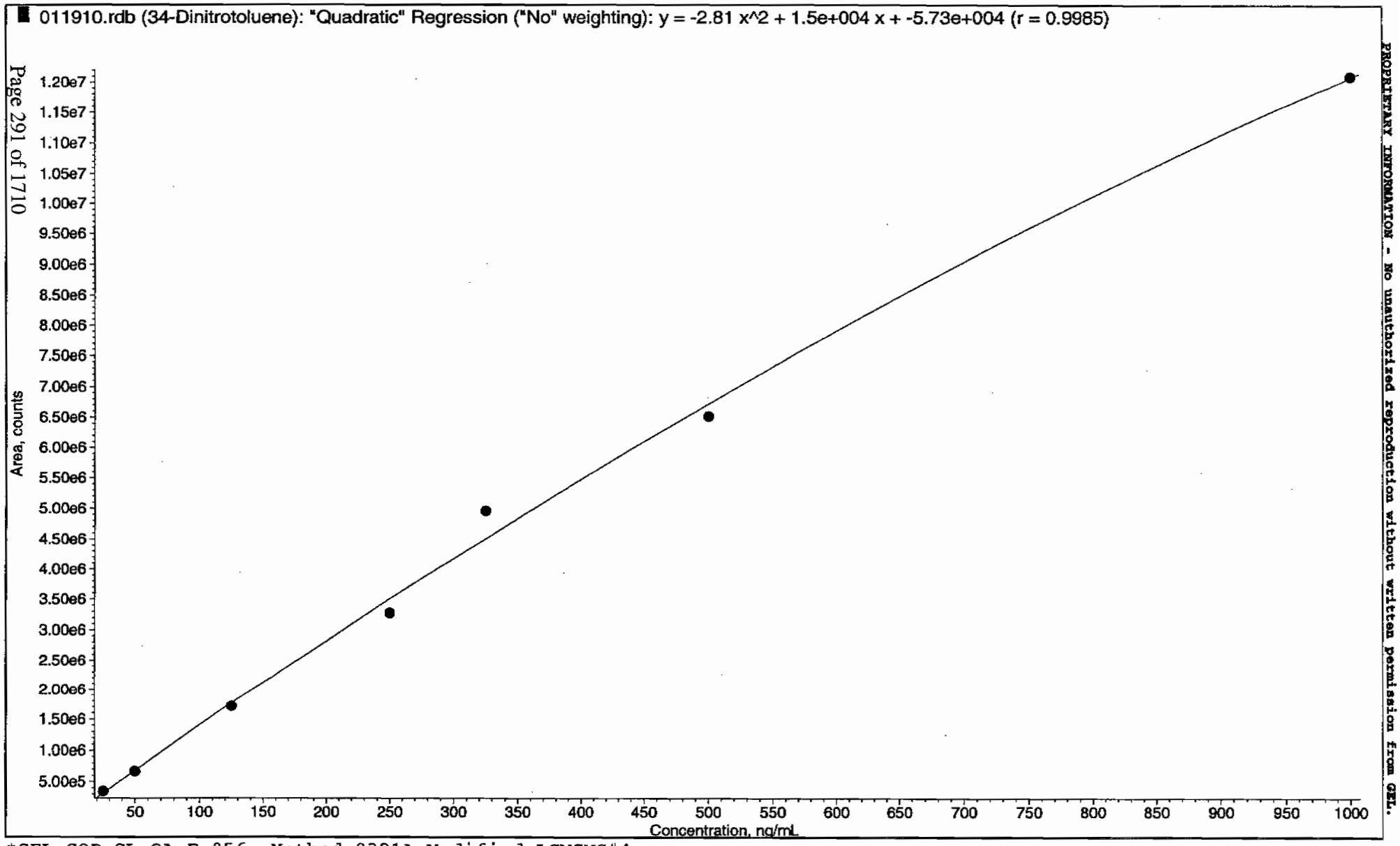

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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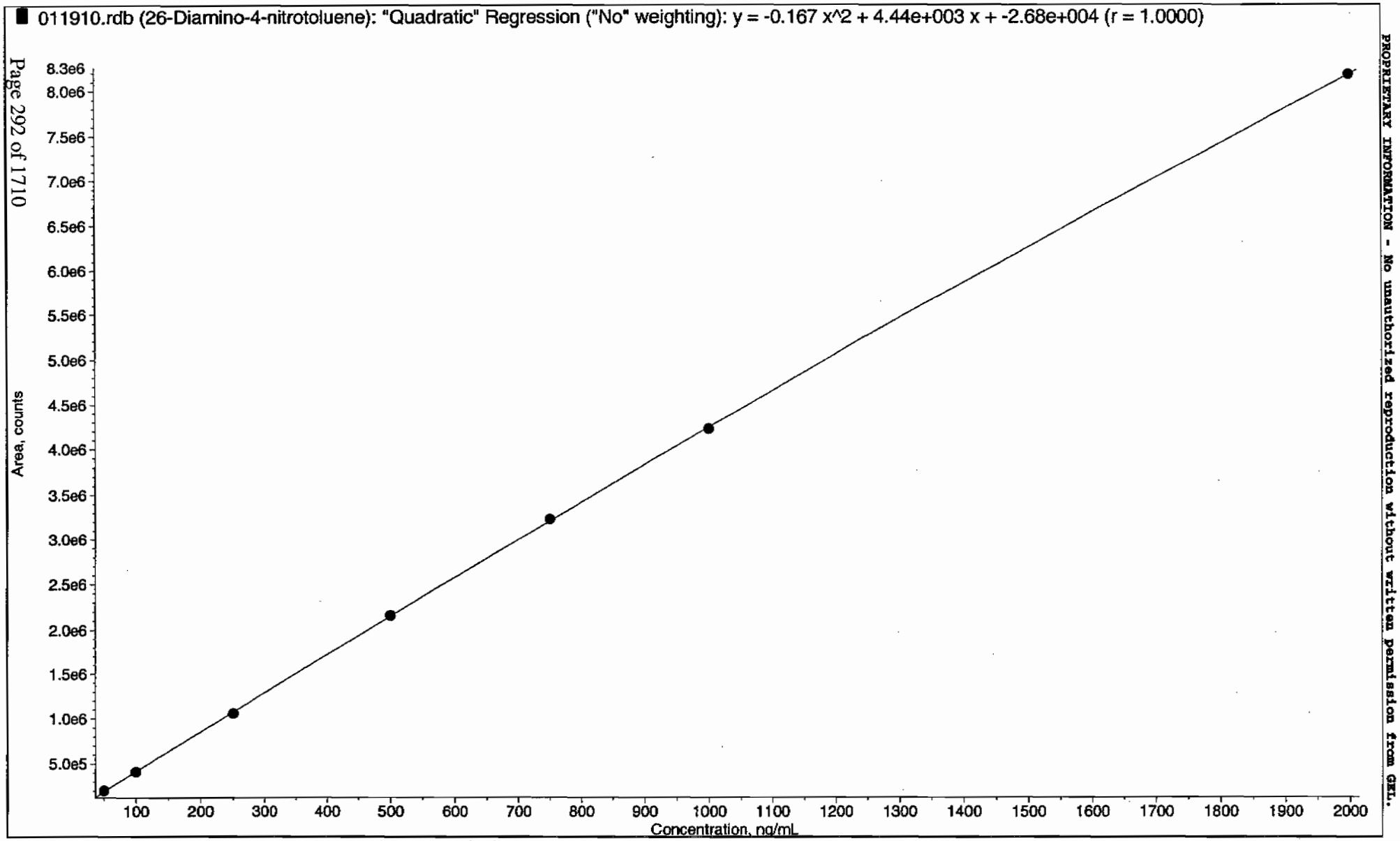

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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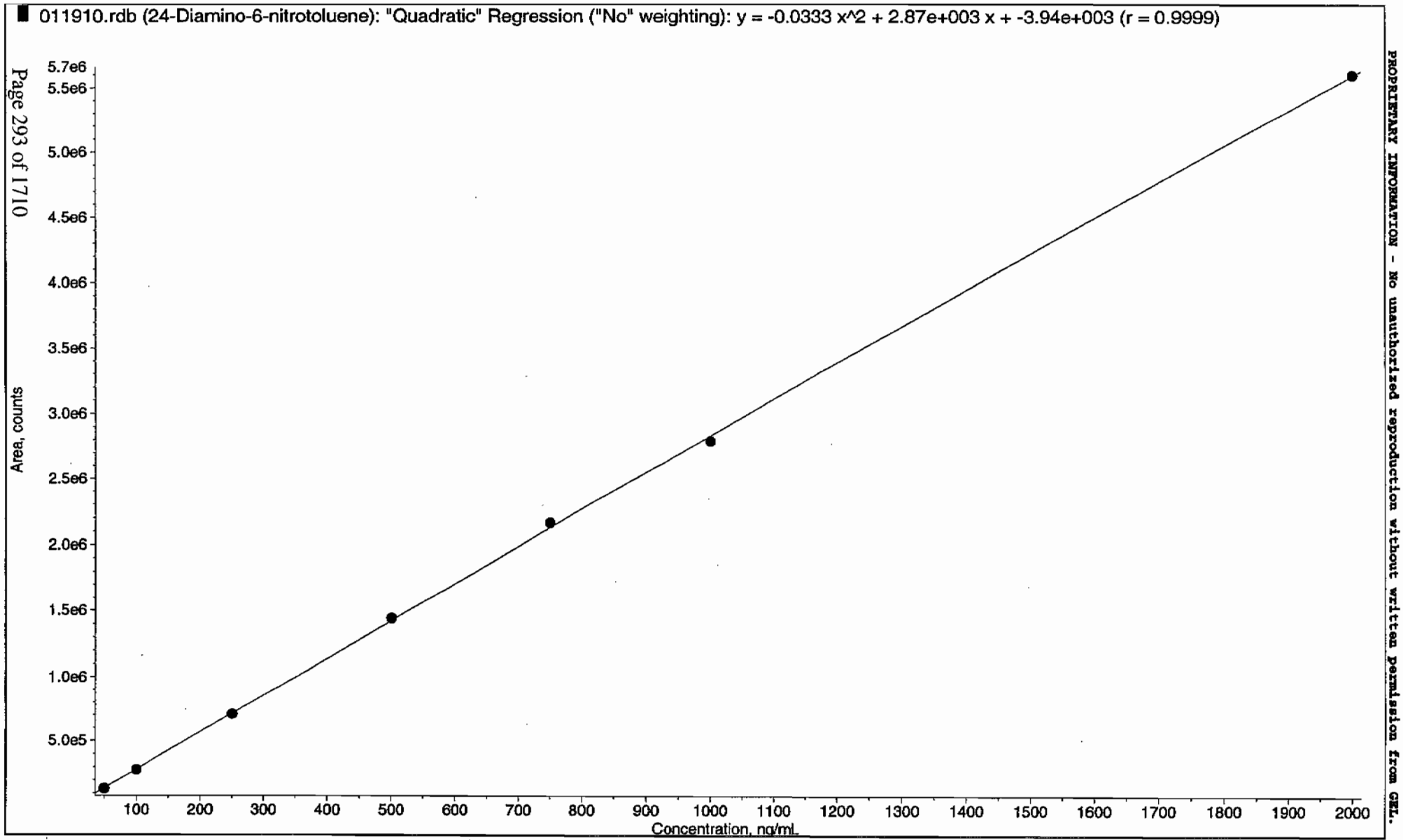

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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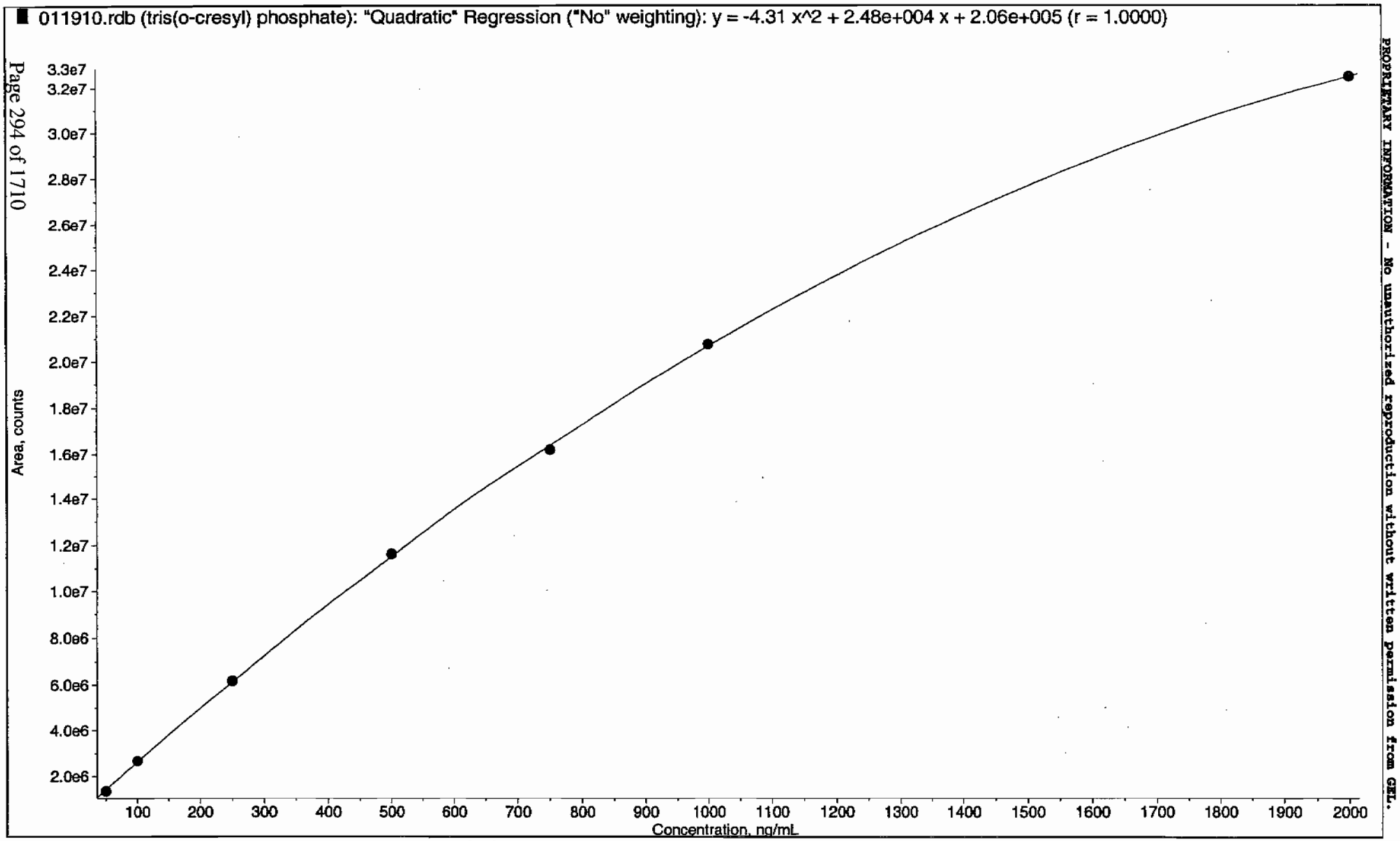

*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

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7

Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXS01190011.wiff

Analysis Date: 19-JAN-10 16:51

LCMSMS ID: 1358

Column ID JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	495	99	
2,6-Diamino-4-nitrotoluene	500	514	103	
3,4-Dinitrotoluene	250	252	101	
3,5-Dinitroaniline	500	534	107	
TATB	500	521	104	
tris(o-cresyl) phosphate	500	499	100	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

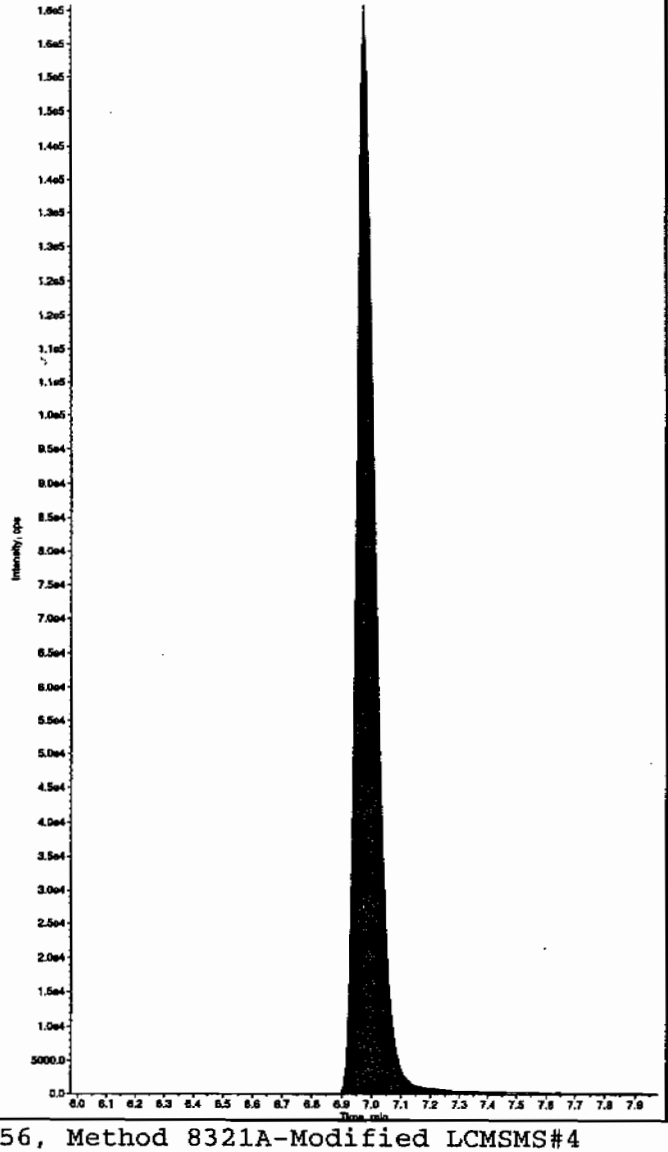
Before Scan 1/20/10

Sample Name: "WXX100119-26ICV" Sample ID: "[1]LER" File: "EXS01190011.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 521. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 4:51:19 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 6.98 min
Area: 7.30e+005 counts
Height: 160764.252 cps
Start Time: 6.83 min
End Time: 7.46 min

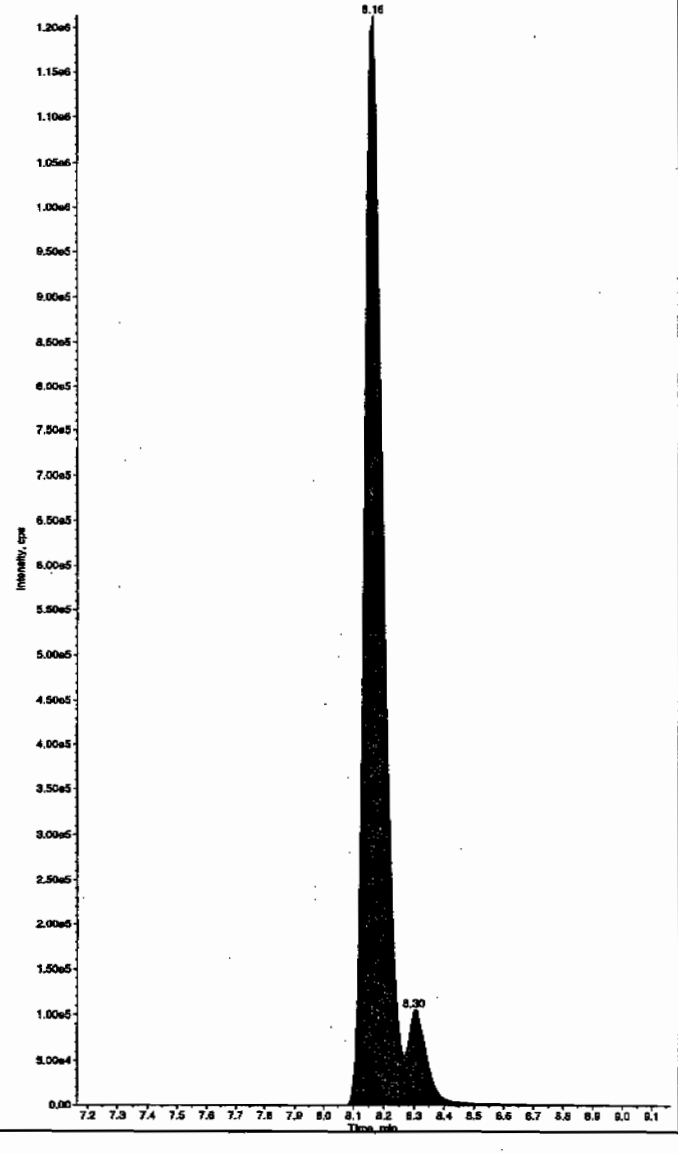


Sample Name: "WXX100119-26ICV" Sample ID: "[1]LER" File: "EXS01190011.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 594. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 4:51:19 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.16 min
Area: 5.91e+006 counts
Height: 1214668.335 cps
Start Time: 8.05 min
End Time: 8.86 min



Hnm 01/20/10

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

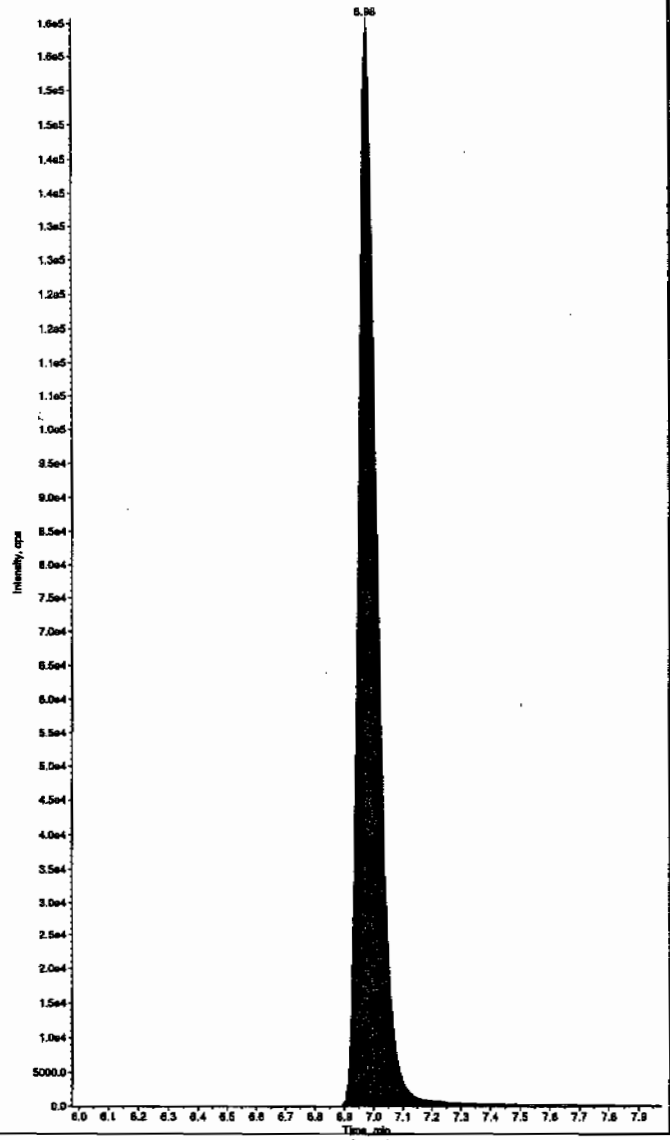
after LCR 1/20/10

Sample Name: "WXX100119-26ICV" Sample ID: "[1]LER" File: "EXS01190011.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 521. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 4:51:19 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 6.98 min
Area: 7.30e+005 counts
Height: 150764.252 cps
Start Time: 6.83 min
End Time: 7.46 min

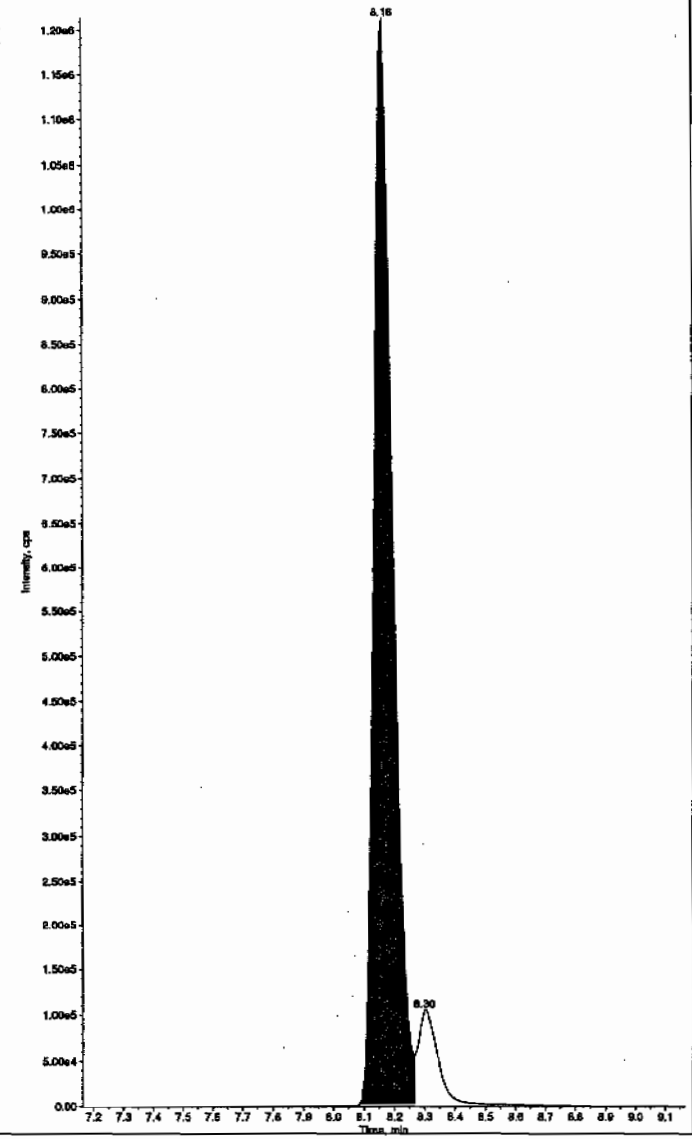


Sample Name: "WXX100119-26ICV" Sample ID: "[1]LER" File: "EXS01190011.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 534. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 4:51:19 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.16 min
Area: 5.36e+006 counts
Height: 1220827.382 cps
Start Time: 8.08 min
End Time: 8.27 min



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

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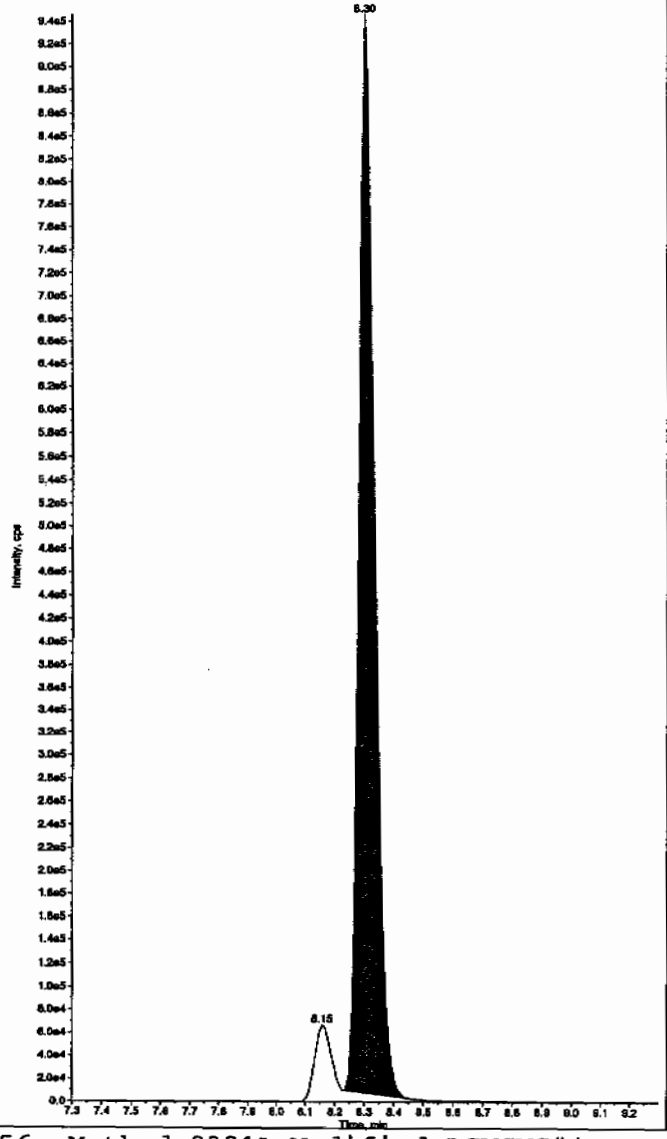
Sample Name: "WXX100119-26ICV" Sample ID: "[1]LER" File: "EXS01190011.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 250. ng/mL
Calculated Conc: 252. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 4:51:19 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.30 min
Area: 3.53e+006 counts
Height: 939069.458 cps
Start Time: 8.24 min
End Time: 8.45 min

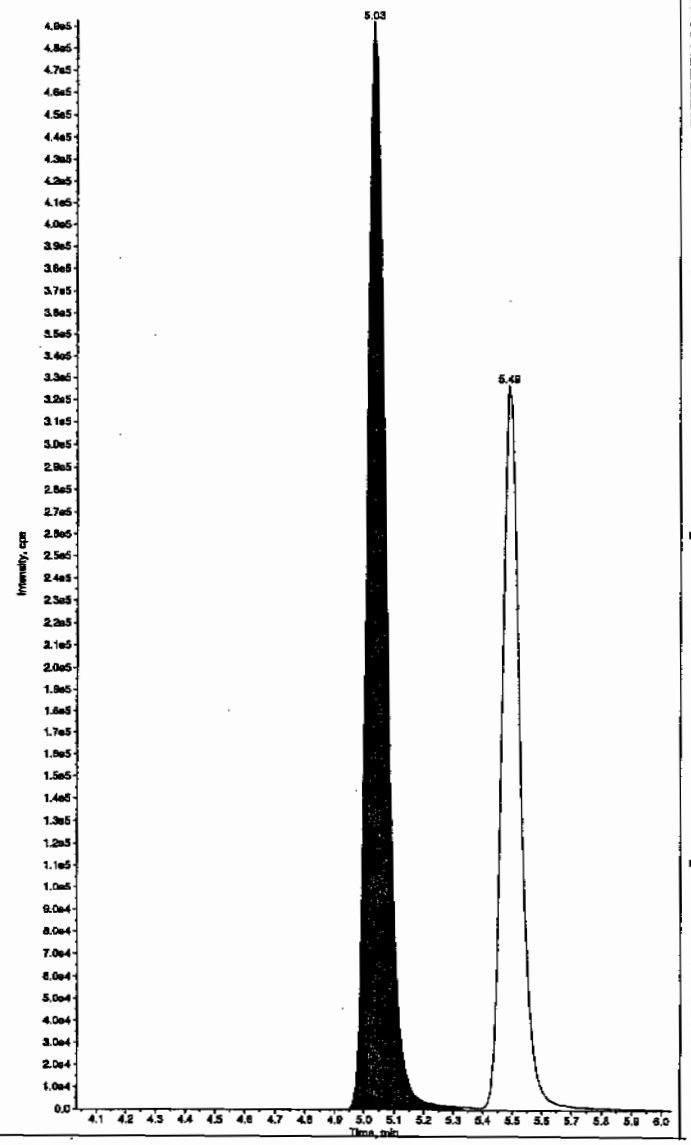


Sample Name: "WXX100119-26ICV" Sample ID: "[1]LER" File: "EXS01190011.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 514. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 4:51:19 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.03 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.03 min
Area: 2.21e+006 counts
Height: 492881.927 cps
Start Time: 4.92 min
End Time: 5.33 min



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

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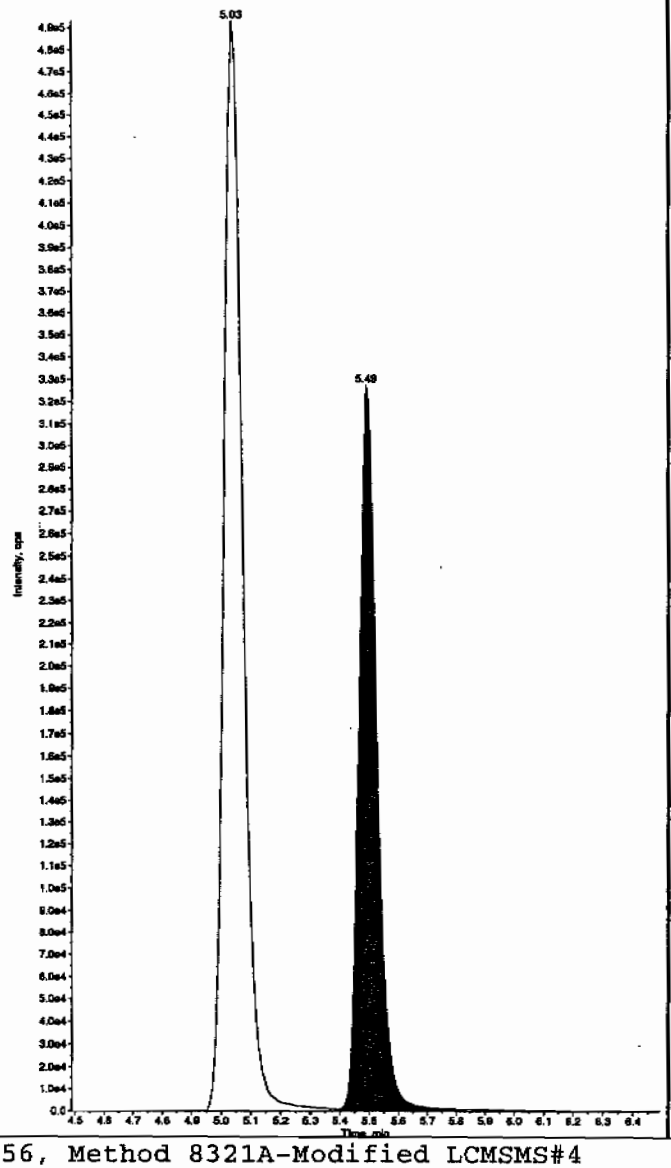
Sample Name: "WXX100119-26ICV" Sample ID: "[1]LER" File: "EXS01190011.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 495. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 4:51:19 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.49 min
Area: 1.41e+006 counts
Height: 327144.562 cps
Start Time: 5.38 min
End Time: 5.83 min

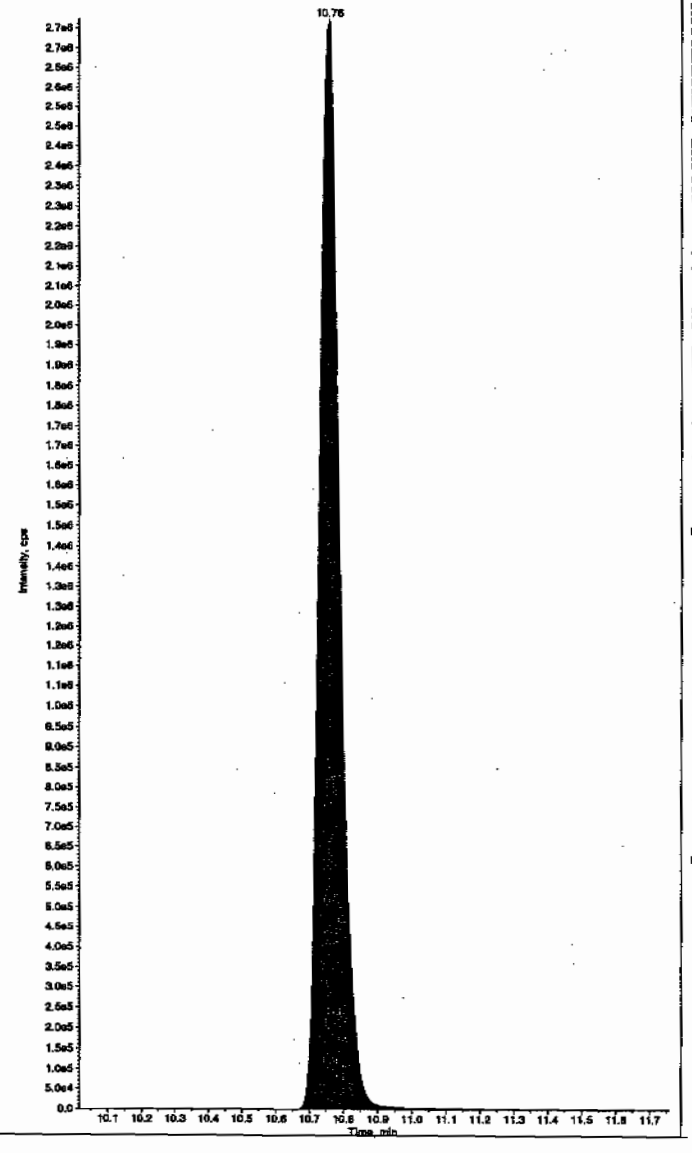


Sample Name: "WXX100119-26ICV" Sample ID: "[1]LER" File: "EXS01190011.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 499. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 4:51:19 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.8 min
Area: 1.15e+007 counts
Height: 2723842.529 cps
Start Time: 10.7 min
End Time: 11.0 min



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

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125012a

Analysis Date: 25-JAN-10 16:45

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	53.525	134	*
1,3-Dinitrobenzene-d4	500	523.569	105	
2,4,6-Trinitrotoluene	40	32.202	81	
2,4-Dinitrotoluene	40	32.904	82	
2,6-Dinitrotoluene	40	42.96	107	
2,6-Dinitrotoluene-d3	500	553.084	111	
2-Amino-4,6-dinitrotoluene	40	46.855	117	
3,4-Dinitrotoluene	20	16.575	83	
4-Amino-2,6-dinitrotoluene	40	41.308	103	
HMX	40	44.507	111	
Nitrobenzene	40	37.891	95	
PETN	40	31.16	78	
RDX	40	38.595	96	
Tetryl	40	40.286	101	
m-Dinitrobenzene	40	39.556	99	
m-Nitrotoluene	40	39.269	98	
o-Nitrotoluene	40	42.003	105	
p-Nitrotoluene	40	41.044	103	

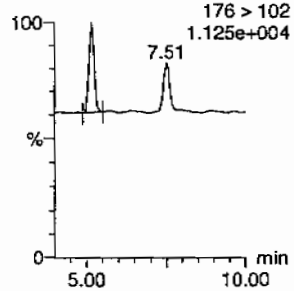
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

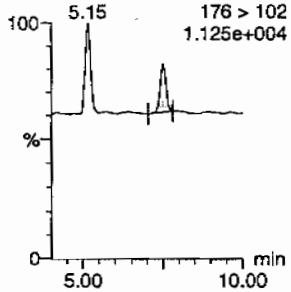
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125012a
Date: 25-Jan-2010
Time: 16:45:01
ID: WXX100125-08CRI
Vial: 1:1,C

MMT 1/26/10

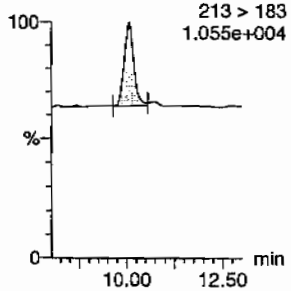
HMX
F2:MRM of 1 channel,AP-
176 > 102
1.125e+004



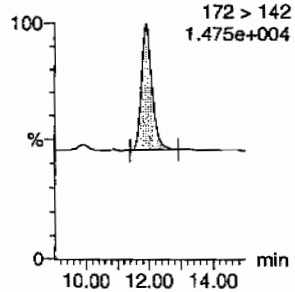
RDX
F2:MRM of 1 channel,AP-
176 > 102
1.125e+004



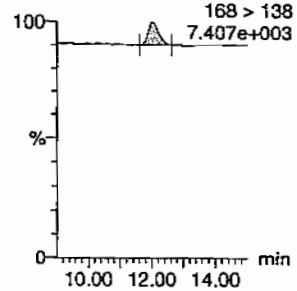
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
1.055e+004



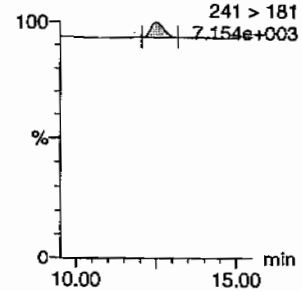
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.475e+004



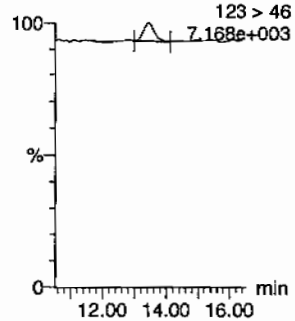
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
7.407e+003



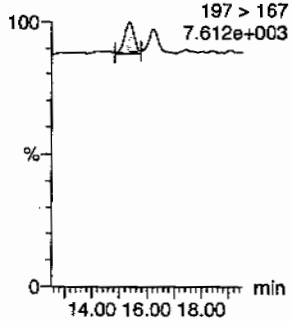
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
7.154e+003



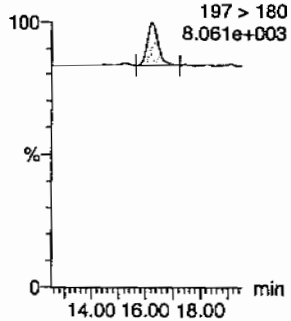
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
7.168e+003



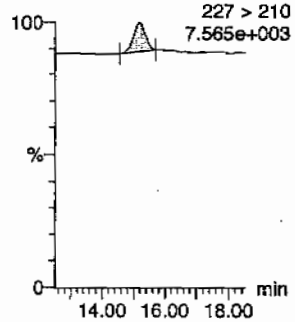
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
7.612e+003



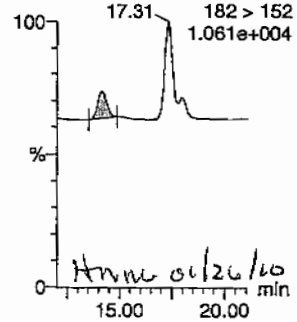
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
8.061e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
7.565e+003

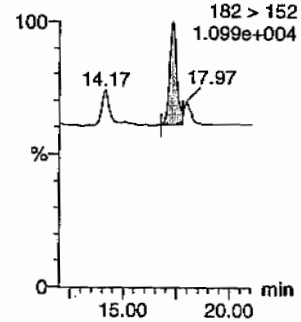


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
1.061e+004



Hmm 01/26/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
1.099e+004



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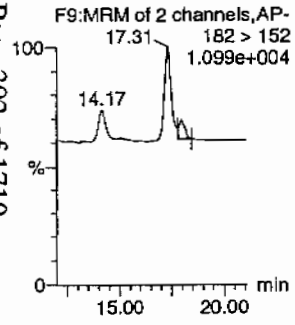
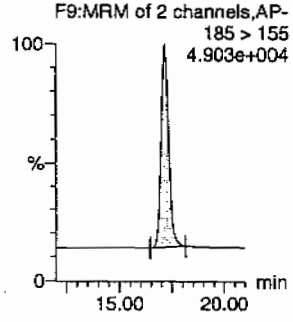
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

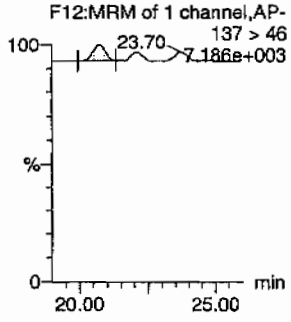
24-dinitrotoluene



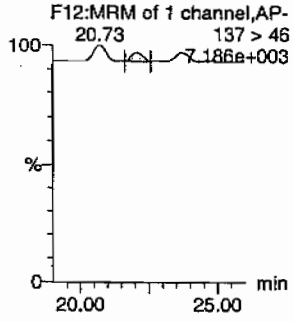
26-dinitrotoluene-d3



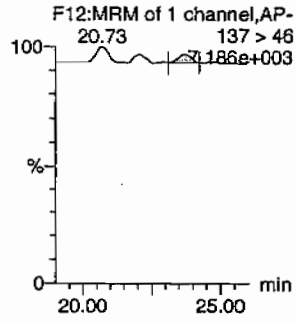
2-Nitrotoluene



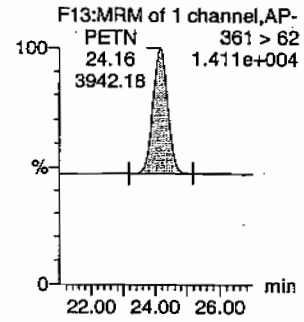
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100125-08CRI	HMX	176 > 102	5.15	877.792	3108.327	877.792	141.200	bb			44.5071	111.3	11.3	76.6
WXX100125-08CRI	RDX	176 > 102	7.51	527.508	3108.327	527.508	84.854	bb			38.5946	96.5	-3.5	40.9
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1112.023	3108.327	1112.023	178.878	bd			53.5249	133.8	33.8	118.7
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	3108.327		3108.327	3108.327	bb			523.5694	104.7	4.7	149.7
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	12.00	285.243	3108.327	285.243	45.884	bb			39.5555	98.9	-1.1	21.1
WXX100125-08CRI	Tetryl	241 > 181	12.48	217.540	3108.327	217.540	34.993	bb			40.2862	100.7	0.7	24.2
WXX100125-08CRI	Nitrobenzene	123 > 46	13.41	201.306	3108.327	201.306	32.382	bb			37.8913	94.7	-5.3	25.0
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.35	388.025	18028.699	388.025	10.761	MM	26-Jan-10	09:19:05	41.3081	103.3	3.3	20.9
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.25	632.342	18028.699	632.342	17.537	bb			46.8550	117.1	17.1	62.5
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.17	369.309	18028.699	369.309	10.242	bb			32.2019	80.5	-19.5	22.6
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.16	542.658	18028.699	542.658	15.050	bb			16.5745	82.9	-17.1	29.3
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.31	1706.312	18028.699	1706.312	47.322	MM	26-Jan-10	09:21:21	42.9598	107.4	7.4	126.9
WXX100125-08CRI	24-dinitrotoluene	182 > 152	17.97	301.425	18028.699	301.425	8.360	MM	26-Jan-10	09:23:11	32.9036	82.3	-17.7	26.1
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.16	18028.699		18028.699	18028.699	bb			553.0839	110.6	10.6	1520.6
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.73	251.870	18028.699	251.870	6.985	bb			42.0032	105.0	5.0	66.0
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.08	122.362	18028.699	122.362	3.394	bb			41.0443	102.6	2.6	34.7
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.69	132.192	18028.699	132.192	3.666	bb			39.2691	98.2	-1.8	34.1
WXX100125-08CRI	PETN	361 > 62	24.16	3942.182	18028.699	3942.182	109.331	bb			31.1604	77.9	-22.1	564.0

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

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GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/25/10
Time of Injection	1645
Standard Number	WXX100125-08CRI
Data File	EXP0125012a

HMX	111.3
RDX	96.5
135-TNB	133.8
13-DNB	98.9
Tetryl	100.7
Nitrobenzene	94.7
4A-26-DNT	103.3
2A-46-DNT	117.1
246-TNT	80.5
34-DNT(surr)	82.9
26-DNT	107.4
24-DNT	82.3
2-NT	105.0
4-NT	102.6
3-NT	98.2
PETN	77.9
Total	1593.1
Average	99.6

MMT 1/26/10

HMM 01/26/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125023a

Analysis Date: 25-JAN-10 22:09

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	671.995	112	
1,3-Dinitrobenzene-d4	500	501.648	100	
2,4,6-Trinitrotoluene	600	681.012	114	
2,4-Dinitrotoluene	600	650.509	108	
2,6-Dinitrotoluene	600	620.709	103	
2,6-Dinitrotoluene-d3	500	529.849	106	
2-Amino-4,6-dinitrotoluene	600	638.815	106	
3,4-Dinitrotoluene	300	312.536	104	
4-Amino-2,6-dinitrotoluene	600	654.415	109	
HMX	600	616.521	103	
Nitrobenzene	600	622.507	104	
PETN	600	590.603	98	
RDX	600	659.536	110	
Tetryl	600	635.812	106	
m-Dinitrobenzene	600	625.794	104	
m-Nitrotoluene	600	604.626	101	
o-Nitrotoluene	600	593.315	99	
p-Nitrotoluene	600	607.304	101	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

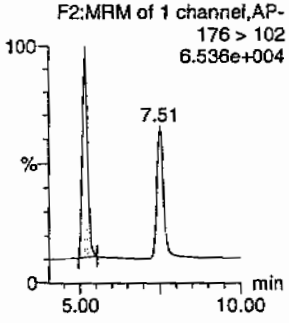
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

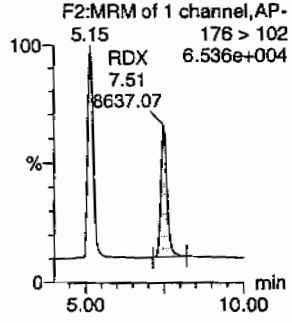
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125023a
Date: 25-Jan-2010
Time: 22:09:44
ID: WXX100125-07CCV
Vial: 1:1,B

MMM 1/26/10

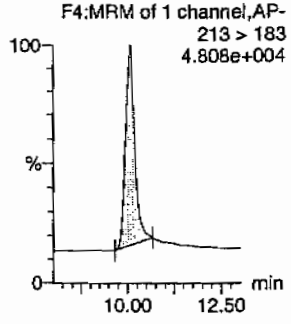
HMX



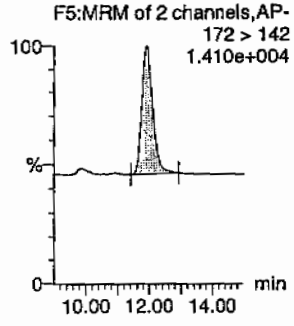
RDX



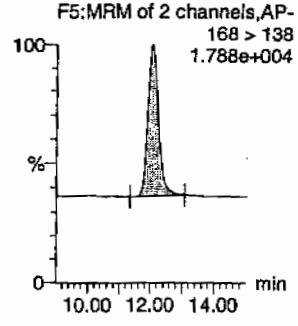
135-Trinitrobenzene



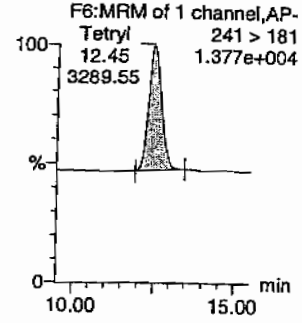
13-Dinitrobenzene-d4



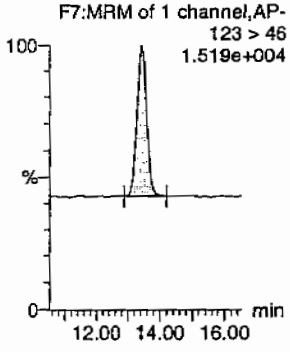
13-Dinitrobenzene



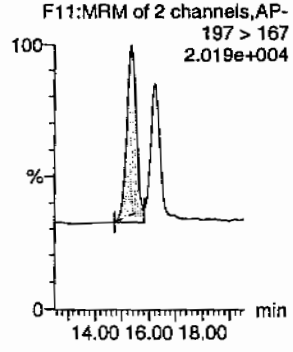
Tetryl



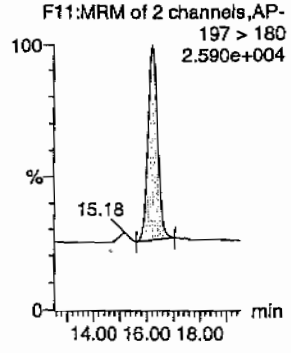
Nitrobenzene



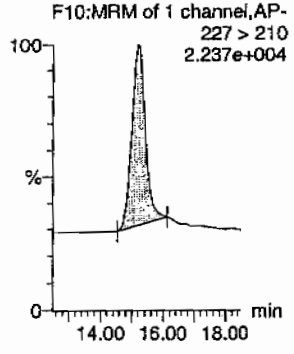
4-Amino-26-dinitrotoluene



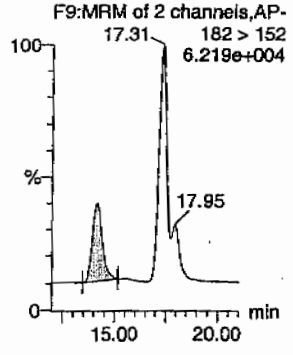
2-Amino-46-dinitrotoluene



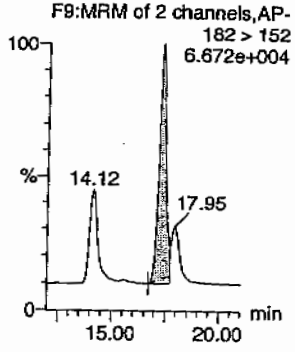
246-Trinitrotoluene



34-dinitrotoluene



26-dinitrotoluene



HMM 01/26/10

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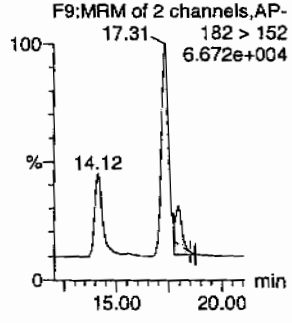
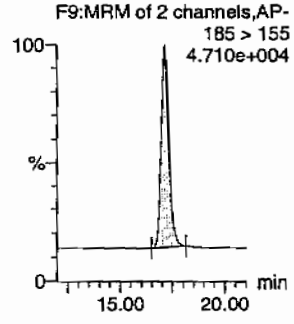
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

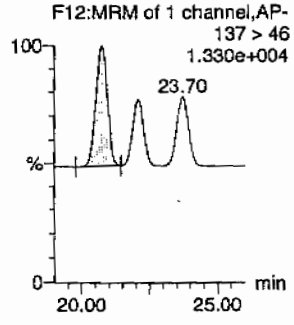
24-dinitrotoluene



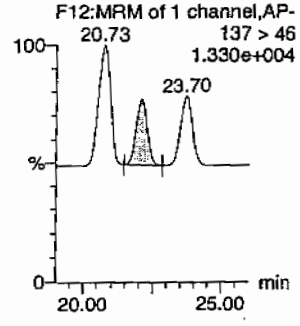
26-dinitrotoluene-d3



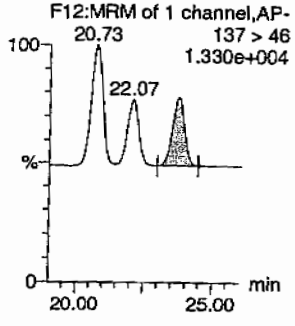
2-Nitrotoluene



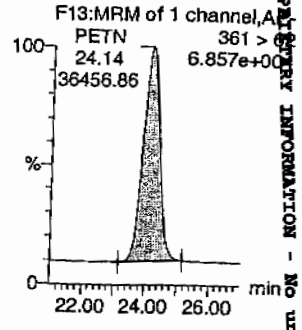
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100125-07CCV	HMX	176 > 102	5.15	11650.265	2978.185	11650.265	1955.934	bb			616.5212	102.8	2.8	1613.8
WXX100125-07CCV	RDX	176 > 102	7.51	8637.066	2978.185	8637.066	1450.055	bb			659.5363	109.9	9.9	995.4
WXX100125-07CCV	135-Trinitrobenzene	213 > 183	10.07	11442.634	2978.185	11442.634	1921.075	bb			671.9955	112.0	12.0	804.3
WXX100125-07CCV	13-Dinitrobenzene-d4	172 > 142	11.89	2978.185		2978.185	2978.185	bb			501.6482	100.3	0.3	547.8
WXX100125-07CCV	13-Dinitrobenzene	168 > 138	12.00	4323.792	2978.185	4323.792	725.911	bb			625.7943	104.3	4.3	451.3
WXX100125-07CCV	Tetryl	241 > 181	12.45	3289.552	2978.185	3289.552	552.275	bb			635.8122	106.0	6.0	234.7
WXX100125-07CCV	Nitrobenzene	123 > 46	13.41	3168.738	2978.185	3168.738	531.991	bb			622.5074	103.8	3.8	154.6
WXX100125-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.35	5888.969	17271.318	5888.969	170.484	MM	26-Jan-10	09:19:24	654.4152	109.1	9.1	167.7
WXX100125-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.22	8259.095	17271.318	8259.095	239.099	bb			638.8147	106.5	6.5	333.4
WXX100125-07CCV	246-Trinitrotoluene	227 > 210	15.17	7482.116	17271.318	7482.116	216.605	bb			681.0116	113.5	13.5	359.0
WXX100125-07CCV	34-dinitrotoluene	182 > 152	14.16	9802.761	17271.318	9802.761	283.787	bb			312.5362	104.2	4.2	321.0
WXX100125-07CCV	26-dinitrotoluene	182 > 152	17.31	23618.141	17271.318	23618.141	683.739	MM	26-Jan-10	09:21:34	620.7091	103.5	3.5	1152.4
WXX100125-07CCV	24-dinitrotoluene	182 > 152	17.95	5708.864	17271.318	5708.864	165.270	MM	26-Jan-10	09:23:32	650.5089	108.4	8.4	260.4
WXX100125-07CCV	26-dinitrotoluene-d3	185 > 155	17.14	17271.318		17271.318	17271.318	bb			529.8490	106.0	6.0	923.0
WXX100125-07CCV	2-Nitrotoluene	137 > 46	20.73	3408.326	17271.318	3408.326	98.670	bb			593.3155	98.9	-1.1	562.4
WXX100125-07CCV	4-Nitrotoluene	137 > 46	22.07	1734.448	17271.318	1734.448	50.212	bb			607.3042	101.2	1.2	305.1
WXX100125-07CCV	3-Nitrotoluene	137 > 46	23.70	1949.855	17271.318	1949.855	56.448	bb			604.6262	100.8	0.8	321.4
WXX100125-07CCV	PETN	361 > 62	24.14	36456.863	17271.318	36456.863	1055.416	bb			590.6025	98.4	-1.6	2028.2

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/25/10
Time of Injection: 2209
Standard Number: WXX100125-07CCV
Data File: EXP0125023a

HMX		102.8
RDX		109.9
135-TNB		112.0
13-DNB		104.3
Tetryl		106.0
Nitrobenzene		103.8
4A-26-DNT		109.1
2A-46-DNT		106.5
246-TNT		113.5
34-DNT(surr)		104.2
26-DNT		103.5
24-DNT		108.4
2-NT		98.9
4-NT		101.2
3-NT		100.8
PETN		98.4
Total		1683.3
Average		105.2

1/26/10

1/26/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125025a

Analysis Date: 25-JAN-10 23:08

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	51.275	128	
1,3-Dinitrobenzene-d4	500	562.36	112	
2,4,6-Trinitrotoluene	40	41.402	104	
2,4-Dinitrotoluene	40	41.568	104	
2,6-Dinitrotoluene	40	40.317	101	
2,6-Dinitrotoluene-d3	500	590.895	118	
2-Amino-4,6-dinitrotoluene	40	40.944	102	
3,4-Dinitrotoluene	20	20.089	100	
4-Amino-2,6-dinitrotoluene	40	43.494	109	
HMX	40	59.635	149	*
Nitrobenzene	40	49.71	124	
PETN	40	28.625	72	
RDX	40	43.744	109	
Tetryl	40	40.54	101	
m-Dinitrobenzene	40	46.142	115	
m-Nitrotoluene	40	46.171	115	
o-Nitrotoluene	40	38.888	97	
p-Nitrotoluene	40	35.04	88	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

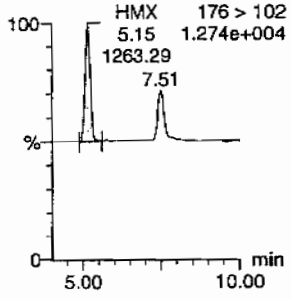
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

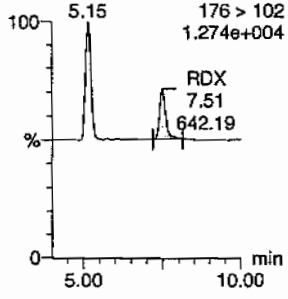
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125025a
Date: 25-Jan-2010
Time: 23:08:48
ID: WXX100125-08CRI
Vial: 1:1,C

MAP 1/26/10

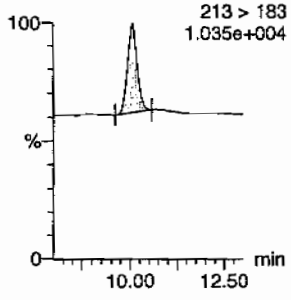
HMX
F2:MRM of 1 channel,AP-
HMX 176 > 102
5.15 1.274e+004
1263.29
7.51



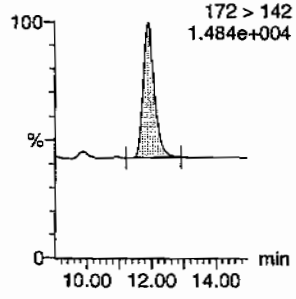
RDX
F2:MRM of 1 channel,AP-
5.15 176 > 102
1.274e+004
RDX
7.51
642.19



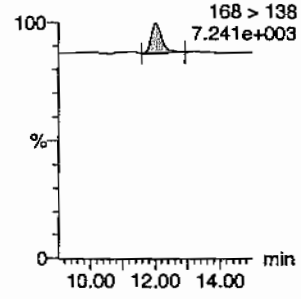
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
1.035e+004



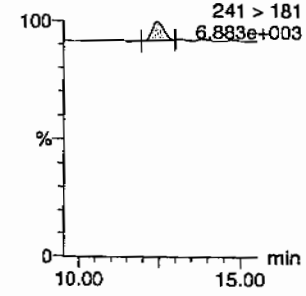
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.484e+004



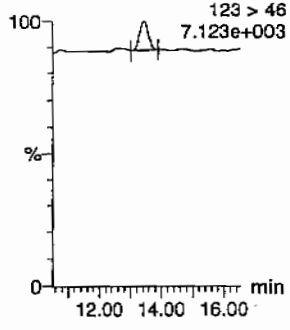
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
7.241e+003



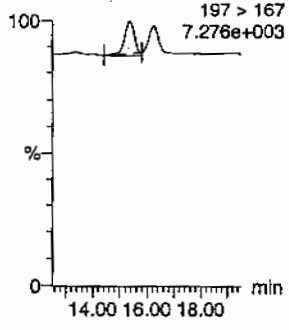
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.883e+003



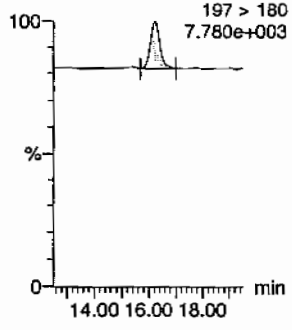
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
7.123e+003



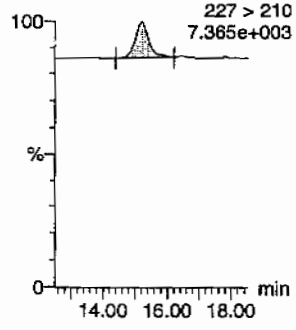
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
7.276e+003



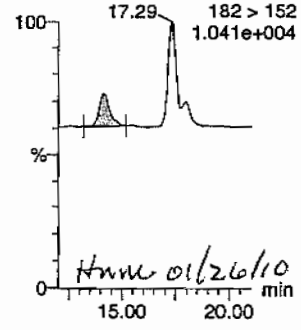
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
7.780e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
7.365e+003

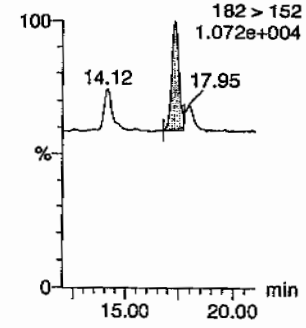


34-dinitrotoluene
F9:MRM of 2 channels,AP-
17.29 182 > 152
1.041e+004



Hmw 01/26/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
1.072e+004



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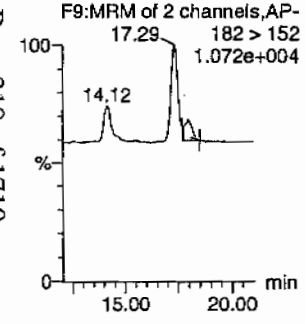
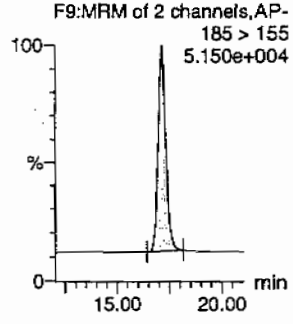
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

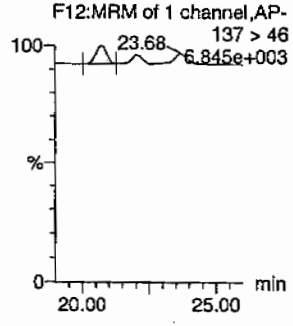
24-dinitrotoluene



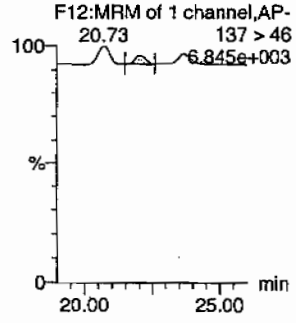
26-dinitrotoluene-d3



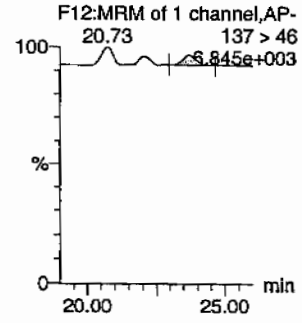
2-Nitrotoluene



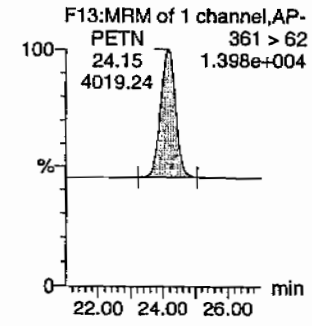
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100125-08CRI	HMX	176 > 102	5.15	1263.285	3338.619	1263.285	189.193	bb			59.6346	149.1	49.1	338.5
WXX100125-08CRI	RDX	176 > 102	7.51	642.190	3338.619	642.190	96.176	bb			43.7442	109.4	9.4	141.4
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1152.094	3338.619	1152.094	172.541	bb			51.2751	128.2	28.2	131.8
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	3338.619		3338.619	3338.619	bb			562.3600	112.5	12.5	430.5
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	12.00	357.395	3338.619	357.395	53.524	bb			46.1424	115.4	15.4	27.5
WXX100125-08CRI	Tetryl	241 > 181	12.45	235.130	3338.619	235.130	35.214	bb			40.5401	101.4	1.4	19.3
WXX100125-08CRI	Nitrobenzene	123 > 46	13.41	283.661	3338.619	283.661	42.482	bb			49.7099	124.3	24.3	33.4
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.35	436.484	19261.230	436.484	11.331	MM	26-Jan-10	09:19:33	43.4935	108.7	8.7	25.6
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.22	590.352	19261.230	590.352	15.325	bb			40.9444	102.4	2.4	89.9
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.21	507.277	19261.230	507.277	13.168	bb			41.4016	103.5	3.5	33.5
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.16	702.684	19261.230	702.684	18.241	bb			20.0888	100.4	0.4	47.0
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.29	1710.801	19261.230	1710.801	44.410	MM	26-Jan-10	09:21:41	40.3165	100.8	0.8	103.8
WXX100125-08CRI	24-dinitrotoluene	182 > 152	17.95	406.830	19261.230	406.830	10.561	MM	26-Jan-10	09:23:39	41.5679	103.9	3.9	23.1
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.14	19261.230		19261.230	19261.230	bb			590.8955	118.2	18.2	944.5
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.73	249.133	19261.230	249.133	6.467	bb			38.8881	97.2	-2.8	41.4
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.04	111.602	19261.230	111.602	2.897	bb			35.0395	87.6	-12.4	19.7
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.68	166.053	19261.230	166.053	4.311	bb			46.1714	115.4	15.4	23.2
WXX100125-08CRI	PETN	361 > 62	24.15	4019.243	19261.230	4019.243	104.335	bb			28.6246	71.6	-28.4	1039.0

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

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GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/25/10
Time of Injection	2308
Standard Number	WXX100125-08CRI
Data File	EXP0125025a

HMX	149.1
RDX	109.4
135-TNB	128.2
13-DNB	115.4
Tetryl	101.4
Nitrobenzene	124.3
4A-26-DNT	108.7
2A-46-DNT	102.4
246-TNT	103.5
34-DNT(surr)	100.4
26-DNT	100.8
24-DNT	103.9
2-NT	97.2
4-NT	87.6
3-NT	115.4
PETN	71.6
Total	1719.3
Average	107.5

1/26/10

Hmm 01/26/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1126

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125034a

Analysis Date: 26–JAN–10 03:34

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

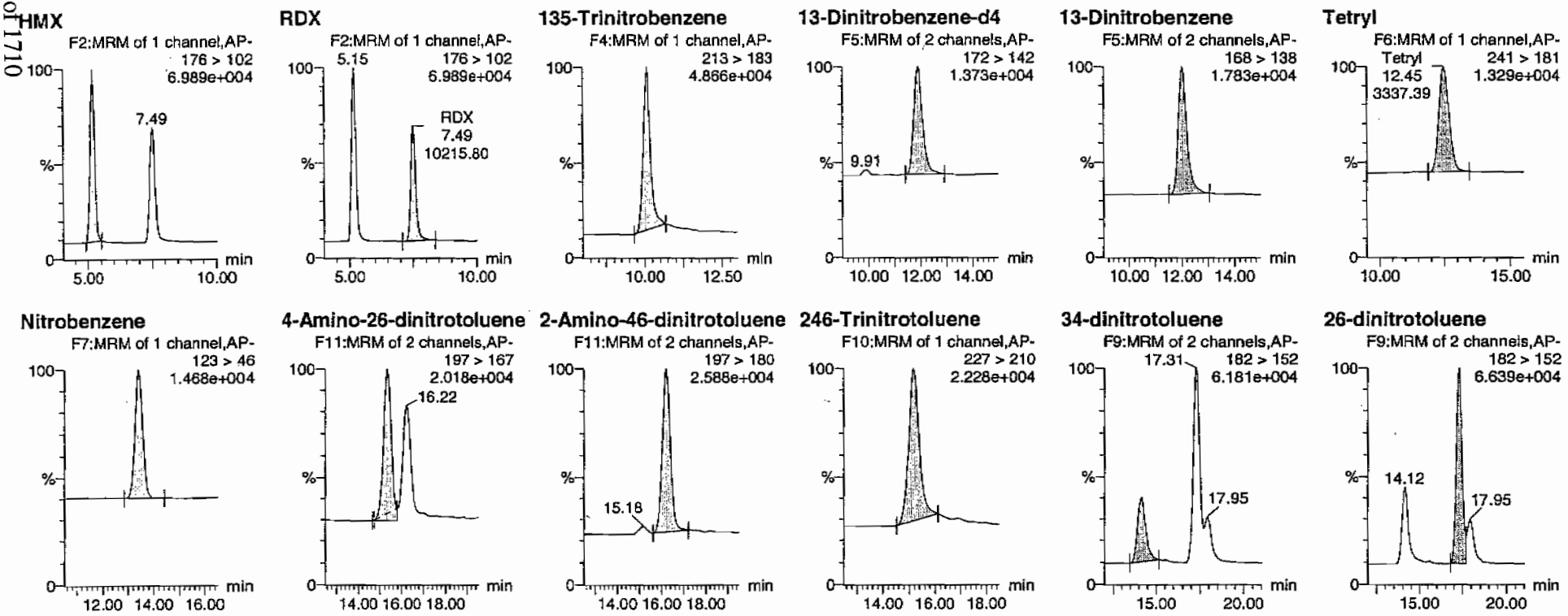
Compound	True	Found	Recovery	Q
1,3,5–Trinitrobenzene	600	677.094	113	
1,3–Dinitrobenzene–d4	500	507.421	101	
2,4,6–Trinitrotoluene	600	664.277	111	
2,4–Dinitrotoluene	600	626.592	104	
2,6–Dinitrotoluene	600	593.375	99	
2,6–Dinitrotoluene–d3	500	552.887	111	
2–Amino–4,6–dinitrotoluene	600	628.043	105	
3,4–Dinitrotoluene	300	310.216	103	
4–Amino–2,6–dinitrotoluene	600	653.794	109	
HMX	600	665.852	111	
Nitrobenzene	600	612.948	102	
PETN	600	598.099	100	
RDX	600	771.215	129	*
Tetryl	600	637.72	106	
m–Dinitrobenzene	600	643.843	107	
m–Nitrotoluene	600	557.007	93	
o–Nitrotoluene	600	568.991	95	
p–Nitrotoluene	600	602.81	100	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 70–130%
OtherTarget Analytes 80–120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125034a
Date: 26-Jan-2010
Time: 03:34:18
ID: WXX100125-07CCV
Vial: 1:1,B

MATP 1/26/10



Hmm 01/26/10

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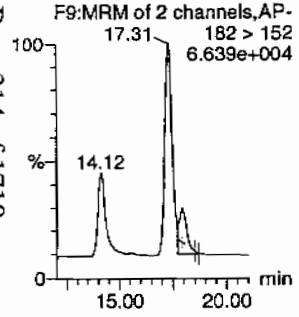
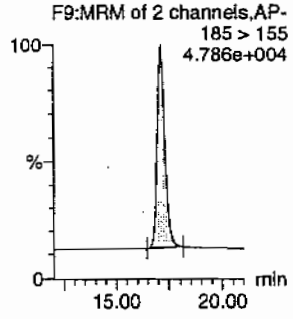
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

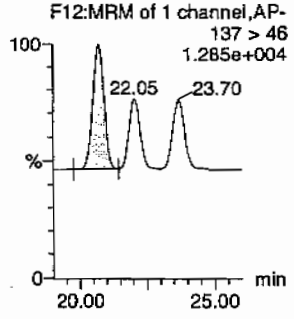
24-dinitrotoluene



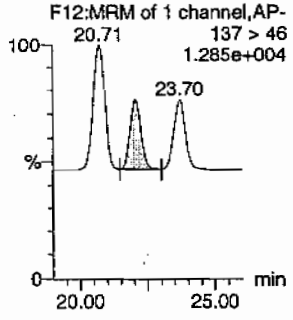
26-dinitrotoluene-d3



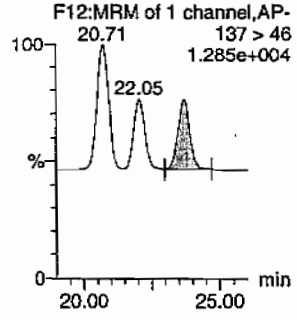
2-Nitrotoluene



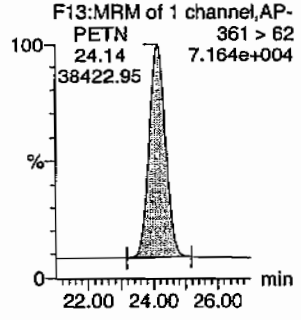
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100125-07CCV	HMX	176 > 102	5.15	12727.260	3012.459	12727.260	2112.437	bb			665.8520	111.0	11.0	1385.6
WXX100125-07CCV	RDX	176 > 102	7.49	10215.800	3012.459	10215.800	1695.592	bb			771.2149	128.5	28.5	918.6
WXX100125-07CCV	135-Trinitrobenzene	213 > 183	10.07	11660.856	3012.459	11660.856	1935.438	bb			677.0943	112.8	12.8	921.2
WXX100125-07CCV	13-Dinitrobenzene-d4	172 > 142	11.89	3012.459		3012.459	3012.459	bb			507.4213	101.5	1.5	175.5
WXX100125-07CCV	13-Dinitrobenzene	168 > 138	12.00	4499.687	3012.459	4499.687	746.846	bb			643.8425	107.3	7.3	448.1
WXX100125-07CCV	Tetryl	241 > 181	12.45	3337.394	3012.459	3337.394	553.932	bb			637.7201	106.3	6.3	329.8
WXX100125-07CCV	Nitrobenzene	123 > 46	13.41	3155.987	3012.459	3155.987	523.822	bb			612.9484	102.2	2.2	319.0
WXX100125-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.35	6139.198	18022.293	6139.198	170.322	MM	26-Jan-10	09:19:47	653.7944	109.0	9.0	343.5
WXX100125-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.22	8472.895	18022.293	8472.895	235.067	bb			628.0434	104.7	4.7	308.1
WXX100125-07CCV	246-Trinitrotoluene	227 > 210	15.17	7615.592	18022.293	7615.592	211.283	bb			664.2769	110.7	10.7	340.1
WXX100125-07CCV	34-dinitrotoluene	182 > 152	14.16	10153.055	18022.293	10153.055	281.680	bb			310.2159	103.4	3.4	637.1
WXX100125-07CCV	26-dinitrotoluene	182 > 152	17.31	23559.799	18022.293	23559.799	653.629	MM	26-Jan-10	09:21:49	593.3752	98.9	-1.1	851.1
WXX100125-07CCV	24-dinitrotoluene	182 > 152	17.95	5738.072	18022.293	5738.072	159.194	MM	26-Jan-10	09:23:53	626.5922	104.4	4.4	187.7
WXX100125-07CCV	26-dinitrotoluene-d3	185 > 155	17.14	18022.293		18022.293	18022.293	bb			552.8874	110.6	10.6	1407.4
WXX100125-07CCV	2-Nitrotoluene	137 > 46	20.71	3410.712	18022.293	3410.712	94.625	bb			568.9905	94.8	-5.2	584.2
WXX100125-07CCV	4-Nitrotoluene	137 > 46	22.05	1796.469	18022.293	1796.469	49.840	bb			602.8096	100.5	0.5	322.1
WXX100125-07CCV	3-Nitrotoluene	137 > 46	23.70	1874.392	18022.293	1874.392	52.002	bb			557.0068	92.8	-7.2	319.9
WXX100125-07CCV	PETN	361 > 62	24.14	38422.945	18022.293	38422.945	1065.984	bb			598.0986	99.7	-0.3	4403.3

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

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/26/10
Time of Injection: 0334
Standard Number: WXX100125-07CCV
Data File: EXP0125034a

HMX	111.0
RDX	128.5
135-TNB	112.8
13-DNB	107.3
Tetryl	106.3
Nitrobenzene	102.2
4A-26-DNT	109.0
2A-46-DNT	104.7
246-TNT	110.7
34-DNT(surr)	103.4
26-DNT	98.9
24-DNT	104.4
2-NT	94.8
4-NT	100.5
3-NT	92.8
PETN	99.7
Total	1687.0
Average	105.4

MATT 1/26/10

Hanna 01/26/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125036a

Analysis Date: 26-JAN-10 04:33

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	52.11	130	*
1,3-Dinitrobenzene-d4	500	503.562	101	
2,4,6-Trinitrotoluene	40	39.74	99	
2,4-Dinitrotoluene	40	41.295	103	
2,6-Dinitrotoluene	40	39.945	100	
2,6-Dinitrotoluene-d3	500	539.662	108	
2-Amino-4,6-dinitrotoluene	40	39.655	99	
3,4-Dinitrotoluene	20	20.419	102	
4-Amino-2,6-dinitrotoluene	40	42.579	106	
HMX	40	49.197	123	
Nitrobenzene	40	40.413	101	
PETN	40	28.993	72	
RDX	40	44.285	111	
Tetryl	40	48.534	121	
m-Dinitrobenzene	40	35.432	89	
m-Nitrotoluene	40	39.652	99	
o-Nitrotoluene	40	50.193	125	
p-Nitrotoluene	40	42.49	106	

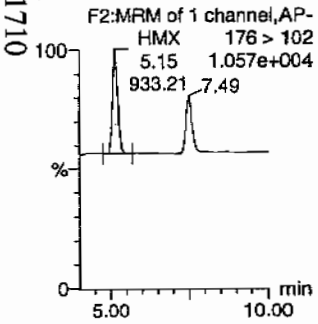
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

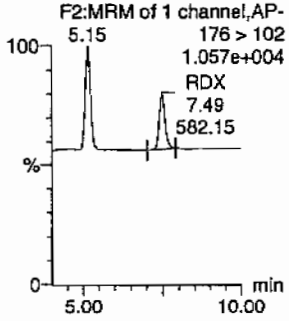
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125036a
Date: 26-Jan-2010
Time: 04:33:23
ID: WXX100125-08CRI
Vial: 1:1,C

MATT 1/26/10

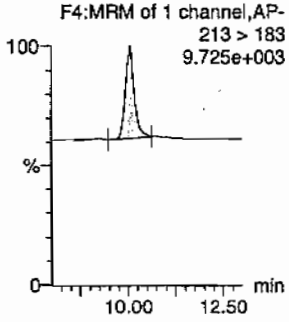
HMX



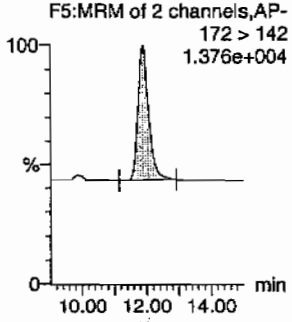
RDX



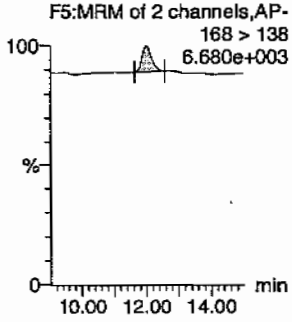
135-Trinitrobenzene



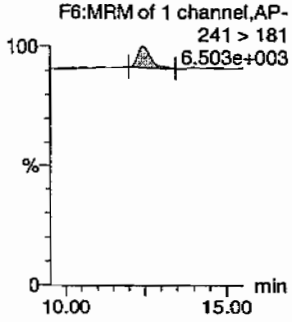
13-Dinitrobenzene-d4



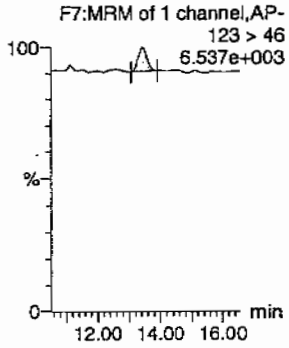
13-Dinitrobenzene



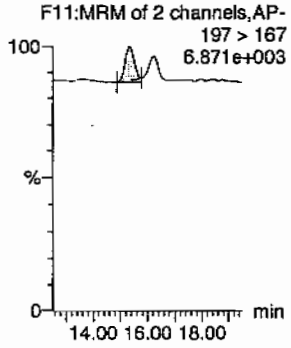
Tetryl



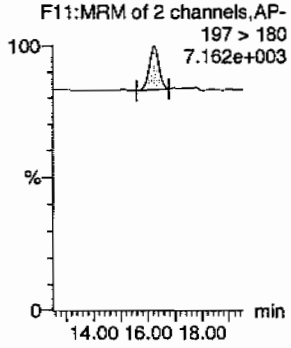
Nitrobenzene



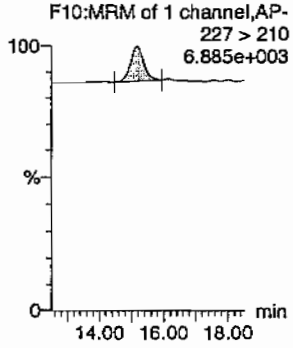
4-Amino-26-dinitrotoluene



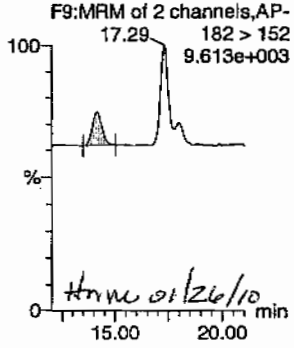
2-Amino-46-dinitrotoluene



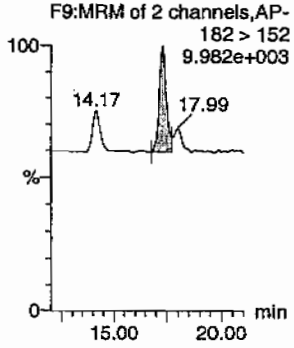
246-Trinitrotoluene



34-dinitrotoluene



26-dinitrotoluene



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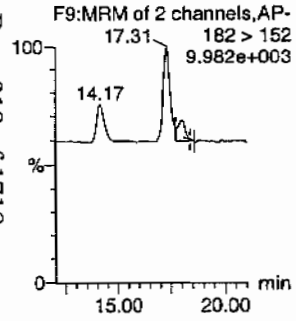
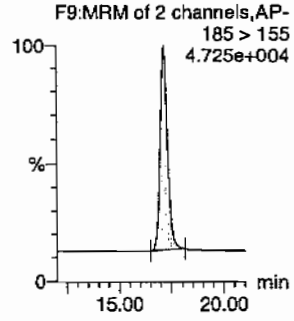
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

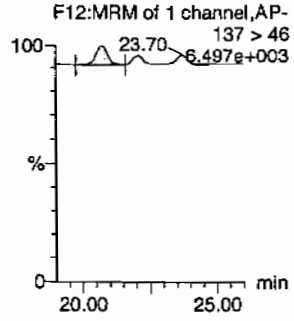
24-dinitrotoluene



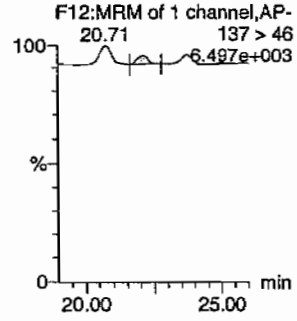
26-dinitrotoluene-d3



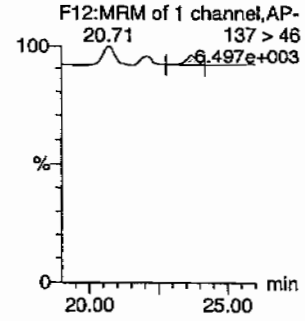
2-Nitrotoluene



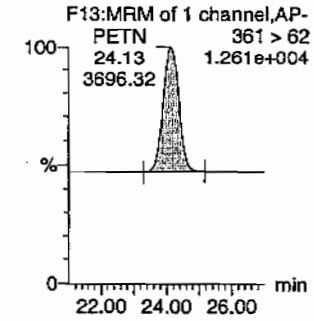
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100125-08CRI	HMX	176 > 102	5.15	933.214	2989.546	933.214	156.080	bb			49.1971	123.0	23.0	196.3
WXX100125-08CRI	RDX	176 > 102	7.49	582.152	2989.546	582.152	97.365	bb			44.2849	110.7	10.7	106.4
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1045.697	2989.546	1045.697	174.892	bb			52.1099	130.3	30.3	143.8
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	2989.546		2989.546	2989.546	bb			503.5618	100.7	0.7	363.4
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	12.00	245.746	2989.546	245.746	41.101	bb			35.4323	88.6	-11.4	38.0
WXX100125-08CRI	Tetryl	241 > 181	12.45	252.060	2989.546	252.060	42.157	bb			48.5336	121.3	21.3	19.8
WXX100125-08CRI	Nitrobenzene	123 > 46	13.41	206.496	2989.546	206.496	34.536	bb			40.4126	101.0	1.0	15.5
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.35	390.258	17591.199	390.258	11.092	MM	26-Jan-10	09:19:53	42.5791	106.4	6.4	32.4
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.22	522.190	17591.199	522.190	14.842	bb			39.6553	99.1	-0.9	18.4
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.17	444.695	17591.199	444.695	12.640	bb			39.7395	99.3	-0.7	37.2
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.16	652.297	17591.199	652.297	18.540	bb			20.4187	102.1	2.1	47.4
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.31	1548.066	17591.199	1548.066	44.001	MM	26-Jan-10	09:21:59	39.9449	99.9	-0.1	92.0
WXX100125-08CRI	24-dinitrotoluene	182 > 152	17.99	369.118	17591.199	369.118	10.492	MM	26-Jan-10	09:24:01	41.2951	103.2	3.2	19.6
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.14	17591.199		17591.199	17591.199	bb			539.6623	107.9	7.9	1827.3
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.72	293.678	17591.199	293.678	8.347	bb			50.1933	125.5	25.5	86.4
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.09	123.598	17591.199	123.598	3.513	bb			42.4900	106.2	6.2	40.7
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.70	130.241	17591.199	130.241	3.702	bb			39.6518	99.1	-0.9	43.4
WXX100125-08CRI	PETN	361 > 62	24.13	3696.324	17591.199	3696.324	105.062	bb			28.9932	72.5	-27.5	609.4

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

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PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/26/10
Time of Injection	0433
Standard Number	WXX100125-08CRI
Data File	EXP0125036a

HMX	123.0
RDX	110.7
135-TNB	130.3
13-DNB	88.6
Tetryl	121.3
Nitrobenzene	101.0
4A-26-DNT	106.4
2A-46-DNT	99.1
246-TNT	99.3
34-DNT(surr)	102.1
26-DNT	99.9
24-DNT	103.2
2-NT	125.5
4-NT	106.2
3-NT	99.1
PETN	72.5
Total	1688.2
Average	105.5

1/26/10

dmm 01/26/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125047a

Analysis Date: 26-JAN-10 09:58

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	646.04	108	
1,3-Dinitrobenzene-d4	500	528.635	106	
2,4,6-Trinitrotoluene	600	844.315	141	*
2,4-Dinitrotoluene	600	601.657	100	
2,6-Dinitrotoluene	600	607.414	101	
2,6-Dinitrotoluene-d3	500	552.683	111	
2-Amino-4,6-dinitrotoluene	600	622.543	104	
3,4-Dinitrotoluene	300	327.234	109	
4-Amino-2,6-dinitrotoluene	600	623.75	104	
HMX	600	662.143	110	
Nitrobenzene	600	629.393	105	
PETN	600	593.682	99	
RDX	600	700.33	117	
Tetryl	600	658.895	110	
m-Dinitrobenzene	600	616.464	103	
m-Nitrotoluene	600	578.165	96	
o-Nitrotoluene	600	560.785	93	
p-Nitrotoluene	600	573.922	96	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

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

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125047a
Date: 26-Jan-2010
Time: 09:58:05
ID: WXX100125-07CCV
Vial: 1:1,B

LMTT 1/27/10

HMX
F2:MRM of 1 channel,AP- 176 > 102 7.300e+004
7.49

RDX
F2:MRM of 1 channel,AP- 176 > 102 7.300e+004
5.15
RDX 7.49 9664.68

135-Trinitrobenzene
F4:MRM of 1 channel,AP- 213 > 183 4.783e+004

13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP- 172 > 142 1.381e+004
9.86

13-Dinitrobenzene
F5:MRM of 2 channels,AP- 168 > 138 1.831e+004

Tetryl
F6:MRM of 1 channel,AP- 241 > 181 1.394e+004
Tetryl 12.45 3592.37

Nitrobenzene
F7:MRM of 1 channel,AP- 123 > 46 1.533e+004

4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP- 197 > 167 1.980e+004

2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP- 197 > 180 2.560e+004

246-Trinitrotoluene
F10:MRM of 1 channel,AP- 227 > 210 2.648e+004

34-dinitrotoluene
F9:MRM of 2 channels,AP- 182 > 152 6.333e+004
17.29
17.95

26-dinitrotoluene
F9:MRM of 2 channels,AP- 182 > 152 6.855e+004
14.12
17.95

HMM 01/27/10

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

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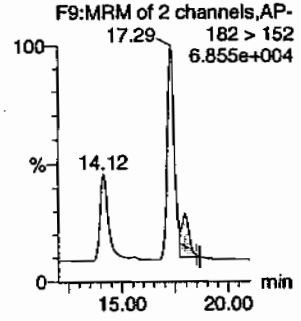
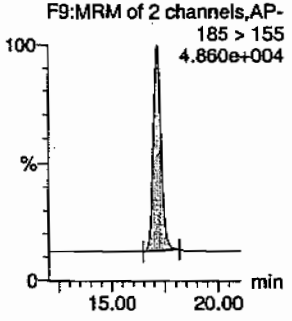
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

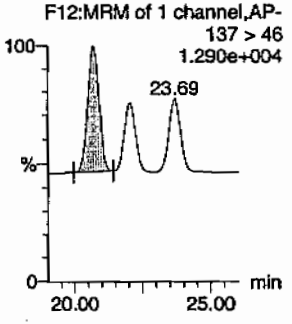
24-dinitrotoluene



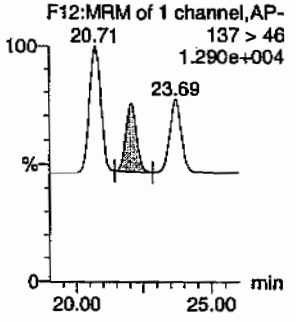
26-dinitrotoluene-d3



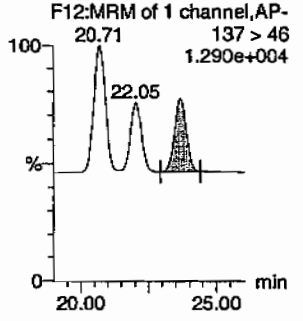
2-Nitrotoluene



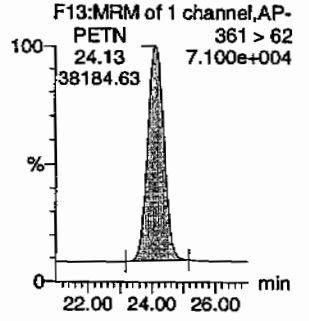
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs.Resp	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N
WXX100125-07CCV	HMX	176 > 102	5.15	13185.493	3138.402	13185.493	2100.670	bb			662.1429	110.4	10.4	1467.2
WXX100125-07CCV	RDX	176 > 102	7.49	9664.676	3138.402	9664.676	1539.745	bb			700.3303	116.7	16.7	893.0
WXX100125-07CCV	135-Trinitrobenzene	213 > 183	10.07	11599.277	3138.402	11599.277	1847.959	bb			646.0397	107.7	7.7	485.6
WXX100125-07CCV	13-Dinitrobenzene-d4	172 > 142	11.89	3138.402		3138.402	3138.402	bb			528.6353	105.7	5.7	304.3
WXX100125-07CCV	13-Dinitrobenzene	168 > 138	12.00	4488.464	3138.402	4488.464	715.087	bb			616.4640	102.7	2.7	291.8
WXX100125-07CCV	Tetryl	241 > 181	12.45	3592.369	3138.402	3592.369	572.325	bb			658.8949	109.8	9.8	805.2
WXX100125-07CCV	Nitrobenzene	123 > 46	13.41	3376.141	3138.402	3376.141	537.876	bb			629.3930	104.9	4.9	363.2
WXX100125-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.35	5854.912	18015.623	5854.912	162.495	MM	27-Jan-10	09:12:09	623.7502	104.0	4.0	405.4
WXX100125-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.22	8395.583	18015.623	8395.583	233.008	bb			622.5432	103.8	3.8	932.8
WXX100125-07CCV	246-Trinitrotoluene	227 > 210	15.17	9676.053	18015.623	9676.053	268.546	bb			844.3150	140.7	40.7	757.4
WXX100125-07CCV	34-dinitrotoluene	182 > 152	14.12	10706.081	18015.623	10706.081	297.133	bb			327.2342	109.1	9.1	591.8
WXX100125-07CCV	26-dinitrotoluene	182 > 152	17.29	24108.299	18015.623	24108.299	669.094	MM	27-Jan-10	09:15:14	607.4145	101.2	1.2	903.4
WXX100125-07CCV	24-dinitrotoluene	182 > 152	17.95	5507.685	18015.623	5507.685	152.859	MM	27-Jan-10	09:19:30	601.6568	100.3	0.3	188.1
WXX100125-07CCV	26-dinitrotoluene-d3	185 > 155	17.14	18015.623		18015.623	18015.623	bb			552.6828	110.5	10.5	865.6
WXX100125-07CCV	2-Nitrotoluene	137 > 46	20.71	3360.283	18015.623	3360.283	93.260	bb			560.7853	93.5	-6.5	783.1
WXX100125-07CCV	4-Nitrotoluene	137 > 46	22.05	1709.745	18015.623	1709.745	47.452	bb			573.9215	95.7	-4.3	417.6
WXX100125-07CCV	3-Nitrotoluene	137 > 46	23.69	1944.873	18015.623	1944.873	53.977	bb			578.1654	96.4	-3.6	446.6
WXX100125-07CCV	PETN	361 > 62	24.13	38184.633	18015.623	38184.633	1059.764	bb			593.6821	98.9	-1.1	2758.9

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

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/26/10
Time of Injection: 0958
Standard Number: WXX100125-07CCV
Data File: EXP0125047a

HMX	110.4
RDX	116.7
135-TNB	107.7
13-DNB	102.7
Tetryl	109.8
Nitrobenzene	104.9
4A-26-DNT	104.0
2A-46-DNT	103.8
246-TNT	140.7
34-DNT(surr)	109.1
26-DNT	101.2
24-DNT	100.3
2-NT	93.5
4-NT	95.7
3-NT	96.4
PETN	98.9
Total	1695.8
Average	106.0

HAM 01/27/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125049a

Analysis Date: 26-JAN-10 10:57

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	44.638	112	
1,3-Dinitrobenzene-d4	500	604.504	121	
2,4,6-Trinitrotoluene	40	37.616	94	
2,4-Dinitrotoluene	40	40.509	101	
2,6-Dinitrotoluene	40	39.422	99	
2,6-Dinitrotoluene-d3	500	574.489	115	
2-Amino-4,6-dinitrotoluene	40	46.027	115	
3,4-Dinitrotoluene	20	22.575	113	
4-Amino-2,6-dinitrotoluene	40	43.635	109	
HMX	40	41.294	103	
Nitrobenzene	40	37.127	93	
PETN	40	31.781	79	
RDX	40	41.493	104	
Tetryl	40	40.973	102	
m-Dinitrobenzene	40	33.859	85	
m-Nitrotoluene	40	49.924	125	
o-Nitrotoluene	40	42.014	105	
p-Nitrotoluene	40	42.378	106	

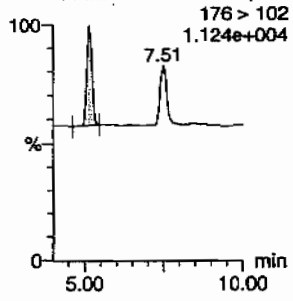
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

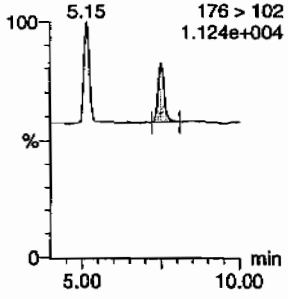
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125049a
Date: 26-Jan-2010
Time: 10:57:07
ID: WXX100125-08CRI
Vial: 1:1,C

MAT 1/27/10

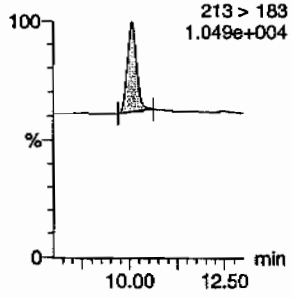
HMX
F2:MRM of 1 channel,AP-
176 > 102
1.124e+004



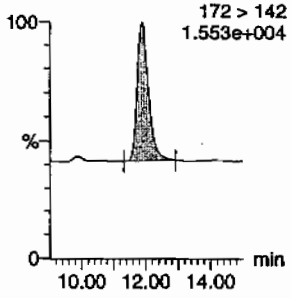
RDX
F2:MRM of 1 channel,AP-
176 > 102
1.124e+004



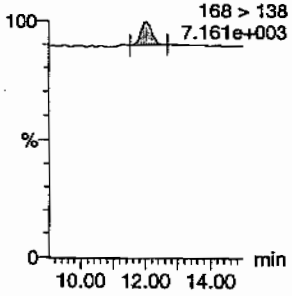
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
1.049e+004



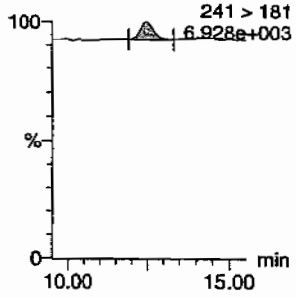
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.553e+004



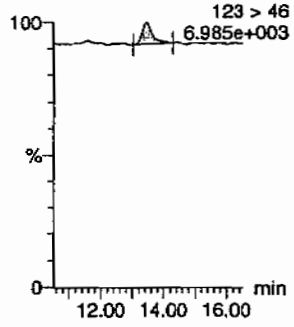
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
7.161e+003



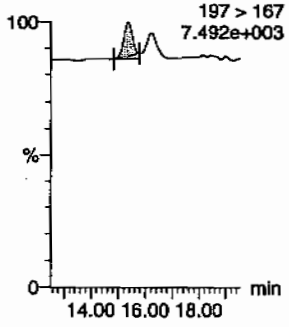
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.928e+003



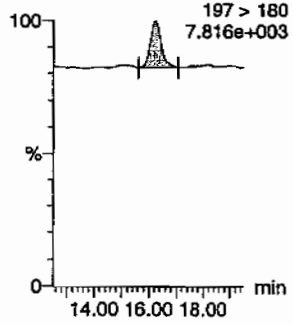
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.985e+003



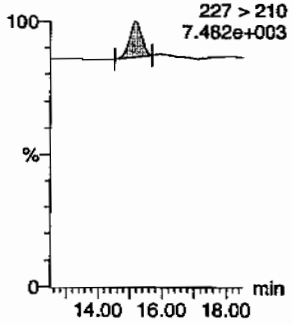
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
7.492e+003



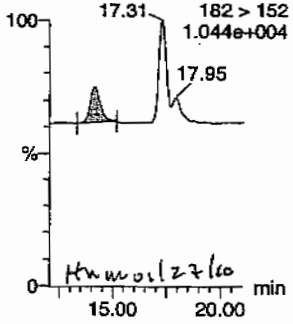
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
7.816e+003



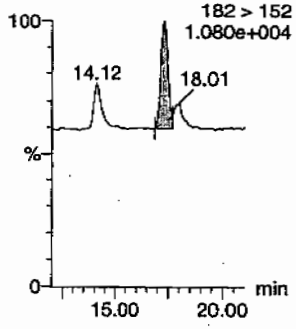
246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
7.482e+003



34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
1.044e+004



26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
1.080e+004



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

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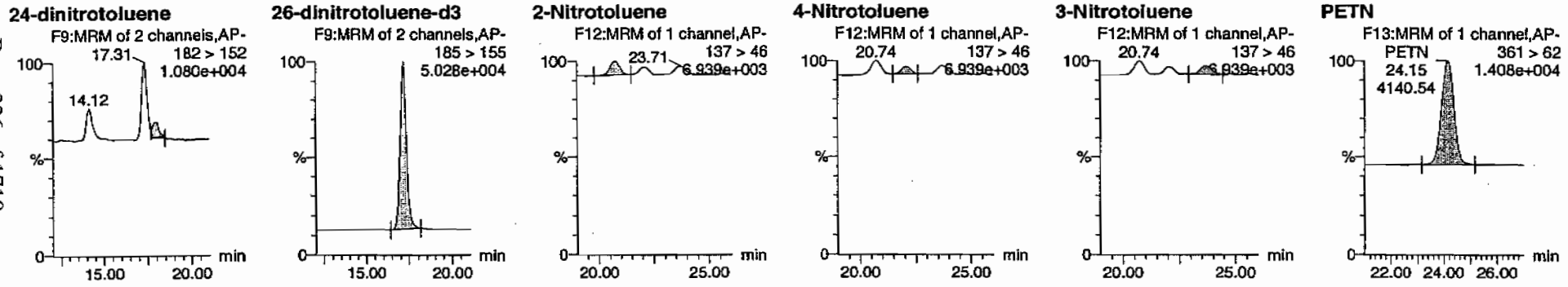
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100125-08CRI	HMX	176 > 102	5.15	940.323	3588.820	940.323	131.007	bb			41.2942	103.2	3.2	113.1
WXX100125-08CRI	RDX	176 > 102	7.51	654.783	3588.820	654.783	91.225	bb			41.4925	103.7	3.7	66.1
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1104.246	3588.820	1104.246	153.845	bb			44.6384	111.6	11.6	145.1
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	3588.820		3588.820	3588.820	bb			604.5041	120.9	20.9	191.6
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	12.03	281.911	3588.820	281.911	39.276	bb			33.8594	84.6	-15.4	32.1
WXX100125-08CRI	Tetryl	241 > 181	12.45	255.450	3588.820	255.450	35.590	bb			40.9730	102.4	2.4	13.0
WXX100125-08CRI	Nitrobenzene	123 > 46	13.45	227.737	3588.820	227.737	31.729	bb			37.1272	92.8	-7.2	18.7
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.35	425.744	18726.447	425.744	11.367	MM	27-Jan-10	09:12:17	43.6348	109.1	9.1	23.7
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.22	645.214	18726.447	645.214	17.227	bb			46.0274	115.1	15.1	51.8
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.17	448.097	18726.447	448.097	11.964	bb			37.6160	94.0	-6.0	23.5
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.17	767.709	18726.447	767.709	20.498	bb			22.5745	112.9	12.9	30.5
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.31	1626.381	18726.447	1626.381	43.425	MM	27-Jan-10	09:15:27	39.4216	98.6	-1.4	95.8
WXX100125-08CRI	24-dinitrotoluene	182 > 152	18.01	385.462	18726.447	385.462	10.292	MM	27-Jan-10	09:19:17	40.5093	101.3	1.3	19.4
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.14	18726.447		18726.447	18726.447	bb			574.4894	114.9	14.9	1389.2
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.74	261.684	18726.447	261.684	6.987	bb			42.0138	105.0	5.0	60.2
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.06	131.227	18726.447	131.227	3.504	bb			42.3778	105.9	5.9	31.3
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.71	174.564	18726.447	174.564	4.661	bb			49.9240	124.8	24.8	37.1
WXX100125-08CRI	PETN	361 > 62	24.15	4140.537	18726.447	4140.537	110.553	bb			31.7814	79.5	-20.5	450.9

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GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/26/10
Time of Injection	1057
Standard Number	WXX100125-08CRI
Data File	EXP0125049a

HMX	103.2
RDX	103.7
135-TNB	111.6
13-DNB	84.6
Tetryl	102.4
Nitrobenzene	92.8
4A-26-DNT	109.1
2A-46-DNT	115.1
246-TNT	94.0
34-DNT(surr)	112.9
26-DNT	98.6
24-DNT	101.3
2-NT	105.0
4-NT	105.9
3-NT	124.8
PETN	79.5
Total	1644.5
Average	102.8

MAT 1/27/10

Hmm 01/27/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1126

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125060a

Analysis Date: 26–JAN–10 16:21

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5–Trinitrobenzene	600	682.994	114	
1,3–Dinitrobenzene–d4	500	545.605	109	
2,4,6–Trinitrotoluene	600	697.867	116	
2,4–Dinitrotoluene	600	608.207	101	
2,6–Dinitrotoluene	600	595.1	99	
2,6–Dinitrotoluene–d3	500	562.286	112	
2–Amino–4,6–dinitrotoluene	600	657.831	110	
3,4–Dinitrotoluene	300	337.629	113	
4–Amino–2,6–dinitrotoluene	600	664.072	111	
HMX	600	707.84	118	
Nitrobenzene	600	600.429	100	
PETN	600	601.346	100	
RDX	600	753.08	126	*
Tetryl	600	642.934	107	
m–Dinitrobenzene	600	616.028	103	
m–Nitrotoluene	600	554.466	92	
o–Nitrotoluene	600	538.809	90	
p–Nitrotoluene	600	558.692	93	

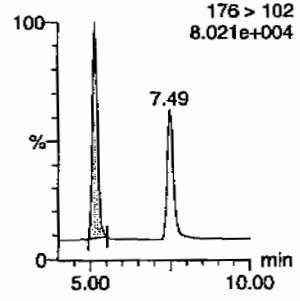
Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 70–130%
OtherTarget Analytes 80–120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

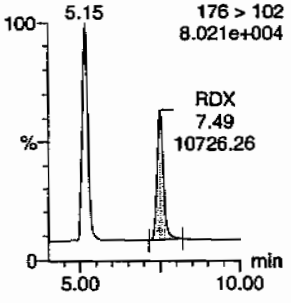
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125060a
Date: 26-Jan-2010
Time: 16:21:27
ID: WXX100125-07CCV
Vial: 1:1,B

MATT 1/27/10

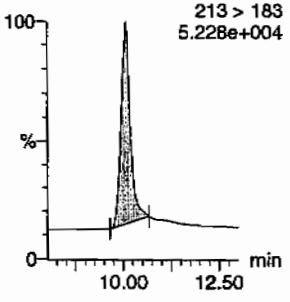
HMX
F2:MRM of 1 channel,AP-
176 > 102
8.021e+004



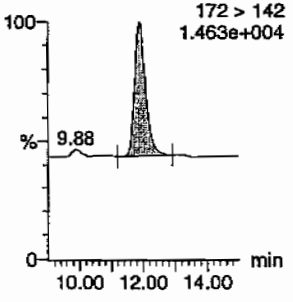
RDX
F2:MRM of 1 channel,AP-
5.15
176 > 102
8.021e+004



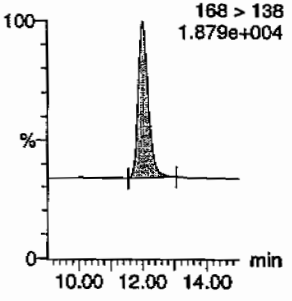
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
5.228e+004



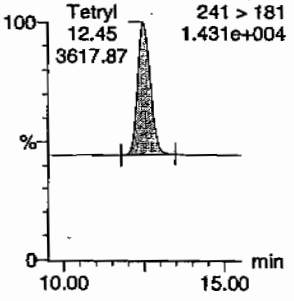
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.463e+004



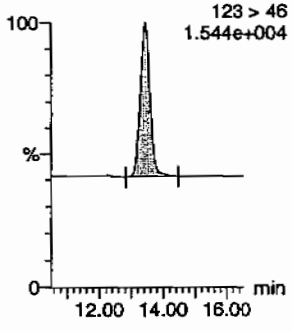
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.879e+004



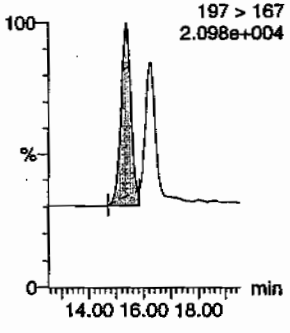
Tetryl
F6:MRM of 1 channel,AP-
Tetryl
12.45
3617.87
241 > 181
1.431e+004



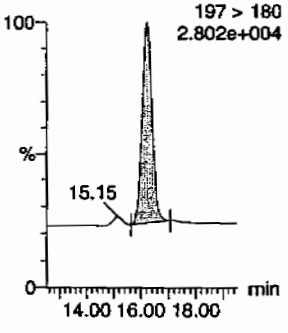
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.544e+004



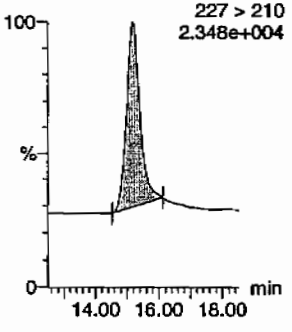
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
2.098e+004



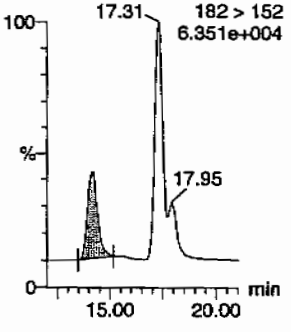
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.802e+004



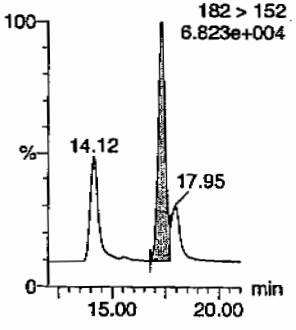
246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.348e+004



34-dinitrotoluene
F9:MRM of 2 channels,AP-
17.31
182 > 152
6.351e+004



26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.823e+004



HMM 01/27/10

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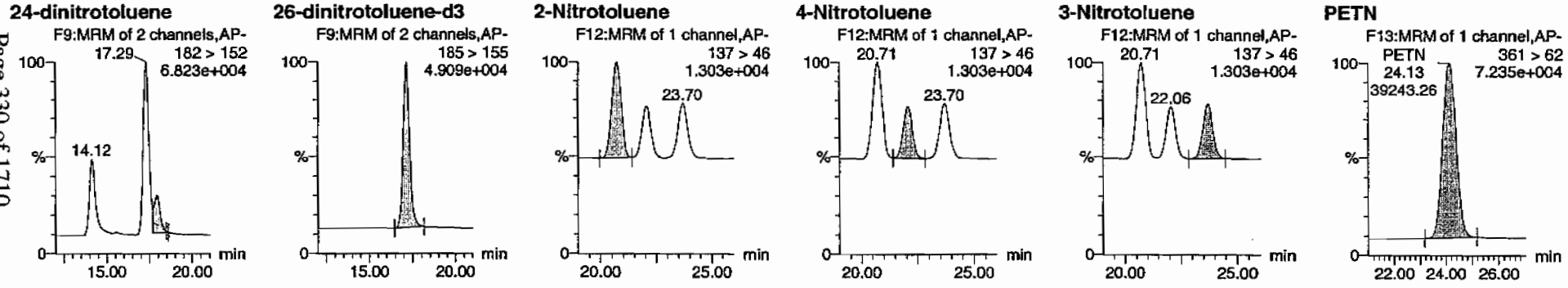
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100125-07CCV	HMX	176 > 102	5.15	14547.969	3239.150	14547.969	2245.646	bb			707.8402	118.0	18.0	2286.8
WXX100125-07CCV	RDX	176 > 102	7.49	10726.256	3239.150	10726.256	1655.721	bb			753.0802	125.5	25.5	1383.9
WXX100125-07CCV	135-Trinitrobenzene	213 > 183	10.07	12646.007	3239.150	12646.007	1952.056	bb			682.9937	113.8	13.8	448.9
WXX100125-07CCV	13-Dinitrobenzene-d4	172 > 142	11.89	3239.150		3239.150	3239.150	bb			545.6053	109.1	9.1	292.8
WXX100125-07CCV	13-Dinitrobenzene	168 > 138	12.00	4629.278	3239.150	4629.278	714.582	bb			616.0284	102.7	2.7	281.2
WXX100125-07CCV	Tetryl	241 > 181	12.45	3617.874	3239.150	3617.874	558.460	bb			642.9336	107.2	7.2	320.1
WXX100125-07CCV	Nitrobenzene	123 > 46	13.41	3324.166	3239.150	3324.166	513.123	bb			600.4288	100.1	0.1	303.5
WXX100125-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.35	6341.708	18328.656	6341.708	173.000	MM	27-Jan-10	09:12:30	664.0721	110.7	10.7	381.9
WXX100125-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.22	9025.623	18328.656	9025.623	246.216	bb			657.8312	109.6	9.6	670.5
WXX100125-07CCV	246-Trinitrotoluene	227 > 210	15.17	8136.688	18328.656	8136.688	221.966	bb			697.8669	116.3	16.3	810.9
WXX100125-07CCV	34-dinitrotoluene	182 > 152	14.17	11238.110	18328.656	11238.110	306.572	bb			337.6292	112.5	12.5	331.9
WXX100125-07CCV	26-dinitrotoluene	182 > 152	17.29	24029.945	18328.656	24029.945	655.529	MM	27-Jan-10	09:15:46	595.1001	99.2	-0.8	550.8
WXX100125-07CCV	24-dinitrotoluene	182 > 152	17.95	5664.389	18328.656	5664.389	154.523	MM	27-Jan-10	09:18:59	608.2071	101.4	1.4	118.3
WXX100125-07CCV	26-dinitrotoluene-d3	185 > 155	17.14	18328.656		18328.656	18328.656	bb			562.2860	112.5	12.5	1862.0
WXX100125-07CCV	2-Nitrotoluene	137 > 46	20.71	3284.698	18328.656	3284.698	89.606	bb			538.8090	89.8	-10.2	680.8
WXX100125-07CCV	4-Nitrotoluene	137 > 46	22.06	1693.294	18328.656	1693.294	46.193	bb			558.6917	93.1	-6.9	363.5
WXX100125-07CCV	3-Nitrotoluene	137 > 46	23.70	1897.558	18328.656	1897.558	51.765	bb			554.4656	92.4	-7.6	388.7
WXX100125-07CCV	PETN	361 > 62	24.13	39243.262	18328.656	39243.262	1070.544	bb			601.3457	100.2	0.2	8082.9

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

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/26/10
Time of Injection: 1621
Standard Number: WXX100125-07CCV
Data File: EXP0125060a

HMX		118.0
RDX		125.5
135-TNB		113.8
13-DNB		102.7
Tetryl		107.2
Nitrobenzene		100.1
4A-26-DNT		110.7
2A-46-DNT		109.6
246-TNT		116.3
34-DNT(surr)		112.5
26-DNT		99.2
24-DNT		101.4
2-NT		89.8
4-NT		93.1
3-NT		92.4
PETN		100.2
Total		1692.5
Average		105.8

HMT 1/27/10

Hm 01/27/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1126

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125062a

Analysis Date: 26–JAN–10 17:20

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5–Trinitrobenzene	40	51.696	129	
1,3–Dinitrobenzene–d4	500	614.783	123	
2,4,6–Trinitrotoluene	40	49.225	123	
2,4–Dinitrotoluene	40	34.729	87	
2,6–Dinitrotoluene	40	39.808	100	
2,6–Dinitrotoluene–d3	500	614.638	123	
2–Amino–4,6–dinitrotoluene	40	45.735	114	
3,4–Dinitrotoluene	20	24.671	123	
4–Amino–2,6–dinitrotoluene	40	51.11	128	
HMX	40	52.738	132	*
Nitrobenzene	40	40.221	101	
PETN	40	28.447	71	
RDX	40	50.85	127	
Tetryl	40	57.694	144	*
m–Dinitrobenzene	40	44.101	110	
m–Nitrotoluene	40	43.112	108	
o–Nitrotoluene	40	44.615	112	
p–Nitrotoluene	40	46.759	117	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 50–150%
OtherTarget Analytes 70–130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

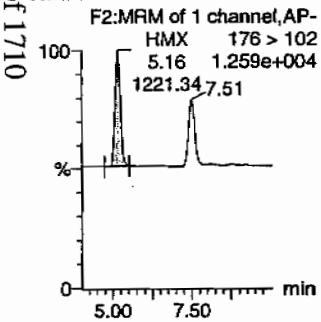
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

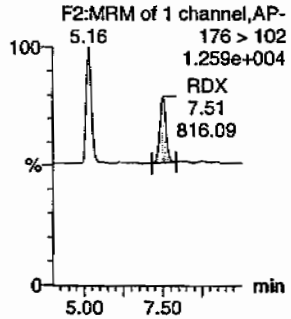
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125062a
Date: 26-Jan-2010
Time: 17:20:28
ID: WXX100125-08CRI
Vial: 1:1,C

MMT 1/27/10

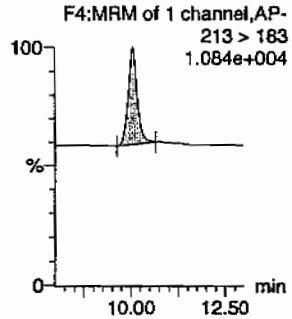
HMX



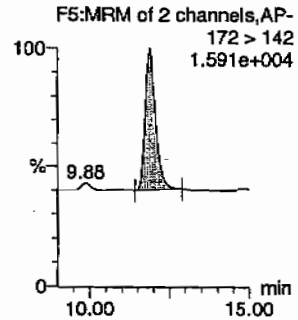
RDX



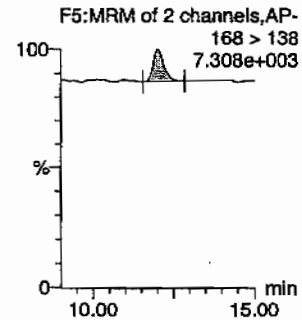
135-Trinitrobenzene



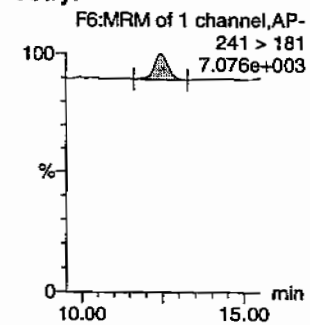
13-Dinitrobenzene-d4



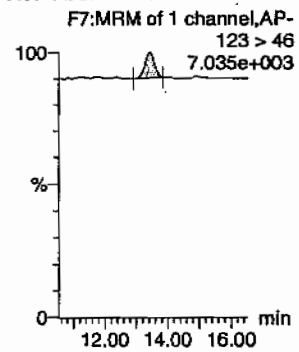
13-Dinitrobenzene



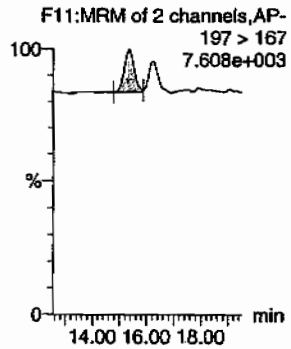
Tetryl



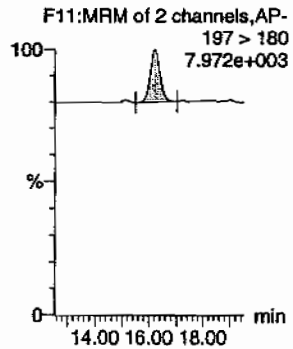
Nitrobenzene



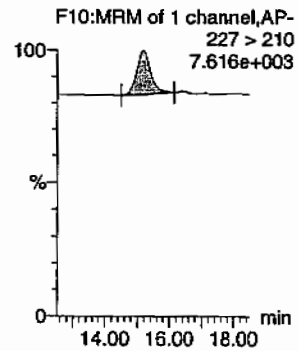
4-Amino-26-dinitrotoluene



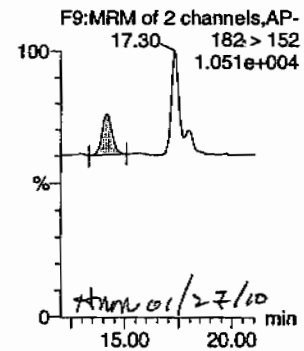
2-Amino-46-dinitrotoluene



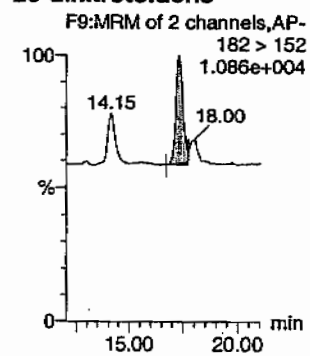
246-Trinitrotoluene



34-dinitrotoluene



26-dinitrotoluene



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

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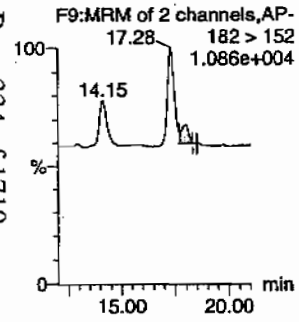
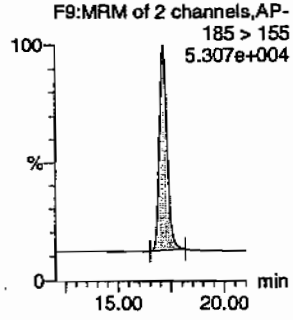
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

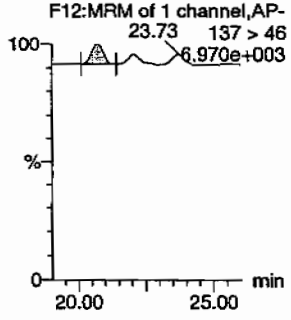
24-dinitrotoluene



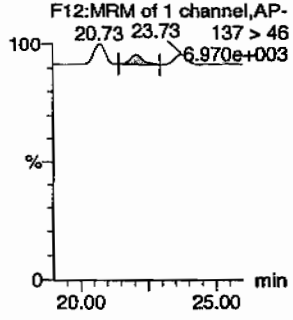
26-dinitrotoluene-d3



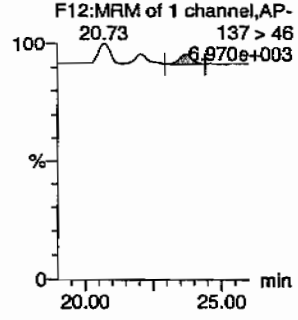
2-Nitrotoluene



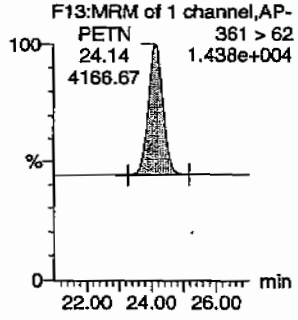
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100125-08CRI	HMX	176 > 102	5.16	1221.338	3649.844	1221.338	167.314	bb			52.7382	131.8	31.8	153.9
WXX100125-08CRI	RDX	176 > 102	7.51	816.089	3649.844	816.089	111.798	bb			50.8496	127.1	27.1	88.6
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1268.148	3649.844	1268.148	173.726	bb			51.6960	129.2	29.2	136.5
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	3649.844		3649.844	3649.844	bb			614.7830	123.0	23.0	630.8
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	12.00	373.422	3649.844	373.422	51.156	bb			44.1006	110.3	10.3	57.1
WXX100125-08CRI	Tetryl	241 > 181	12.45	365.812	3649.844	365.812	50.113	bb			57.6936	144.2	44.2	28.2
WXX100125-08CRI	Nitrobenzene	123 > 46	13.39	250.910	3649.844	250.910	34.373	bb			40.2211	100.6	0.6	22.6
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.34	533.527	20035.150	533.527	13.315	MM	27-Jan-10	09:12:38	51.1097	127.8	27.8	25.1
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.21	685.925	20035.150	685.925	17.118	bb			45.7353	114.3	14.3	76.5
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.20	627.366	20035.150	627.366	15.657	bb			49.2248	123.1	23.1	128.9
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.15	897.648	20035.150	897.648	22.402	bb			24.6712	123.4	23.4	52.6
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.28	1757.109	20035.150	1757.109	43.851	MM	27-Jan-10	09:15:56	39.8083	99.5	-0.5	75.0
WXX100125-08CRI	24-dinitrotoluene	182 > 152	18.00	353.553	20035.150	353.553	8.823	MM	27-Jan-10	09:18:51	34.7289	86.8	-13.2	15.1
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.15	20035.150		20035.150	20035.150	bb			614.6378	122.9	22.9	1178.3
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.73	297.304	20035.150	297.304	7.420	bb			44.6147	111.5	11.5	85.1
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.07	154.912	20035.150	154.912	3.866	bb			46.7588	116.9	16.9	41.2
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.73	161.279	20035.150	161.279	4.025	bb			43.1117	107.8	7.8	43.0
WXX100125-08CRI	PETN	361 > 62	24.14	4166.667	20035.150	4166.667	103.984	bb			28.4465	71.1	-28.9	1101.8

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

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GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/26/10
Time of Injection	1720
Standard Number	WXX100125-08CRI
Data File	EXP0125062a

HMX		131.8
RDX		127.1
135-TNB		129.2
13-DNB		110.3
Tetryl		144.2
Nitrobenzene		100.6
4A-26-DNT		127.8
2A-46-DNT		114.3
246-TNT		123.1
34-DNT(surr)		123.4
26-DNT		99.5
24-DNT		86.8
2-NT		111.5
4-NT		116.9
3-NT		107.8
PETN		71.1
Total		1825.4
Average		114.1

MMT 1/27/10

dmm 01/27/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125073a

Analysis Date: 26-JAN-10 22:45

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	671.694	112	
1,3-Dinitrobenzene-d4	500	508.961	102	
2,4,6-Trinitrotoluene	600	706.753	118	
2,4-Dinitrotoluene	600	643.877	107	
2,6-Dinitrotoluene	600	596.244	99	
2,6-Dinitrotoluene-d3	500	475.276	95	
2-Amino-4,6-dinitrotoluene	600	688.37	115	
3,4-Dinitrotoluene	300	342.191	114	
4-Amino-2,6-dinitrotoluene	600	691.558	115	
HMX	600	652.718	109	
Nitrobenzene	600	550.739	92	
PETN	600	648.299	108	
RDX	600	649.867	108	
Tetryl	600	631.484	105	
m-Dinitrobenzene	600	592.419	99	
m-Nitrotoluene	600	650.365	108	
o-Nitrotoluene	600	610.997	102	
p-Nitrotoluene	600	618.438	103	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

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

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125073a
Date: 26-Jan-2010
Time: 22:45:12
ID: WXX100125-07CCV
Vial: 1:1,B

LMT 1/27/10

HMX
F2:MRM of 1 channel,AP-
176 > 102
6.975e+004
7.51

RDX
F2:MRM of 1 channel,AP-
176 > 102
6.975e+004
5.16
RDX
7.51
8634.50

135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
4.883e+004

13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.395e+004

13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.748e+004

Tetryl
F6:MRM of 1 channel,AP-
241 > 181
1.355e+004
Tetryl
12.45
3314.78

Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.409e+004

4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
1.931e+004

2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.497e+004

246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.185e+004

34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.508e+004
17.30
17.94

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
5.930e+004
14.15
17.94

Hmm 1/27/10

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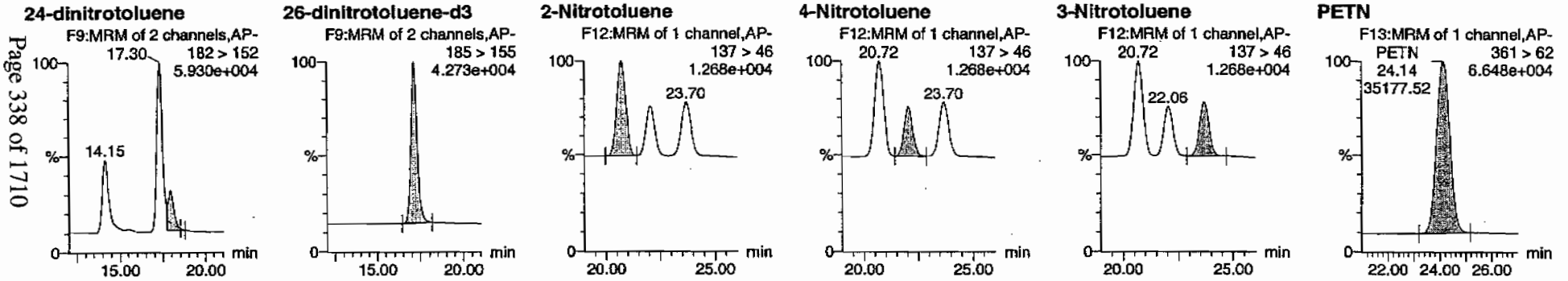
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100125-07CCV	HMX	176 > 102	5.16	12514.058	3021.598	12514.058	2070.768	bb			652.7177	108.8	8.8	1875.0
WXX100125-07CCV	RDX	176 > 102	7.51	8634.496	3021.598	8634.496	1428.796	bb			649.8670	108.3	8.3	1087.7
WXX100125-07CCV	135-Trinitrobenzene	213 > 183	10.07	11604.309	3021.598	11604.309	1920.227	bb			671.6945	111.9	11.9	517.9
WXX100125-07CCV	13-Dinitrobenzene-d4	172 > 142	11.89	3021.598		3021.598	3021.598	bb			508.9607	101.8	1.8	290.6
WXX100125-07CCV	13-Dinitrobenzene	168 > 138	12.00	4152.857	3021.598	4152.857	687.195	bb			592.4188	98.7	-1.3	424.5
WXX100125-07CCV	Tetryl	241 > 181	12.45	3314.785	3021.598	3314.785	548.515	bb			631.4841	105.2	5.2	272.4
WXX100125-07CCV	Nitrobenzene	123 > 46	13.44	2844.283	3021.598	2844.283	470.659	bb			550.7392	91.8	-8.2	247.6
WXX100125-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.34	5582.228	15492.406	5582.228	180.160	MM	27-Jan-10	09:12:55	691.5575	115.3	15.3	197.3
WXX100125-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.24	7983.123	15492.406	7983.123	257.646	bb			688.3699	114.7	14.7	449.6
WXX100125-07CCV	246-Trinitrotoluene	227 > 210	15.20	6965.154	15492.406	6965.154	224.793	bb			706.7526	117.8	17.8	687.5
WXX100125-07CCV	34-dinitrotoluene	182 > 152	14.15	9627.412	15492.406	9627.412	310.714	bb			342.1906	114.1	14.1	751.1
WXX100125-07CCV	26-dinitrotoluene	182 > 152	17.30	20350.498	15492.406	20350.498	656.789	MM	27-Jan-10	09:16:27	596.2440	99.4	-0.6	851.9
WXX100125-07CCV	24-dinitrotoluene	182 > 152	17.94	5068.658	15492.406	5068.658	163.585	MM	27-Jan-10	09:18:21	643.8774	107.3	7.3	198.6
WXX100125-07CCV	26-dinitrotoluene-d3	185 > 155	17.13	15492.406		15492.406	15492.406	bb			475.2756	95.1	-4.9	1605.4
WXX100125-07CCV	2-Nitrotoluene	137 > 46	20.72	3148.386	15492.406	3148.386	101.611	bb			610.9971	101.8	1.8	432.3
WXX100125-07CCV	4-Nitrotoluene	137 > 46	22.06	1584.325	15492.406	1584.325	51.132	bb			618.4376	103.1	3.1	226.6
WXX100125-07CCV	3-Nitrotoluene	137 > 46	23.70	1881.333	15492.406	1881.333	60.718	bb			650.3647	108.4	8.4	247.9
WXX100125-07CCV	PETN	361 > 62	24.14	35177.516	15492.406	35177.516	1135.315	bb			648.2991	108.0	8.0	4736.4

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

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/26/10
Time of Injection: 2245
Standard Number: WXX100125-07CCV
Data File: EXP0125073a

HMX		108.8
RDX		108.3
135-TNB		111.9
13-DNB		98.7
Tetryl		105.2
Nitrobenzene		91.8
4A-26-DNT		115.3
2A-46-DNT		114.7
246-TNT		117.8
34-DNT(surr)		114.1
26-DNT		99.4
24-DNT		107.3
2-NT		101.8
4-NT		103.1
3-NT		108.4
PETN		108.0
	Total	1714.6
	Average	107.2

Mott 1/27/10

Hmc 01/27/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1126

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125075a

Analysis Date: 26–JAN–10 23:44

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5–Trinitrobenzene	40	56.169	140	*
1,3–Dinitrobenzene–d4	500	483.992	97	
2,4,6–Trinitrotoluene	40	40.766	102	
2,4–Dinitrotoluene	40	35.006	88	
2,6–Dinitrotoluene	40	40.845	102	
2,6–Dinitrotoluene–d3	500	507.7	102	
2–Amino–4,6–dinitrotoluene	40	44.774	112	
3,4–Dinitrotoluene	20	23.523	118	
4–Amino–2,6–dinitrotoluene	40	43.317	108	
HMX	40	49.659	124	
Nitrobenzene	40	38.296	96	
PETN	40	36.274	91	
RDX	40	46.372	116	
Tetryl	40	44.916	112	
m–Dinitrobenzene	40	38.172	95	
m–Nitrotoluene	40	37.685	94	
o–Nitrotoluene	40	39.419	99	
p–Nitrotoluene	40	40.939	102	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 50–150%
OtherTarget Analytes 70–130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

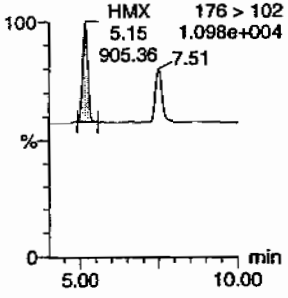
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

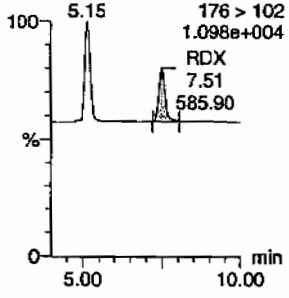
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125075a
Date: 26-Jan-2010
Time: 23:44:10
ID: WXX100125-08CRI
Vial: 1:1,C

MMT 1/27/10

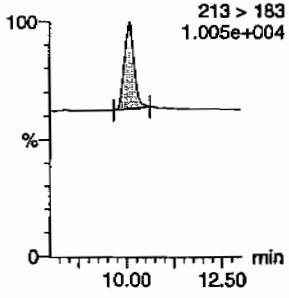
HMX
F2:MRM of 1 channel,AP-
HMX 176 > 102
5.15 1.098e+004
905.36 7.51



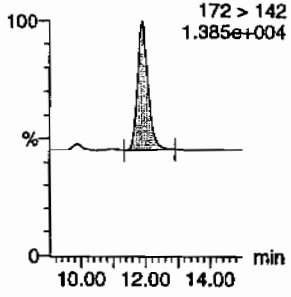
RDX
F2:MRM of 1 channel,AP-
5.15 176 > 102
1.098e+004
RDX
7.51
585.90



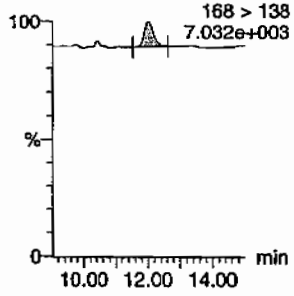
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
1.005e+004



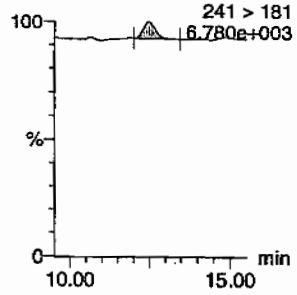
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.385e+004



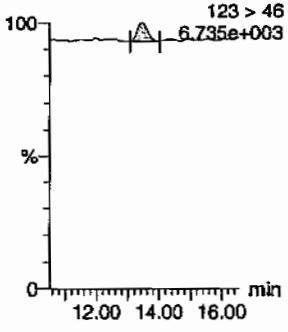
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
7.032e+003



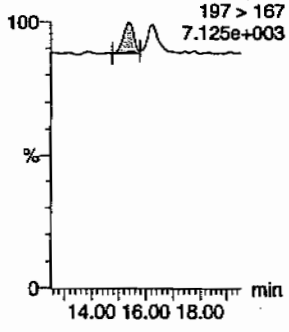
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.780e+003



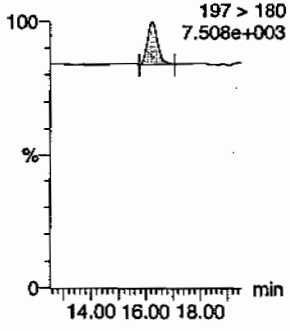
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.735e+003



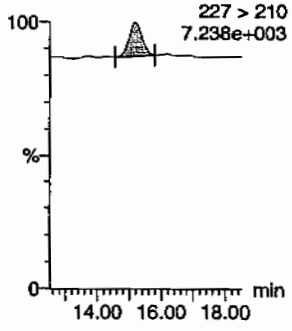
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
7.125e+003



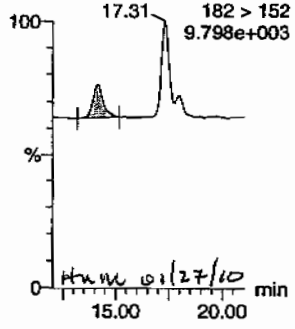
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
7.508e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
7.238e+003

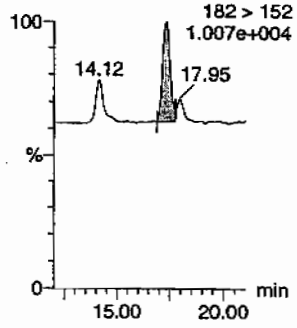


34-dinitrotoluene
F9:MRM of 2 channels,AP-
17.31 182 > 152
9.798e+003



HMM 01/27/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
1.007e+004



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

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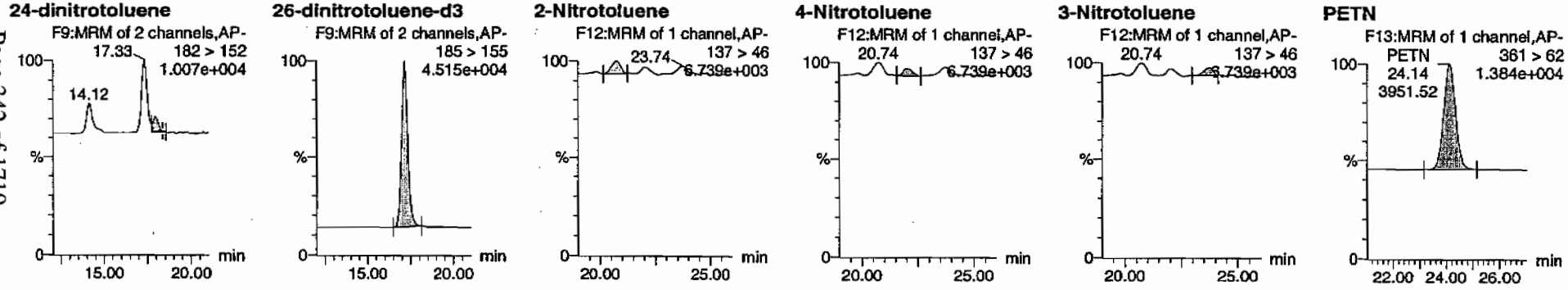
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
WXX100125-08CRI	HMX	176 > 102	5.15	905.361	2873.365	905.361	157.544	bb			49.6586	124.1	24.1	312.1
WXX100125-08CRI	RDX	176 > 102	7.51	585.900	2873.365	585.900	101.954	bb			46.3721	115.9	15.9	164.6
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1070.772	2873.365	1070.772	186.327	bb			56.1693	140.4	40.4	146.0
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	2873.365		2873.365	2873.365	bb			483.9922	96.8	-3.2	191.0
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	12.00	254.457	2873.365	254.457	44.279	bb			38.1718	95.4	-4.6	44.2
WXX100125-08CRI	Tetryl	241 > 181	12.45	224.208	2873.365	224.208	39.015	bb			44.9163	112.3	12.3	40.4
WXX100125-08CRI	Nitrobenzene	123 > 46	13.45	188.077	2873.365	188.077	32.728	bb			38.2961	95.7	-4.3	13.5
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.39	373.508	16549.350	373.508	11.285	MM	27-Jan-10	09:13:15	43.3170	108.3	8.3	16.8
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.25	554.670	16549.350	554.670	16.758	bb			44.7736	111.9	11.9	62.6
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.17	429.161	16549.350	429.161	12.966	bb			40.7657	101.9	1.9	24.6
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.12	706.970	16549.350	706.970	21.359	bb			23.5233	117.6	17.6	23.5
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.33	1489.198	16549.350	1489.198	44.993	MM	27-Jan-10	09:16:33	40.8450	102.1	2.1	55.3
WXX100125-08CRI	24-dinitrotoluene	182 > 152	17.95	294.371	16549.350	294.371	8.894	MM	27-Jan-10	09:18:14	35.0061	87.5	-12.5	12.2
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.14	16549.350		16549.350	16549.350	bb			507.7005	101.5	1.5	1201.0
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.74	216.978	16549.350	216.978	6.555	bb			39.4189	98.5	-1.5	24.6
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.04	112.033	16549.350	112.033	3.385	bb			40.9388	102.3	2.3	13.4
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.74	116.451	16549.350	116.451	3.518	bb			37.6853	94.2	-5.8	15.0
WXX100125-08CRI	PETN	361 > 62	24.14	3951.517	16549.350	3951.517	119.386	bb			36.2742	90.7	-9.3	664.9

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

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GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/26/10
Time of Injection	2344
Standard Number	WXX100125-08CRI
Data File	EXP0125075a

HMX	124.1
RDX	115.9
135-TNB	140.4
13-DNB	95.4
Tetryl	112.3
Nitrobenzene	95.7
4A-26-DNT	108.3
2A-46-DNT	111.9
246-TNT	101.9
34-DNT(surr)	117.6
26-DNT	102.1
24-DNT	87.5
2-NT	98.5
4-NT	102.3
3-NT	94.2
PETN	90.7
Total	1698.8
Average	106.2

MATT 1/27/10

Hmm 01/27/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125082a

Analysis Date: 27-JAN-10 03:10

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	646.231	108	
1,3-Dinitrobenzene-d4	500	533.587	107	
2,4,6-Trinitrotoluene	600	729.079	122	*
2,4-Dinitrotoluene	600	544.593	91	
2,6-Dinitrotoluene	600	604.575	101	
2,6-Dinitrotoluene-d3	500	492.902	99	
2-Amino-4,6-dinitrotoluene	600	713.723	119	
3,4-Dinitrotoluene	300	321.614	107	
4-Amino-2,6-dinitrotoluene	600	641.942	107	
HMX	600	657.246	110	
Nitrobenzene	600	546.972	91	
PETN	600	662.902	110	
RDX	600	625.04	104	
Tetryl	600	618.034	103	
m-Dinitrobenzene	600	604.712	101	
m-Nitrotoluene	600	620.723	103	
o-Nitrotoluene	600	528.487	88	
p-Nitrotoluene	600	627.285	105	

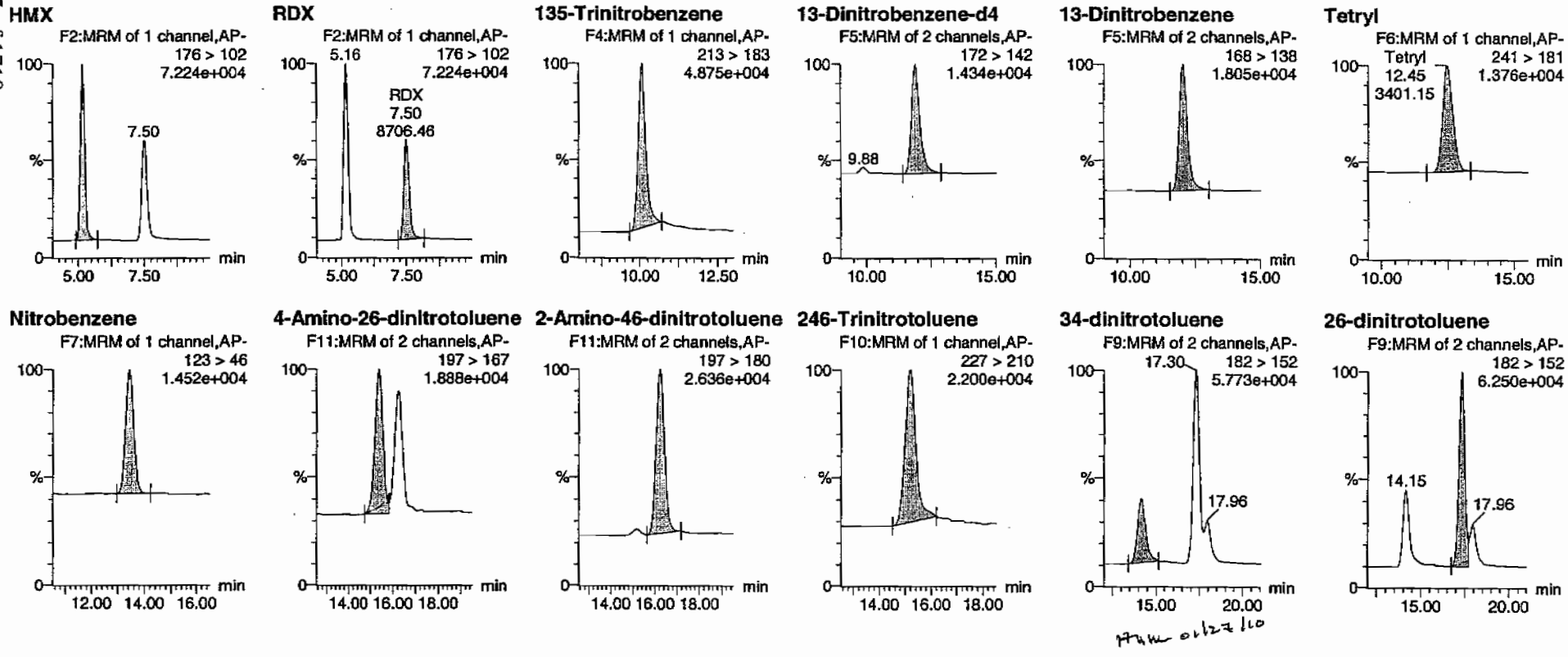
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

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

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125082a
Date: 27-Jan-2010
Time: 03:10:33
ID: WXX100125-07CCV
Vial: 1:1,B

MAP 1/27/10



MAM 01/27/10

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

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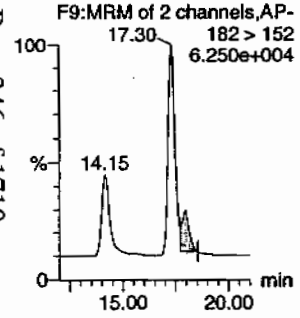
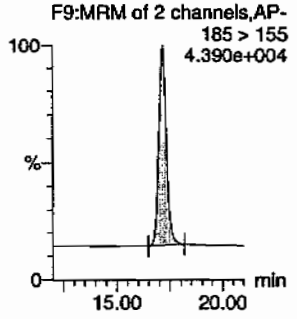
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

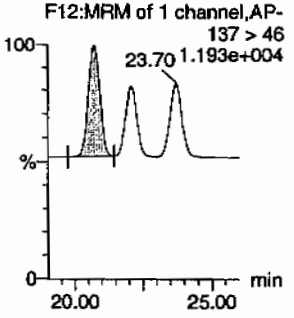
24-dinitrotoluene



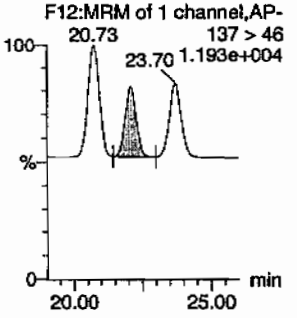
26-dinitrotoluene-d3



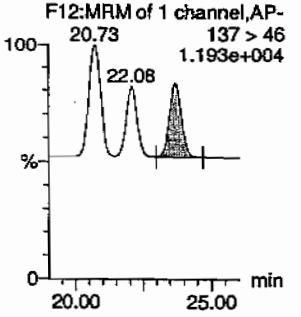
2-Nitrotoluene



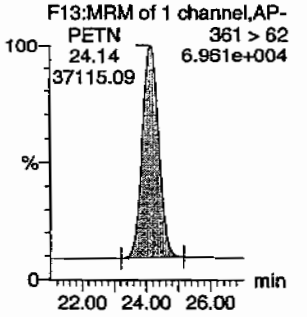
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100125-07CCV	HMX	176 > 102	5.16	13210.575	3167.799	13210.575	2085.135	db			657.2461	109.5	9.5	2273.0
WXX100125-07CCV	RDX	176 > 102	7.50	8706.456	3167.799	8706.456	1374.212	bb			625.0402	104.2	4.2	1284.8
WXX100125-07CCV	135-Trinitrobenzene	213 > 183	10.07	11711.343	3167.799	11711.343	1848.498	bb			646.2312	107.7	7.7	547.8
WXX100125-07CCV	13-Dinitrobenzene-d4	172 > 142	11.89	3167.799		3167.799	3167.799	bb			533.5869	106.7	6.7	394.3
WXX100125-07CCV	13-Dinitrobenzene	168 > 138	12.00	4444.137	3167.799	4444.137	701.455	bb			604.7116	100.8	0.8	391.7
WXX100125-07CCV	Tetryl	241 > 181	12.45	3401.154	3167.799	3401.154	536.832	bb			618.0341	103.0	3.0	450.9
WXX100125-07CCV	Nitrobenzene	123 > 46	13.44	2961.505	3167.799	2961.505	467.439	bb			546.9715	91.2	-8.8	173.1
WXX100125-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.38	5373.902	16066.954	5373.902	167.235	MM	27-Jan-10	09:13:36	641.9420	107.0	7.0	218.7
WXX100125-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.21	8584.110	16066.954	8584.110	267.136	bb			713.7229	119.0	19.0	633.2
WXX100125-07CCV	246-Trinitrotoluene	227 > 210	15.20	7451.651	16066.954	7451.651	231.894	bb			729.0789	121.5	21.5	348.9
WXX100125-07CCV	34-dinitrotoluene	182 > 152	14.15	9384.071	16066.954	9384.071	292.030	bb			321.6141	107.2	7.2	526.9
WXX100125-07CCV	26-dinitrotoluene	182 > 152	17.30	21400.100	16066.954	21400.100	665.966	MM	27-Jan-10	09:17:09	604.5749	100.8	0.8	1051.7
WXX100125-07CCV	24-dinitrotoluene	182 > 152	17.96	4446.075	16066.954	4446.075	138.361	MM	27-Jan-10	09:17:39	544.5933	90.8	-9.2	210.1
WXX100125-07CCV	26-dinitrotoluene-d3	185 > 155	17.15	16066.954		16066.954	16066.954	bb			492.9016	98.6	-1.4	2492.4
WXX100125-07CCV	2-Nitrotoluene	137 > 46	20.73	2824.214	16066.954	2824.214	87.889	bb			528.4867	88.1	-11.9	576.1
WXX100125-07CCV	4-Nitrotoluene	137 > 46	22.08	1666.586	16066.954	1666.586	51.864	bb			627.2846	104.5	4.5	354.1
WXX100125-07CCV	3-Nitrotoluene	137 > 46	23.70	1862.177	16066.954	1862.177	57.951	bb			620.7226	103.5	3.5	373.5
WXX100125-07CCV	PETN	361 > 62	24.14	37115.086	16066.954	37115.086	1155.013	bb			662.9021	110.5	10.5	5699.4

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

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/27/10
Time of Injection: 0310
Standard Number: WXX100125-07CCV
Data File: EXP0125082a

HMX		109.5
RDX		104.2
135-TNB		107.7
13-DNB		100.8
Tetryl		103.0
Nitrobenzene		91.2
4A-26-DNT		107.0
2A-46-DNT		119.0
246-TNT		121.5
34-DNT(surr)		107.2
26-DNT		100.8
24-DNT		90.8
2-NT		88.1
4-NT		104.5
3-NT		103.5
PETN		110.5
	Total	1669.3
	Average	104.3

MAP 1/27/10

Hmm 01/27/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125084a

Analysis Date: 27-JAN-10 04:09

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	52.216	131	*
1,3-Dinitrobenzene-d4	500	509.03	102	
2,4,6-Trinitrotoluene	40	49.421	124	
2,4-Dinitrotoluene	40	37.395	93	
2,6-Dinitrotoluene	40	41.302	103	
2,6-Dinitrotoluene-d3	500	549.582	110	
2-Amino-4,6-dinitrotoluene	40	41.118	103	
3,4-Dinitrotoluene	20	22.594	113	
4-Amino-2,6-dinitrotoluene	40	41.47	104	
HMX	40	49.161	123	
Nitrobenzene	40	52.118	130	*
PETN	40	34.241	86	
RDX	40	46.475	116	
Tetryl	40	57.554	144	*
m-Dinitrobenzene	40	37.685	94	
m-Nitrotoluene	40	42.967	107	
o-Nitrotoluene	40	44.801	112	
p-Nitrotoluene	40	41.318	103	

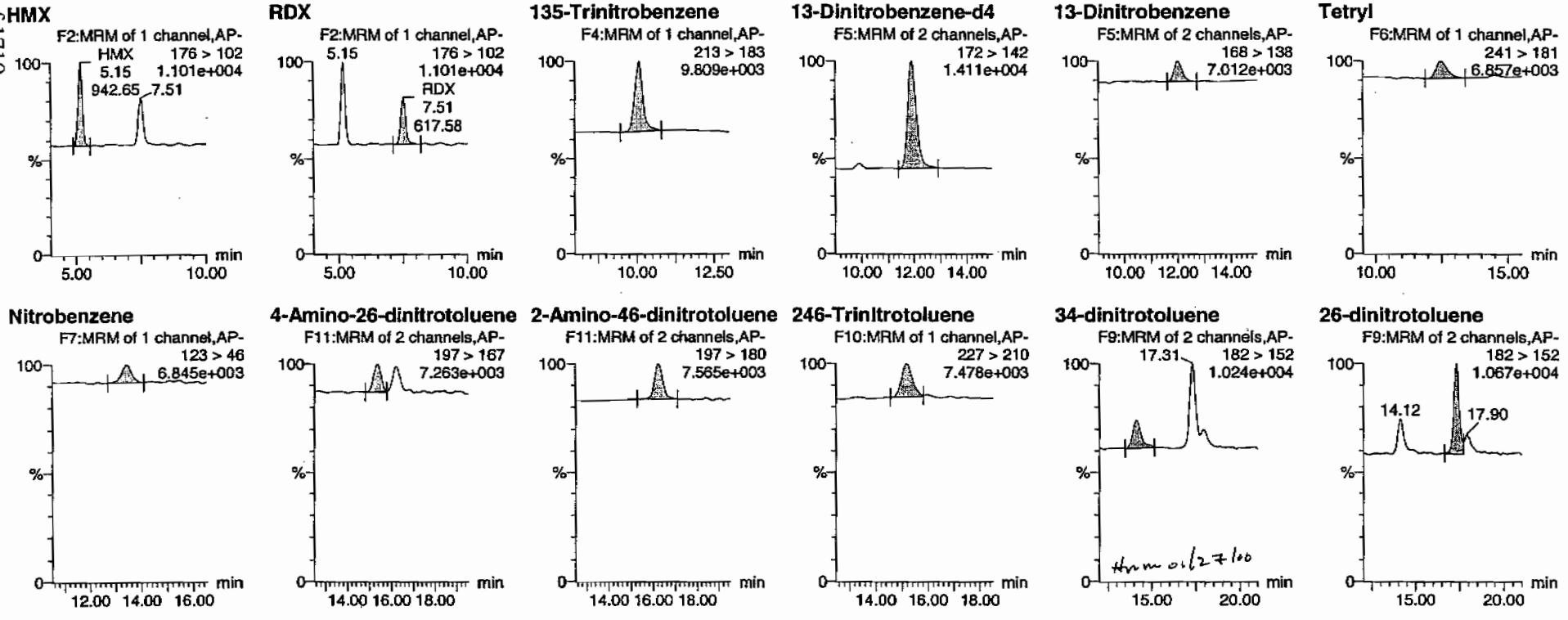
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

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

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125084a
Date: 27-Jan-2010
Time: 04:09:30
ID: WXX100125-08CRI
Vial: 1:1,C

MAH 1/27/10



Hrm 01/27/10

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

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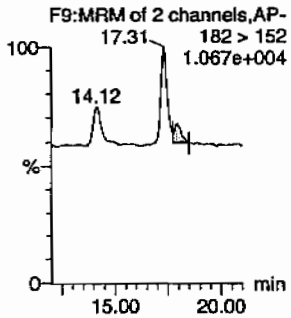
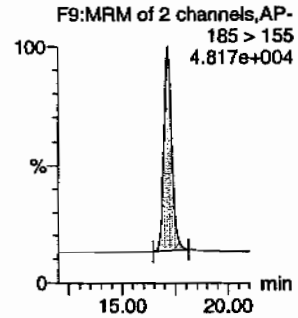
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

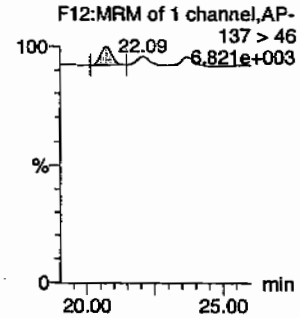
24-dinitrotoluene



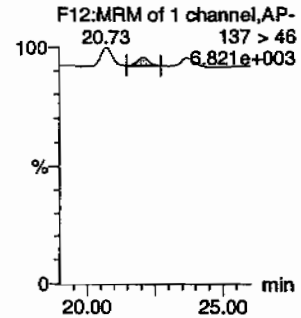
26-dinitrotoluene-d3



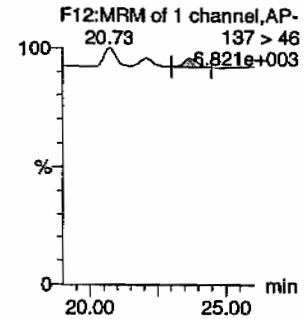
2-Nitrotoluene



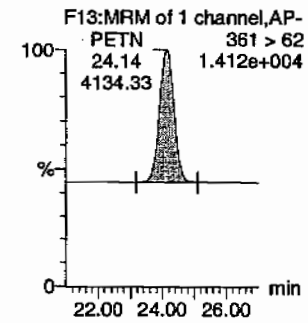
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100125-08CRI	HMX	176 > 102	5.15	942.653	3022.007	942.653	155.965	bb			49.1610	122.9	22.9	128.3
WXX100125-08CRI	RDX	176 > 102	7.51	617.581	3022.007	617.581	102.181	bb			46.4753	116.2	16.2	71.2
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1058.864	3022.007	1058.864	175.192	bb			52.2164	130.5	30.5	144.7
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	3022.007		3022.007	3022.007	bb			509.0296	101.8	1.8	273.5
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	12.00	264.208	3022.007	264.208	43.714	bb			37.6850	94.2	-5.8	29.9
WXX100125-08CRI	Tetryl	241 > 181	12.48	302.151	3022.007	302.151	49.992	bb			57.5536	143.9	43.9	35.6
WXX100125-08CRI	Nitrobenzene	123 > 46	13.41	269.198	3022.007	269.198	44.540	bb			52.1178	130.3	30.3	22.6
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.35	387.081	17914.533	387.081	10.804	MM	27-Jan-10	09:13:45	41.4702	103.7	3.7	43.3
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.25	551.404	17914.533	551.404	15.390	bb			41.1180	102.8	2.8	26.9
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.17	563.193	17914.533	563.193	15.719	bd			49.4205	123.6	23.6	27.5
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.17	735.041	17914.533	735.041	20.515	bb			22.5935	113.0	13.0	39.3
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.31	1630.073	17914.533	1630.073	45.496	MM	27-Jan-10	09:17:20	41.3018	103.3	3.3	119.5
WXX100125-08CRI	24-dinitrotoluene	182 > 152	17.90	340.404	17914.533	340.404	9.501	MM	27-Jan-10	09:17:32	37.3954	93.5	-6.5	23.6
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.14	17914.533		17914.533	17914.533	bb			549.5815	109.9	9.9	578.0
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.73	266.947	17914.533	266.947	7.451	bb			44.8012	112.0	12.0	80.3
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.09	122.399	17914.533	122.399	3.416	bb			41.3183	103.3	3.3	35.6
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.69	143.723	17914.533	143.723	4.011	bb			42.9666	107.4	7.4	37.7
WXX100125-08CRI	PETN	361 > 62	24.14	4134.333	17914.533	4134.333	115.390	bb			34.2406	85.6	-14.4	2130.1

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

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GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/27/10
Time of Injection	0409
Standard Number	WXX100125-08CRI
Data File	EXP0125084a

HMX	122.9
RDX	116.2
135-TNB	130.5
13-DNB	94.2
Tetryl	143.9
Nitrobenzene	130.3
4A-26-DNT	103.7
2A-46-DNT	102.8
246-TNT	123.6
34-DNT(surr)	113.0
26-DNT	103.3
24-DNT	93.5
2-NT	112.0
4-NT	103.3
3-NT	107.4
PETN	85.6
Total	1786.2
Average	111.6

MAT 1/27/10

Hmm 01/27/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125095a

Analysis Date: 27-JAN-10 09:34

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	690.785	115	
1,3-Dinitrobenzene-d4	500	557.852	112	
2,4,6-Trinitrotoluene	600	694.988	116	
2,4-Dinitrotoluene	600	594.759	99	
2,6-Dinitrotoluene	600	598.981	100	
2,6-Dinitrotoluene-d3	500	502.328	100	
2-Amino-4,6-dinitrotoluene	600	696.342	116	
3,4-Dinitrotoluene	300	322.957	108	
4-Amino-2,6-dinitrotoluene	600	690.103	115	
HMX	600	748.841	125	*
Nitrobenzene	600	539.735	90	
PETN	600	692.59	115	
RDX	600	801.044	134	*
Tetryl	600	639.631	107	
m-Dinitrobenzene	600	610.103	102	
m-Nitrotoluene	600	630.246	105	
o-Nitrotoluene	600	599.552	100	
p-Nitrotoluene	600	647.051	108	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

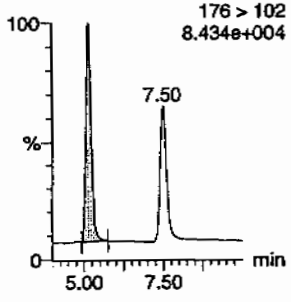
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

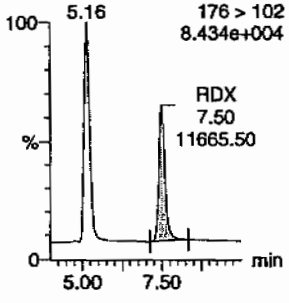
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125095a
Date: 27-Jan-2010
Time: 09:34:49
ID: WXX100125-07CCV
Vial: 1:1,B

MMT 1/28/10

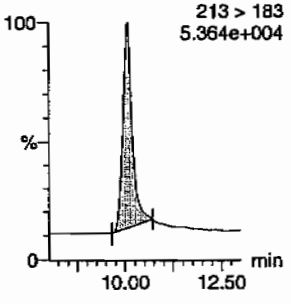
HMX
F2:MRM of 1 channel,AP-
176 > 102
8.434e+004



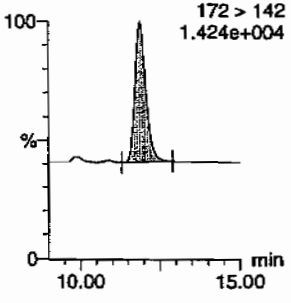
RDX
F2:MRM of 1 channel,AP-
5.16
176 > 102
8.434e+004



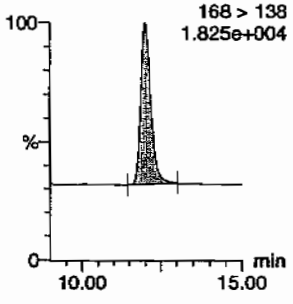
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
5.364e+004



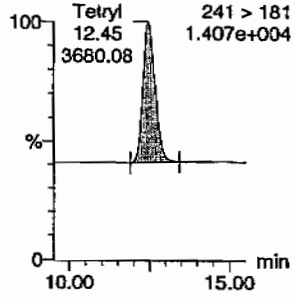
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.424e+004



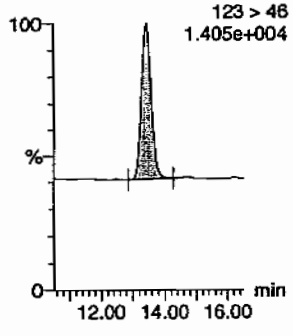
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.825e+004



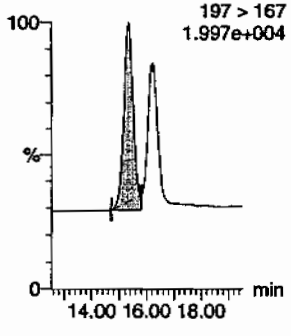
Tetryl
F6:MRM of 1 channel,AP-
Tetryl
12.45
3680.08
241 > 181
1.407e+004



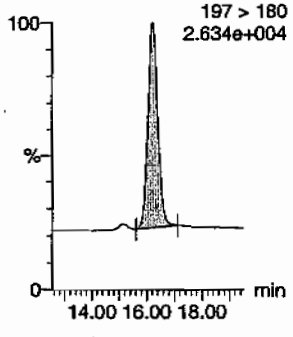
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.405e+004



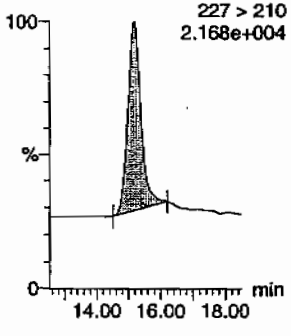
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
1.997e+004



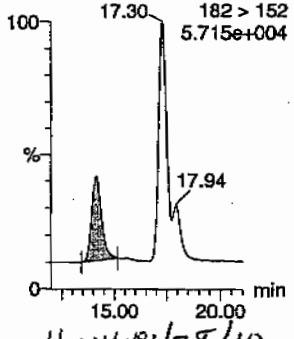
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.634e+004



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.168e+004

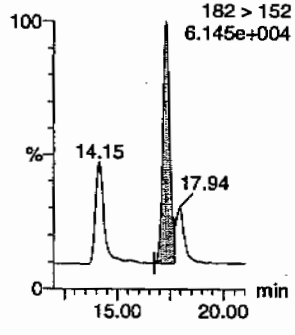


34-dinitrotoluene
F9:MRM of 2 channels,AP-
17.30
182 > 152
5.715e+004



HMW 01/28/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.145e+004



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

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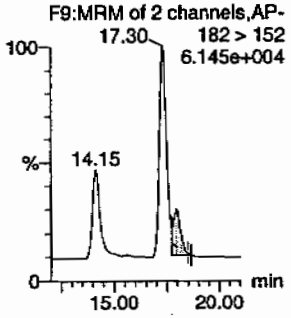
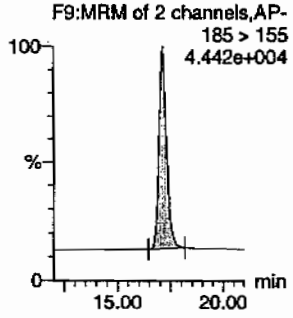
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

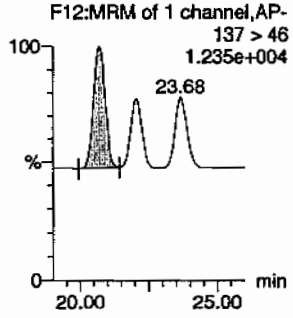
24-dinitrotoluene



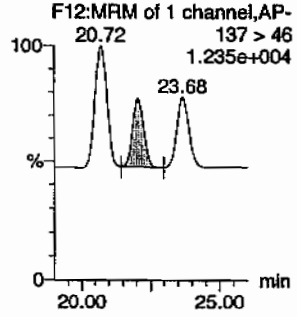
26-dinitrotoluene-d3



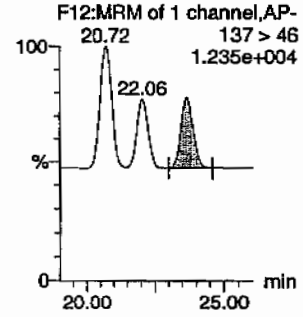
2-Nitrotoluene



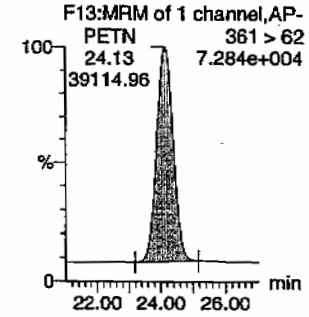
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	n0/mL	%Rec	%Dev	S/N
WXX100125-07CCV	HMX	176 > 102	5.16	15736.088	3311.854	15736.088	2375.722	bb			748.8408	124.8	24.8	1224.8
WXX100125-07CCV	RDX	176 > 102	7.50	11665.497	3311.854	11665.497	1761.173	bb			801.0437	133.5	33.5	763.3
WXX100125-07CCV	135-Trinitrobenzene	213 > 183	10.07	13075.235	3311.854	13075.235	1974.005	bb			690.7855	115.1	15.1	432.9
WXX100125-07CCV	13-Dinitrobenzene-d4	172 > 142	11.89	3311.854		3311.854	3311.854	bb			557.8517	111.6	11.6	306.6
WXX100125-07CCV	13-Dinitrobenzene	168 > 138	12.00	4687.658	3311.854	4687.658	707.709	bb			610.1031	101.7	1.7	325.3
WXX100125-07CCV	Tetryl	241 > 181	12.45	3680.079	3311.854	3680.079	555.592	bb			639.6313	106.6	6.6	646.2
WXX100125-07CCV	Nitrobenzene	123 > 46	13.44	3055.216	3311.854	3055.216	461.255	bb			539.7350	90.0	-10.0	254.8
WXX100125-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.34	5887.552	16374.222	5887.552	179.781	MM	28-Jan-10	10:28:18	690.1027	115.0	15.0	457.7
WXX100125-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.21	8535.235	16374.222	8535.235	260.630	bb			696.3422	116.1	16.1	462.6
WXX100125-07CCV	246-Trinitrotoluene	227 > 210	15.20	7239.062	16374.222	7239.062	221.051	bb			694.9878	115.8	15.8	284.6
WXX100125-07CCV	34-dinitrotoluene	182 > 152	14.15	9603.470	16374.222	9603.470	293.250	bb			322.9571	107.7	7.7	344.8
WXX100125-07CCV	26-dinitrotoluene	182 > 152	17.30	21607.551	16374.222	21607.551	659.804	MM	28-Jan-10	10:34:21	598.9806	99.8	-0.2	725.5
WXX100125-07CCV	24-dinitrotoluene	182 > 152	17.94	4948.492	16374.222	4948.492	151.106	MM	28-Jan-10	10:36:22	594.7593	99.1	-0.9	155.8
WXX100125-07CCV	26-dinitrotoluene-d3	185 > 155	17.13	16374.222		16374.222	16374.222	bb			502.3279	100.5	0.5	1148.7
WXX100125-07CCV	2-Nitrotoluene	137 > 46	20.72	3265.260	16374.222	3265.260	99.707	bb			599.5524	99.9	-0.1	291.2
WXX100125-07CCV	4-Nitrotoluene	137 > 46	22.06	1751.977	16374.222	1751.977	53.498	bb			647.0505	107.8	7.8	165.5
WXX100125-07CCV	3-Nitrotoluene	137 > 46	23.68	1926.907	16374.222	1926.907	58.840	bb			630.2462	105.0	5.0	170.0
WXX100125-07CCV	PETN	361 > 62	24.13	39114.957	16374.222	39114.957	1194.407	bb			692.5896	115.4	15.4	5103.6

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

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/27/10
Time of Injection: 0934
Standard Number: WXX100125-07CCV
Data File: EXP0125095a

HMX	124.8
RDX	133.5
135-TNB	115.1
13-DNB	101.7
Tetryl	106.6
Nitrobenzene	90.0
4A-26-DNT	115.0
2A-46-DNT	116.1
246-TNT	115.8
34-DNT(surr)	107.7
26-DNT	99.8
24-DNT	99.1
2-NT	99.9
4-NT	107.8
3-NT	105.0
PETN	115.4
Total	1753.3
Average	109.6

MTT 1/28/10

dmc 01/28/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125097a

Analysis Date: 27-JAN-10 10:33

LCMSMS ID: 903

Column ID Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	50.948	127	
1,3-Dinitrobenzene-d4	500	494.315	99	
2,4,6-Trinitrotoluene	40	36.387	91	
2,4-Dinitrotoluene	40	43.297	108	
2,6-Dinitrotoluene	40	40.794	102	
2,6-Dinitrotoluene-d3	500	507.664	102	
2-Amino-4,6-dinitrotoluene	40	41.899	105	
3,4-Dinitrotoluene	20	21.498	107	
4-Amino-2,6-dinitrotoluene	40	50.75	127	
HMX	40	63.85	160	*
Nitrobenzene	40	44.243	111	
PETN	40	40.486	101	
RDX	40	46.52	116	
Tetryl	40	48.725	122	
m-Dinitrobenzene	40	39.009	98	
m-Nitrotoluene	40	44.324	111	
o-Nitrotoluene	40	38.885	97	
p-Nitrotoluene	40	39.287	98	

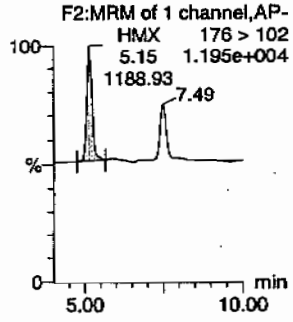
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

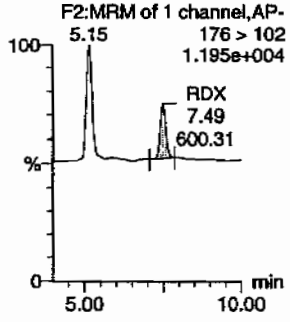
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125097a
Date: 27-Jan-2010
Time: 10:33:58
ID: WXX100125-08CRI
Vial: 1:1,C

MPP 1/28/10

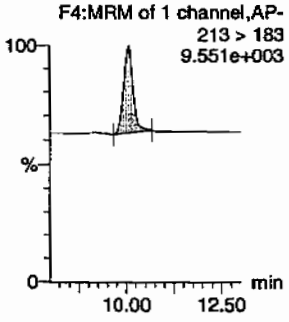
HMX



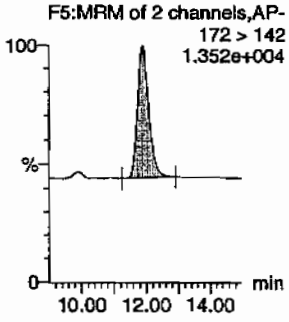
RDX



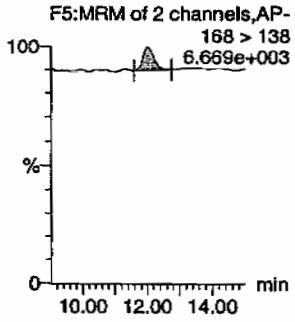
135-Trinitrobenzene



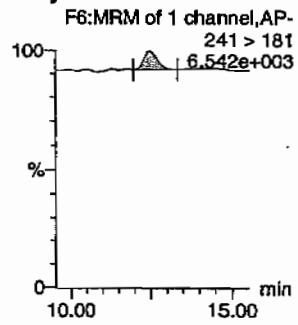
13-Dinitrobenzene-d4



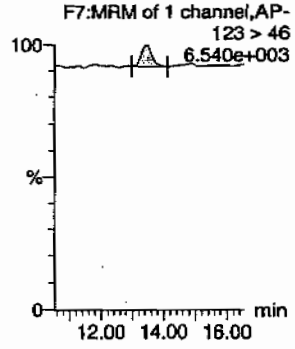
13-Dinitrobenzene



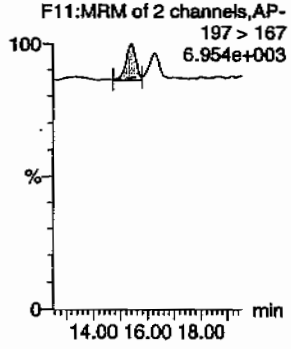
Tetryl



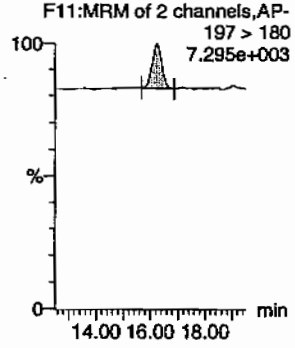
Nitrobenzene



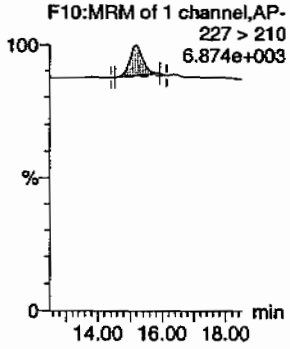
4-Amino-26-dinitrotoluene



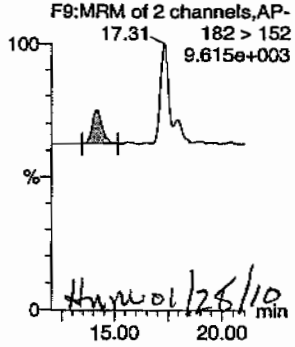
2-Amino-46-dinitrotoluene



246-Trinitrotoluene

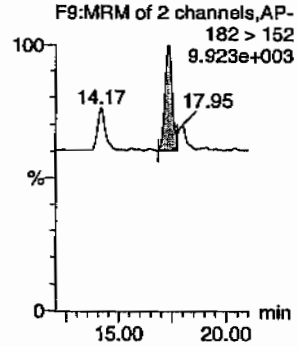


34-dinitrotoluene



Hmw 01/28/10

26-dinitrotoluene



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

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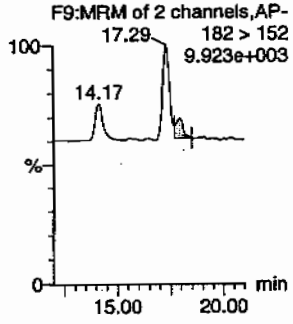
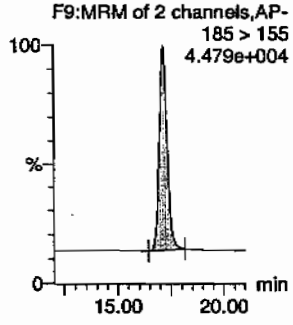
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

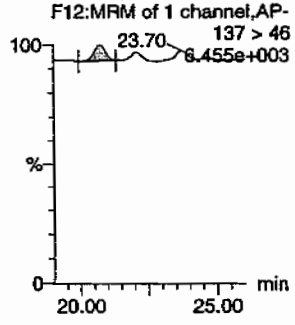
24-dinitrotoluene



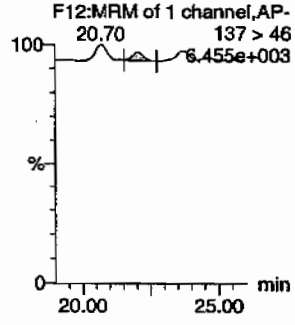
26-dinitrotoluene-d3



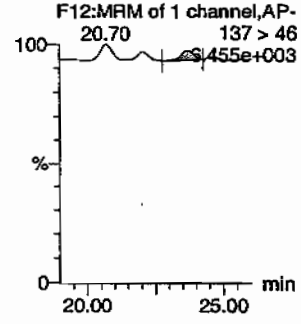
2-Nitrotoluene



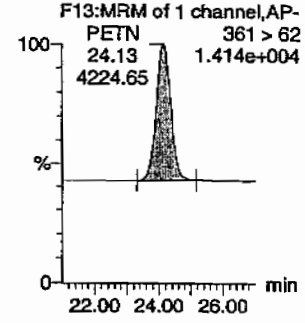
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100125-08CRI	HMX	176 > 102	5.15	1188.929	2934.647	1188.929	202.568	bb			63.8504	159.6	59.6	264.2
WXX100125-08CRI	RDX	176 > 102	7.49	600.307	2934.647	600.307	102.279	bb			46.5202	116.3	16.3	122.0
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1007.277	2934.647	1007.277	171.618	bb			50.9476	127.4	27.4	144.9
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	2934.647		2934.647	2934.647	bb			494.3146	98.9	-1.1	159.8
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	12.00	265.581	2934.647	265.581	45.249	bb			39.0085	97.5	-2.5	17.4
WXX100125-08CRI	Tetryl	241 > 181	12.45	248.406	2934.647	248.406	42.323	bb			48.7248	121.8	21.8	32.4
WXX100125-08CRI	Nitrobenzene	123 > 46	13.45	221.918	2934.647	221.918	37.810	bb			44.2432	110.6	10.6	29.0
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.39	437.564	16548.150	437.564	13.221	MM	28-Jan-10	10:28:02	50.7495	126.9	26.9	9.5
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.22	519.016	16548.150	519.016	15.682	bb			41.8986	104.7	4.7	53.3
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.17	383.041	16548.150	383.041	11.574	MM	28-Jan-10	10:30:48	36.3874	91.0	-9.0	32.2
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.17	646.064	16548.150	646.064	19.521	bb			21.4983	107.5	7.5	41.9
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.29	1487.215	16548.150	1487.215	44.936	MM	28-Jan-10	10:34:13	40.7936	102.0	2.0	88.9
WXX100125-08CRI	24-dinitrotoluene	182 > 152	17.95	364.065	16548.150	364.065	11.000	MM	28-Jan-10	10:36:30	43.2971	108.2	8.2	19.2
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.14	16548.150		16548.150	16548.150	bb			507.6637	101.5	1.5	1291.1
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.70	214.024	16548.150	214.024	6.467	bb			38.8851	97.2	-2.8	58.8
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.04	107.504	16548.150	107.504	3.248	bb			39.2867	98.2	-1.8	31.3
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.70	136.954	16548.150	136.954	4.138	bb			44.3236	110.8	10.8	34.6
WXX100125-08CRI	PETN	361 > 62	24.13	4224.647	16548.150	4224.647	127.647	bb			40.4856	101.2	1.2	1397.4

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

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GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/27/10
Time of Injection	1033
Standard Number	WXX100125-08CRI
Data File	EXP0125097a

HMX	159.6
RDX	116.3
135-TNB	127.4
13-DNB	97.5
Tetryl	121.8
Nitrobenzene	110.6
4A-26-DNT	126.9
2A-46-DNT	104.7
246-TNT	91.0
34-DNT(surr)	107.5
26-DNT	102.0
24-DNT	108.2
2-NT	97.2
4-NT	98.2
3-NT	110.8
PETN	101.2
Total	1780.9
Average	111.3

MATT 1/28/10

Hmc 01/28/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1126

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125108a

Analysis Date: 27–JAN–10 15:58

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5–Trinitrobenzene	600	680.256	113	
1,3–Dinitrobenzene–d4	500	550.639	110	
2,4,6–Trinitrotoluene	600	793.623	132	*
2,4–Dinitrotoluene	600	605.077	101	
2,6–Dinitrotoluene	600	604.019	101	
2,6–Dinitrotoluene–d3	500	530.816	106	
2–Amino–4,6–dinitrotoluene	600	658.199	110	
3,4–Dinitrotoluene	300	339.185	113	
4–Amino–2,6–dinitrotoluene	600	669.192	112	
HMX	600	600.388	100	
Nitrobenzene	600	537.876	90	
PETN	600	537.246	90	
RDX	600	628.942	105	
Tetryl	600	594.999	99	
m–Dinitrobenzene	600	600.852	100	
m–Nitrotoluene	600	545.465	91	
o–Nitrotoluene	600	500.166	83	
p–Nitrotoluene	600	523.635	87	

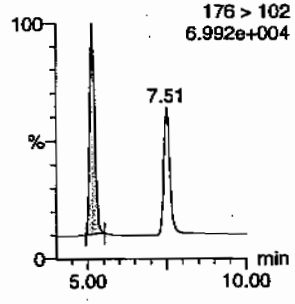
Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 70–130%
OtherTarget Analytes 80–120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

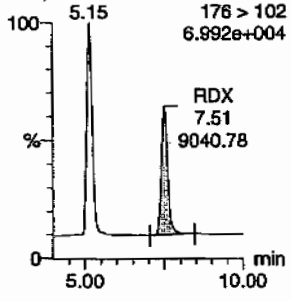
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125108a
Date: 27-Jan-2010
Time: 15:58:33
ID: WXX100125-07CCV
Vial: 1:1,B

MMT 1/28/10

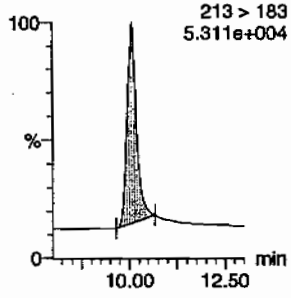
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.992e+004



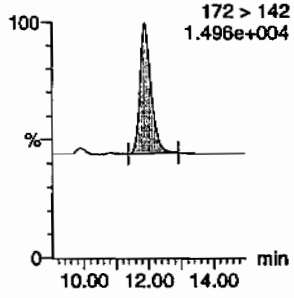
RDX
F2:MRM of 1 channel,AP-
5.15
176 > 102
6.992e+004



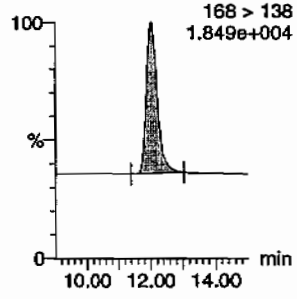
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
5.311e+004



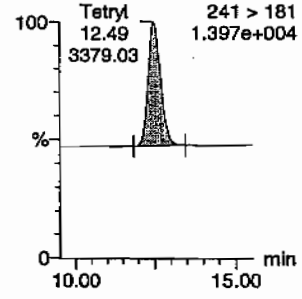
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.496e+004



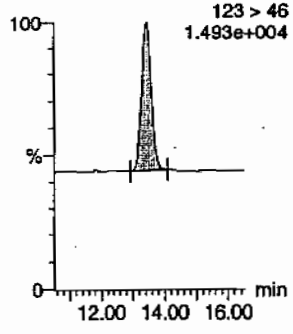
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.849e+004



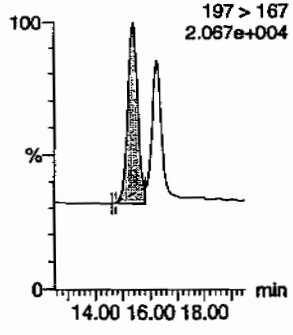
Tetryl
F6:MRM of 1 channel,AP-
Tetryl
12.49
3379.03
241 > 181
1.397e+004



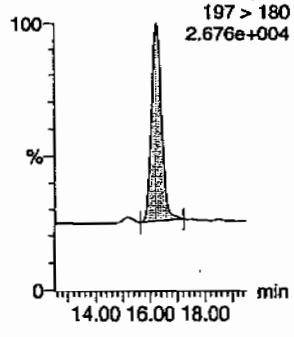
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.493e+004



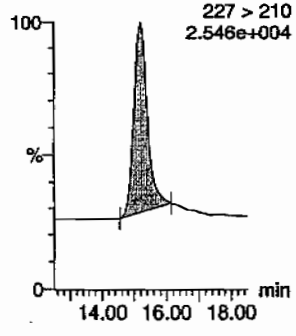
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
2.067e+004



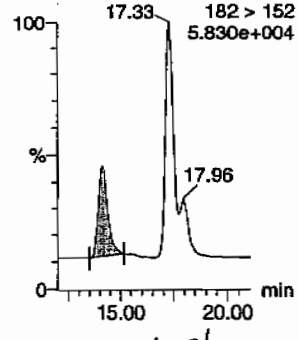
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.676e+004



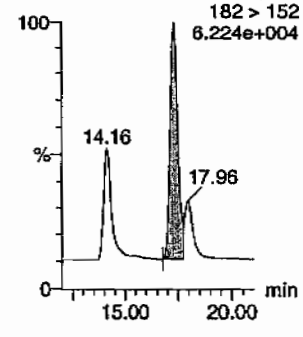
246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.546e+004



34-dinitrotoluene
F9:MRM of 2 channels,AP-
17.33
182 > 152
5.830e+004



26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.224e+004



Amm 01/28/10

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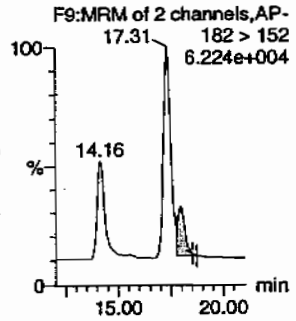
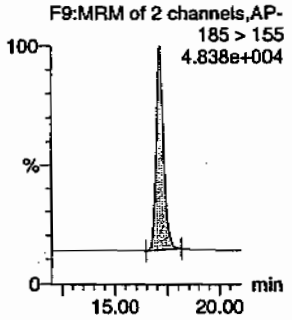
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

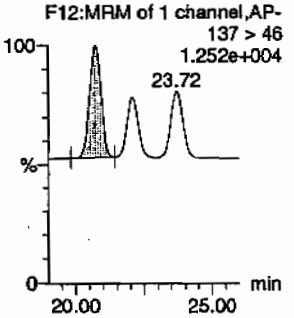
24-dinitrotoluene



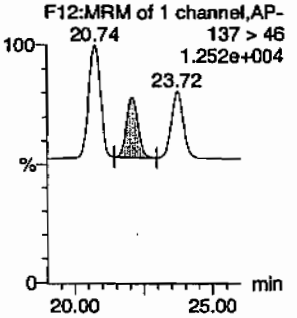
26-dinitrotoluene-d3



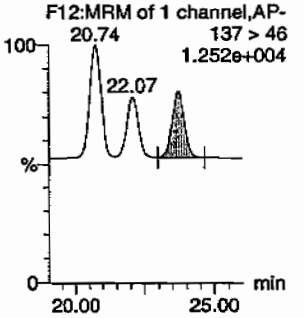
2-Nitrotoluene



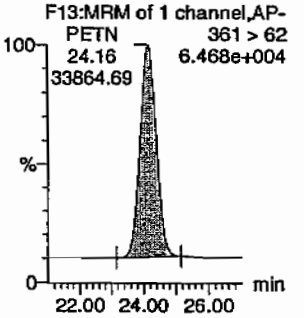
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100125-07CCV	HMX	176 > 102	5.15	12453.394	3269.034	12453.394	1904.751	bb			600.3883	100.1	0.1	1753.9
WXX100125-07CCV	RDX	176 > 102	7.51	9040.780	3269.034	9040.780	1382.791	bb			628.9420	104.8	4.8	1059.1
WXX100125-07CCV	135-Trinitrobenzene	213 > 183	10.07	12712.248	3269.034	12712.248	1944.343	bb			680.2555	113.4	13.4	703.1
WXX100125-07CCV	13-Dinitrobenzene-d4	172 > 142	11.90	3269.034		3269.034	3269.034	bb			550.6390	110.1	10.1	370.4
WXX100125-07CCV	13-Dinitrobenzene	168 > 138	12.03	4556.892	3269.034	4556.892	696.978	bb			600.8524	100.1	0.1	344.9
WXX100125-07CCV	Tetryl	241 > 181	12.49	3379.031	3269.034	3379.031	516.824	bb			594.9994	99.2	-0.8	356.6
WXX100125-07CCV	Nitrobenzene	123 > 46	13.45	3005.327	3269.034	3005.327	459.666	bb			537.8760	89.6	-10.4	181.4
WXX100125-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.38	6032.938	17302.844	6032.938	174.334	MM	28-Jan-10	10:27:49	669.1924	111.5	11.5	135.6
WXX100125-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.25	8525.245	17302.844	8525.245	246.354	bb			658.1991	109.7	9.7	403.8
WXX100125-07CCV	246-Trinitrotoluene	227 > 210	15.20	8735.267	17302.844	8735.267	252.423	bb			793.6230	132.3	32.3	419.6
WXX100125-07CCV	34-dinitrotoluene	182 > 152	14.16	10658.028	17302.844	10658.028	307.985	bb			339.1851	113.1	13.1	347.5
WXX100125-07CCV	26-dinitrotoluene	182 > 152	17.31	23025.027	17302.844	23025.027	665.354	MM	28-Jan-10	10:33:50	604.0189	100.7	0.7	504.4
WXX100125-07CCV	24-dinitrotoluene	182 > 152	17.96	5319.846	17302.844	5319.846	153.728	MM	28-Jan-10	10:36:57	605.0769	100.8	0.8	118.6
WXX100125-07CCV	26-dinitrotoluene-d3	185 > 155	17.15	17302.844		17302.844	17302.844	bb			530.8162	106.2	6.2	1375.2
WXX100125-07CCV	2-Nitrotoluene	137 > 46	20.74	2878.468	17302.844	2878.468	83.179	bb			500.1657	83.4	-16.6	338.1
WXX100125-07CCV	4-Nitrotoluene	137 > 46	22.07	1498.221	17302.844	1498.221	43.294	bb			523.6352	87.3	-12.7	180.6
WXX100125-07CCV	3-Nitrotoluene	137 > 46	23.72	1762.278	17302.844	1762.278	50.925	bb			545.4652	90.9	-9.1	199.8
WXX100125-07CCV	PETN	361 > 62	24.16	33864.688	17302.844	33864.688	978.587	bb			537.2463	89.5	-10.5	5249.6

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

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/27/10
Time of Injection: 1558
Standard Number: WXX100125-07CCV
Data File: EXP0125108a

HMX		100.1
RDX		104.8
135-TNB		113.4
13-DNB		100.1
Tetryl		99.2
Nitrobenzene		89.6
4A-26-DNT		111.5
2A-46-DNT		109.7
246-TNT		132.3
34-DNT(surr)		113.1
26-DNT		100.7
24-DNT		100.8
2-NT		83.4
4-NT		87.3
3-NT		90.9
PETN		89.5
Total		1626.4
Average		101.7

MAT 1/28/10

HMM 01/28/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1126

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125110a

Analysis Date: 27–JAN–10 16:57

LCMSMS ID: 903

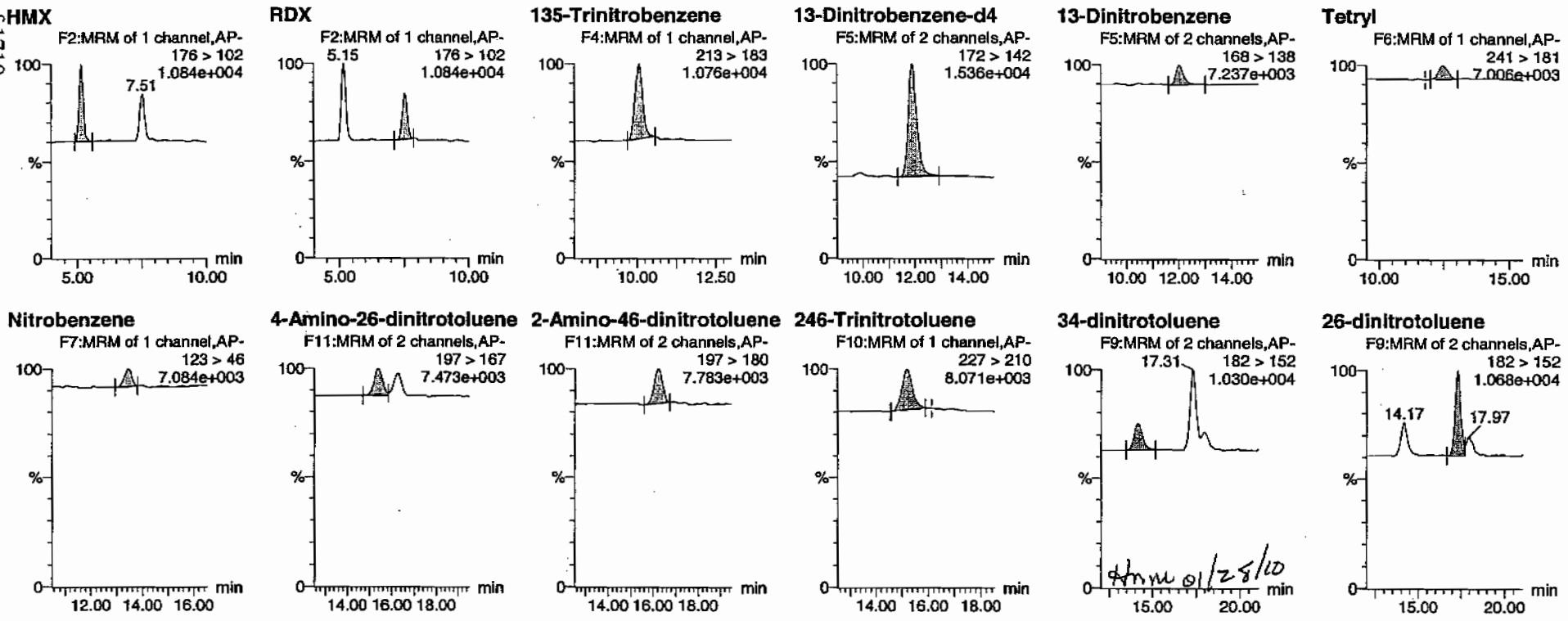
Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5–Trinitrobenzene	40	52.299	131	*
1,3–Dinitrobenzene–d4	500	559.774	112	
2,4,6–Trinitrotoluene	40	62.349	156	*
2,4–Dinitrotoluene	40	40.315	101	
2,6–Dinitrotoluene	40	40.693	102	
2,6–Dinitrotoluene–d3	500	553.757	111	
2–Amino–4,6–dinitrotoluene	40	40.05	100	
3,4–Dinitrotoluene	20	21.774	109	
4–Amino–2,6–dinitrotoluene	40	44.776	112	
HMX	40	41.328	103	
Nitrobenzene	40	35.669	89	
PETN	40	28.542	71	
RDX	40	39.292	98	
Tetryl	40	37.065	93	
m–Dinitrobenzene	40	33.575	84	
m–Nitrotoluene	40	41.171	103	
o–Nitrotoluene	40	32.917	82	
p–Nitrotoluene	40	36.803	92	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 50–150%
OtherTarget Analytes 70–130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125110a
Date: 27-Jan-2010
Time: 16:57:36
ID: WXX100125-08CRI
Vial: 1:1,C



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

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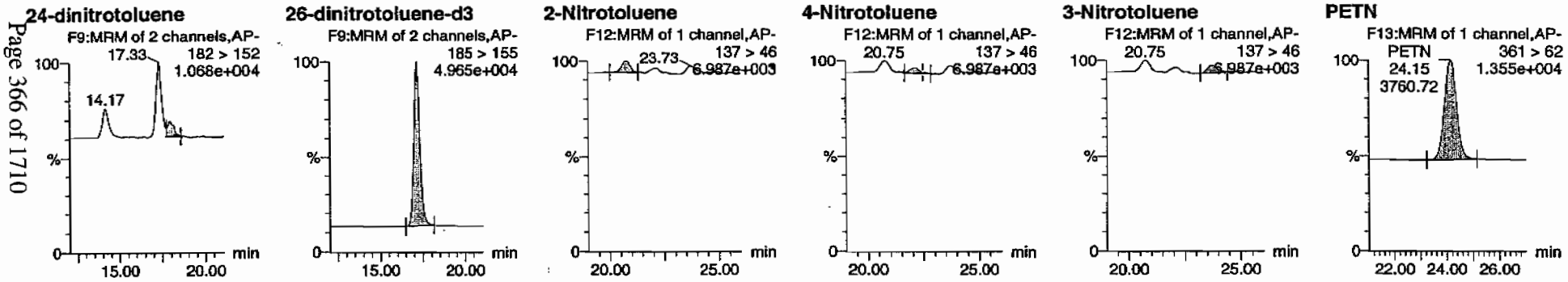
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100125-08CRI	HMX	176 > 102	5.15	871.449	3323.269	871.449	131.113	bb			41.3276	103.3	3.3	73.1
WXX100125-08CRI	RDX	176 > 102	7.51	574.176	3323.269	574.176	86.387	bb			39.2920	98.2	-1.8	43.0
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1165.970	3323.269	1165.970	175.425	bb			52.2991	130.7	30.7	198.2
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	3323.269		3323.269	3323.269	bb			559.7744	112.0	12.0	217.6
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	12.00	258.859	3323.269	258.859	38.946	bb			33.5750	83.9	-16.1	38.5
WXX100125-08CRI	Tetryl	241 > 181	12.45	213.987	3323.269	213.987	32.195	MM	28-Jan-10	10:24:18	37.0651	92.7	-7.3	24.8
WXX100125-08CRI	Nitrobenzene	123 > 46	13.45	202.605	3323.269	202.605	30.483	bb			35.6693	89.2	-10.8	15.2
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.39	421.114	18050.623	421.114	11.665	MM	28-Jan-10	10:27:38	44.7762	111.9	11.9	47.1
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.22	541.154	18050.623	541.154	14.990	bb			40.0495	100.1	0.1	67.9
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.17	715.917	18050.623	715.917	19.831	MM	28-Jan-10	10:31:13	62.3485	155.9	55.9	25.6
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.17	713.776	18050.623	713.776	19.772	bb			21.7744	108.9	8.9	50.9
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.33	1618.234	18050.623	1618.234	44.825	MM	28-Jan-10	10:33:43	40.6927	101.7	1.7	107.8
WXX100125-08CRI	24-dinitrotoluene	182 > 152	17.97	369.767	18050.623	369.767	10.242	MM	28-Jan-10	10:37:09	40.3148	100.8	0.8	22.8
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.16	18050.623		18050.623	18050.623	bb			553.7565	110.8	10.8	1310.0
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.75	197.622	18050.623	197.622	5.474	bb			32.9165	82.3	-17.7	51.1
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.13	109.852	18050.623	109.852	3.043	MM	28-Jan-10	10:40:23	36.8033	92.0	-8.0	23.8
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.73	138.762	18050.623	138.762	3.844	bb			41.1707	102.9	2.9	32.6
WXX100125-08CRI	PETN	361 > 62	24.15	3760.717	18050.623	3760.717	104.171	bb			28.5415	71.4	-28.6	567.6

✓

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

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GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/27/10
Time of Injection	1657
Standard Number	WXX100125-08CRI
Data File	EXP0125110a

HMX	103.3
RDX	98.2
135-TNB	130.7
13-DNB	83.9
Tetryl	92.7
Nitrobenzene	89.2
4A-26-DNT	111.9
2A-46-DNT	100.1
246-TNT	155.9
34-DNT(surr)	108.9
26-DNT	101.7
24-DNT	100.8
2-NT	82.3
4-NT	92.0
3-NT	102.9
PETN	71.4
Total	1625.9
Average	101.6

HMM 01/28/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125116a

Analysis Date: 27-JAN-10 19:54

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	631.041	105	
1,3-Dinitrobenzene-d4	500	529.487	106	
2,4,6-Trinitrotoluene	600	716.58	119	
2,4-Dinitrotoluene	600	651.975	109	
2,6-Dinitrotoluene	600	619.509	103	
2,6-Dinitrotoluene-d3	500	468.187	94	
2-Amino-4,6-dinitrotoluene	600	700.462	117	
3,4-Dinitrotoluene	300	334.393	111	
4-Amino-2,6-dinitrotoluene	600	684.091	114	
HMX	600	616.785	103	
Nitrobenzene	600	533.559	89	
PETN	600	660.7	110	
RDX	600	635.793	106	
Tetryl	600	651.276	109	
m-Dinitrobenzene	600	592.514	99	
m-Nitrotoluene	600	522.524	87	
o-Nitrotoluene	600	557.564	93	
p-Nitrotoluene	600	549.542	92	

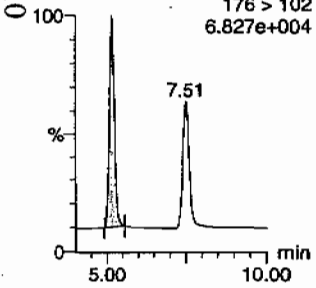
Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

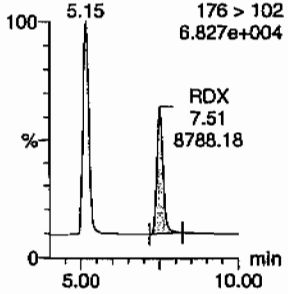
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125116a
Date: 27-Jan-2010
Time: 19:54:59
ID: WXX100125-07CCV
Vial: 1:1,B

MMT 1/28/10

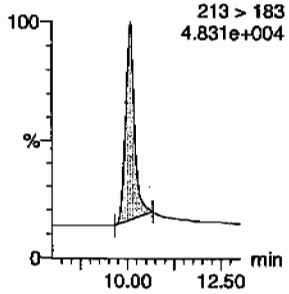
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.827e+004



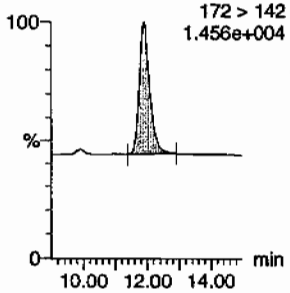
RDX
F2:MRM of 1 channel,AP-
5.15
176 > 102
6.827e+004



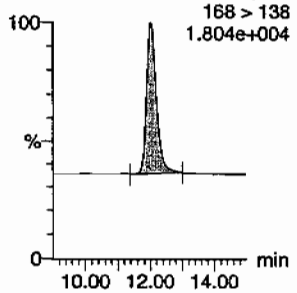
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
4.831e+004



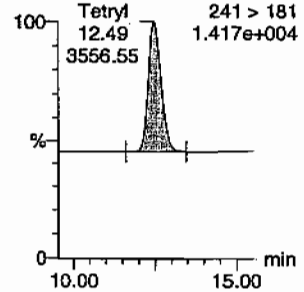
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.456e+004



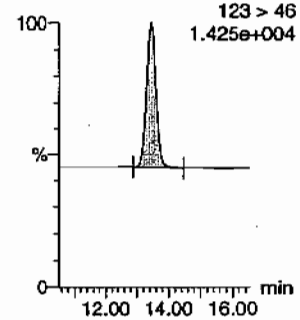
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
1.804e+004



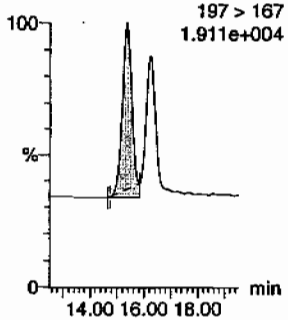
Tetryl
F6:MRM of 1 channel,AP-
Tetryl
12.49
3556.55
241 > 181
1.417e+004



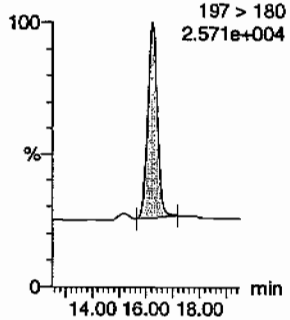
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
1.425e+004



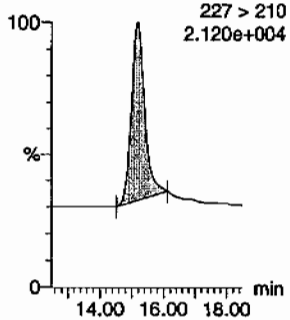
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
1.911e+004



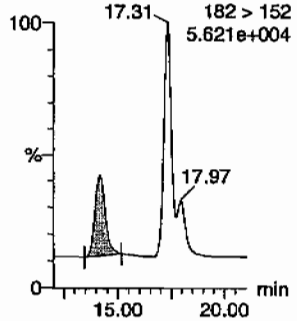
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
2.571e+004



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
2.120e+004

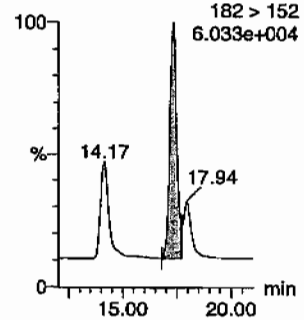


34-dinitrotoluene
F9:MRM of 2 channels,AP-
17.31
182 > 152
5.621e+004



Hmm 01/28/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
6.033e+004



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

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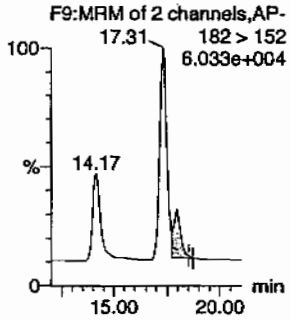
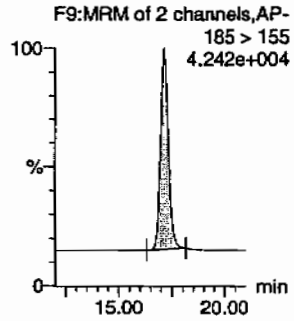
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

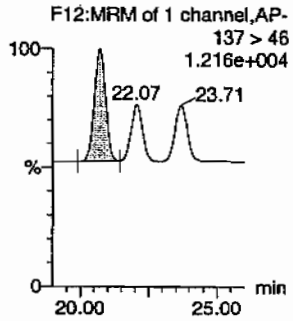
24-dinitrotoluene



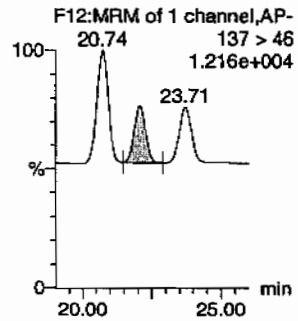
26-dinitrotoluene-d3



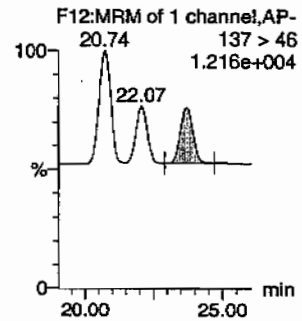
2-Nitrotoluene



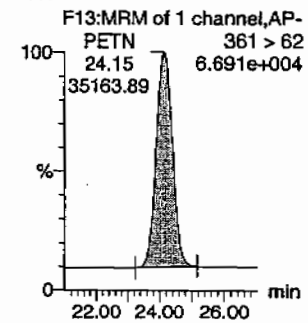
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
WXX100125-07CCV	HMX	176 > 102	5.15	12302.053	3143.459	12302.053	1956.770	bb			616.7849	102.8	2.8	2098.0
WXX100125-07CCV	RDX	176 > 102	7.51	8788.184	3143.459	8788.184	1397.852	bb			635.7926	106.0	6.0	1271.2
WXX100125-07CCV	135-Trinitrobenzene	213 > 183	10.07	11352.341	3143.459	11352.341	1805.708	bb			631.0410	105.2	5.2	673.6
WXX100125-07CCV	13-Dinitrobenzene-d4	172 > 142	11.89	3143.459		3143.459	3143.459	bb			529.4871	105.9	5.9	381.5
WXX100125-07CCV	13-Dinitrobenzene	168 > 138	12.00	4321.038	3143.459	4321.038	687.306	bb			592.5142	98.8	-1.2	418.0
WXX100125-07CCV	Tetryl	241 > 181	12.49	3556.552	3143.459	3556.552	565.707	bb			651.2761	108.5	8.5	328.1
WXX100125-07CCV	Nitrobenzene	123 > 46	13.45	2866.690	3143.459	2866.690	455.977	bb			533.5594	88.9	-11.1	182.9
WXX100125-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.35	5439.601	15261.352	5439.601	178.215	MM	28-Jan-10	10:27:21	684.0907	114.0	14.0	231.3
WXX100125-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.22	8002.209	15261.352	8002.209	262.172	bb			700.4623	116.7	16.7	448.5
WXX100125-07CCV	246-Trinitrotoluene	227 > 210	15.17	6956.677	15261.352	6956.677	227.918	bb			716.5795	119.4	19.4	366.7
WXX100125-07CCV	34-dinitrotoluene	182 > 152	14.17	9267.728	15261.352	9267.728	303.634	bb			334.3934	111.5	11.5	287.0
WXX100125-07CCV	26-dinitrotoluene	182 > 152	17.31	20829.203	15261.352	20829.203	682.417	MM	28-Jan-10	10:33:27	619.5088	103.3	3.3	713.0
WXX100125-07CCV	24-dinitrotoluene	182 > 152	17.94	5055.856	15261.352	5055.856	165.642	MM	28-Jan-10	10:37:37	651.9747	108.7	8.7	164.2
WXX100125-07CCV	26-dinitrotoluene-d3	185 > 155	17.16	15261.352		15261.352	15261.352	bb			468.1873	93.6	-6.4	1463.8
WXX100125-07CCV	2-Nitrotoluene	137 > 46	20.74	2830.204	15261.352	2830.204	92.725	bb			557.5640	92.9	-7.1	353.0
WXX100125-07CCV	4-Nitrotoluene	137 > 46	22.07	1386.831	15261.352	1386.831	45.436	bb			549.5421	91.6	-8.4	180.3
WXX100125-07CCV	3-Nitrotoluene	137 > 46	23.71	1488.980	15261.352	1488.980	48.783	bb			522.5237	87.1	-12.9	176.3
WXX100125-07CCV	PETN	361 > 62	24.15	35163.887	15261.352	35163.887	1152.057	bb			660.7004	110.1	10.1	9730.8

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

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GRAND MEAN AVERAGE

Vendor: Restek
Date of Analysis: 01/27/10
Time of Injection: 1954
Standard Number: WXX100125-07CCV
Data File: EXP0125116a

HMX		102.8
RDX		106.0
135-TNB		105.2
13-DNB		98.8
Tetryl		108.5
Nitrobenzene		88.9
4A-26-DNT		114.0
2A-46-DNT		116.7
246-TNT		119.4
34-DNT(surr)		111.5
26-DNT		103.3
24-DNT		108.7
2-NT		92.9
4-NT		91.6
3-NT		87.1
PETN		110.1
Total		1665.5
Average		104.1

MTT 1/28/10

Hmc 01/28/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125118a

Analysis Date: 27-JAN-10 20:53

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	59.135	148	*
1,3-Dinitrobenzene-d4	500	488.735	98	
2,4,6-Trinitrotoluene	40	44.307	111	
2,4-Dinitrotoluene	40	35.195	88	
2,6-Dinitrotoluene	40	41.434	104	
2,6-Dinitrotoluene-d3	500	505.851	101	
2-Amino-4,6-dinitrotoluene	40	53.643	134	*
3,4-Dinitrotoluene	20	21.876	109	
4-Amino-2,6-dinitrotoluene	40	48.557	121	
HMX	40	51.45	129	
Nitrobenzene	40	35.236	88	
PETN	40	35.671	89	
RDX	40	41.584	104	
Tetryl	40	46.813	117	
m-Dinitrobenzene	40	46.88	117	
m-Nitrotoluene	40	36.119	90	
o-Nitrotoluene	40	38.379	96	
p-Nitrotoluene	40	42.922	107	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

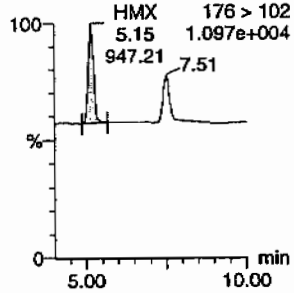
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

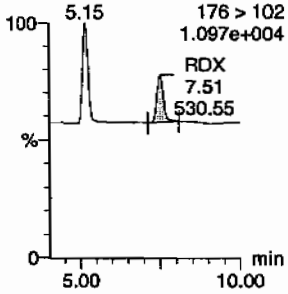
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125118a
Date: 27-Jan-2010
Time: 20:53:56
ID: WXX100125-08CRI
Vial: 1:1,C

MMT 1/28/10

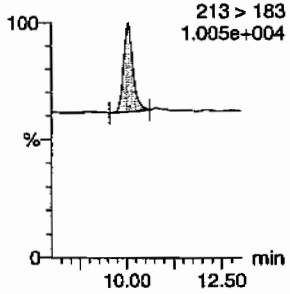
HMX
F2:MRM of 1 channel,AP-
HMX 176 > 102
5.15 1.097e+004
947.21 7.51



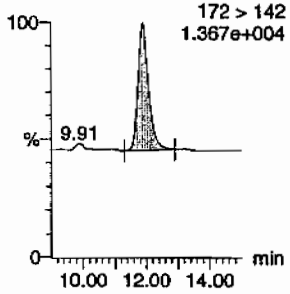
RDX
F2:MRM of 1 channel,AP-
5.15 176 > 102
1.097e+004
RDX
7.51
530.55



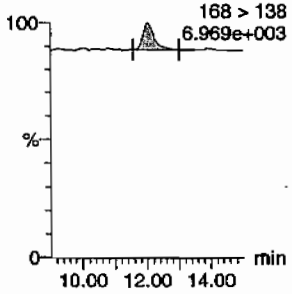
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
1.005e+004



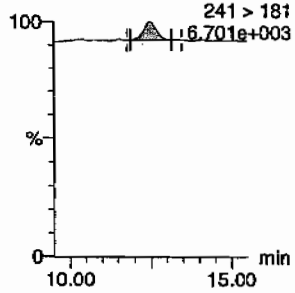
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.367e+004



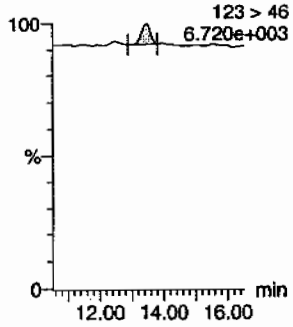
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.969e+003



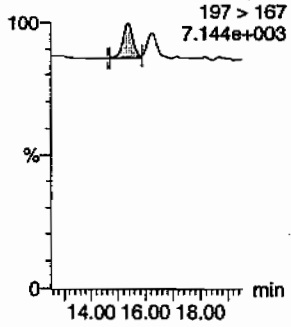
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.701e+003



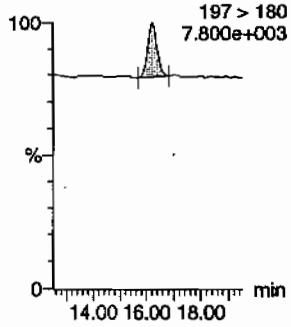
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.720e+003



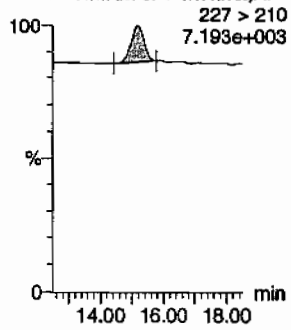
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
7.144e+003



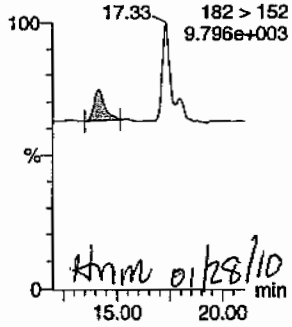
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
7.800e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
7.193e+003

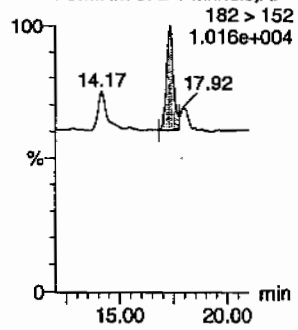


34-dinitrotoluene
F9:MRM of 2 channels,AP-
17.33 182 > 152
9.796e+003



Hnm 01/28/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
1.016e+004
14.17
17.92



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

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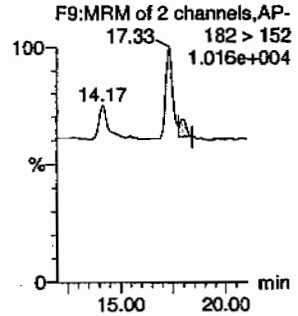
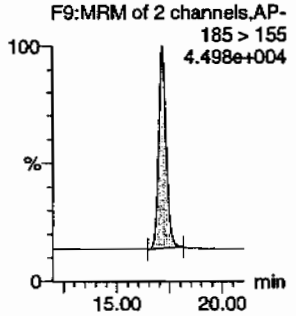
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

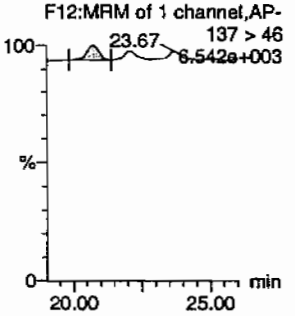
24-dinitrotoluene



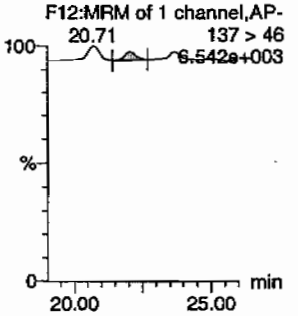
26-dinitrotoluene-d3



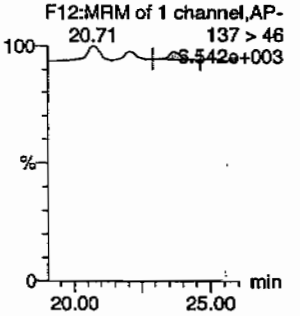
2-Nitrotoluene



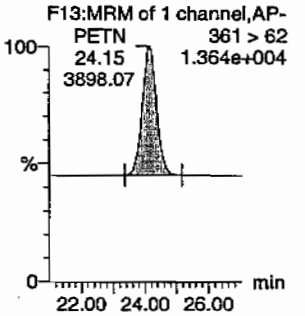
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	ISArea	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
WXX100125-08CRI	HMX	176 > 102	5.15	947.212	2901.522	947.212	163.227	bb			51.4500	128.6	28.6	284.0
WXX100125-08CRI	RDX	176 > 102	7.51	530.551	2901.522	530.551	91.426	bb			41.5839	104.0	4.0	132.8
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1129.748	2901.522	1129.748	194.682	bb			59.1352	147.8	47.8	266.4
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	2901.522		2901.522	2901.522	bb			488.7350	97.7	-2.3	692.4
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	12.00	315.570	2901.522	315.570	54.380	bb			46.8801	117.2	17.2	32.0
WXX100125-08CRI	Tetryl	241 > 181	12.45	235.963	2901.522	235.963	40.662	MM	28-Jan-10	10:24:03	46.8125	117.0	17.0	27.0
WXX100125-08CRI	Nitrobenzene	123 > 46	13.45	174.742	2901.522	174.742	30.112	bb			35.2356	88.1	-11.9	14.4
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.36	417.165	16489.053	417.165	12.650	MM	28-Jan-10	10:27:09	48.5570	121.4	21.4	15.3
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.22	662.126	16489.053	662.126	20.078	bb			53.6430	134.1	34.1	24.3
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.21	464.743	16489.053	464.743	14.092	bb			44.3070	110.8	10.8	33.5
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.17	655.064	16489.053	655.064	19.864	bb			21.8759	109.4	9.4	52.6
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.33	1505.167	16489.053	1505.167	45.641	MM	28-Jan-10	10:33:21	41.4340	103.6	3.6	82.0
WXX100125-08CRI	24-dinitrotoluene	182 > 152	17.92	294.878	16489.053	294.878	8.942	MM	28-Jan-10	10:37:49	35.1946	88.0	-12.0	15.8
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.16	16489.053		16489.053	16489.053	bb			505.8507	101.2	1.2	251.4
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.71	210.484	16489.053	210.484	6.383	bb			38.3790	95.9	-4.1	43.2
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.05	117.032	16489.053	117.032	3.549	bb			42.9219	107.3	7.3	25.0
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.67	111.204	16489.053	111.204	3.372	bb			36.1189	90.3	-9.7	24.1
WXX100125-08CRI	PETN	361 > 62	24.15	3898.075	16489.053	3898.075	118.202	bb			35.6714	89.2	-10.8	960.7

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

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GRAND MEAN AVERAGE

Vendor:	UltraScientific
Date of Analysis	01/27/10
Time of Injection	2053
Standard Number	WXX100125-08CRI
Data File	EXP0125118a

HMX		128.6
RDX		104.0
135-TNB		147.8
13-DNB		117.2
Tetryl		117.0
Nitrobenzene		88.1
4A-26-DNT		121.4
2A-46-DNT		134.1
246-TNT		110.8
34-DNT(surr)		109.4
26-DNT		103.6
24-DNT		88.0
2-NT		95.9
4-NT		107.3
3-NT		90.3
PETN		89.2
	Total	1752.7
	Average	109.5

mdt 1/28/10

Hmm 01/28/10

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01190013.wiff

Analysis Date: 19-JAN-10 17:22

LCMSMS ID: 1358

Column ID JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	101	101	
2,6-Diamino-4-nitrotoluene	100	101	101	
3,4-Dinitrotoluene	50	51	102	
3,5-Dinitroaniline	100	99.6	100	
TATB	100	104	104	
tris(o-cresyl) phosphate	100	97.8	98	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

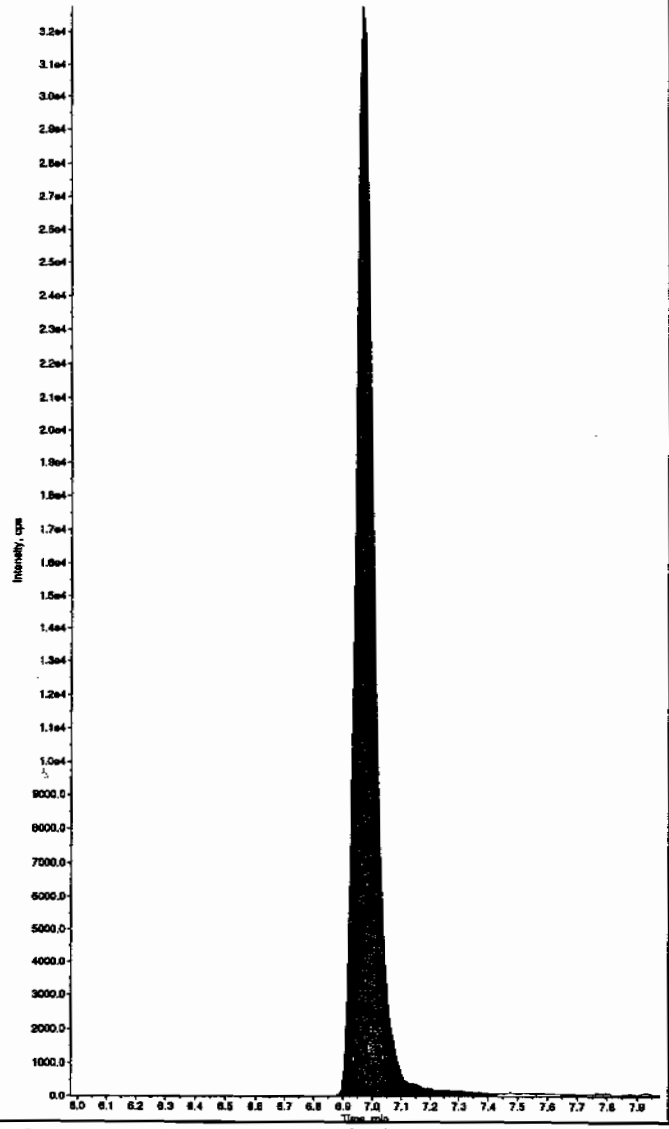
Before
1/20/10

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190013.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 104. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 5:22:46 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 6.97 min
Area: 1.49e+005 counts
Height: 32747.665 cps
Start Time: 6.85 min
End Time: 7.43 min

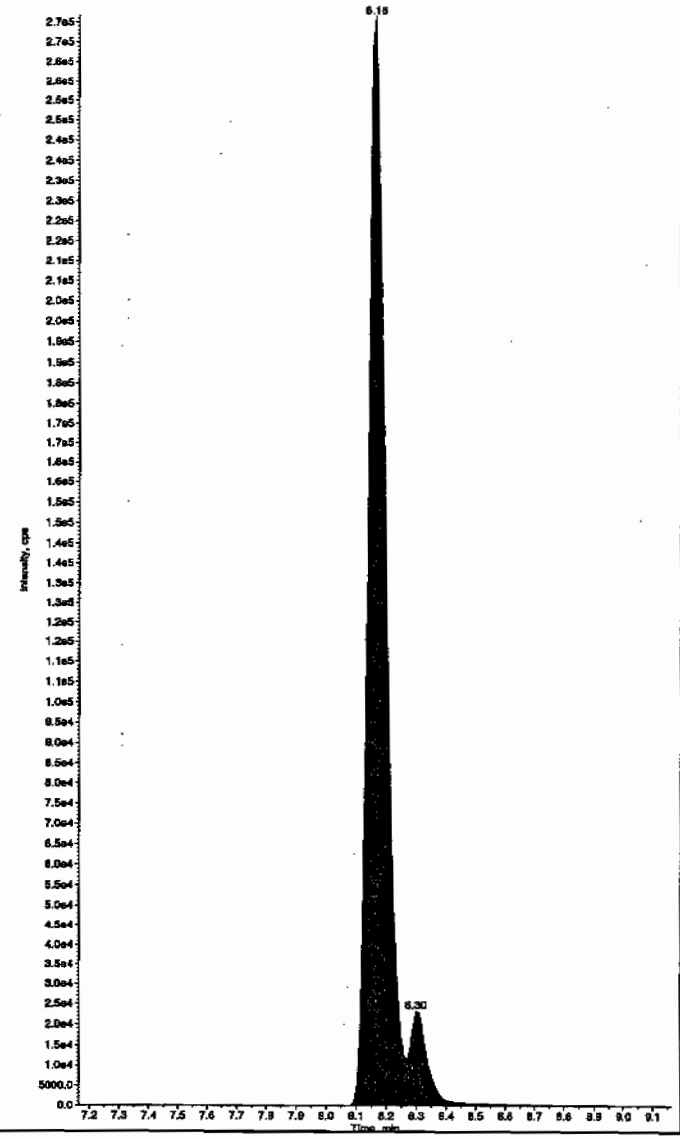


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190013.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 110. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 5:22:46 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.16 min
Area: 1.22e+006 counts
Height: 271505.865 cps
Start Time: 8.06 min
End Time: 8.70 min



Hume 01/20/10

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

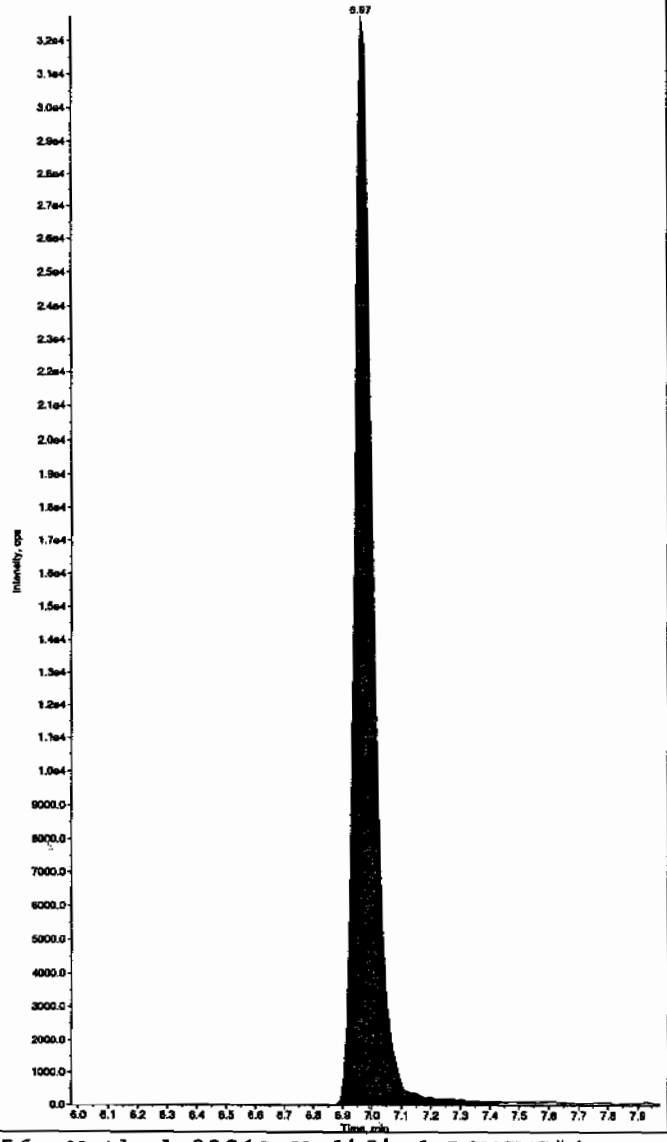
after dar 1/20/10

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190013.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

```
Sample Index:          1
Sample Type:              QC
Concentration:         100.     ng/mL
Calculated Conc:       104.     ng/mL
Acq. Date:          1/19/2010
Acq. Time:          5:22:46 PM

Modified:              No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height:2500.00    cps
Min. Peak Width:     0.00    sec
Smoothing Width:  3         points
RT Window:            30.0    sec
Expected RT:           6.98   min
Use Relative RT:       No

Int. Type:           Valley
Retention Time:        6.97   min
Area:            1.49e+005   counts
Height:            32747.665  cps
Start Time:            6.85   min
End Time:              7.43   min
```

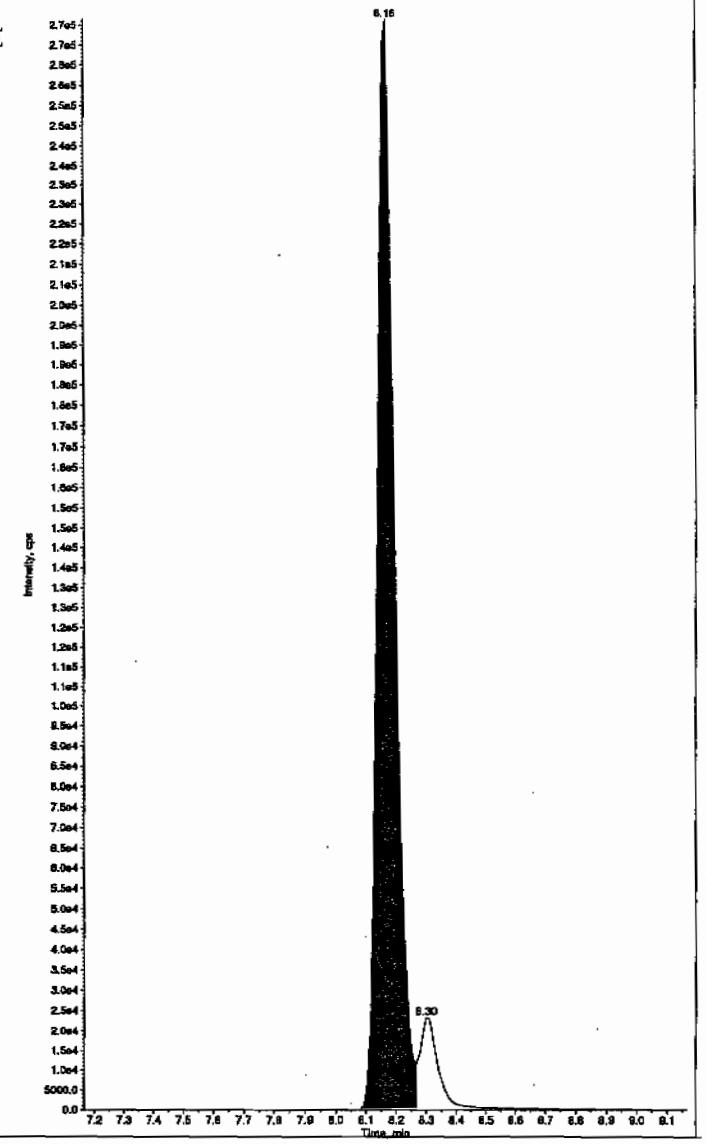


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190013.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

```
Sample Index:          1
Sample Type:              QC
Concentration:         100.     ng/mL
Calculated Conc:       99.6     ng/mL
Acq. Date:          1/19/2010
Acq. Time:          5:22:46 PM

Modified:              Yes
RT Window:            15.0     sec
Expected RT:           8.16   min
Use Relative RT:       No

Int. Type:           Manual
Retention Time:        8.16   min
Area:            1.11e+006   counts
Height:            273227.248  cps
Start Time:            8.08   min
End Time:              8.27   min
```



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

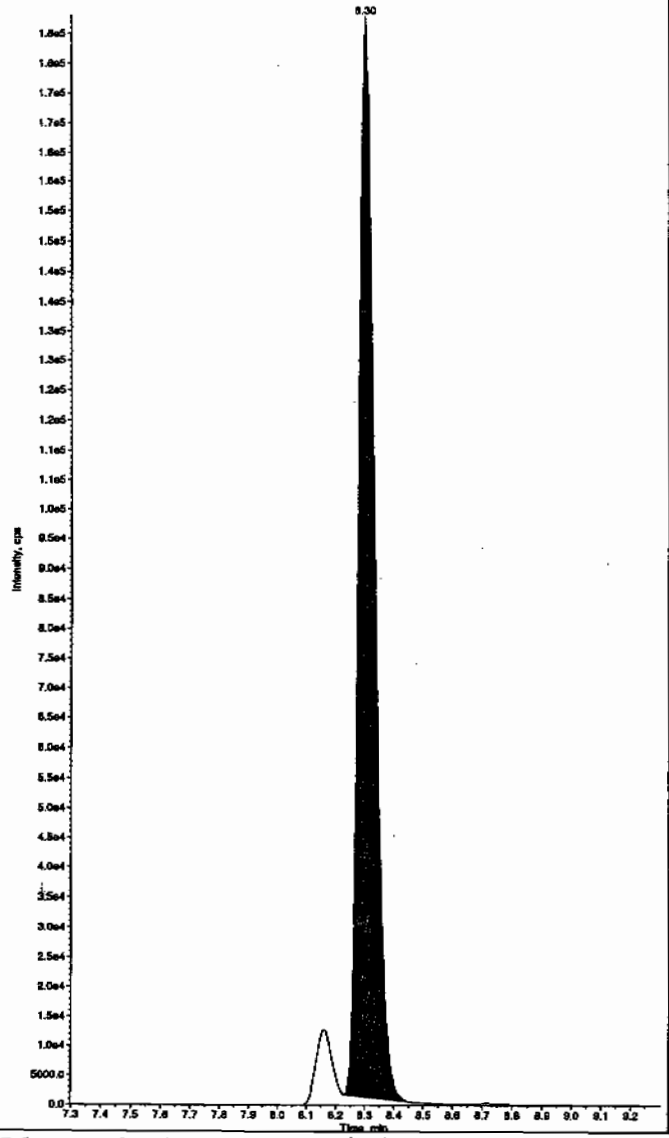
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190013.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C' Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 50.0 ng/mL
Calculated Conc: 51.0 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 5:22:46 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.30 min
Area: 6.99e+005 counts
Height: 181622.772 cps
Start Time: 8.23 min
End Time: 8.45 min

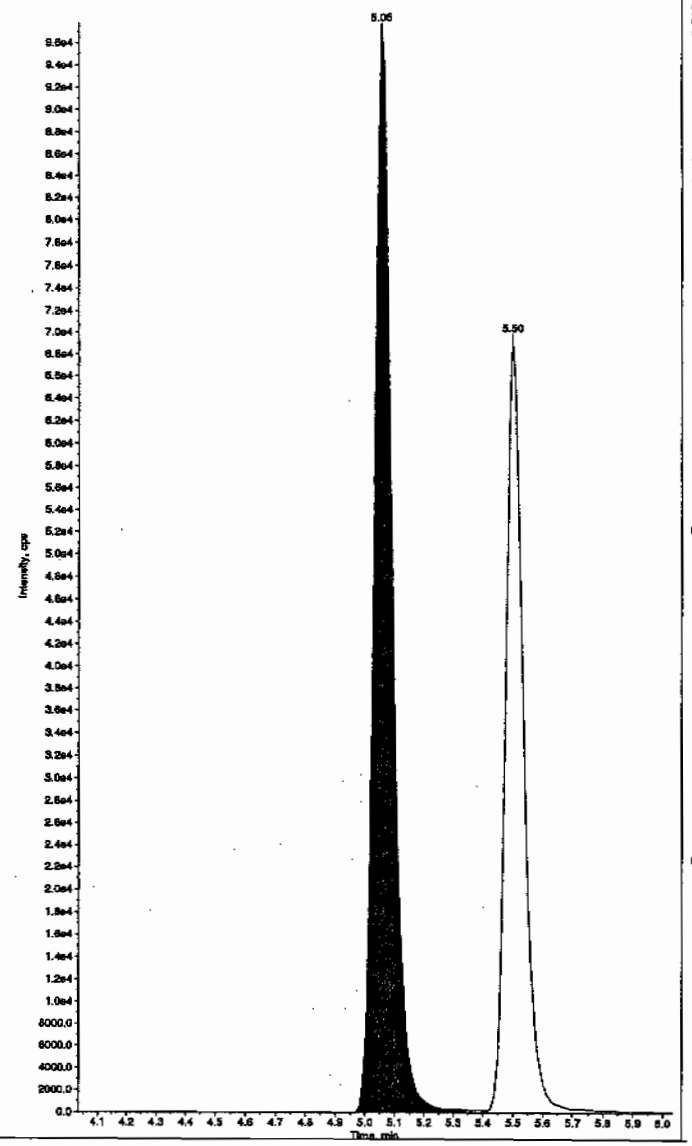


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190013.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/45.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 101. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 5:22:46 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.03 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.05 min
Area: 4.21e+005 counts
Height: 97845.421 cps
Start Time: 4.95 min
End Time: 5.34 min



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

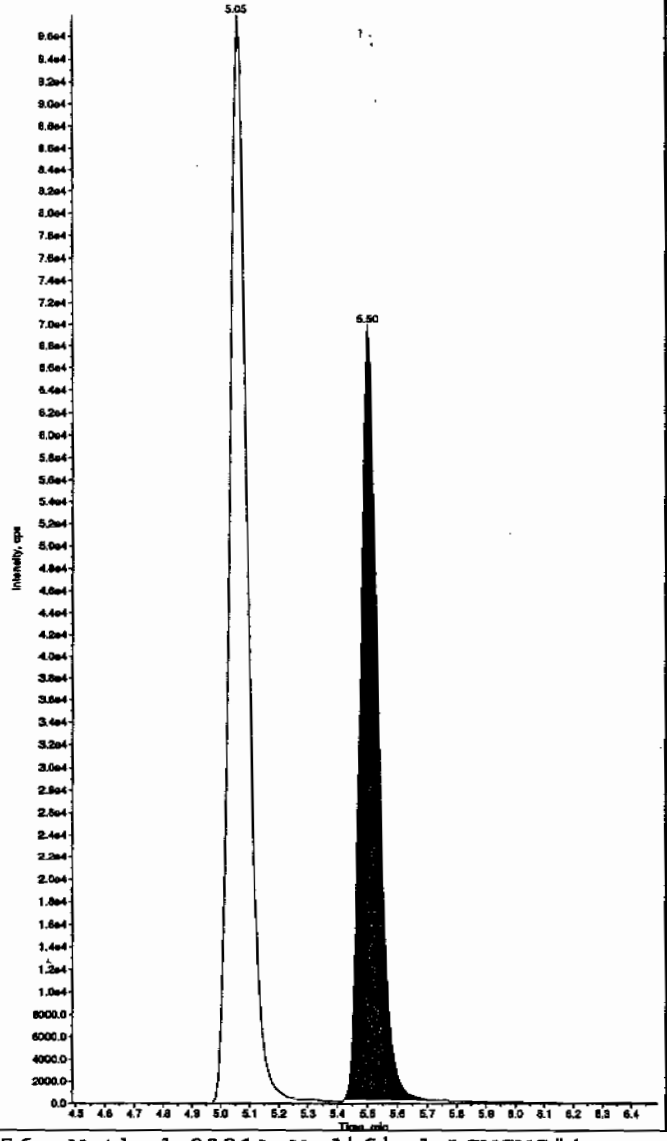
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190013.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/45.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 101. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 5:22:46 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.50 min
Area: 2.85e+005 counts
Height: 69594.887 cps
Start Time: 5.43 min
End Time: 5.69 min

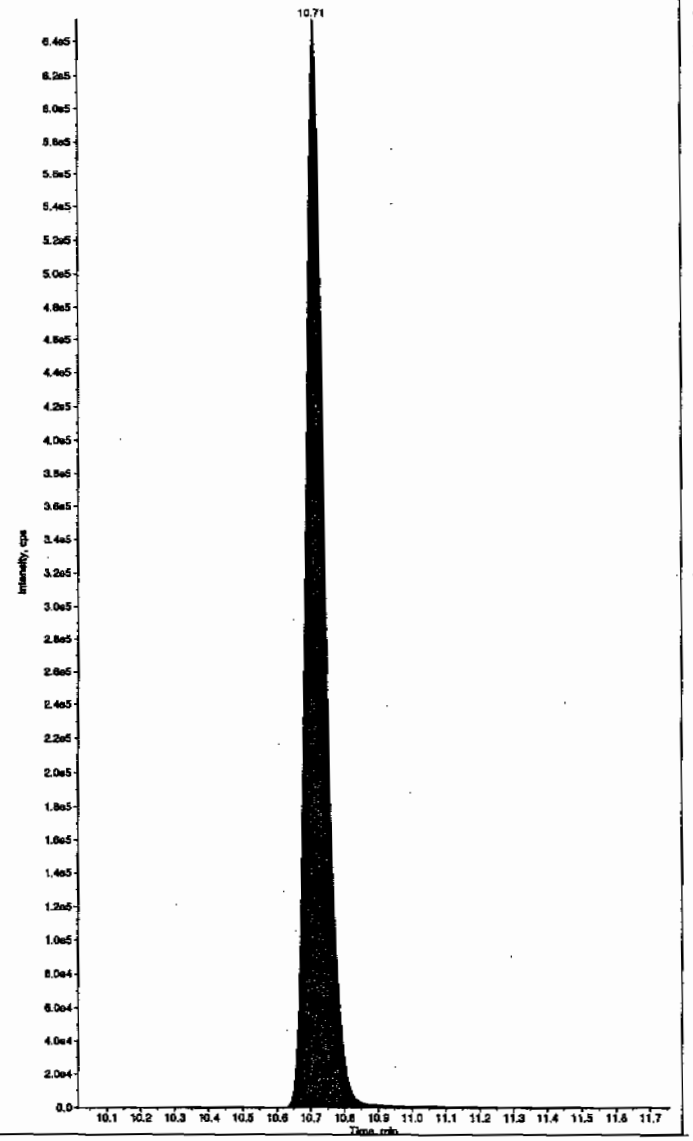


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190013.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 97.8 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 5:22:46 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.7 min
Area: 2.59e+006 counts
Height: 653620.239 cps
Start Time: 10.6 min
End Time: 11.0 min



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

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01190023.wiff

Analysis Date: 19-JAN-10 19:59

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	496	99	
2,6-Diamino-4-nitrotoluene	500	488	98	
3,4-Dinitrotoluene	250	219	88	
3,5-Dinitroaniline	500	483	97	
TATB	500	497	100	
tris(o-cresyl) phosphate	500	479	96	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

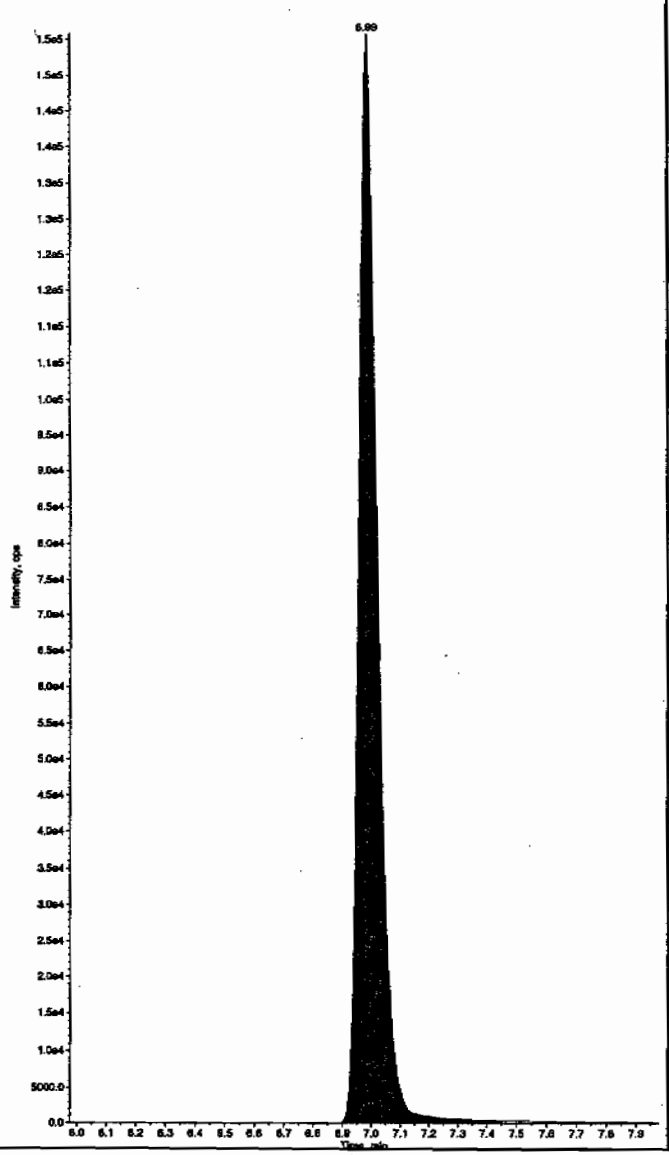
Before Jan 1/20/10

Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190023.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 497. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 7:59:48 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 6.99 min
Area: 6.97e+005 counts
Height: 150738.724 cps
Start Time: 6.85 min
End Time: 7.45 min

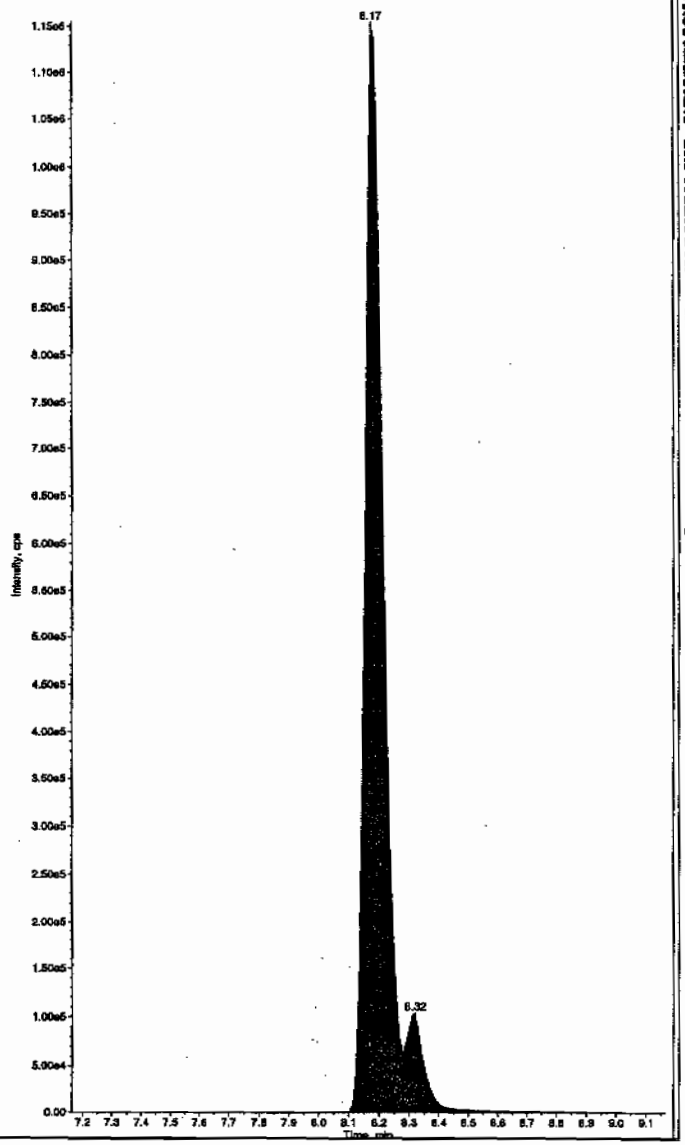


Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190023.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 537. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 7:59:48 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.17 min
Area: 5.39e+006 counts
Height: 1154902.832 cps
Start Time: 8.08 min
End Time: 8.71 min



Hmm 01/20/10

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

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

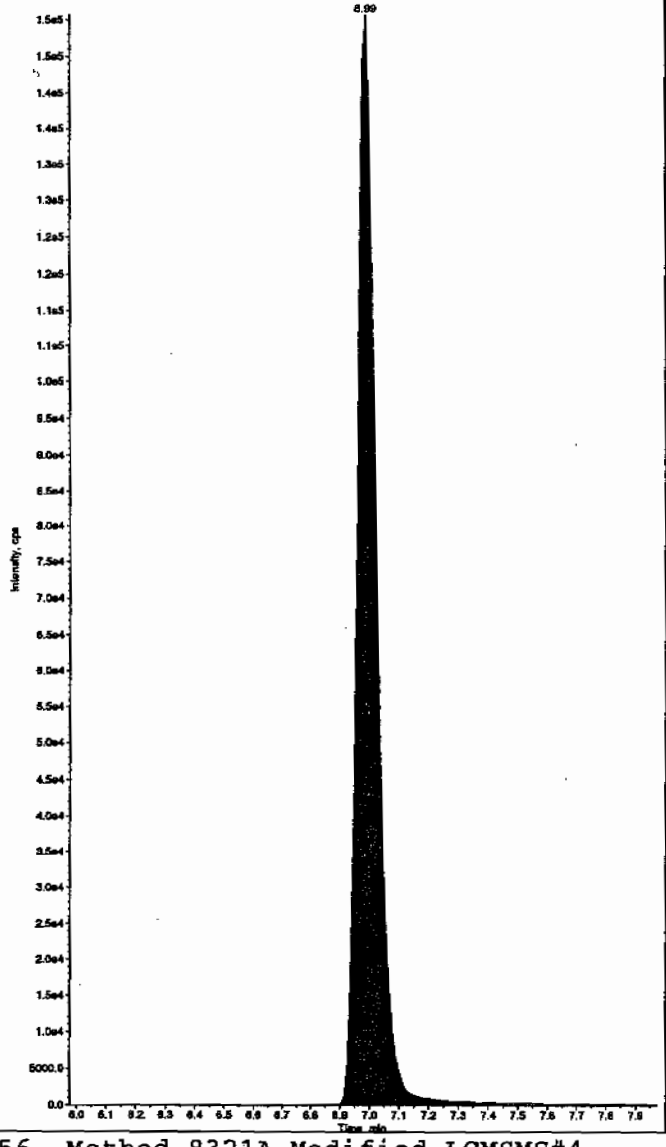
After LCR 1/20/10

Sample Name: "WXX100119-26CCV" Sample ID: "|1|LER" File: "EXS01190023.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 457. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 7:59:48 PM

Modified: No
Assoc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 6.99 min
Area: 6.97e+005 counts
Height: 150738.724 cps
Start Time: 6.85 min
End Time: 7.45 min

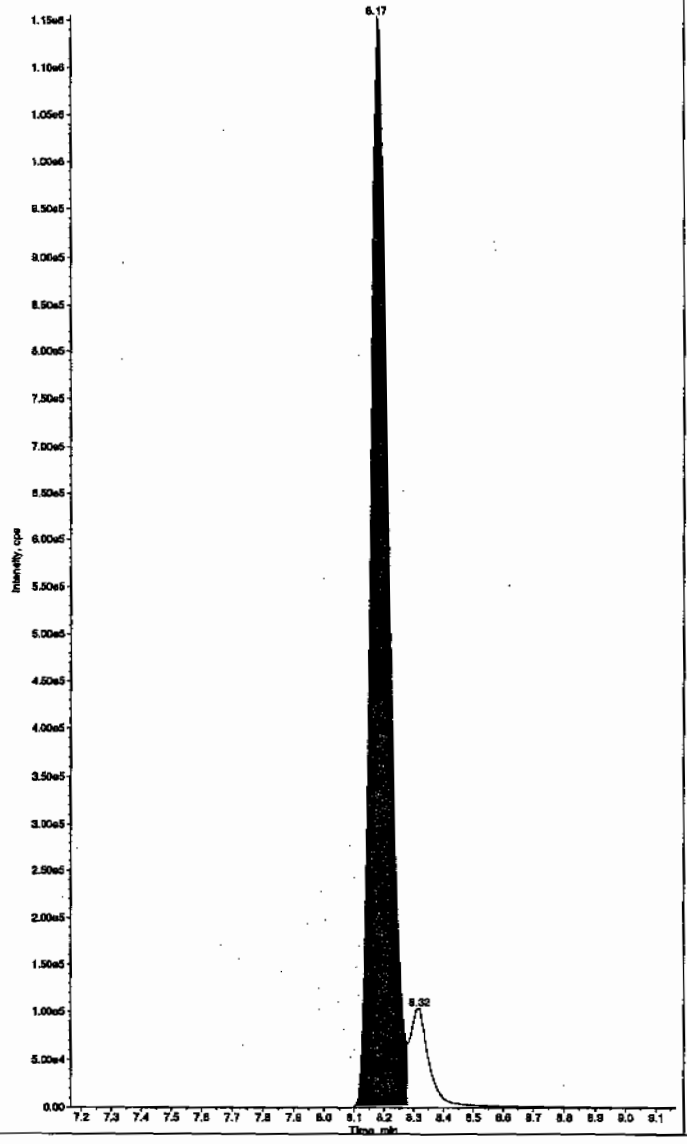


Sample Name: "WXX100119-26CCV" Sample ID: "|1|LER" File: "EXS01190023.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 483. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 7:59:48 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.18 min
Area: 4.88e+006 counts
Height: 1168240.587 cps
Start Time: 8.10 min
End Time: 8.28 min



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

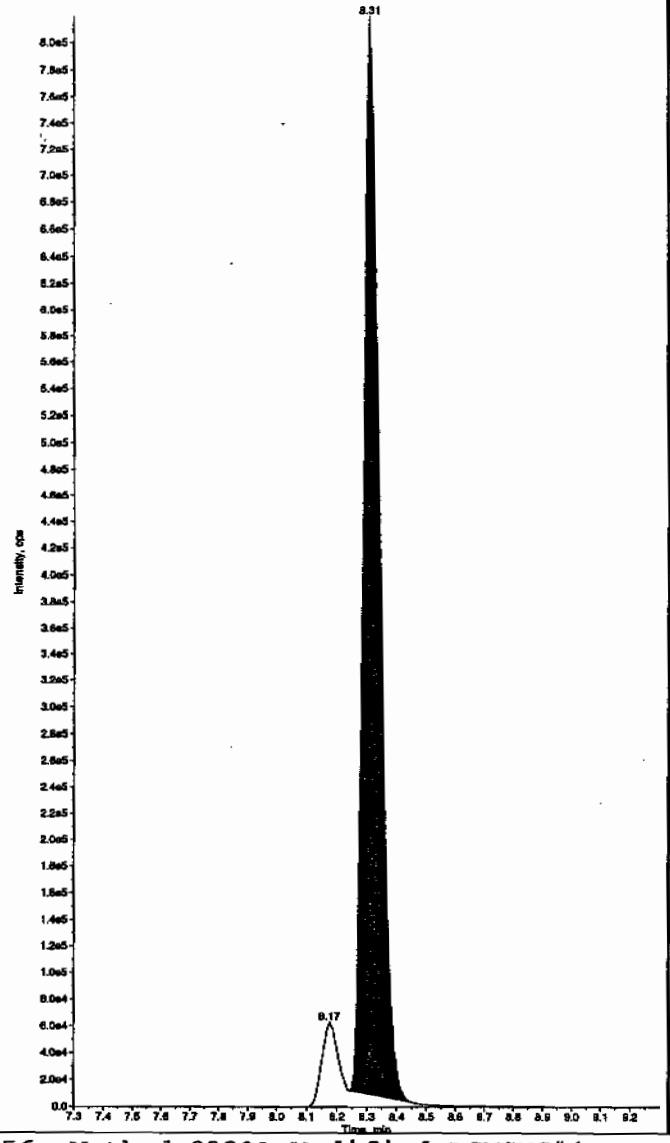
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190023.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 250. ng/mL
Calculated Conc: 219. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 7:59:48 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.31 min
Area: 3.09e+006 counts
Height: 810230.713 cps
Start Time: 8.25 min
End Time: 8.44 min

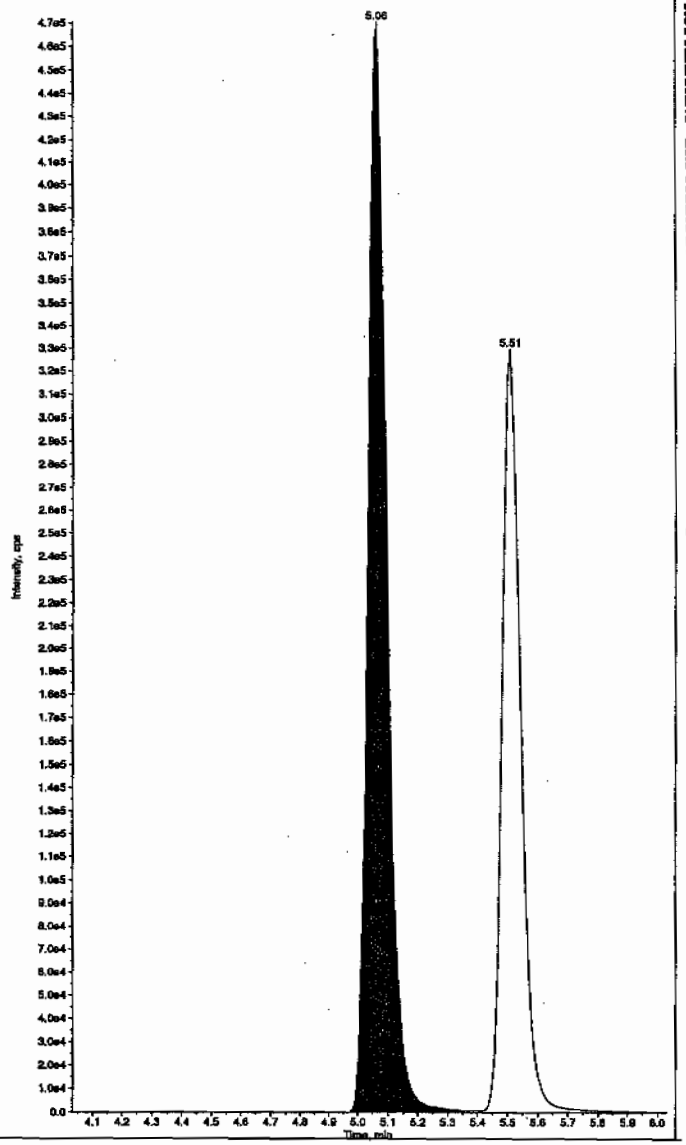


Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190023.wiff"
Peak Name: "2,6-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 488. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 7:59:48 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.03 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.06 min
Area: 2.10e+006 counts
Height: 470742.188 cps
Start Time: 4.95 min
End Time: 5.35 min



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

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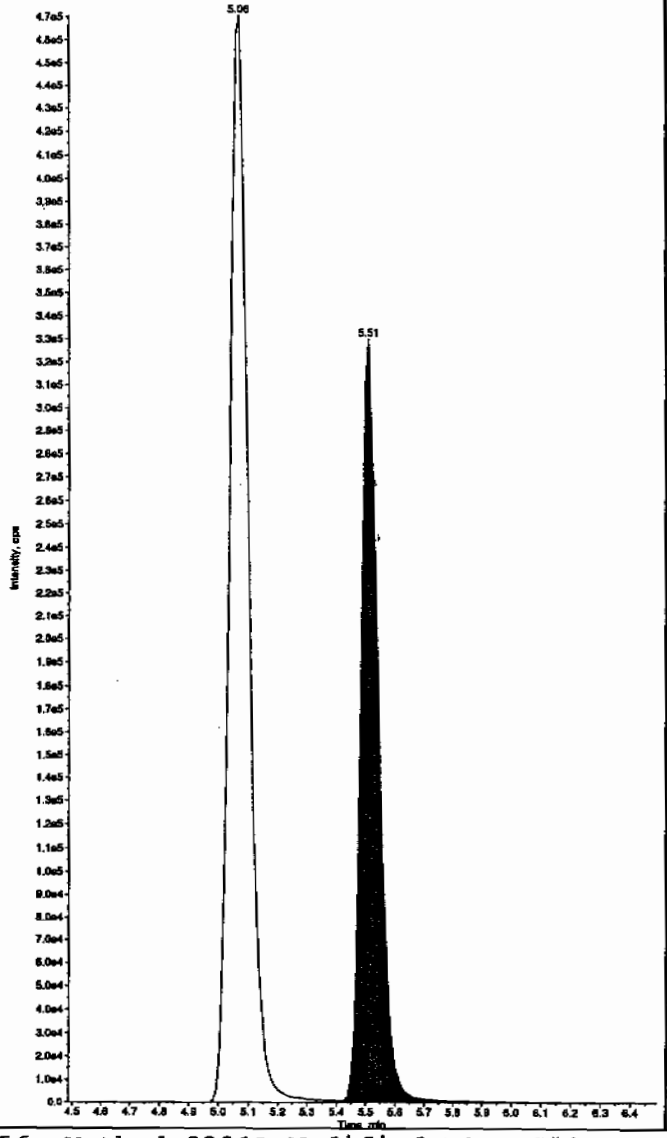
Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190023.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "165.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 496. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 7:59:48 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.51 min
Area: 1.41e+006 counts
Height: 329937.775 cps
Start Time: 5.42 min
End Time: 5.92 min

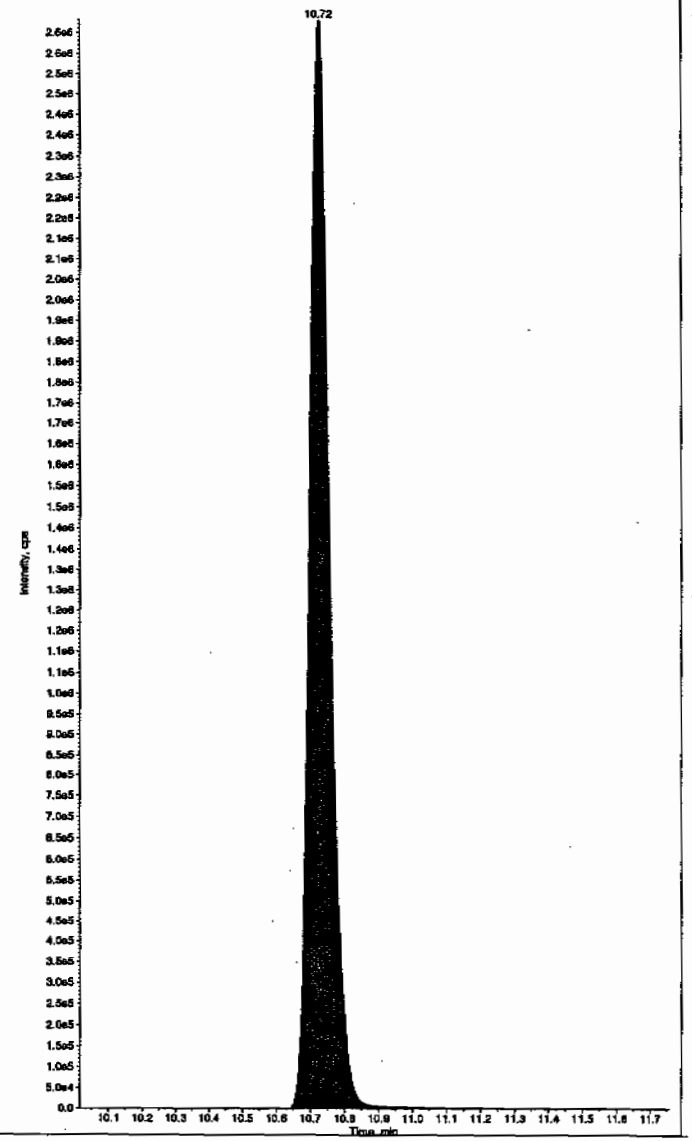


Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190023.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 479. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 7:59:48 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.7 min
Area: 1.11e+007 counts
Height: 2630417.725 cps
Start Time: 10.6 min
End Time: 11.0 min



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

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1126

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01190025.wiff

Analysis Date: 19–JAN–10 20:31

LCMSMS ID: 1358

Column ID: JSphere ODS–H80

Compound	True	Found	Recovery	Q
2,4–Diamino–6–nitrotoluene	100	103	103	
2,6–Diamino–4–nitrotoluene	100	106	106	
3,4–Dinitrotoluene	50	48.7	97	
3,5–Dinitroaniline	100	95.4	95	
TATB	100	97.2	97	
tris(o–cresyl) phosphate	100	91.8	92	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 50–150%
OtherTarget Analytes 70–130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

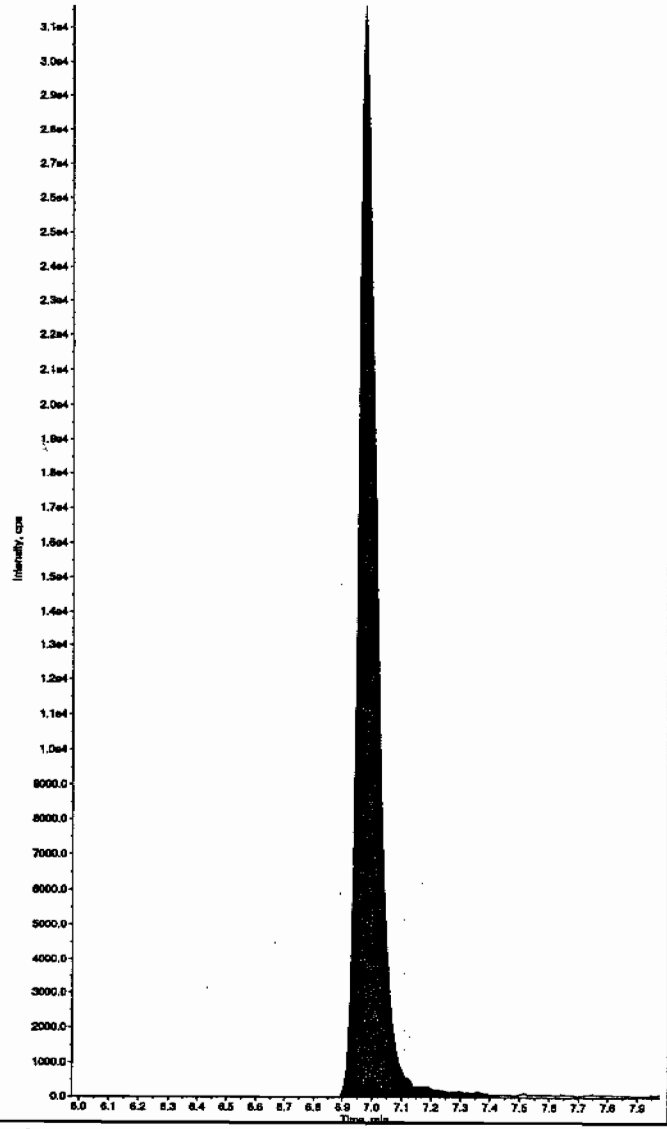
Before Lab 1/20/10

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190025.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 97.2 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 8:31:11 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 6.98 min
Area: 1.40e+005 counts
Height: 31602.388 cps
Start Time: 6.82 min
End Time: 7.42 min

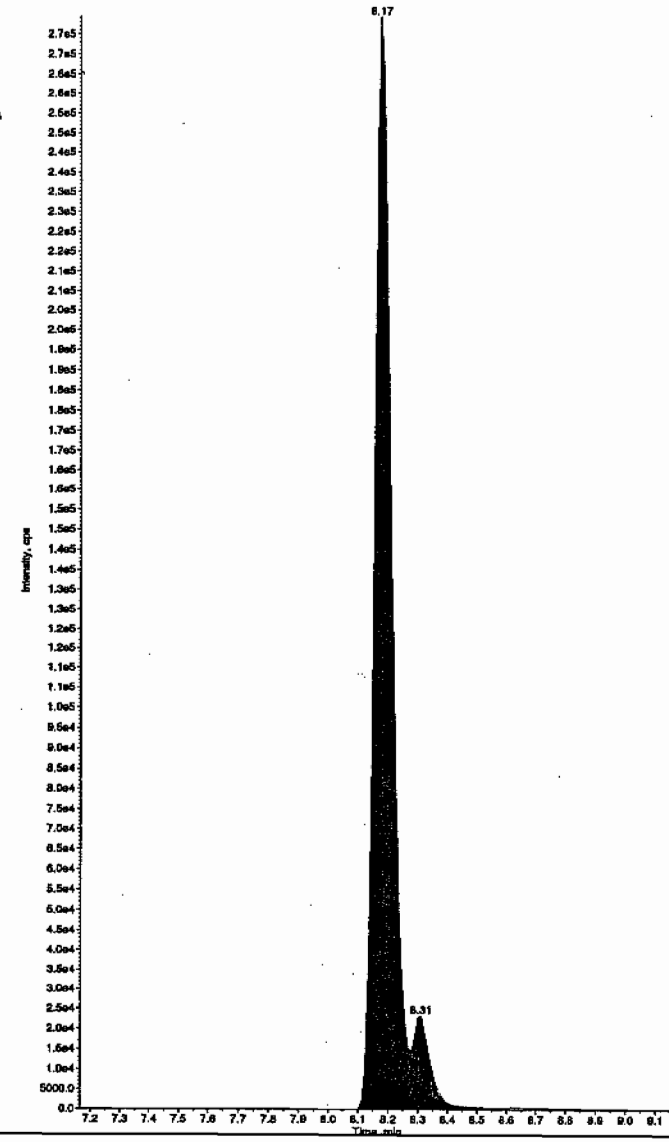


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190025.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 106. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 8:31:11 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.17 min
Area: 1.18e+006 counts
Height: 274410.706 cps
Start Time: 8.07 min
End Time: 8.55 min



Hnm 01/20/10

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

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

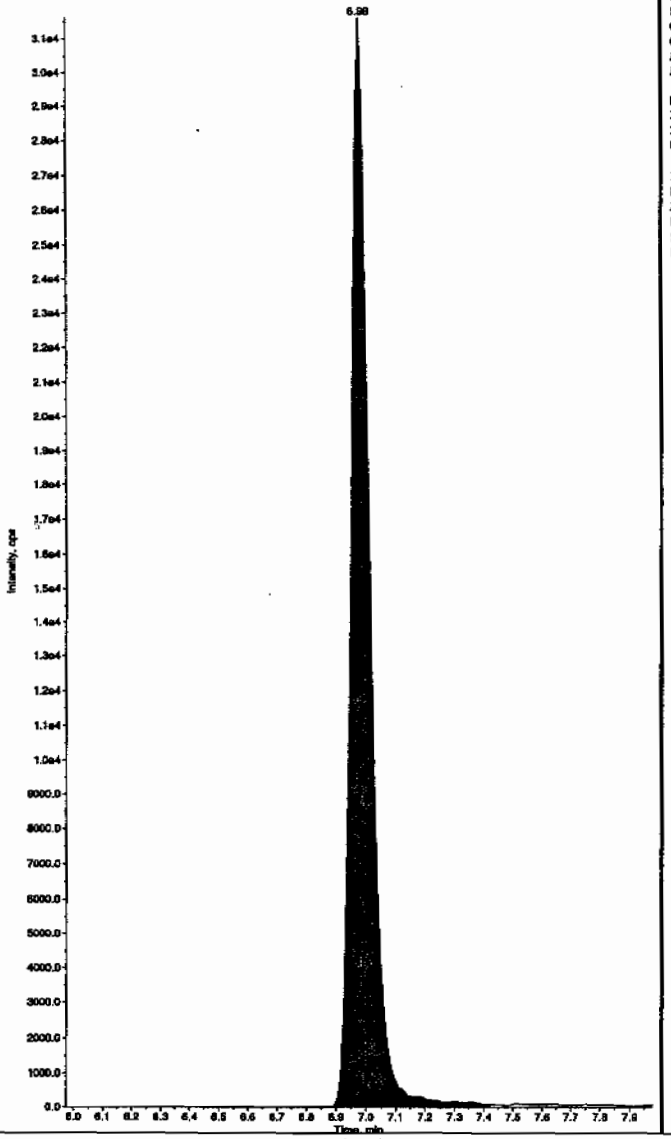
after Lem 1/20/10

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190025.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 97.2 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 8:31:11 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 6.98 min
Area: 1.40e+005 counts
Height: 31602.388 cps
Start Time: 6.82 min
End Time: 7.42 min

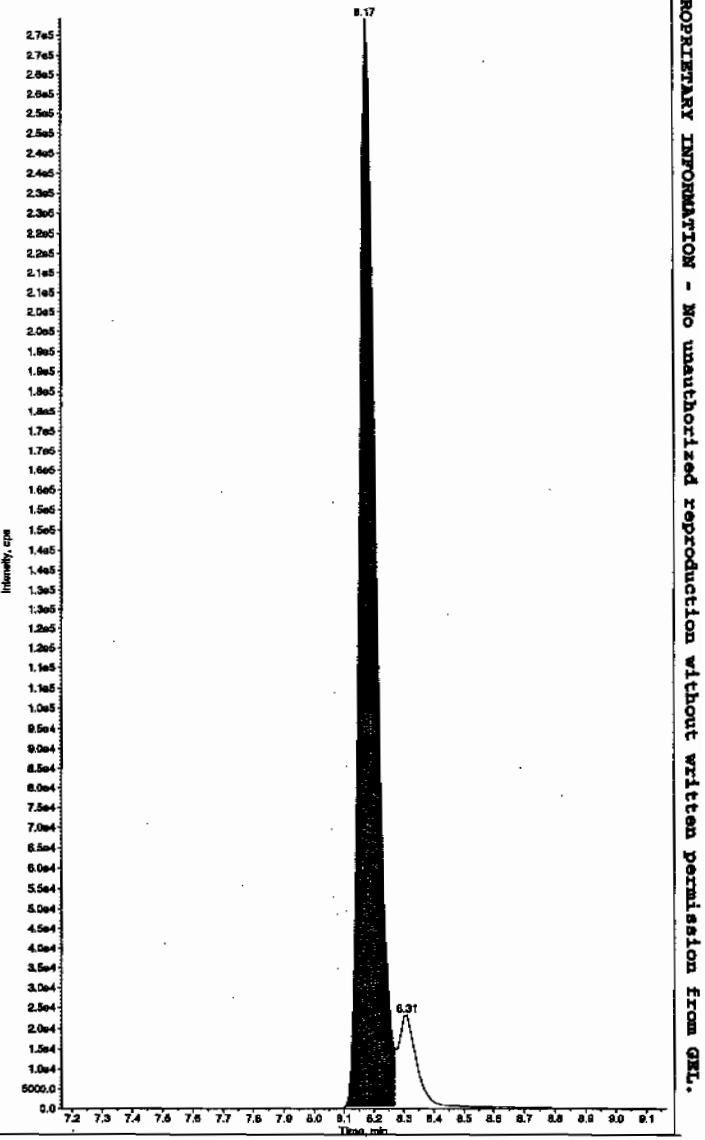


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190025.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 95.4 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 8:31:11 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.18 min
Area: 1.07e+006 counts
Height: 274616.707 cps
Start Time: 8.10 min
End Time: 8.27 min



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

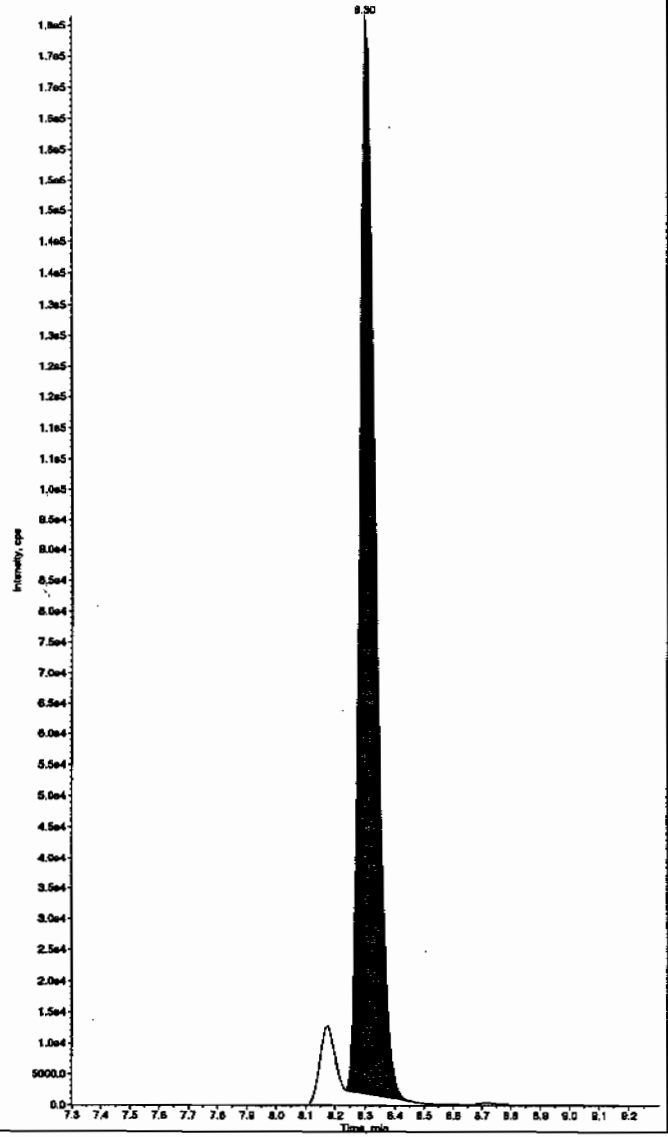
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190025.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 50.0 ng/mL
Calculated Conc: 48.7 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 8:31:11 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.30 min
Area: 6.65e+005 counts
Height: 174778.275 cps
Start Time: 8.24 min
End Time: 8.46 min

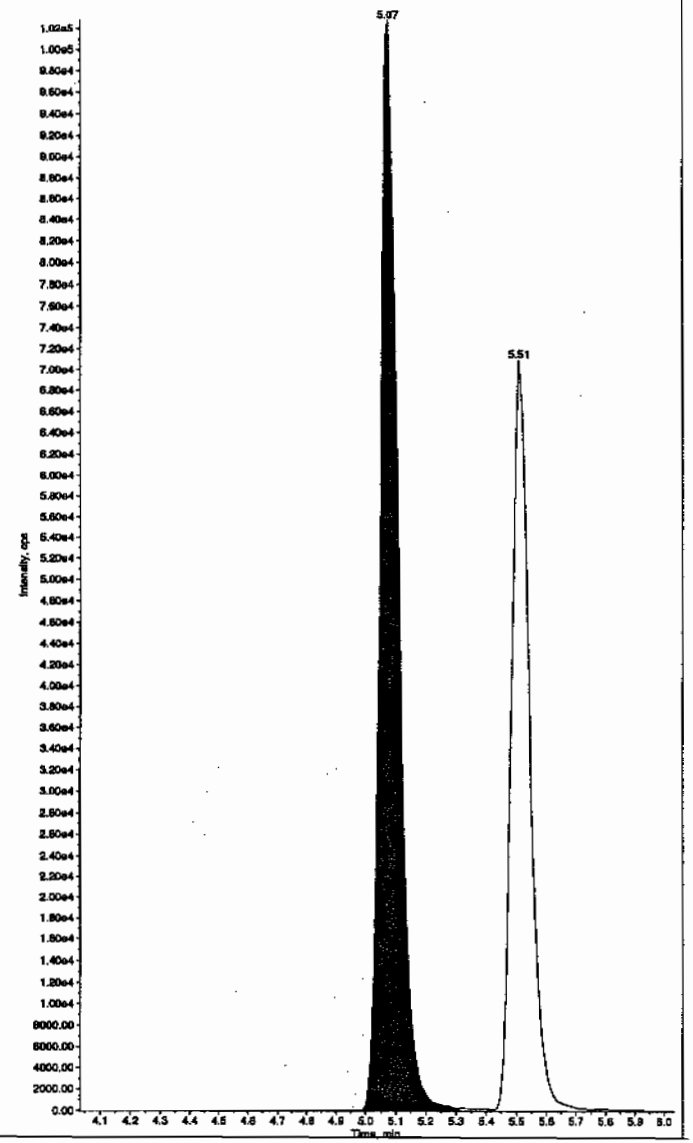


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190025.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 106. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 8:31:11 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.03 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.07 min
Area: 4.41e+005 counts
Height: 102830.208 cps
Start Time: 4.96 min
End Time: 5.31 min



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

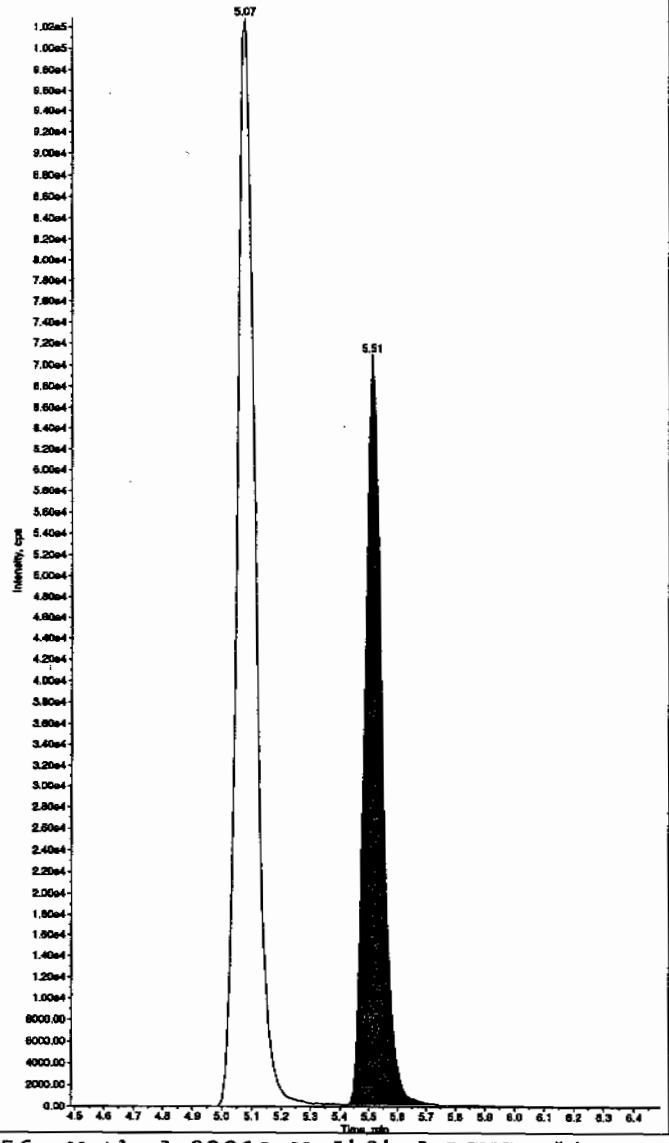
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190025.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: **

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 103. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 8:31:11 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.51 min
Area: 2.93e+005 counts
Height: 70802.444 cps
Start Time: 5.43 min
End Time: 5.70 min

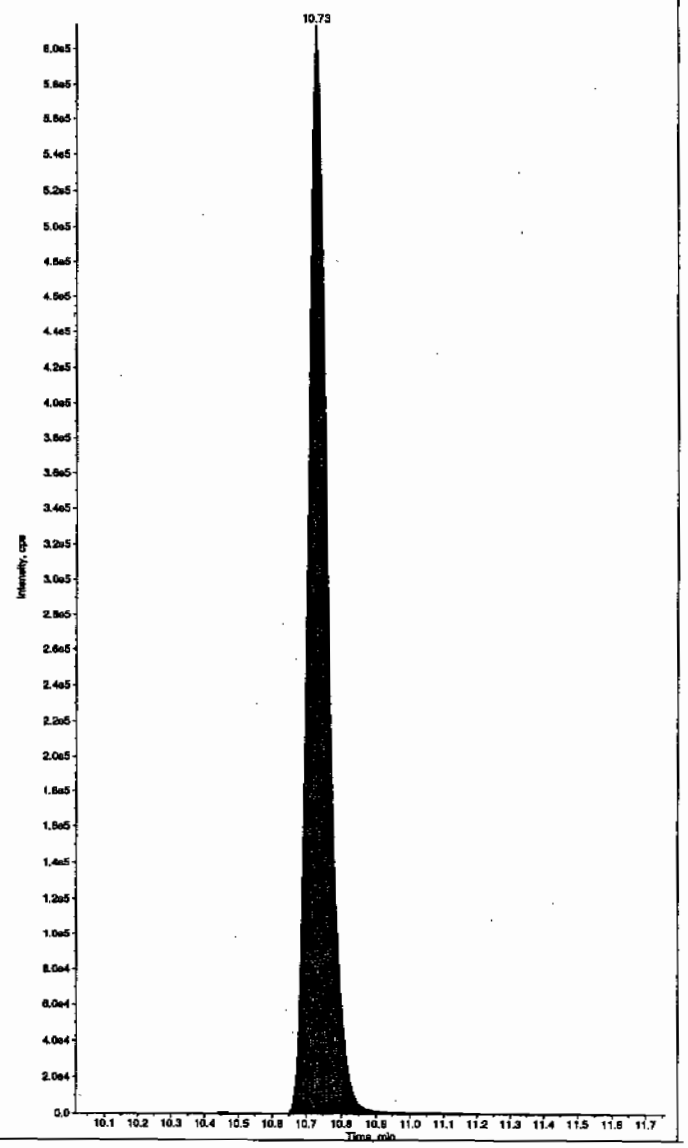


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190025.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: **

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 91.8 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 8:31:11 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.6 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.7 min
Area: 2.44e+006 counts
Height: 613612.854 cps
Start Time: 10.6 min
End Time: 11.0 min



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

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01190036.wiff

Analysis Date: 19-JAN-10 23:23

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	515	103	
2,6-Diamino-4-nitrotoluene	500	495	99	
3,4-Dinitrotoluene	250	229	92	
3,5-Dinitroaniline	500	506	101	
TATB	500	502	100	
tris(o-cresyl) phosphate	500	476	95	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

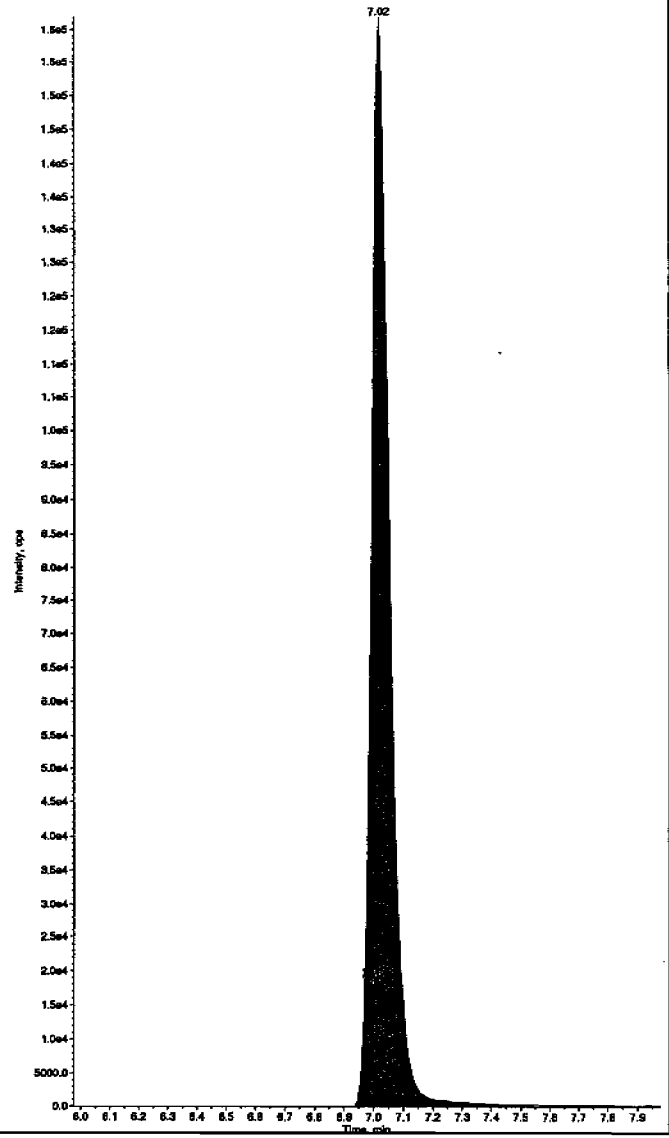
Before Lan 1/20/10

Sample Name: "WXX100119-26CCV" Sample ID: "|1|LER" File: "EXS01190036.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 502. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:23:53 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.02 min
Area: 7.03e+005 counts
Height: 161875.839 cps
Start Time: 6.88 min
End Time: 7.53 min

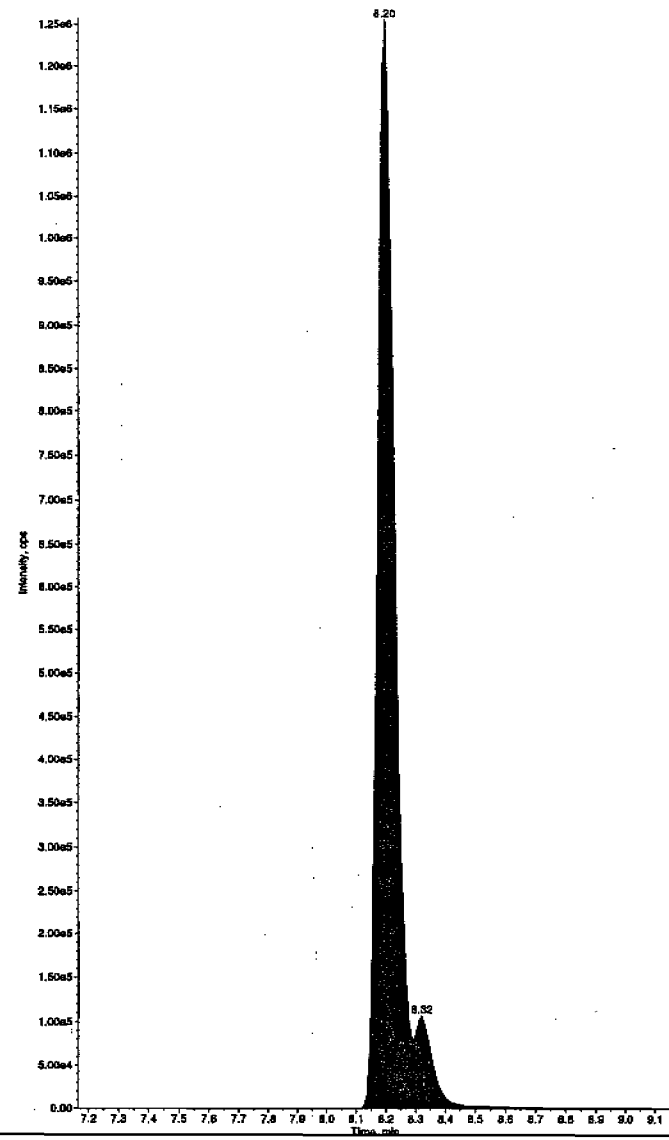


Sample Name: "WXX100119-26CCV" Sample ID: "|1|LER" File: "EXS01190036.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 563. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:23:53 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.20 min
Area: 5.63e+006 counts
Height: 1256383.789 cps
Start Time: 8.08 min
End Time: 8.76 min



Hnw 01/20/10

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

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

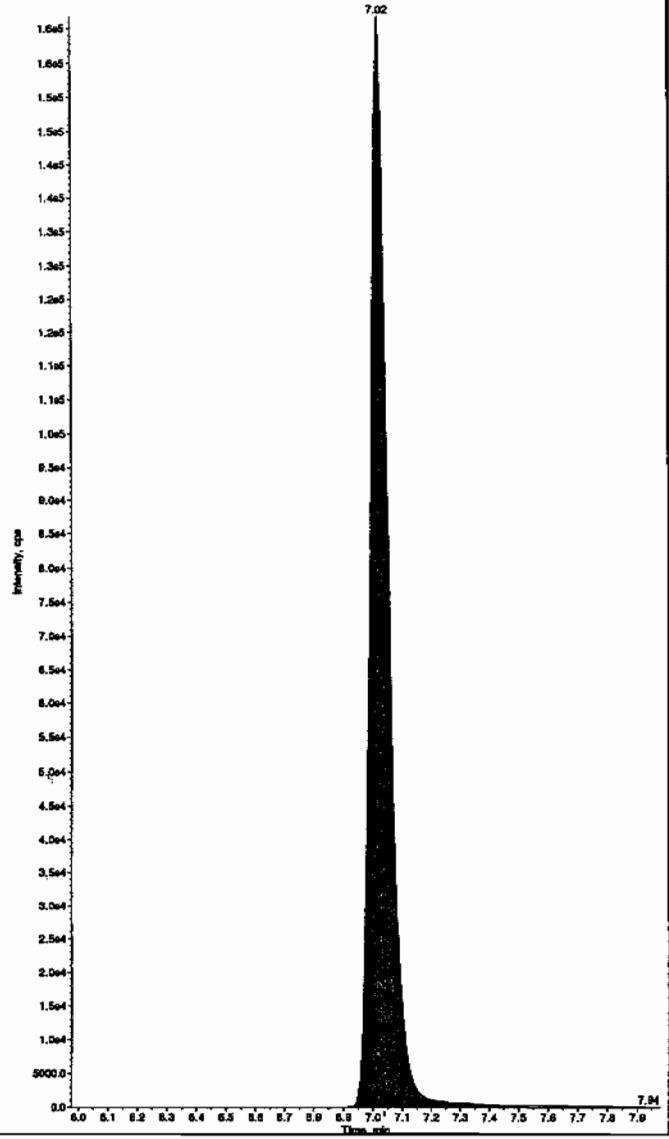
after Lan 1/20/10

Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190036.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 502. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:23:53 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.02 min
Area: 7.03e+005 counts
Height: 161875.839 cps
Start Time: 6.88 min
End Time: 7.53 min

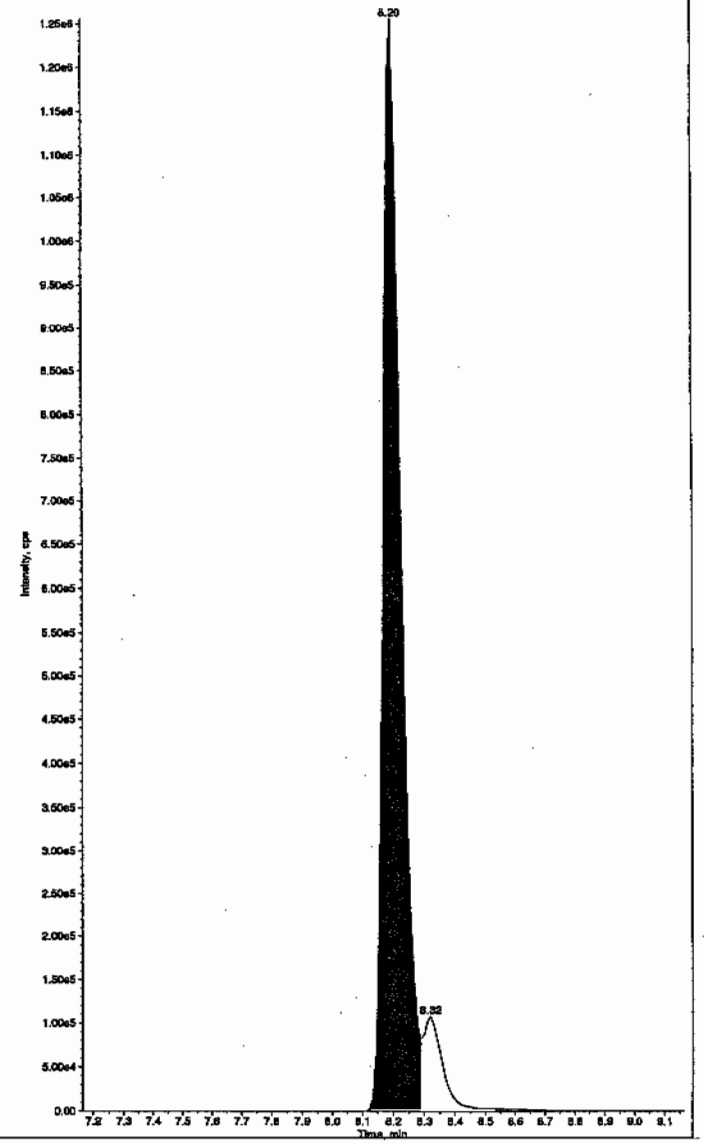


Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190036.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 506. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:23:53 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.19 min
Area: 5.10e+006 counts
Height: 1255052.889 cps
Start Time: 8.12 min
End Time: 8.29 min



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

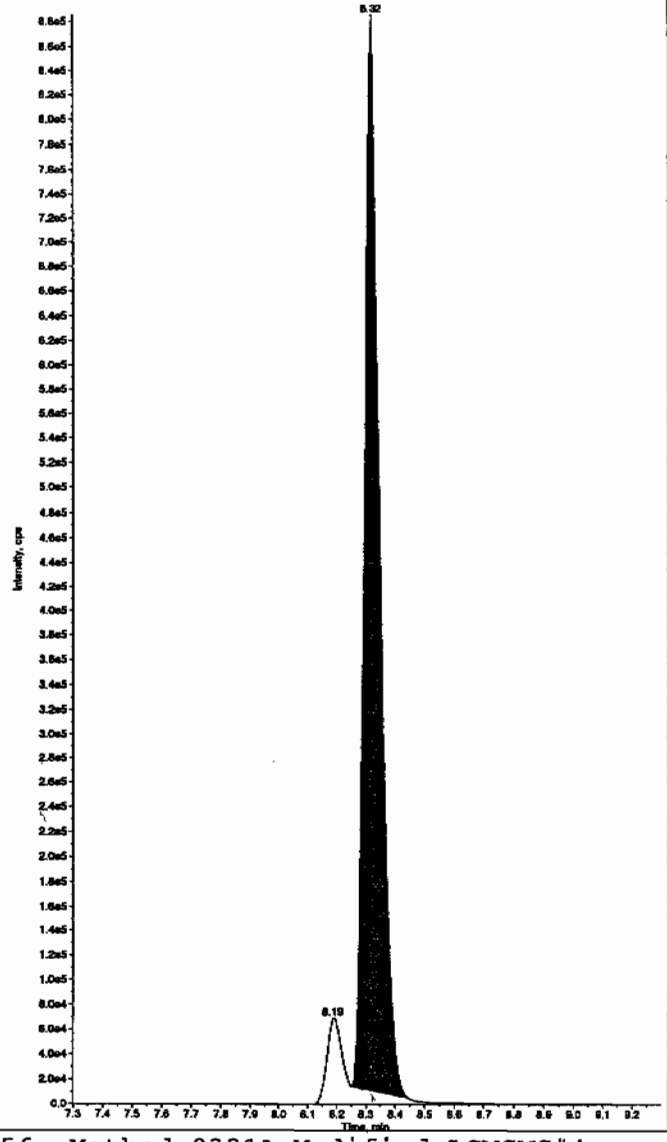
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-25CCV" Sample ID: "|1|LER" File: "EXS01190036.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 250. ng/mL
Calculated Conc: 229. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:23:53 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.32 min
Area: 3.22e+006 counts
Height: 874219.543 cps
Start Time: 8.25 min
End Time: 8.44 min

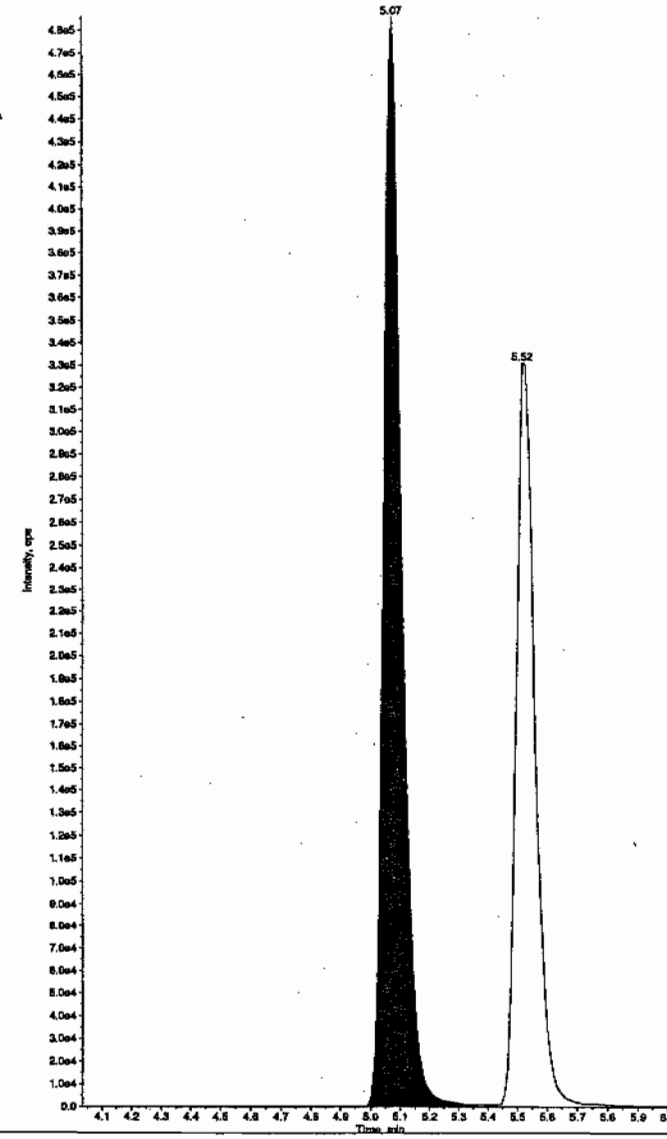


Sample Name: "WXX100119-26CCV" Sample ID: "|1|LER" File: "EXS01190036.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 495. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:23:53 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.03 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.07 min
Area: 2.13e+006 counts
Height: 486093.781 cps
Start Time: 4.95 min
End Time: 5.36 min



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

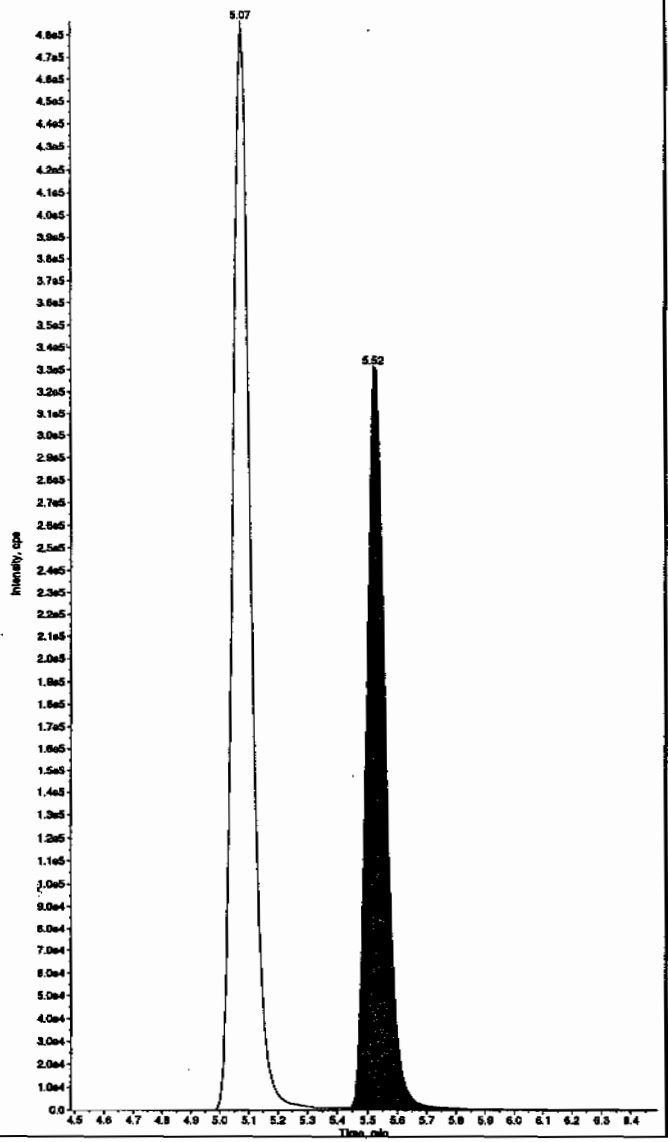
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-25CCV" Sample ID: "[1]LER" File: "EXS01190036.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 515. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:23:53 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.52 min
Area: 1.46e+006 counts
Height: 331103.699 cps
Start Time: 5.43 min
End Time: 5.98 min

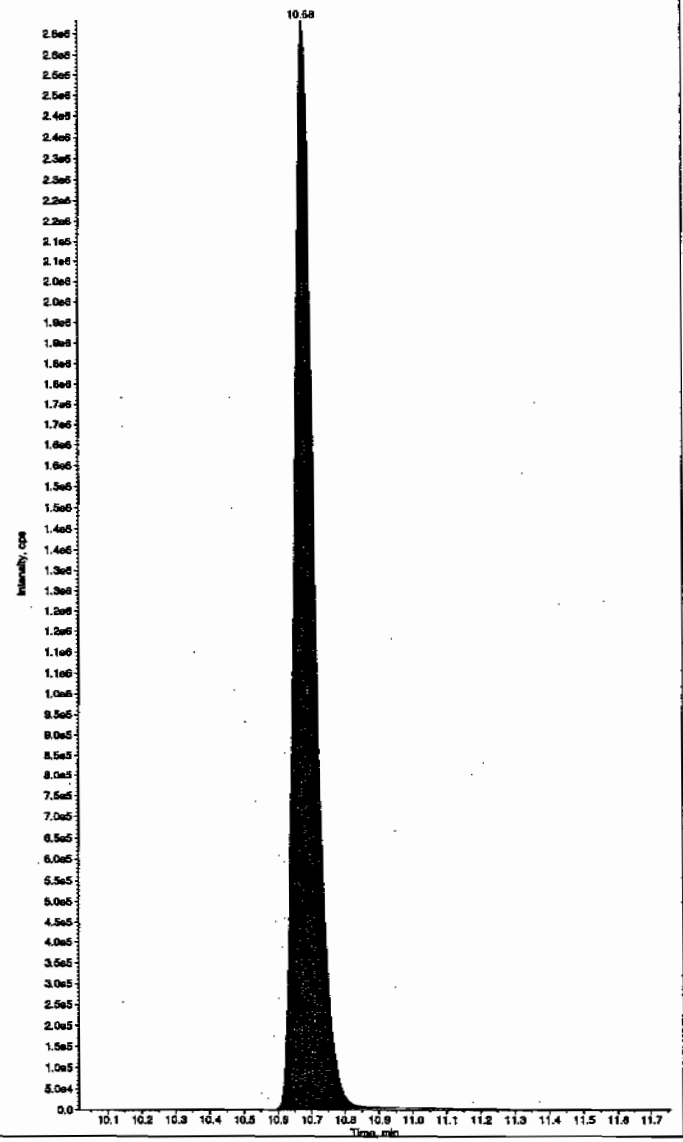


Sample Name: "WXX100119-25CCV" Sample ID: "[1]LER" File: "EXS01190036.wiff"
Peak Name: "tris(p-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 476. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:23:53 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.7 min
Area: 1.10e+007 counts
Height: 2631821.045 cps
Start Time: 10.6 min
End Time: 11.0 min



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

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PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1126

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01190038.wiff

Analysis Date: 19–JAN–10 23:55

LCMSMS ID: 1358

Column ID: JSphere ODS–H80

Compound	True	Found	Recovery	Q
2,4–Diamino–6–nitrotoluene	100	103	103	
2,6–Diamino–4–nitrotoluene	100	107	107	
3,4–Dinitrotoluene	50	50	100	
3,5–Dinitroaniline	100	98.1	98	
TATB	100	95.4	95	
tris(o–cresyl) phosphate	100	95.1	95	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 50–150%
OtherTarget Analytes 70–130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

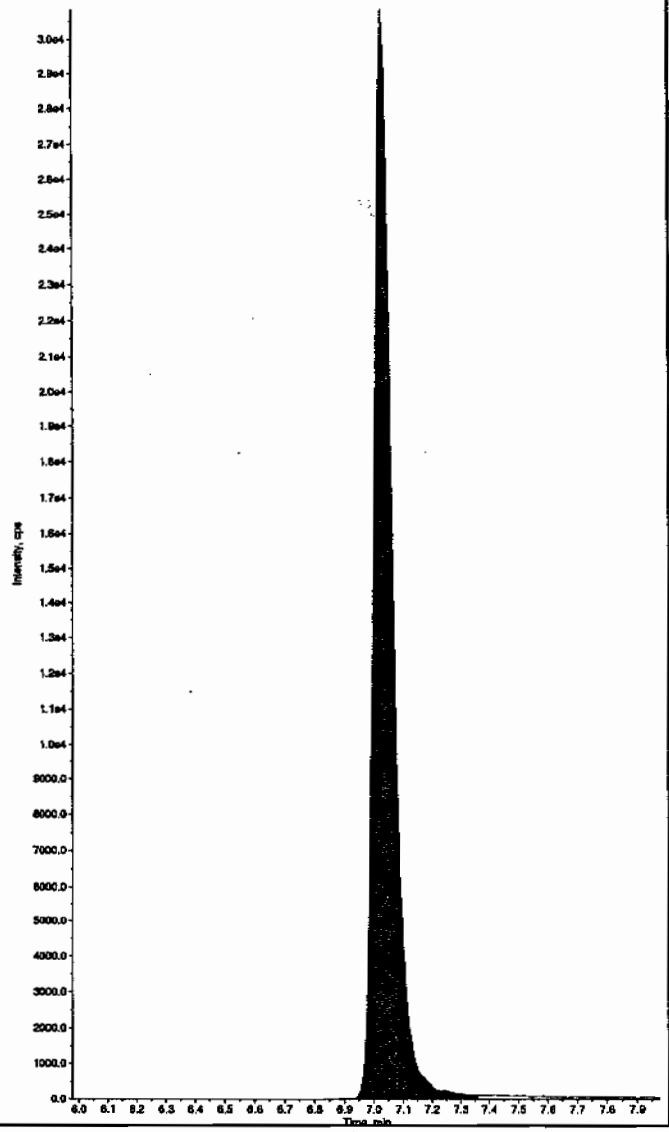
Byron Lar 1/20/10

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190038.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 95.4 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:55:17 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 1.37e+005 counts
Height: 30843.424 cps
Start Time: 6.90 min
End Time: 7.36 min

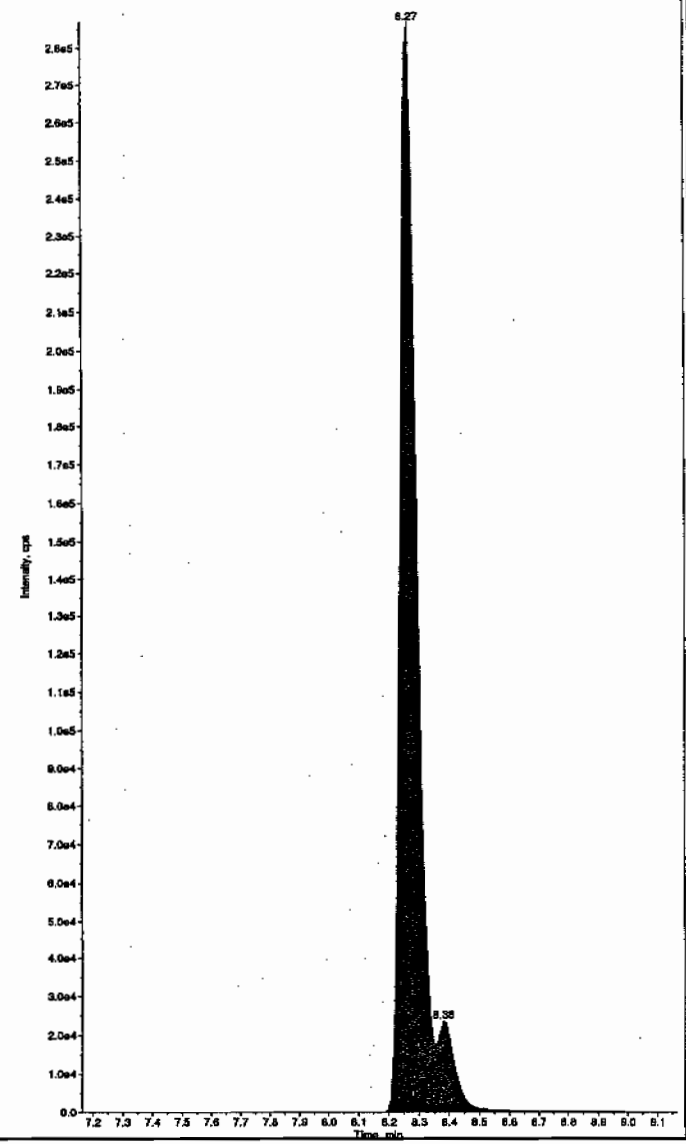


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190036.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 109. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:55:17 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.27 min
Area: 1.21e+006 counts
Height: 287094.330 cps
Start Time: 8.15 min
End Time: 8.66 min



HMM 01/20/10

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

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

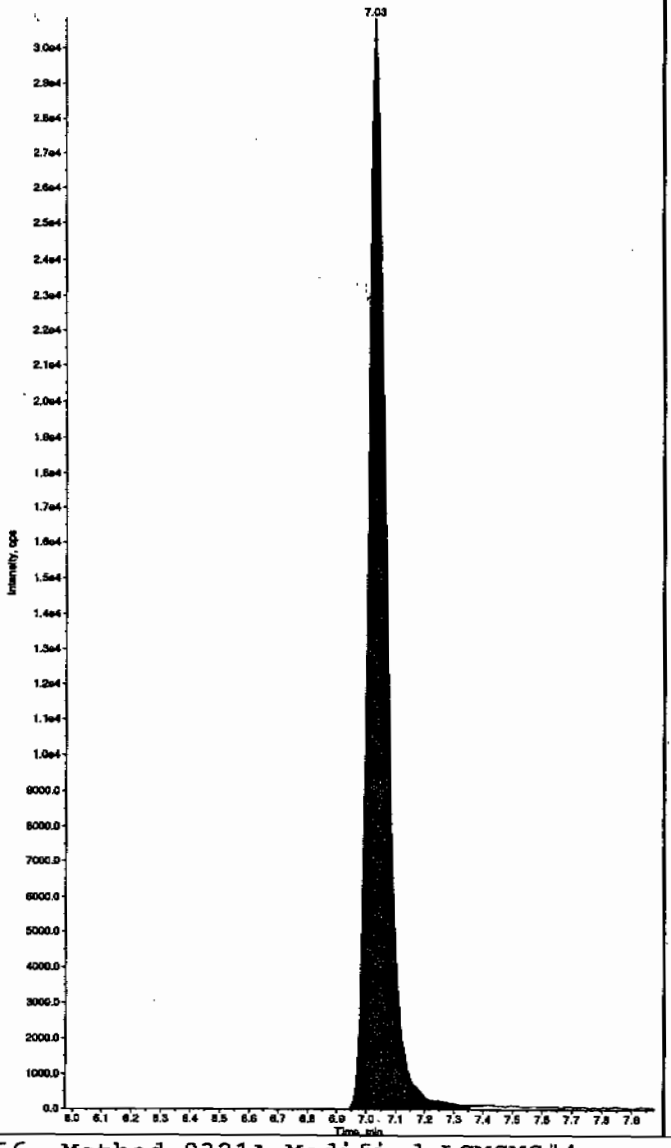
after Ran 1/20/10

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190038.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 95.4 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:55:17 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 1.37e+005 counts
Height: 30843.424 cps
Start Time: 6.90 min
End Time: 7.36 min

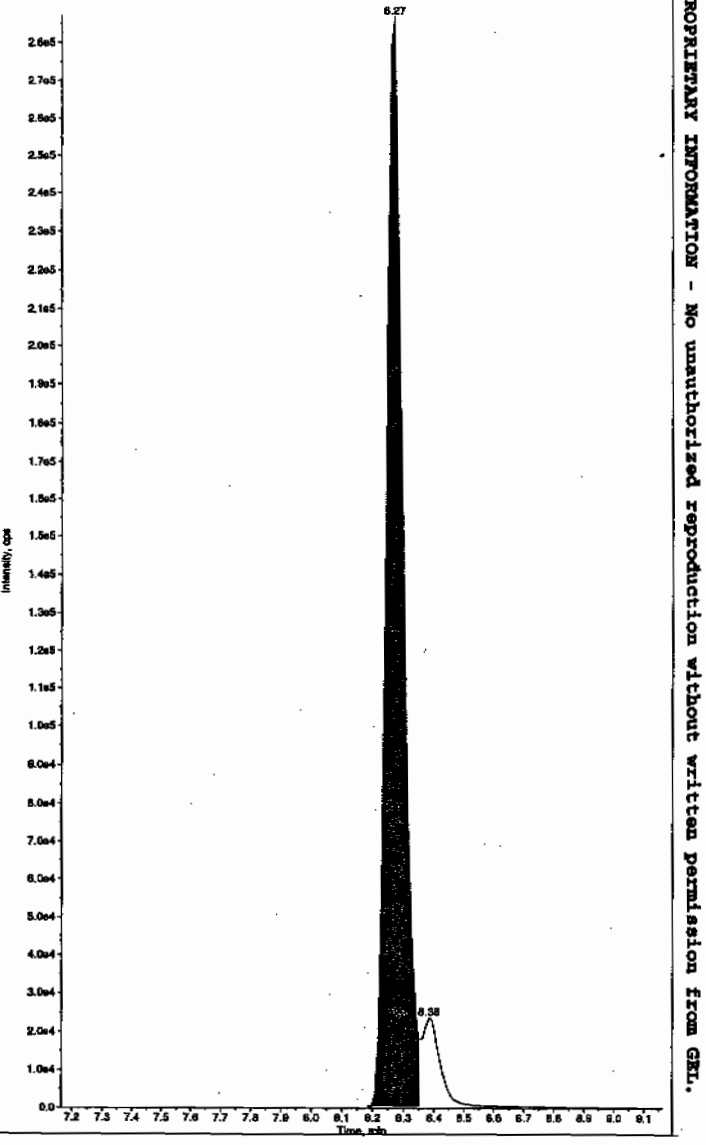


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190038.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 98.1 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:55:17 PM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.26 min
Area: 1.10e+006 counts
Height: 289220.925 cps
Start Time: 8.19 min
End Time: 8.35 min



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

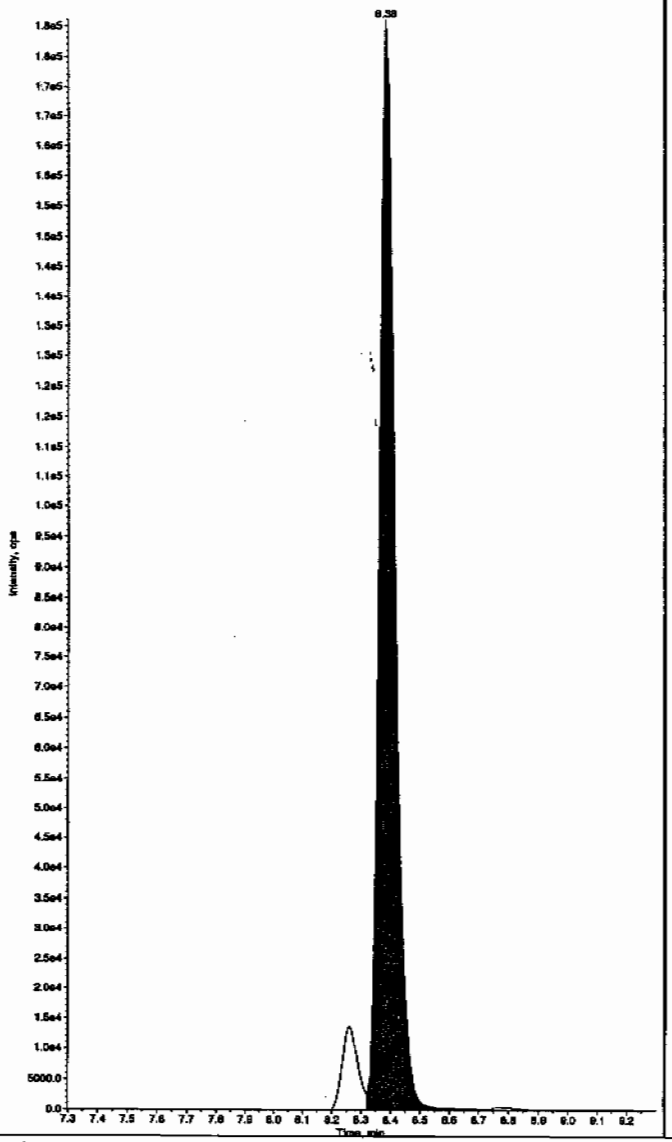
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190038.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 50.0 ng/mL
Calculated Conc: 50.0 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:55:17 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.38 min
Area: 6.83e+005 counts
Height: 180923.355 cps
Start Time: 8.32 min
End Time: 8.70 min

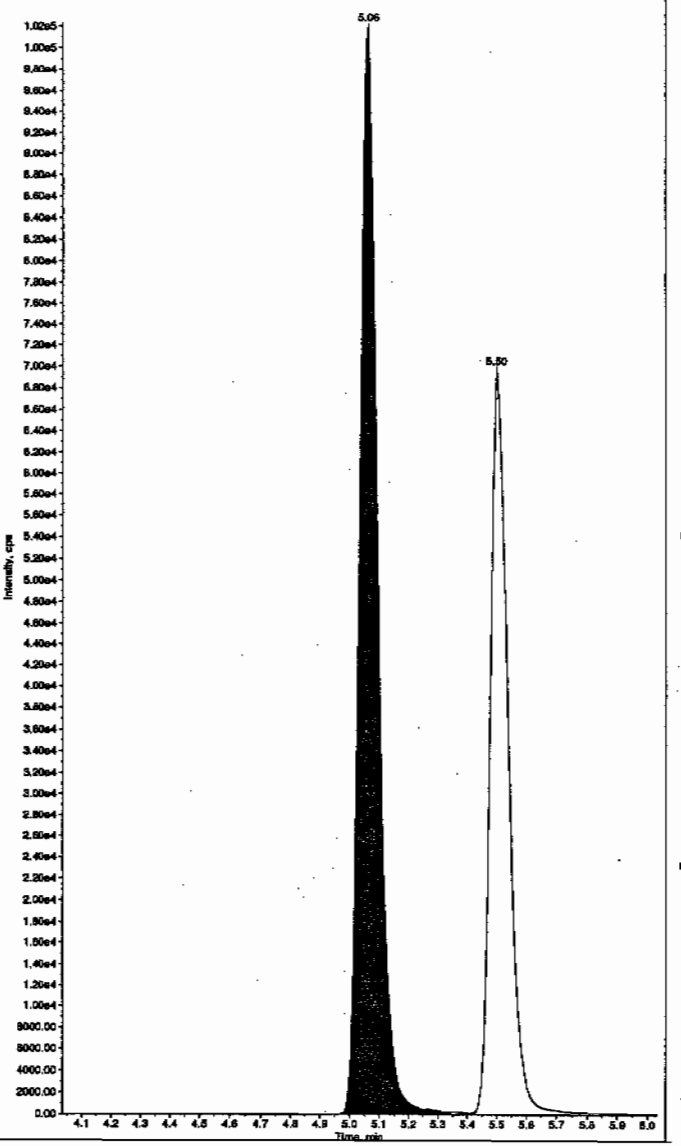


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190038.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 107. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:55:17 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.03 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.06 min
Area: 4.47e+005 counts
Height: 102279.625 cps
Start Time: 4.95 min
End Time: 5.34 min



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

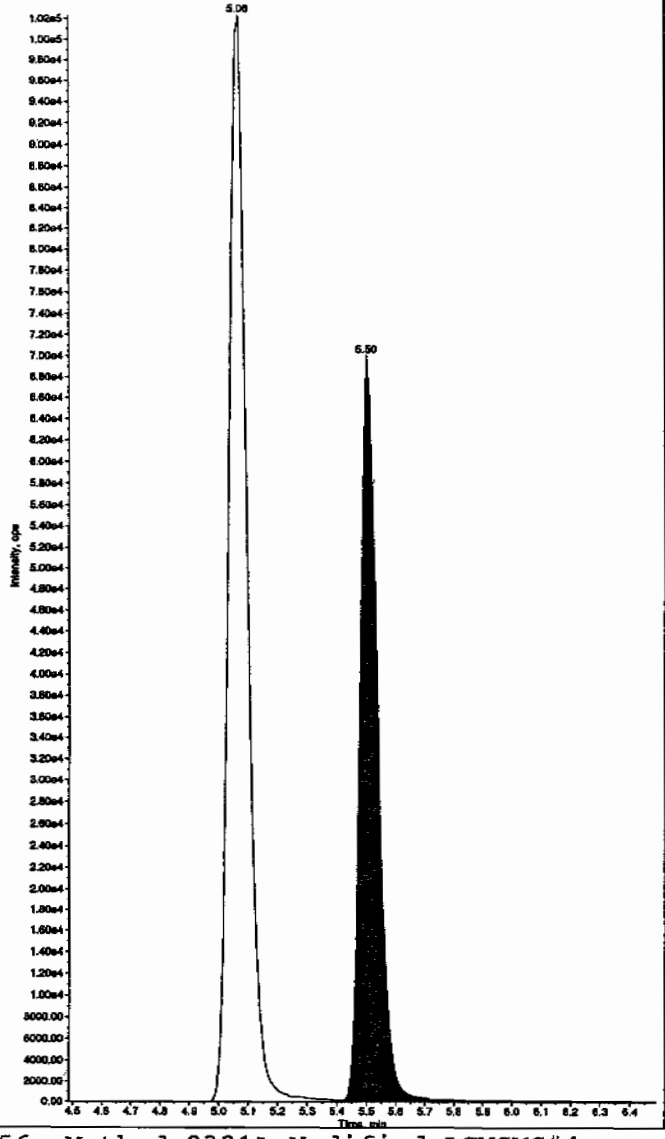
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190038.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 103. ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:55:17 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.50 min
Area: 2.93e+005 counts
Height: 69930.809 cps
Start Time: 5.41 min
End Time: 5.90 min

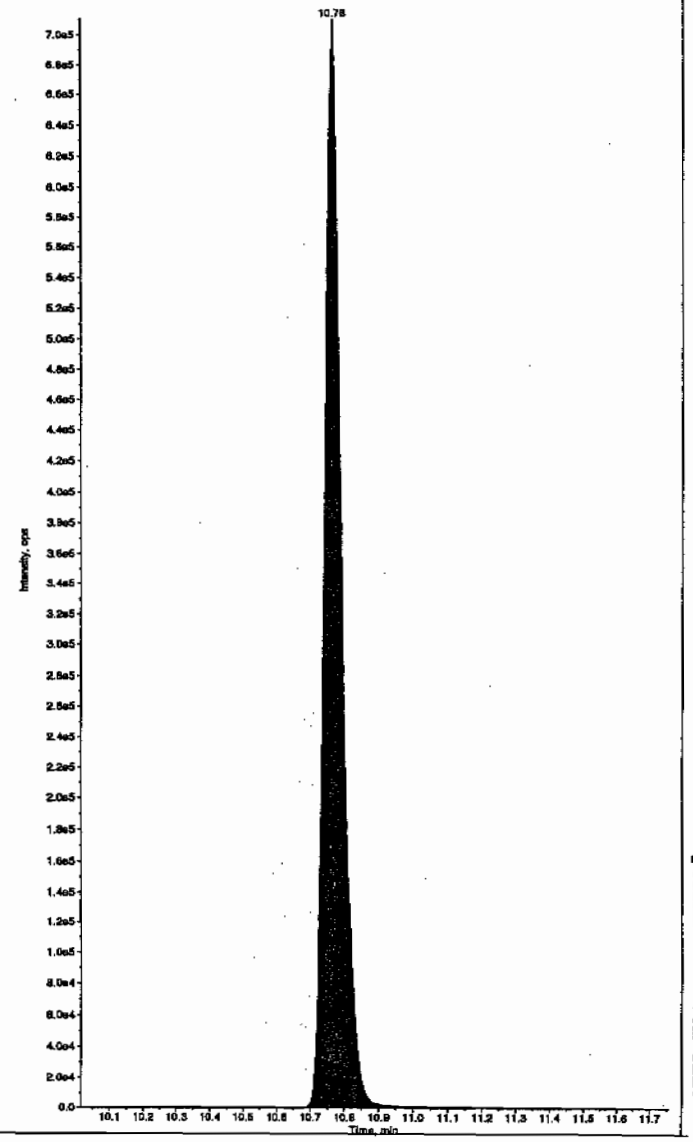


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190038.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 95.1 ng/mL
Acq. Date: 1/19/2010
Acq. Time: 11:55:17 PM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.8 min
Area: 2.52e+006 counts
Height: 710425.415 cps
Start Time: 10.7 min
End Time: 11.0 min



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

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01190048.wiff

Analysis Date: 20-JAN-10 02:32

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	521	104	
2,6-Diamino-4-nitrotoluene	500	523	105	
3,4-Dinitrotoluene	250	220	88	
3,5-Dinitroaniline	500	505	101	
TATB	500	468	94	
tris(o-cresyl) phosphate	500	483	97	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

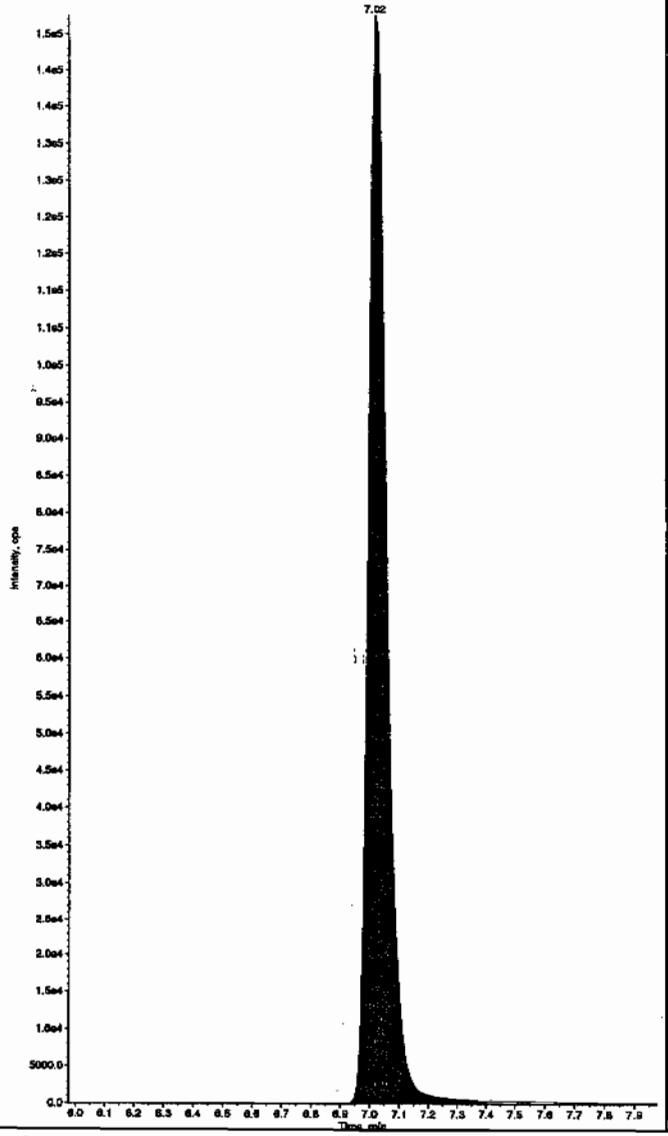
Before LER 1/20/10

Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190048.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 468. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:32:20 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.02 min
Area: 6.57e+005 counts
Height: 147571.274 cps
Start Time: 6.89 min
End Time: 7.40 min

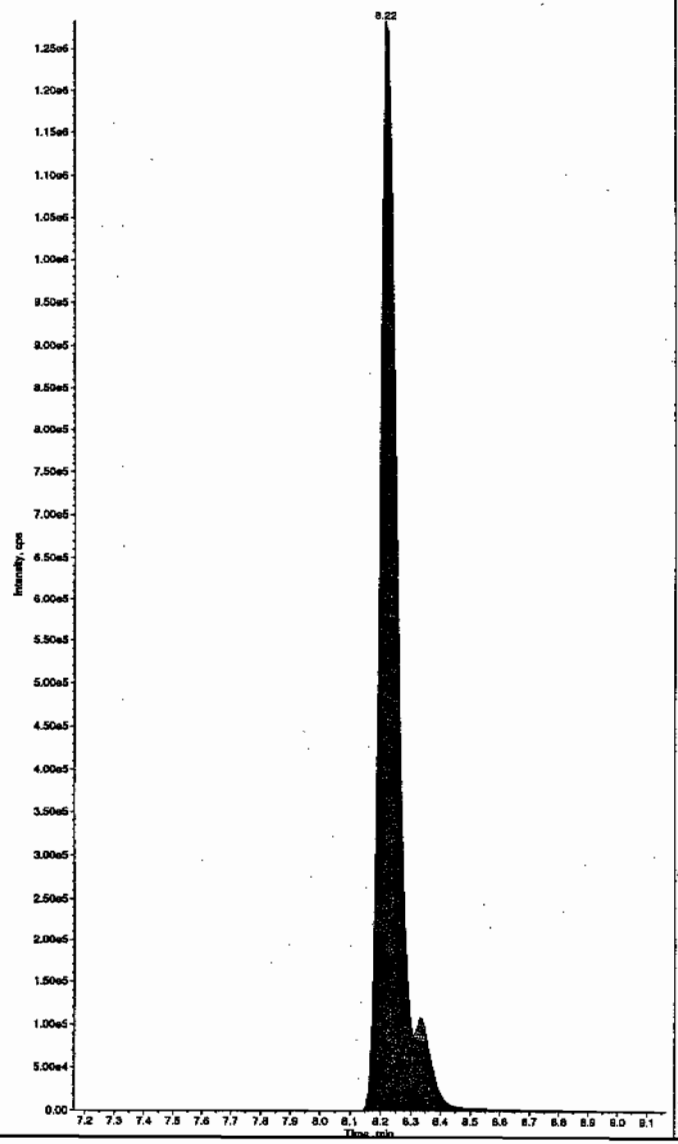


Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190048.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 559. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:32:20 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.22 min
Area: 5.59e+006 counts
Height: 1283429.810 cps
Start Time: 8.12 min
End Time: 8.75 min



HMM 01/20/10

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

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

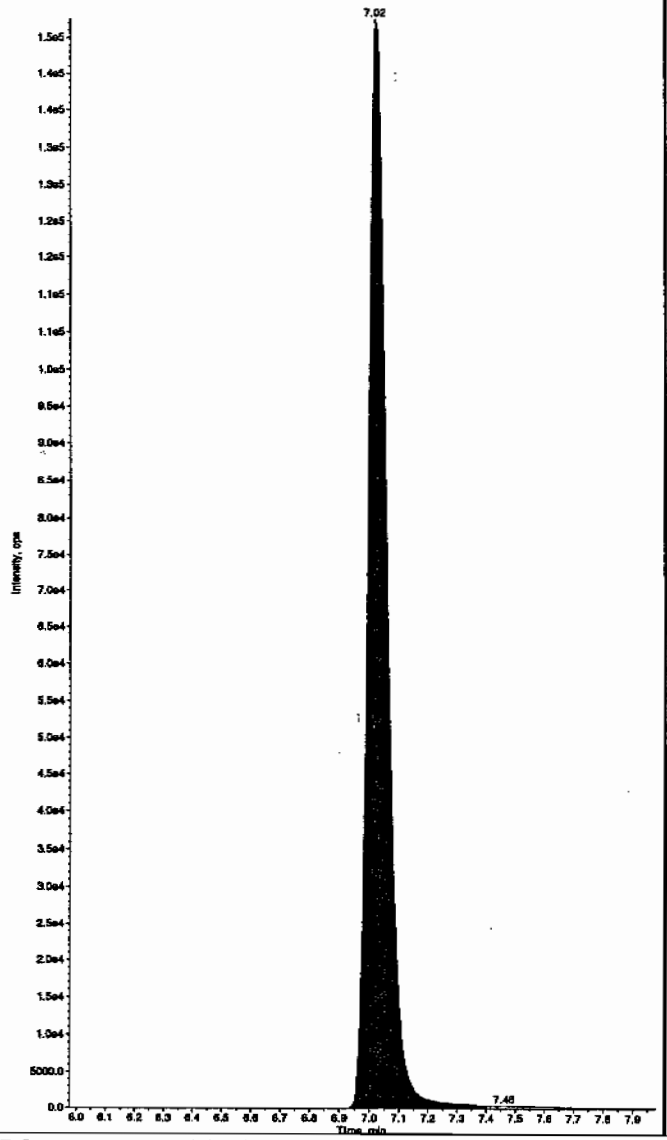
after LER
1/20/10

Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190048.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 468. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:32:20 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.02 min
Area: 6.57e+005 counts
Height: 147571.274 cps
Start Time: 6.89 min
End Time: 7.40 min

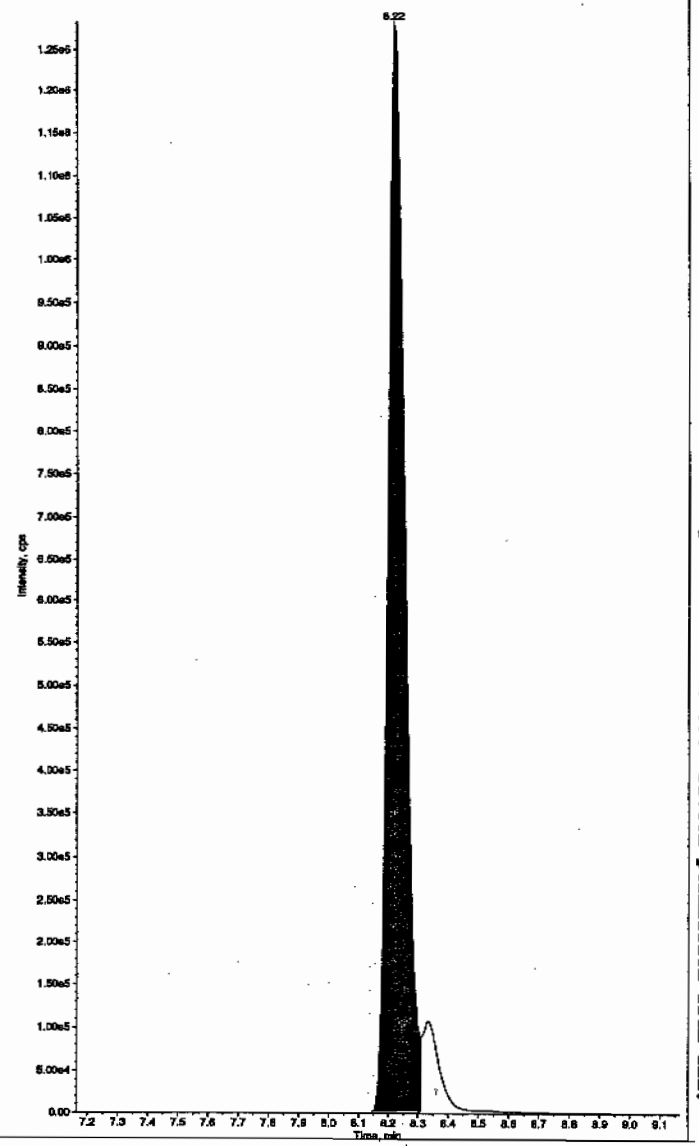


Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190048.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 505. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:32:20 AM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.22 min
Area: 5.09e+006 counts
Height: 1303059.485 cps
Start Time: 8.15 min
End Time: 8.31 min



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

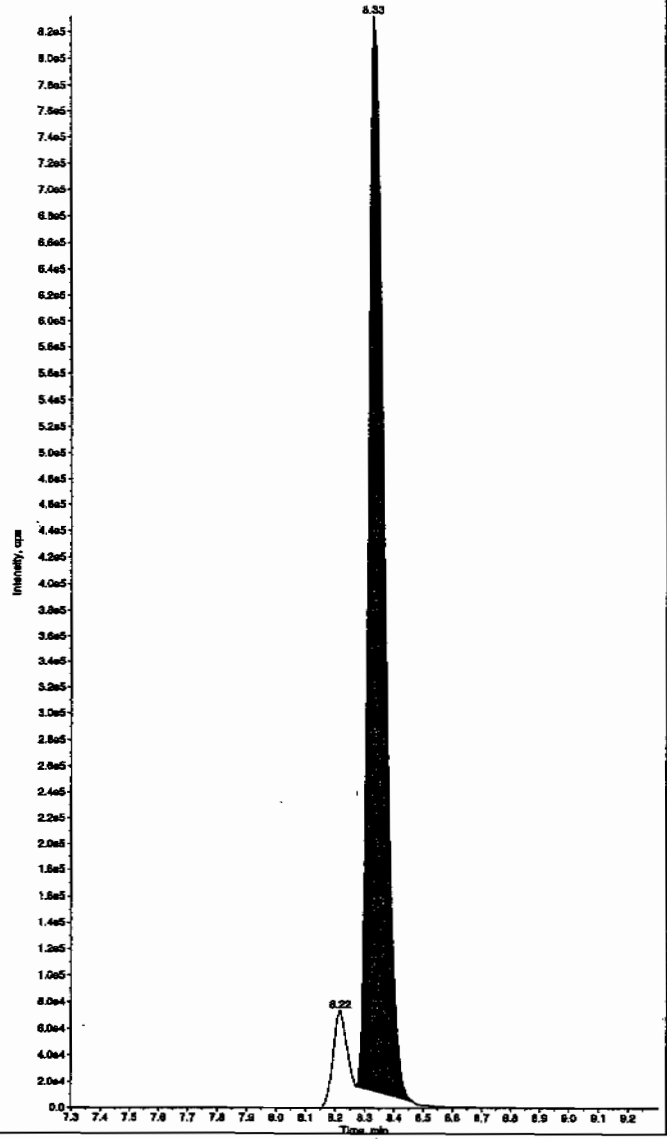
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-25CCV" Sample ID: "[1]LER" File: "EXS01190048.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 250. ng/mL
Calculated Conc: 220. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:32:20 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.33 min
Area: 3.09e+006 counts
Height: 819221.741 cps
Start Time: 8.27 min
End Time: 8.46 min

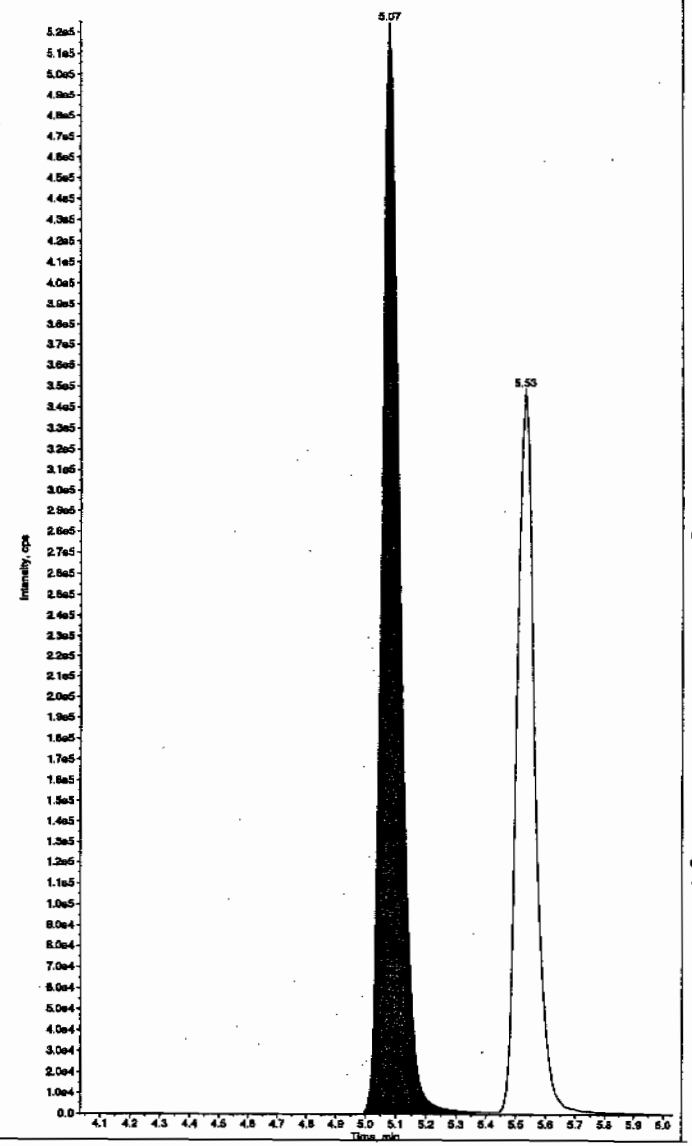


Sample Name: "WXX100119-25CCV" Sample ID: "[1]LER" File: "EXS01190048.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 523. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:32:20 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.03 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.07 min
Area: 2.25e+006 counts
Height: 525097.168 cps
Start Time: 4.97 min
End Time: 5.36 min



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

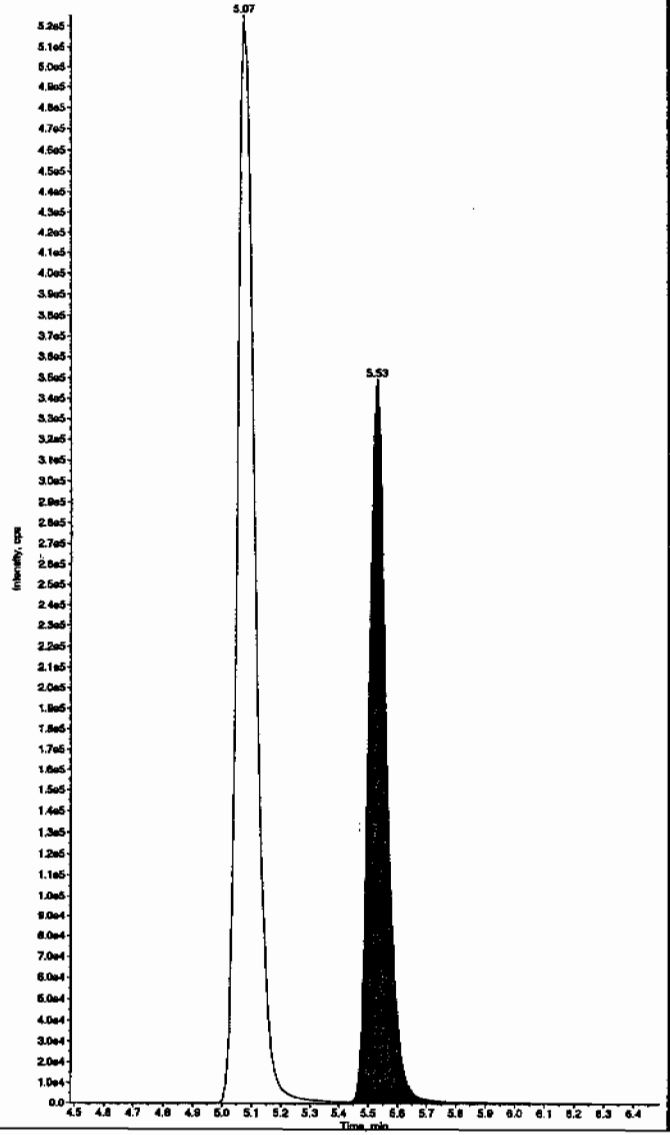
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190048.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 521. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:32:20 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.53 min
Area: 1.48e+006 counts
Height: 349362.640 cps
Start Time: 5.44 min
End Time: 5.97 min

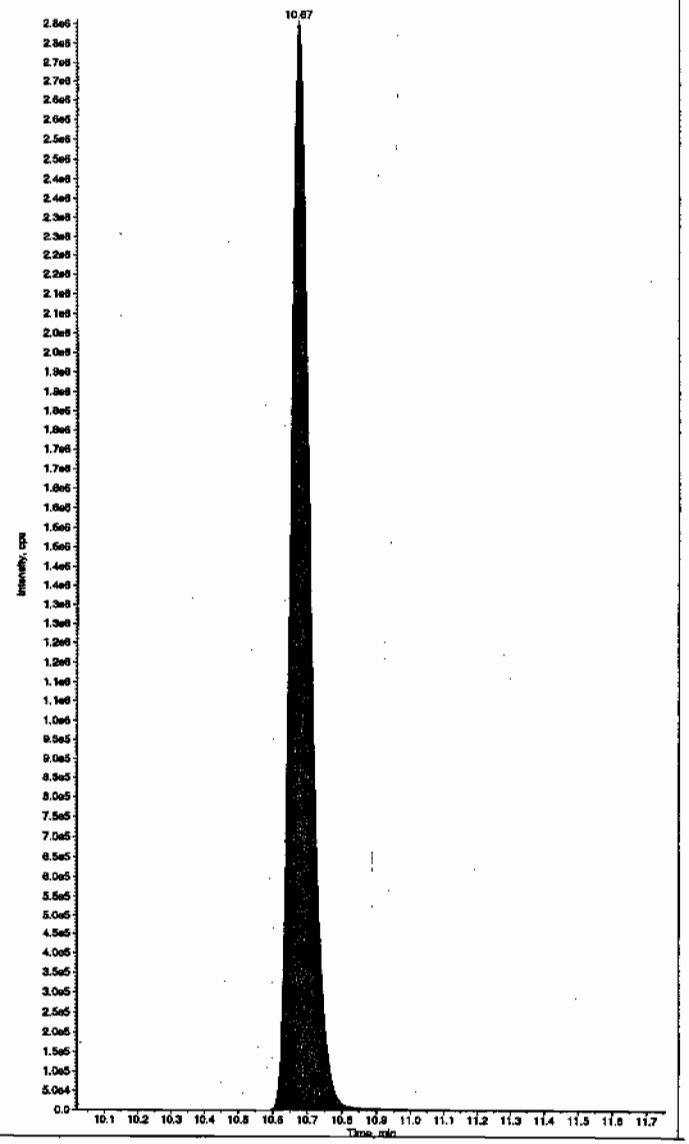


Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190048.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 483. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 2:32:20 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.7 min
Area: 1.12e+007 counts
Height: 2809192.627 cps
Start Time: 10.6 min
End Time: 11.0 min



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

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10–1126

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01190050.wiff

Analysis Date: 20–JAN–10 03:03

LCMSMS ID: 1358

Column ID: JSphere ODS–H80

Compound	True	Found	Recovery	Q
2,4–Diamino–6–nitrotoluene	100	107	107	
2,6–Diamino–4–nitrotoluene	100	108	108	
3,4–Dinitrotoluene	50	48.6	97	
3,5–Dinitroaniline	100	90.1	90	
TATB	100	91.8	92	
tris(o–cresyl) phosphate	100	92.5	93	

Recovery Limits:
3,4–Dinitrotoluene (Surrogate),TATB, tris(o–cresyl)phosphate, 3,5–Dinitroaniline, 2,6–Diamino–4–nitrotoluene , 2,4–Diamino–6–nitrotoluene 50–150%
OtherTarget Analytes 70–130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

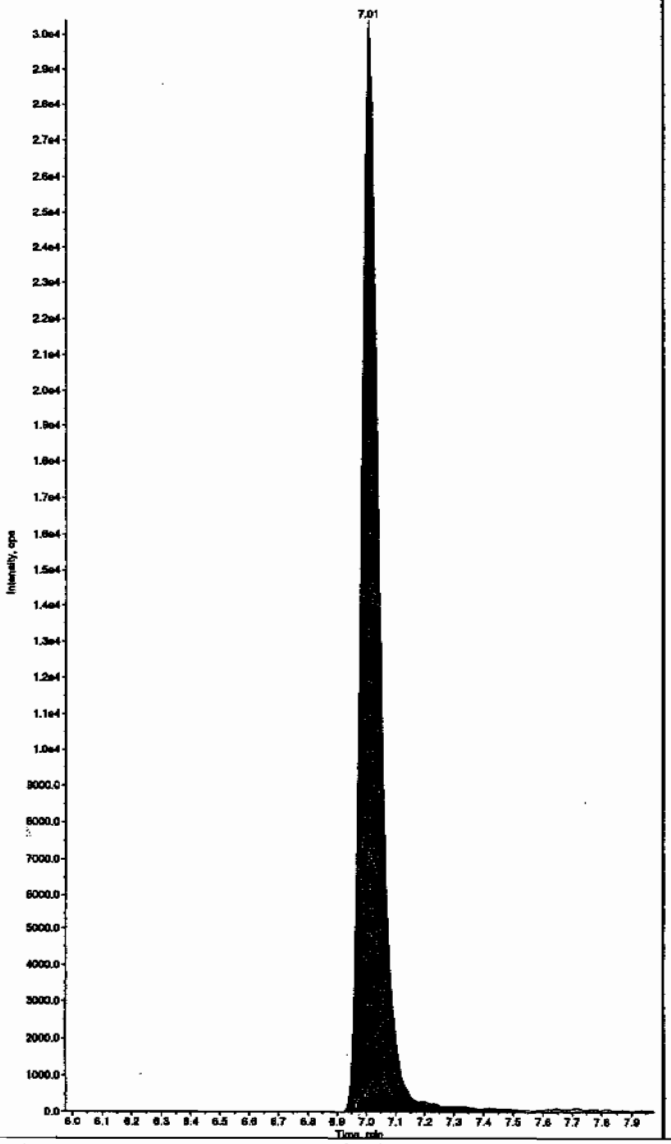
LCR
1/20/10

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190050.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 91.8 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:03:45 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.01 min
Area: 1.32e+005 counts
Height: 30398.462 cps
Start Time: 6.90 min
End Time: 7.53 min

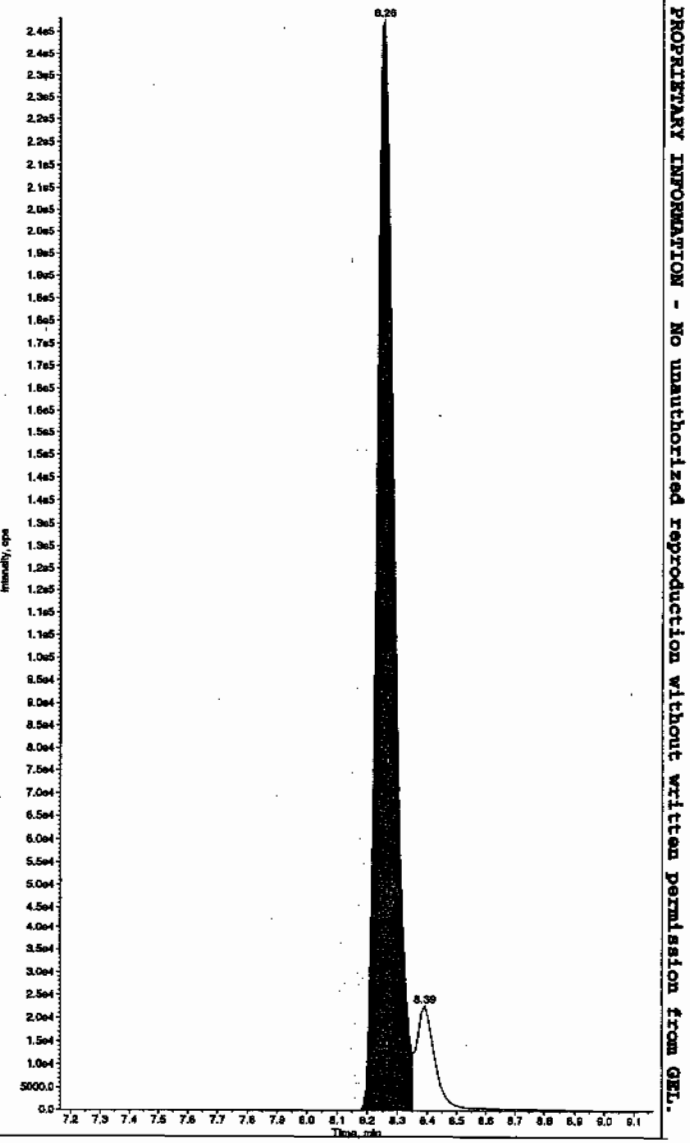


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190050.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 90.1 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:03:45 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.26 min
Area: 1.01e+006 counts
Height: 243078.323 cps
Start Time: 8.16 min
End Time: 8.35 min



AMW 01/20/10

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

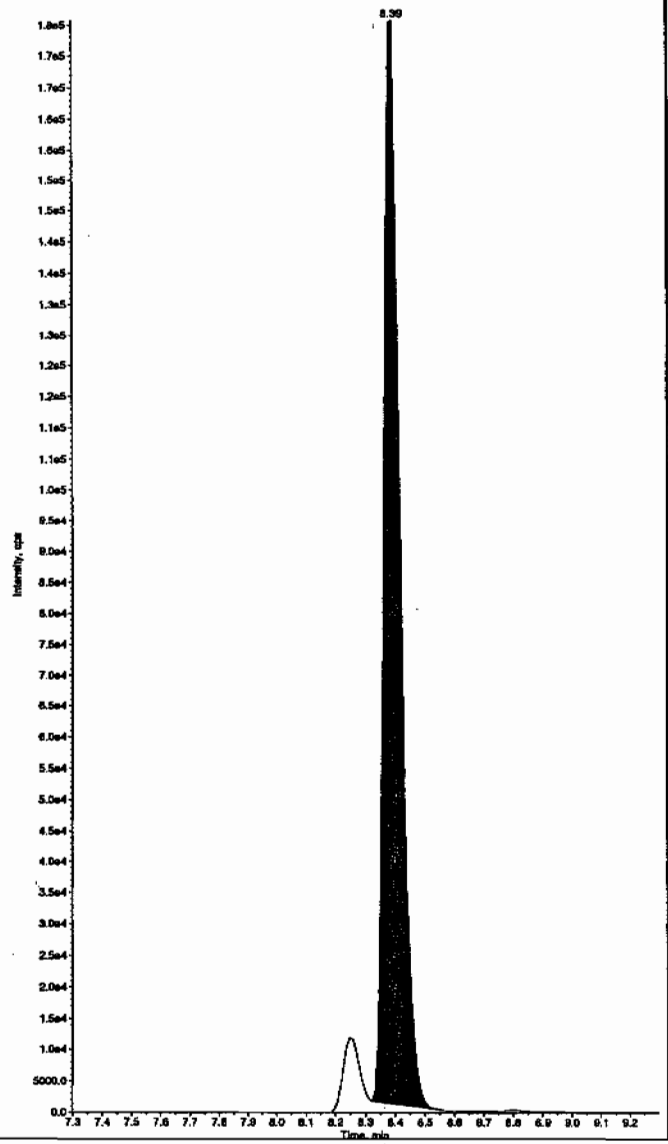
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190050.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 50.0 ng/mL
Calculated Conc: 48.6 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:03:45 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.39 min
Area: 6.63e+005 counts
Height: 174457.657 cps
Start Time: 8.32 min
End Time: 8.56 min

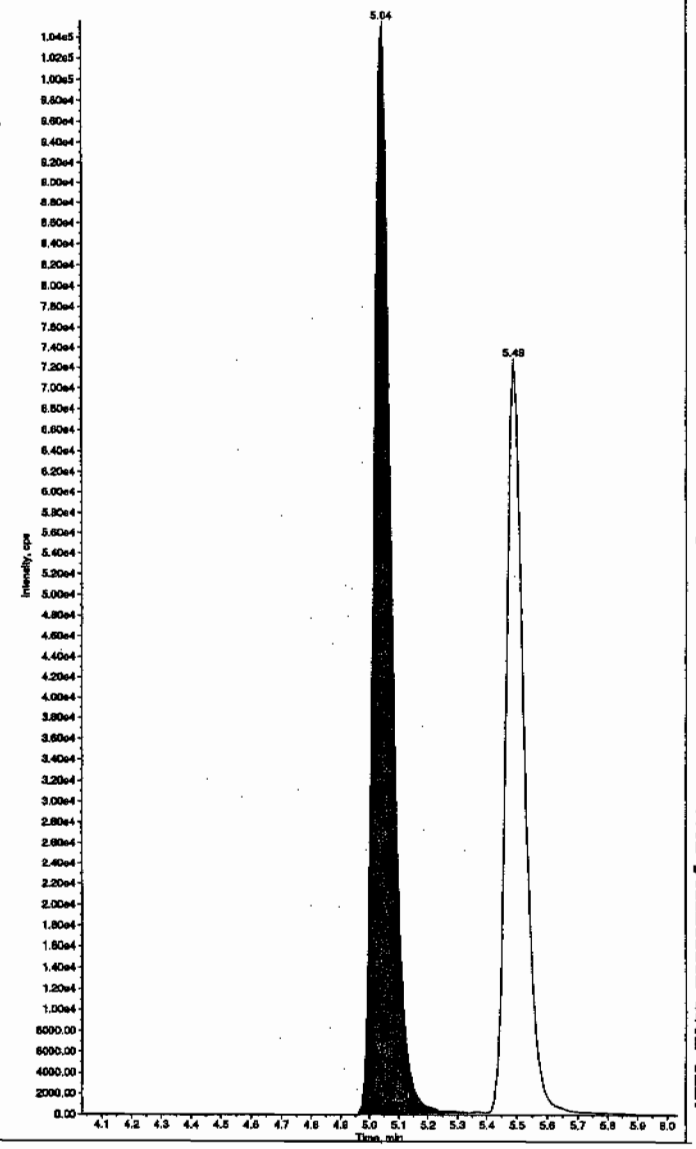


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190050.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 108. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:03:45 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.03 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.04 min
Area: 4.50e+005 counts
Height: 105560.547 cps
Start Time: 4.94 min
End Time: 5.33 min



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

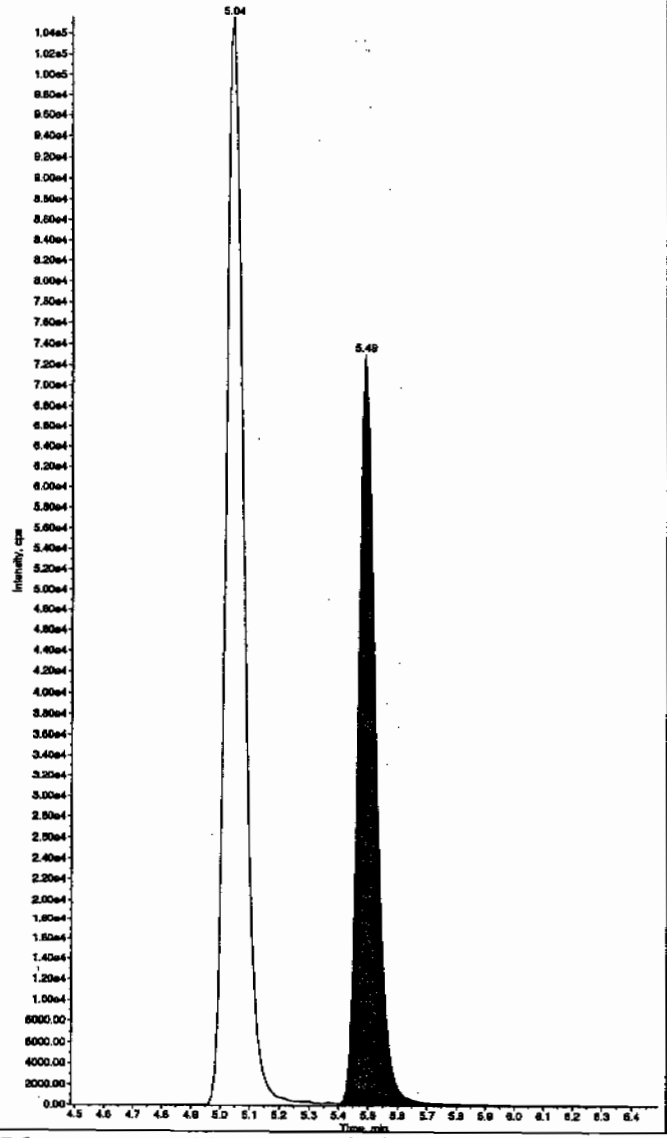
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190050.wiff"
Peak Name: "2/4-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 107. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:03:45 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.49 min
Area: 3.02e+005 counts
Height: 72955.521 cps
Start Time: 5.41 min
End Time: 5.87 min

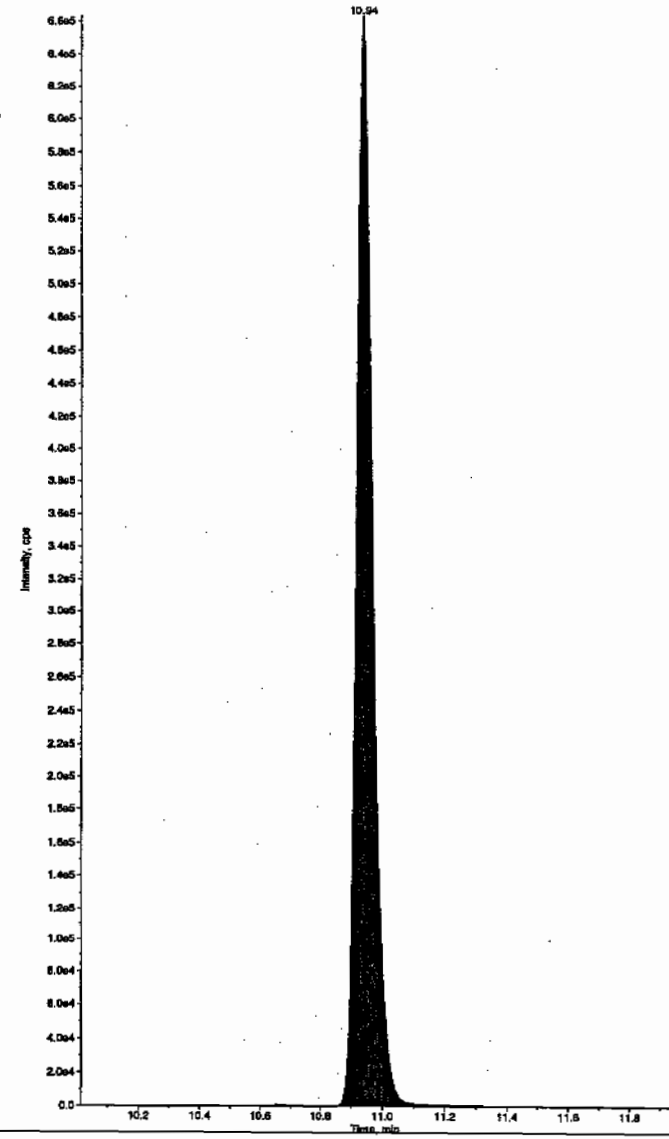


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190050.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 92.5 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:03:45 AM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.9 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 2.46e+006 counts
Height: 663148.376 cps
Start Time: 10.8 min
End Time: 11.2 min



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

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PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01190055.wiff

Analysis Date: 20-JAN-10 04:22

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	518	104	
2,6-Diamino-4-nitrotoluene	500	537	107	
3,4-Dinitrotoluene	250	224	90	
3,5-Dinitroaniline	500	466	93	
TATB	500	472	94	
tris(o-cresyl) phosphate	500	483	97	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%
OtherTarget Analytes 80-120%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

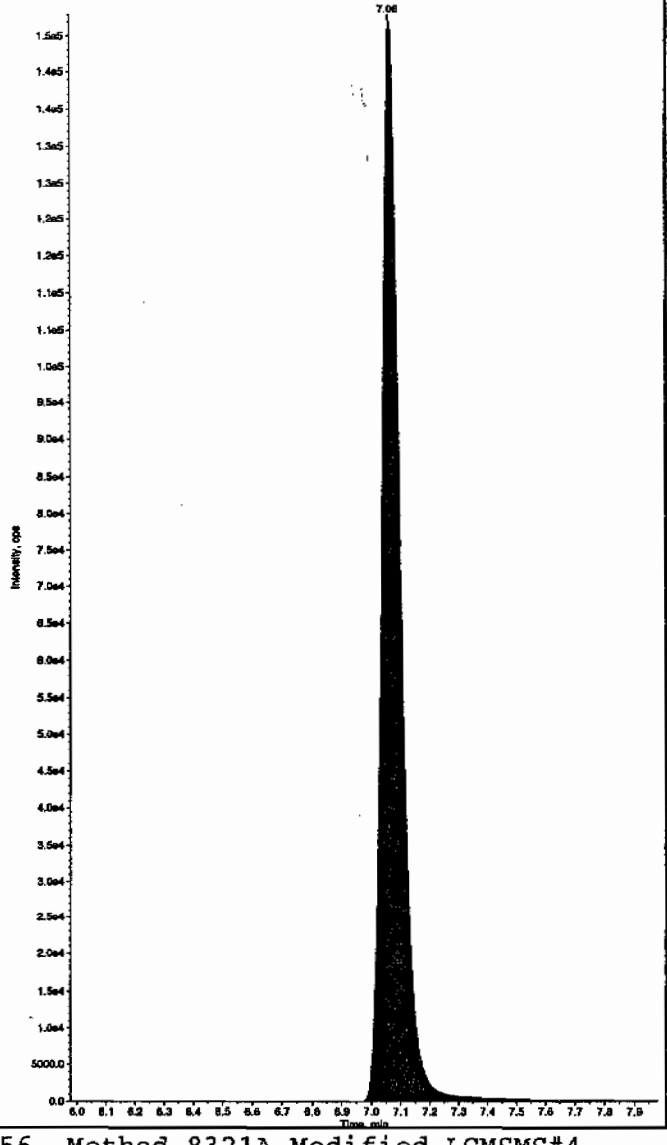
Before Otek 1/20/10

Sample Name: "WXX100119-26CCV" Sample ID: "|1|LER" File: "EXS01190055.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 472. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:22:18 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.06 min
Area: 6.61e+005 counts
Height: 147980.164 cps
Start Time: 6.91 min
End Time: 7.58 min

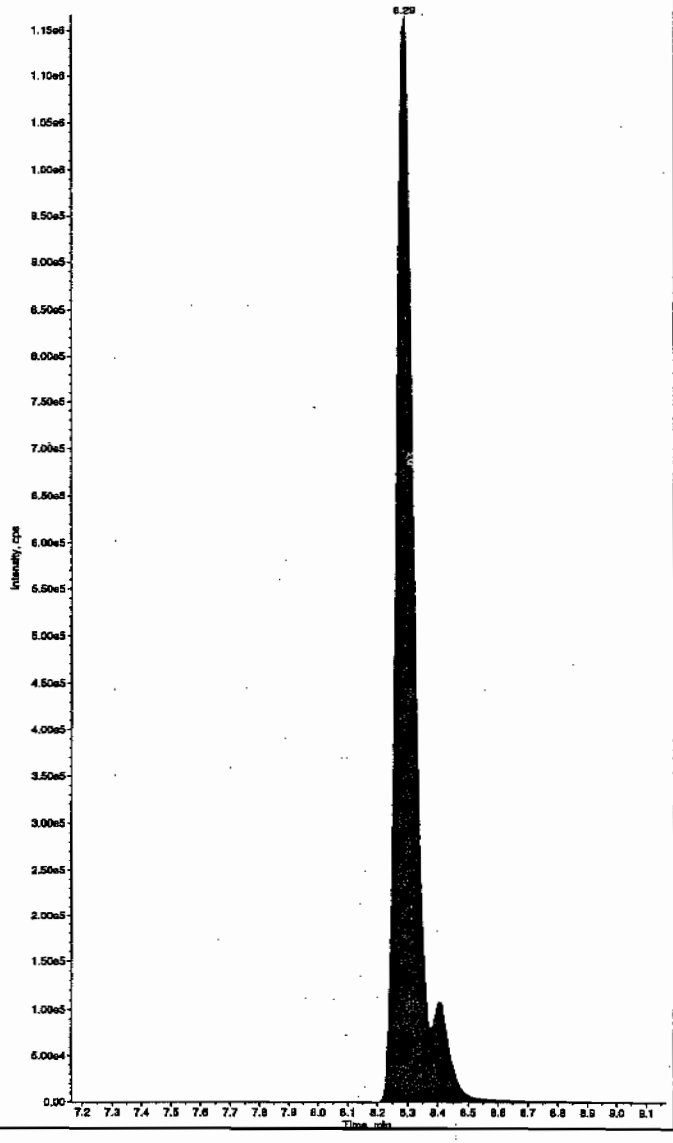


Sample Name: "WXX100119-26CCV" Sample ID: "|1|LER" File: "EXS01190055.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 517. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:22:18 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.29 min
Area: 5.20e+006 counts
Height: 1167262.573 cps
Start Time: 8.08 min
End Time: 8.92 min



HMW 01/20/10

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

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

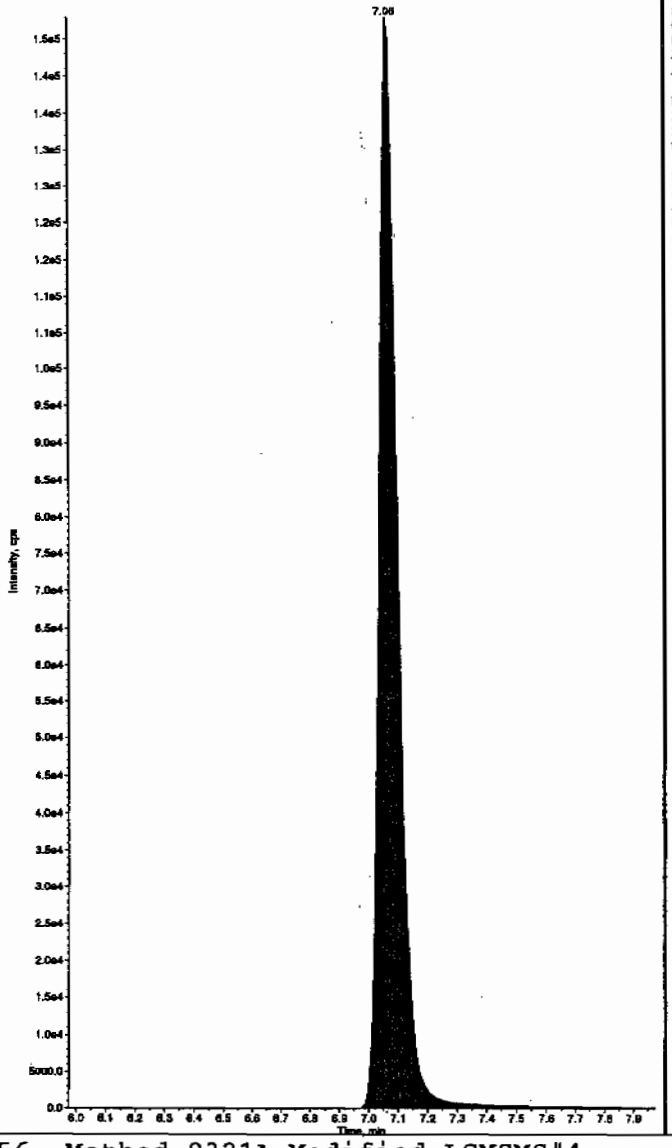
After Lab 1/20/10

Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190055.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 472. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:22:18 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.06 min
Area: 6.61e+005 counts
Height: 147980.164 cps
Start Time: 6.91 min
End Time: 7.58 min

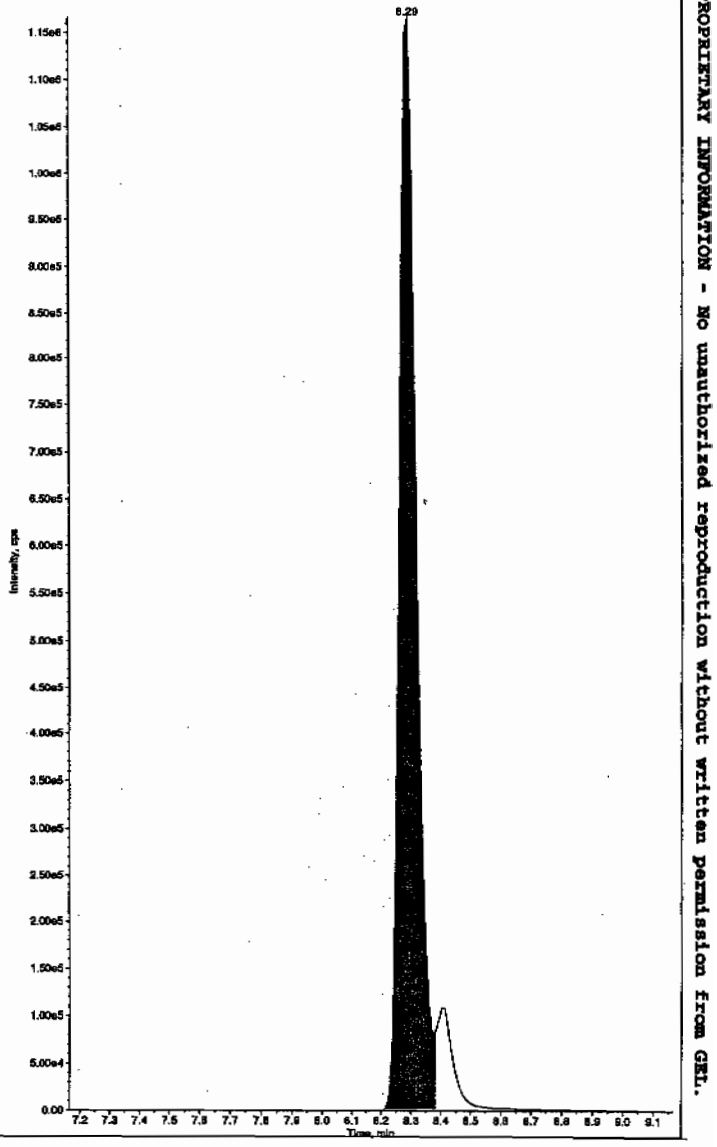


Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190055.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 466. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:22:18 AM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.28 min
Area: 4.72e+006 counts
Height: 1176897.149 cps
Start Time: 8.22 min
End Time: 8.38 min



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

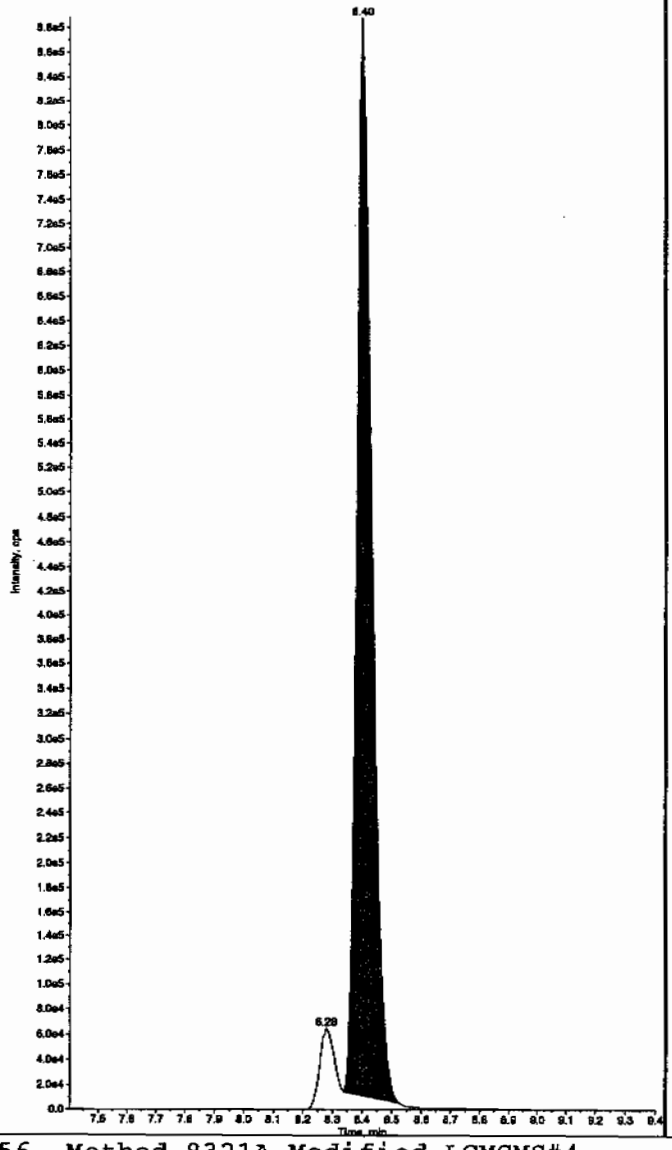
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190055.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 250. ng/mL
Calculated Conc: 224. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:22:18 AM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.40 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.40 min
Area: 3.15e+006 counts
Height: 877036.987 cps
Start Time: 8.34 min
End Time: 8.53 min

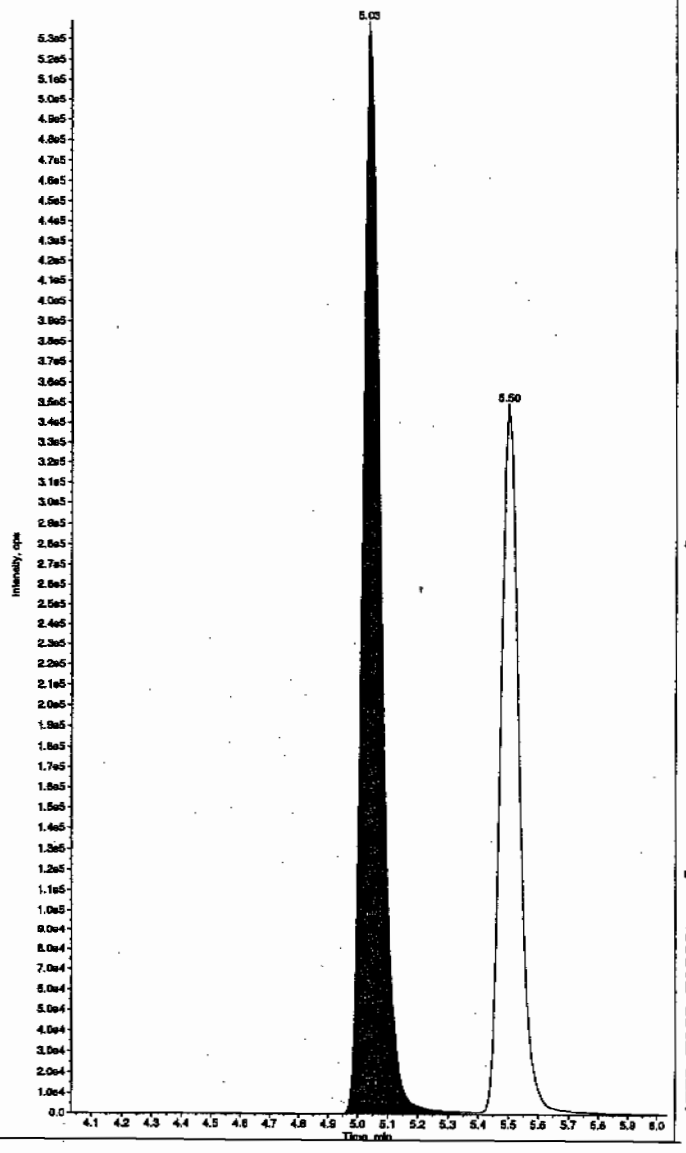


Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190055.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 537. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:22:18 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.03 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.03 min
Area: 2.31e+006 counts
Height: 539085.205 cps
Start Time: 4.94 min
End Time: 5.34 min



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

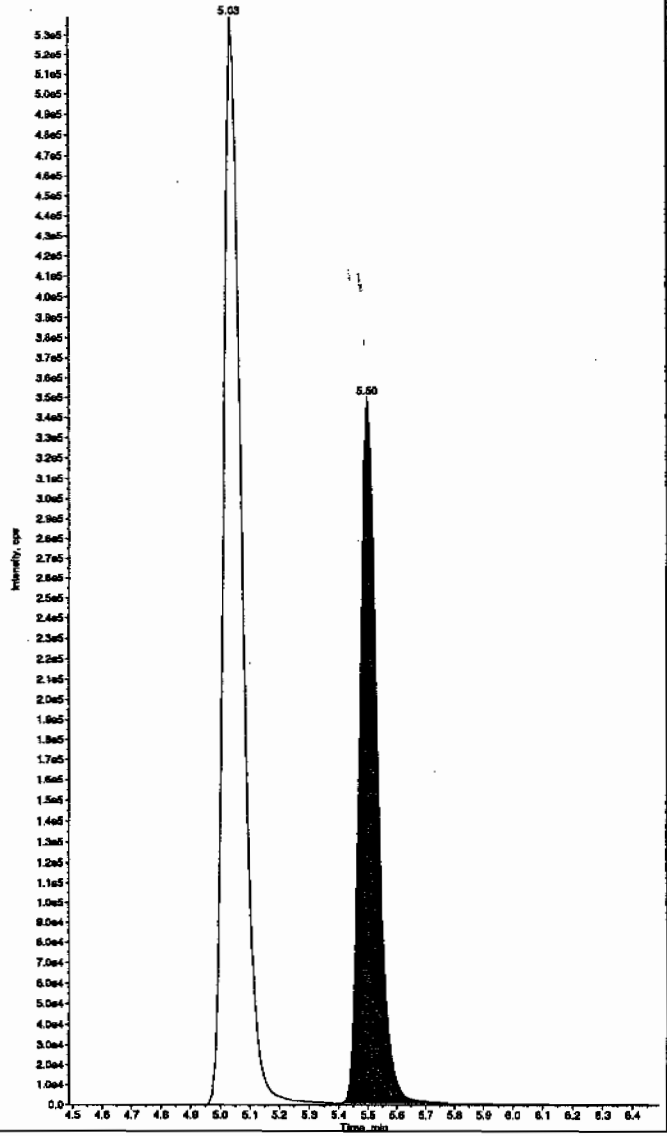
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190055.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 518. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:22:18 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.50 min
Area: 1.47e+006 counts
Height: 349279.236 cps
Start Time: 5.42 min
End Time: 5.85 min

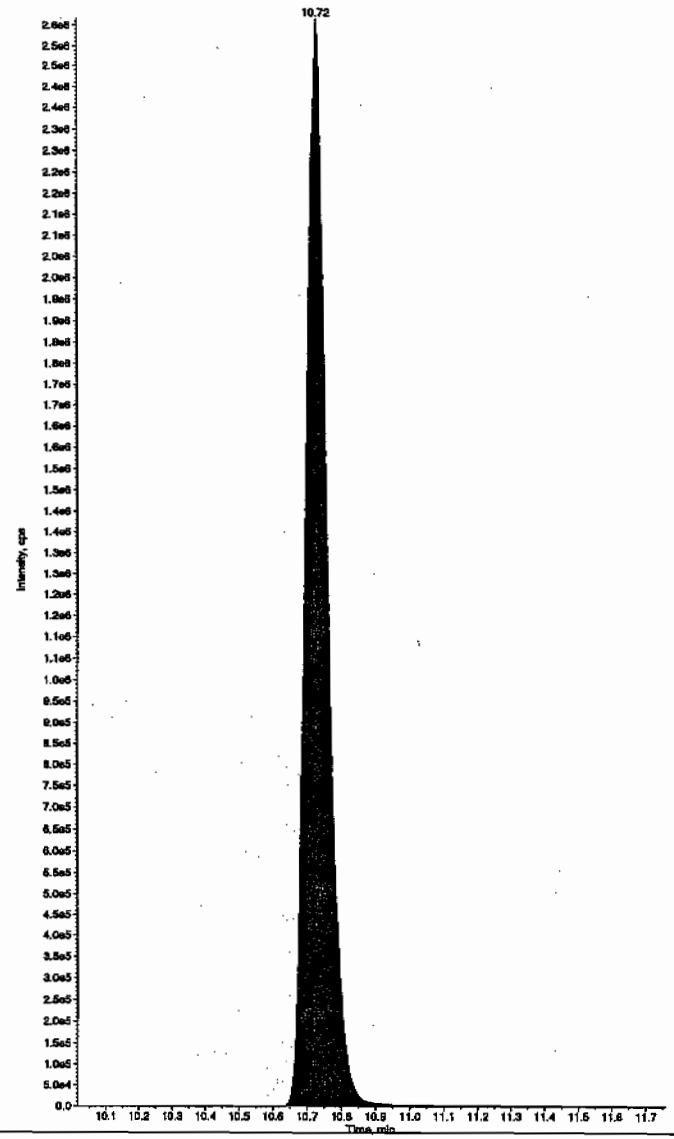


Sample Name: "WXX100119-26CCV" Sample ID: "[1]LER" File: "EXS01190055.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 483. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:22:18 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.7 min
Area: 1.12e+007 counts
Height: 2566886.475 cps
Start Time: 10.6 min
End Time: 11.0 min



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

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7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1126

Lab Code: GEI

GEL Sample ID: WXXCRI

GEL Data File EXS01190057.wiff

Analysis Date: 20-JAN-10 04:53

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	98.7	99	
2,6-Diamino-4-nitrotoluene	100	113	113	
3,4-Dinitrotoluene	50	49.3	99	
3,5-Dinitroaniline	100	92.7	93	
TATB	100	92.1	92	
tris(o-cresyl) phosphate	100	95.9	96	

Recovery Limits:
3,4-Dinitrotoluene (Surrogate),TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 50-150%
OtherTarget Analytes 70-130%
Column used to flag Recovery outside of Limits
* Value outside of Recovery Limits

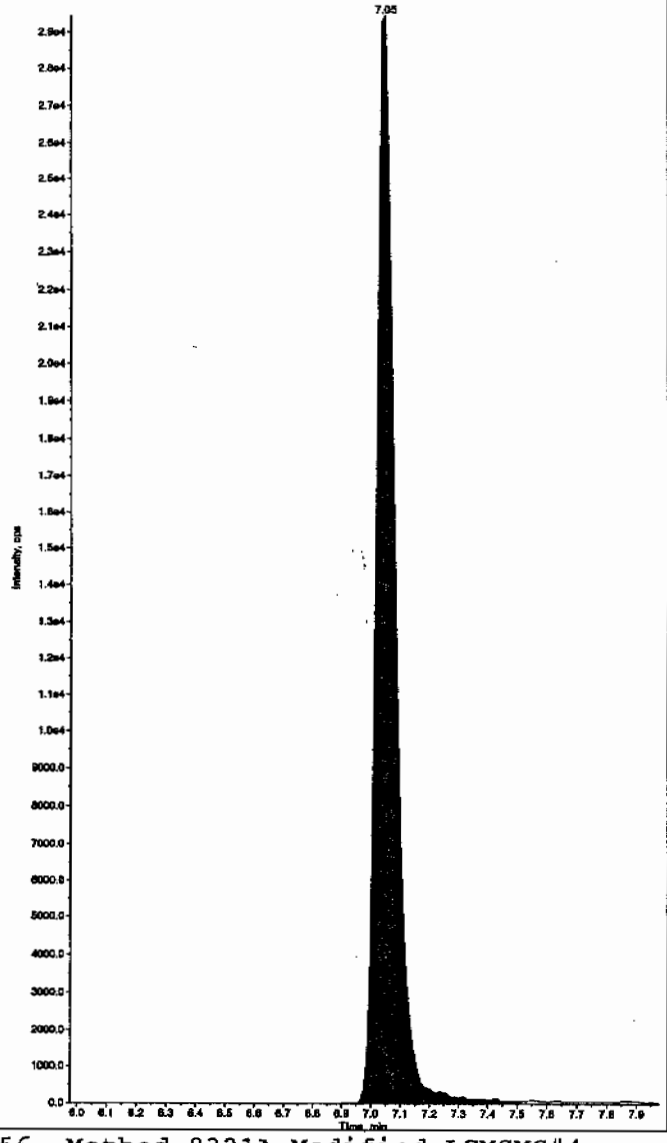
Ler 1/20/10

Sample Name: "WXX100119-27CRI" Sample ID: "|1|LER" File: "EXS01190057.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 92.1 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:53:42 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.05 min
Area: 1.33e+005 counts
Height: 29453.951 cps
Start Time: 6.93 min
End Time: 7.51 min

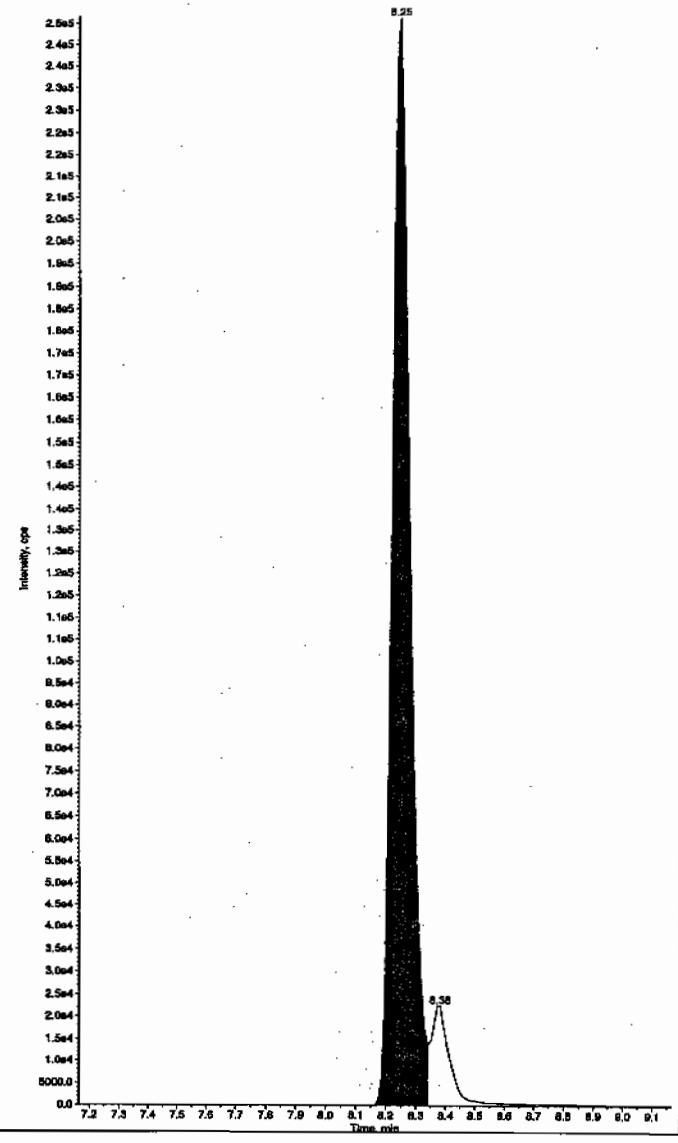


Sample Name: "WXX100119-27CRI" Sample ID: "|1|LER" File: "EXS01190057.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/45.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 92.7 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:53:42 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.25 min
Area: 1.06e+006 counts
Height: 246717.667 cps
Start Time: 8.14 min
End Time: 8.34 min



Jm 01/20/10

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

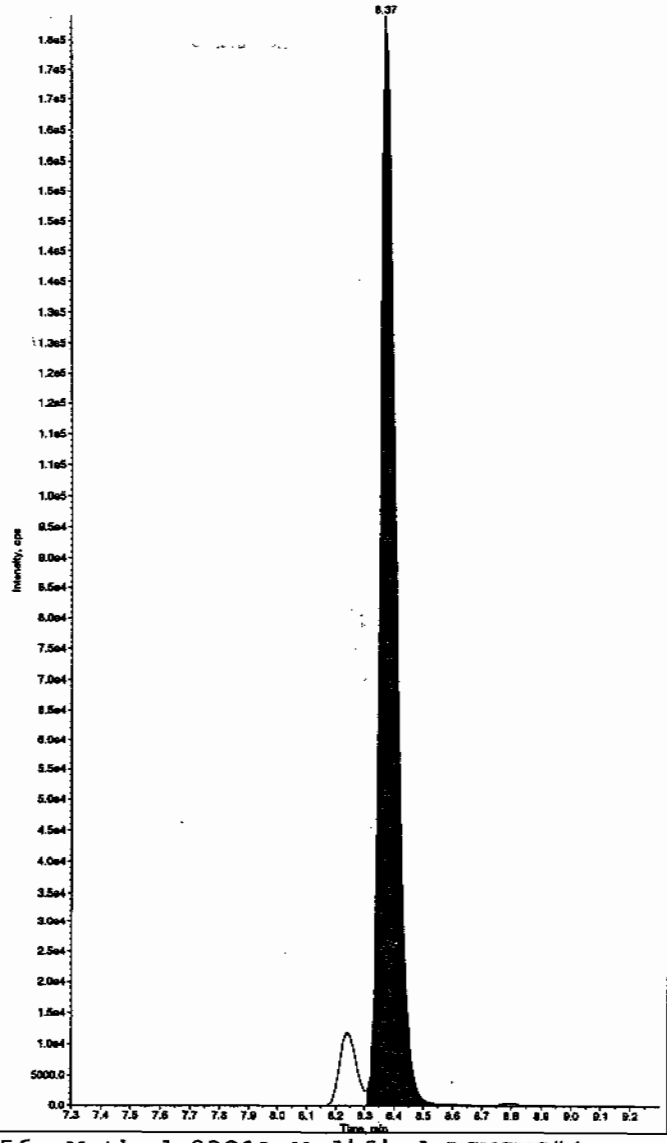
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190057.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 50.0 ng/mL
Calculated Conc: 49.3 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:53:42 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.37 min
Area: 6.74e+005 counts
Height: 178916.611 cps
Start Time: 8.31 min
End Time: 8.70 min

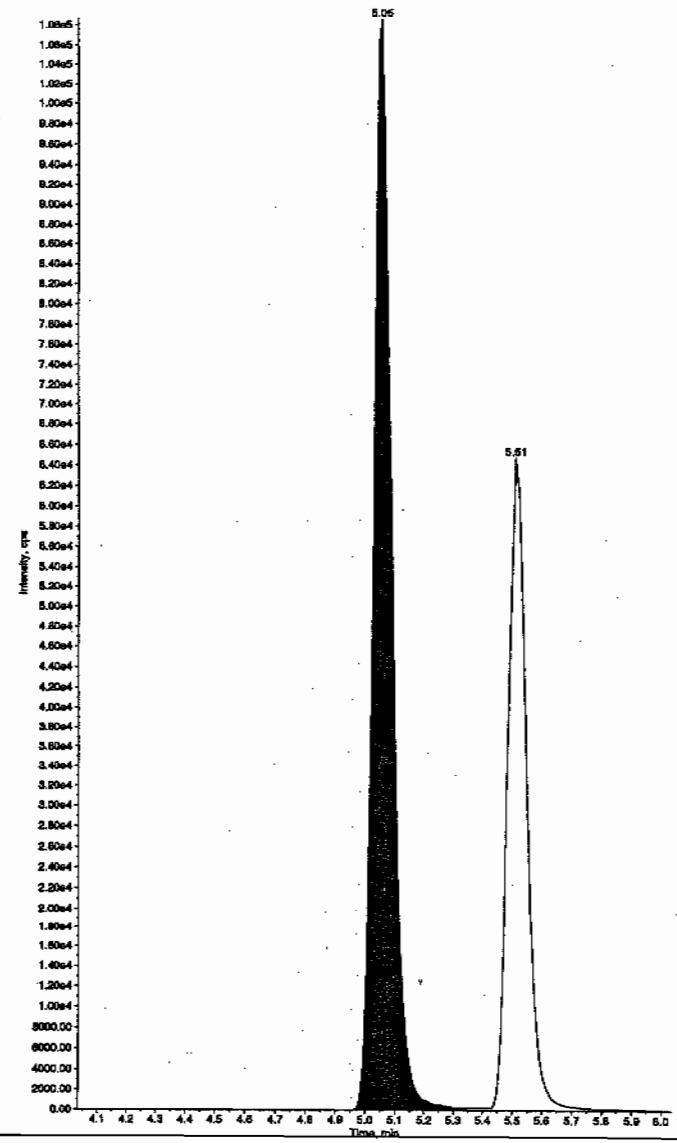


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190057.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 113. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:53:42 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.03 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.05 min
Area: 4.73e+005 counts
Height: 108691.765 cps
Start Time: 4.95 min
End Time: 5.34 min



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

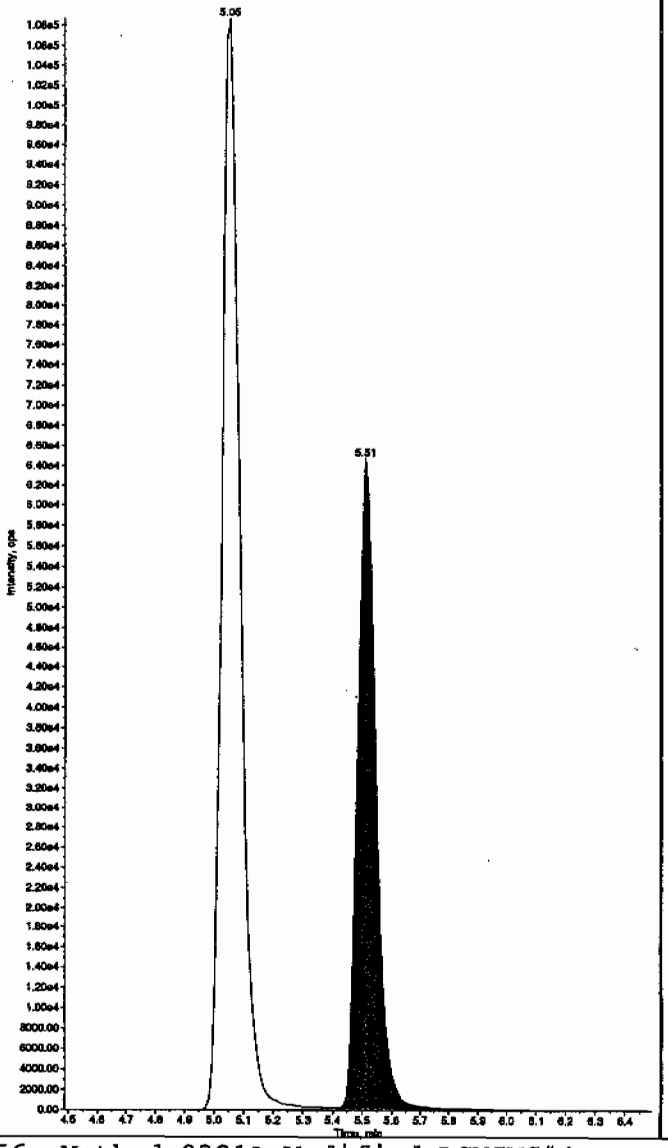
PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190057.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 98.7 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:53:42 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.51 min
Area: 2.79e+005 counts
Height: 64542.030 cps
Start Time: 5.43 min
End Time: 5.79 min

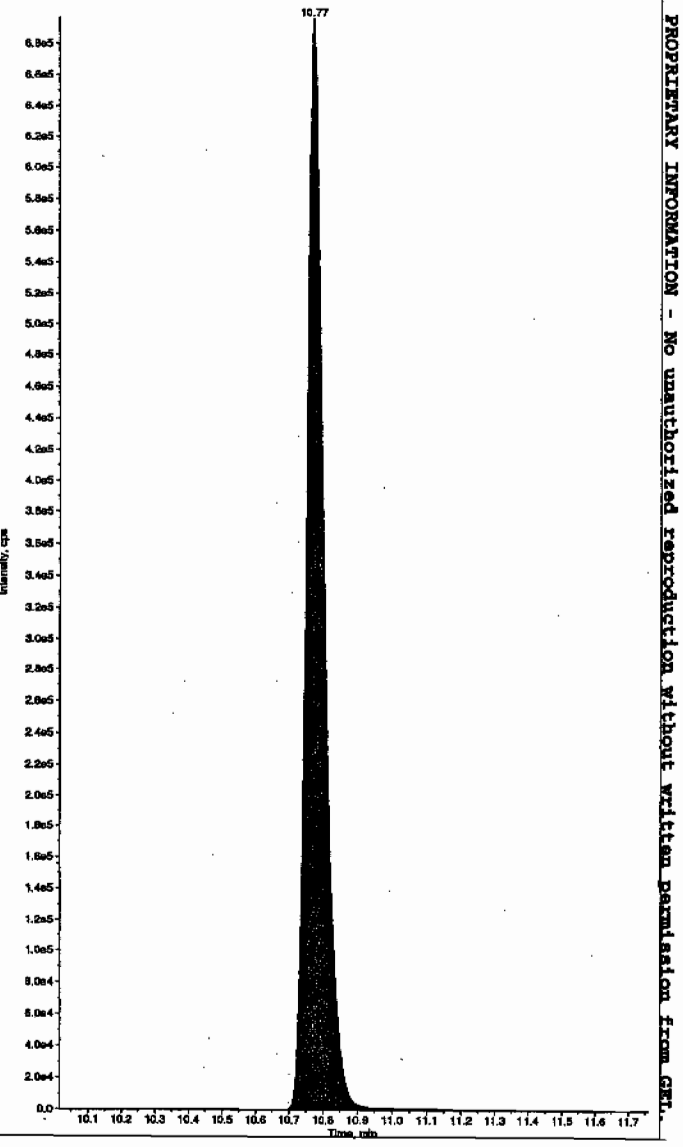


Sample Name: "WXX100119-27CRI" Sample ID: "[1]LER" File: "EXS01190057.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
Sample Type: QC
Concentration: 100. ng/mL
Calculated Conc: 95.9 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 4:53:42 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.8 min
Area: 2.54e+006 counts
Height: 696286.194 cps
Start Time: 10.7 min
End Time: 11.0 min



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

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QUALITY CONTROL DATA

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 940045

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 1202011636

Sample Amount 2

Moisture:

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125068a

Date Analyzed: 26-JAN-10 20:17

Units: ug/kg

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

*Concentration =

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

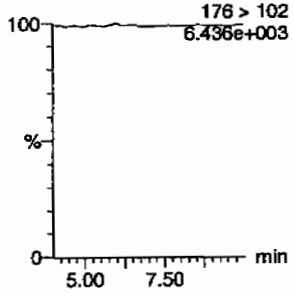
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

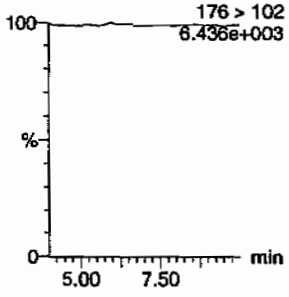
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125068a
Date: 26-Jan-2010
Time: 20:17:47
ID: 1202011636 | LANL | 940049 | SOLID | MB | 2 |
Vial: 1:4,A

MATT 1/27/10.

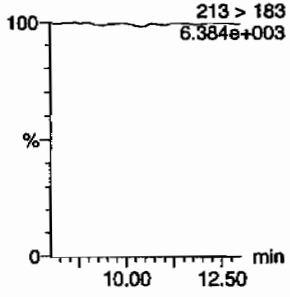
HMX
F2:MRM of 1 channel,AP-
176 > 102
6.436e+003



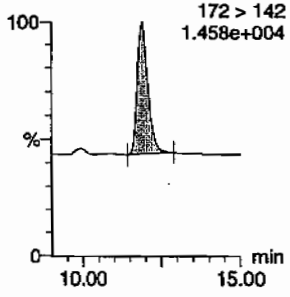
RDX
F2:MRM of 1 channel,AP-
176 > 102
6.436e+003



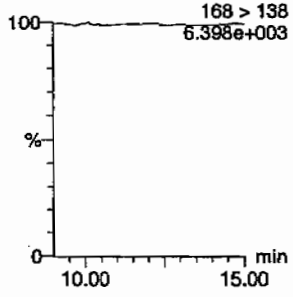
135-Trinitrobenzene
F4:MRM of 1 channel,AP-
213 > 183
6.384e+003



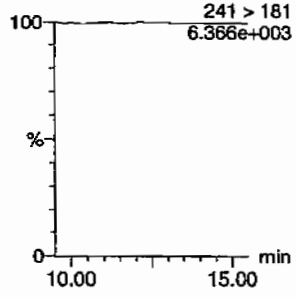
13-Dinitrobenzene-d4
F5:MRM of 2 channels,AP-
172 > 142
1.458e+004



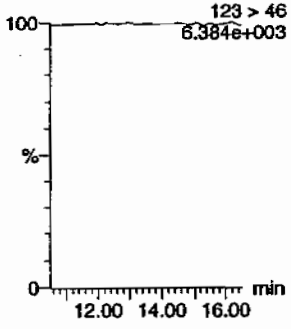
13-Dinitrobenzene
F5:MRM of 2 channels,AP-
168 > 138
6.398e+003



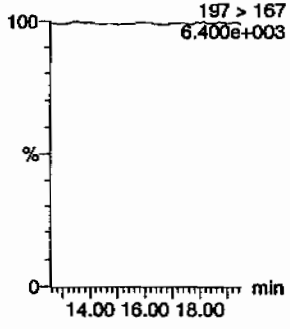
Tetryl
F6:MRM of 1 channel,AP-
241 > 181
6.366e+003



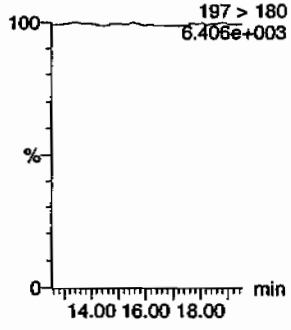
Nitrobenzene
F7:MRM of 1 channel,AP-
123 > 46
6.384e+003



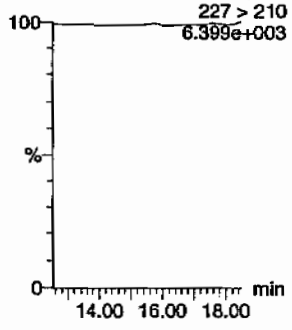
4-Amino-26-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 167
6.400e+003



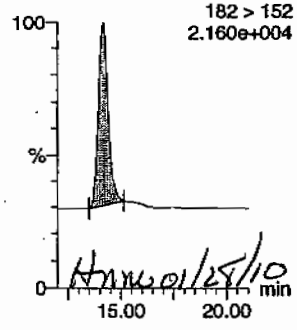
2-Amino-46-dinitrotoluene
F11:MRM of 2 channels,AP-
197 > 180
6.406e+003



246-Trinitrotoluene
F10:MRM of 1 channel,AP-
227 > 210
6.399e+003

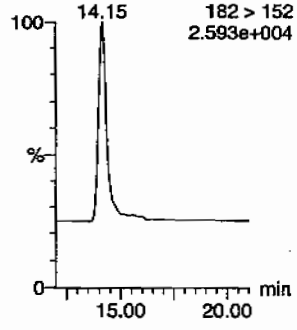


34-dinitrotoluene
F9:MRM of 2 channels,AP-
182 > 152
2.160e+004



HMW 01/28/10

26-dinitrotoluene
F9:MRM of 2 channels,AP-
14.15
182 > 152
2.593e+004



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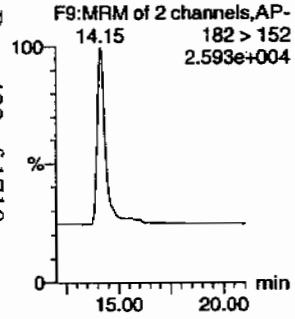
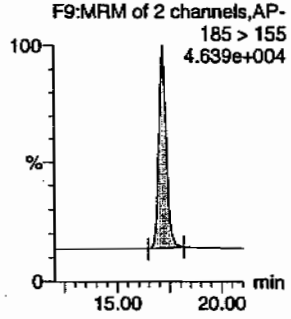
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

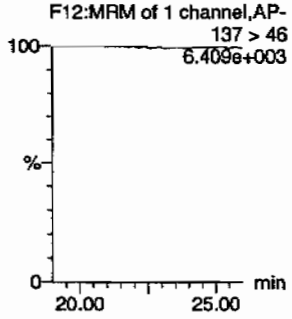
24-dinitrotoluene



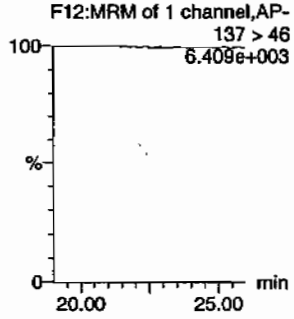
26-dinitrotoluene-d3



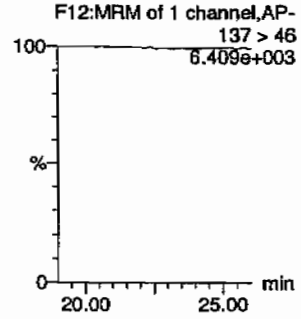
2-Nitrotoluene



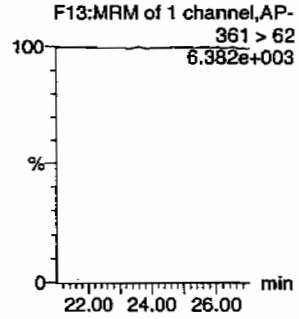
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
1202011636	HMX	176 > 102			3162.451									
1202011636	RDX	176 > 102			3162.451									
1202011636	135-Trinitrobenzene	213 > 183			3162.451									
1202011636	13-Dinitrobenzene-d4	172 > 142	11.89	3162.451		3162.451	3162.451	bb			532.6861	106.5	6.5	219.9
1202011636	13-Dinitrobenzene	168 > 138			3162.451									
1202011636	Tetryl	241 > 181			3162.451									
1202011636	Nitrobenzene	123 > 46			3162.451									
1202011636	4-Amino-26-dinitrotoluene	197 > 167			17008.018									
1202011636	2-Amino-46-dinitrotoluene	197 > 180			17008.018									
1202011636	246-Trinitrotoluene	227 > 210			17008.018									
1202011636	34-dinitrotoluene	182 > 152	14.15	7996.143	17008.018	7996.143	235.070	bb			258.8834	103.6	3.6	609.0
1202011636	26-dinitrotoluene	182 > 152			17008.018									
1202011636	24-dinitrotoluene	182 > 152			17008.018									
1202011636	26-dinitrotoluene-d3	185 > 155	17.15	17008.018		17008.018	17008.018	bb			521.7715	104.4	4.4	1577.9
1202011636	2-Nitrotoluene	137 > 46			17008.018									
1202011636	4-Nitrotoluene	137 > 46			17008.018									
1202011636	3-Nitrotoluene	137 > 46			17008.018									
1202011636	PETN	361 > 62			17008.018									

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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 940045

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 1202011636

Sample Amount 2

Moisture:

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190041.wiff

Date Analyzed: 20-JAN-10 00:42

Units: ug/kg

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

*Concentration =

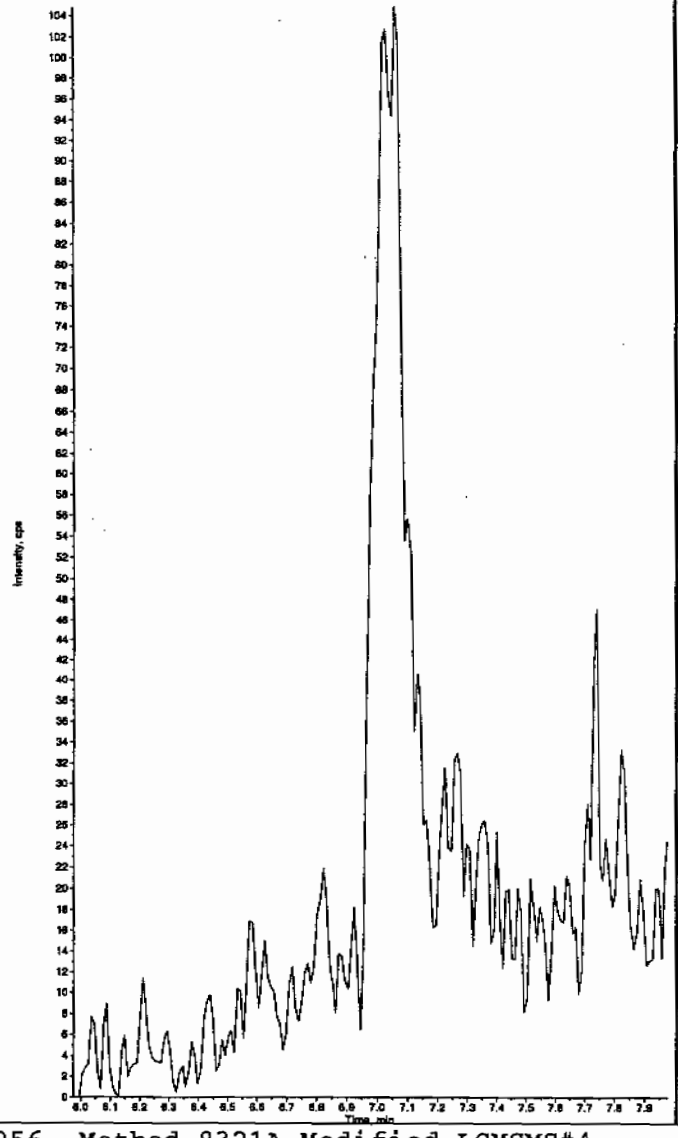
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

Sar 1/20/10

Sample Name: "1202011636" Sample ID: "940049[2]LER" File: "EXS01190041.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:42:23 AM

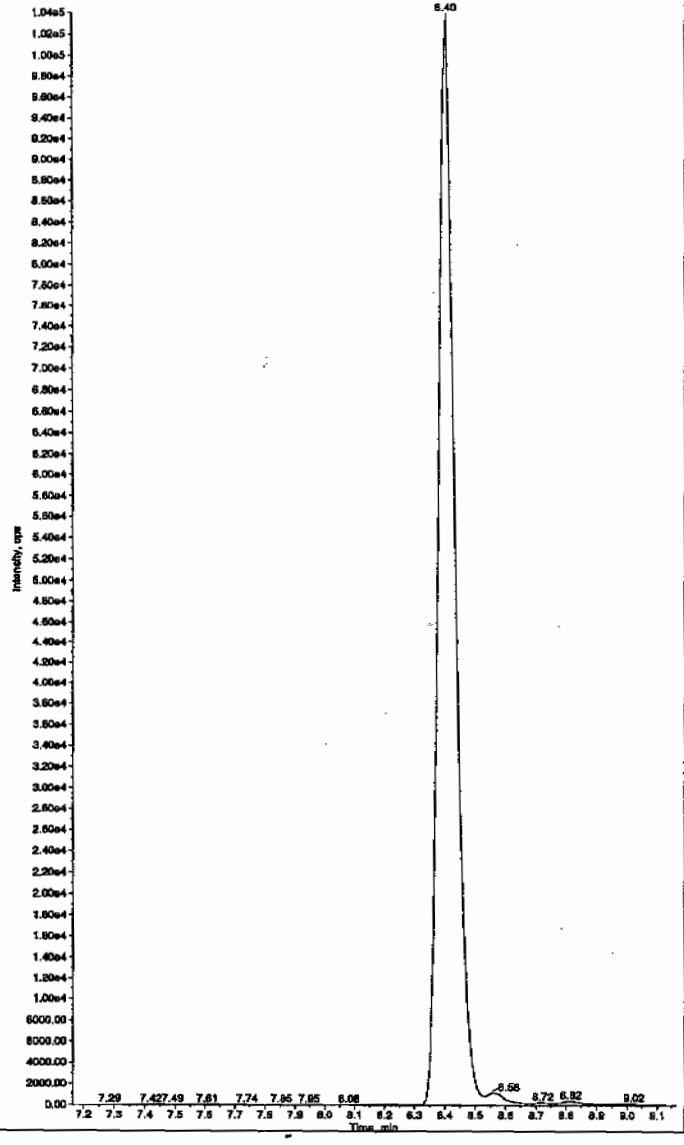
Modified: No



Sample Name: "1202011636" Sample ID: "940049[2]LER" File: "EXS01190041.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:42:23 AM

Modified: No



HMK 01/20/10

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

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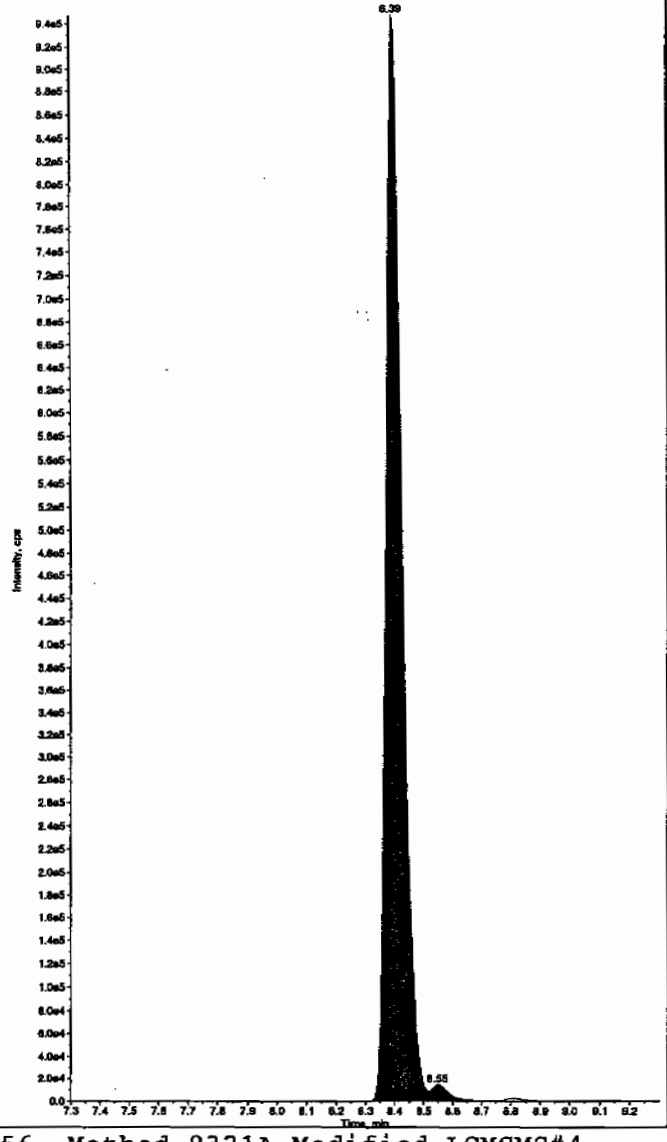
Sample Name: "1202011636" Sample ID: "940049[2]LER" File: "EXS01190041.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: "*"

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 265. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:42:23 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

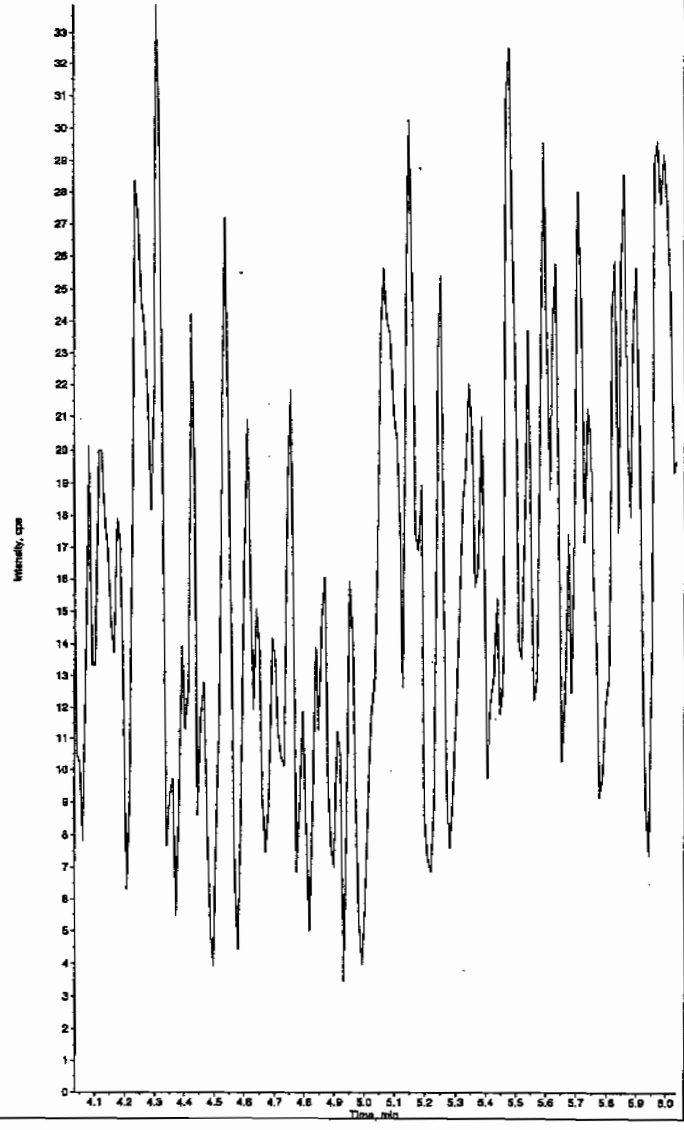
Int. Type: Valley
Retention Time: 8.39 min
Area: 3.71e+006 counts
Height: 947727.661 cps
Start Time: 8.29 min
End Time: 8.70 min



Sample Name: "1202011636" Sample ID: "940049[2]LER" File: "EXS01190041.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: "*"

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:42:23 AM

Modified: No



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

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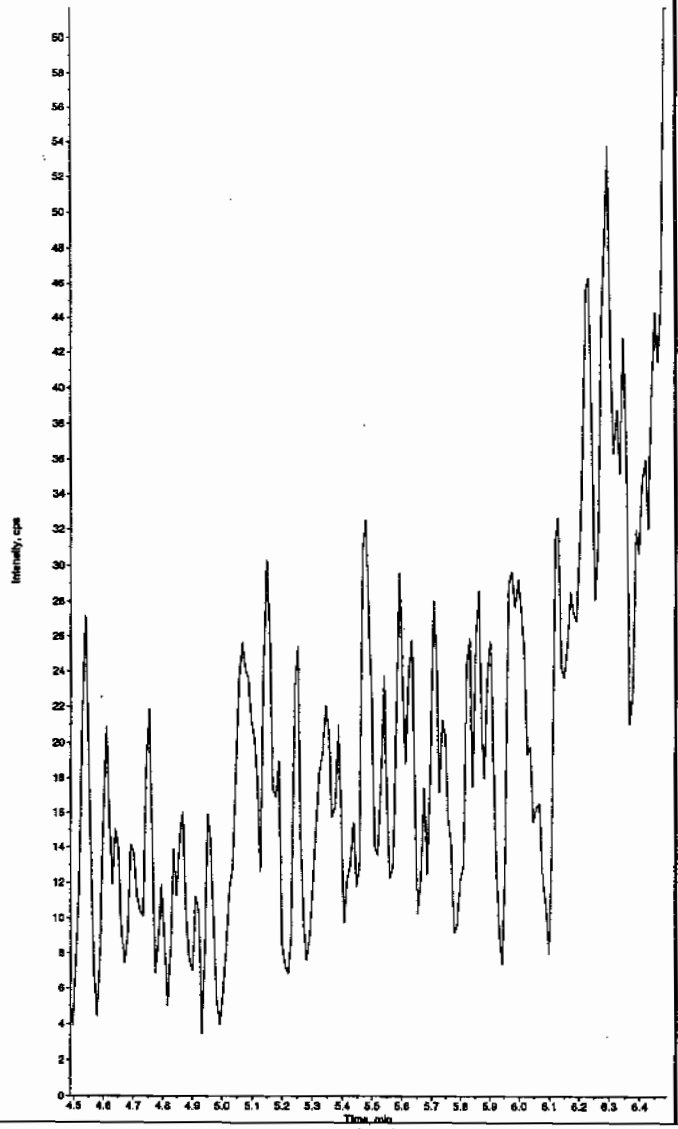
Sample Name: "1202011636" Sample ID: "940049[2]LER" File: "EXS01190041.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:42:23 AM

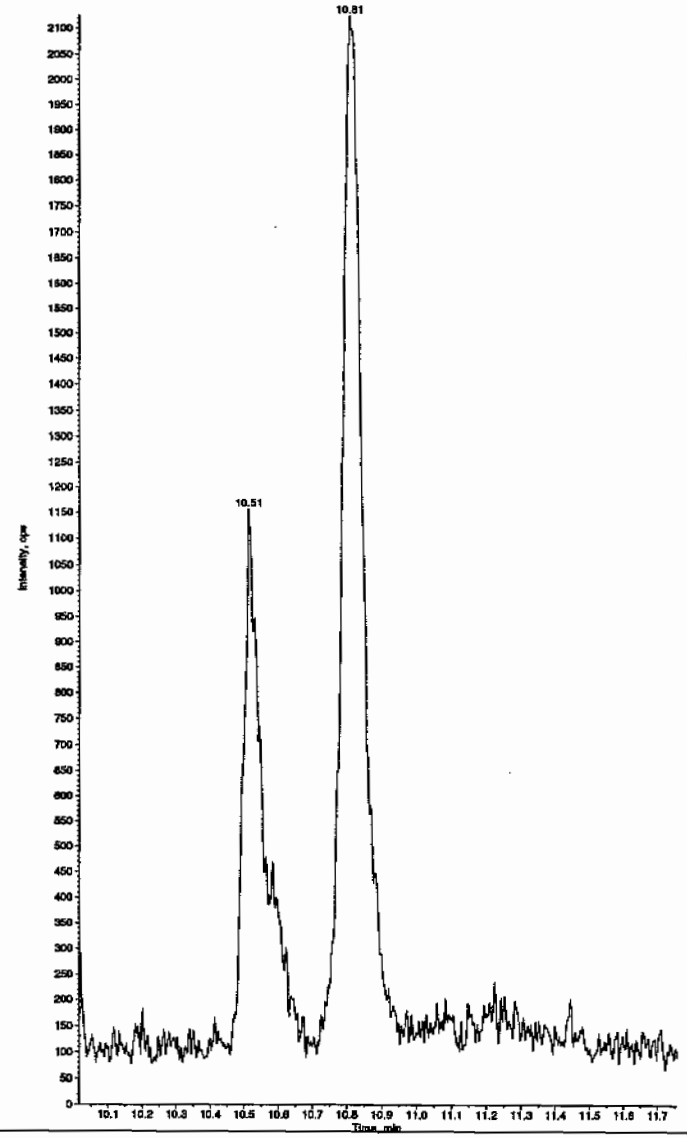
Modified: No



Sample Name: "1202011636" Sample ID: "940049[2]LER" File: "EXS01190041.wiff"
Peak Name: "bis(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.00 ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:42:23 AM

Modified: No



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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 940045

Lab Code: GEL

GEL Job No (SDG) 10–1126

Matrix: SOIL

GEL Sample ID: 1202011639

Sample Amount 2

Moisture:

Amount Units g

Date Received: 08–JAN–10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14–JAN–10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125069a

Date Analyzed: 26–JAN–10 20:47

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118–96–7	2,4,6–Trinitrotoluene	6250	
121–14–2	2,4–Dinitrotoluene	5280	
121–82–4	RDX	5490	
19406–51–0	4–Amino–2,6–dinitrotoluene	6340	
2691–41–0	HMX	4870	
35572–78–2	2–Amino–4,6–dinitrotoluene	5650	
479–45–8	Tetryl	3120	
606–20–2	2,6–Dinitrotoluene	5070	
78–11–5	PETN	5630	
88–72–2	o–Nitrotoluene	4460	
98–95–3	Nitrobenzene	4910	
99–08–1	m–Nitrotoluene	4830	
99–35–4	1,3,5–Trinitrobenzene	4900	
99–65–0	m–Dinitrobenzene	5180	
99–99–0	p–Nitrotoluene	4700	

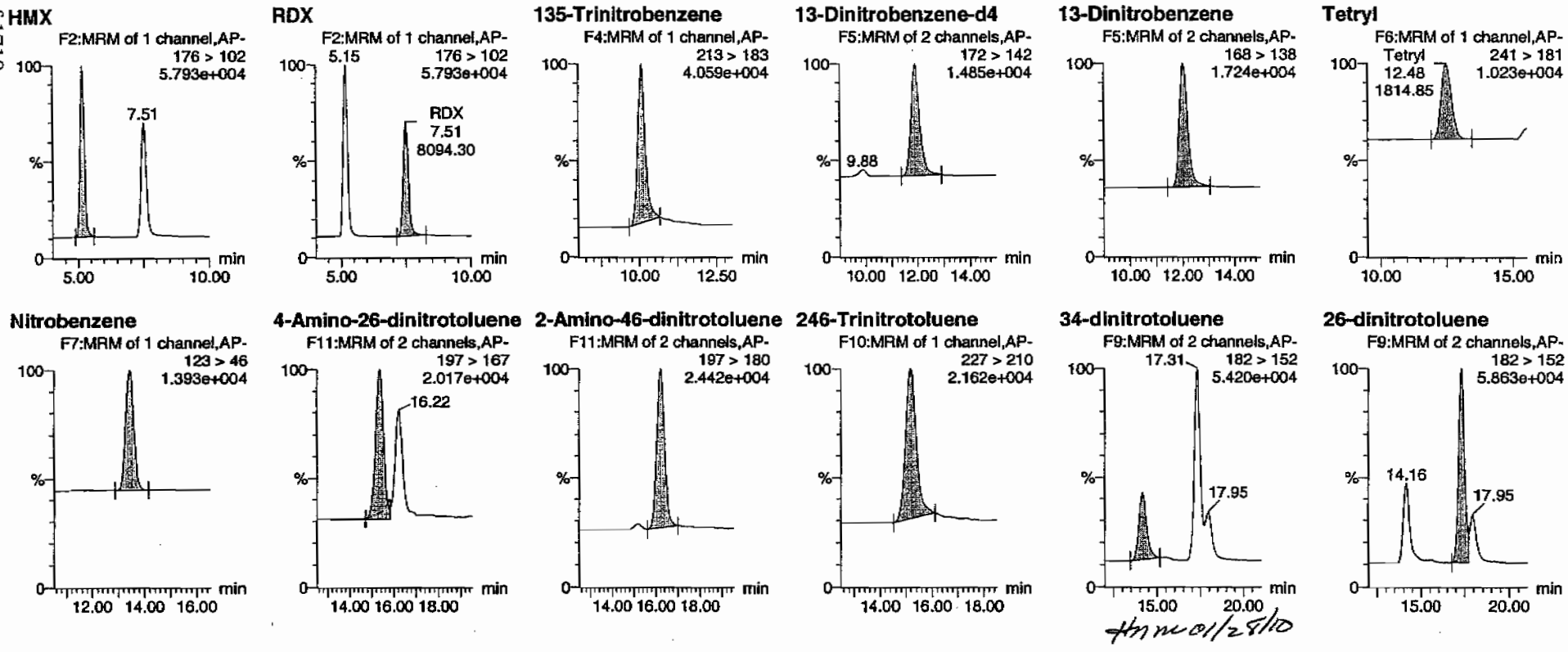
*Concentration =

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

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125069a
Date: 26-Jan-2010
Time: 20:47:17
ID: 1202011639 | LANL | 940049 | Solid | LCS | 2 |
Vial: 1:4,B

MAP 1/27/10



HMM 01/28/10

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

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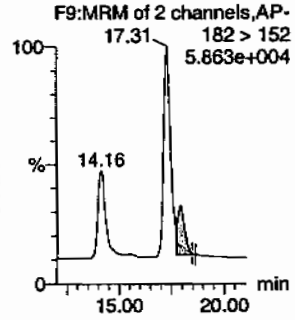
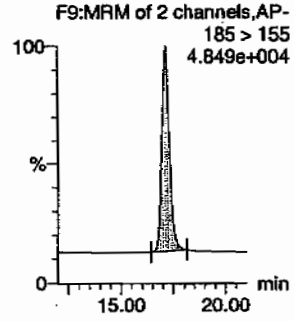
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

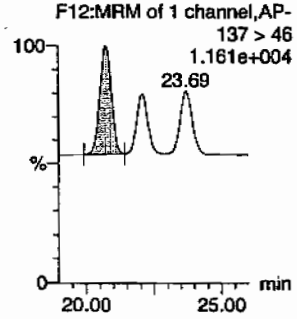
24-dinitrotoluene



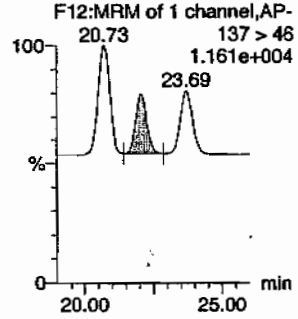
26-dinitrotoluene-d3



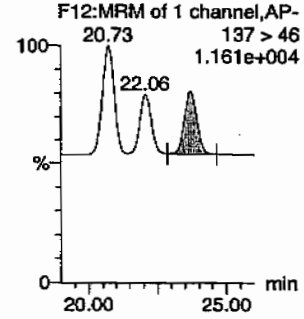
2-Nitrotoluene



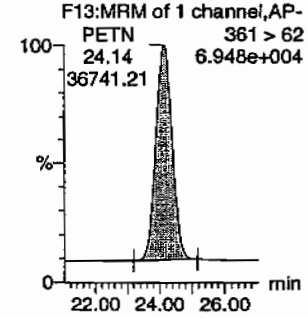
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	S Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
1202011639	HMX	176 > 102	5.15	10351.671	3351.648	10351.671	1544.266	db			486.7612	97.4	-2.6	1838.2
1202011639	RDX	176 > 102	7.51	8094.300	3351.648	8094.300	1207.510	bb			549.2184	109.8	9.8	1214.8
1202011639	135-Trinitrobenzene	213 > 183	10.07	9446.467	3351.648	9446.467	1409.227	bb			490.2922	98.1	-1.9	604.1
1202011639	13-Dinitrobenzene-d4	172 > 142	11.89	3351.648		3351.648	3351.648	bb			564.5546	112.9	12.9	903.0
1202011639	13-Dinitrobenzene	168 > 138	12.00	4027.928	3351.648	4027.928	600.888	bb			518.0144	103.6	3.6	506.3
1202011639	Tetryl	241 > 181	12.48	1814.849	3351.648	1814.849	270.740	bb			311.6921	62.3	-37.7	226.3
1202011639	Nitrobenzene	123 > 46	13.41	2810.319	3351.648	2810.319	419.244	bb			490.5769	98.1	-1.9	206.6
1202011639	4-Amino-26-dinitrotoluene	197 > 167	15.35	5972.399	18080.648	5972.399	165.160	MM	27-Jan-10	09:12:46	633.9784	126.8	26.8	310.2
1202011639	2-Amino-46-dinitrotoluene	197 > 180	16.22	7643.690	18080.648	7643.690	211.378	bb			564.7510	113.0	13.0	211.1
1202011639	246-Trinitrotoluene	227 > 210	15.17	7183.243	18080.648	7183.243	198.645	bb			624.5427	124.9	24.9	273.7
1202011639	34-dinitrotoluene	182 > 152	14.16	8923.267	18080.648	8923.267	246.763	bb			271.7611	108.7	8.7	345.6
1202011639	26-dinitrotoluene	182 > 152	17.31	20214.764	18080.648	20214.764	559.017	MM	27-Jan-10	09:16:14	507.4842	101.5	1.5	679.8
1202011639	24-dinitrotoluene	182 > 152	17.95	4849.147	18080.648	4849.147	134.098	MM	27-Jan-10	09:18:38	527.8134	105.6	5.6	159.2
1202011639	26-dinitrotoluene-d3	185 > 155	17.14	18080.648		18080.648	18080.648	bb			554.6776	110.9	10.9	1210.9
1202011639	2-Nitrotoluene	137 > 46	20.73	2684.188	18080.648	2684.188	74.228	bb			446.3433	89.3	-10.7	681.1
1202011639	4-Nitrotoluene	137 > 46	22.06	1404.201	18080.648	1404.201	38.832	bb			469.6624	93.9	-6.1	377.2
1202011639	3-Nitrotoluene	137 > 46	23.69	1629.119	18080.648	1629.119	45.051	bb			482.5574	96.5	-3.5	400.3
1202011639	PETN	361 > 62	24.14	36741.215	18080.648	36741.215	1016.037	bb			563.0093	112.6	12.6	6332.5

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 940045

Lab Code: GEI

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 1202011639

Sample Amount 2

Moisture:

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190042.wiff

Date Analyzed: 20-JAN-10 00:58

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	6610	
59229-75-3	2,6-Diamino-4-nitrotoluene	5220	
618-87-1	3,5-Dinitroaniline	5400	
6629-29-4	2,4-Diamino-6-nitrotoluene	5220	
78-30-8	tris(o-cresyl) phosphate	4860	

*Concentration =

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

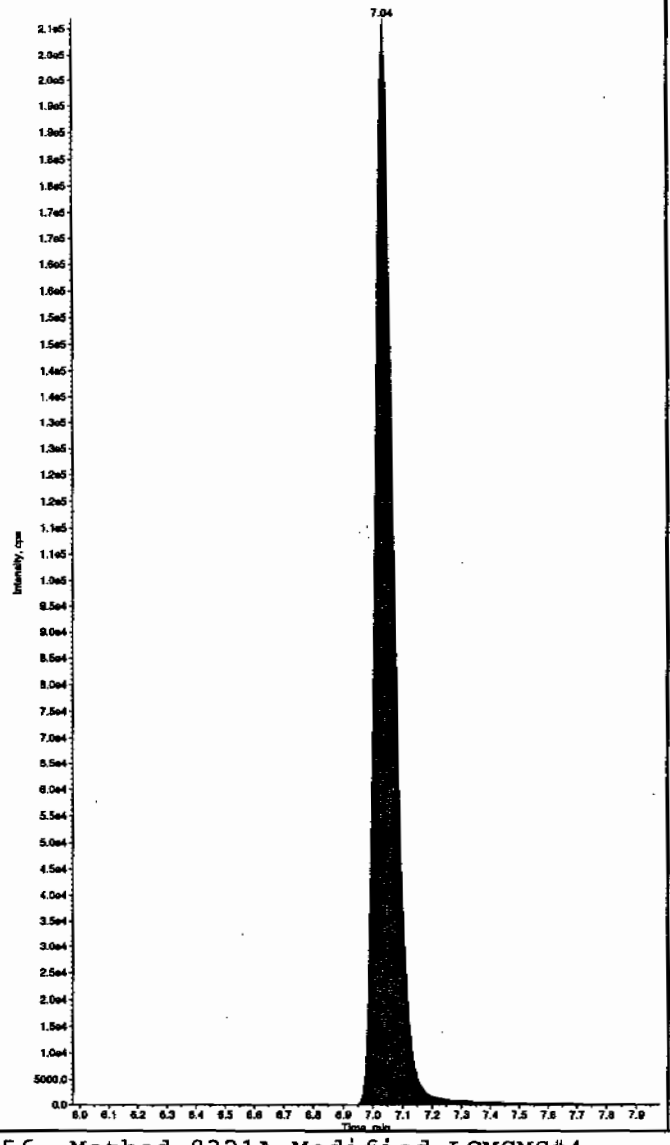
before 1/20/10

Sample Name: "1202011639" Sample ID: "940049[2]LER" File: "EXS01190042.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 661. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:58:06 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.04 min
Area: 9.25e+005 counts
Height: 206818.527 cps
Start Time: 6.92 min
End Time: 7.55 min

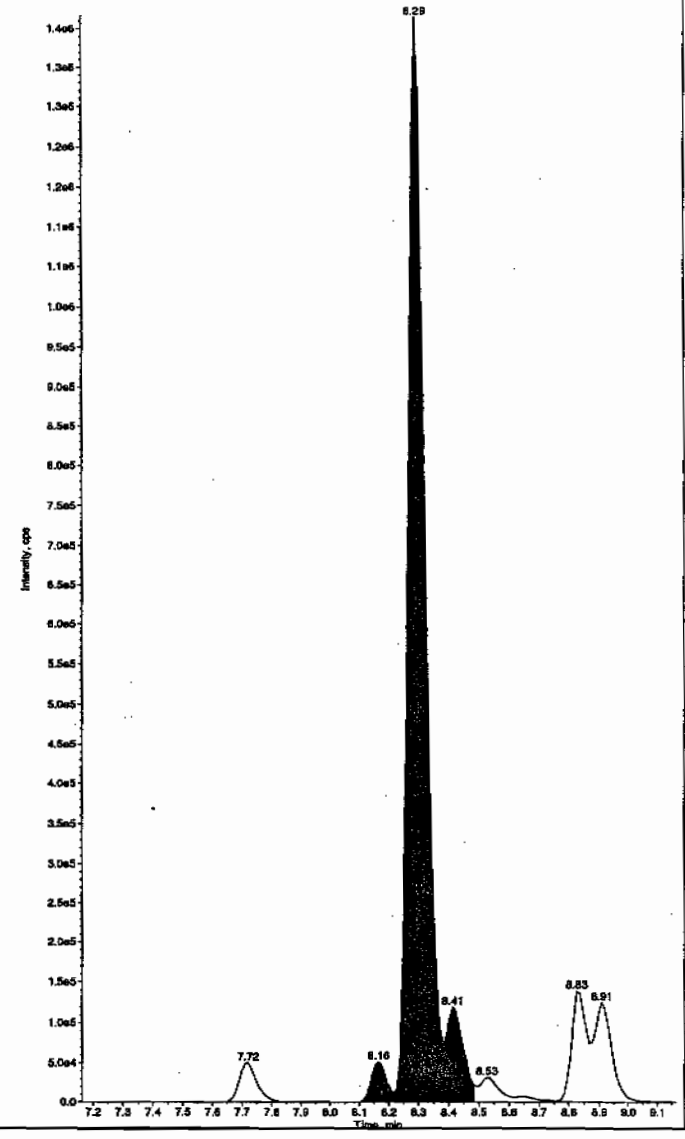


Sample Name: "1202011639" Sample ID: "940049[2]LER" File: "EXS01190042.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 540. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:58:06 AM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.29 min
Area: 6.12e+006 counts
Height: 1365716.064 cps
Start Time: 8.09 min
End Time: 8.48 min



HMM 01/20/10

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

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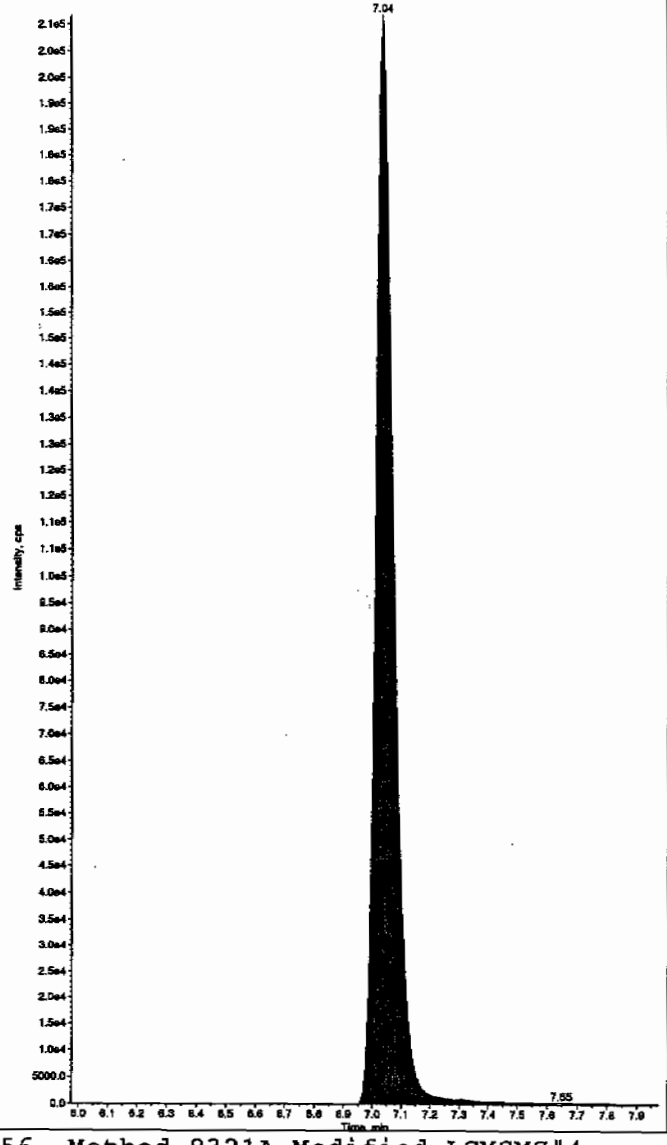
after Lar 1/20/10

Sample Name: "1202011639" Sample ID: "940049|2|LER" File: "EXS01190042.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 661. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:58:06 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.04 min
Area: 9.25e+005 counts
Height: 206818.527 cps
Start Time: 6.92 min
End Time: 7.55 min

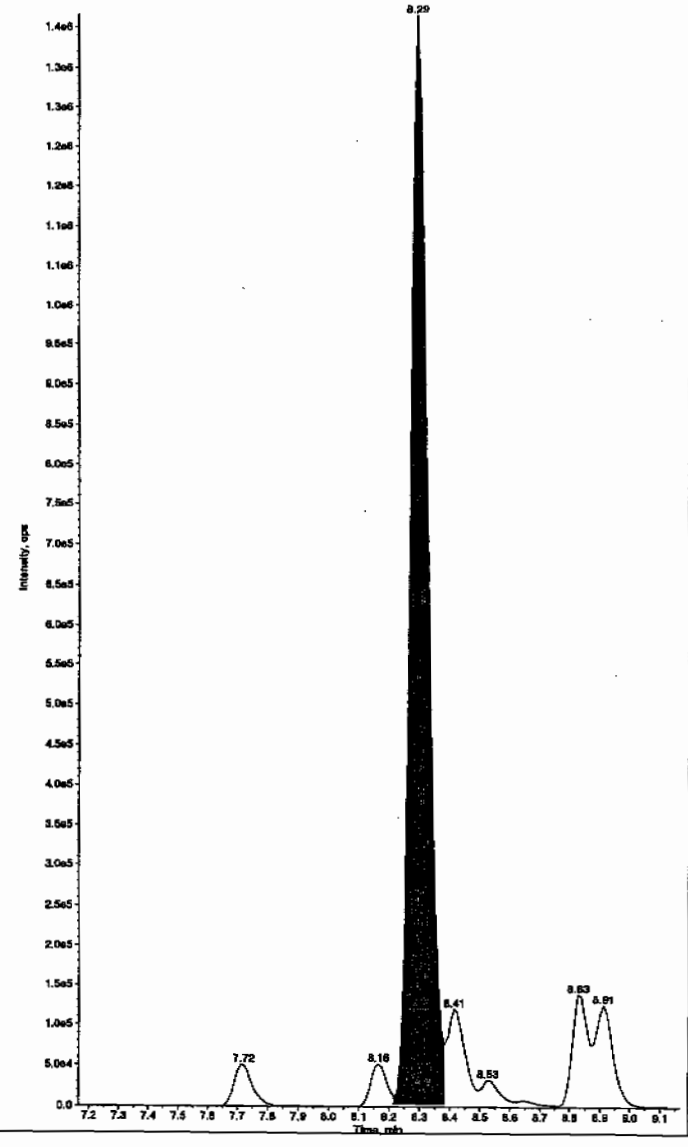


Sample Name: "1202011639" Sample ID: "940049|2|LER" File: "EXS01190042.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 540. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:58:06 AM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.29 min
Area: 5.42e+006 counts
Height: 1364333.292 cps
Start Time: 8.22 min
End Time: 8.38 min



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

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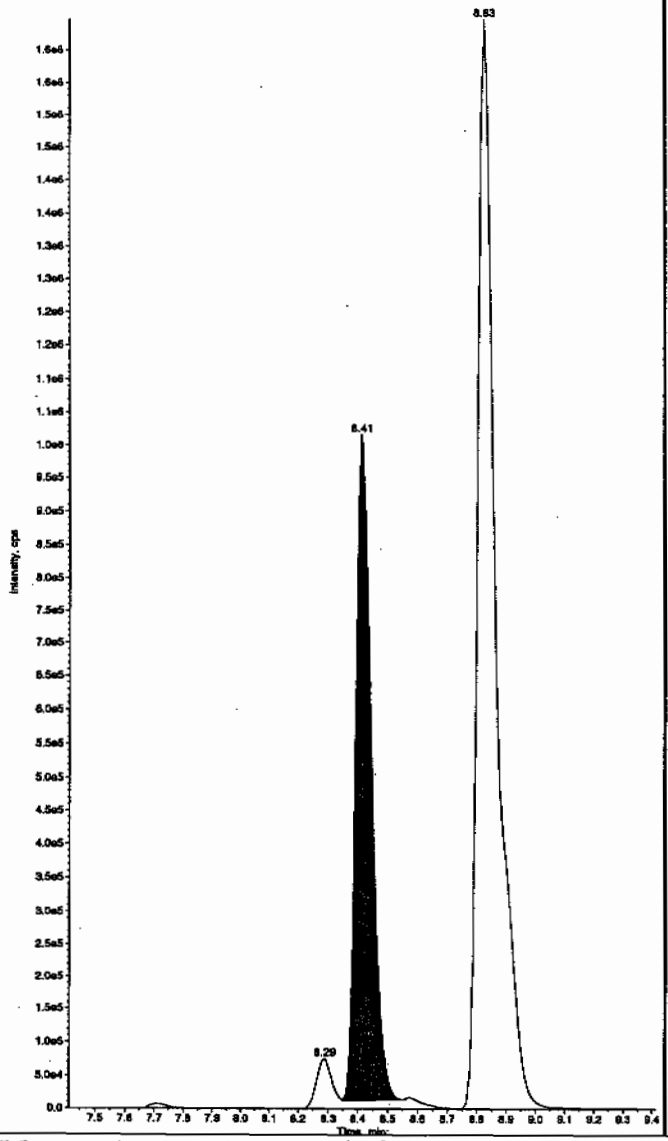
Sample Name: "1202011639" Sample ID: "940049|2|LER" File: "EXS01190042.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: "

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 264. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:58:06 AM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.41 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.41 min
Area: 3.69e+006 counts
Height: 1003908.325 cps
Start Time: 8.35 min
End Time: 8.54 min

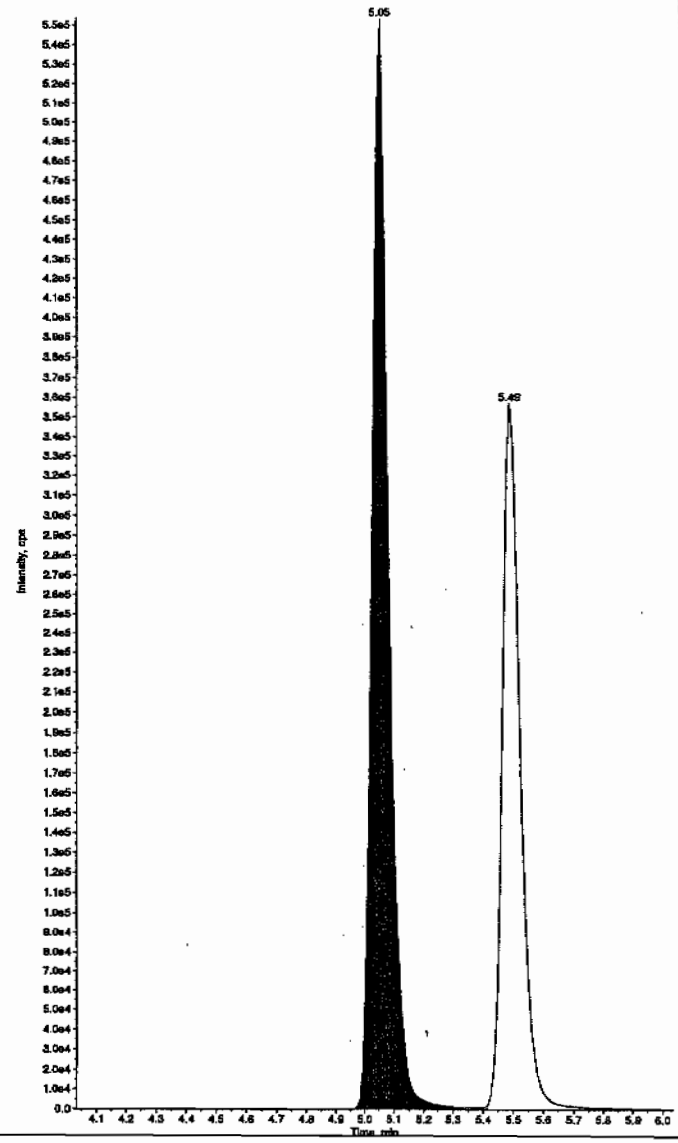


Sample Name: "1202011639" Sample ID: "940049|2|LER" File: "EXS01190042.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: "

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 522. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:58:06 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.03 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.05 min
Area: 2.24e+006 counts
Height: 553630.981 cps
Start Time: 4.94 min
End Time: 5.33 min



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

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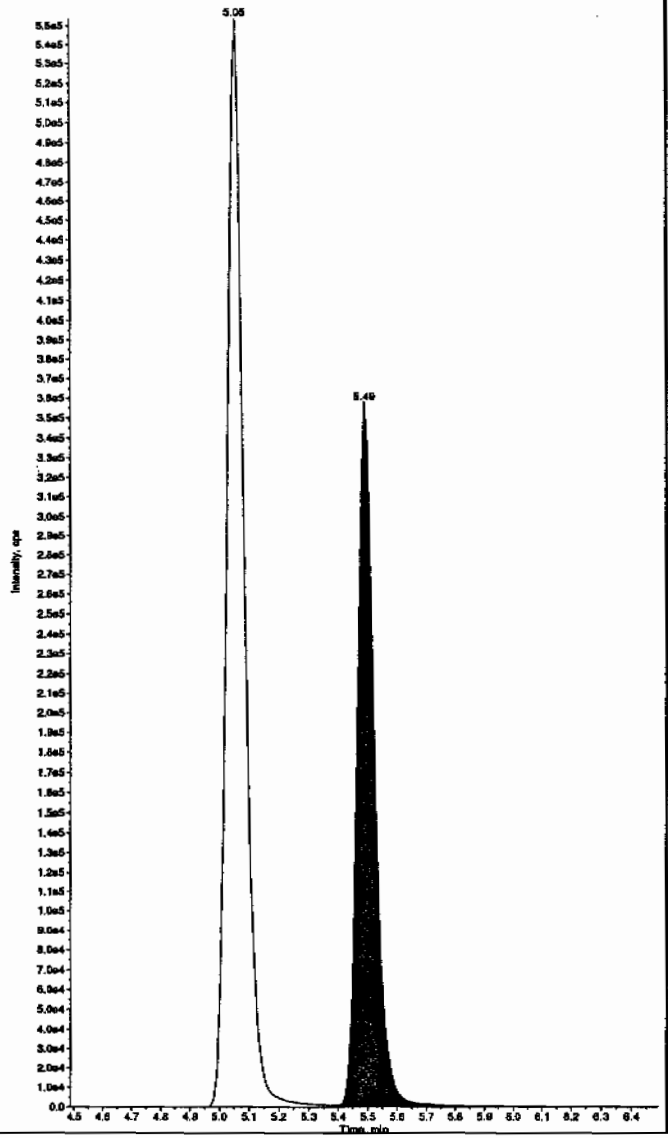
Sample Name: "1202011639" Sample ID: "940049|2|LER" File: "EXS01190042.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 522. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:58:06 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.49 min
Area: 1.49e+006 counts
Height: 357754.059 cps
Start Time: 5.38 min
End Time: 6.17 min

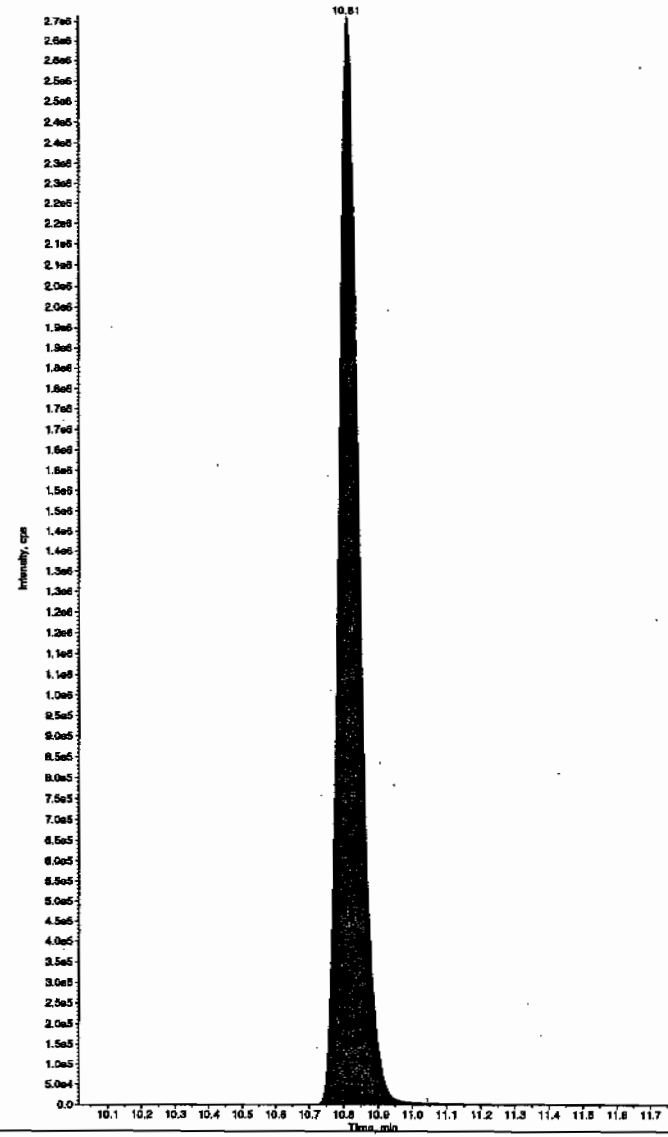


Sample Name: "1202011639" Sample ID: "940049|2|LER" File: "EXS01190042.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 486. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 12:58:06 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.8 min
Area: 1.12e+007 counts
Height: 2664220.459 cps
Start Time: 10.7 min
End Time: 11.2 min



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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7848(244137006MS)

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 1202011637

Sample Amount 2

Moisture: 16.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125079a

Date Analyzed: 27-JAN-10 01:42

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	5460	
121-14-2	2,4-Dinitrotoluene	5220	
121-82-4	RDX	5450	
19406-51-0	4-Amino-2,6-dinitrotoluene	5650	
2691-41-0	HMX	5460	
35572-78-2	2-Amino-4,6-dinitrotoluene	5620	
479-45-8	Tetryl	3960	
606-20-2	2,6-Dinitrotoluene	5000	
78-11-5	PETN	5720	
88-72-2	o-Nitrotoluene	4490	
98-95-3	Nitrobenzene	4400	
99-08-1	m-Nitrotoluene	4880	
99-35-4	1,3,5-Trinitrobenzene	5460	
99-65-0	m-Dinitrobenzene	5050	
99-99-0	p-Nitrotoluene	4630	

*Concentration =

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

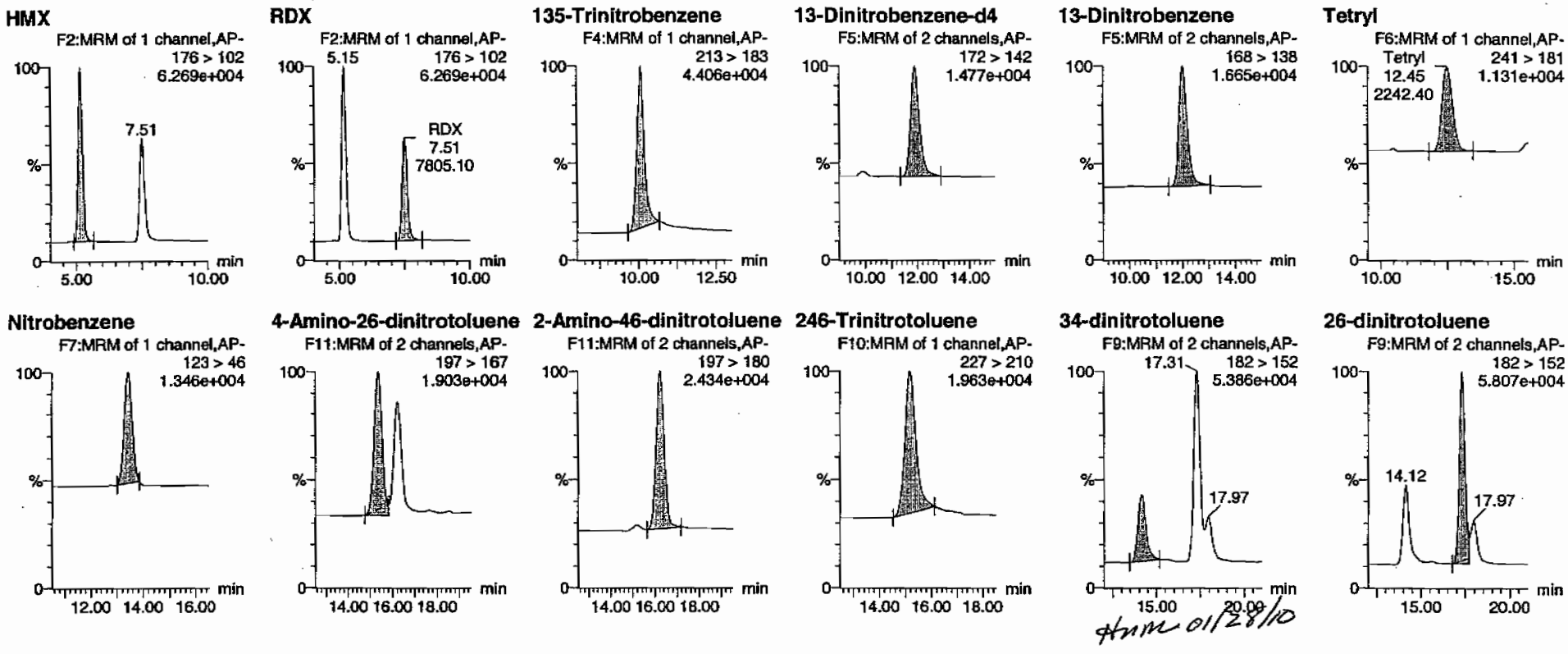
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny
Printed: Wed Jan 27 09:26:20 2010, Page 85 of 97

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125079a
Date: 27-Jan-2010
Time: 01:42:06
ID: 1202011637
Vial: 1:5,C

| LANL | 940049 | Solid | 244137006MS | 2 |

MAP 1/27/10



HMM 01/28/10

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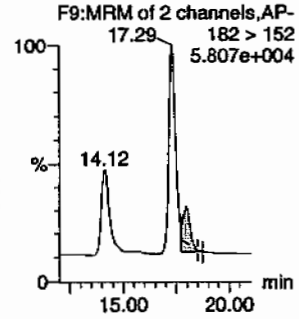
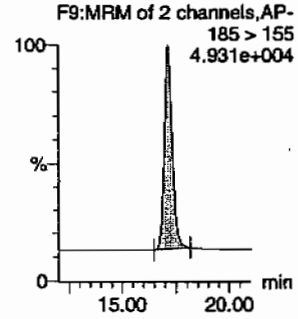
Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

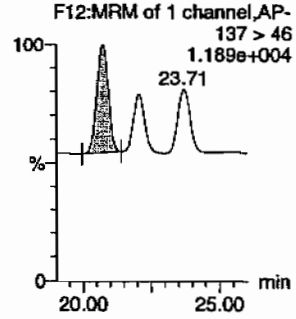
24-dinitrotoluene



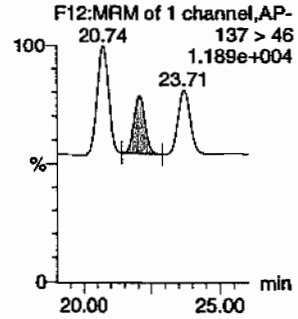
26-dinitrotoluene-d3



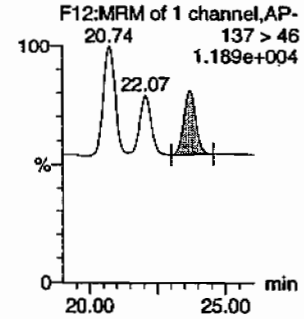
2-Nitrotoluene



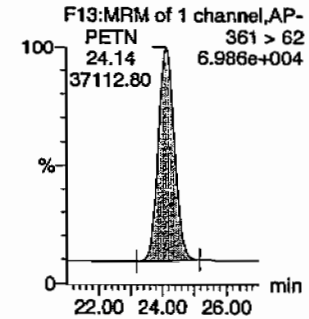
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
1202011637	HMX	176 > 102	5.15	11289.705	3256.761	11289.705	1733.272	db			546.3370	109.3	9.3	1012.8
1202011637	RDX	176 > 102	7.51	7805.105	3256.761	7805.105	1198.293	bb			545.0258	109.0	9.0	596.4
1202011637	135-Trinitrobenzene	213 > 183	10.07	10205.658	3256.761	10205.658	1566.842	bb			546.2445	109.2	9.2	995.8
1202011637	13-Dinitrobenzene-d4	172 > 142	11.89	3256.761		3256.761	3256.761	bb			548.5718	109.7	9.7	211.9
1202011637	13-Dinitrobenzene	168 > 138	12.00	3814.050	3256.761	3814.050	585.559	bb			504.7996	101.0	1.0	348.7
1202011637	Tetryl	241 > 181	12.45	2242.404	3256.761	2242.404	344.269	bb			396.3435	79.3	-20.7	97.7
1202011637	Nitrobenzene	123 > 46	13.45	2450.458	3256.761	2450.458	376.211	bb			440.2215	88.0	-12.0	234.7
1202011637	4-Amino-26-dinitrotoluene	197 > 167	15.35	5308.242	18024.148	5308.242	147.254	MM	27-Jan-10	09:13:21	565.2435	113.0	13.0	144.8
1202011637	2-Amino-46-dinitrotoluene	197 > 180	16.22	7577.452	18024.148	7577.452	210.203	bb			561.6120	112.3	12.3	548.2
1202011637	246-Trinitrotoluene	227 > 210	15.17	6256.985	18024.148	6256.985	173.572	bb			545.7150	109.1	9.1	369.9
1202011637	34-dinitrotoluene	182 > 152	14.16	9088.857	18024.148	9088.857	252.130	bb			277.6719	111.1	11.1	159.0
1202011637	26-dinitrotoluene	182 > 152	17.29	19849.184	18024.148	19849.184	550.628	MM	27-Jan-10	09:16:46	499.8685	100.0	-0.0	581.9
1202011637	24-dinitrotoluene	182 > 152	17.97	4776.708	18024.148	4776.708	132.509	MM	27-Jan-10	09:18:02	521.5585	104.3	4.3	129.2
1202011637	26-dinitrotoluene-d3	185 > 155	17.14	18024.148		18024.148	18024.148	bb			552.9443	110.6	10.6	1906.9
1202011637	2-Nitrotoluene	137 > 46	20.74	2692.503	18024.148	2692.503	74.692	bb			449.1294	89.8	-10.2	314.9
1202011637	4-Nitrotoluene	137 > 46	22.07	1380.977	18024.148	1380.977	38.309	bb			463.3425	92.7	-7.3	167.1
1202011637	3-Nitrotoluene	137 > 46	23.71	1641.091	18024.148	1641.091	45.525	bb			487.6274	97.5	-2.5	183.8
1202011637	PETN	361 > 62	24.14	37112.797	18024.148	37112.797	1029.530	bb			572.4043	114.5	14.5	4407.7

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7848(244137006MS)

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 1202011637

Sample Amount 2

Moisture: 16.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190052.wiff

Date Analyzed: 20-JAN-10 03:35

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	4860	
59229-75-3	2,6-Diamino-4-nitrotoluene	5320	
618-87-1	3,5-Dinitroaniline	5090	
6629-29-4	2,4-Diamino-6-nitrotoluene	4620	
78-30-8	tris(o-cresyl) phosphate	4970	

*Concentration =

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

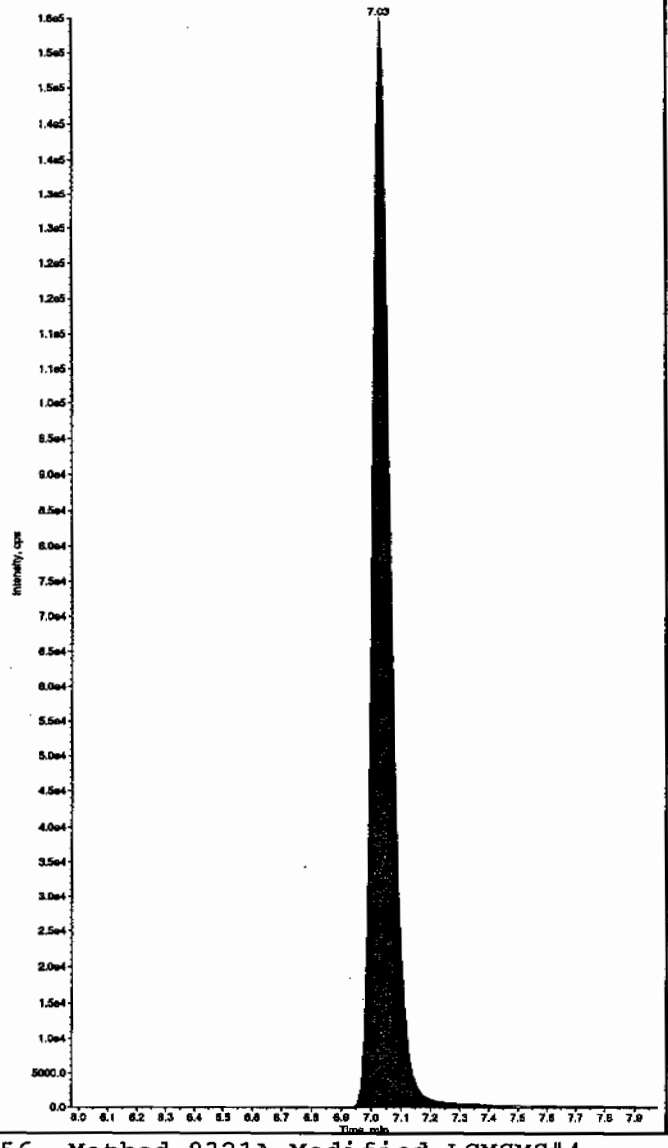
Before Alan 1/20/10

Sample Name: "1202011637" Sample ID: "940049|2|LER" File: "EXS01190052.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 486. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:35:10 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 6.81e+005 counts
Height: 155097.168 cps
Start Time: 6.91 min
End Time: 7.46 min

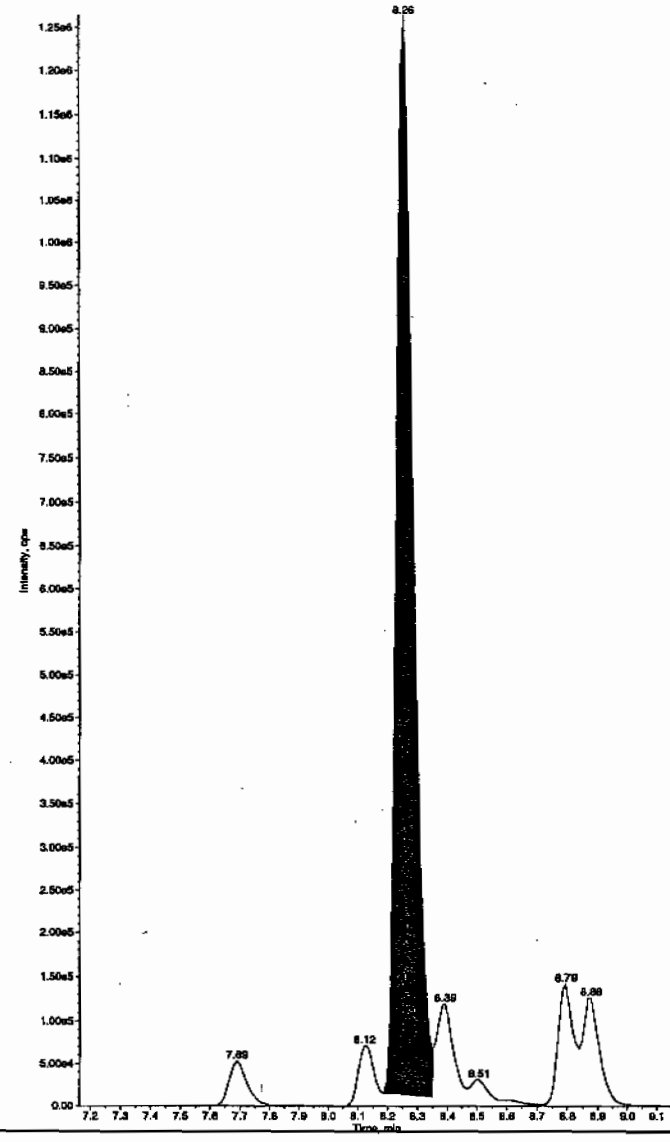


Sample Name: "1202011637" Sample ID: "940049|2|LER" File: "EXS01190052.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 509. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:35:10 AM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.26 min
Area: 5.04e+006 counts
Height: 1251901.855 cps
Start Time: 8.19 min
End Time: 8.35 min



Hmm 01/20/10

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

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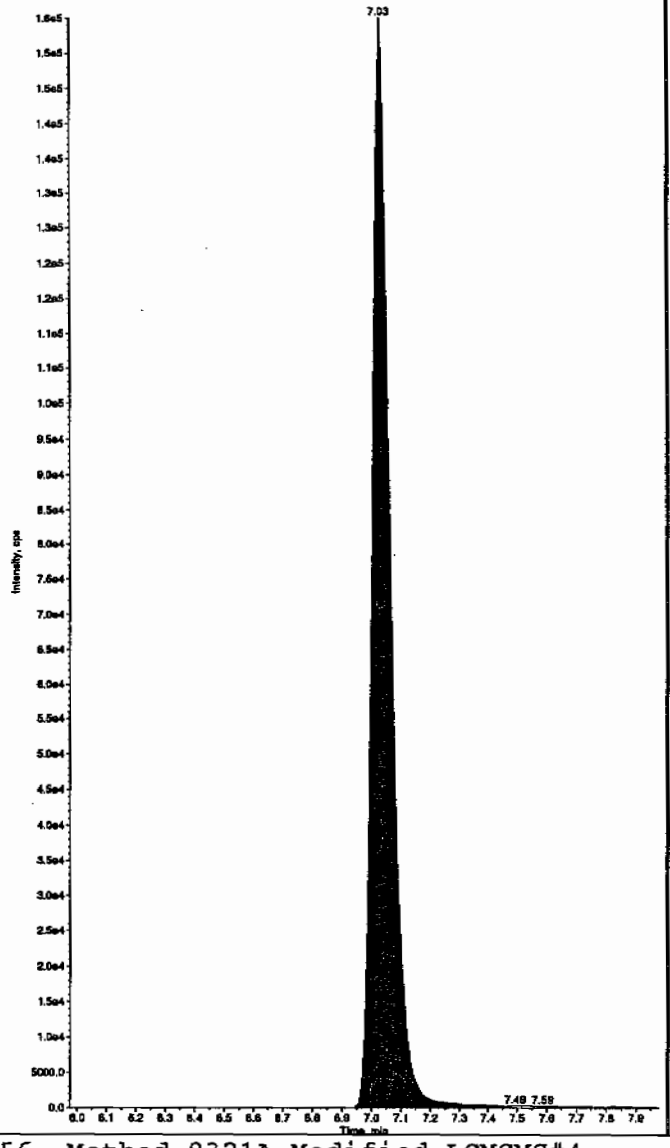
after Ler 1/20/10

Sample Name: "1202011637" Sample ID: "940049|2|LER" File: "EXS01190052.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 486. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:35:10 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.03 min
Area: 6.81e+005 counts
Height: 155097.168 cps
Start Time: 6.91 min
End Time: 7.46 min

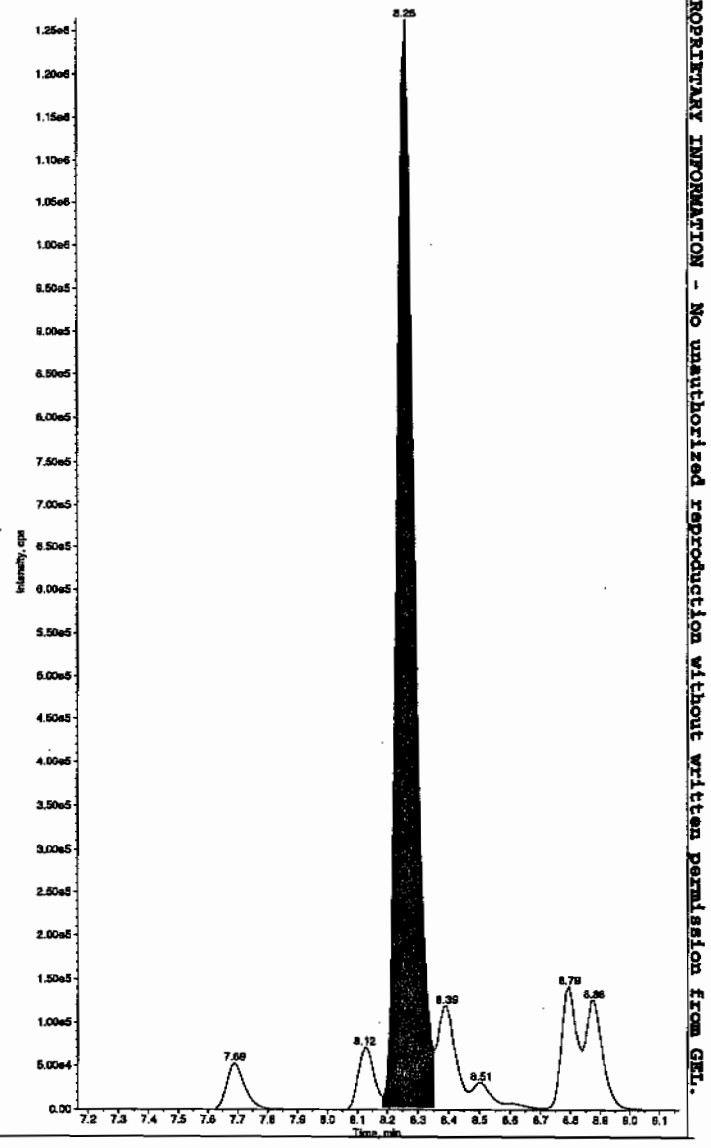


Sample Name: "1202011637" Sample ID: "940049|2|LER" File: "EXS01190052.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 509. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:35:10 AM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.26 min
Area: 5.13e+006 counts
Height: 1266503.189 cps
Start Time: 8.19 min
End Time: 8.35 min



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

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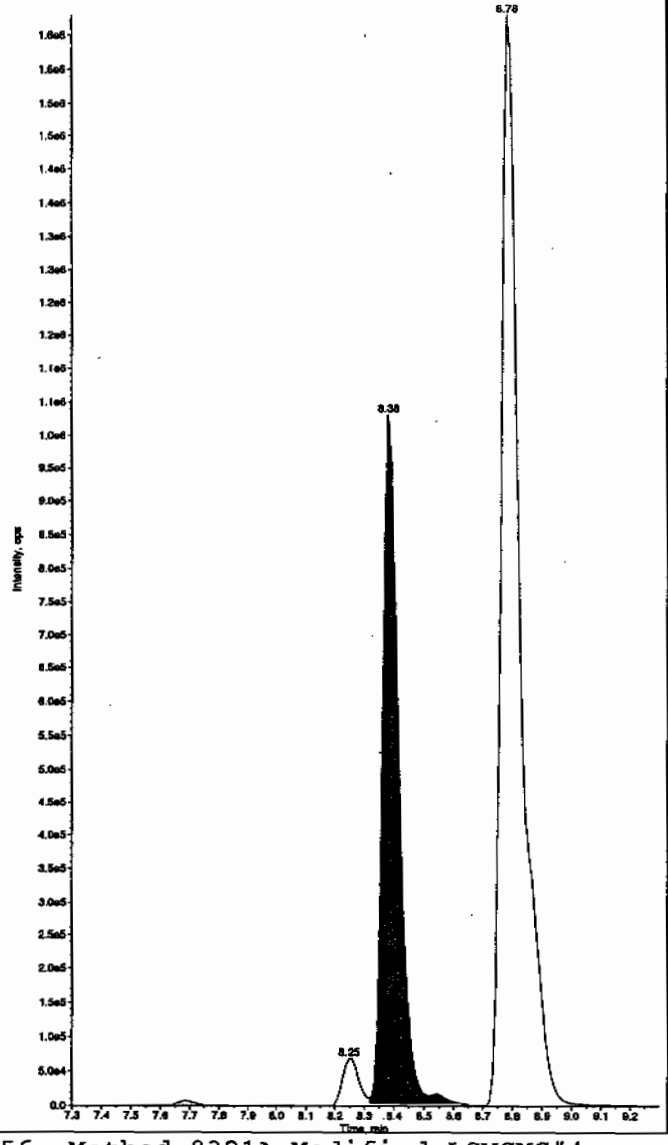
Sample Name: "1202011637" Sample ID: "940049|2|LER" File: "EXS01190052.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 283. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:35:10 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.38 min
Area: 3.95e+006 counts
Height: 1027775.757 cps
Start Time: 8.32 min
End Time: 8.62 min

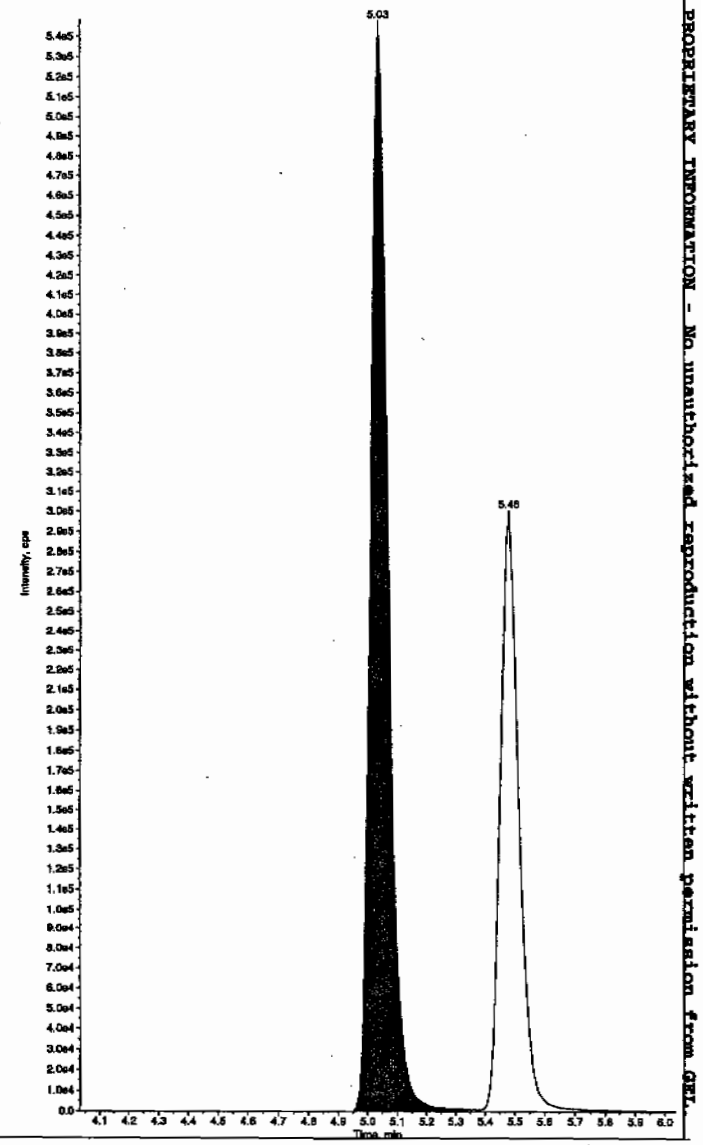


Sample Name: "1202011637" Sample ID: "940049|2|LER" File: "EXS01190052.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 532. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:35:10 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.03 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.03 min
Area: 2.29e+006 counts
Height: 547919.373 cps
Start Time: 4.94 min
End Time: 5.32 min



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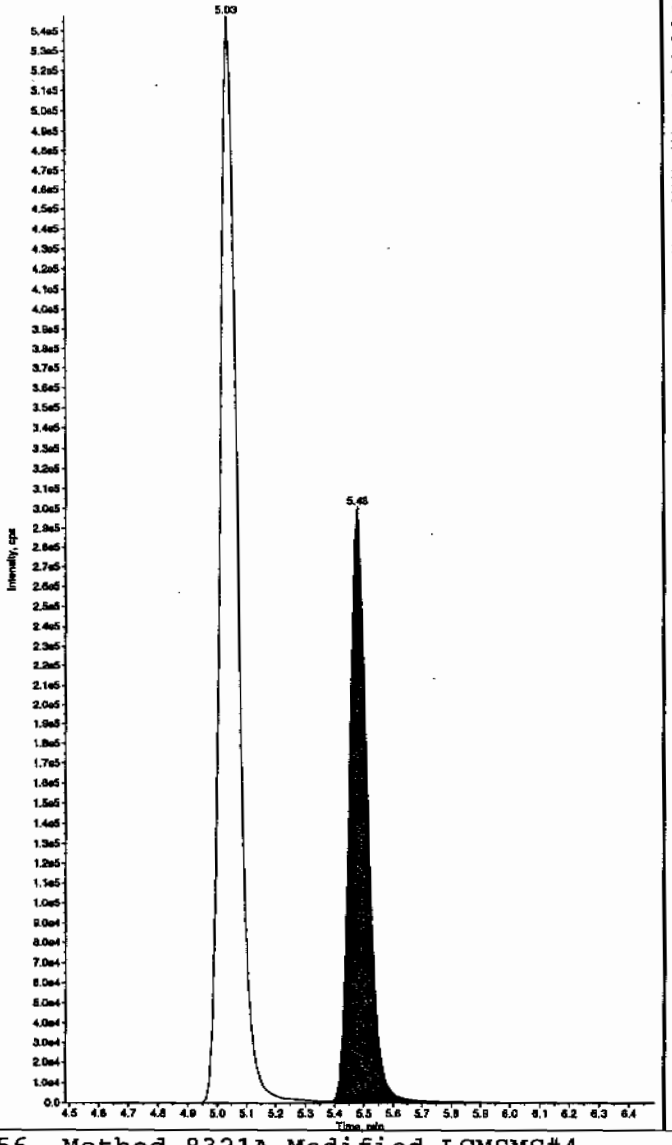
Sample Name: "1202011637" Sample ID: "940049|2|LER" File: "EXS01190052.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 462. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:35:10 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.48 min
Area: 1.31e+006 counts
Height: 300623.474 cps
Start Time: 5.37 min
End Time: 5.90 min

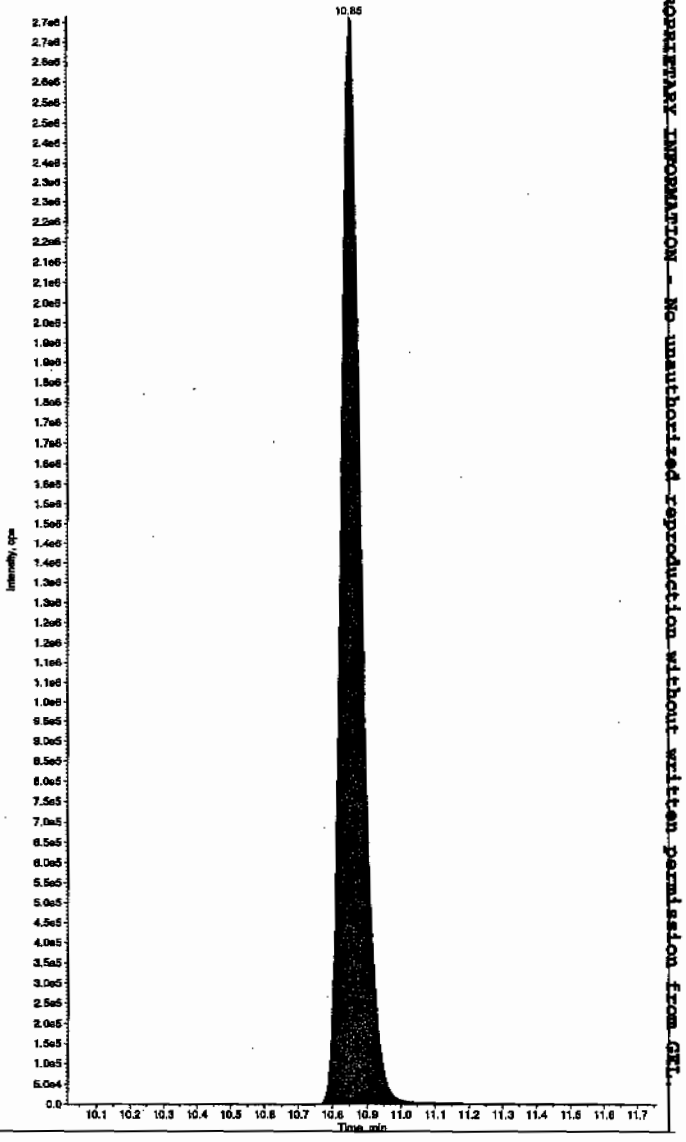


Sample Name: "1202011637" Sample ID: "940049|2|LER" File: "EXS01190052.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 497. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:35:10 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.9 min
Area: 1.15e+007 counts
Height: 2717280.518 cps
Start Time: 10.7 min
End Time: 11.2 min



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

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1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7848(244137006MSD)

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 1202011638

Sample Amount 2

Moisture: 16.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125115a

Date Analyzed: 27-JAN-10 19:25

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	5410	
121-14-2	2,4-Dinitrotoluene	5360	
121-82-4	RDX	5150	
19406-51-0	4-Amino-2,6-dinitrotoluene	5640	
2691-41-0	HMX	5070	
35572-78-2	2-Amino-4,6-dinitrotoluene	5800	
479-45-8	Tetryl	3330	
606-20-2	2,6-Dinitrotoluene	5010	
78-11-5	PETN	5530	
88-72-2	o-Nitrotoluene	4470	
98-95-3	Nitrobenzene	4620	
99-08-1	m-Nitrotoluene	4400	
99-35-4	1,3,5-Trinitrobenzene	5380	
99-65-0	m-Dinitrobenzene	5080	
99-99-0	p-Nitrotoluene	4280	

*Concentration =

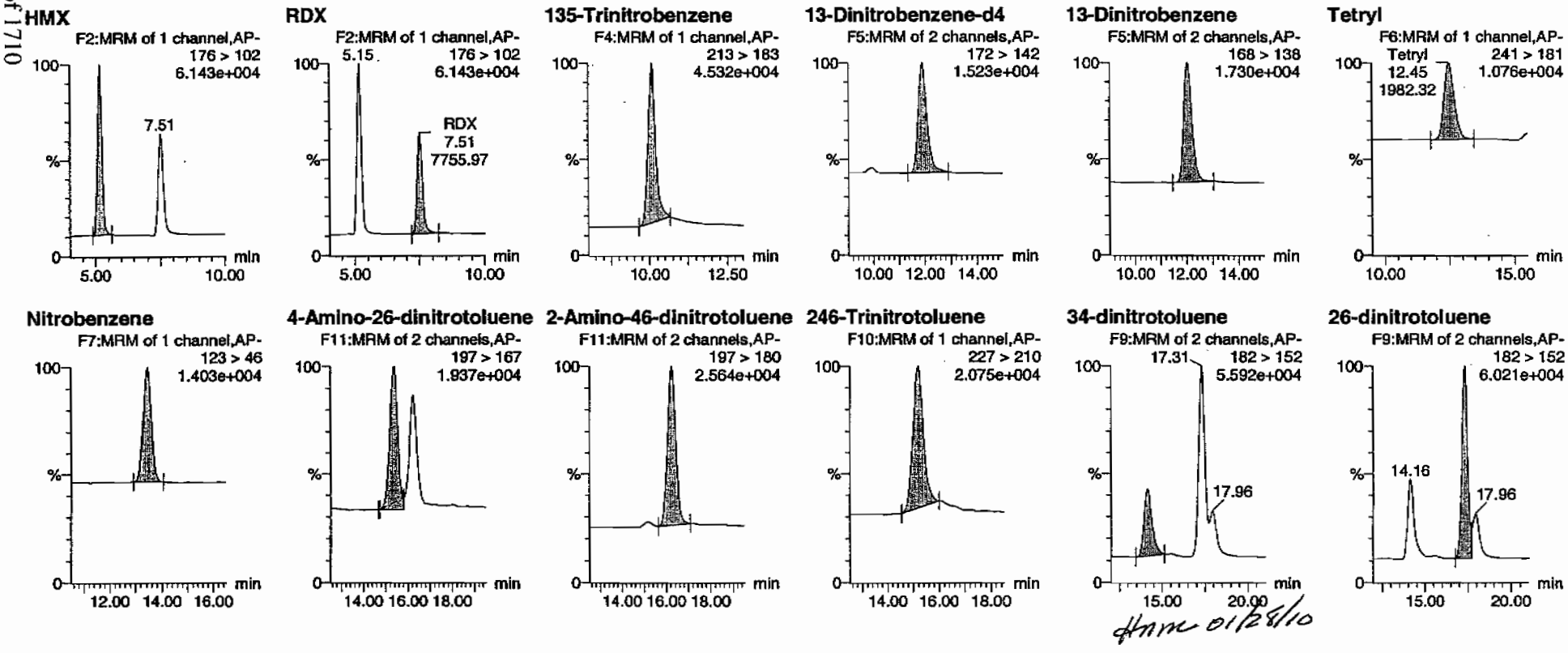
$$\text{Instrument Value} \times \frac{\text{Concentrated Extract Volume}}{\text{Sample Amoun}} \times \text{Dilution Factor}$$

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

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125115a
Date: 27-Jan-2010
Time: 19:25:30
ID: 1202011638 | LANU | 940049 | Soil | 244137006MSD | 2 |
Vial: 1:5,D

MPP 1/28/10



Hmm 01/28/10

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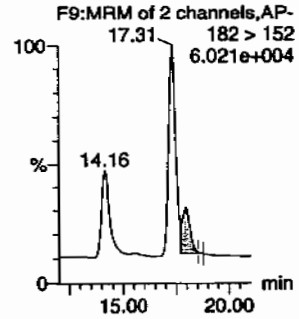
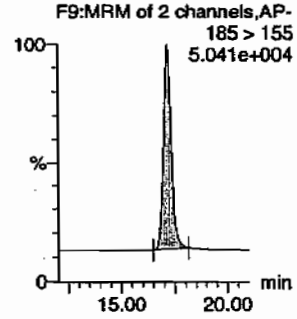
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

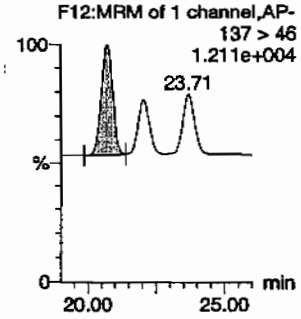
24-dinitrotoluene



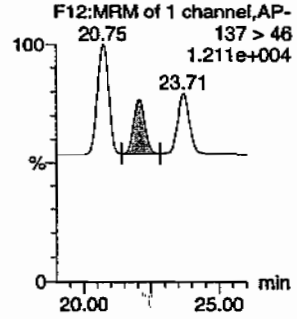
26-dinitrotoluene-d3



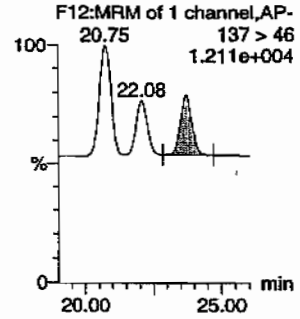
2-Nitrotoluene



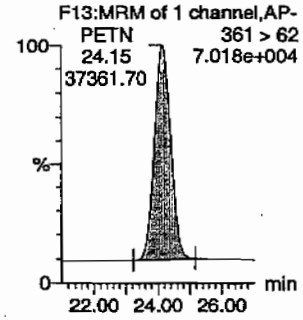
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N
1202011638	HMX	176 > 102	5.15	11015.579	3425.978	11015.579	1607.655	bb			506.7417	101.3	1.3	811.5
1202011638	RDX	176 > 102	7.51	7755.967	3425.978	7755.967	1131.935	bb			514.8439	103.0	3.0	483.4
1202011638	135-Trinitrobenzene	213 > 183	10.07	10569.623	3425.978	10569.623	1542.570	bb			537.6283	107.5	7.5	671.5
1202011638	13-Dinitrobenzene-d4	172 > 142	11.90	3425.978		3425.978	3425.978	bb			577.0748	115.4	15.4	494.2
1202011638	13-Dinitrobenzene	168 > 138	12.03	4041.093	3425.978	4041.093	589.772	bb			508.4319	101.7	1.7	544.5
1202011638	Tetryl	241 > 181	12.45	1982.318	3425.978	1982.318	289.307	bb			333.0677	66.6	-33.4	208.0
1202011638	Nitrobenzene	123 > 46	13.45	2702.645	3425.978	2702.645	394.434	bb			461.5453	92.3	-7.7	237.8
1202011638	4-Amino-26-dinitrotoluene	197 > 167	15.38	5476.847	18645.203	5476.847	146.870	MM	28-Jan-10	10:27:28	563.7715	112.8	12.8	257.9
1202011638	2-Amino-46-dinitrotoluene	197 > 180	16.25	8098.784	18645.203	8098.784	217.181	bb			580.2573	116.1	16.1	264.4
1202011638	246-Trinitrotoluene	227 > 210	15.20	6414.502	18645.203	6414.502	172.015	bb			540.8183	108.2	8.2	328.6
1202011638	34-dinitrotoluene	182 > 152	14.16	9370.968	18645.203	9370.968	251.297	bb			276.7545	110.7	10.7	632.5
1202011638	26-dinitrotoluene	182 > 152	17.31	20573.443	18645.203	20573.443	551.709	MM	28-Jan-10	10:33:37	500.8500	100.2	0.2	906.5
1202011638	24-dinitrotoluene	182 > 152	17.96	5076.590	18645.203	5076.590	136.137	MM	28-Jan-10	10:37:28	535.8386	107.2	7.2	198.5
1202011638	26-dinitrotoluene-d3	185 > 155	17.15	18645.203		18645.203	18645.203	bb			571.9970	114.4	14.4	1011.1
1202011638	2-Nitrotoluene	137 > 46	20.75	2768.998	18645.203	2768.998	74.255	bb			446.5042	89.3	-10.7	534.8
1202011638	4-Nitrotoluene	137 > 46	22.08	1320.672	18645.203	1320.672	35.416	bb			428.3496	85.7	-14.3	262.1
1202011638	3-Nitrotoluene	137 > 46	23.71	1531.594	18645.203	1531.594	41.072	bb			439.9331	88.0	-12.0	292.2
1202011638	PETN	361 > 62	24.15	37361.699	18645.203	37361.699	1001.912	bb			553.2387	110.6	10.6	2362.2

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

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High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7848(244137006MSD)

Lab Code: GEL

GEL Job No (SDG) 10-1126

Matrix: SOIL

GEL Sample ID: 1202011638

Sample Amount 2

Moisture: 16.1

Amount Units g

Date Received: 08-JAN-10

Extraction Type Sonication

Extraction Batch ID: 940045

Concentrated Extract Volume (mL) 10

Date Extracted: 14-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01190053.wiff

Date Analyzed: 20-JAN-10 03:50

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	4670	
59229-75-3	2,6-Diamino-4-nitrotoluene	5470	
618-87-1	3,5-Dinitroaniline	5040	
6629-29-4	2,4-Diamino-6-nitrotoluene	4770	
78-30-8	tris(o-cresyl) phosphate	4920	

*Concentration =

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

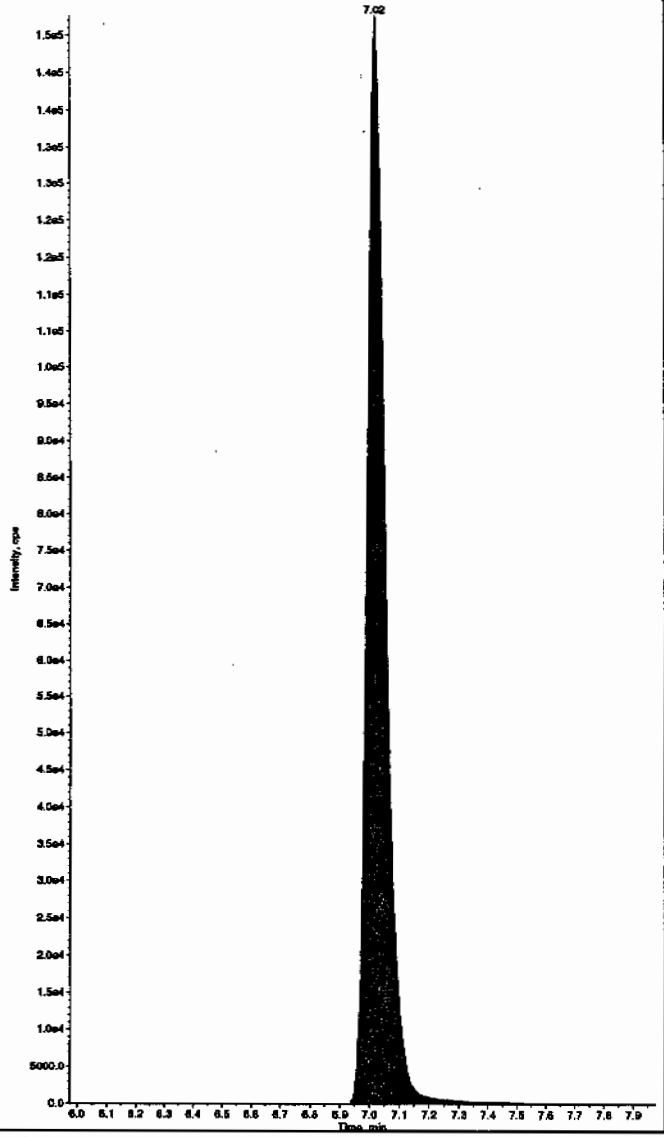
before Jan 1/20/10

Sample Name: "1202011638" Sample ID: "940049[2]LER" File: "EXS01190053.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 467. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:50:52 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.02 min
Area: 6.55e+005 counts
Height: 147666.794 cps
Start Time: 6.87 min
End Time: 7.67 min

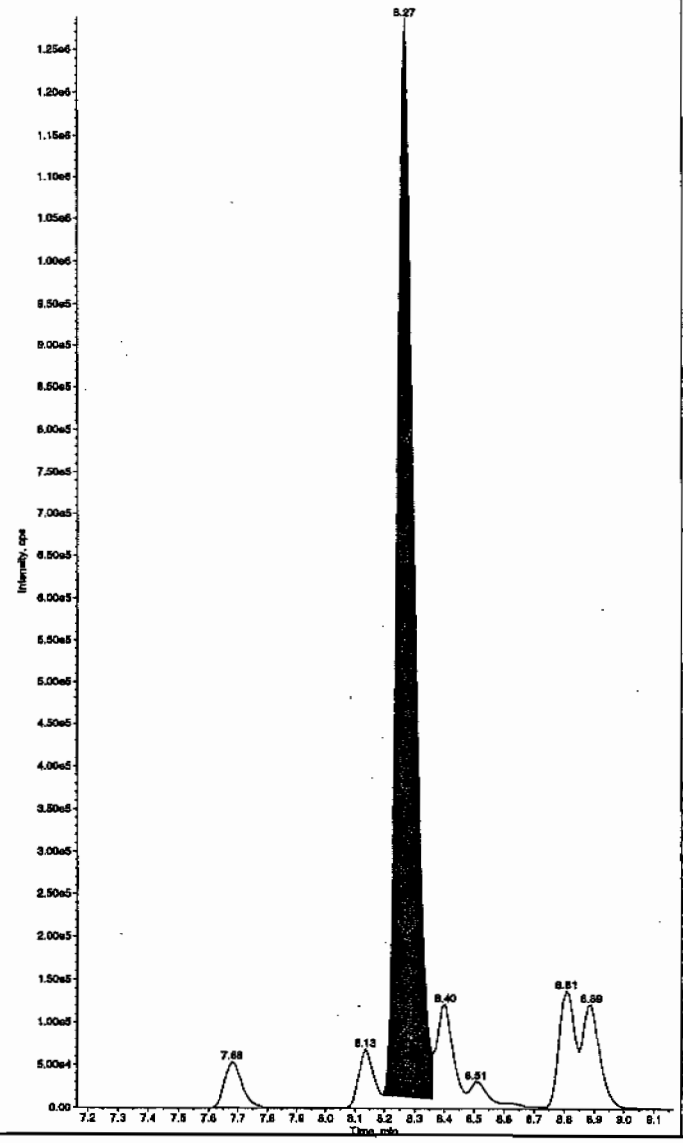


Sample Name: "1202011638" Sample ID: "940049[2]LER" File: "EXS01190053.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 504. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:50:52 AM

Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.27 min
Area: 5.00e+006 counts
Height: 1274027.222 cps
Start Time: 8.20 min
End Time: 8.36 min



dmm01/20/10

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

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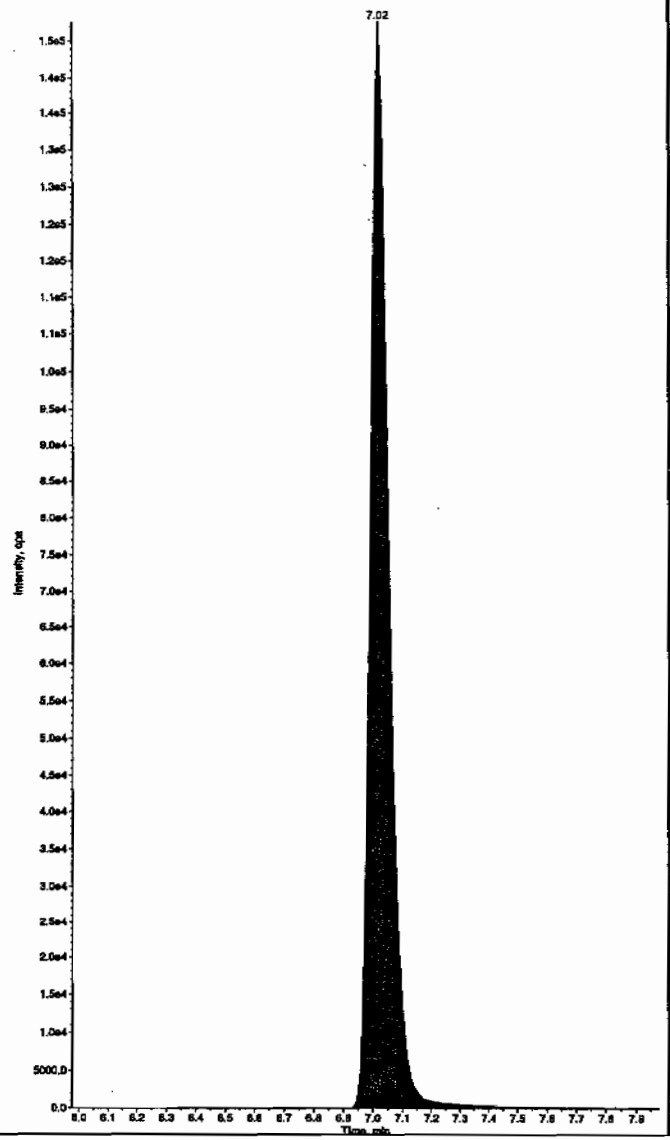
after LER 1/20/10

Sample Name: "1202011638" Sample ID: "940049|2|LER" File: "EXS01190053.wiff"
Peak Name: "TATB" Mass(es): "257.2/204.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 467. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:50:52 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.98 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 7.02 min
Area: 6.55e+005 counts
Height: 147666.794 cps
Start Time: 6.87 min
End Time: 7.67 min

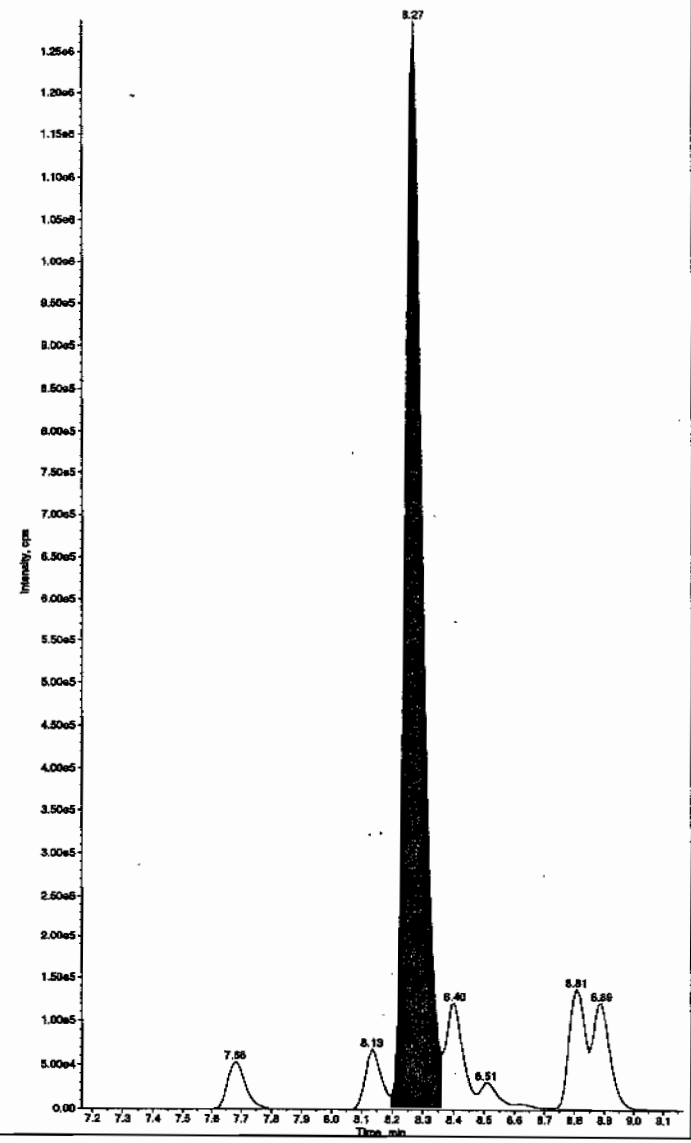


Sample Name: "1202011638" Sample ID: "940049|2|LER" File: "EXS01190053.wiff"
Peak Name: "35-Dinitroaniline" Mass(es): "182.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 504. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:50:52 AM

Modified: Yes
RT Window: 15.0 sec
Expected RT: 8.16 min
Use Relative RT: No

Int. Type: Manual
Retention Time: 8.27 min
Area: 5.09e+006 counts
Height: 1287194.362 cps
Start Time: 8.20 min
End Time: 8.36 min



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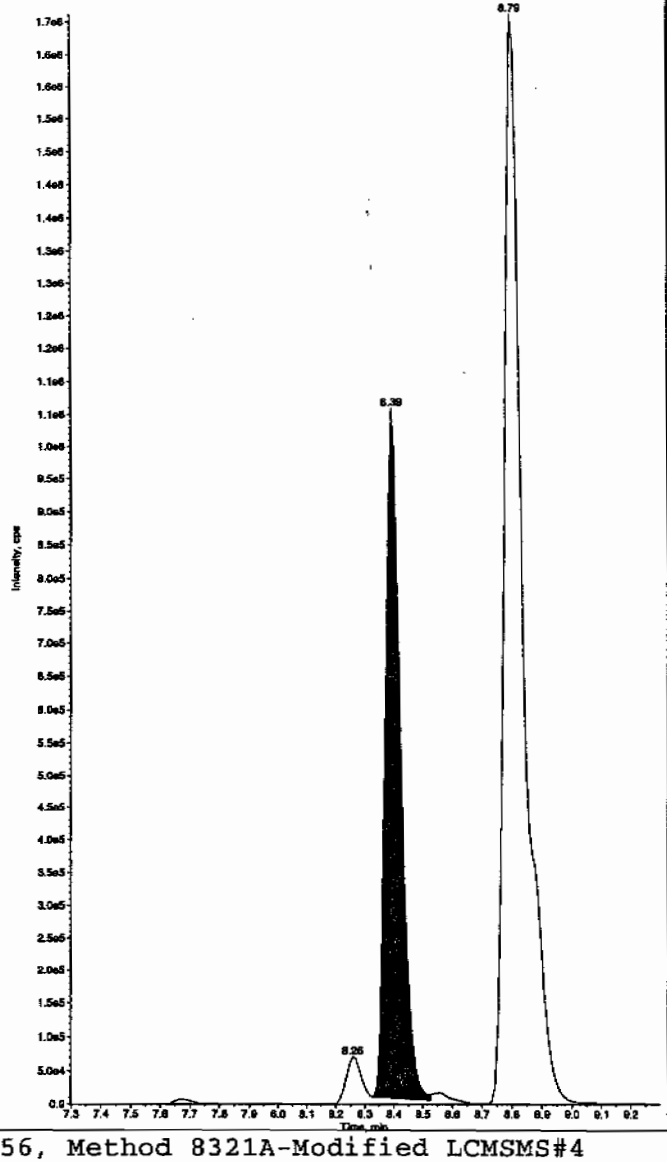
*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "1202011638" Sample ID: "940049[2]LER" File: "EXS01190053.wiff"
Peak Name: "34-Dinitrotoluene" Mass(es): "182.1/151.9 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 276. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:50:52 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1460.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.30 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 8.39 min
Area: 3.85e+006 counts
Height: 1050155.762 cps
Start Time: 8.33 min
End Time: 8.53 min

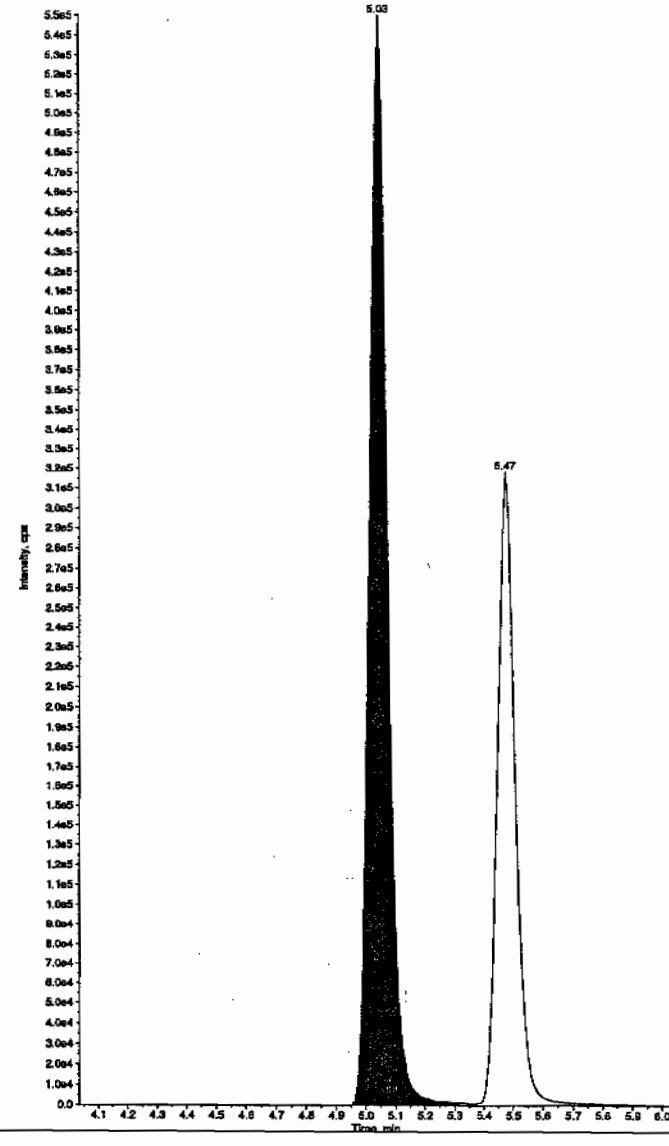


Sample Name: "1202011638" Sample ID: "940049[2]LER" File: "EXS01190053.wiff"
Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 547. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:50:52 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 450.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.03 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.03 min
Area: 2.35e+006 counts
Height: 550621.765 cps
Start Time: 4.92 min
End Time: 5.31 min



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

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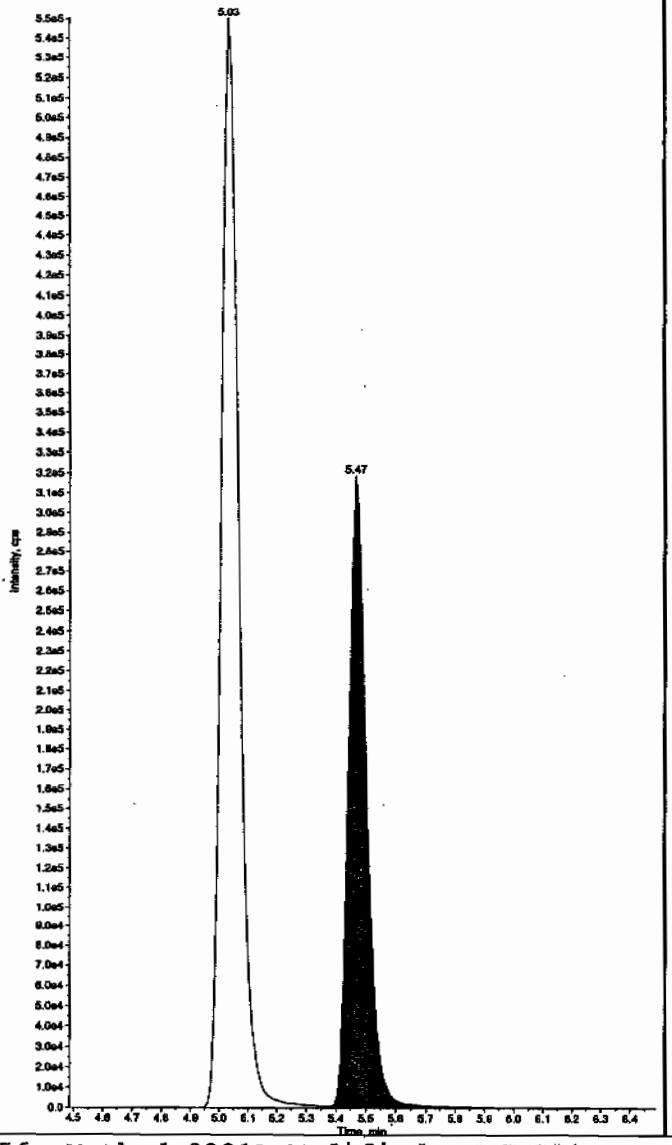
Sample Name: "1202011638" Sample ID: "940049[2]LER" File: "EXS01190053.wiff"
Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 477. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:50:52 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.49 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 5.47 min
Area: 1.36e+006 counts
Height: 318654.510 cps
Start Time: 5.35 min
End Time: 6.01 min

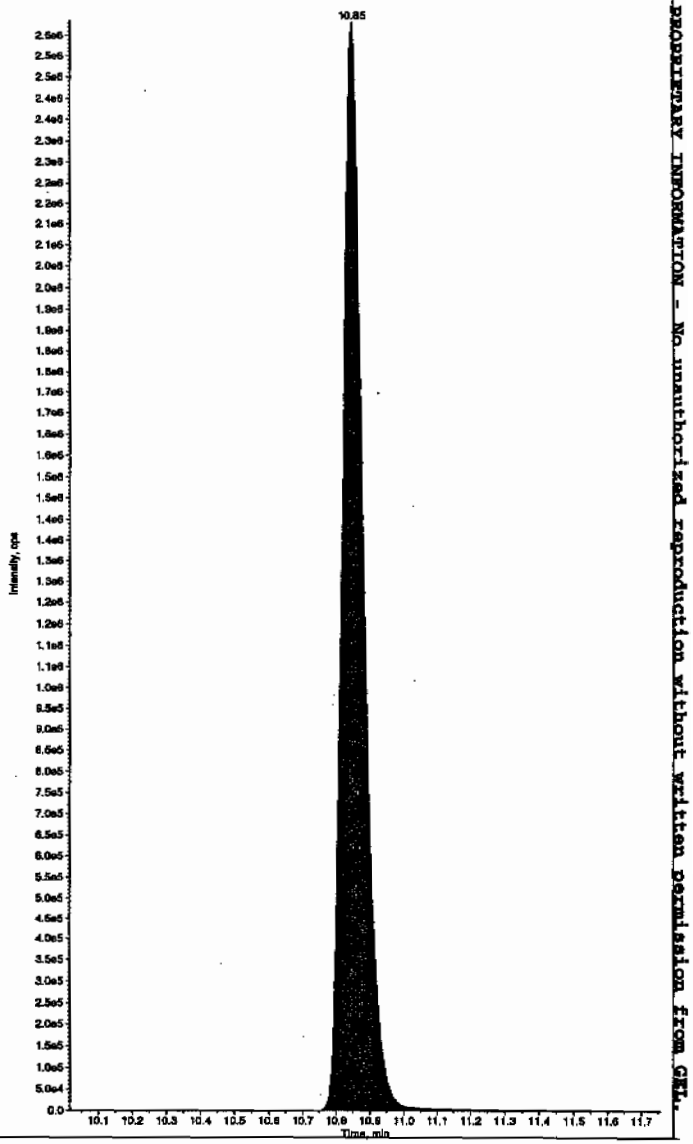


Sample Name: "1202011638" Sample ID: "940049[2]LER" File: "EXS01190053.wiff"
Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.1/91.0 amu"
Comment: "LCX83212S" Annotation: ""

Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 492. ng/mL
Acq. Date: 1/20/2010
Acq. Time: 3:50:52 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 10.8 min
Area: 1.14e+007 counts
Height: 2585594.238 cps
Start Time: 10.7 min
End Time: 11.2 min



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

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MISCELLANEOUS DATA

Prep Logbook

Nitroaromatics and Nitramines by High Performance Liquid Chromatography (HPLC)

Batch ID: 940045 **Verified by:** _____

Analyst: Sirena White

Method: SW846 8330 PREP

Lab SOP: GL-OA-E-033 REV# 17

Instrument: Semi-Volatiles Manual

Sample ID	Run Date	Aliquot (g)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1202011636 MB	14-JAN-2010 17:29:13	2	10	5
1202011639 LCS	14-JAN-2010 17:29:13	2	10	5
244137001	14-JAN-2010 17:29:13	2	10	5
244137002	14-JAN-2010 17:29:13	2	10	5
244137003	14-JAN-2010 17:29:13	2	10	5
244137004	14-JAN-2010 17:29:13	2	10	5
244137005	14-JAN-2010 17:29:13	2	10	5
244137006	14-JAN-2010 17:29:13	2	10	5
1202011637 MS (244137006)	14-JAN-2010 17:29:13	2	10	5
1202011638 MSD (244137006)	14-JAN-2010 17:29:13	2	10	5
244137007	14-JAN-2010 17:29:13	2	10	5

Type	Sample Id	Description	Serial Number	Spike Amt	Units
LCS	1202011639	8321 Explosives LCS	IXX091230-03	.1	mL
LCS	1202011639	8321 LANL Explosives Mix 10mg/L	UXX091229-02.2	1	mL
MS	1202011637	8321 Explosives LCS	IXX091230-03	.1	mL
MS	1202011637	8321 LANL Explosives Mix 10mg/L	UXX091229-02.2	1	mL
MSD	1202011638	8321 Explosives LCS	IXX091230-03	.1	mL
MSD	1202011638	8321 LANL Explosives Mix 10mg/L	UXX091229-02.2	1	mL
SURR	All	3,4-Dinitrotoluene (8330 Surr.) 100ppm	IXP100114-02	.05	mL

Comments:

Final Solvent: ACN

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GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS #1

Date: 01/25/10
Extr. Injection Volume: 50uL
Sequence Number: 012510expA
Initial Calibration Date: 01/25/10

Method: SW846 8321A-Modified
Int. Std.: UXX091230-01.3
Mobile Phase Lot#: 1258263, 1236350
Standard-Samp Reagent Lot#: 1253092, 1246195

Reviewed BY: Hmc
Date: 01/28/10
SOP: GL-OA-E-056 Rev.12
Alt Check Std. ID: WXX100125-07

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
EXP0125001a	XIBLK01	MAP	1/25/10 11:20			1		USE	B
EXP0125002a	XIBLK01	MAP	1/25/10 11:50			1		USE	B
EXP0125003a	WXXICAL-01	MAP	1/25/10 12:19			1		USE	I
EXP0125004a	WXXICAL-02	MAP	1/25/10 12:49			1		USE	I
EXP0125005a	WXXICAL-03	MAP	1/25/10 13:18			1		USE	I
EXP0125006a	WXXICAL-04	MAP	1/25/10 13:48			1		USE	I
EXP0125007a	WXXICAL-05	MAP	1/25/10 14:17			1		USE	I
EXP0125008a	WXXICAL-06	MAP	1/25/10 14:47			1		USE	I
EXP0125009a	XIBLK02	MAP	1/25/10 15:16			1		USE	B
EXP0125010a	WXXICV	MAP	1/25/10 15:46			1		USE	C
EXP0125011a	XIBLK03	MAP	1/25/10 16:15			1		USE	B
EXP0125012a	WXXCRI	MAP	1/25/10 16:45			1		USE	C
EXP0125013a	244613001	MAP	1/25/10 17:14	941662	10-1218	2	LANL	USE	S
EXP0125014a	244616002	MAP	1/25/10 17:44	941662	10-1219	2	LANL	USE	S
EXP0125015a	244616003	MAP	1/25/10 18:13	941662	10-1219	2	LANL	USE	S
EXP0125016a	244616004	MAP	1/25/10 18:43	941662	10-1219	2	LANL	USE	S
EXP0125017a	244616005	MAP	1/25/10 19:12	941662	10-1219	2	LANL	USE	S
EXP0125018a	244616006	MAP	1/25/10 19:42	941662	10-1219	2	LANL	USE	S
EXP0125019a	244620001	MAP	1/25/10 20:11	941662	10-1221	2	LANL	USE	S
EXP0125020a	244620002	MAP	1/25/10 20:41	941662	10-1221	2	LANL	USE	S
EXP0125021a	244620003	MAP	1/25/10 21:10	941662	10-1221	2	LANL	USE	S
EXP0125022a	244620004	MAP	1/25/10 21:40	941662	10-1221	2	LANL	USE	S
EXP0125023a	WXXCCV	MAP	1/25/10 22:09			1		USE	C
EXP0125024a	XIBLK04	MAP	1/25/10 22:39			1		USE	B
EXP0125025a	WXXCRI	MAP	1/25/10 23:08			1		USE	C
EXP0125026a	244620005	MAP	1/25/10 23:38	941662	10-1221	2	LANL	USE	S
EXP0125027a	244620006	MAP	1/26/10 0:07	941662	10-1221	2	LANL	USE	S
EXP0125028a	244623001	MAP	1/26/10 0:37	941662	10-1223	2	LANL	USE	S
EXP0125029a	244623002	MAP	1/26/10 1:06	941662	10-1223	2	LANL	USE	S

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EXP0125030a	244623003	MAP	1/26/10 1:36	941662	10-1223	2	LANL	USE	S
EXP0125031a	244623004	MAP	1/26/10 2:05	941662	10-1223	2	LANL	USE	S
EXP0125032a	244623005	MAP	1/26/10 2:35	941662	10-1223	2	LANL	USE	S
EXP0125033a	244623006	MAP	1/26/10 3:04	941662	10-1223	2	LANL	USE	S
EXP0125034a	WXXCCV	MAP	1/26/10 3:34			1		USE	C
EXP0125035a	XIBLK05	MAP	1/26/10 4:03			1		USE	B
EXP0125036a	WXXCRI	MAP	1/26/10 4:33			1		USE	C
EXP0125037a	1202011683	MAP	1/26/10 5:02	940071	10-1131	2	LANL	USE	S
EXP0125038a	1202011684	MAP	1/26/10 5:32	940071	10-1131	2	LANL	USE	S
EXP0125039a	244126001	MAP	1/26/10 6:01	940071	10-1131	2	LANL	USE	S
EXP0125040a	1202011685	MAP	1/26/10 6:31	940071	10-1131	2	LANL	USE	S
EXP0125041a	1202011686	MAP	1/26/10 7:01	940071	10-1131	2	LANL	USE	S
EXP0125042a	244126002	MAP	1/26/10 7:30	940071	10-1131	2	LANL	USE	S
EXP0125043a	244126003	MAP	1/26/10 7:59	940071	10-1131	2	LANL	USE	S
EXP0125044a	244126004	MAP	1/26/10 8:29	940071	10-1131	2	LANL	USE	S
EXP0125045a	244126005	MAP	1/26/10 8:58	940071	10-1131	2	LANL	USE	S
EXP0125046a	244126006	MAP	1/26/10 9:28	940071	10-1131	2	LANL	USE	S
EXP0125047a	WXXCCV	MAP	1/26/10 9:58			1		USE	C
EXP0125048a	XIBLK06	MAP	1/26/10 10:27			1		USE	B
EXP0125049a	WXXCRI	MAP	1/26/10 10:57			1		USE	C
EXP0125050a	244126007	MAP	1/26/10 11:26	940071	10-1131	2	LANL	USE	S
EXP0125051a	244126008	MAP	1/26/10 11:56	940071	10-1131	2	LANL	USE	S
EXP0125052a	244126009	MAP	1/26/10 12:25	940071	10-1131	2	LANL	USE	S
EXP0125053a	244126010	MAP	1/26/10 12:55	940071	10-1131	2	LANL	USE	S
EXP0125054a	244126011	MAP	1/26/10 13:24	940071	10-1131	2	LANL	USE	S
EXP0125055a	244126012	MAP	1/26/10 13:54	940071	10-1131	2	LANL	USE	S
EXP0125056a	244126013	MAP	1/26/10 14:23	940071	10-1131	2	LANL	USE	S
EXP0125057a	244126014	MAP	1/26/10 14:53	940071	10-1131	2	LANL	USE	S
EXP0125058a	244126015	MAP	1/26/10 15:22	940071	10-1131	2	LANL	USE	S
EXP0125059a	244126016	MAP	1/26/10 15:51	940071	10-1131	2	LANL	USE	S
EXP0125060a	WXXCCV	MAP	1/26/10 16:21			1		USE	C
EXP0125061a	XIBLK07	MAP	1/26/10 16:50			1		USE	B
EXP0125062a	WXXCRI	MAP	1/26/10 17:20			1		USE	C
EXP0125063a	244126017	MAP	1/26/10 17:49	940071	10-1131	2	LANL	USE	S
EXP0125064a	244126018	MAP	1/26/10 18:19	940071	10-1131	2	LANL	USE	S
EXP0125065a	244126019	MAP	1/26/10 18:49	940071	10-1131	2	LANL	USE	S
EXP0125066a	244126020	MAP	1/26/10 19:18	940071	10-1131	2	LANL	USE	S

EXP0125067a	XIBLK08	MAP	1/26/10 19:48			1		USE	B
EXP0125068a	1202011636	MAP	1/26/10 20:17	940049	10-1126	2	LANL	USE	S
EXP0125069a	1202011639	MAP	1/26/10 20:47	940049	10-1126	2	LANL	USE	S
EXP0125070a	244137001	MAP	1/26/10 21:16	940049	10-1126	2	LANL	USE	S
EXP0125071a	244137002	MAP	1/26/10 21:46	940049	10-1126	2	LANL	USE	S
EXP0125072a	244137003	MAP	1/26/10 22:15	940049	10-1126	2	LANL	USE	S
EXP0125073a	WXXCCV	MAP	1/26/10 22:45			1		USE	C
EXP0125074a	XIBLK09	MAP	1/26/10 23:14			1		USE	B
EXP0125075a	WXXCRI	MAP	1/26/10 23:44			1		USE	C
EXP0125076a	244137004	MAP	1/27/10 0:13	940049	10-1126	2	LANL	USE	S
EXP0125077a	244137005	MAP	1/27/10 0:43	940049	10-1126	2	LANL	USE	S
EXP0125078a	244137006	MAP	1/27/10 1:12	940049	10-1126	2	LANL	USE	S
EXP0125079a	1202011637	MAP	1/27/10 1:42	940049	10-1126	2	LANL	USE	S
EXP0125080a	1202011638	MAP	1/27/10 2:11	940049	10-1126	2	LANL	DUSE-RA	S
EXP0125081a	244137007	MAP	1/27/10 2:41	940049	10-1126	2	LANL	USE	S
EXP0125082a	WXXCCV	MAP	1/27/10 3:10			1		USE	C
EXP0125083a	XIBLK10	MAP	1/27/10 3:40			1		USE	B
EXP0125084a	WXXCRI	MAP	1/27/10 4:09			1		USE	C
EXP0125085a	1202011650	MAP	1/27/10 4:39	940057	10-1127	2	LANL	USE	S
EXP0125086a	1202011651	MAP	1/27/10 5:08	940057	10-1127	2	LANL	USE	S
EXP0125087a	244142001	MAP	1/27/10 5:38	940057	10-1127	2	LANL	USE	S
EXP0125088a	1202011652	MAP	1/27/10 6:07	940057	10-1127	2	LANL	USE	S
EXP0125089a	1202011653	MAP	1/27/10 6:37	940057	10-1127	2	LANL	USE	S
EXP0125090a	244142002	MAP	1/27/10 7:06	940057	10-1127	2	LANL	USE	S
EXP0125091a	244142003	MAP	1/27/10 7:36	940057	10-1127	2	LANL	USE	S
EXP0125092a	244142004	MAP	1/27/10 8:06	940057	10-1127	2	LANL	USE	S
EXP0125093a	244142005	MAP	1/27/10 8:35	940057	10-1127	2	LANL	USE	S
EXP0125094a	244142006	MAP	1/27/10 9:05	940057	10-1127	2	LANL	USE	S
EXP0125095a	WXXCCV	MAP	1/27/10 9:34			1		USE	C
EXP0125096a	XIBLK11	MAP	1/27/10 10:04			1		USE	B
EXP0125097a	WXXCRI	MAP	1/27/10 10:33			1		USE	C
EXP0125098a	244142007	MAP	1/27/10 11:03	940057	10-1127	2	LANL	USE	S
EXP0125099a	244142008	MAP	1/27/10 11:33	940057	10-1127	2	LANL	USE	S
EXP0125100a	244142009	MAP	1/27/10 12:02	940057	10-1127	2	LANL	USE	S
EXP0125101a	244142010	MAP	1/27/10 12:32	940057	10-1127	2	LANL	USE	S
EXP0125102a	244142011	MAP	1/27/10 13:01	940057	10-1127	2	LANL	USE	S
EXP0125103a	244142012	MAP	1/27/10 13:31	940057	10-1127	2	LANL	USE	S

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EXP0125104a	244142013	MAP	1/27/10 14:00	940057	10-1127	2	LANL	USE	S
EXP0125105a	244142014	MAP	1/27/10 14:30	940057	10-1127	2	LANL	USE	S
EXP0125106a	244142015	MAP	1/27/10 14:59	940057	10-1127	2	LANL	USE	S
EXP0125107a	244142016	MAP	1/27/10 15:29	940057	10-1127	2	LANL	USE	S
EXP0125108a	WXXCCV	MAP	1/27/10 15:58			1		USE	C
EXP0125109a	XIBLK12	MAP	1/27/10 16:28			1		USE	B
EXP0125110a	WXXCRI	MAP	1/27/10 16:57			1		USE	C
EXP0125111a	244142017	MAP	1/27/10 17:27	940057	10-1127	2	LANL	USE	S
EXP0125112a	244142018	MAP	1/27/10 17:56	940057	10-1127	2	LANL	USE	S
EXP0125113a	244142005	MAP	1/27/10 18:26	940057	10-1127	25	LANL	USE	S
EXP0125114a	XIBLK13	MAP	1/27/10 18:55			1		USE	B
EXP0125115a	1202011638	MAP	1/27/10 19:25	940049	10-1126	2	LANL	USE	S
EXP0125116a	WXXCCV	MAP	1/27/10 19:54			1		USE	C
EXP0125117a	XIBLK14	MAP	1/27/10 20:24			1		USE	B
EXP0125118a	WXXCRI	MAP	1/27/10 20:53			1		USE	C
EXP0125119a	1202015506	MAP	1/27/10 21:23	940579	10-1160-1	2	LANL	USE	S
EXP0125120a	1202015507	MAP	1/27/10 21:52	940579	10-1160-1	2	LANL	USE	S
EXP0125121a	244210001	MAP	1/27/10 22:22	940579	10-1160-1	2	LANL	USE	S
EXP0125122a	1202015508	MAP	1/27/10 22:51	940579	10-1160-1	2	LANL	USE	S
EXP0125123a	1202015509	MAP	1/27/10 23:21	940579	10-1160-1	2	LANL	USE	S
EXP0125124a	244210002	MAP	1/27/10 23:50	940579	10-1160-1	2	LANL	USE	S
EXP0125125a	244210003	MAP	1/28/10 0:20	940579	10-1160-1	2	LANL	USE	S
EXP0125126a	244210004	MAP	1/28/10 0:49	940579	10-1160-1	2	LANL	USE	S
EXP0125127a	244210005	MAP	1/28/10 1:19	940579	10-1160-1	2	LANL	USE	S
EXP0125128a	244210006	MAP	1/28/10 1:48	940579	10-1160-1	2	LANL	USE	S
EXP0125129a	WXXCCV	MAP	1/28/10 2:18			1		USE	C
EXP0125130a	XIBLK15	MAP	1/28/10 2:47			1		USE	B
EXP0125131a	WXXCRI	MAP	1/28/10 3:17			1		USE	C
EXP0125132a	244210007	MAP	1/28/10 3:46	940579	10-1160-1	2	LANL	USE	S
EXP0125133a	244210008	MAP	1/28/10 4:16	940579	10-1160-1	2	LANL	USE	S
EXP0125134a	244210009	MAP	1/28/10 4:45	940579	10-1160-1	2	LANL	USE	S
EXP0125135a	244210010	MAP	1/28/10 5:15	940579	10-1160-1	2	LANL	USE	S
EXP0125136a	244210011	MAP	1/28/10 5:44	940579	10-1160-1	2	LANL	USE	S
EXP0125137a	244210012	MAP	1/28/10 6:14	940579	10-1160-1	2	LANL	USE	S
EXP0125138a	244210013	MAP	1/28/10 6:43	940579	10-1160-1	2	LANL	USE	S
EXP0125139a	244210014	MAP	1/28/10 7:13	940579	10-1160-1	2	LANL	USE	S
EXP0125140a	244210015	MAP	1/28/10 7:42	940579	10-1160-1	2	LANL	USE	S

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EXP0125141a	244142017	MAP	1/28/10 8:12	940057	10-1127	10	LANL	USE	S
EXP0125142a	WXXCCV	MAP	1/28/10 8:41			1		USE	C
EXP0125143a	XIBLK16	MAP	1/28/10 9:11			1		USE	B
EXP0125144a	WXXCRI	MAP	1/28/10 9:40			1		USE	C

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GEL ORGANIC RUN LOG INSTRUMENT ID: LCMSMS4

Date: 01/19/10 Method: 8321A-Modified Reviewed By: [illegible]

Extr. Injection Volume: 10uL Int. Std.: N/A Date: 01/20/10

Sequence Number: 011910exs Mobile Phase Lot#:1236350, 1246467 SOP: GL-OA-E-056 Rev.12

Initial Calibration Date: 011910 Standard-Samp Reagent Lot# :1246195, 1253092 Alt Check Std. ID: WXX100119-26

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC Flag
EXS01190001.wiff	XIBLK01	LER	1/19/2010 14:14			1		USE	B
EXS01190002.wiff	XIBLK01	LER	1/19/2010 14:30			1		USE	B
EXS01190003.wiff	WXXICAL-19	LER	1/19/2010 14:45			1		USE	I
EXS01190004.wiff	WXXICAL-20	LER	1/19/2010 15:01			1		USE	I
EXS01190005.wiff	WXXICAL-21	LER	1/19/2010 15:17			1		USE	I
EXS01190006.wiff	WXXICAL-22	LER	1/19/2010 15:32			1		USE	I
EXS01190007.wiff	WXXICAL-23	LER	1/19/2010 15:48			1		USE	I
EXS01190008.wiff	WXXICAL-24	LER	1/19/2010 16:04			1		USE	I
EXS01190009.wiff	WXXICAL-25	LER	1/19/2010 16:19			1		USE	I
EXS01190010.wiff	XIBLK02	LER	1/19/2010 16:35			1		USE	B
EXS01190011.wiff	WXXICV	LER	1/19/2010 16:51			1		USE	C
EXS01190012.wiff	XIBLK03	LER	1/19/2010 17:07			1		USE	B
EXS01190013.wiff	WXXCRI	LER	1/19/2010 17:22			1		USE	C
EXS01190014.wiff	244221003	LER	1/19/2010 17:38	940094	10-1149	2	LANL	USE	S
EXS01190015.wiff	244223016	LER	1/19/2010 17:54	940099	10-1155	2	LANL	USE	S
EXS01190016.wiff	244223015	LER	1/19/2010 18:09	940099	10-1155	10	LANL	USE	S
EXS01190017.wiff	XIBLK04	LER	1/19/2010 18:25			1		USE	B
EXS01190018.wiff	1202011756	LER	1/19/2010 18:41	940106	VARIOUS	2	LANL	USE	S
EXS01190019.wiff	1202011757	LER	1/19/2010 18:57	940106	VARIOUS	2	LANL	USE	S
EXS01190020.wiff	244209001	LER	1/19/2010 19:12	940106	10-1160	2	LANL	USE	S
EXS01190021.wiff	1202011758	LER	1/19/2010 19:28	940106	10-1160	2	LANL	USE	S
EXS01190022.wiff	1202011759	LER	1/19/2010 19:44	940106	10-1160	2	LANL	USE	S
EXS01190023.wiff	WXXCCV	LER	1/19/2010 19:59			1		USE	C
EXS01190024.wiff	XIBLK05	LER	1/19/2010 20:15			1		USE	B
EXS01190025.wiff	WXXCRI	LER	1/19/2010 20:31			1		USE	C
EXS01190026.wiff	244209002	LER	1/19/2010 20:46	940106	10-1160	2	LANL	USE	S
EXS01190027.wiff	244209003	LER	1/19/2010 21:02	940106	10-1160	2	LANL	USE	S
EXS01190028.wiff	244209004	LER	1/19/2010 21:18	940106	10-1160	2	LANL	USE	S
EXS01190029.wiff	244209005	LER	1/19/2010 21:33	940106	10-1160	2	LANL	USE	S

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EXS01190030.wiff	244209006	LER	1/19/2010 21:49	940106	10-1160	2	LANL	USE	S
EXS01190031.wiff	244211001	LER	1/19/2010 22:05	940106	10-1158	2	LANL	USE	S
EXS01190032.wiff	244211002	LER	1/19/2010 22:21	940106	10-1158	2	LANL	USE	S
EXS01190033.wiff	244211003	LER	1/19/2010 22:36	940106	10-1158	2	LANL	USE	S
EXS01190034.wiff	244211004	LER	1/19/2010 22:52	940106	10-1158	2	LANL	USE	S
EXS01190035.wiff	244211005	LER	1/19/2010 23:08	940106	10-1158	2	LANL	USE	S
EXS01190036.wiff	WXXCCV	LER	1/19/2010 23:23			1		USE	C
EXS01190037.wiff	XIBLK06	LER	1/19/2010 23:39			1		USE	B
EXS01190038.wiff	WXXCRI	LER	1/19/2010 23:55			1		USE	C
EXS01190039.wiff	244211006	LER	1/20/2010 0:11	940106	10-1158	2	LANL	USE	S
EXS01190040.wiff	XIBLK07	LER	1/20/2010 0:26			1		USE	B
EXS01190041.wiff	1202011636	LER	1/20/2010 0:42	940049	10-1126	2	LANL	USE	S
EXS01190042.wiff	1202011639	LER	1/20/2010 0:58	940049	10-1126	2	LANL	USE	S
EXS01190043.wiff	244137001	LER	1/20/2010 1:13	940049	10-1126	2	LANL	USE	S
EXS01190044.wiff	244137002	LER	1/20/2010 1:29	940049	10-1126	2	LANL	USE	S
EXS01190045.wiff	244137003	LER	1/20/2010 1:45	940049	10-1126	2	LANL	USE	S
EXS01190046.wiff	244137004	LER	1/20/2010 2:00	940049	10-1126	2	LANL	USE	S
EXS01190047.wiff	244137005	LER	1/20/2010 2:16	940049	10-1126	2	LANL	USE	S
EXS01190048.wiff	WXXCCV	LER	1/20/2010 2:32			1		USE	C
EXS01190049.wiff	XIBLK08	LER	1/20/2010 2:48			1		USE	B
EXS01190050.wiff	WXXCRI	LER	1/20/2010 3:03			1		USE	C
EXS01190051.wiff	244137006	LER	1/20/2010 3:19	940049	10-1126	2	LANL	USE	S
EXS01190052.wiff	1202011637	LER	1/20/2010 3:35	940049	10-1126	2	LANL	USE	S
EXS01190053.wiff	1202011638	LER	1/20/2010 3:50	940049	10-1126	2	LANL	USE	S
EXS01190054.wiff	244137007	LER	1/20/2010 4:06	940049	10-1126	2	LANL	USE	S
EXS01190055.wiff	WXXCCV	LER	1/20/2010 4:22			1		USE	C
EXS01190056.wiff	XIBLK09	LER	1/20/2010 4:38			1		USE	B
EXS01190057.wiff	WXXCRI	LER	1/20/2010 4:53			1		USE	C

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GC SEMIVOLATILE PCB ANALYSIS

PCB Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1126

Method/Analysis Information

Procedure:	**Analysis of Polychlorinated Biphenyls by ECD**
Analytical Method:	SW846 8082
Prep Method:	SW846 3550B
Analytical Batch Number:	940403
Prep Batch Number:	940402

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 8082:

Sample ID	Client ID
244137001	RE12-10-7859
1202012544	Method Blank (MB)
1202012545	Laboratory Control Sample (LCS)
1202012546	244126019(RE12-10-7657) Matrix Spike (MS)
1202012547	244126019(RE12-10-7657) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

Preparation/Analytical Method Verification

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-040 REV# 14.

Raw data reports are processed and reviewed by the analyst using the Target software package. False positives have been removed from the Target quantitation reports per standard operating procedures (SOP) section 23.0.

Calibration Information

Please note that the 'Cal Date' indicated on each quantitation report reflects the date and time of the most recent calibrated analyte(s) in the Target processing method. Since the laboratory may calibrate with multiple solutions on different days using the same processing method, the Target software will update the 'Cal Date' to the last calibration file, date and time. The correct dates and times for all calibration files are located on the Calibration History report in the Standard Data section in the data package.

Due to software limitations, the Calibration Summary Form 6 may not indicate all the calibration files comprising the initial calibration. A complete list of the initial calibration data files are shown in the Calibration History report located in the Standard Data section of the data package.

Initial Calibration

All initial calibration requirements have been met for this sample delivery group (SDG).

The linear equation used in Target and indicated on the initial calibration summary form is not a conventional linear equation (slope intercept formula) and does not match the equation found in SW-846 method 8000B. The x and y axes are inversed in Target, so that the instrument response is treated as the independent variable (x) and the concentration ratio is treated as the dependent variable (y). The equation used in Target to calculate sample results is adjusted to account for the linear equation inversion and reciprocal slope. The adjusted calculation has been independently verified to produce valid results.

Continuing Calibration Verification (CCV) Requirements

All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

Quality Control (QC) Information

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

Surrogate Recoveries
All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

QC Sample Designation
A LANL sample of similar matrix associated with another SDG (#10-1131) was selected for the matrix spike and matrix spike duplicate analysis. A Form III and QC raw data are included in the package summarizing the results.

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

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

MS/MSD Relative Percent Difference (RPD) Statement
The RPD(s) between the MS and MSD met the acceptance limits.

Technical Information

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

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP. All sample extracts were cleaned using alumina. Additionally, copper was added to all sample extracts to remove sulfur.

Sample Dilutions
The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis
Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Electronic Package Comment

The following package was generated using an electronic data processing program referred to as "virtual packaging". In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from "traditional" packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the analyst, reviewer, and report specialist names associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Data Exception (DER) Documentation
Data exception reports (DERs) are for documentation of any procedural anomalies that may deviate from referenced

SOP or contractual document. A DER was not required for this SDG.

Manual Integrations
Certain standards and samples may have required manual integration to correctly position the baseline as set in the calibration standard injections. If manual integration was performed, copies of all manual integration peak profiles are included in the raw data section of this PCB fraction.

Additional Comments
The additional comments field is used to address special issues associated with each analysis, clarify method/contractual issues pertaining to the analysis, and to list any report documents generated as a result of sample analysis or review. The following additional comments were required:

The higher results from either column have been chosen and reported in the data package for the client samples, MB and LCS.

The data reported on the form I and III may differ slightly from the data reported on the form X. This is due to software limitations in rounding differences between the forms.

Aroclors quantitated on the raw data report by the Target data system do not necessarily represent positive Aroclor identification. In order for positive identification to be made, the Aroclor must match in pattern and retention time; as well as quantitate relatively close between the primary and confirmation columns, as specified in SW846 method 8000. When these conditions are not met, the Aroclor is reported as a non-detect on the data report. These situations will be noted on the raw data as DMP, representing does not match pattern, or DNC does not confirm.

Due to software limitation, the Form VIIs will display the results either in the % difference or % drift depending on the type of the calibration curve. If the curve of all analytes is generated using an average response factor (RF), the Form VII will display results using the %difference calculation (RF). If the curve of one or more analytes is generated using a linear curve, the Form VII will display results using the % drift calculation (by concentration) for all analytes.

System Configuration

The Semi-Volatiles-PCB analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
ECD1A.I_1	HP Gas Chromatograph	HP6890 Series ECD	Rtx-CLP I	30m x 0.25mm, 0.25um (Rtx-CLPesticide)
ECD1A.I_2	HP Gas Chromatograph	HP6890 Series ECD	Rtx-CLP II	30m x 0.25mm, 0.20um (Rtx-CLPesticideII)

Certification Statement

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

Review Validation

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

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

Reviewer: Andy Whittock Date: 2-2-2010

Roadmap for LANL 10-1126 PCB

This roadmap was analyzed by yip00818 on 01-12-2010, 14:41.
This roadmap was reviewed by rob01090 on 01-19-2010, 15:38.
This roadmap was packaged by yml on 02-02-2010, 14:41.
This roadmap was validated by rob01090 on 02-02-2010, 20:36.

Front Sample Column

exclude	manual	datafile	smpid	sampletype	injdate	injtime	sublist	clientid	dilution	prepbatchid	comment
☐	N	/chem/ecd1a.i/011210.b/029f2901.d	244137001	sample	12-JAN-2010	13:01	10-1126.sub	RE12-10-7859	1.00000	940403	UPLOAD BOTH COLUMNS, USE HIGHER

Back Sample Column

exclude	manual	datafile	smpid	sampletype	injdate	injtime	sublist	clientid	dilution	prepbatchid	comment
☐	N	/chem/ecd1a.i/011210.b/029b2901.d	244137001	sample	12-JAN-2010	13:01	10-1126.sub	RE12-10-7859	1.00000	940403	UPLOAD BOTH COLUMNS, USE HIGHER

Front QC Sample Column

exclude	manual	datafile	smpid	sampletype	injdate	injtime	sublist	clientid	dilution	prepbatchid	comment
☐	N	/chem/ecd1a.i/011210.b/021f2101.d	1202012544	mb	12-JAN-2010	11:24	10-1126.sub	PBLK01	1.00000	940403	UPLOAD BOTH COLUMNS, USE HIGHER
☐	N	/chem/ecd1a.i/011210.b/022f2201.d	1202012545	lcs	12-JAN-2010	11:35	10-1126.sub	PBLK01LCS	1.00000	940403	UPLOAD BOTH COLUMNS, USE HIGHER

Back QC Sample Column

exclude	manual	datafile	smpid	sampletype	injdate	injtime	sublist	clientid	dilution	prepbatchid	comment
☐	N	/chem/ecd1a.i/011210.b/021b2101.d	1202012544	mb	12-JAN-2010	11:24	10-1126.sub	PBLK01	1.00000	940403	UPLOAD BOTH COLUMNS, USE HIGHER
☐	N	/chem/ecd1a.i/011210.b/022b2201.d	1202012545	lcs	12-JAN-2010	11:35	10-1126.sub	PBLK01LCS	1.00000	940403	UPLOAD BOTH COLUMNS, USE HIGHER

SAMPLE DATA SUMMARY

PCB
Certificate of Analysis
Sample Summary

SDG Number:	10-1126	**Date Collected:**	01/04/2010 12:00	**Matrix:**	R
Lab Sample ID:	244137001	**Date Received:**	01/08/2010 09:05	**%Moisture:**	6.9
		Client:	LANL010	**Project:**	LANL01004
Client ID:	RE12-10-7859	**Method:**	SW846 8082	**SOP Ref:**	GL-OA-E-040
Batch ID:	940403	**Inst:**	ECD1A.I	**Dilution:**	1
Run Date:	01/12/2010 13:01	**Analyst:**	YS1	**Inj. Vol:**	1 uL
Prep Date:	01/11/2010 19:04	**Aliquot:**	30.03 g	**Final Volume:**	1 mL
Data File:	029f2901.d	**Column:**	1 CLP1	**Level:**	LOW
	029b2901.d		2 CLP2		

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

QUALITY CONTROL SUMMARY

PCB

Surrogate Recovery Report

SDG Number: 10–1126

Matrix Type: SOLID

CAP Column (1) : CLP1 **CAP Column (2) : CLP2**

Sample ID	Client ID	4CMX 1 %REC #	4CMX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #
1202012544	MB for batch 940402	66	61	67	66
1202012545	LCS for batch 940402	66	61	63	64
244137001	RE12–10–7859	57	53	59	61

Surrogate	Acceptance Limits
4CMX = 4cmx	(34%–105%)
DCB = Decachlorobiphenyl	(33%–115%)

* Recovery outside Acceptance Limits

\# Column to be used to flag recovery values

D Sample Diluted

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1126
Client ID: LCS for batch 940402
Lab Sample ID: 1202012545
Instrument: ECD1A.I
Analyst: YS1
Inj. Vol: 1 uL

Sample Type: Laboratory Control Sample
Matrix: SOIL
Analysis Date: 01/12/2010 11:35
Dilution: 1
Prep Batch ID: 940402
Batch ID: 940403

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
12674-11-2	LCS	Aroclor-1016	33.3	0.0	21.1	63	41-110
11096-82-5	LCS	Aroclor-1260	33.3	0.0	24.0	72	48-110

PCB

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1131
Client ID: RE12-10-7657MS
Lab Sample ID: 1202012546
Instrument: ECD1A.I
Analyst: YS1
Inj. Vol: 1 uL

Sample Type: Matrix Spike
Matrix: R
%Moisture: 10.1
Analysis Date: 01/12/2010 12:23
Prep Batch ID: 940402
Batch ID: 940403
Dilution: 1

CAS No		Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits
12674-11-2	MS	Aroclor-1016	37.0	0.00	U	23.1	62	23-117
11096-82-5	MS	Aroclor-1260	37.0	0.00	U	28.9	78	27-116

PCB

Quality Control Summary
Spike Recovery Report

SDG Number:	**10-1131**	**Sample Type:**	**Matrix Spike Duplicate**
Client ID:	**RE12-10-7657MSD**	**Matrix:**	**R**
Lab Sample ID:	**1202012547**	**%Moisture:**	**10.1**
Instrument:	**ECD1A.I**	**Analysis Date:**	**01/12/2010 12:36**
Analyst:	**YS1**	**Prep Batch ID:**	**940402**
Inj. Vol:	**1 uL**	**Batch ID:**	**940403**

Dilution: 1

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
12674-11-2	MSD Aroclor-1016	37.1	0.00	U	23.5	63	23-117	2	0-30
11096-82-5	MSD Aroclor-1260	37.1	0.00	U	30.7	83	27-116	6	0-30

Method Blank Summary

SDG Number:	10-1126	Client:	LANL010	Matrix:	SOIL
Client ID:	MB for batch 940402	Instrument ID:	ECD1A.I_2 ECD1A.I_1	Data File:	021b2101-1.d 021f2101-1.d
Lab Sample ID:	1202012544				
Column:	CLP2 CLP1	Prep Date:	01/11/2010 19:04	Analyzed:	01/12/10 11:24
		Level:	LOW		

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 940402	1202012545	022f2201-1.d 022b2201-1.d	01/12/10	1135
04 RE12-10-7859	244137001	029f2901.d 029b2901.d	01/12/10	1301

SAMPLE DATA

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**10-1126**	**Date Collected:**	**01/04/2010 12:00**	**Matrix:**	**R**
Lab Sample ID:	**244137001**	**Date Received:**	**01/08/2010 09:05**	**%Moisture:**	**6.9**
		Client:	**LANL010**	**Project:**	**LANL01004**
Client ID:	**RE12-10-7859**	**Method:**	**SW846 8082**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**940403**	**Inst:**	**ECD1A.I**	**Dilution:**	**1**
Run Date:	**01/12/2010 13:01**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**01/11/2010 19:04**	**Aliquot:**	**30.03 g**	**Final Volume:**	**1 mL**
Data File:	**029f2901.d**	**Column:**	**1 CLP1**	**Level:**	**LOW**
	029b2901.d		**2 CLP2**		

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

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/029f2901.d
Lab Smp Id: 244137001 Client Smp ID: RE12-10-7859
Inj Date : 12-JAN-2010 13:01
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |244137001|1|
Misc Info : |ECD82P_1S|940403|SVA|LANL|SOIL|RE12-10-7859|||
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Meth Date : 23-Jan-2010 10:48 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 29
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1126.sub
Target Version: 3.50 Sample Matrix: Soil
Processing Host: hpclp1

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.03000	Weight of sample extracted (g)
M	6.91450	% Moisture

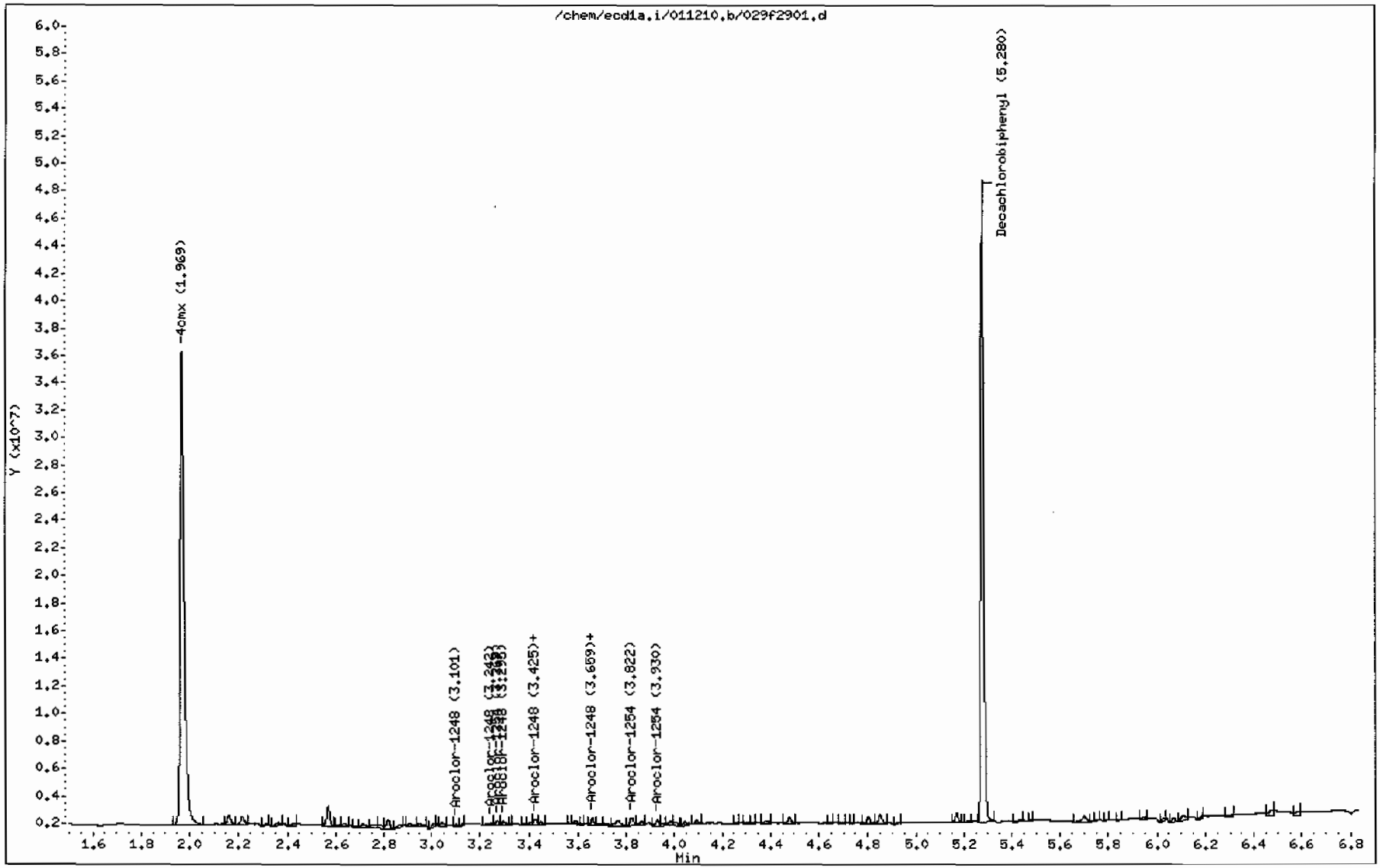
Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.969	1.969	0.000	40477088	113.228	4.0	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.280	5.283	-0.003	35762143	118.414	4.2	80.00- 120.00	100.00

Data File: /chem/ecd1a.i/011210.b/029f2901.d
Date : 12-JAN-2010 13:01
Client ID: RE12-10-7859
Sample Info: |244137001|1|
Volume Injected (uL): 1.0
Column phase: CLP1

Instrument: ecd1a.i

Operator: YS1
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/029b2901.d
Lab Smp Id: 244137001 Client Smp ID: RE12-10-7859
Inj Date : 12-JAN-2010 13:01
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |244137001|1|
Misc Info : |ECD82P_1S|940403|SVA|LANL|SOIL|RE12-10-7859|||
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Meth Date : 23-Jan-2010 10:48 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 29
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1126.sub
Target Version: 3.50 Sample Matrix: Soil
Processing Host: hpclp1

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.03000	Weight of sample extracted (g)
M	6.91450	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.299	2.299	0.000	30439741	106.679	3.8	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.942	5.945	-0.003	26929343	121.420	4.3	80.00- 120.00	100.00

Data File: /chem/ecd1a.i/011210.b/029b2901.d

Date : 12-JAN-2010 13:01

Client ID: RE12-10-7859

Sample Info: 1244137001|1|

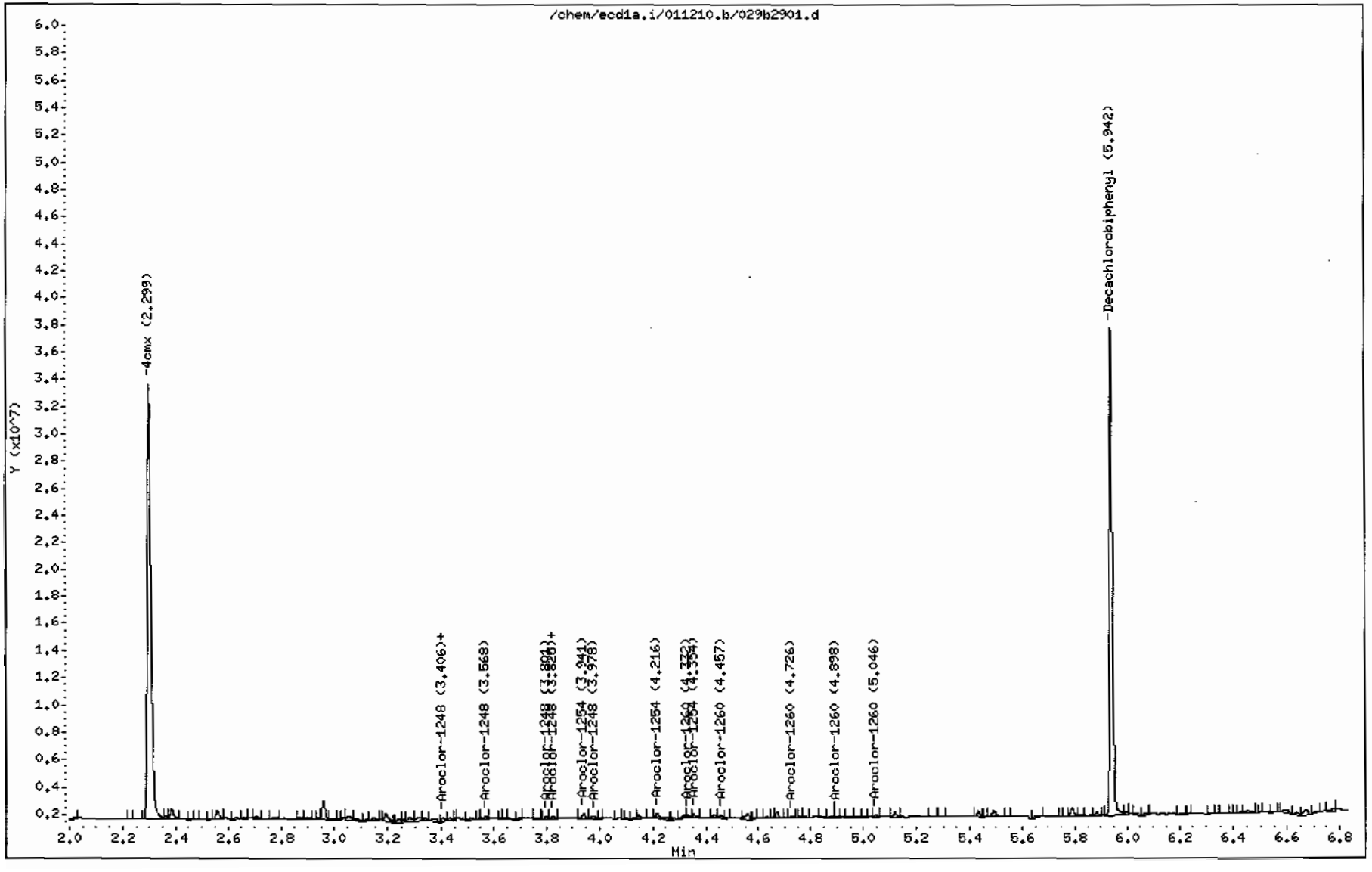
Volume Injected (uL): 1.0

Column phase: CLP2

Instrument: ecd1a.i

Operator: YS1

Column diameter: 0.25



STANDARDS DATA

Report Date: 13-Jan-2010 08:03

Calibration History

Method : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Start Cal Date: 14-DEC-2009 05:36
End Cal Date : 14-DEC-2009 12:37

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 100.00000		
14-DEC-2009 11:34	AR1268	/chem/ecd1a.i/121409.b/040f4001.d
14-DEC-2009 09:28	AR1248	/chem/ecd1a.i/121409.b/028f2801.d
14-DEC-2009 08:25	AR1242	/chem/ecd1a.i/121409.b/022f2201.d
14-DEC-2009 07:22	AR1254	/chem/ecd1a.i/121409.b/016f1601.d
14-DEC-2009 10:31	AR1660	/chem/ecd1a.i/121409.b/034f3401.d
Cal Level: 2 , Cal Amount: 200.00000		
14-DEC-2009 11:44	AR1268	/chem/ecd1a.i/121409.b/041f4101.d
14-DEC-2009 09:38	AR1248	/chem/ecd1a.i/121409.b/029f2901.d
14-DEC-2009 08:35	AR1242	/chem/ecd1a.i/121409.b/023f2301.d
14-DEC-2009 07:32	AR1254	/chem/ecd1a.i/121409.b/017f1701.d
14-DEC-2009 10:41	AR1660	/chem/ecd1a.i/121409.b/035f3501.d
Cal Level: 3 , Cal Amount: 500.00000		
14-DEC-2009 11:55	AR1268	/chem/ecd1a.i/121409.b/042f4201.d
14-DEC-2009 09:49	AR1248	/chem/ecd1a.i/121409.b/030f3001.d
14-DEC-2009 08:46	AR1242	/chem/ecd1a.i/121409.b/024f2401.d
14-DEC-2009 07:43	AR1254	/chem/ecd1a.i/121409.b/018f1801.d
14-DEC-2009 10:52	AR1660	/chem/ecd1a.i/121409.b/036f3601.d
Cal Level: 4 , Cal Amount: 1000.00000		
14-DEC-2009 12:37	DDTANALOGSTD	/chem/ecd1a.i/121409.b/046f4601.d
14-DEC-2009 09:59	AR1248	/chem/ecd1a.i/121409.b/031f3101.d
14-DEC-2009 08:56	AR1242	/chem/ecd1a.i/121409.b/025f2501.d
14-DEC-2009 07:53	AR1254	/chem/ecd1a.i/121409.b/019f1901.d
14-DEC-2009 11:02	AR1660	/chem/ecd1a.i/121409.b/037f3701.d
14-DEC-2009 12:06	AR1268	/chem/ecd1a.i/121409.b/043f4301.d
14-DEC-2009 05:58	AR1262	/chem/ecd1a.i/121409.b/008f0801.d
14-DEC-2009 05:47	AR1221	/chem/ecd1a.i/121409.b/007f0701.d
14-DEC-2009 05:36	AR1232	/chem/ecd1a.i/121409.b/006f0601.d
Cal Level: 5 , Cal Amount: 4000.00000		
14-DEC-2009 12:16	AR1268	/chem/ecd1a.i/121409.b/044f4401.d
14-DEC-2009 10:10	AR1248	/chem/ecd1a.i/121409.b/032f3201.d
14-DEC-2009 09:07	AR1242	/chem/ecd1a.i/121409.b/026f2601.d
14-DEC-2009 08:04	AR1254	/chem/ecd1a.i/121409.b/020f2001.d
14-DEC-2009 11:13	AR1660	/chem/ecd1a.i/121409.b/038f3801.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 4

Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 15:41	AR1660	/chem/ecd1a.i/011210.b/042f4201.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 13:27	AR1660	/chem/ecd1a.i/011210.b/031f3101.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 11:03	AR1660	/chem/ecd1a.i/011210.b/019f1901.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 09:33	AR1268	/chem/ecd1a.i/011210.b/011f1101.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 09:23	AR1262	/chem/ecd1a.i/011210.b/010f1001.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 09:12	AR1242	/chem/ecd1a.i/011210.b/009f0901.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 09:02	AR1660	/chem/ecd1a.i/011210.b/008f0801.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 08:51	AR1221	/chem/ecd1a.i/011210.b/007f0701.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 08:41	AR1232	/chem/ecd1a.i/011210.b/006f0601.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 08:30	AR1248	/chem/ecd1a.i/011210.b/005f0501.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 08:09	AR1254	/chem/ecd1a.i/011210.b/003f0301.d

Report Date: 13-Jan-2010 08:03

Calibration History

Method : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Start Cal Date: 11-DEC-2009 10:17
End Cal Date : 14-DEC-2009 12:37

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 100.00000		
14-DEC-2009 11:34	AR1268	/chem/ecd1a.i/121409.b/040b4001.d
14-DEC-2009 09:28	AR1248	/chem/ecd1a.i/121409.b/028b2801.d
14-DEC-2009 08:25	AR1242	/chem/ecd1a.i/121409.b/022b2201.d
14-DEC-2009 07:22	AR1254	/chem/ecd1a.i/121409.b/016b1601.d
14-DEC-2009 10:31	AR1660	/chem/ecd1a.i/121409.b/034b3401.d
Cal Level: 2 , Cal Amount: 200.00000		
14-DEC-2009 11:44	AR1268	/chem/ecd1a.i/121409.b/041b4101.d
14-DEC-2009 09:38	AR1248	/chem/ecd1a.i/121409.b/029b2901.d
14-DEC-2009 08:35	AR1242	/chem/ecd1a.i/121409.b/023b2301.d
14-DEC-2009 07:32	AR1254	/chem/ecd1a.i/121409.b/017b1701.d
14-DEC-2009 10:41	AR1660	/chem/ecd1a.i/121409.b/035b3501.d
Cal Level: 3 , Cal Amount: 500.00000		
14-DEC-2009 11:55	AR1268	/chem/ecd1a.i/121409.b/042b4201.d
14-DEC-2009 09:49	AR1248	/chem/ecd1a.i/121409.b/030b3001.d
14-DEC-2009 08:46	AR1242	/chem/ecd1a.i/121409.b/024b2401.d
14-DEC-2009 07:43	AR1254	/chem/ecd1a.i/121409.b/018b1801.d
14-DEC-2009 10:52	AR1660	/chem/ecd1a.i/121409.b/036b3601.d
Cal Level: 4 , Cal Amount: 1000.00000		
14-DEC-2009 12:37	DDTANALOGSTD	/chem/ecd1a.i/121409.b/046b4601.d
14-DEC-2009 12:06	AR1268	/chem/ecd1a.i/121409.b/043b4301.d
14-DEC-2009 05:58	AR1262	/chem/ecd1a.i/121409.b/008b0801.d
14-DEC-2009 05:47	AR1221	/chem/ecd1a.i/121409.b/007b0701.d
14-DEC-2009 05:36	AR1232	/chem/ecd1a.i/121409.b/006b0601.d
14-DEC-2009 09:59	AR1248	/chem/ecd1a.i/121409.b/031b3101.d
14-DEC-2009 08:56	AR1242	/chem/ecd1a.i/121409.b/025b2501.d
14-DEC-2009 07:53	AR1254	/chem/ecd1a.i/121409.b/019b1901.d
14-DEC-2009 11:02	AR1660	/chem/ecd1a.i/121409.b/037b3701.d
Cal Level: 5 , Cal Amount: 4000.00000		
14-DEC-2009 12:16	AR1268	/chem/ecd1a.i/121409.b/044b4401.d
14-DEC-2009 10:10	AR1248	/chem/ecd1a.i/121409.b/032b3201.d
14-DEC-2009 09:07	AR1242	/chem/ecd1a.i/121409.b/026b2601.d
14-DEC-2009 08:04	AR1254	/chem/ecd1a.i/121409.b/020b2001.d
14-DEC-2009 11:13	AR1660	/chem/ecd1a.i/121409.b/038b3801.d

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 4

Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 15:41	AR1660	/chem/ecd1a.i/011210.b/042b4201.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 13:27	AR1660	/chem/ecd1a.i/011210.b/031b3101.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 11:03	AR1660	/chem/ecd1a.i/011210.b/019b1901.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 09:33	AR1268	/chem/ecd1a.i/011210.b/011b1101.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 09:23	AR1262	/chem/ecd1a.i/011210.b/010b1001.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 09:12	AR1242	/chem/ecd1a.i/011210.b/009b0901.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 09:02	AR1660	/chem/ecd1a.i/011210.b/008b0801.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 08:51	AR1221	/chem/ecd1a.i/011210.b/007b0701.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 08:41	AR1232	/chem/ecd1a.i/011210.b/006b0601.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 08:30	AR1248	/chem/ecd1a.i/011210.b/005b0501.d
Ccal Level: 4 , Ccal Amount: 1000		
12-JAN-2010 08:09	AR1254	/chem/ecd1a.i/011210.b/003b0301.d

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Quant Method : ESTD Target Version : 3.50
Last Update : 13-Jan-2010 07:57 Number of Cpnds : 15
Data Type : GC MULTI COMP

Global Integrator : Falcon

Chromat Events	Values
Initial:Start Threshold	12031.000000
Initial:End Threshold	6015.500000
Initial:Area Threshold	15489.000000
Initial:P-P Resolution	1.000000
Initial:Bunch Factor	2.000000
Initial:Negative Peaks	OFF
Initial:Tension	0.500000

Compound	RT	RT Window	RF
1 Aroclor-1016	2.424	2.394-2.454	1.387e+04
	2.702	2.672-2.732	1.010e+04
	2.794	2.764-2.824	1.176e+04
	2.832	2.802-2.862	6.599e+03
	3.043	3.013-3.073	8.673e+03
63 4,4-DDD	3.953	3.933-3.973	3.938e+05
64 4,4-DDE	3.603	3.583-3.623	4.795e+05
62 4,4-DDT	4.118	4.098-4.138	3.238e+05
2 Aroclor-1221	2.081	2.051-2.111	4.301e+03
	2.174	2.144-2.204	2.440e+03
	2.200	2.170-2.230	1.027e+04
3 Aroclor-1232	2.425	2.395-2.455	6.717e+03
	2.714	2.684-2.744	8.157e+03
	2.795	2.765-2.825	5.751e+03
	3.043	3.013-3.073	3.954e+03
	3.296	3.266-3.326	3.533e+03
4 Aroclor-1242	2.425	2.395-2.455	1.166e+04
	2.714	2.684-2.744	1.345e+04
	2.832	2.802-2.862	5.506e+03
	3.043	3.013-3.073	7.245e+03
	3.297	3.267-3.327	6.811e+03

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m

Compound	RT	RT Window	RF
5 Aroclor-1248	3.093	3.063-3.123	7.848e+03
	3.245	3.215-3.275	6.870e+03
	3.295	3.265-3.325	1.331e+04
	3.428	3.398-3.458	1.101e+04
	3.660	3.630-3.690	7.455e+03
6 Aroclor-1254	3.271	3.241-3.301	1.249e+04
	3.426	3.396-3.456	1.672e+04
	3.660	3.630-3.690	2.071e+04
	3.823	3.793-3.853	1.569e+04
	3.932	3.902-3.962	1.517e+04
7 Aroclor-1260	3.769	3.739-3.799	1.675e+04
	3.932	3.902-3.962	2.474e+04
	4.163	4.133-4.193	1.469e+04
	4.305	4.275-4.335	1.518e+04
	4.484	4.454-4.514	3.435e+04
8 Aroclor-1262	3.769	3.739-3.799	1.402e+04
	3.931	3.901-3.961	1.841e+04
	4.162	4.132-4.192	2.251e+04
	4.305	4.275-4.335	2.033e+04
	4.484	4.454-4.514	4.317e+04
9 Aroclor-1268	4.669	4.639-4.699	5.438e+04
	4.692	4.662-4.722	5.419e+04
	4.805	4.775-4.835	4.052e+04
	5.008	4.978-5.038	1.833e+04
	5.173	5.143-5.203	1.233e+05
M 10 Aroclor-Total	1.000	0.980-1.020	
$ 11 4cmx	1.969	1.939-1.999	3.757e+05
$ 12 Decachlorobiphenyl	5.283	5.253-5.313	3.175e+05

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Quant Method : ESTD Target Version : 3.50
Last Update : 13-Jan-2010 07:57 Number of Cpnds : 15
Data Type : GC MULTI COMP

Global Integrator : Falcon

Chromat Events	Values
Initial:Start Threshold	7222.000000
Initial:End Threshold	3611.000000
Initial:Area Threshold	6833.000000
Initial:P-P Resolution	0.000000
Initial:Bunch Factor	2.000000
Initial:Negative Peaks	OFF
Initial:Tension	0.500000

Compound	RT	RT Window	RF
1 Aroclor-1016	3.195	3.165-3.225	1.261e+04
	3.279	3.249-3.309	9.328e+03
	3.342	3.312-3.372	5.411e+03
	3.569	3.539-3.599	7.052e+03
	3.645	3.615-3.675	6.551e+03
62 4,4-DDT	4.670	4.650-4.690	2.436e+05
63 4,4-DDE	4.139	4.119-4.159	3.580e+05
64 4,4-DDD	4.483	4.463-4.503	2.893e+05
2 Aroclor-1221	2.495	2.465-2.525	3.640e+03
	2.590	2.560-2.620	2.329e+03
	2.631	2.601-2.661	8.119e+03
3 Aroclor-1232	2.631	2.601-2.661	6.156e+03
	3.196	3.166-3.226	6.302e+03
	3.280	3.250-3.310	4.701e+03
	3.570	3.540-3.600	3.243e+03
	3.803	3.773-3.833	3.151e+03
4 Aroclor-1242	3.197	3.167-3.227	1.059e+04
	3.279	3.249-3.309	8.054e+03
	3.570	3.540-3.600	5.962e+03
	3.803	3.773-3.833	6.057e+03
	3.831	3.801-3.861	6.701e+03

GEL Laboratories LLC

COMPOUND LISTING

Method file : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m

Compound	RT	RT Window	RF
5 Aroclor-1248	3.404	3.374-3.434	8.054e+03
	3.569	3.539-3.599	9.874e+03
	3.802	3.772-3.832	1.122e+04
	3.830	3.800-3.860	1.248e+04
	3.967	3.937-3.997	1.210e+04
6 Aroclor-1254	3.403	3.373-3.433	6.435e+03
	3.826	3.796-3.856	1.156e+04
	3.942	3.912-3.972	1.243e+04
	4.218	4.188-4.248	1.688e+04
	4.355	4.325-4.385	1.244e+04
7 Aroclor-1260	4.335	4.305-4.365	1.368e+04
	4.459	4.429-4.489	1.603e+04
	4.726	4.696-4.756	1.256e+04
	4.899	4.869-4.929	1.281e+04
	5.046	5.016-5.076	2.790e+04
8 Aroclor-1262	4.460	4.430-4.490	1.292e+04
	4.726	4.696-4.756	1.831e+04
	4.900	4.870-4.930	1.658e+04
	5.047	5.017-5.077	3.329e+04
	5.260	5.230-5.290	2.297e+04
9 Aroclor-1268	5.258	5.228-5.288	4.358e+04
	5.285	5.255-5.315	4.039e+04
	5.435	5.405-5.465	3.144e+04
	5.599	5.569-5.629	1.427e+04
	5.792	5.762-5.822	8.886e+04
M 10 Aroclor-Total	1.000	0.980-1.020	
$ 11 4cmx	2.299	2.269-2.329	3.000e+05
$ 12 Decachlorobiphenyl	5.945	5.915-5.975	2.332e+05

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 14-DEC-2009 05:36
End Cal Date : 14-DEC-2009 12:37
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : Falcon
Method file : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Cal Date : 13-Jan-2010 07:57 yip00818
Curve Type : Average

Calibration File Names:
Level 1: /chem/ecd1a.i/121409.b/040f4001.d
Level 2: /chem/ecd1a.i/121409.b/041f4101.d
Level 3: /chem/ecd1a.i/121409.b/042f4201.d
Level 4: /chem/ecd1a.i/121409.b/046f4601.d
Level 5: /chem/ecd1a.i/121409.b/044f4401.d

Compound	100.000 Level 1	200.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
1 Aroclor-1016(1)	15975	14641	13829	13236	11653	13867	11.596
(2)	10801	10349	9832	9922	9584	10098	4.757
(3)	13242	12280	11732	11291	10240	11757	9.507
(4)	7178	6867	6609	6421	5920	6599	7.183
(5)	9710	9021	8649	8224	7763	8673	8.604
63 4,4-DDD	+++++	+++++	+++++	393799	+++++	393799	0.000
64 4,4-DDE	+++++	+++++	+++++	479509	+++++	479509	0.000
62 4,4-DDT	+++++	+++++	+++++	323817	+++++	323817	0.000
2 Aroclor-1221(1)	+++++	+++++	+++++	4301	+++++	4301	0.000
(2)	+++++	+++++	+++++	2440	+++++	2440	0.000
(3)	+++++	+++++	+++++	10272	+++++	10272	0.000
3 Aroclor-1232(1)	+++++	+++++	+++++	6717	+++++	6717	0.000
(2)	+++++	+++++	+++++	8157	+++++	8157	0.000
(3)	+++++	+++++	+++++	5751	+++++	5751	0.000
(4)	+++++	+++++	+++++	3954	+++++	3954	0.000
(5)	+++++	+++++	+++++	3533	+++++	3533	0.000
4 Aroclor-1242(1)	13692	12467	11522	10819	9798	11660	12.846
(2)	14782	14429	13236	12555	12263	13453	8.301
(3)	6076	5890	5423	5191	4949	5506	8.563
(4)	8395	7578	7079	6747	6426	7245	10.645
(5)	7587	7189	6604	6378	6296	6811	8.178
5 Aroclor-1248(1)	9070	8103	7743	7247	7078	7848	10.119
(2)	7785	7181	6827	6444	6114	6870	9.456
(3)	15108	13267	13037	12915	12225	13310	8.094
(4)	12682	11331	10815	10392	9852	11015	9.799
(5)	8605	7806	7405	7124	6336	7455	11.244

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 14-DEC-2009 05:36
End Cal Date : 14-DEC-2009 12:37
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : Falcon
Method file : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Cal Date : 13-Jan-2010 07:57 yip00818
Curve Type : Average

Compound	100.000 Level 1	200.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
6 Aroclor-1254(1)	14281	12975	12313	11911	10947	12485	9.963
(2)	18803	17181	16666	15949	15010	16722	8.494
(3)	22492	20906	20786	20326	19059	20714	5.957
(4)	16753	15627	15809	15513	14770	15694	4.535
(5)	16595	15169	15433	15075	13591	15172	7.071
7 Aroclor-1260(1)	18145	17177	16842	16407	15189	16752	6.464
(2)	26410	24871	24973	24571	22887	24743	5.081
(3)	16099	14386	14855	14472	13625	14687	6.171
(4)	16517	14719	15311	15032	14343	15185	5.451
(5)	35425	33953	34899	34487	32987	34350	2.719
8 Aroclor-1262(1)	+++++	+++++	+++++	14019	+++++	14019	0.000
(2)	+++++	+++++	+++++	18406	+++++	18406	0.000
(3)	+++++	+++++	+++++	22511	+++++	22511	0.000
(4)	+++++	+++++	+++++	20327	+++++	20327	0.000
(5)	+++++	+++++	+++++	43170	+++++	43170	0.000
9 Aroclor-1268(1)	56914	55996	53872	52565	52528	54375	3.680
(2)	57500	55307	54092	52376	51697	54194	4.300
(3)	43006	41368	40020	38976	39247	40524	4.120
(4)	19620	18932	18085	17425	17569	18326	5.094
(5)	128350	126812	122798	118830	119599	123278	3.436
M 10 Aroclor-Total	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 11 4cmx	367897	454677	359986	359846	335942	375669	12.182
$ 12 Decachlorobiphenyl	316645	388263	307193	296602	278999	317541	13.206

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 11-DEC-2009 10:17
End Cal Date : 14-DEC-2009 12:37
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : Falcon
Method file : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Cal Date : 13-Jan-2010 07:57 yip00818
Curve Type : Average

Calibration File Names:
Level 1: /chem/ecd1a.i/121409.b/040b4001.d
Level 2: /chem/ecd1a.i/121409.b/041b4101.d
Level 3: /chem/ecd1a.i/121409.b/042b4201.d
Level 4: /chem/ecd1a.i/121409.b/046b4601.d
Level 5: /chem/ecd1a.i/121409.b/044b4401.d

Compound	100.000 Level 1	200.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
1 Aroclor-1016(1)	14281	12734	12848	12156	11039	12612	9.333
(2)	10954	9913	9256	8806	7710	9328	13.003
(3)	6310	5679	5380	5089	4598	5411	11.852
(4)	8214	7430	6981	6696	5938	7052	12.003
(5)	7754	6843	6481	6115	5561	6551	12.561
62 4,4-DDT	+++++	+++++	+++++	243613	+++++	243613	0.000
63 4,4-DDE	+++++	+++++	+++++	357996	+++++	357996	0.000
64 4,4-DDD	+++++	+++++	+++++	289343	+++++	289343	0.000
2 Aroclor-1221(1)	+++++	+++++	+++++	3640	+++++	3640	0.000
(2)	+++++	+++++	+++++	2329	+++++	2329	0.000
(3)	+++++	+++++	+++++	8119	+++++	8119	0.000
3 Aroclor-1232(1)	+++++	+++++	+++++	6156	+++++	6156	0.000
(2)	+++++	+++++	+++++	6302	+++++	6302	0.000
(3)	+++++	+++++	+++++	4701	+++++	4701	0.000
(4)	+++++	+++++	+++++	3243	+++++	3243	0.000
(5)	+++++	+++++	+++++	3151	+++++	3151	0.000
4 Aroclor-1242(1)	12348	11309	9989	9755	9542	10589	11.338
(2)	9730	8628	7875	7358	6677	8054	14.627
(3)	7163	6326	5763	5452	5107	5962	13.534
(4)	7183	6468	5900	5548	5185	6057	12.997
(5)	7820	7123	6589	6229	5746	6701	11.977
5 Aroclor-1248(1)	9914	8542	7972	7289	6553	8054	15.880
(2)	11996	10356	9798	9046	8173	9874	14.605
(3)	13306	11756	11119	10365	9555	11220	12.723
(4)	14720	13121	12480	11577	10516	12483	12.732
(5)	14361	12633	11977	11210	10342	12104	12.596

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 11-DEC-2009 10:17
End Cal Date : 14-DEC-2009 12:37
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : Falcon
Method file : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Cal Date : 13-Jan-2010 07:57 yip00818
Curve Type : Average

Compound	100.000 Level 1	200.000 Level 2	500.000 Level 3	1000.000 Level 4	4000.000 Level 5	RRF	% RSD
6 Aroclor-1254(1)	7857	6938	6317	5878	5185	6435	15.850
(2)	13759	12316	11389	10708	9625	11559	13.615
(3)	14674	13172	12243	11576	10492	12431	12.786
(4)	19102	17554	16808	16165	14771	16880	9.533
(5)	14276	12708	12612	11843	10739	12435	10.425
7 Aroclor-1260(1)	15678	14232	13583	13177	11731	13680	10.567
(2)	18142	16574	16035	15527	13867	16029	9.709
(3)	14298	13064	12524	12030	10903	12564	9.989
(4)	14593	13310	12766	12230	11150	12810	9.970
(5)	30553	28626	28257	27276	24777	27898	7.569
8 Aroclor-1262(1)	+++++	+++++	+++++	12922	+++++	12922	0.000
(2)	+++++	+++++	+++++	18311	+++++	18311	0.000
(3)	+++++	+++++	+++++	16579	+++++	16579	0.000
(4)	+++++	+++++	+++++	33287	+++++	33287	0.000
(5)	+++++	+++++	+++++	22972	+++++	22972	0.000
9 Aroclor-1268(1)	48327	45655	43354	41349	39206	43578	8.193
(2)	44968	41865	39872	38249	36983	40388	7.790
(3)	35350	32573	30975	29630	28674	31440	8.372
(4)	16410	14977	13894	13214	12876	14274	10.077
(5)	96769	92419	87897	84047	83161	88859	6.460
M 10 Aroclor-Total	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 11 4cmx	307069	367145	286931	282899	256086	300026	13.893
$ 12 Decachlorobiphenyl	248884	286011	224119	212175	194946	233227	15.194

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1126

Instrument ID: ECD1A Calibration Date: 01/12/10 Time: 0902

Lab File ID: 008F0801 Init. Calib. Date(s): 12/14/09 12/14/09

Heated Purge: (Y/N) N Init. Calib. Times: 1031 1113

GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	13866.870	13485.876	0.01	-2.7	15.0
(2)	10097.726	10723.493	0.01	6.2	15.0
(3)	11757.020	11460.019	0.01	-2.5	15.0
(4)	6599.010	6856.400	0.01	3.9	15.0
(5)	8673.402	8914.101	0.01	2.8	15.0
Aroclor-1260	16752.150	17526.056	0.01	4.6	15.0
(2)	24742.603	26588.446	0.01	7.5	15.0
(3)	14687.346	15728.241	0.01	7.1	15.0
(4)	15184.529	16552.699	0.01	9.0	15.0
(5)	34350.443	37633.318	0.01	9.6	15.0
4cmx	357482.34	370322.48	0.01	3.6	15.0
Decachlorobiphenyl	302009.99	307865.06	0.01	1.9	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1126

Instrument ID: ECD1A Calibration Date: 01/12/10 Time: 0902

Lab File ID: 008B0801 Init. Calib. Date(s): 12/14/09 12/14/09

Heated Purge: (Y/N) N Init. Calib. Times: 1031 1113

GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	12611.539	12467.792	0.01	-1.1	15.0
(2)	9327.875	8419.719	0.01	-9.7	15.0
(3)	5411.316	5218.830	0.01	-3.6	15.0
(4)	7051.879	6829.739	0.01	-3.2	15.0
(5)	6550.733	6310.818	0.01	-3.7	15.0
Aroclor-1260	13680.027	12787.808	0.01	-6.5	15.0
(2)	16029.019	15544.463	0.01	-3.0	15.0
(3)	12563.933	11912.459	0.01	-5.2	15.0
(4)	12810.076	12233.996	0.01	-4.5	15.0
(5)	27897.674	27319.408	0.01	-2.1	15.0
4cmx	285339.98	275724.17	0.01	-3.4	15.0
Decachlorobiphenyl	221786.62	214390.79	0.01	-3.3	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1126

Instrument ID: ECD1A Calibration Date: 01/12/10 Time: 1103

Lab File ID: 019F1901 Init. Calib. Date(s): 12/14/09 12/14/09

Heated Purge: (Y/N) N Init. Calib. Times: 1031 1113

GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	13866.870	13310.670	0.01	-4.0	15.0
(2)	10097.726	10242.811	0.01	1.4	15.0
(3)	11757.020	11285.268	0.01	-4.0	15.0
(4)	6599.010	6765.072	0.01	2.5	15.0
(5)	8673.402	8738.943	0.01	0.8	15.0
Aroclor-1260	16752.150	17036.620	0.01	1.7	15.0
(2)	24742.603	25904.092	0.01	4.7	15.0
(3)	14687.346	15393.580	0.01	4.8	15.0
(4)	15184.529	16083.121	0.01	5.9	15.0
(5)	34350.443	36752.784	0.01	7.0	15.0
4cmx	357482.34	363951.48	0.01	1.8	15.0
Decachlorobiphenyl	302009.99	302177.43	0.01	0.0	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1126

Instrument ID: ECD1A Calibration Date: 01/12/10 Time: 1103

Lab File ID: 019B1901 Init. Calib. Date(s): 12/14/09 12/14/09

Heated Purge: (Y/N) N Init. Calib. Times: 1031 1113

GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	12611.539	12578.862	0.01	-0.2	15.0
(2)	9327.875	8317.700	0.01	-10.8	15.0
(3)	5411.316	5139.316	0.01	-5.0	15.0
(4)	7051.879	6728.760	0.01	-4.6	15.0
(5)	6550.733	6209.908	0.01	-5.2	15.0
Aroclor-1260	13680.027	12600.351	0.01	-7.9	15.0
(2)	16029.019	15305.012	0.01	-4.5	15.0
(3)	12563.933	11700.179	0.01	-6.9	15.0
(4)	12810.076	12037.919	0.01	-6.0	15.0
(5)	27897.674	26844.001	0.01	-3.8	15.0
4cmx	285339.98	272373.06	0.01	-4.5	15.0
Decachlorobiphenyl	221786.62	209659.97	0.01	-5.5	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1126

Instrument ID: ECD1A Calibration Date: 01/12/10 Time: 1327

Lab File ID: 031F3101 Init. Calib. Date(s): 12/14/09 12/14/09

Heated Purge: (Y/N) N Init. Calib. Times: 1031 1113

GC Column: CLP1 ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	13866.870	13975.254	0.01	0.8	15.0
(2)	10097.726	11118.675	0.01	10.1	15.0
(3)	11757.020	11874.482	0.01	1.0	15.0
(4)	6599.010	7065.924	0.01	7.1	15.0
(5)	8673.402	9128.367	0.01	5.2	15.0
Aroclor-1260	16752.150	17811.470	0.01	6.3	15.0
(2)	24742.603	27097.503	0.01	9.5	15.0
(3)	14687.346	16042.757	0.01	9.2	15.0
(4)	15184.529	16822.381	0.01	10.8	15.0
(5)	34350.443	38270.168	0.01	11.4	15.0
4cmx	357482.34	384339.66	0.01	7.5	15.0
Decachlorobiphenyl	302009.99	312466.13	0.01	3.5	15.0

FORM VII PEST

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1126

Instrument ID: ECD1A Calibration Date: 01/12/10 Time: 1327

Lab File ID: 031B3101 Init. Calib. Date(s): 12/14/09 12/14/09

Heated Purge: (Y/N) N Init. Calib. Times: 1031 1113

GC Column: CLP2 ID: 0.25 (mm)

COMPOUND	RRF	RRF 1000	MIN RRF	%D	MAX %D
Aroclor-1016	12611.539	13074.814	0.01	3.7	15.0
(2)	9327.875	8777.811	0.01	-5.9	15.0
(3)	5411.316	5413.636	0.01	0.0	15.0
(4)	7051.879	6892.457	0.01	-2.3	15.0
(5)	6550.733	6412.928	0.01	-2.1	15.0
Aroclor-1260	13680.027	13295.972	0.01	-2.8	15.0
(2)	16029.019	16138.030	0.01	0.7	15.0
(3)	12563.933	12348.659	0.01	-1.7	15.0
(4)	12810.076	12683.793	0.01	-1.0	15.0
(5)	27897.674	28029.483	0.01	0.5	15.0
4cmx	285339.98	286277.34	0.01	0.3	15.0
Decachlorobiphenyl	221786.62	219603.59	0.01	-1.0	15.0

FORM VII PEST

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/003f0301.d
Lab Smp Id: WAR091216-54 Client Smp ID: AR125401
Inj Date : 12-JAN-2010 08:09
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR091216-54
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Meth Date : 23-Jan-2010 10:45 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1254.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)	TARGET RANGE	RATIO
6 Aroclor-1254					CAS #: 11097-69-1		
3.271	3.271	0.000	12037540	1000.00	964	80.00- 120.00	100.00
3.426	3.426	0.000	16646305	1000.00	995	118.29- 158.29	138.29
3.660	3.660	0.000	21499049	1000.00	1040	158.60- 198.60	178.60
3.823	3.823	0.000	16291323	1000.00	1040	115.34- 155.34	135.34
3.932	3.932	0.000	15561834	1000.00	1020	109.28- 149.28	129.28

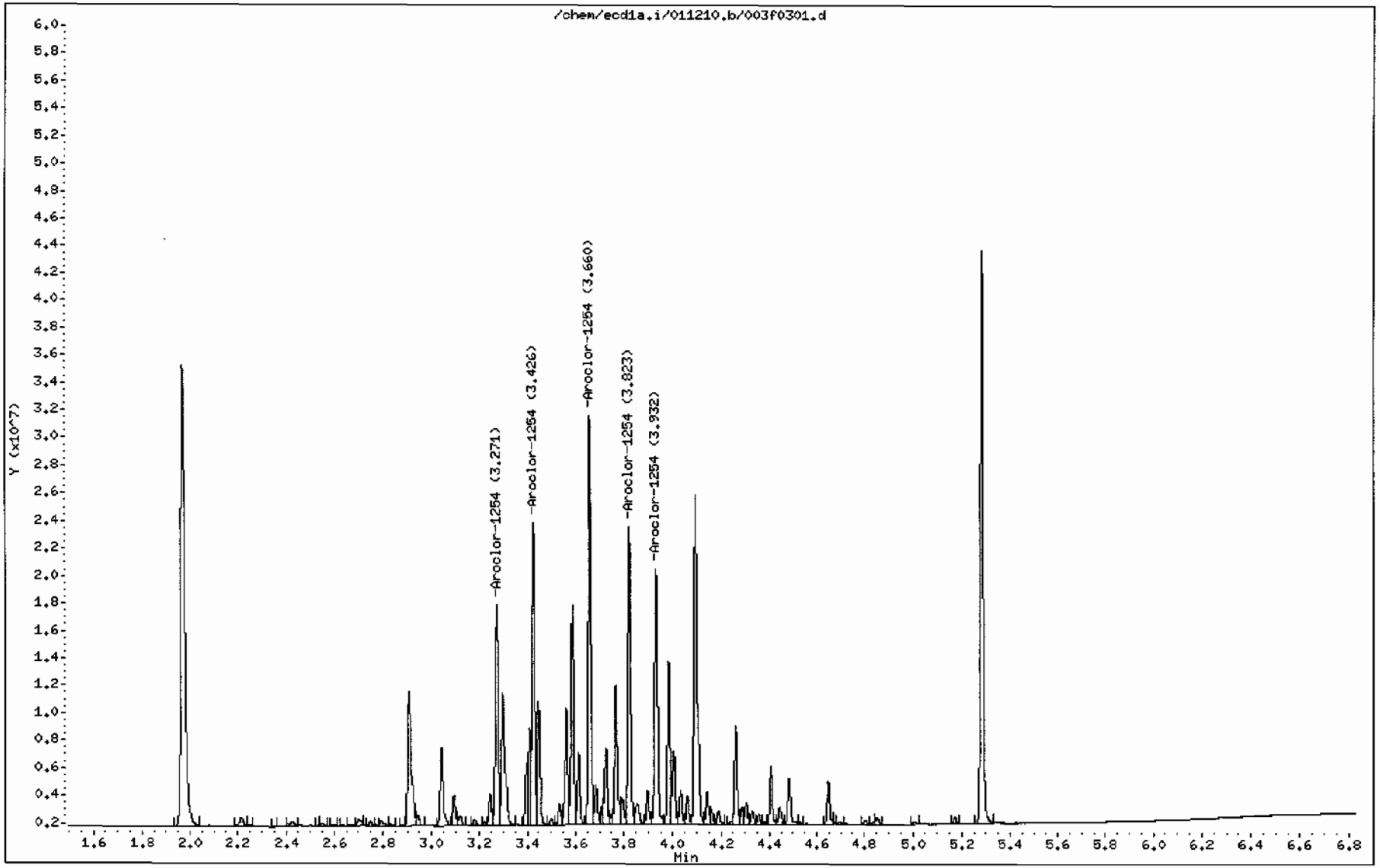
Average of Peak Amounts = 1.01e+03

Data File: /chem/ecd1a.i/011210.b/003f0301.d
Date : 12-JAN-2010 08:09
Client ID: AR125401
Sample Info: IWAR091216-54

Column phase: CLP1

Instrument: ecd1a.i

Operator: YS1
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecdla.i/011210.b/003b0301.d
Lab Smp Id: WAR091216-54 Client Smp ID: AR125401
Inj Date : 12-JAN-2010 08:09
Operator : YS1 Inst ID: ecdla.i
Smp Info : |WAR091216-54
Misc Info :
Comment :
Method : /chem/ecdla.i/011210.b/ECD1-B-8082-121409.m
Meth Date : 23-Jan-2010 10:45 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1254.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
6 Aroclor-1254					CAS #: 11097-69-1		
3.403	3.403	0.000	5736608	1000.00	891	80.00- 120.00	100.00
3.826	3.826	0.000	10322492	1000.00	893	159.94- 199.94	179.94
3.942	3.942	0.000	11402181	1000.00	917	178.76- 218.76	198.76
4.218	4.218	0.000	15866334	1000.00	940	256.58- 296.58	276.58
4.355	4.355	0.000	11536355	1000.00	928	181.10- 221.10	201.10
		Average of Peak Amounts =			914		

Data File: /chem/ecd1a.i/011210.b/003b0301.d

Date : 12-JAN-2010 08:09

Client ID: AR125401

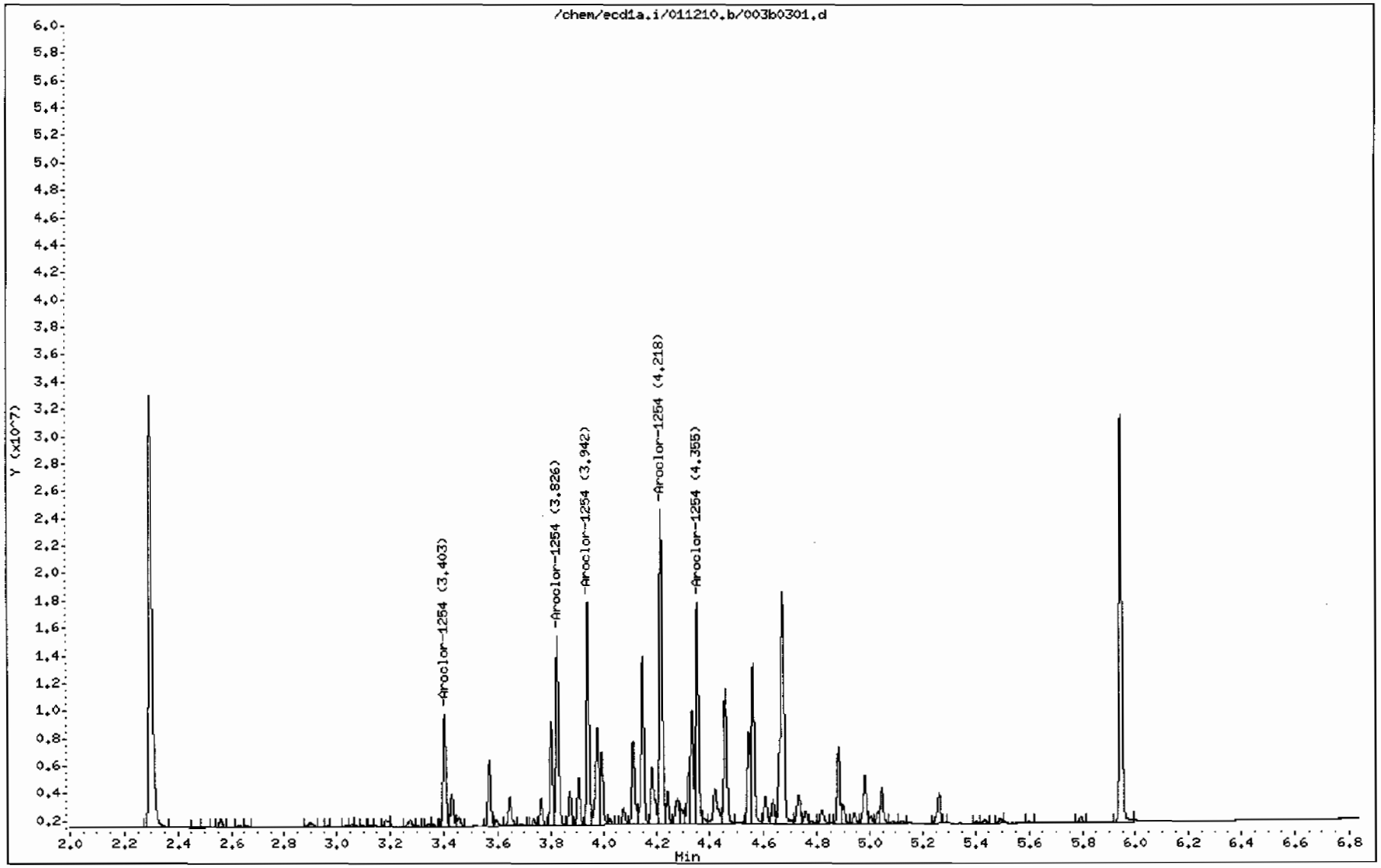
Sample Info: IWAR091216-54

Column phase: CLP2

Instrument: ecd1a.i

Operator: YS1

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/005f0501.d
Lab Smp Id: WAR091217-48 Client Smp ID: AR124801
Inj Date : 12-JAN-2010 08:30
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR091217-48
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Meth Date : 23-Jan-2010 10:45 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 5 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

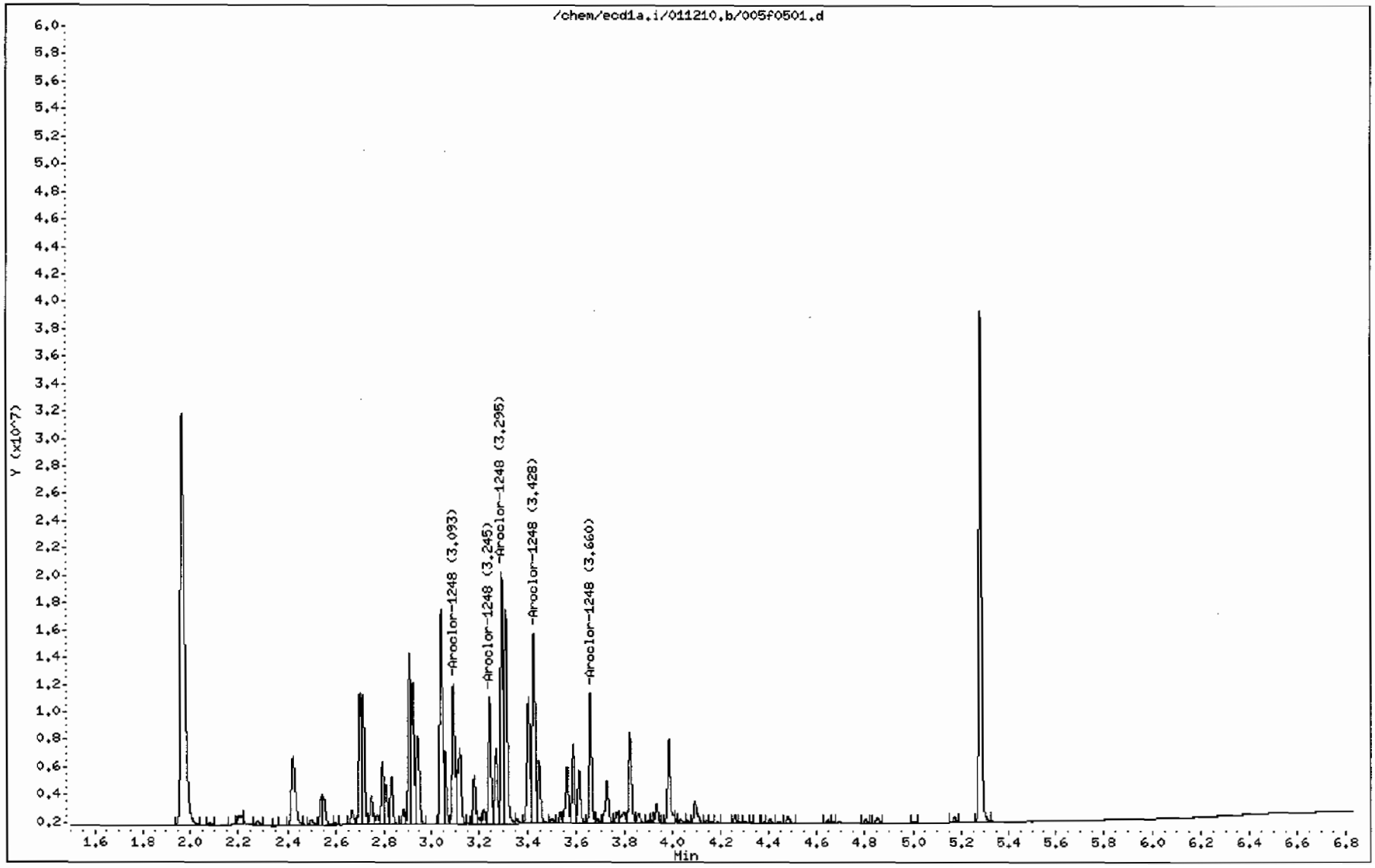
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
5 Aroclor-1248					CAS #: 12672-29-6		
3.093	3.093	0.000	7744080	1000.00	987	80.00- 120.00	100.00
3.245	3.245	0.000	6860341	1000.00	998	68.59- 108.59	88.59
3.295	3.295	0.000	13763918	1000.00	1030	157.73- 197.73	177.73
3.428	3.428	0.000	10860022	1000.00	986	120.24- 160.24	140.24
3.660	3.660	0.000	6934632	1000.00	930	69.55- 109.55	89.55
			Average of Peak Amounts =		987		

Data File: /chem/ecd1a.i/011210.b/005f0501.d
Date : 12-JAN-2010 08:30
Client ID: AR124801
Sample Info: IWAR091217-48

Column phase: CLP1

Instrument: ecd1a.i

Operator: YS1
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/005b0501.d
Lab Smp Id: WAR091217-48 Client Smp ID: AR124801
Inj Date : 12-JAN-2010 08:30
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR091217-48
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Meth Date : 23-Jan-2010 10:45 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 5 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1248.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)	TARGET RANGE	RATIO
5 Aroclor-1248					CAS #: 12672-29-6		
3.404	3.404	0.000	7175864	1000.00	891	80.00- 120.00	100.00
3.569	3.569	0.000	8975948	1000.00	909	105.09- 145.09	125.09
3.802	3.802	0.000	10195525	1000.00	909	122.08- 162.08	142.08
3.830	3.830	0.000	11296712	1000.00	905	137.43- 177.43	157.43
3.967	3.967	0.000	10909666	1000.00	901	132.03- 172.03	152.03
		Average of Peak Amounts =			903		

Data File: /chem/ecd1a.i/011210.b/005b0501.d

Page 1

Date : 12-JAN-2010 08:30

Client ID: AR124801

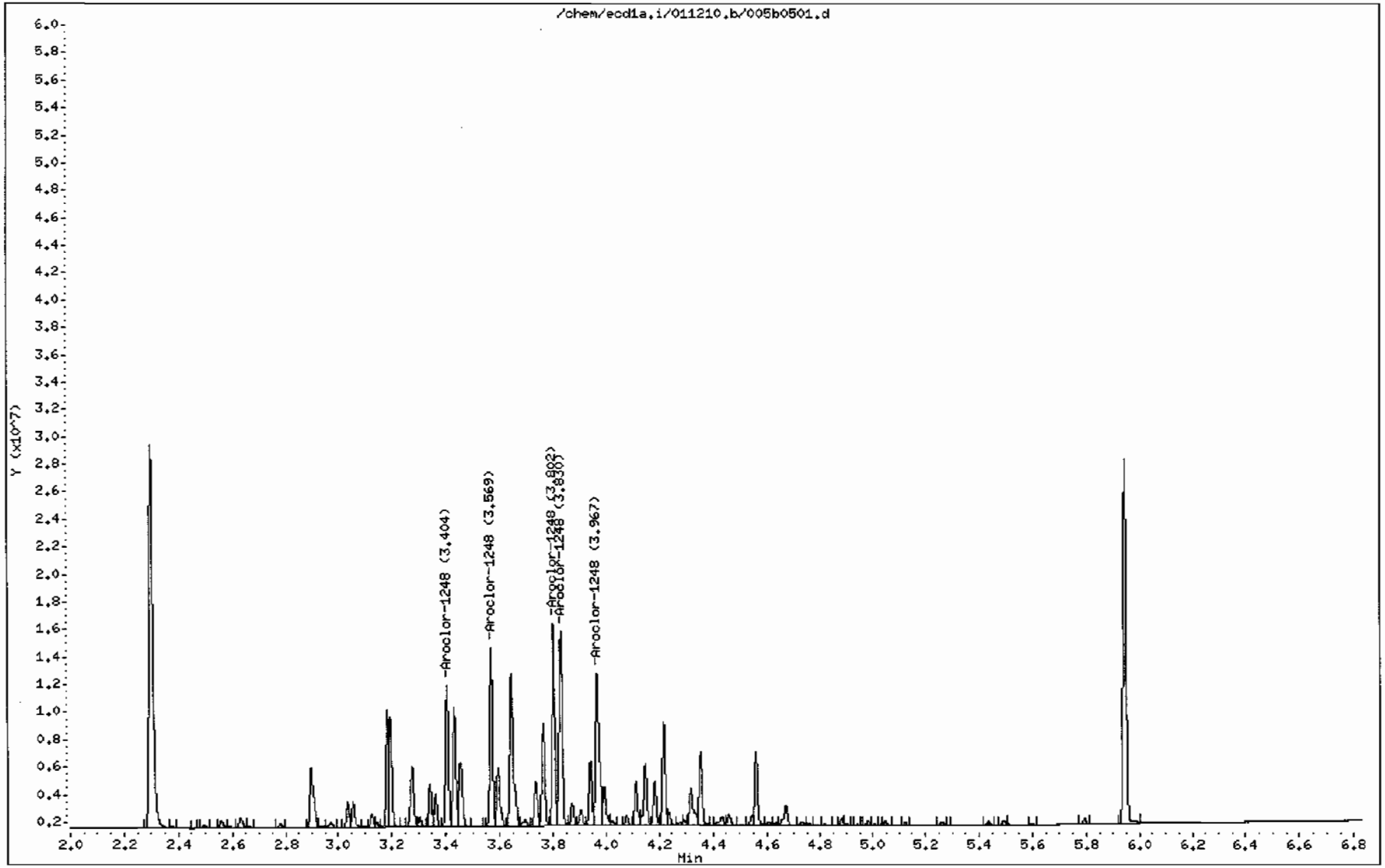
Instrument: ecd1a.i

Sample Info: IWAR091217-48

Operator: YS1

Column phase: CLP2

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/006f0601.d
Lab Smp Id: WAR100104-32 Client Smp ID: AR123201
Inj Date : 12-JAN-2010 08:41
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR100104-32
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Meth Date : 23-Jan-2010 10:45 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 6 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

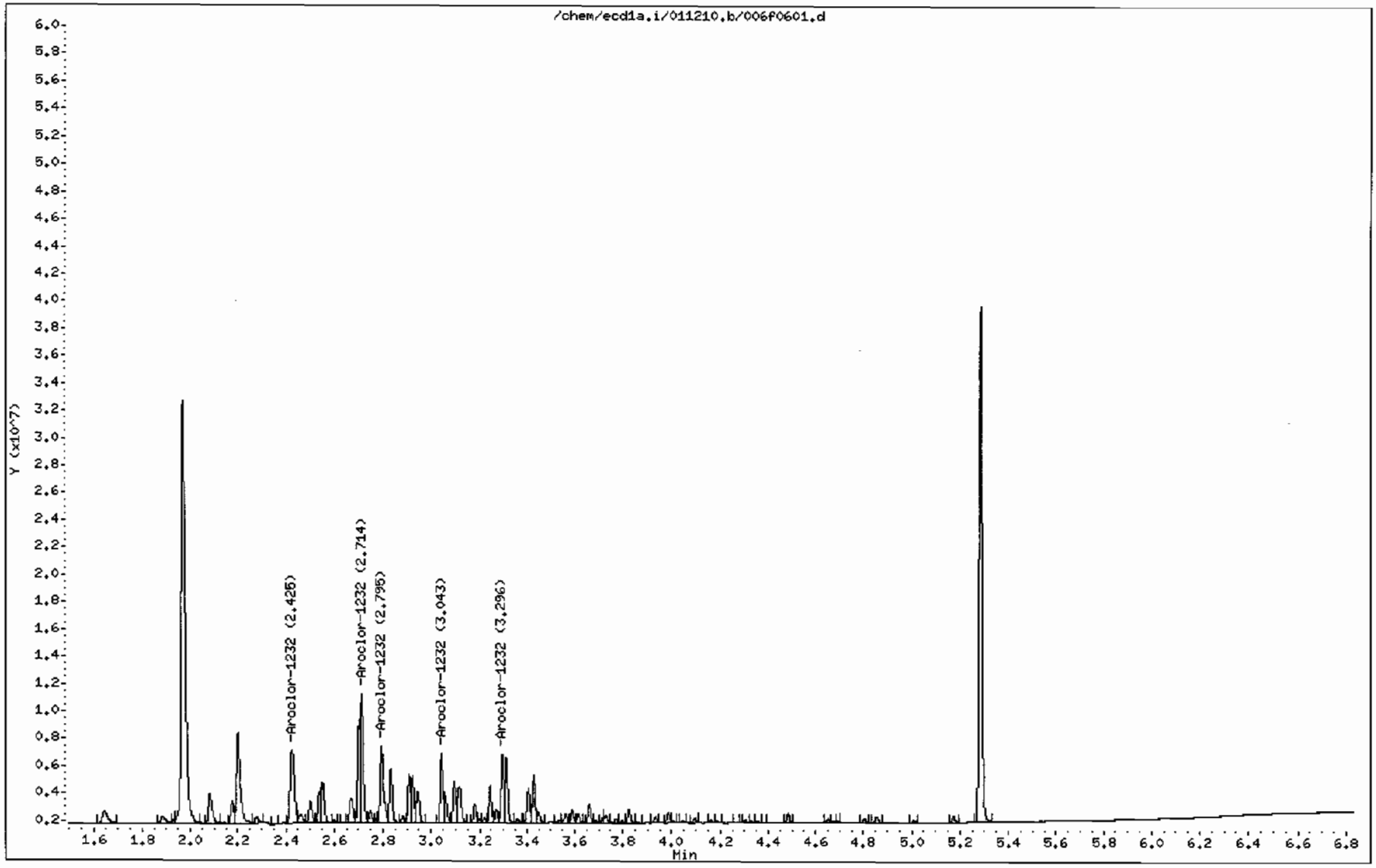
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
3 Aroclor-1232					CAS #: 11141-16-5		
2.425	2.425	0.000	6216352	1000.00	925	80.00- 120.00	100.00
2.714	2.714	0.000	8111036	1000.00	994	110.48- 150.48	130.48
2.795	2.795	0.000	5312389	1000.00	924	65.46- 105.46	85.46
3.043	3.043	0.000	3927160	1000.00	993	43.17- 83.17	63.17
3.296	3.296	0.000	3710292	1000.00	1050	39.69- 79.69	59.69
Average of Peak Amounts =					977		

Data File: /chem/ecd1a.i/011210.b/006f0601.d
Date : 12-JAN-2010 08:41
Client ID: AR123201
Sample Info: IWAR100104-32

Column phase: CLP1

Instrument: ecd1a.i

Operator: YS1
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/006b0601.d
Lab Smp Id: WAR100104-32 Client Smp ID: AR123201
Inj Date : 12-JAN-2010 08:41
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR100104-32
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Meth Date : 23-Jan-2010 10:45 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 6 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1232.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

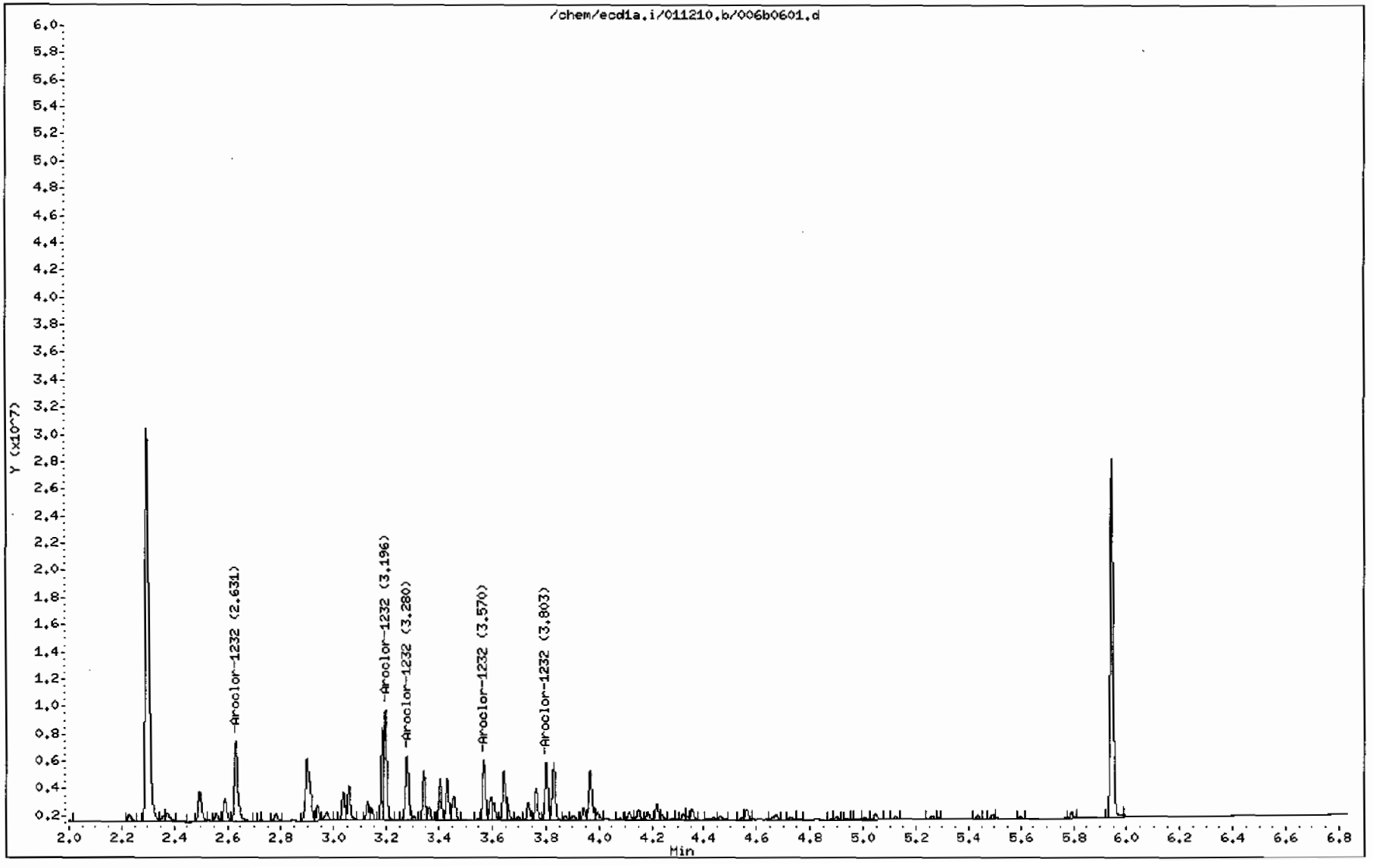
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
3 Aroclor-1232					CAS #: 11141-16-5		
2.631	2.631	0.000	5454142	1000.00	886	80.00- 120.00	100.00
3.196	3.196	0.000	5887460	1000.00	934	87.94- 127.94	107.94
3.280	3.280	0.000	4094285	1000.00	871	55.07- 95.07	75.07
3.570	3.570	0.000	3125770	1000.00	964	37.31- 77.31	57.31
3.803	3.803	0.000	3007054	1000.00	954	35.13- 75.13	55.13
Average of Peak Amounts =					922		

Data File: /chem/ecd1a.i/011210.b/006b0601.d
Date : 12-JAN-2010 08:41
Client ID: AR123201
Sample Info: IWAR100104-32

Column phase: CLP2

Instrument: ecd1a.i

Operator: YS1
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/007f0701.d
Lab Smp Id: WAR100104-21 Client Smp ID: AR122101
Inj Date : 12-JAN-2010 08:51
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR100104-21
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Meth Date : 23-Jan-2010 10:45 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 7 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1221.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

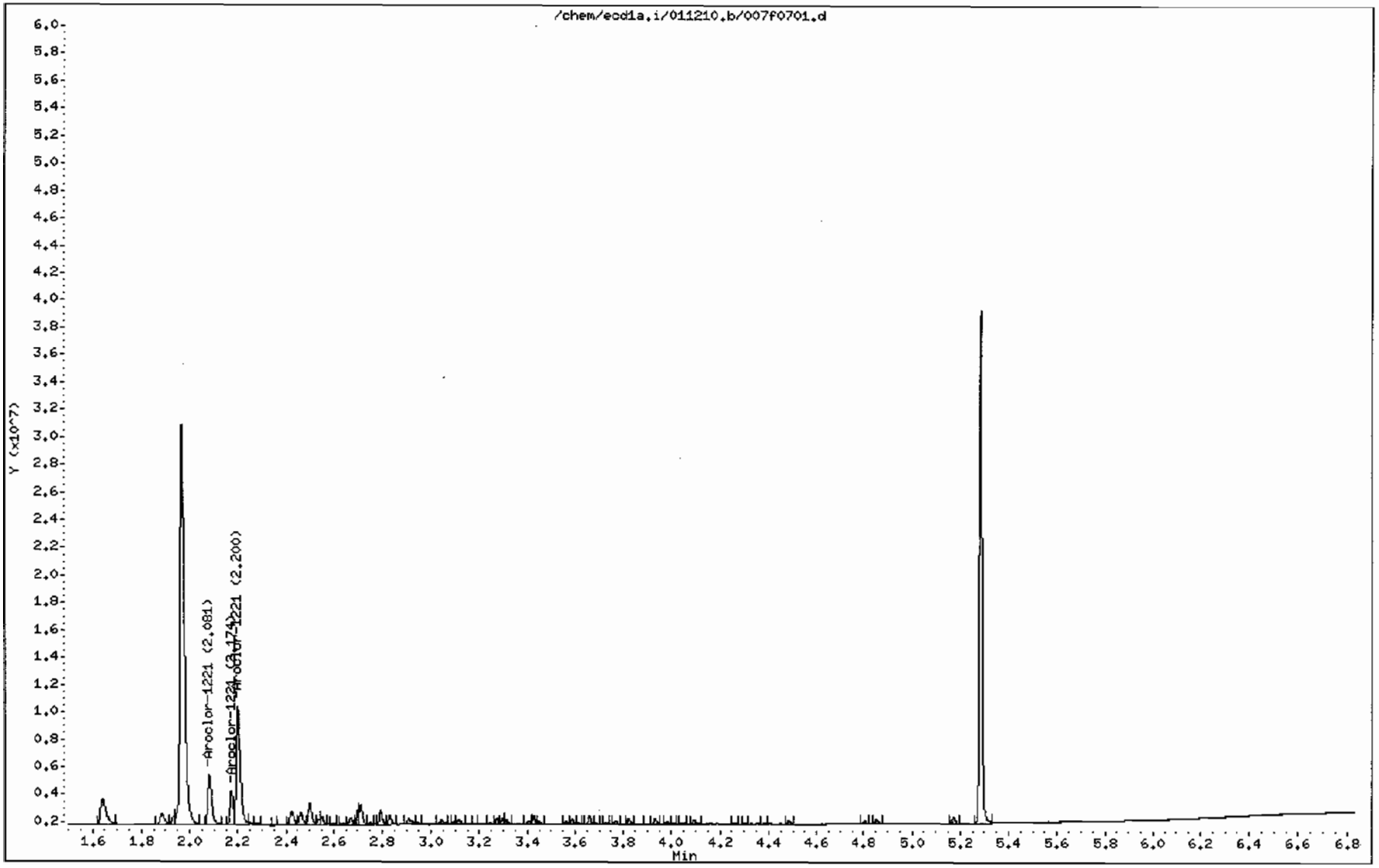
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
2 Aroclor-1221					CAS #: 11104-28-2		
2.081	2.081	0.000	3977249	1000.00	925	80.00- 120.00	100.00
2.174	2.174	0.000	2228631	1000.00	913	36.03- 76.03	56.03
2.200	2.200	0.000	9517642	1000.00	926	219.30- 259.30	239.30
Average of Peak Amounts =					921		

Data File: /chem/ecd1a.i/011210.b/007f0701.d
Date : 12-JAN-2010 08:51
Client ID: AR122101
Sample Info: IWAR100104-21

Column phase: CLP1

Instrument: ecd1a.i

Operator: YS1
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/007b0701.d
Lab Smp Id: WAR100104-21 Client Smp ID: AR122101
Inj Date : 12-JAN-2010 08:51
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR100104-21
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Meth Date : 23-Jan-2010 10:45 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 7 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1221.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
2 Aroclor-1221					CAS #: 11104-28-2		
2.495	2.495	0.000	3505686	1000.00	963	80.00- 120.00	100.00
2.590	2.590	0.000	2164005	1000.00	929	41.73- 81.73	61.73
2.631	2.631	0.000	7278336	1000.00	896	187.62- 227.62	207.62
Average of Peak Amounts =					930		

Data File: /chem/ecd1a.i/011210.b/007b0701.d

Date : 12-JAN-2010 08:51

Client ID: AR122101

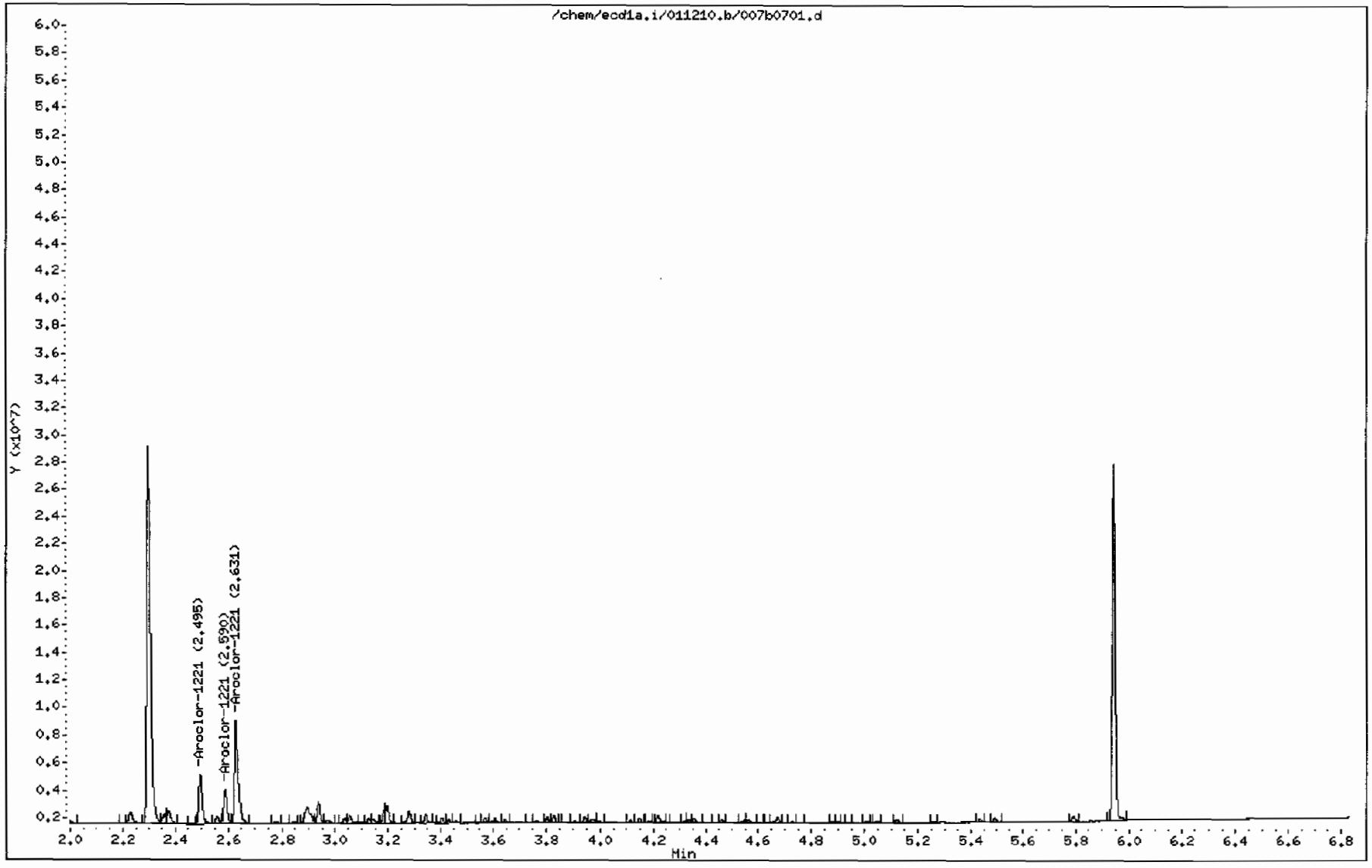
Sample Info: IWAR100104-21

Column phase: CLP2

Instrument: ecd1a.i

Operator: YS1

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/008f0801.d
Lab Smp Id: WAR100104-60 01 Client Smp ID: AR166001
Inj Date : 12-JAN-2010 09:02
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR100104-60 01
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Meth Date : 23-Jan-2010 10:46 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 8 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

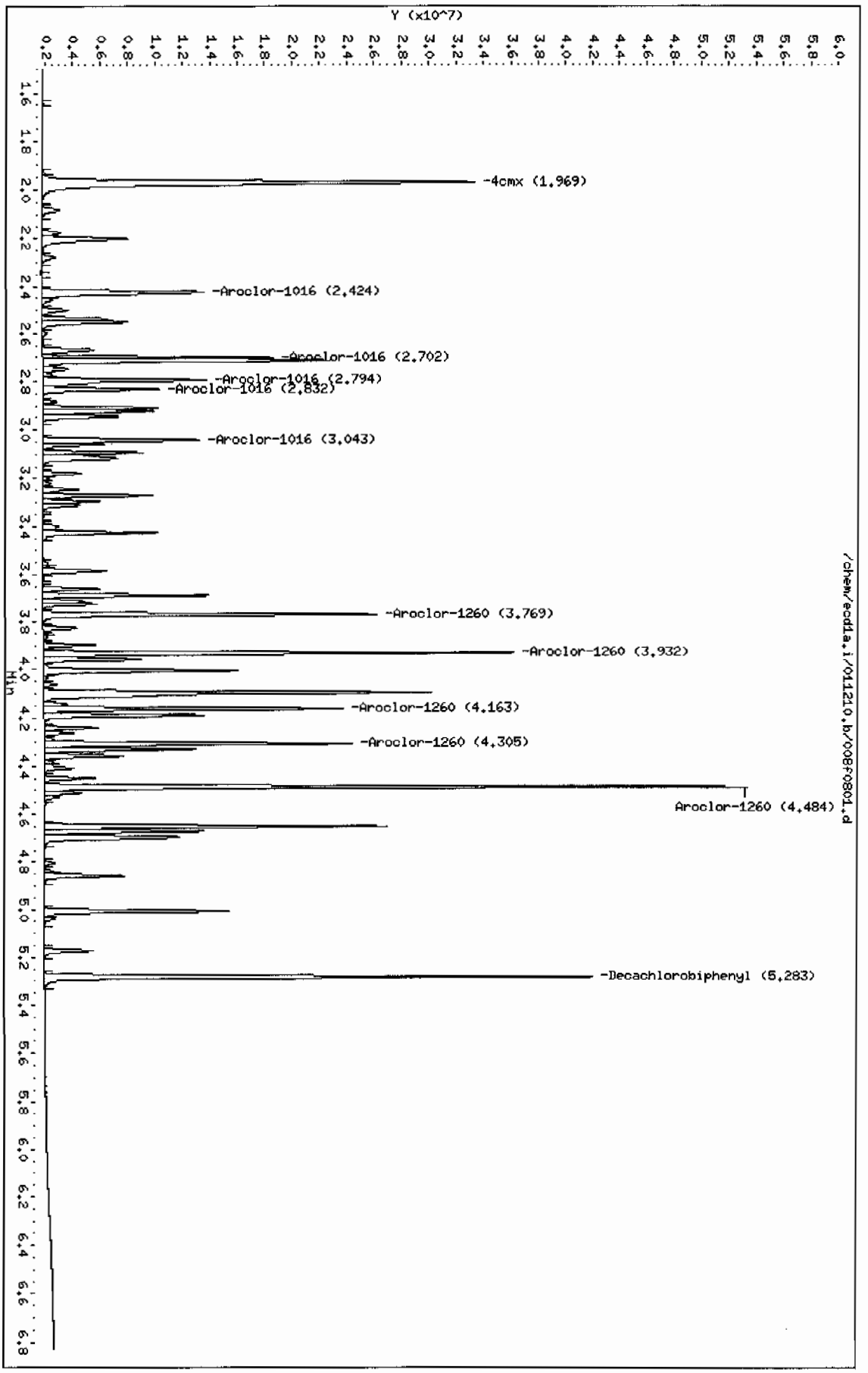
AMOUNTS

RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/L)	ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.969	1.969	0.000	37032248	100.000	104	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.283	5.283	0.000	30786506	100.000	102	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.424	2.424	0.000	13485876	1000.00	972	80.00- 120.00	100.00
2.702	2.702	0.000	10723493	1000.00	1060	59.52- 99.52	79.52
2.794	2.794	0.000	11460019	1000.00	975	64.98- 104.98	84.98
2.832	2.832	0.000	6856400	1000.00	1040	30.84- 70.84	50.84
3.043	3.043	0.000	8914101	1000.00	1030	46.10- 86.10	66.10
Average of Peak Amounts =					1.02e+03		
7 Aroclor-1260					CAS #: 11096-82-5		
3.769	3.769	0.000	17526056	1000.00	1050	80.00- 120.00	100.00
3.932	3.932	0.000	26588446	1000.00	1070	131.71- 171.71	151.71
4.163	4.163	0.000	15728241	1000.00	1070	69.74- 109.74	89.74
4.305	4.305	0.000	16552699	1000.00	1090	74.45- 114.45	94.45
4.484	4.484	0.000	37633318	1000.00	1100	194.73- 234.73	214.73
Average of Peak Amounts =					1.08e+03		

Data File: /chem/ecdia.i/011210.b/008f0801.d
Date : 12-JAN-2010 09:02
Client ID: AR166001
Sample Info: IWAR100104-60 01

Column phase: CLP1

Instrument: ecdia.i
Operator: YS1
Column diameter: 0.25



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GEL Laboratories LLC

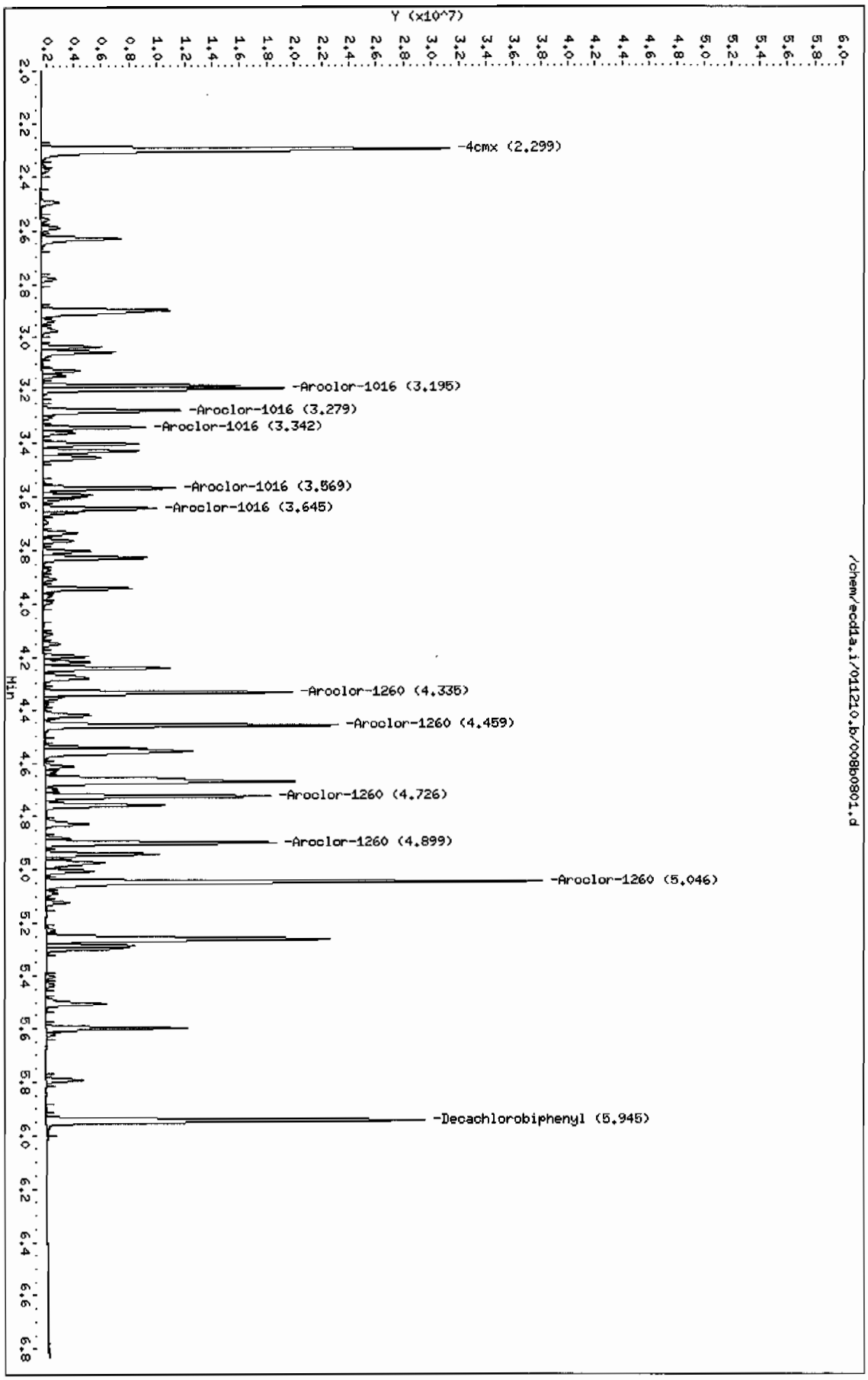
RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/008b0801.d
Lab Smp Id: WAR100104-60 01 Client Smp ID: AR166001
Inj Date : 12-JAN-2010 09:02
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR100104-60 01
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Meth Date : 23-Jan-2010 10:45 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 8 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.299	2.299	0.000	27572417	100.000	96.6	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.945	5.945	0.000	21439079	100.000	96.7	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
3.195	3.195	0.000	12467792	1000.00	989	80.00- 120.00	100.00
3.279	3.279	0.000	8419719	1000.00	903	47.53- 87.53	67.53
3.342	3.342	0.000	5218830	1000.00	964	21.86- 61.86	41.86
3.569	3.569	0.000	6829739	1000.00	968	34.78- 74.78	54.78
3.645	3.645	0.000	6310818	1000.00	963	30.62- 70.62	50.62
Average of Peak Amounts =					958		
7 Aroclor-1260					CAS #: 11096-82-5		
4.335	4.335	0.000	12787808	1000.00	935	80.00- 120.00	100.00
4.459	4.459	0.000	15544463	1000.00	970	101.56- 141.56	121.56
4.726	4.726	0.000	11912459	1000.00	948	73.15- 113.15	93.15
4.899	4.899	0.000	12233996	1000.00	955	75.67- 115.67	95.67
5.046	5.046	0.000	27319408	1000.00	979	193.64- 233.64	213.64
Average of Peak Amounts =					957		

Data File: /chem/ecd1a.i/011210.b/008b0801.d
Date : 12-JAN-2010 09:02
Client ID: ARI66001
Sample Info: IWAR100104-60 01
Column phase: CLP2

Instrument: ecd1a.i
Operator: YS1
Column diameter: 0.25



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GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/009f0901.d
Lab Smp Id: WAR091217-42 Client Smp ID: AR124201
Inj Date : 12-JAN-2010 09:12
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR091217-42
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Meth Date : 23-Jan-2010 10:46 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 9 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)	TARGET RANGE	RATIO
4 Aroclor-1242					CAS #: 53469-21-9		
2.425	2.425	0.000	11081560	1000.00	950	80.00- 120.00	100.00
2.714	2.714	0.000	14162445	1000.00	1050	107.80- 147.80	127.80
2.832	2.832	0.000	5547704	1000.00	1010	30.06- 70.06	50.06
3.043	3.043	0.000	7181018	1000.00	991	44.80- 84.80	64.80
3.297	3.297	0.000	7294617	1000.00	1070	45.83- 85.83	65.83

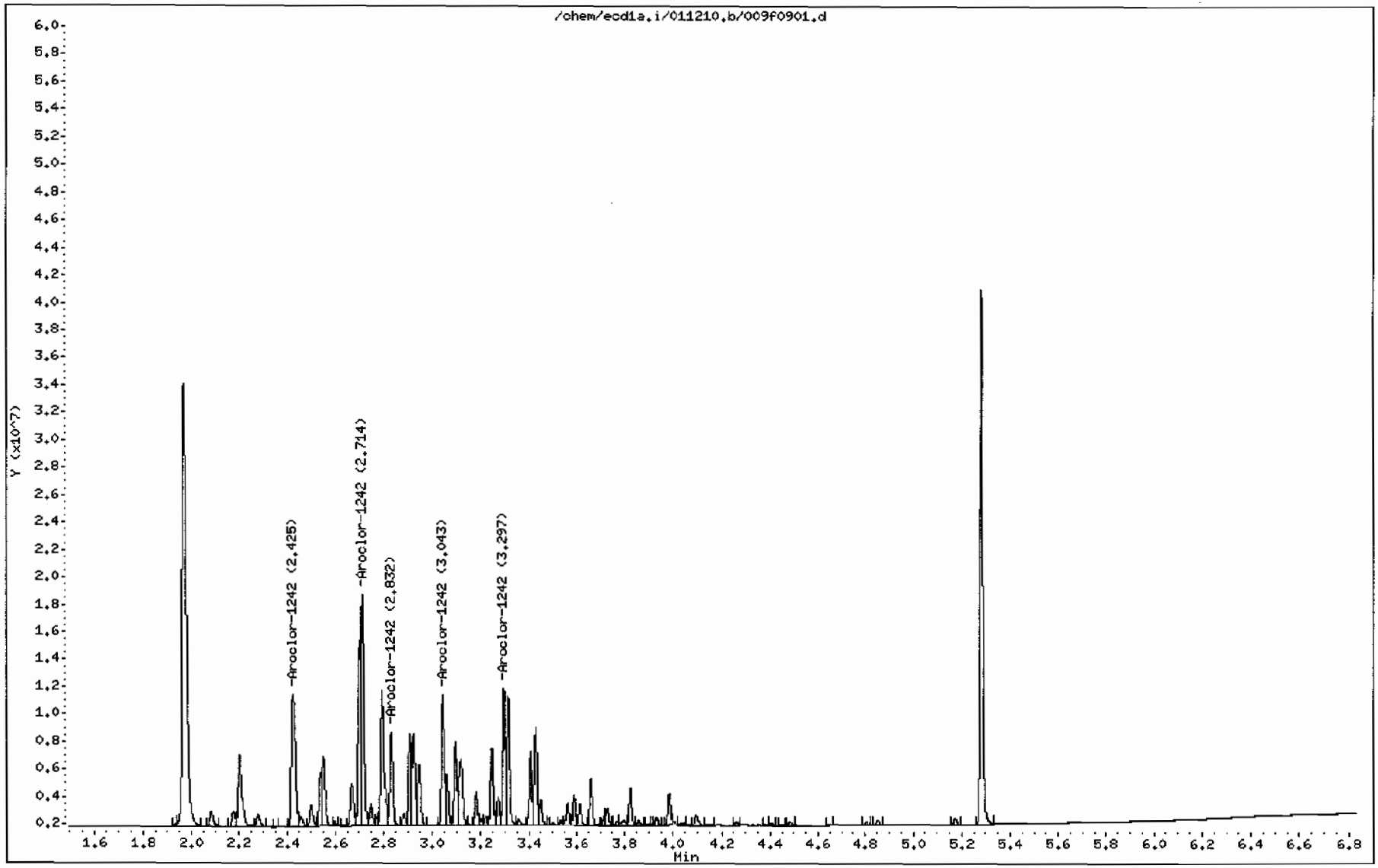
Average of Peak Amounts = 1.01e+03

Data File: /chem/ecd1a.i/011210.b/009f0901.d
Date : 12-JAN-2010 09:12
Client ID: AR124201
Sample Info: IWAR091217-42

Column phase: CLP1

Instrument: ecd1a.i

Operator: YS1
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/009b0901.d
Lab Smp Id: WAR091217-42 Client Smp ID: AR124201
Inj Date : 12-JAN-2010 09:12
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR091217-42
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Meth Date : 23-Jan-2010 10:46 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 9 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1242.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

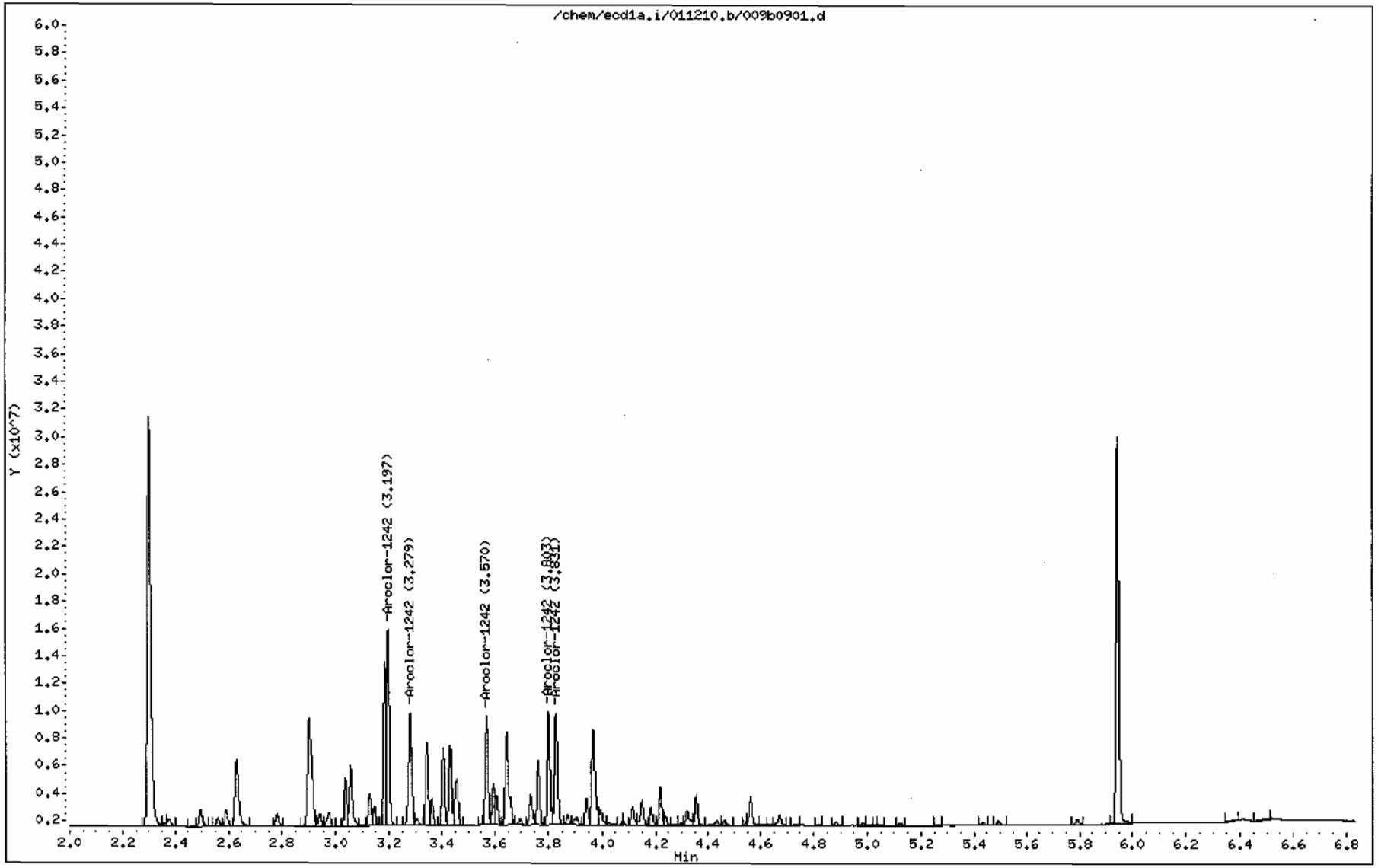
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
4 Aroclor-1242					CAS #: 53469-21-9		
3.197	3.197	0.000	10071737	1000.00	951	80.00- 120.00	100.00
3.279	3.279	0.000	6944935	1000.00	862	48.95- 88.95	68.95
3.570	3.570	0.000	5469377	1000.00	917	34.30- 74.30	54.30
3.803	3.803	0.000	5657077	1000.00	934	36.17- 76.17	56.17
3.831	3.831	0.000	6282902	1000.00	938	42.38- 82.38	62.38
		Average of Peak Amounts =			920		

Data File: /chem/ecd1a.i/011210.b/009b0901.d
Date : 12-JAN-2010 09:12
Client ID: AR124201
Sample Info: IWAR091217-42

Column phase: CLP2

Instrument: ecd1a.i

Operator: YS1
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/019f1901.d
Lab Smp Id: WAR100104-60 02 Client Smp ID: AR166002
Inj Date : 12-JAN-2010 11:03
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR100104-60 02
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Meth Date : 23-Jan-2010 10:48 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 19 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.967	1.969	-0.002	36395148	100.000	102	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.280	5.283	-0.003	30217743	100.000	100	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.423	2.424	-0.001	13310670	1000.00	960	80.00- 120.00	100.00
2.699	2.702	-0.003	10242811	1000.00	1010	56.95- 96.95	76.95
2.792	2.794	-0.002	11285268	1000.00	960	64.78- 104.78	84.78
2.829	2.832	-0.003	6765072	1000.00	1020	30.82- 70.82	50.82
3.040	3.043	-0.003	8738943	1000.00	1010	45.65- 85.65	65.65
Average of Peak Amounts =					993		
7 Aroclor-1260					CAS #: 11096-82-5		
3.766	3.769	-0.003	17036620	1000.00	1020	80.00- 120.00	100.00
3.929	3.932	-0.003	25904092	1000.00	1050	132.05- 172.05	152.05
4.159	4.163	-0.004	15393580	1000.00	1050	70.36- 110.36	90.36
4.302	4.305	-0.003	16083121	1000.00	1060	74.40- 114.40	94.40
4.482	4.484	-0.002	36752784	1000.00	1070	195.73- 235.73	215.73
Average of Peak Amounts =					1.05e+03		

Data File: /chem/ecd1a.i/011210.b/019f1901.d
Date : 12-JAN-2010 11:03
Client ID: AR166002
Sample Info: IWAR100104-60 02

Column phase: CLP1

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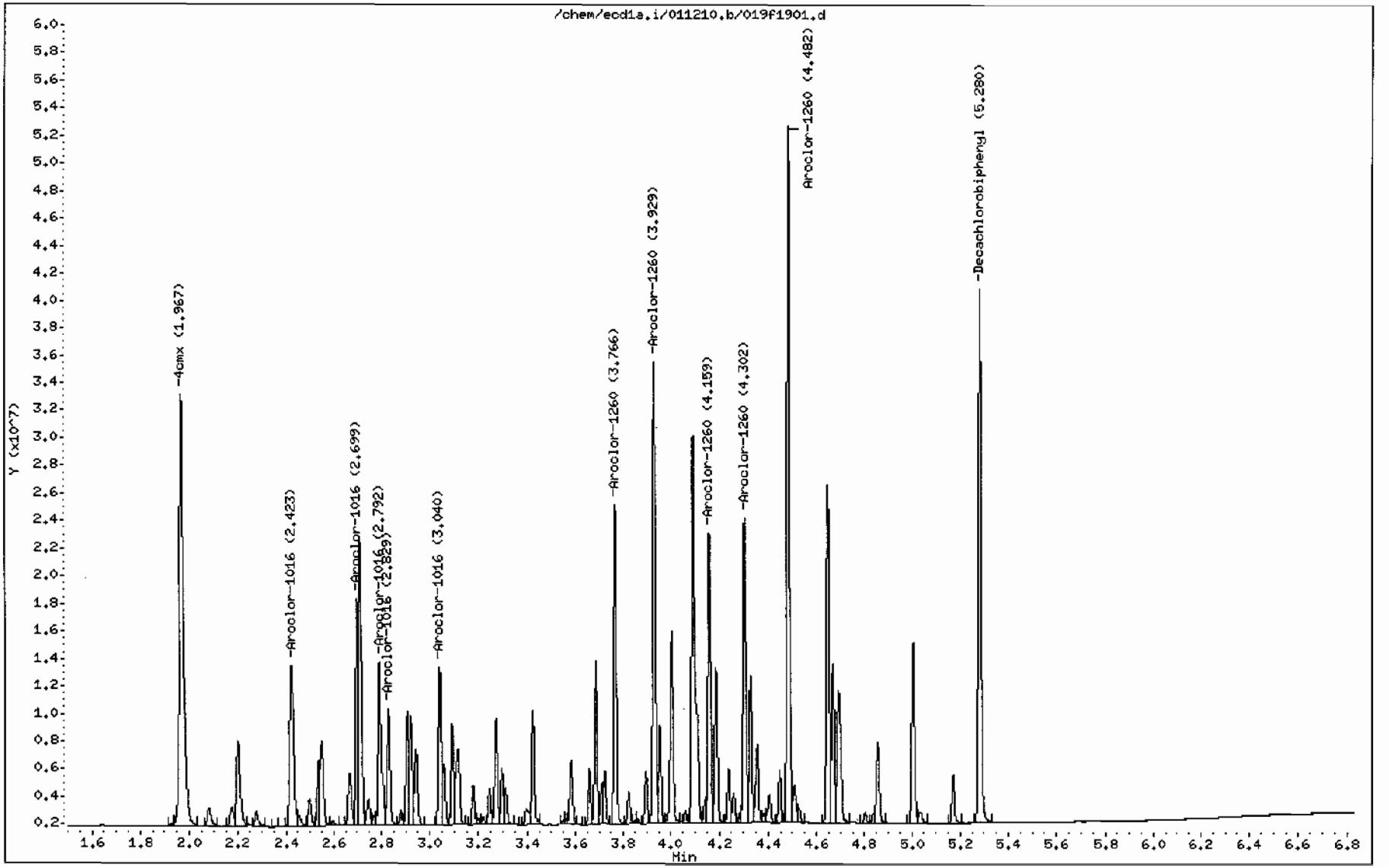
Instrument: ecd1a.i

Operator: YS1
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/019b1901.d
Lab Smp Id: WAR100104-60 02 Client Smp ID: AR166002
Inj Date : 12-JAN-2010 11:03
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR100104-60 02
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Meth Date : 23-Jan-2010 10:48 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 19 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

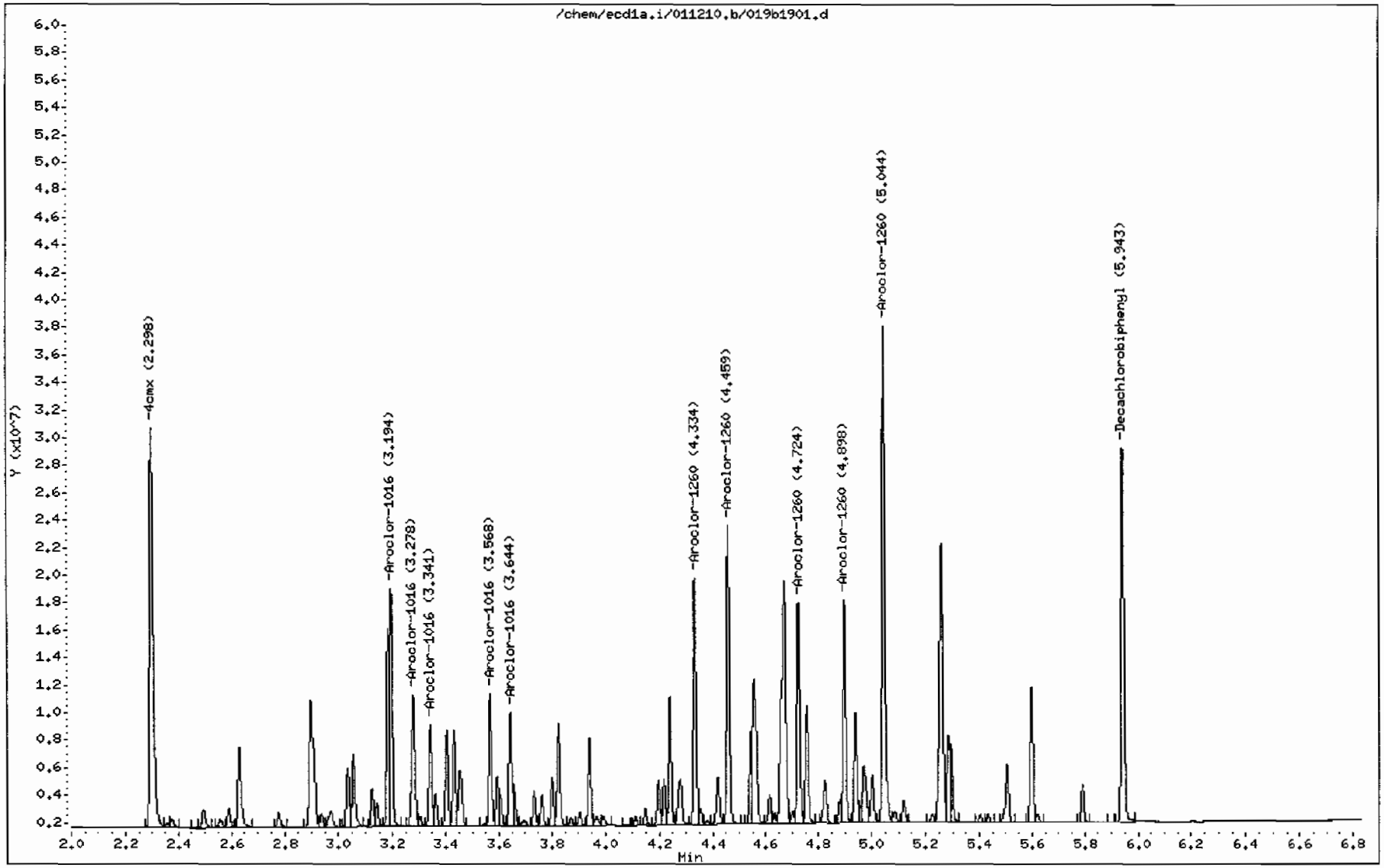
RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.298	2.299	-0.001	27237306	100.000	95.4	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.943	5.945	-0.002	20965997	100.000	94.5	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
3.194	3.195	-0.001	12578862	1000.00	997	80.00- 120.00	100.00
3.278	3.279	-0.001	8317700	1000.00	892	46.12- 86.12	66.12
3.341	3.342	-0.001	5139316	1000.00	950	20.86- 60.86	40.86
3.568	3.569	-0.001	6728760	1000.00	954	33.49- 73.49	53.49
3.644	3.645	-0.001	6209908	1000.00	948	29.37- 69.37	49.37
Average of Peak Amounts =					948		
7 Aroclor-1260					CAS #: 11096-82-5		
4.334	4.335	-0.001	12600351	1000.00	921	80.00- 120.00	100.00
4.459	4.459	0.000	15305012	1000.00	955	101.46- 141.46	121.46
4.724	4.726	-0.002	11700179	1000.00	931	72.86- 112.86	92.86
4.898	4.899	-0.001	12037919	1000.00	940	75.54- 115.54	95.54
5.044	5.046	-0.002	26844001	1000.00	962	193.04- 233.04	213.04
Average of Peak Amounts =					942		

Data File: /chem/ecd1a.i/011210.b/019b1901.d
Date : 12-JAN-2010 11:03
Client ID: AR166002
Sample Info: IWAR100104-60 02

Column phase: CLP2

Instrument: ecd1a.i

Operator: YS1
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/031f3101.d
Lab Smp Id: WAR100104-60 03 Client Smp ID: AR166003
Inj Date : 12-JAN-2010 13:27
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR100104-60 03
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Meth Date : 23-Jan-2010 10:51 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 31 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.968	1.969	-0.001	38433966	100.000	108	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.280	5.283	-0.003	31246613	100.000	103	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.424	2.424	0.000	13975254	1000.00	1010	80.00- 120.00	100.00
2.701	2.702	-0.001	11118675	1000.00	1100	59.56- 99.56	79.56
2.792	2.794	-0.002	11874482	1000.00	1010	64.97- 104.97	84.97
2.830	2.832	-0.002	7065924	1000.00	1070	30.56- 70.56	50.56
3.041	3.043	-0.002	9128367	1000.00	1050	45.32- 85.32	65.32
Average of Peak Amounts =					1.05e+03		
7 Aroclor-1260					CAS #: 11096-82-5		
3.766	3.769	-0.003	17811470	1000.00	1060	80.00- 120.00	100.00
3.929	3.932	-0.003	27097503	1000.00	1100	132.14- 172.14	152.14
4.159	4.163	-0.004	16042757	1000.00	1090	70.07- 110.07	90.07
4.301	4.305	-0.004	16822381	1000.00	1110	74.45- 114.45	94.45
4.481	4.484	-0.003	38270168	1000.00	1110	194.86- 234.86	214.86
Average of Peak Amounts =					1.09e+03		

Data File: /chem/ecd1a.i/011210.b/031f3101.d

Date : 12-JAN-2010 13:27

Client ID: AR166003

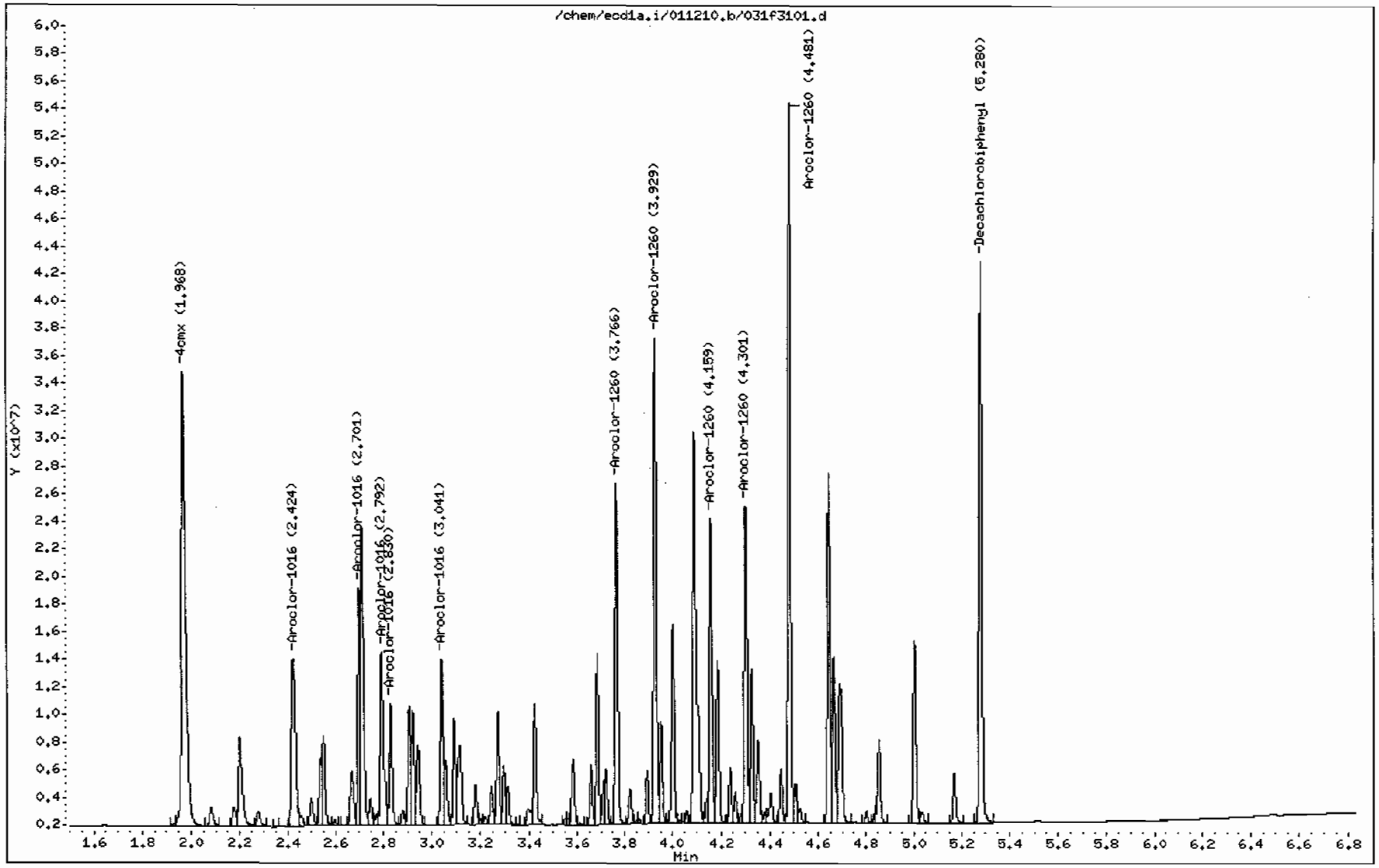
Sample Info: IWAR100104-60 03

Column phase: CLP1

Instrument: ecd1a.i

Operator: YS1

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/031b3101.d
Lab Smp Id: WAR100104-60 03 Client Smp ID: AR166003
Inj Date : 12-JAN-2010 13:27
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |WAR100104-60 03
Misc Info :
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Meth Date : 23-Jan-2010 10:51 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 31 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: AR1660.sub
Target Version: 3.50 Sample Matrix: None
Processing Host: hpclp1

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.299	2.299	0.000	28627734	100.000	100	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.942	5.945	-0.003	21960359	100.000	99.0	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
3.195	3.195	0.000	13074814	1000.00	1040	80.00- 120.00	100.00
3.277	3.279	-0.002	8777811	1000.00	941	47.14- 87.14	67.14
3.341	3.342	-0.001	5413636	1000.00	1000	21.41- 61.41	41.41
3.568	3.569	-0.001	6892457	1000.00	977	32.72- 72.72	52.72
3.643	3.645	-0.002	6412928	1000.00	979	29.05- 69.05	49.05
Average of Peak Amounts =					987		
7 Aroclor-1260					CAS #: 11096-82-5		
4.333	4.335	-0.002	13295972	1000.00	972	80.00- 120.00	100.00
4.457	4.459	-0.002	16138030	1000.00	1010	101.38- 141.38	121.38
4.723	4.726	-0.003	12348659	1000.00	983	72.88- 112.88	92.88
4.896	4.899	-0.003	12683793	1000.00	990	75.40- 115.40	95.40
5.044	5.046	-0.002	28029483	1000.00	1000	190.81- 230.81	210.81
Average of Peak Amounts =					991		

Data File: /chem/ecd1a.i/011210.b/031b3101.d

Date : 12-JAN-2010 13:27

Client ID: AR166003

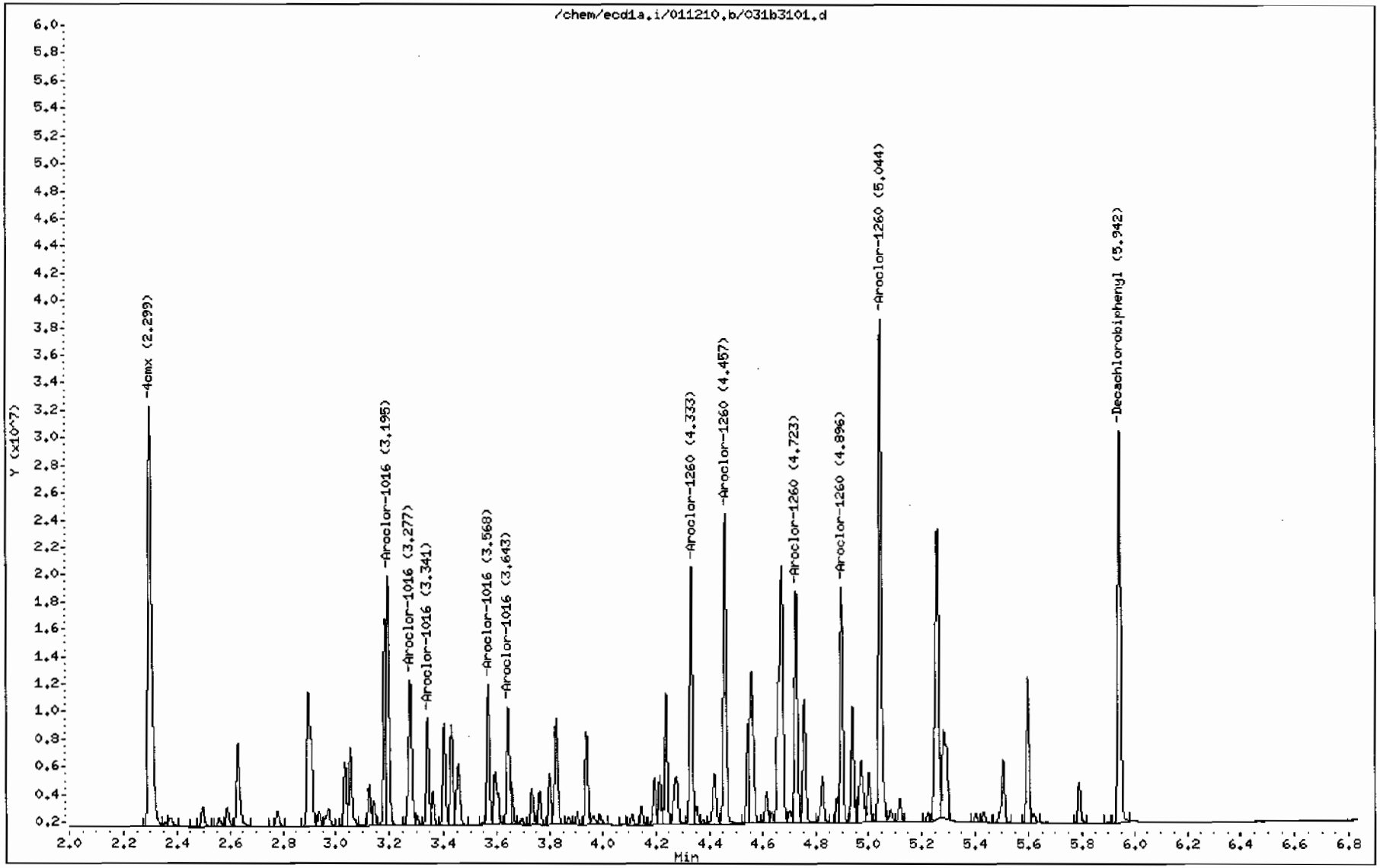
Sample Info: IWAR100104-60 03

Column phase: CLP2

Instrument: ecd1a.i

Operator: YS1

Column diameter: 0.25



8D
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1126

GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD1A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 1.97 DCB: 5.29

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK01	WAR091130-99	12/14/09	0444	1.97	5.29
02	ZZZZZ	ZZZZZ	12/14/09	0454	1.97	5.29
03	ZZZZZ	ZZZZZ	12/14/09	0505	1.97	5.29
04	ZZZZZ	ZZZZZ	12/14/09	0515	1.97	5.29
05	ZZZZZ	ZZZZZ	12/14/09	0526	1.97	5.29
06	AR123201	WAR090930-32	12/14/09	0536	1.97	5.29
07	AR122101	WAR090803-21	12/14/09	0547	1.97	5.29
08	AR126201	WAR090803-62	12/14/09	0558	1.97	5.29
09	ZZZZZ	ZZZZZ	12/14/09	0608	1.97	5.29
10	ZZZZZ	ZZZZZ	12/14/09	0619	1.97	5.29
11	ZZZZZ	ZZZZZ	12/14/09	0629	1.97	5.29
12	ZZZZZ	ZZZZZ	12/14/09	0640	1.97	5.29
13	ZZZZZ	ZZZZZ	12/14/09	0650	1.97	5.29
14	ZZZZZ	ZZZZZ	12/14/09	0701	1.97	5.29
15	ZZZZZ	ZZZZZ	12/14/09	0711	1.97	5.29
16	AR125401	WAR091214-05	12/14/09	0722	1.97	5.29
17	AR125402	WAR091214-06	12/14/09	0732	1.97	5.29
18	AR125403	WAR091214-07	12/14/09	0743	1.97	5.29
19	AR125404	WAR091214-08	12/14/09	0753	1.97	5.29
20	AR125405	IAR091027-01	12/14/09	0804	1.97	5.29
21	AR125401	WAR091102-54	12/14/09	0814	1.97	5.29
22	AR124201	WAR091214-09	12/14/09	0825	1.97	5.29
23	AR124202	WAR091214-10	12/14/09	0835	1.97	5.29
24	AR124203	WAR091214-11	12/14/09	0846	1.97	5.29
25	AR124204	WAR091214-12	12/14/09	0856	1.97	5.29
26	AR124205	IAR0911111-0	12/14/09	0907	1.97	5.29
27	AR124201	WAR091102-42	12/14/09	0917	1.97	5.29
28	AR124801	WAR091214-13	12/14/09	0928	1.97	5.29
29	AR124802	WAR091214-14	12/14/09	0938	1.97	5.29
30	AR124803	WAR091214-15	12/14/09	0949	1.97	5.29
31	AR124804	WAR091214-16	12/14/09	0959	1.97	5.29
32	AR124805	IAR091027-02	12/14/09	1010	1.97	5.29

QC LIMITS
S1 = 4cmx (+/- 0.03 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PEST OLM03.0

8D
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1126

GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD1A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 1.97 DCB: 5.29

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	AR124801	WAR091027-48	12/14/09	1020	1.97	5.29
02	AR166001	WAR091214-01	12/14/09	1031	1.97	5.29
03	AR166002	WAR091214-02	12/14/09	1041	1.97	5.29
04	AR166003	WAR091214-03	12/14/09	1052	1.97	5.29
05	AR166004	WAR091214-04	12/14/09	1102	1.97	5.29
06	AR166005	IAR091102-01	12/14/09	1113	1.97	5.29
07	AR166001	WAR091211-60	12/14/09	1123	1.97	5.29
08	AR126801	WAR091214-17	12/14/09	1134	1.97	5.29
09	AR126802	WAR091214-18	12/14/09	1144	1.97	5.29
10	AR126803	WAR091214-19	12/14/09	1155	1.97	5.29
11	AR126804	WAR091214-20	12/14/09	1206	1.97	5.29
12	AR126805	IAR090817-02	12/14/09	1216	1.97	5.29
13	AR126801	WAR091106-68	12/14/09	1227	1.97	5.29
14	DDTANALOGSTD	WAR091020-DD	12/14/09	1237		
15	PIBLK02	WAR091130-99	12/14/09	1248	1.97	5.29
16	ZZZZZ	ZZZZZ	12/14/09	1258	1.97	5.29
17	ZZZZZ	ZZZZZ	12/14/09	1309	1.97	5.29
18	ZZZZZ	ZZZZZ	12/14/09	1319	1.97	5.29
19	ZZZZZ	ZZZZZ	12/14/09	1330	1.97	5.29
20	ZZZZZ	ZZZZZ	12/14/09	1340	1.97	5.29
21	ZZZZZ	ZZZZZ	12/14/09	1351	1.97	5.29
22	ZZZZZ	ZZZZZ	12/14/09	1403	1.97	5.29
23	ZZZZZ	ZZZZZ	12/14/09	1416	1.97	5.29
24	ZZZZZ	ZZZZZ	12/14/09	1429	1.97	5.29
25	ZZZZZ	ZZZZZ	12/14/09	1441	1.97	5.29
26	AR166002	WAR091211-60	12/14/09	1452	1.97	5.29
27	PIBLK03	WAR091130-99	12/14/09	1502	1.97	5.29
28	ZZZZZ	ZZZZZ	12/14/09	1513	1.97	5.29
29	ZZZZZ	ZZZZZ	12/14/09	1525	1.97	5.29
30	ZZZZZ	ZZZZZ	12/14/09	1538	1.97	5.29
31	ZZZZZ	ZZZZZ	12/14/09	1551	1.97	5.29
32	ZZZZZ	ZZZZZ	12/14/09	1603	1.97	5.27

	QC LIMITS
S1 = 4cmx	(+/- 0.03 MINUTES)
DCB = Decachlorobiphenyl	(+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PEST OLM03.0

8D
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1126

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD1A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 2.30 DCB: 5.94

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK01	WAR091130-99	12/14/09	0444	2.30	5.95
02	ZZZZZ	ZZZZZ	12/14/09	0454	2.30	5.94
03	ZZZZZ	ZZZZZ	12/14/09	0505	2.30	5.95
04	ZZZZZ	ZZZZZ	12/14/09	0515	2.30	5.95
05	ZZZZZ	ZZZZZ	12/14/09	0526	2.30	5.95
06	AR123201	WAR090930-32	12/14/09	0536	2.30	5.95
07	AR122101	WAR090803-21	12/14/09	0547	2.30	5.95
08	AR126201	WAR090803-62	12/14/09	0558	2.30	5.94
09	ZZZZZ	ZZZZZ	12/14/09	0608	2.30	5.94
10	ZZZZZ	ZZZZZ	12/14/09	0619	2.30	5.95
11	ZZZZZ	ZZZZZ	12/14/09	0629	2.30	5.94
12	ZZZZZ	ZZZZZ	12/14/09	0640	2.30	5.94
13	ZZZZZ	ZZZZZ	12/14/09	0650	2.30	5.95
14	ZZZZZ	ZZZZZ	12/14/09	0701	2.30	5.94
15	ZZZZZ	ZZZZZ	12/14/09	0711	2.30	5.95
16	AR125401	WAR091214-05	12/14/09	0722	2.30	5.94
17	AR125402	WAR091214-06	12/14/09	0732	2.30	5.94
18	AR125403	WAR091214-07	12/14/09	0743	2.30	5.94
19	AR125404	WAR091214-08	12/14/09	0753	2.30	5.94
20	AR125405	IAR091027-01	12/14/09	0804	2.30	5.95
21	AR125401	WAR091102-54	12/14/09	0814	2.30	5.94
22	AR124201	WAR091214-09	12/14/09	0825	2.30	5.94
23	AR124202	WAR091214-10	12/14/09	0835	2.30	5.94
24	AR124203	WAR091214-11	12/14/09	0846	2.30	5.94
25	AR124204	WAR091214-12	12/14/09	0856	2.30	5.94
26	AR124205	IAR0911111-0	12/14/09	0907	2.30	5.94
27	AR124201	WAR091102-42	12/14/09	0917	2.30	5.94
28	AR124801	WAR091214-13	12/14/09	0928	2.30	5.94
29	AR124802	WAR091214-14	12/14/09	0938	2.30	5.94
30	AR124803	WAR091214-15	12/14/09	0949	2.30	5.94
31	AR124804	WAR091214-16	12/14/09	0959	2.30	5.94
32	AR124805	IAR091027-02	12/14/09	1010	2.30	5.94

QC LIMITS
S1 = 4cmx (+/- 0.03 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PEST OLM03.0

8D
PCB ANALYTICAL SEQUENCE

Lab Name: GENERAL ENGINEERING LAB, Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1126

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD1A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 2.30 DCB: 5.94

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	AR124801	WAR091027-48	12/14/09	1020	2.30	5.95
02	AR166001	WAR091214-01	12/14/09	1031	2.30	5.94
03	AR166002	WAR091214-02	12/14/09	1041	2.30	5.94
04	AR166003	WAR091214-03	12/14/09	1052	2.30	5.94
05	AR166004	WAR091214-04	12/14/09	1102	2.30	5.94
06	AR166005	IAR091102-01	12/14/09	1113	2.30	5.94
07	AR166001	WAR091211-60	12/14/09	1123	2.30	5.94
08	AR126801	WAR091214-17	12/14/09	1134	2.30	5.95
09	AR126802	WAR091214-18	12/14/09	1144	2.30	5.94
10	AR126803	WAR091214-19	12/14/09	1155	2.30	5.94
11	AR126804	WAR091214-20	12/14/09	1206	2.30	5.94
12	AR126805	IAR090817-02	12/14/09	1216	2.30	5.94
13	AR126801	WAR091106-68	12/14/09	1227	2.30	5.94
14	DDTANALOGSTD	WAR091020-DD	12/14/09	1237		
15	PIBLK02	WAR091130-99	12/14/09	1248	2.30	5.94
16	ZZZZZ	ZZZZZ	12/14/09	1258	2.30	5.94
17	ZZZZZ	ZZZZZ	12/14/09	1309	2.30	5.94
18	ZZZZZ	ZZZZZ	12/14/09	1319	2.30	5.94
19	ZZZZZ	ZZZZZ	12/14/09	1330	2.30	5.94
20	ZZZZZ	ZZZZZ	12/14/09	1340	2.30	5.94
21	ZZZZZ	ZZZZZ	12/14/09	1351	2.30	5.94
22	ZZZZZ	ZZZZZ	12/14/09	1403	2.30	5.94
23	ZZZZZ	ZZZZZ	12/14/09	1416	2.30	5.94
24	ZZZZZ	ZZZZZ	12/14/09	1429	2.30	5.94
25	ZZZZZ	ZZZZZ	12/14/09	1441	2.30	5.94
26	AR166002	WAR091211-60	12/14/09	1452	2.30	5.94
27	PIBLK03	WAR091130-99	12/14/09	1502	2.30	5.94
28	ZZZZZ	ZZZZZ	12/14/09	1513	2.30	5.94
29	ZZZZZ	ZZZZZ	12/14/09	1525	2.30	5.94
30	ZZZZZ	ZZZZZ	12/14/09	1538	2.30	5.94
31	ZZZZZ	ZZZZZ	12/14/09	1551	2.30	5.94
32	ZZZZZ	ZZZZZ	12/14/09	1603	2.30	5.94

	QC LIMITS
S1 = 4cmx	(+/- 0.03 MINUTES)
DCB = Decachlorobiphenyl	(+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PEST OLM03.0

8D
PESTICIDE ANALYTICAL SEQUENCE

Lab Name: GEL LABORATORIES LLC Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1126

GC Column: CLP1 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD1A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 1.97 DCB: 5.28

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK01	WAR100105-99	01/12/10	0748	1.97	5.28
02	ZZZZZ	ZZZZZ	01/12/10	0759	1.97	5.28
03	AR125401	WAR091216-54	01/12/10	0809		
04	ZZZZZ	ZZZZZ	01/12/10	0820		
05	AR124801	WAR091217-48	01/12/10	0830		
06	AR123201	WAR100104-32	01/12/10	0841		
07	AR122101	WAR100104-21	01/12/10	0851		
08	AR166001	WAR100104-60	01/12/10	0902	1.97	5.28
09	AR124201	WAR091217-42	01/12/10	0912		
10	AR126201	WAR100104-62	01/12/10	0923		
11	AR126801	WAR100111-68	01/12/10	0933		
12	DDTANALOGSTD	WAR091219-DD	01/12/10	0944		
13	PIBLK02	WAR100105-99	01/12/10	0954	1.97	5.28
14	ZZZZZ	ZZZZZ	01/12/10	1005	1.97	5.28
15	ZZZZZ	ZZZZZ	01/12/10	1015	1.97	5.28
16	ZZZZZ	ZZZZZ	01/12/10	1026	1.98	5.28
17	ZZZZZ	ZZZZZ	01/12/10	1038	1.98	5.28
18	ZZZZZ	ZZZZZ	01/12/10	1051	1.98	5.28
19	AR166002	WAR100104-60	01/12/10	1103	1.97	5.28
20	PIBLK03	WAR100105-99	01/12/10	1114	1.97	5.28
21	PBLK01	1202012544	01/12/10	1124	1.97	5.28
22	PBLK01LCS	1202012545	01/12/10	1135	1.97	5.28
23	ZZZZZ	ZZZZZ	01/12/10	1146	1.97	5.28
24	ZZZZZ	ZZZZZ	01/12/10	1158	1.97	5.28
25	ZZZZZ	ZZZZZ	01/12/10	1211	1.97	5.28
26	ZZZZZ	ZZZZZ	01/12/10	1223	1.97	5.28
27	ZZZZZ	ZZZZZ	01/12/10	1236	1.97	5.28
28	ZZZZZ	ZZZZZ	01/12/10	1249	1.97	5.28
29	RE12-10-7859	244137001	01/12/10	1301	1.97	5.28
30	ZZZZZ	ZZZZZ	01/12/10	1314	1.97	5.28
31	AR166003	WAR100104-60	01/12/10	1327	1.97	5.28
32	PIBLK04	WAR100105-99	01/12/10	1337	1.97	5.28

QC LIMITS
S1 = 4cmx (+/- 0.03 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PEST OLM03.0

8D
PESTICIDE ANALYTICAL SEQUENCE

Lab Name: GEL LABORATORIES LLC Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 10-1126

GC Column: CLP2 ID: 0.25 (mm) Init. Calib. Date(s): 12/14/09 12/14/09

Instrument ID: ECD1A

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 2.30 DCB: 5.95

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	DCB RT #
01	PIBLK01	WAR100105-99	01/12/10	0748	2.30	5.94
02	ZZZZZ	ZZZZZ	01/12/10	0759	2.30	5.94
03	AR125401	WAR091216-54	01/12/10	0809		
04	ZZZZZ	ZZZZZ	01/12/10	0820		
05	AR124801	WAR091217-48	01/12/10	0830		
06	AR123201	WAR100104-32	01/12/10	0841		
07	AR122101	WAR100104-21	01/12/10	0851		
08	AR166001	WAR100104-60	01/12/10	0902	2.30	5.95
09	AR124201	WAR091217-42	01/12/10	0912		
10	AR126201	WAR100104-62	01/12/10	0923		
11	AR126801	WAR100111-68	01/12/10	0933		
12	DDTANALOGSTD	WAR091219-DD	01/12/10	0944		
13	PIBLK02	WAR100105-99	01/12/10	0954	2.30	5.95
14	ZZZZZ	ZZZZZ	01/12/10	1005	2.30	5.94
15	ZZZZZ	ZZZZZ	01/12/10	1015	2.30	5.94
16	ZZZZZ	ZZZZZ	01/12/10	1026	2.31	5.95
17	ZZZZZ	ZZZZZ	01/12/10	1038	2.31	5.95
18	ZZZZZ	ZZZZZ	01/12/10	1051	2.31	5.94
19	AR166002	WAR100104-60	01/12/10	1103	2.30	5.94
20	PIBLK03	WAR100105-99	01/12/10	1114	2.30	5.94
21	PBLK01	1202012544	01/12/10	1124	2.30	5.94
22	PBLK01LCS	1202012545	01/12/10	1135	2.30	5.94
23	ZZZZZ	ZZZZZ	01/12/10	1146	2.30	5.94
24	ZZZZZ	ZZZZZ	01/12/10	1158	2.30	5.94
25	ZZZZZ	ZZZZZ	01/12/10	1211	2.30	5.94
26	ZZZZZ	ZZZZZ	01/12/10	1223	2.30	5.94
27	ZZZZZ	ZZZZZ	01/12/10	1236	2.30	5.94
28	ZZZZZ	ZZZZZ	01/12/10	1249	2.30	5.94
29	RE12-10-7859	244137001	01/12/10	1301	2.30	5.94
30	ZZZZZ	ZZZZZ	01/12/10	1314	2.30	5.94
31	AR166003	WAR100104-60	01/12/10	1327	2.30	5.94
32	PIBLK04	WAR100105-99	01/12/10	1337	2.30	5.94

QC LIMITS
S1 = 4cmx (+/- 0.03 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.03 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits.

FORM VIII PEST OLM03.0

Identification Summary

SDG Number: 10–1126 **Client ID:** LCS for batch 940402

Lab Sample ID: 1202012545

Data File: 022f2201.d **Data File:** 022b2201.d
Inst: ECD1A.I_1 **Inst:** ECD1A.I_2
Column: CLP1 **Column:** CLP2
Analyzed: 12–JAN–10 11:35 **Analyzed:** 12–JAN–10 11:35

Analyte	Peak	RT	RT Window	Conc.	Ave Conc.	Units	RPD
Aroclor–1016							3.82
Column 1	1	2.42	2.39 – 2.45	20.4		ug/kg	
	2	2.7	2.67 – 2.73	21.5		ug/kg	
	3	2.79	2.76 – 2.82	20.5		ug/kg	
	4	2.83	2.8 – 2.86	21.4		ug/kg	
	5	3.04	3.01 – 3.07	21.5		ug/kg	
					21.1		
Column 2	1	3.2	3.17 – 3.23	20.9		ug/kg	
	2	3.28	3.25 – 3.31	19.4		ug/kg	
	3	3.34	3.31 – 3.37	20.3		ug/kg	
	4	3.57	3.54 – 3.6	20.6		ug/kg	
	5	3.64	3.62 – 3.68	20.3		ug/kg	
					20.3		
Aroclor–1260							7.73
Column 1	1	3.77	3.74 – 3.8	23.2		ug/kg	
	2	3.93	3.9 – 3.96	22.9		ug/kg	
	3	4.16	4.13 – 4.19	24		ug/kg	
	4	4.3	4.28 – 4.34	24.7		ug/kg	
	5	4.48	4.45 – 4.51	25.3		ug/kg	
					24		
Column 2	1	4.33	4.31 – 4.37	21.6		ug/kg	
	2	4.46	4.43 – 4.49	22.4		ug/kg	
	3	4.72	4.7 – 4.76	22		ug/kg	
	4	4.9	4.87 – 4.93	22.2		ug/kg	
	5	5.05	5.02 – 5.08	23		ug/kg	
					22.2		

QUALITY CONTROL DATA

PCB
Certificate of Analysis
Sample Summary

SDG Number:	**10-1126**			**Matrix:**	**SOIL**
Lab Sample ID:	**1202012544**				
Client Sample:	**QC for batch 940402**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**MB for batch 940402**	**Method:**	**SW846 8082**	**SOP Ref:**	**GL-OA-E-040**
Batch ID:	**940403**	**Inst:**	**ECD1A.I**	**Dilution:**	**1**
Run Date:	**01/12/2010 11:24**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**01/11/2010 19:04**	**Aliquot:**	**30 g**	**Final Volume:**	**1 mL**
Data File:	**021f2101-1.d**	**Column:**	**1 CLP1**	**Level:**	**LOW**
	021b2101-1.d		**2 CLP2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	3.33	ug/kg	1.11	3.33	1
11104-28-2	Aroclor-1221	U	3.33	ug/kg	1.11	3.33	1
11141-16-5	Aroclor-1232	U	3.33	ug/kg	1.11	3.33	1
53469-21-9	Aroclor-1242	U	3.33	ug/kg	1.11	3.33	1
12672-29-6	Aroclor-1248	U	3.33	ug/kg	1.11	3.33	1
11097-69-1	Aroclor-1254	U	3.33	ug/kg	1.11	3.33	1
11096-82-5	Aroclor-1260	U	3.33	ug/kg	1.11	3.33	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/021f2101.d
Lab Smp Id: 1202012544 Client Smp ID: PBLK01
Inj Date : 12-JAN-2010 11:24
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |1202012544|1|
Misc Info : |ECD82P_1S|940403|SVA|QC A|SOIL|MB|||
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Meth Date : 23-Jan-2010 10:48 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 21 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1126.sub
Target Version: 3.50 Sample Matrix: Soil
Processing Host: hpclp1

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.968	1.969	-0.001	46967099	131.383	4.4	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.281	5.283	-0.002	40527430	134.192	4.5	80.00- 120.00	100.00

Data File: /chem/ecd1a.i/011210.b/021f2101.d

Page 1

Date : 12-JAN-2010 11:24

Client ID: PBLK01

Instrument: ecd1a.i

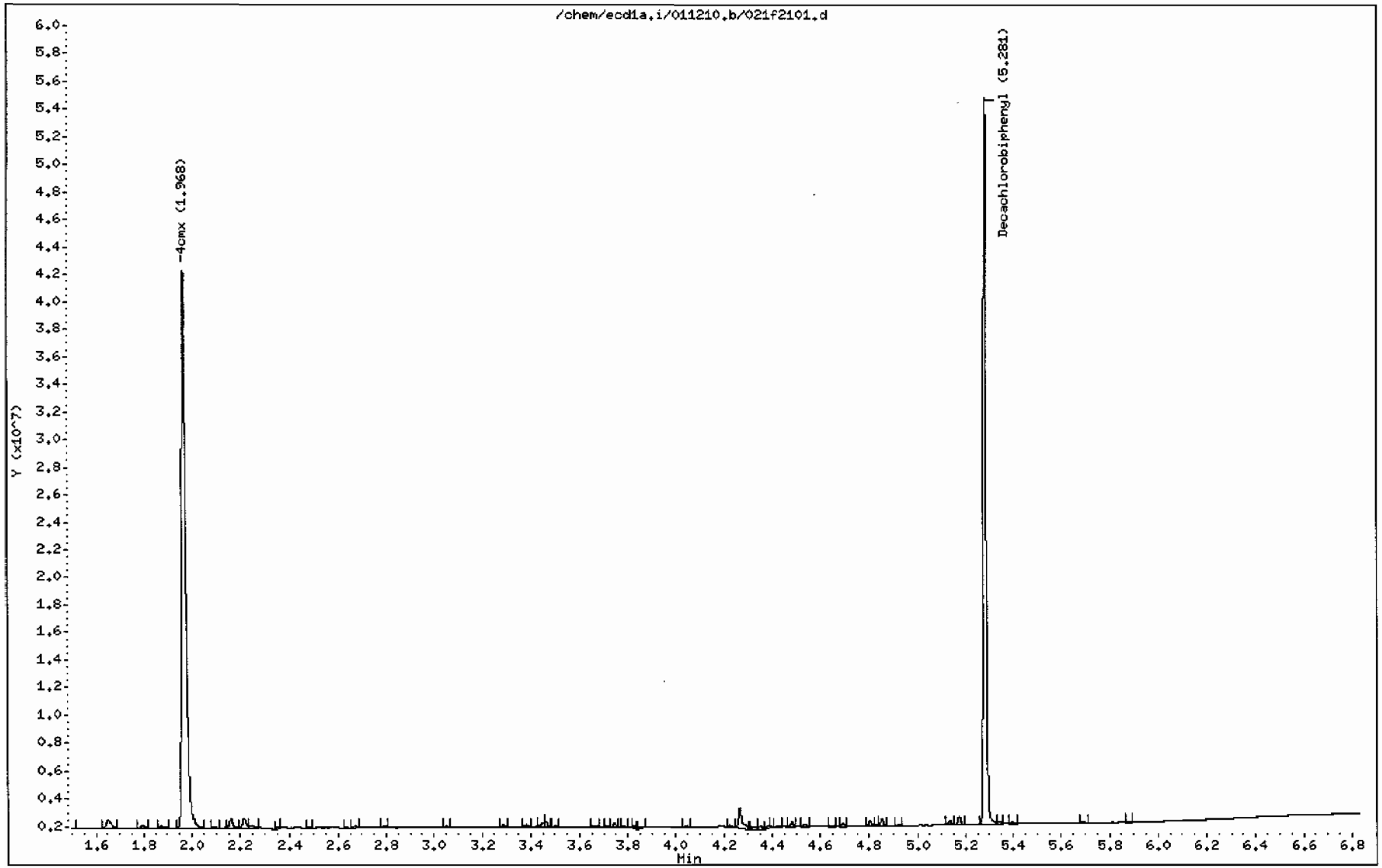
Sample Info: |120201254411|

Volume Injected (uL): 1.0

Operator: YS1

Column phase: CLP1

Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/021b2101.d
Lab Smp Id: 1202012544 Client Smp ID: PBLK01
Inj Date : 12-JAN-2010 11:24
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |1202012544|1|
Misc Info : |ECD82P_1S|940403|SVA|QC A|SOIL|MB|||
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Meth Date : 23-Jan-2010 10:48 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 21 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1126.sub
Target Version: 3.50 Sample Matrix: Soil
Processing Host: hpclp1

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.298	2.299	-0.001	34773482	121.867	4.1	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.944	5.945	-0.001	29068897	131.067	4.4	80.00- 120.00	100.00

Data File: /chem/ecd1a.i/011210.b/021b2101.d

Date : 12-JAN-2010 11:24

Client ID: PBLK01

Sample Info: |1202012544|1|

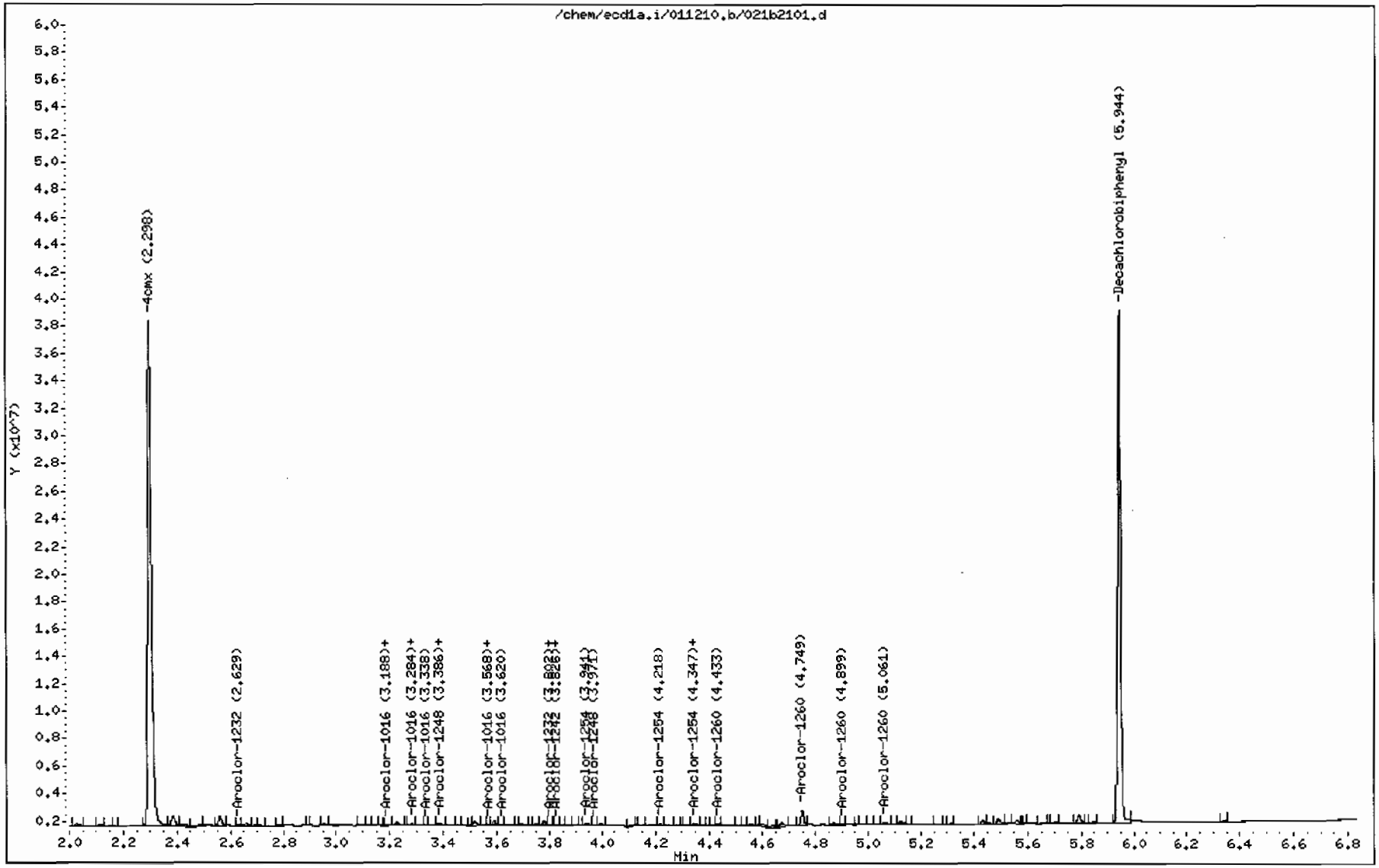
Volume Injected (uL): 1.0

Column phase: CLP2

Instrument: ecd1a.i

Operator: YS1

Column diameter: 0.25



PCB
Certificate of Analysis
Sample Summary

SDG Number:	**10–1126**			**Matrix:**	**SOIL**
Lab Sample ID:	**1202012545**				
Client Sample:	**QC for batch 940402**	**Client:**	**LANL010**	**Project:**	**QC**
Client ID:	**LCS for batch 940402**	**Method:**	**SW846 8082**	**SOP Ref:**	**GL–OA–E–040**
Batch ID:	**940403**	**Inst:**	**ECD1A.I**	**Dilution:**	**1**
Run Date:	**01/12/2010 11:35**	**Analyst:**	**YS1**	**Inj. Vol:**	**1 uL**
Prep Date:	**01/11/2010 19:04**	**Aliquot:**	**30 g**	**Final Volume:**	**1 mL**
Data File:	**022f2201–1.d**	**Column:**	**1 CLP1**	**Level:**	**LOW**
	022b2201–1.d		**2 CLP2**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674–11–2	Aroclor–1016		21.1	ug/kg	1.11	3.33	1
11104–28–2	Aroclor–1221	U	3.33	ug/kg	1.11	3.33	1
11141–16–5	Aroclor–1232	U	3.33	ug/kg	1.11	3.33	1
53469–21–9	Aroclor–1242	U	3.33	ug/kg	1.11	3.33	1
12672–29–6	Aroclor–1248	U	3.33	ug/kg	1.11	3.33	1
11097–69–1	Aroclor–1254	U	3.33	ug/kg	1.11	3.33	1
11096–82–5	Aroclor–1260		24.0	ug/kg	1.11	3.33	1

GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/022f2201.d
Lab Smp Id: 1202012545 Client Smp ID: PBLK01LCS
Inj Date : 12-JAN-2010 11:35
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |1202012545|1|
Misc Info : |ECD82P_1S|940403|SVA|QC A|SOIL|LCS|||
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Meth Date : 23-Jan-2010 10:48 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 22 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1126.sub
Target Version: 3.50 Sample Matrix: Soil
Processing Host: hpclp1

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

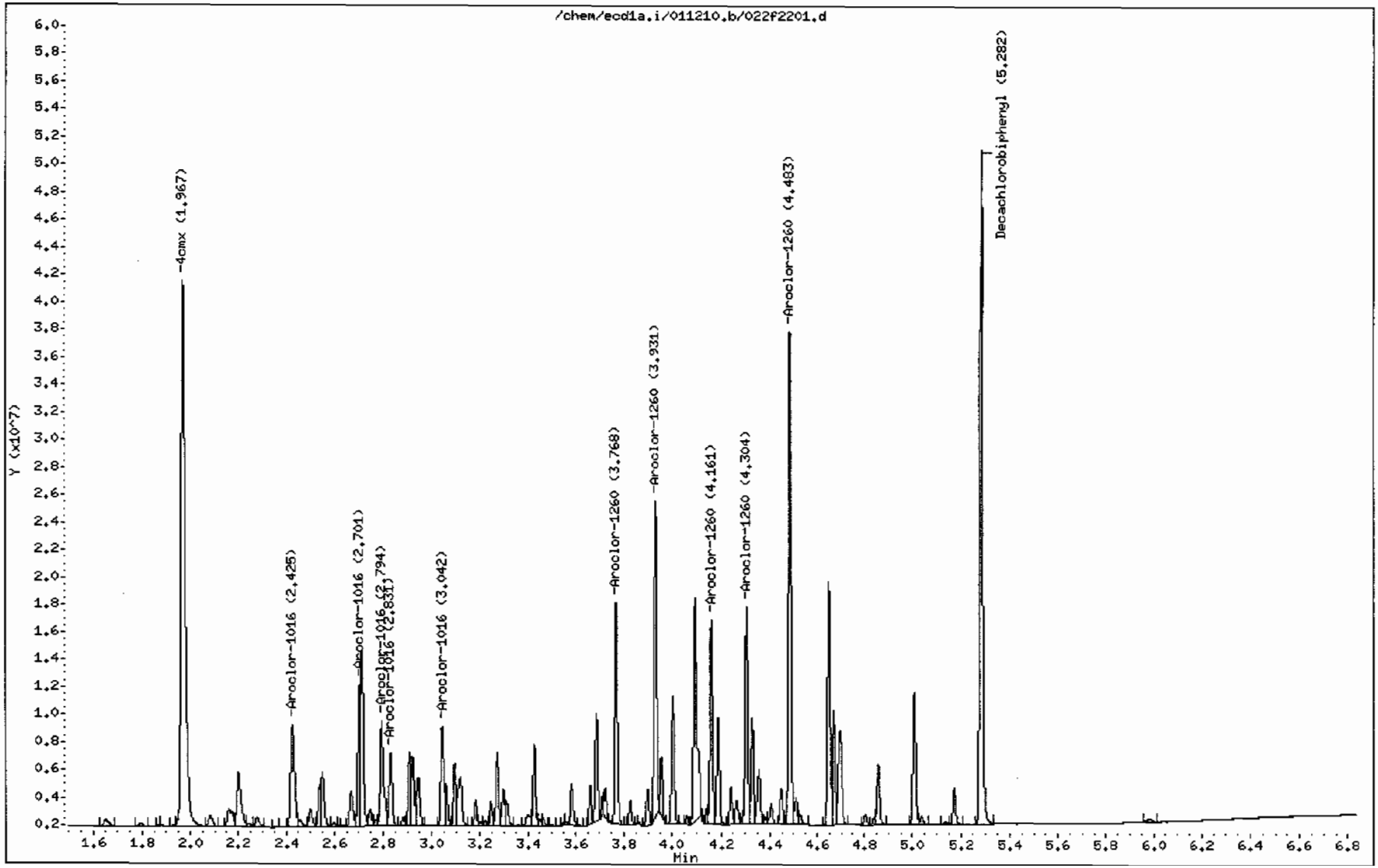
Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.967	1.969	-0.002	46854408	131.068	4.4	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.282	5.283	-0.001	37971519	125.729	4.2	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.425	2.424	0.001	8504367	613.287	20.4	80.00- 120.00	100.00
2.701	2.702	-0.001	6527683	646.451	21.5	56.95- 96.95	76.76
2.794	2.794	0.000	7247117	616.408	20.5	64.78- 104.78	85.22
2.831	2.832	-0.001	4232148	641.331	21.4	30.82- 70.82	49.76

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
1 Aroclor-1016 (continued)							
3.042	3.043	-0.001	5584300	643.842	21.5	45.65- 85.65	65.66
Average of Peak Concentrations =					21.1		
7 Aroclor-1260					CAS #: 11096-82-5		
3.768	3.769	-0.001	11662396	696.173	23.2	80.00- 120.00	100.00
3.931	3.932	-0.001	16976594	686.128	22.9	132.05- 172.05	145.57
4.161	4.163	-0.002	10582860	720.543	24.0	70.36- 110.36	90.74
4.304	4.305	-0.001	11236423	739.992	24.7	74.40- 114.40	96.35
4.483	4.484	-0.001	26113549	760.210	25.3	195.73- 235.73	223.91
Average of Peak Concentrations =					24.0		

Data File: /chem/ecd1a.i/011210.b/022f2201.d
Date : 12-JAN-2010 11:35
Client ID: PBLK01LCS
Sample Info: |120201254 5|1|
Volume Injected (uL): 1.0
Column phase: CLP1

Instrument: ecd1a.i
Operator: YS1
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/022b2201.d
Lab Smp Id: 1202012545 Client Smp ID: PBLK01LCS
Inj Date : 12-JAN-2010 11:35
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |1202012545|1|
Misc Info : |ECD82P_1S|940403|SVA|QC A|SOIL|LCS|||
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Meth Date : 23-Jan-2010 10:48 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 22 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1126.sub
Target Version: 3.50 Sample Matrix: Soil
Processing Host: hpclp1

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.00000	Weight of sample extracted (g)
M	0.00000	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.298	2.299	-0.001	34638630	121.394	4.0	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.944	5.945	-0.001	28530665	128.640	4.3	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
3.196	3.195	0.001	7903170	626.662	20.9	80.00- 120.00	100.00
3.278	3.279	-0.001	5435868	582.755	19.4	46.12- 86.12	68.78
3.342	3.342	0.000	3292343	608.418	20.3	20.86- 60.86	41.66
3.569	3.569	0.000	4351150	617.020	20.6	33.49- 73.49	55.06

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
1 Aroclor-1016 (continued)							
3.644	3.645	-0.001	3983564	608.110	20.3	29.37- 69.37	50.40
Average of Peak Concentrations =					20.3		
7 Aroclor-1260					CAS #: 11096-82-5		
4.335	4.335	0.000	8864669	648.001	21.6	80.00- 120.00	100.00
4.459	4.459	0.000	10750422	670.685	22.4	101.46- 141.46	121.27
4.725	4.726	-0.001	8290666	659.878	22.0	72.86- 112.86	93.52
4.899	4.899	0.000	8542315	666.843	22.2	75.54- 115.54	96.36
5.046	5.046	0.000	19238490	689.609	23.0	193.04- 233.04	217.02
Average of Peak Concentrations =					22.2		

Data File: /chem/ecd1a.i/011210.b/022b2201.d

Date : 12-JAN-2010 11:35

Client ID: PBLK01LCS

Sample Info: |1202012545|1|

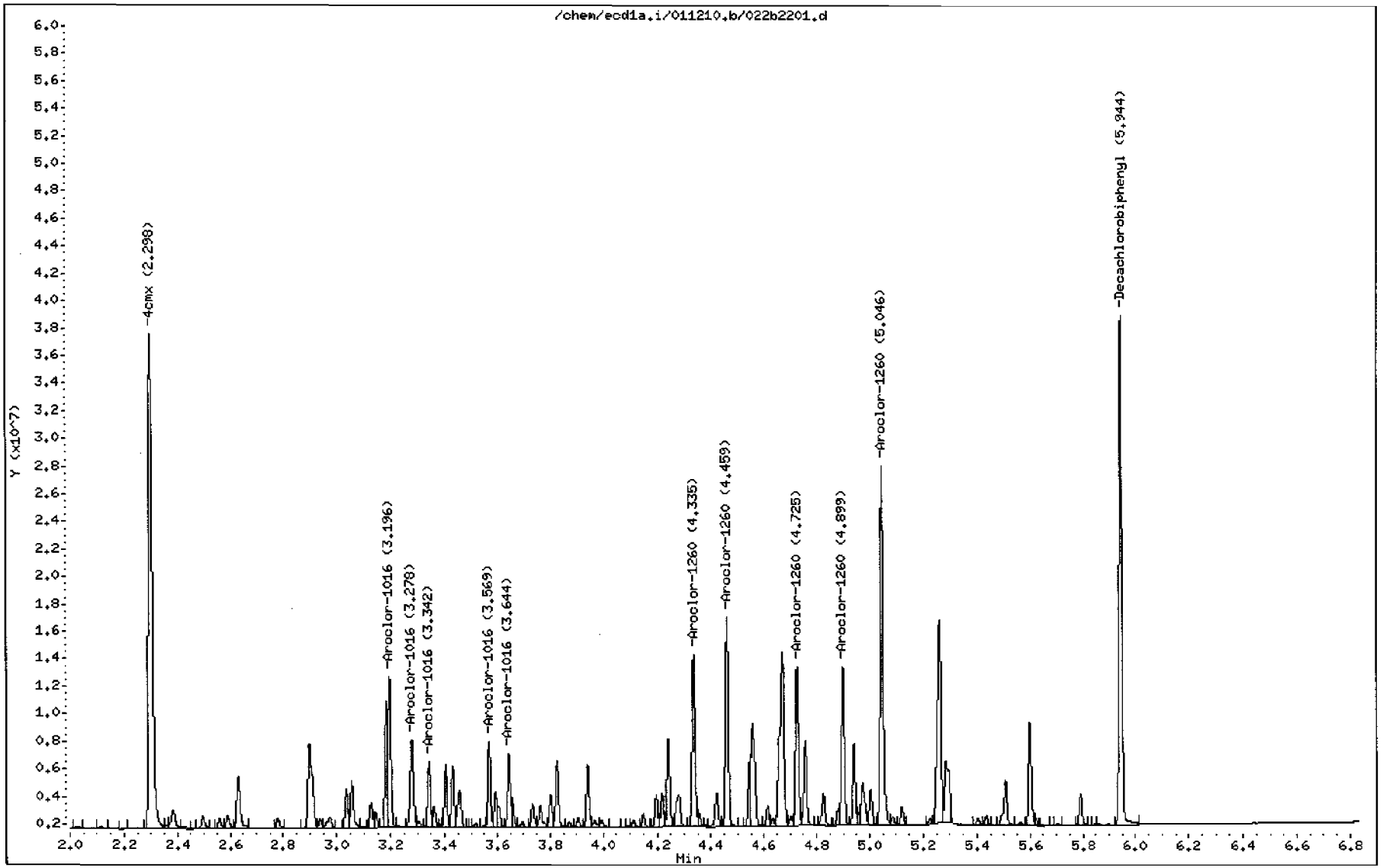
Volume Injected (uL): 1.0

Column phase: CLP2

Instrument: ecd1a.i

Operator: YS1

Column diameter: 0.25



MISCELLANEOUS DATA

GEL ORGANIC RUN LOG INSTRUMENT ID: ECD1

DATE: 12/15/2009 METHOD: ECD1-F-8082-121409.m OPERATOR:YS1 REVIEWED BY:_____
DATE:_____

HARDWARE CONFIGURATION & METHOD SUMMARY: No. 1 on pg. 1

SOLVENT LOT DA385
ALUMINA LOT 1230997-A
COPPER LOT 236547-A

Calibration & QC Information
Initial Calibration Dates: See Calibration History and Standard Logbook.
Initial Calibration Std ID's: See Calibration History and Standard Logbook.
GEL SOP GL-OA-E-040 Polychlorinated Biphenyl: EPA 8082
Chromatogram Abbreviation Legend: AB-Assign Baseline, AP-Assign Peak,
DNC-Do Not Call, DMP-Doesn't Match Pattern, NC-Not Confirmed, RT-Retention Time,
BF-Before, AF-After.

Sequence Number: /chem/ecd1a.i/121409.b Injection Volume: 0.5 ul

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
001f0101.d	WAR091130-99 01	YS1	14-DEC-2009 04:44		121409	1.0	CLEAN	
002f0201.d	WAR091211-60 01	YS1	14-DEC-2009 04:54		121409	1.0	DUSE RE-ICAL	
003f0301.d	WAR091102-54	YS1	14-DEC-2009 05:05		121409	1.0	DUSE RE-ICAL	
004f0401.d	WAR091102-42	YS1	14-DEC-2009 05:15		121409	1.0	DUSE RE-ICAL	
005f0501.d	WAR091027-48	YS1	14-DEC-2009 05:26		121409	1.0	DUSE RE-ICAL	
006f0601.d	WAR090930-32	YS1	14-DEC-2009 05:36		121409	1.0	PATTERN ONLY	
007f0701.d	WAR090803-21	YS1	14-DEC-2009 05:47		121409	1.0	PATTERN ONLY	
008f0801.d	WAR090803-62	YS1	14-DEC-2009 05:58		121409	1.0	PATTERN ONLY	
009f0901.d	WAR091106-68	YS1	14-DEC-2009 06:08		121409	1.0	DUSE RE-ICAL	
010f1001.d	1660-1	YS1	14-DEC-2009 06:19		121409	1.0	DUSE	
011f1101.d	1660-2	YS1	14-DEC-2009 06:29		121409	1.0	DUSE	
012f1201.d	1660-3	YS1	14-DEC-2009 06:40		121409	1.0	DUSE	
013f1301.d	1660-4	YS1	14-DEC-2009 06:50		121409	1.0	DUSE	
014f1401.d	IAR091102-01	YS1	14-DEC-2009 07:01		121409	1.0	DUSE	
015f1501.d	WAR091211-60 01	YS1	14-DEC-2009 07:11		121409	1.0	DUSE	

Instrument Batch: /chem/ecd1a.i/121409.b Page: 1

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments

016f1601.d	WAR091214-05 54	YS1	14-DEC-2009 07:22		121409	1.0	AR1254 I-CAL LEVEL 1
017f1701.d	WAR091214-06 54	YS1	14-DEC-2009 07:32		121409	1.0	AR1254 I-CAL LEVEL 2
018f1801.d	WAR091214-07 54	YS1	14-DEC-2009 07:43		121409	1.0	AR1254 I-CAL LEVEL 3
019f1901.d	WAR091214-08 54	YS1	14-DEC-2009 07:53		121409	1.0	AR1254 I-CAL LEVEL 4
020f2001.d	IAR091027-01	YS1	14-DEC-2009 08:04		121409	1.0	AR1254 I-CAL LEVEL 5
021f2101.d	WAR091102-54	YS1	14-DEC-2009 08:14		121409	1.0	PASSED ON BOTH COLUMNS
022f2201.d	WAR091214-09 42	YS1	14-DEC-2009 08:25		121409	1.0	AR1242 I-CAL LEVEL 1
023f2301.d	WAR091214-10 42	YS1	14-DEC-2009 08:35		121409	1.0	AR1242 I-CAL LEVEL 2
024f2401.d	WAR091214-11 42	YS1	14-DEC-2009 08:46		121409	1.0	AR1242 I-CAL LEVEL 3
025f2501.d	WAR091214-12 42	YS1	14-DEC-2009 08:56		121409	1.0	AR1242 I-CAL LEVEL 4
026f2601.d	IAR0911111-01	YS1	14-DEC-2009 09:07		121409	1.0	AR1242 I-CAL LEVEL 5
027f2701.d	WAR091102-42	YS1	14-DEC-2009 09:17		121409	1.0	PASSED ON BOTH COLUMNS
028f2801.d	WAR091214-13 48	YS1	14-DEC-2009 09:28		121409	1.0	AR1248 I-CAL LEVEL 1
029f2901.d	WAR091214-14 48	YS1	14-DEC-2009 09:38		121409	1.0	AR1248 I-CAL LEVEL 2
030f3001.d	WAR091214-15 48	YS1	14-DEC-2009 09:49		121409	1.0	AR1248 I-CAL LEVEL 3
031f3101.d	WAR091214-16 48	YS1	14-DEC-2009 09:59		121409	1.0	AR1248 I-CAL LEVEL 4
032f3201.d	IAR091027-02	YS1	14-DEC-2009 10:10		121409	1.0	AR1248 I-CAL LEVEL 5
033f3301.d	WAR091027-48	YS1	14-DEC-2009 10:20		121409	1.0	PASSED ON BOTH COLUMNS
034f3401.d	WAR091214-01 60	YS1	14-DEC-2009 10:31		121409	1.0	AR1660 I-CAL LEVEL 1
035f3501.d	WAR091214-02 60	YS1	14-DEC-2009 10:41		121409	1.0	AR1660 I-CAL LEVEL 2

Instrument Batch: /chem/ecdla.i/121409.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
036f3601.d	WAR091214-03 60	YS1	14-DEC-2009 10:52		121409	1.0	AR1660 I-CAL LEVEL 3	
037f3701.d	WAR091214-04 60	YS1	14-DEC-2009 11:02		121409	1.0	AR1660 I-CAL LEVEL 4	
038f3801.d	IAR091102-01	YS1	14-DEC-2009 11:13		121409	1.0	AR1660 I-CAL LEVEL 5	
039f3901.d	WAR091211-60 01	YS1	14-DEC-2009 11:23		121409	1.0	PASSED ON BOTH COLUMNS	
040f4001.d	WAR091214-17 68	YS1	14-DEC-2009 11:34		121409	1.0	AR1268 I-CAL LEVEL 1	

041f4101.d	WAR091214-18 68	YS1	14-DEC-2009 11:44		121409		1.0		AR1268 I-CAL LEVEL 2
042f4201.d	WAR091214-19 68	YS1	14-DEC-2009 11:55		121409		1.0		AR1268 I-CAL LEVEL 3
043f4301.d	WAR091214-20 68	YS1	14-DEC-2009 12:06		121409		1.0		AR1268 I-CAL LEVEL 4
044f4401.d	IAR090817-02	YS1	14-DEC-2009 12:16		121409		1.0		AR1268 I-CAL LEVEL 5
045f4501.d	WAR091106-68	YS1	14-DEC-2009 12:27		121409		1.0		PASSED ON BOTH COLUMNS
046f4601.d	WAR091020-DDT	YS1	14-DEC-2009 12:37		121409		1.0		DDT ANALOG STANDARD
047f4701.d	WAR091130-99 02	YS1	14-DEC-2009 12:48		121409		1.0		CLEAN
048f4801.d	1201991693	YS1	14-DEC-2009 12:58	931140	10-782		1.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
049f4901.d	1201991694	YS1	14-DEC-2009 13:09	931140	10-782		1.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
050f5001.d	242297001	YS1	14-DEC-2009 13:19	931140	10-782		1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
051f5101.d	242297002	YS1	14-DEC-2009 13:30	931140	10-782		10.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
052f5201.d	242297003	YS1	14-DEC-2009 13:40	931140	10-782		1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
053f5301.d	242297004	YS1	14-DEC-2009 13:51	931140	10-782		5.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
054f5401.d	242297005	YS1	14-DEC-2009 14:03	931140	10-782		5.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
055f5501.d	242297006	YS1	14-DEC-2009 14:16	931140	10-782		10.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
056f5601.d	242297007	YS1	14-DEC-2009 14:29	931140	10-782	5.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
057f5701.d	242297008	YS1	14-DEC-2009 14:41	931140	10-782	25.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
058f5801.d	WAR091211-60 02	YS1	14-DEC-2009 14:52		121409	1.0		PASSED ON BOTH COLUMNS
059f5901.d	WAR091130-99 03	YS1	14-DEC-2009 15:02		121409	1.0		CLEAN
060f6001.d	242297009	YS1	14-DEC-2009 15:13	931140	10-782	1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
061f6101.d	242297010	YS1	14-DEC-2009 15:25	931140	10-782	1.0	LANL	DCB LOW RE
062f6201.d	242297011	YS1	14-DEC-2009 15:38	931140	10-782	5.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
063f6301.d	242297012	YS1	14-DEC-2009 15:51	931140	10-782	5.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
064f6401.d	242297013	YS1	14-DEC-2009 16:03	931140	10-782	10.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER

065f6501.d	242305004	YS1	14-DEC-2009 16:16	931140	10-786		5.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
066f6601.d	1201991695	YS1	14-DEC-2009 16:28	931140	10-786		5.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
067f6701.d	1201991696	YS1	14-DEC-2009 16:41	931140	10-786		5.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
068f6801.d	242305005	YS1	14-DEC-2009 16:53	931140	10-786		5.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
069f6901.d	242305006	YS1	14-DEC-2009 17:06	931140	10-786		5.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
070f7001.d	WAR091211-60 03	YS1	14-DEC-2009 17:19		121409		1.0		PASSED ON BOTH COLUMNS
071f7101.d	WAR091130-99 04	YS1	14-DEC-2009 17:31		121409		1.0		CLEAN
072f7201.d	1201992645	YS1	14-DEC-2009 17:44	931553	242521		1.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
073f7301.d	1201992646	YS1	14-DEC-2009 17:57	931553	242521		1.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
074f7401.d	242264001	YS1	14-DEC-2009 18:09	931553	242264		5.0	ENRG	UPLOAD BOTH COLUMNS, USE HIGHER
075f7501.d	242521001	YS1	14-DEC-2009 18:22	931553	242521		5.0	EMSC	UPLOAD BOTH COLUMNS, USE HIGHER

Instrument Batch: /chem/ecd1a.i/121409.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
076f7601.d	1201992647	YS1	14-DEC-2009 18:35	931553	242521	5.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
077f7701.d	1201992648	YS1	14-DEC-2009 18:47	931553	242521	5.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
078f7801.d	242521002	YS1	14-DEC-2009 19:00	931553	242521	5.0	EMSC	UPLOAD BOTH COLUMNS, USE HIGHER
079f7901.d	242521003	YS1	14-DEC-2009 19:12	931553	242521	5.0	EMSC	UPLOAD BOTH COLUMNS, USE HIGHER
080f8001.d	242521004	YS1	14-DEC-2009 19:25	931553	242521	5.0	EMSC	UPLOAD BOTH COLUMNS, USE HIGHER
081f8101.d	242521005	YS1	14-DEC-2009 19:38	931553	242521	5.0	EMSC	UPLOAD BOTH COLUMNS, USE HIGHER
082f8201.d	WAR091211-60 04	YS1	14-DEC-2009 19:50		121409	1.0		PASSED ON BOTH COLUMNS
083f8301.d	WAR091130-99 05	YS1	14-DEC-2009 20:03		121409	1.0		CLEAN
084f8401.d	242521006	YS1	14-DEC-2009 20:15	931553	242521	5.0	EMSC	UPLOAD BOTH COLUMNS, USE HIGHER
085f8501.d	242521007	YS1	14-DEC-2009 20:28	931553	242521	5.0	EMSC	UPLOAD BOTH COLUMNS, USE HIGHER
086f8601.d	242521008	YS1	14-DEC-2009 20:41	931553	242521	5.0	EMSC	UPLOAD BOTH COLUMNS, USE HIGHER
087f8701.d	WAR091211-60 05	YS1	14-DEC-2009 20:53		121409	1.0		PASSED ON BOTH COLUMNS
088f8801.d	WAR091130-99 06	YS1	14-DEC-2009 21:06		121409	1.0		CLEAN
089f8901.d	242297010	YS1	14-DEC-2009 21:19	931140	10-782	1.0	LANL	

090f9001.d	WAR091211-60 06	YS1	14-DEC-2009 21:31		121409	1.0	PASSED ON BOTH COLUMNS
091f9101.d	WAR091130-99 07	YS1	14-DEC-2009 21:44		121409	1.0	CLEAN
092f9201.d	1660	YS1	14-DEC-2009 21:56		121409	1.0	screen
093f9301.d	1660	YS1	14-DEC-2009 22:09		121409	1.0	screen
094f9401.d	1660	YS1	14-DEC-2009 22:22		121409	1.0	screen

GEL ORGANIC RUN LOG INSTRUMENT ID: ECD1

DATE: 01/13/2010 METHOD: ECD1-F-8082-121409.m OPERATOR:YS1 REVIEWED BY:_____
DATE:_____

HARDWARE CONFIGURATION & METHOD SUMMARY: No. 1 on pg. 1

SOLVENT LOT DA699
ALUMINA LOT 1240553-A
COPPER LOT 236547-A

Calibration & QC Information
Initial Calibration Dates: See Calibration History and Standard Logbook.
Initial Calibration Std ID's: See Calibration History and Standard Logbook.
GEL SOP GL-OA-E-040 Polychlorinated Biphenyl: EPA 8082
Chromatogram Abbreviation Legend: AB-Assign Baseline, AP-Assign Peak,
DNC-Do Not Call, DMP-Doesn't Match Pattern, NC-Not Confirmed, RT-Retention Time,
BF-Before, AF-After.

Sequence Number: /chem/ecd1a.i/011210.b Injection Volume: 0.5 ul

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
001f0101.d	WAR100105-99 01	YS1	12-JAN-2010 07:48		011210	1.0		CLEAN
002f0201.d	WAR100104-60 01	YS1	12-JAN-2010 07:59		011210	1.0		DUSE RR FILE 8
003f0301.d	WAR091216-54	YS1	12-JAN-2010 08:09		011210	1.0		PASSED ON BOTH COLUMNS
004f0401.d	WAR091217-42	YS1	12-JAN-2010 08:20		011210	1.0		DUSE RR FILE 9
005f0501.d	WAR091217-48	YS1	12-JAN-2010 08:30		011210	1.0		PASSED ON BOTH COLUMNS
006f0601.d	WAR100104-32	YS1	12-JAN-2010 08:41		011210	1.0		PATTERN ONLY
007f0701.d	WAR100104-21	YS1	12-JAN-2010 08:51		011210	1.0		PATTERN ONLY
008f0801.d	WAR100104-60 01	YS1	12-JAN-2010 09:02		011210	1.0		PASSED ON BOTH COLUMNS
009f0901.d	WAR091217-42	YS1	12-JAN-2010 09:12		011210	1.0		PASSED ON BOTH COLUMNS
010f1001.d	WAR100104-62	YS1	12-JAN-2010 09:23		011210	1.0		PATTERN ONLY
011f1101.d	WAR100111-68	YS1	12-JAN-2010 09:33		011210	1.0		PATTERN ONLY
012f1201.d	WAR091219-DDT	YS1	12-JAN-2010 09:44		011210	1.0		DDT ANALOG STANDARD
013f1301.d	WAR100105-99 02	YS1	12-JAN-2010 09:54		011210	1.0		CLEAN
014f1401.d	1202012930	YS1	12-JAN-2010 10:05	940561	244363	1.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
015f1501.d	1202012931	YS1	12-JAN-2010 10:15	940561	244363	1.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER

Instrument Batch: /chem/ecd1a.i/011210.b Page: 1

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments

016f1601.d	244363001	YS1	12-JAN-2010 10:26	940561	244363		5.0	SCEG	UPLOAD BOTH COLUMNS, USE HIGHER
017f1701.d	1202012932	YS1	12-JAN-2010 10:38	940561	244363		5.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
018f1801.d	1202012933	YS1	12-JAN-2010 10:51	940561	244363		5.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
019f1901.d	WAR100104-60 02	YS1	12-JAN-2010 11:03		011210		1.0		PASSED ON BOTH COLUMNS
020f2001.d	WAR100105-99 03	YS1	12-JAN-2010 11:14		011210		1.0		CLEAN
021f2101.d	1202012544	YS1	12-JAN-2010 11:24	940403	10-1126		1.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
022f2201.d	1202012545	YS1	12-JAN-2010 11:35	940403	10-1126		1.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
023f2301.d	244125001	YS1	12-JAN-2010 11:46	940403	10-1130		1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
024f2401.d	244125002	YS1	12-JAN-2010 11:58	940403	10-1130		1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
025f2501.d	244126019	YS1	12-JAN-2010 12:11	940403	10-1131		1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
026f2601.d	1202012546	YS1	12-JAN-2010 12:23	940403	10-1131		1.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
027f2701.d	1202012547	YS1	12-JAN-2010 12:36	940403	10-1131		1.0	QC A	UPLOAD BOTH COLUMNS, USE HIGHER
028f2801.d	244126020	YS1	12-JAN-2010 12:49	940403	10-1131		1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
029f2901.d	244137001	YS1	12-JAN-2010 13:01	940403	10-1126		1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
030f3001.d	244142001	YS1	12-JAN-2010 13:14	940403	10-1127		1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
031f3101.d	WAR100104-60 03	YS1	12-JAN-2010 13:27		011210		1.0		PASSED ON BOTH COLUMNS
032f3201.d	WAR100105-99 04	YS1	12-JAN-2010 13:37		011210		1.0		CLEAN
033f3301.d	244142002	YS1	12-JAN-2010 13:48	940403	10-1127		1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
034f3401.d	244142003	YS1	12-JAN-2010 14:00	940403	10-1127		1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
035f3501.d	244142004	YS1	12-JAN-2010 14:13	940403	10-1127		1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
036f3601.d	244142005	YS1	12-JAN-2010 14:25	940403	10-1127	1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
037f3701.d	244142006	YS1	12-JAN-2010 14:38	940403	10-1127	1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
038f3801.d	244142007	YS1	12-JAN-2010 14:51	940403	10-1127	1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
039f3901.d	244142008	YS1	12-JAN-2010 15:03	940403	10-1127	1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
040f4001.d	244142017	YS1	12-JAN-2010 15:16	940403	10-1127	1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER

041f4101.d	244142018	YS1	12-JAN-2010 15:28	940403	10-1127	1.0	LANL	UPLOAD BOTH COLUMNS, USE HIGHER
042f4201.d	WAR100104-60 04	YS1	12-JAN-2010 15:41		011210	1.0		PASSED ON BOTH COLUMNS
043f4301.d	WAR100105-99 05	YS1	12-JAN-2010 15:51		011210	1.0		CLEAN

* An error was found in the initial calibration level 2 for surrogate 4cmx and DCB. The concentration for I.cal. level 2 was changed from 20ppb to 25ppb on both columns for surrogate 4cmx and DCB in the method to correct the mistake after the data were originally processed. All files in this sequence were re-processed using the corrected method on 01/22/10, and the surrogate concentration was changed slightly. Therefore, the data in Target are slightly different from the ones documented in the original folder.

GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/026b2601.d
Lab Smp Id: 1202012546 Client Smp ID: RE12-10-7657MS
Inj Date : 12-JAN-2010 12:23
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |1202012546|1|
Misc Info : |ECD82P_1S|940403|SVA|QC A|SOIL|MS|||
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Meth Date : 23-Jan-2010 10:48 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 26 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1131.sub
Target Version: 3.50 Sample Matrix: Soil
Processing Host: hpclp1

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.05000	Weight of sample extracted (g)
M	10.13920	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.299	2.299	0.000	33867293	118.691	4.4	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.943	5.945	-0.002	27330329	123.228	4.6	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
3.195	3.195	0.000	7876825	624.573	23.1	80.00- 120.00	100.00(M)
3.278	3.279	-0.001	5344778	572.990	21.2	46.12- 86.12	67.85
3.342	3.342	0.000	3207830	592.800	22.0	20.86- 60.86	40.72
3.568	3.569	-0.001	4248114	602.409	22.3	33.49- 73.49	53.93

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
1 Aroclor-1016 (continued)							
3.643	3.645	-0.002	3970304	606.085	22.4	29.37- 69.37	50.40
		Average of Peak Concentrations =			22.2		
7 Aroclor-1260					CAS #: 11096-82-5		
4.333	4.335	-0.002	9316110	681.001	25.2	80.00- 120.00	100.00
4.458	4.459	-0.001	11534402	719.595	26.6	101.46- 141.46	123.81
4.723	4.726	-0.003	8924159	710.300	26.3	72.86- 112.86	95.79
4.898	4.899	-0.001	8987562	701.601	26.0	75.54- 115.54	96.47
5.044	5.046	-0.002	20370694	730.193	27.0	193.04- 233.04	218.66
		Average of Peak Concentrations =			26.2		

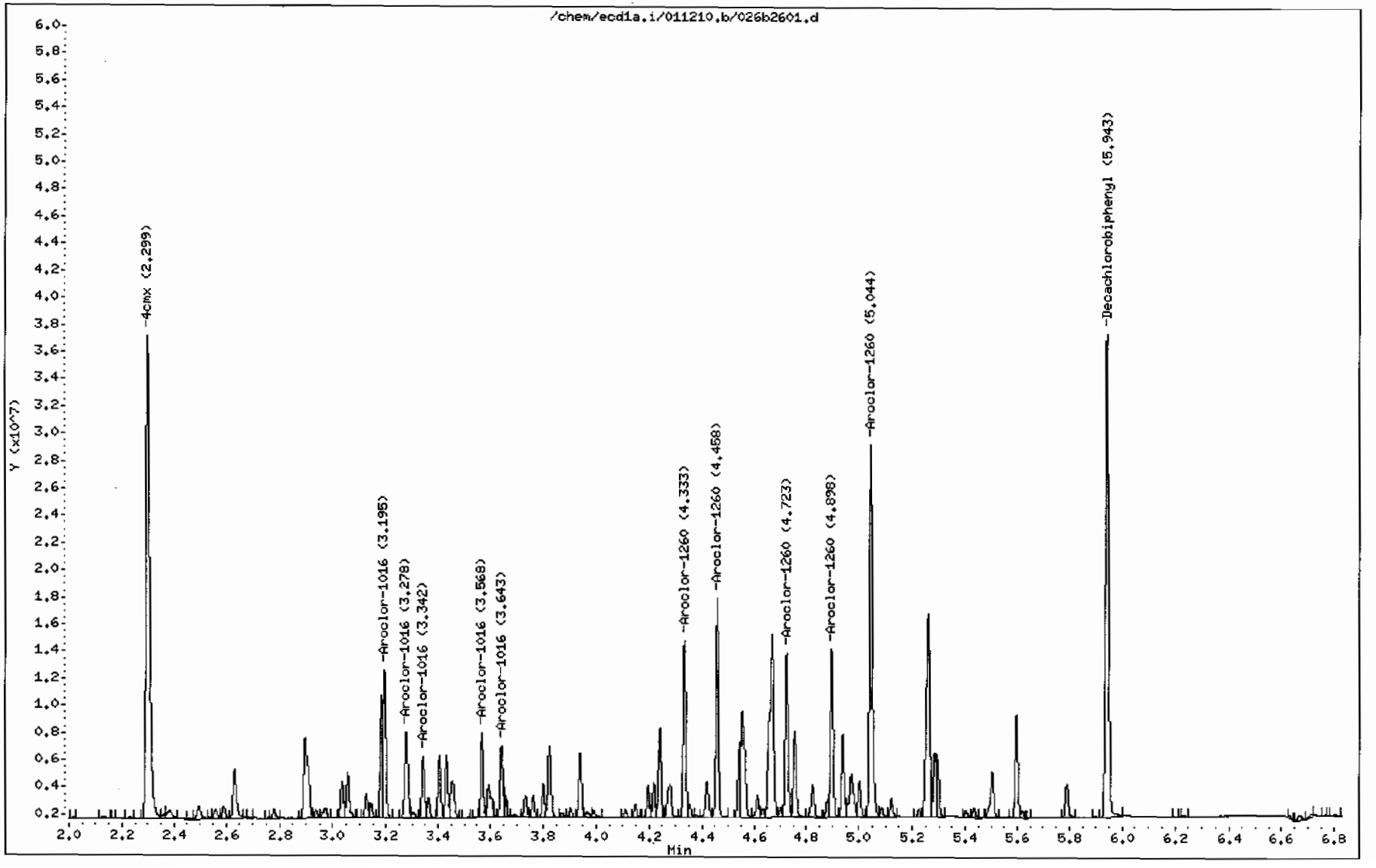
QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/ecd1a.i/011210.b/026b2601.d
Date : 12-JAN-2010 12:23
Client ID: RE12-10-7657MS
Sample Info: |1202012546|1|
Volume Injected (uL): 1.0
Column phase: CLP2

Instrument: ecd1a.i

Operator: YS1
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/026f2601.d
Lab Smp Id: 1202012546 Client Smp ID: RE12-10-7657MS
Inj Date : 12-JAN-2010 12:23
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |1202012546|1|
Misc Info : |ECD82P_1S|940403|SVA|QC A|SOIL|MS|||
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Meth Date : 23-Jan-2010 10:48 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 26 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1131.sub
Target Version: 3.50 Sample Matrix: Soil
Processing Host: hpclp1

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.05000	Weight of sample extracted (g)
M	10.13920	% Moisture

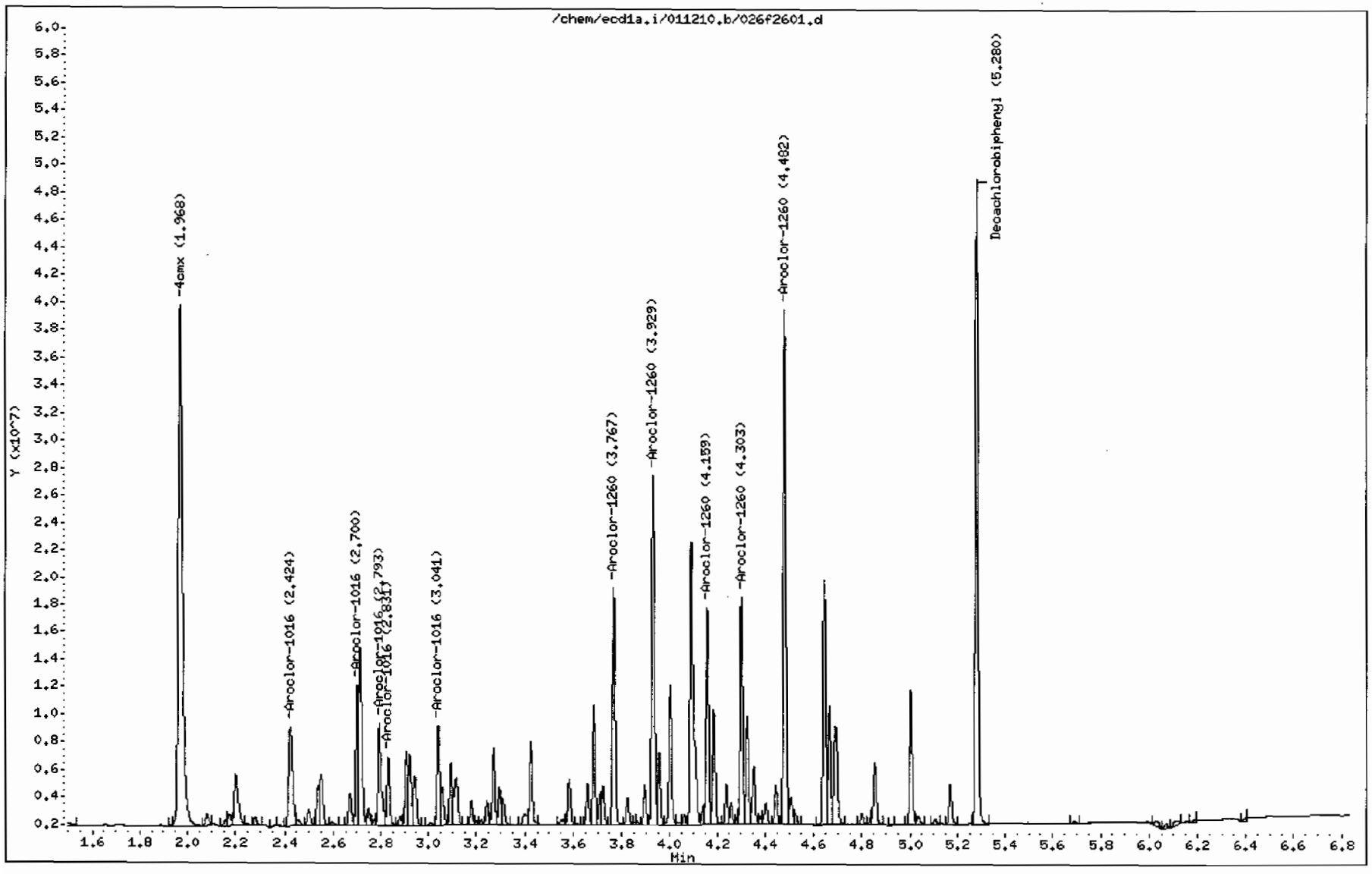
Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.968	1.969	-0.001	45139410	126.270	4.7	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.280	5.283	-0.003	36214649	119.912	4.4	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.424	2.424	0.000	8371359	603.695	22.4	80.00- 120.00	100.00
2.700	2.702	-0.002	6649092	658.474	24.4	56.95- 96.95	79.43
2.793	2.794	-0.001	7098099	603.733	22.4	64.78- 104.78	84.79
2.831	2.832	-0.001	4019549	609.114	22.6	30.82- 70.82	48.02

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/Kg)	TARGET RANGE	RATIO
1 Aroclor-1016 (continued)							
3.041	3.043	-0.002	5566390	641.777	23.8	45.65- 85.65	66.49
Average of Peak Concentrations =					23.1		
7 Aroclor-1260					CAS #: 11096-82-5		
3.767	3.769	-0.002	12513128	746.957	27.7	80.00- 120.00	100.00
3.929	3.932	-0.003	19192433	775.684	28.7	132.05- 172.05	153.38
4.159	4.163	-0.004	11535253	785.387	29.1	70.36- 110.36	92.19
4.303	4.305	-0.002	11935980	786.062	29.1	74.40- 114.40	95.39
4.482	4.484	-0.002	27577879	802.839	29.7	195.73- 235.73	220.39
Average of Peak Concentrations =					28.9		

Data File: /chem/ecd1a.i/011210.b/026f2601.d
Date : 12-JAN-2010 12:23
Client ID: RE12-10-7657MS
Sample Info: |1202012546|1|
Volume Injected (uL): 1.0
Column phase: CLP1

Instrument: ecd1a.i
Operator: YS1
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST2 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/027b2701.d
Lab Smp Id: 1202012547 Client Smp ID: RE12-10-7657MSD
Inj Date : 12-JAN-2010 12:36
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |1202012547|1|
Misc Info : |ECD82P_1S|940403|SVA|QC A|SOIL|MSD|||
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-B-8082-121409.m
Meth Date : 23-Jan-2010 10:48 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 12:16 Cal File: 044b4401.d
Als bottle: 27 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1131.sub
Target Version: 3.50 Sample Matrix: Soil
Processing Host: hpclp1

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.03000	Weight of sample extracted (g)
M	10.13920	% Moisture

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
2.299	2.299	0.000	34007105	119.181	4.4	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.943	5.945	-0.002	28959137	130.572	4.8	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
3.195	3.195	0.000	8066275	639.595	23.7	80.00- 120.00	100.00(M)
3.278	3.279	-0.001	5586744	598.930	22.2	46.12- 86.12	69.26
3.342	3.342	0.000	3374212	623.547	23.1	20.86- 60.86	41.83
3.568	3.569	-0.001	4424468	627.417	23.2	33.49- 73.49	54.85

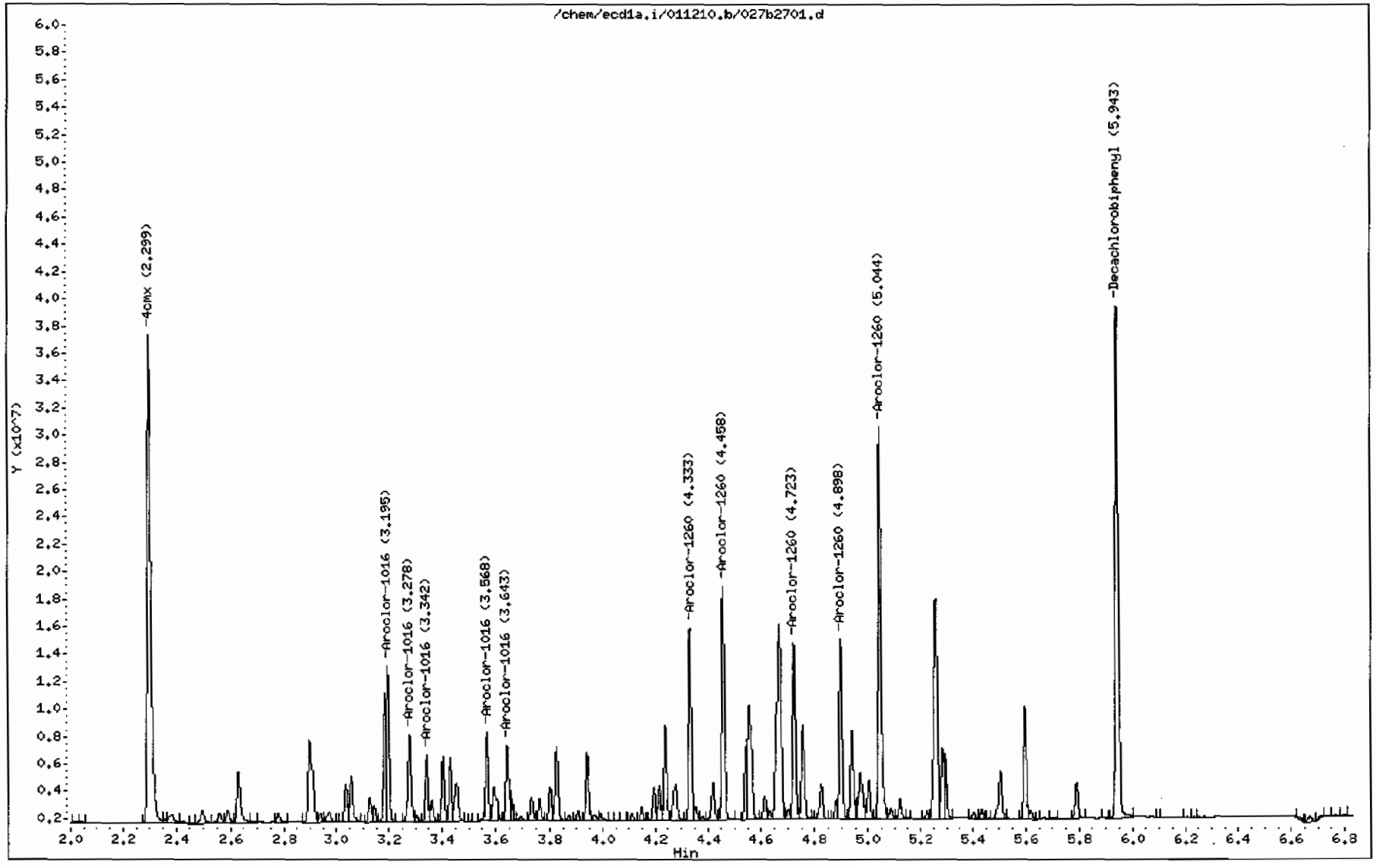
RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/Kg)	TARGET RANGE	RATIO
1 Aroclor-1016 (continued)							
3.643	3.645	-0.002	4156734	634.545	23.5	29.37- 69.37	51.53
Average of Peak Concentrations =					23.2		
7 Aroclor-1260					CAS #: 11096-82-5		
4.333	4.335	-0.002	9844873	719.653	26.7	80.00- 120.00	100.00
4.458	4.459	-0.001	12247415	764.078	28.3	101.46- 141.46	124.40
4.723	4.726	-0.003	9461291	753.052	27.9	72.86- 112.86	96.10
4.898	4.899	-0.001	9608711	750.090	27.8	75.54- 115.54	97.60
5.044	5.046	-0.002	21793597	781.198	28.9	193.04- 233.04	221.37
Average of Peak Concentrations =					27.9		

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/ecd1a.i/011210.b/027b2701.d
Date : 12-JAN-2010 12:36
Client ID: RE12-10-7657MSD
Sample Info: |1202012547|1|
Volume Injected (uL): 1.0
Column phase: CLP2

Instrument: ecd1a.i
Operator: YS1
Column diameter: 0.25



GEL Laboratories LLC

RTX-CLPEST1 30m/0.25 mm 1.0 INJ VOL

Data file : /chem/ecd1a.i/011210.b/027f2701.d
Lab Smp Id: 1202012547 Client Smp ID: RE12-10-7657MSD
Inj Date : 12-JAN-2010 12:36
Operator : YS1 Inst ID: ecd1a.i
Smp Info : |1202012547|1|
Misc Info : |ECD82P_1S|940403|SVA|QC A|SOIL|MSD|||
Comment :
Method : /chem/ecd1a.i/011210.b/ECD1-F-8082-121409.m
Meth Date : 23-Jan-2010 10:48 yip00818 Quant Type: ESTD
Cal Date : 14-DEC-2009 11:34 Cal File: 040f4001.d
Als bottle: 27 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 10-1131.sub
Target Version: 3.50 Sample Matrix: Soil
Processing Host: hpclp1

Concentration Formula: Amt * DF * Uf * Vt/(Vi * Ws * (100 - M)/100) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	Correction factor
Vt	1.00000	Volume of final extract (mL)
Vi	1.00000	Volume injected (uL)
Ws	30.03000	Weight of sample extracted (g)
M	10.13920	% Moisture

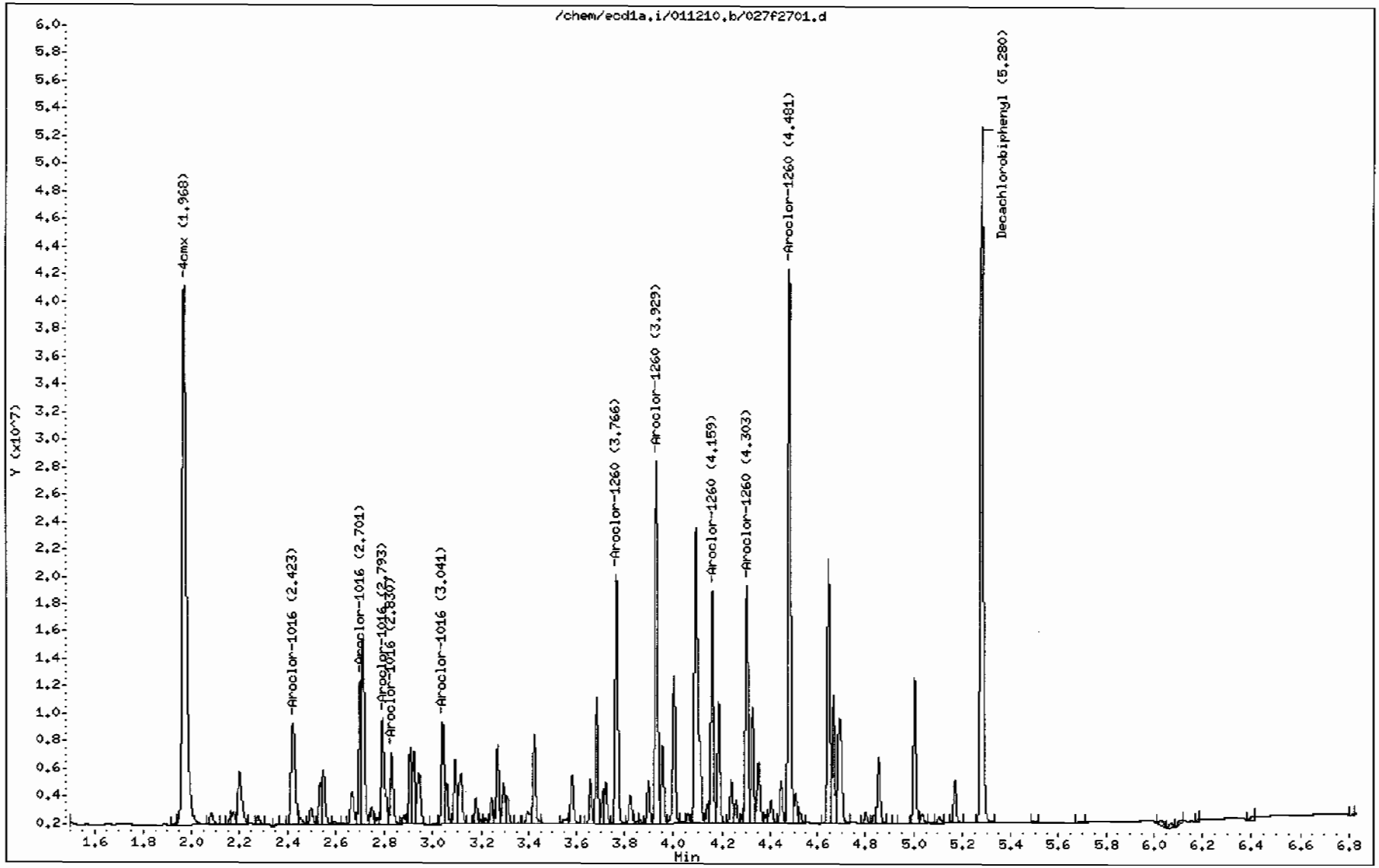
Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 11 4cmx					CAS #: 877-09-8		
1.968	1.969	-0.001	46082141	128.907	4.8	80.00- 120.00	100.00
$ 12 Decachlorobiphenyl					CAS #: 2051-24-3		
5.280	5.283	-0.003	39080955	129.403	4.8	80.00- 120.00	100.00
1 Aroclor-1016					CAS #: 12674-11-2		
2.423	2.424	-0.001	8552901	616.787	22.8	80.00- 120.00	100.00
2.701	2.702	-0.001	6740986	667.575	24.7	56.95- 96.95	78.82
2.793	2.794	-0.001	7284909	619.622	23.0	64.78- 104.78	85.17
2.830	2.832	-0.002	4032218	611.034	22.6	30.82- 70.82	47.14

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
1 Aroclor-1016 (continued)							
3.041	3.043	-0.002	5718071	659.265	24.4	45.65- 85.65	66.86
		Average of Peak Concentrations =			23.5		
7 Aroclor-1260					CAS #: 11096-82-5		
3.766	3.769	-0.003	13235145	790.056	29.3	80.00- 120.00	100.00
3.929	3.932	-0.003	20420750	825.327	30.6	132.05- 172.05	154.29
4.159	4.163	-0.004	12276506	835.856	31.0	70.36- 110.36	92.76
4.303	4.305	-0.002	12656315	833.501	30.9	74.40- 114.40	95.63
4.481	4.484	-0.003	29316181	853.444	31.6	195.73- 235.73	221.50
		Average of Peak Concentrations =			30.7		

Data File: /chem/ecd1a.i/011210.b/027f2701.d
Date : 12-JAN-2010 12:36
Client ID: RE12-10-7657MSD
Sample Info: |120201254711|
Volume Injected (uL): 1.0
Column phase: CLP1

Instrument: ecd1a.i
Operator: YS1
Column diameter: 0.25



Prep Logbook

Extraction of Semivolatile and Nonvolatile Organic Compounds from Soil, Sludge, and Other Miscellaneous Solid Samples

Batch ID: 940402 **Verified by:** _____

Analyst: Andrew Schwemin

Method: SW846 3550B

Lab SOP: GL-OA-E-010 REV# 18

Instrument: Semi-Volatiles Manual

Sample ID	Run Date	Aliquot (g)	Clean Up	Prior to Clean up (mL)	Amount Cleaned (mL)	After Clean up (mL)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1202012544 MB	11-JAN-2010 19:04:36	30	H2SO4/KMl2		2	9	1	0.03333
1202012545 LCS	11-JAN-2010 19:04:36	30	H2SO4/KMl2		2	9	1	0.03333
244125001	11-JAN-2010 19:04:36	30.12	H2SO4/KMl2		2	9	1	0.0332
244125002	11-JAN-2010 19:04:36	30.03	H2SO4/KMl2		2	9	1	0.0333
244126019	11-JAN-2010 19:04:36	30.08	H2SO4/KMl2		2	9	1	0.03324
1202012546 MS (244126019)	11-JAN-2010 19:04:36	30.05	H2SO4/KMl2		2	9	1	0.03328
1202012547 MSD (244126019)	11-JAN-2010 19:04:36	30.03	H2SO4/KMl2		2	9	1	0.0333
244126020	11-JAN-2010 19:04:36	30.17	H2SO4/KMl2		2	9	1	0.03315
244137001	11-JAN-2010 19:04:36	30.03	H2SO4/KMl2		2	9	1	0.0333
244142001	11-JAN-2010 19:04:36	30.09	H2SO4/KMl2		2	9	1	0.03323
244142002	11-JAN-2010 19:04:36	30.19	H2SO4/KMl2		2	9	1	0.03312
244142003	11-JAN-2010 19:04:36	30.02	H2SO4/KMl2		2	9	1	0.03331
244142004	11-JAN-2010 19:04:36	30.05	H2SO4/KMl2		2	9	1	0.03328
244142005	11-JAN-2010 19:04:36	30.17	H2SO4/KMl2		2	9	1	0.03315
244142006	11-JAN-2010 19:04:36	30.15	H2SO4/KMl2		2	9	1	0.03317
244142007	11-JAN-2010 19:04:36	30.17	H2SO4/KMl2		2	9	1	0.03315
244142008	11-JAN-2010 19:04:36	30.05	H2SO4/KMl2		2	9	1	0.03328
244142017	11-JAN-2010 19:04:36	30.08	H2SO4/KMl2		2	9	1	0.03324
244142018	11-JAN-2010 19:04:36	30.13	H2SO4/KMl2		2	9	1	0.03319

Type	Sample Id	Description	Serial Number	Spike Amt	Units
LCS	1202012545	PCB Laboratory Control	WE100105-07	1	mL
MS	1202012546	PCB Laboratory Control	WE100105-07	1	mL
MSD	1202012547	PCB Laboratory Control	WE100105-07	1	mL
SURR	All	PEST LOW LEVEL SURROGATE 200 UG/L	UE091217-15	1	mL
REGNT	All	1:1 sulfuric acid	1133264a	5	mL
REGNT	All	Acetone	1233927	150	mL
REGNT	All	Hexane	1241300-B2	150	mL
REGNT	All	5% Potassium Permanganate	B1202457-F	5	mL
SOURC	All	SODIUM SULFATE	1248200	30	g

Comments:

Clean up Date: 01/11/10

Clean up Initials: AJS

Verified By: AV

Final Solvent: Hexane

Clean Up SOP: GL-OA-E-037

Metals Analysis

Case Narrative

Metals Fractional Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1126

Sample Analysis

Sample ID	Client ID
244137001	RE12-10-7859
244137002	RE12-10-7851
244137003	RE12-10-7852
244137004	RE12-10-7850
244137005	RE12-10-7853
244137006	RE12-10-7848
244137007	RE12-10-7849
1202011899	Method Blank (MB) **ICP**
1202011904	Laboratory Control Sample (LCS)
1202011901	244137001(RE12-10-7859L) Serial Dilution (SD)
1202011900	244137001(RE12-10-7859D) Sample Duplicate (DUP)
1202011902	244137001(RE12-10-7859S) Matrix Spike (MS)
1202011903	244137001(RE12-10-7859SD) Matrix Spike Duplicate (MSD)
1202011715	Method Blank (MB) **ICP-MS**
1202011716	Laboratory Control Sample (LCS)
1202011719	244137001(RE12-10-7859L) Serial Dilution (SD)
1202011717	244137001(RE12-10-7859D) Sample Duplicate (DUP)
1202011718	244137001(RE12-10-7859S) Matrix Spike (MS)
1202011720	244137001(RE12-10-7859SD) Matrix Spike Duplicate (MSD)
1202019591	Method Blank (MB) **CVAA**
1202019592	Laboratory Control Sample (LCS)
1202019595	244624001(RE16-10-1438L) Serial Dilution (SD)
1202019593	244624001(RE16-10-1438D) Sample Duplicate (DUP)
1202019594	244624001(RE16-10-1438S) Matrix Spike (MS)
1202019596	244624001(RE16-10-1438SD) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

Method/Analysis Information

Analytical Batch:	940177, 940086 and 943244
Prep Batch :	940176, 940085 and 943241
Standard Operating Procedures:	GL-MA-E-013 REV# 20, GL-MA-E-009 REV# 19, GL-MA-E-014 REV# 21 and GL-MA-E-010 REV# 23
Analytical Method:	SW846 3050B/6010B, SW846 3050B/6020 and SW846 7471A
Prep Method :	SW846 3050B and SW846 7471A Prep

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

System Configuration

The Metals analysis-ICP was performed on a P E 4300 Optima radial/axial-viewing inductively coupled plasma atomic emission spectrometer. The instrument is equipped with a Burgener nebulizer, cyclonic spray chamber, and yttrium or scandium internal standard. Operating conditions for the ICP are set at a power level of 1500 watts. The instrument has a peristaltic pump flow rate of 1.4L/min, argon gas flows of 15 L/min and 0.2 L/min for the torch and auxiliary gases, and a flow setting of 0.65L/min for the nebulizer.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 6100E inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 360+/-7 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

The Metals analysis-Mercury was performed on a Perkin-Elmer Flow Injection Mercury System (FIMS-100) automated mercury analyzer. The instrument consists of a cold vapor atomic absorption spectrometer set to detect mercury at a wavelength of 253.7 nm. Sample introduction through the flow injection system is performed via a peristaltic pump at 9 mL/min and nitrogen carrier gas rate of 80 mL/min.

Calibration Information

Instrument Calibration
All initial calibration requirements have been met for this sample delivery group (SDG).

CRDL Requirements
All CRDL standard(s) met the referenced advisory control limits.

ICSA/ICSAB Statement
All interference check samples (ICSA and ICSAB) associated with this SDG met the established acceptance criteria.

Continuing Calibration Blank (CCB) Requirements
All continuing calibration blanks (CCB) bracketing this batch met the established acceptance criteria.

Continuing Calibration Verification (CCV) Requirements
All continuing calibration verifications (CCV) bracketing this SDG met the acceptance criteria.

Quality Control (QC) Information

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

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Quality Control (QC) Sample Statement
The following samples were selected as the quality control (QC) samples for this SDG: 244137001 (RE12-10-7859)-ICP and ICP-MS and 244624001 (RE16-10-1438)-CVAA.

Matrix Spike (MS) Recovery Statement
The percent recoveries (%R) obtained from the MS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes with the exceptions of magnesium, potassium, antimony and barium as indicated by the "N" qualifiers.

Matrix Spike Duplicate (MSD) Recovery Statement
The percent recovery (%R) obtained from the MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MSD met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes with the exceptions of selenium, magnesium, potassium, antimony and barium as indicated by the "N" qualifiers.

MS/MSD Relative Percent Difference (RPD) Statement
The RPD(s) between the MS and MSD met the acceptance limits.

Duplicate Relative Percent Difference (RPD) Statement
The relative percent difference (RPD) obtained from the designated sample duplicate (DUP) is evaluated based on acceptance criteria of 20% when the sample is >5X the contract required

detection limit (RL). In cases where either the sample or duplicate value is less than 5X the contract required detection limit (RL), a control of +/-RL is used to evaluate the DUP results. All applicable analytes met these requirements with the exception of calcium as indicated by the "*" qualifier.

Serial Dilution % Difference Statement
The serial dilution is used to assess matrix suppression or enhancement. Raw element concentrations that are 25X the IDL/MDL for CVAA, 50X the IDL/MDL for ICP, and 100X the IDL/MDL for ICP-MS analyses are applicable for serial dilution assessment. All applicable analytes met the acceptance criteria of less than 10% difference (%D).

Technical Information

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

Sample Dilutions
Dilutions are performed to minimize matrix interferences resulting from elevated mineral element concentrations present in solid samples and/or to bring over range target analyte concentrations into the linear calibration range of the instrument. The samples in this SDG were diluted the standard 2x for solids on the ICPMS.

Preparation Information
The samples in this SDG were prepared exactly according to the cited SOP.

Miscellaneous Information

Electronic Packaging Comment
This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Data Exception (DER) Documentation
Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following DER was generated for this SDG: DER ID 780905 and 783811. A copy is included in the Miscellaneous Data section of this

package.

Additional Comments
Additional comments were not required for this SDG.

Certification Statement

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

Review Validation:

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

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

Reviewer: Nikki-Lee A. Elmore **Date:** 2·2·10

Sample Data Summary

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10–1126 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 244137001 **BASIS:** Dry Weight **DATE COLLECTED** 04–JAN–10

CLIENT ID: RE12–10–7859 **LEVEL:** Low **DATE RECEIVED** 08–JAN–10

MATRIX: SOIL **%SOLIDS:** 93.1

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429–90–5	Aluminum	10400000	ug/Kg		7090	20900	20900	1	P	HSC	01/25/10 12:31	012510–1	940177
7440–36–0	Antimony	1040	ug/Kg	UN	344	1040	1040	1	P	HSC	01/25/10 12:31	012510–1	940177
7440–38–2	Arsenic	2.23	mg/kg		0.209	1.05	1.05	2	MS	SKJ	01/15/10 21:40	100115–2	940086
7440–39–3	Barium	194000	ug/Kg	N	104	521	521	1	P	HSC	01/25/10 12:31	012510–1	940177
7440–41–7	Beryllium	0.962	mg/kg		0.0209	0.105	0.105	2	MS	SKJ	01/15/10 21:40	100115–2	940086
7440–43–9	Cadmium	215	ug/Kg	J	104	521	521	1	P	HSC	01/25/10 12:31	012510–1	940177
7440–70–2	Calcium	2790000	ug/Kg	*	8340	26100	26100	1	P	HSC	01/25/10 12:31	012510–1	940177
7440–47–3	Chromium	12400	ug/Kg		156	521	521	1	P	HSC	01/25/10 12:31	012510–1	940177
7440–48–4	Cobalt	5750	ug/Kg		156	521	521	1	P	HSC	01/25/10 12:31	012510–1	940177
7440–50–8	Copper	6860	ug/Kg		313	1040	1040	1	P	HSC	01/25/10 12:31	012510–1	940177
7439–89–6	Iron	13200000	ug/Kg		8340	26100	26100	1	P	HSC	01/25/10 12:31	012510–1	940177
7439–92–1	Lead	15200	ug/Kg		261	1040	1040	1	P	HSC	01/25/10 12:31	012510–1	940177
7439–95–4	Magnesium	1870000	ug/Kg	N	8870	31300	31300	1	P	HSC	01/25/10 12:31	012510–1	940177
7439–96–5	Manganese	488000	ug/Kg		209	1040	1040	1	P	HSC	01/25/10 12:31	012510–1	940177
7439–97–6	Mercury	15.1	ug/kg		4	11.8	11.8	1	AV	JXL1	01/21/10 12:15	012110S1–3	943244
7440–02–0	Nickel	8.11	mg/kg		0.105	0.418	0.418	2	MS	SKJ	01/15/10 21:40	100115–2	940086
7440–09–7	Potassium	1600000	ug/Kg	N	6680	26100	26100	1	P	HSC	01/25/10 12:31	012510–1	940177
7782–49–2	Selenium	1.05	mg/kg	UN	0.523	1.05	1.05	2	MS	SKJ	01/15/10 21:40	100115–2	940086
7440–22–4	Silver	521	ug/Kg	U	104	521	521	1	P	HSC	01/25/10 12:31	012510–1	940177
7440–23–5	Sodium	100000	ug/Kg		7300	26100	26100	1	P	HSC	01/25/10 12:31	012510–1	940177
7440–28–0	Thallium	0.234	mg/kg		0.0627	0.209	0.209	2	MS	SKJ	01/15/10 21:40	100115–2	940086
7440–61–1	Uranium	1.27	mg/kg		0.0138	0.0418	0.0418	2	MS	SKJ	01/15/10 21:40	100115–2	940086
7440–62–2	Vanadium	28000	ug/Kg		104	521	521	1	P	HSC	01/25/10 12:31	012510–1	940177
7440–66–6	Zinc	28400	ug/Kg		344	1040	1040	1	P	HSC	01/25/10 12:31	012510–1	940177

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
940086	940085	SW846 3050B	0.514	g	50	mL	01/12/10	AXG2
940177	940176	SW846 3050B	0.515	g	50	mL	01/12/10	AXG2
943244	943241	SW846 7471A Prep	0.548	g	30	mL	01/20/10	TXB3

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1126 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 244137002 **BASIS:** Dry Weight **DATE COLLECTED** 04-JAN-10

CLIENT ID: RE12-10-7851 **LEVEL:** Low **DATE RECEIVED** 08-JAN-10

MATRIX: SOIL **%SOLIDS:** 91

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	13400000	ug/Kg		7140	21000	21000	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-36-0	Antimony	1050	ug/Kg	UN	347	1050	1050	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-38-2	Arsenic	2.36	mg/kg		0.218	1.09	1.09	2	MS	SKJ	01/15/10 22:24	100115-2	940086
7440-39-3	Barium	224000	ug/Kg	N	105	525	525	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-41-7	Beryllium	1	mg/kg		0.0218	0.109	0.109	2	MS	SKJ	01/15/10 22:24	100115-2	940086
7440-43-9	Cadmium	310	ug/Kg	J	105	525	525	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-70-2	Calcium	2650000	ug/Kg	*	8400	26300	26300	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-47-3	Chromium	13300	ug/Kg		158	525	525	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-48-4	Cobalt	7490	ug/Kg		158	525	525	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-50-8	Copper	8030	ug/Kg		315	1050	1050	1	P	HSC	01/25/10 12:57	012510-1	940177
7439-89-6	Iron	15300000	ug/Kg		8400	26300	26300	1	P	HSC	01/25/10 12:57	012510-1	940177
7439-92-1	Lead	16200	ug/Kg		263	1050	1050	1	P	HSC	01/25/10 12:57	012510-1	940177
7439-95-4	Magnesium	2190000	ug/Kg	N	8930	31500	31500	1	P	HSC	01/25/10 12:57	012510-1	940177
7439-96-5	Manganese	492000	ug/Kg		210	1050	1050	1	P	HSC	01/25/10 12:57	012510-1	940177
7439-97-6	Mercury	15	ug/kg		4.12	12.1	12.1	1	AV	JXL1	01/21/10 12:17	012110S1-3	943244
7440-02-0	Nickel	9.05	mg/kg		0.109	0.436	0.436	2	MS	SKJ	01/15/10 22:24	100115-2	940086
7440-09-7	Potassium	2070000	ug/Kg	N	6720	26300	26300	1	P	HSC	01/25/10 12:57	012510-1	940177
7782-49-2	Selenium	1.09	mg/kg	UN	0.545	1.09	1.09	2	MS	SKJ	01/15/10 22:24	100115-2	940086
7440-22-4	Silver	525	ug/Kg	U	105	525	525	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-23-5	Sodium	77800	ug/Kg		7350	26300	26300	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-28-0	Thallium	0.247	mg/kg		0.0654	0.218	0.218	2	MS	SKJ	01/15/10 22:24	100115-2	940086
7440-61-1	Uranium	1.36	mg/kg		0.0144	0.0436	0.0436	2	MS	SKJ	01/15/10 22:24	100115-2	940086
7440-62-2	Vanadium	32200	ug/Kg		105	525	525	1	P	HSC	01/25/10 12:57	012510-1	940177
7440-66-6	Zinc	31100	ug/Kg		347	1050	1050	1	P	HSC	01/25/10 12:57	012510-1	940177

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
940086	940085	SW846 3050B	0.504	g	50	mL	01/12/10	AXG2
940177	940176	SW846 3050B	0.523	g	50	mL	01/12/10	AXG2
943244	943241	SW846 7471A Prep	0.544	g	30	mL	01/20/10	TXB3

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1126 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 244137003 **BASIS:** Dry Weight **DATE COLLECTED** 04-JAN-10

CLIENT ID: RE12-10-7852 **LEVEL:** Low **DATE RECEIVED** 08-JAN-10

MATRIX: SOIL **%SOLIDS:** 86

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	11200000	ug/Kg		7780	22900	22900	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-36-0	Antimony	1140	ug/Kg	UN	378	1140	1140	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-38-2	Arsenic	1.8	mg/kg		0.228	1.14	1.14	2	MS	SKJ	01/15/10 22:30	100115-2	940086
7440-39-3	Barium	200000	ug/Kg	N	114	572	572	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-41-7	Beryllium	0.90	mg/kg		0.0228	0.114	0.114	2	MS	SKJ	01/15/10 22:30	100115-2	940086
7440-43-9	Cadmium	210	ug/Kg	J	114	572	572	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-70-2	Calcium	2210000	ug/Kg	*	9150	28600	28600	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-47-3	Chromium	31000	ug/Kg		172	572	572	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-48-4	Cobalt	6110	ug/Kg		172	572	572	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-50-8	Copper	7630	ug/Kg		343	1140	1140	1	P	HSC	01/25/10 13:01	012510-1	940177
7439-89-6	Iron	13800000	ug/Kg		9150	28600	28600	1	P	HSC	01/25/10 13:01	012510-1	940177
7439-92-1	Lead	15400	ug/Kg		286	1140	1140	1	P	HSC	01/25/10 13:01	012510-1	940177
7439-95-4	Magnesium	1890000	ug/Kg	N	9730	34300	34300	1	P	HSC	01/25/10 13:01	012510-1	940177
7439-96-5	Manganese	485000	ug/Kg		229	1140	1140	1	P	HSC	01/25/10 13:01	012510-1	940177
7439-97-6	Mercury	15.4	ug/kg		4.54	13.4	13.4	1	AV	JXL1	01/21/10 12:19	012110S1-3	943244
7440-02-0	Nickel	9.27	mg/kg		0.114	0.457	0.457	2	MS	SKJ	01/15/10 22:30	100115-2	940086
7440-09-7	Potassium	2260000	ug/Kg	N	7320	28600	28600	1	P	HSC	01/25/10 13:01	012510-1	940177
7782-49-2	Selenium	1.14	mg/kg	UN	0.571	1.14	1.14	2	MS	SKJ	01/15/10 22:30	100115-2	940086
7440-22-4	Silver	572	ug/Kg	U	114	572	572	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-23-5	Sodium	52100	ug/Kg		8010	28600	28600	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-28-0	Thallium	0.199	mg/kg	J	0.0685	0.228	0.228	2	MS	SKJ	01/15/10 22:30	100115-2	940086
7440-61-1	Uranium	1.84	mg/kg		0.0151	0.0457	0.0457	2	MS	SKJ	01/15/10 22:30	100115-2	940086
7440-62-2	Vanadium	29800	ug/Kg		114	572	572	1	P	HSC	01/25/10 13:01	012510-1	940177
7440-66-6	Zinc	28600	ug/Kg		378	1140	1140	1	P	HSC	01/25/10 13:01	012510-1	940177

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
940086	940085	SW846 3050B	0.509	g	50	mL	01/12/10	AXG2
940177	940176	SW846 3050B	0.508	g	50	mL	01/12/10	AXG2
943244	943241	SW846 7471A Prep	0.522	g	30	mL	01/20/10	TXB3

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1126 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 244137004 **BASIS:** Dry Weight **DATE COLLECTED** 04-JAN-10

CLIENT ID: RE12-10-7850 **LEVEL:** Low **DATE RECEIVED** 08-JAN-10

MATRIX: SOIL **%SOLIDS:** 79

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	10600000	ug/Kg		8300	24400	24400	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-36-0	Antimony	1220	ug/Kg	UN	403	1220	1220	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-38-2	Arsenic	1.84	mg/kg		0.238	1.19	1.19	2	MS	SKJ	01/15/10 22:49	100115-2	940086
7440-39-3	Barium	190000	ug/Kg	N	122	610	610	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-41-7	Beryllium	0.810	mg/kg		0.0238	0.119	0.119	2	MS	SKJ	01/15/10 22:49	100115-2	940086
7440-43-9	Cadmium	234	ug/Kg	J	122	610	610	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-70-2	Calcium	2490000	ug/Kg	*	9760	30500	30500	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-47-3	Chromium	43000	ug/Kg		183	610	610	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-48-4	Cobalt	6050	ug/Kg		183	610	610	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-50-8	Copper	9360	ug/Kg		366	1220	1220	1	P	HSC	01/25/10 13:04	012510-1	940177
7439-89-6	Iron	14400000	ug/Kg		9760	30500	30500	1	P	HSC	01/25/10 13:04	012510-1	940177
7439-92-1	Lead	15000	ug/Kg		305	1220	1220	1	P	HSC	01/25/10 13:04	012510-1	940177
7439-95-4	Magnesium	1900000	ug/Kg	N	10400	36600	36600	1	P	HSC	01/25/10 13:04	012510-1	940177
7439-96-5	Manganese	451000	ug/Kg		244	1220	1220	1	P	HSC	01/25/10 13:04	012510-1	940177
7439-97-6	Mercury	14.9	ug/kg		4.96	14.6	14.6	1	AV	JXL1	01/21/10 12:20	012110S1-3	943244
7440-02-0	Nickel	10.9	mg/kg		0.119	0.475	0.475	2	MS	SKJ	01/15/10 22:49	100115-2	940086
7440-09-7	Potassium	2130000	ug/Kg	N	7810	30500	30500	1	P	HSC	01/25/10 13:04	012510-1	940177
7782-49-2	Selenium	1.19	mg/kg	UN	0.594	1.19	1.19	2	MS	SKJ	01/15/10 22:49	100115-2	940086
7440-22-4	Silver	610	ug/Kg	U	122	610	610	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-23-5	Sodium	56900	ug/Kg		8540	30500	30500	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-28-0	Thallium	0.196	mg/kg	J	0.0713	0.238	0.238	2	MS	SKJ	01/15/10 22:49	100115-2	940086
7440-61-1	Uranium	2.07	mg/kg		0.0157	0.0475	0.0475	2	MS	SKJ	01/15/10 22:49	100115-2	940086
7440-62-2	Vanadium	30300	ug/Kg		122	610	610	1	P	HSC	01/25/10 13:04	012510-1	940177
7440-66-6	Zinc	28600	ug/Kg		403	1220	1220	1	P	HSC	01/25/10 13:04	012510-1	940177

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
940086	940085	SW846 3050B	0.533	g	50	mL	01/12/10	AXG2
940177	940176	SW846 3050B	0.519	g	50	mL	01/12/10	AXG2
943244	943241	SW846 7471A Prep	0.521	g	30	mL	01/20/10	TXB3

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1126 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 244137005 **BASIS:** Dry Weight **DATE COLLECTED** 04-JAN-10

CLIENT ID: RE12-10-7853 **LEVEL:** Low **DATE RECEIVED** 08-JAN-10

MATRIX: SOIL **%SOLIDS:** 92.8

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	12800000	ug/Kg		7320	21500	21500	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-36-0	Antimony	1080	ug/Kg	UN	355	1080	1080	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-38-2	Arsenic	2.12	mg/kg		0.215	1.07	1.07	2	MS	SKJ	01/15/10 22:55	100115-2	940086
7440-39-3	Barium	206000	ug/Kg	N	108	538	538	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-41-7	Beryllium	0.853	mg/kg		0.0215	0.107	0.107	2	MS	SKJ	01/15/10 22:55	100115-2	940086
7440-43-9	Cadmium	165	ug/Kg	J	108	538	538	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-70-2	Calcium	3160000	ug/Kg	*	8610	26900	26900	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-47-3	Chromium	14300	ug/Kg		161	538	538	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-48-4	Cobalt	5700	ug/Kg		161	538	538	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-50-8	Copper	7380	ug/Kg		323	1080	1080	1	P	HSC	01/25/10 13:08	012510-1	940177
7439-89-6	Iron	14600000	ug/Kg		8610	26900	26900	1	P	HSC	01/25/10 13:08	012510-1	940177
7439-92-1	Lead	16700	ug/Kg		269	1080	1080	1	P	HSC	01/25/10 13:08	012510-1	940177
7439-95-4	Magnesium	2030000	ug/Kg	N	9150	32300	32300	1	P	HSC	01/25/10 13:08	012510-1	940177
7439-96-5	Manganese	457000	ug/Kg		215	1080	1080	1	P	HSC	01/25/10 13:08	012510-1	940177
7439-97-6	Mercury	15.8	ug/kg		4.04	11.9	11.9	1	AV	JXL1	01/21/10 12:22	012110S1-3	943244
7440-02-0	Nickel	7.88	mg/kg		0.107	0.43	0.43	2	MS	SKJ	01/15/10 22:55	100115-2	940086
7440-09-7	Potassium	1710000	ug/Kg	N	6890	26900	26900	1	P	HSC	01/25/10 13:08	012510-1	940177
7782-49-2	Selenium	1.07	mg/kg	UN	0.537	1.07	1.07	2	MS	SKJ	01/15/10 22:55	100115-2	940086
7440-22-4	Silver	538	ug/Kg	U	108	538	538	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-23-5	Sodium	102000	ug/Kg		7530	26900	26900	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-28-0	Thallium	0.187	mg/kg	J	0.0644	0.215	0.215	2	MS	SKJ	01/15/10 22:55	100115-2	940086
7440-61-1	Uranium	1.23	mg/kg		0.0142	0.043	0.043	2	MS	SKJ	01/15/10 22:55	100115-2	940086
7440-62-2	Vanadium	30800	ug/Kg		108	538	538	1	P	HSC	01/25/10 13:08	012510-1	940177
7440-66-6	Zinc	28900	ug/Kg		355	1080	1080	1	P	HSC	01/25/10 13:08	012510-1	940177

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
940086	940085	SW846 3050B	0.502	g	50	mL	01/12/10	AXG2
940177	940176	SW846 3050B	0.501	g	50	mL	01/12/10	AXG2
943244	943241	SW846 7471A Prep	0.545	g	30	mL	01/20/10	TXB3

METALS
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INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1126 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 244137006 **BASIS:** Dry Weight **DATE COLLECTED** 04-JAN-10

CLIENT ID: RE12-10-7848 **LEVEL:** Low **DATE RECEIVED** 08-JAN-10

MATRIX: SOIL **%SOLIDS:** 84

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	11000000	ug/Kg		7880	23200	23200	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-36-0	Antimony	1160	ug/Kg	UN	383	1160	1160	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-38-2	Arsenic	1.83	mg/kg		0.231	1.15	1.15	2	MS	SKJ	01/15/10 23:01	100115-2	940086
7440-39-3	Barium	180000	ug/Kg	N	116	580	580	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-41-7	Beryllium	0.718	mg/kg		0.0231	0.115	0.115	2	MS	SKJ	01/15/10 23:01	100115-2	940086
7440-43-9	Cadmium	207	ug/Kg	J	116	580	580	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-70-2	Calcium	2280000	ug/Kg	*	9270	29000	29000	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-47-3	Chromium	17000	ug/Kg		174	580	580	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-48-4	Cobalt	6340	ug/Kg		174	580	580	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-50-8	Copper	11000	ug/Kg		348	1160	1160	1	P	HSC	01/25/10 13:12	012510-1	940177
7439-89-6	Iron	15800000	ug/Kg		9270	29000	29000	1	P	HSC	01/25/10 13:12	012510-1	940177
7439-92-1	Lead	41000	ug/Kg		290	1160	1160	1	P	HSC	01/25/10 13:12	012510-1	940177
7439-95-4	Magnesium	2090000	ug/Kg	N	9850	34800	34800	1	P	HSC	01/25/10 13:12	012510-1	940177
7439-96-5	Manganese	519000	ug/Kg		232	1160	1160	1	P	HSC	01/25/10 13:12	012510-1	940177
7439-97-6	Mercury	15.2	ug/kg		4.23	12.4	12.4	1	AV	JXL1	01/21/10 12:24	012110S1-3	943244
7440-02-0	Nickel	7.76	mg/kg		0.115	0.462	0.462	2	MS	SKJ	01/15/10 23:01	100115-2	940086
7440-09-7	Potassium	1990000	ug/Kg	N	7420	29000	29000	1	P	HSC	01/25/10 13:12	012510-1	940177
7782-49-2	Selenium	1.15	mg/kg	UN	0.577	1.15	1.15	2	MS	SKJ	01/15/10 23:01	100115-2	940086
7440-22-4	Silver	580	ug/Kg	U	116	580	580	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-23-5	Sodium	63100	ug/Kg		8110	29000	29000	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-28-0	Thallium	0.162	mg/kg	J	0.0693	0.231	0.231	2	MS	SKJ	01/15/10 23:01	100115-2	940086
7440-61-1	Uranium	1.75	mg/kg		0.0152	0.0462	0.0462	2	MS	SKJ	01/15/10 23:01	100115-2	940086
7440-62-2	Vanadium	33400	ug/Kg		116	580	580	1	P	HSC	01/25/10 13:12	012510-1	940177
7440-66-6	Zinc	33900	ug/Kg		383	1160	1160	1	P	HSC	01/25/10 13:12	012510-1	940177

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
940086	940085	SW846 3050B	0.516	g	50	mL	01/12/10	AXG2
940177	940176	SW846 3050B	0.514	g	50	mL	01/12/10	AXG2
943244	943241	SW846 7471A Prep	0.575	g	30	mL	01/20/10	TXB3

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10–1126 **CONTRACT:** LANL01004 **METHOD TYPE:** SW846

SAMPLE ID: 244137007 **BASIS:** Dry Weight **DATE COLLECTED** 04–JAN–10

CLIENT ID: RE12–10–7849 **LEVEL:** Low **DATE RECEIVED** 08–JAN–10

MATRIX: SOIL **%SOLIDS:** 89

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429–90–5	Aluminum	14500000	ug/Kg		7350	21600	21600	1	P	HSC	01/25/10 13:15	012510–1	940177
7440–36–0	Antimony	1080	ug/Kg	UN	357	1080	1080	1	P	HSC	01/25/10 13:15	012510–1	940177
7440–38–2	Arsenic	2.77	mg/kg		0.221	1.11	1.11	2	MS	SKJ	01/15/10 23:07	100115–2	940086
7440–39–3	Barium	232000	ug/Kg	N	108	540	540	1	P	HSC	01/25/10 13:15	012510–1	940177
7440–41–7	Beryllium	0.965	mg/kg		0.0221	0.111	0.111	2	MS	SKJ	01/15/10 23:07	100115–2	940086
7440–43–9	Cadmium	265	ug/Kg	J	108	540	540	1	P	HSC	01/25/10 13:15	012510–1	940177
7440–70–2	Calcium	2290000	ug/Kg	*	8640	27000	27000	1	P	HSC	01/25/10 13:15	012510–1	940177
7440–47–3	Chromium	12600	ug/Kg		162	540	540	1	P	HSC	01/25/10 13:15	012510–1	940177
7440–48–4	Cobalt	6990	ug/Kg		162	540	540	1	P	HSC	01/25/10 13:15	012510–1	940177
7440–50–8	Copper	8430	ug/Kg		324	1080	1080	1	P	HSC	01/25/10 13:15	012510–1	940177
7439–89–6	Iron	16300000	ug/Kg		8640	27000	27000	1	P	HSC	01/25/10 13:15	012510–1	940177
7439–92–1	Lead	16300	ug/Kg		270	1080	1080	1	P	HSC	01/25/10 13:15	012510–1	940177
7439–95–4	Magnesium	2550000	ug/Kg	N	9180	32400	32400	1	P	HSC	01/25/10 13:15	012510–1	940177
7439–96–5	Manganese	471000	ug/Kg		216	1080	1080	1	P	HSC	01/25/10 13:15	012510–1	940177
7439–97–6	Mercury	15.1	ug/kg		4.3	12.6	12.6	1	AV	JXL1	01/21/10 12:25	012110S1–3	943244
7440–02–0	Nickel	9.07	mg/kg		0.111	0.442	0.442	2	MS	SKJ	01/15/10 23:07	100115–2	940086
7440–09–7	Potassium	2080000	ug/Kg	N	6910	27000	27000	1	P	HSC	01/25/10 13:15	012510–1	940177
7782–49–2	Selenium	1.11	mg/kg	UN	0.553	1.11	1.11	2	MS	SKJ	01/15/10 23:07	100115–2	940086
7440–22–4	Silver	540	ug/Kg	U	108	540	540	1	P	HSC	01/25/10 13:15	012510–1	940177
7440–23–5	Sodium	79200	ug/Kg		7560	27000	27000	1	P	HSC	01/25/10 13:15	012510–1	940177
7440–28–0	Thallium	0.203	mg/kg	J	0.0664	0.221	0.221	2	MS	SKJ	01/15/10 23:07	100115–2	940086
7440–61–1	Uranium	0.962	mg/kg		0.0146	0.0442	0.0442	2	MS	SKJ	01/15/10 23:07	100115–2	940086
7440–62–2	Vanadium	34000	ug/Kg		108	540	540	1	P	HSC	01/25/10 13:15	012510–1	940177
7440–66–6	Zinc	32400	ug/Kg		357	1080	1080	1	P	HSC	01/25/10 13:15	012510–1	940177

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
940086	940085	SW846 3050B	0.508	g	50	mL	01/12/10	AXG2
940177	940176	SW846 3050B	0.52	g	50	mL	01/12/10	AXG2
943244	943241	SW846 7471A Prep	0.533	g	30	mL	01/20/10	TXB3

Quality Control Summary

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1126

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS4,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
ICV01										
	Arsenic	50.4	ug/L	50	ug/L	100.9	90.0 – 110.0	MS	15–JAN–10 18:46	100115–2
	Beryllium	52.6	ug/L	50	ug/L	105.2	90.0 – 110.0	MS	15–JAN–10 18:46	100115–2
	Nickel	53.5	ug/L	50	ug/L	107.1	90.0 – 110.0	MS	15–JAN–10 18:46	100115–2
	Selenium	50.7	ug/L	50	ug/L	101.5	90.0 – 110.0	MS	15–JAN–10 18:46	100115–2
	Thallium	48.9	ug/L	50	ug/L	97.8	90.0 – 110.0	MS	15–JAN–10 18:46	100115–2
	Uranium	54.6	ug/L	50	ug/L	109.2	90.0 – 110.0	MS	15–JAN–10 18:46	100115–2
	Mercury	5.15	ug/L	5	ug/L	103.1	90.0 – 110.0	AV	21–JAN–10 09:02	012110S1–3
	Aluminum	5060	ug/L	5000	ug/L	101.2	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Antimony	501	ug/L	500	ug/L	100.3	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Barium	507	ug/L	500	ug/L	101.5	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Cadmium	501	ug/L	500	ug/L	100.1	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Calcium	5000	ug/L	5000	ug/L	99.9	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Chromium	492	ug/L	500	ug/L	98.3	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Cobalt	506	ug/L	500	ug/L	101.3	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Copper	508	ug/L	500	ug/L	101.7	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Iron	5050	ug/L	5000	ug/L	100.9	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Lead	501	ug/L	500	ug/L	100.3	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Magnesium	5130	ug/L	5000	ug/L	102.7	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Manganese	498	ug/L	500	ug/L	99.5	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Potassium	2390	ug/L	2500	ug/L	95.6	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Silver	257	ug/L	250	ug/L	103	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Sodium	2420	ug/L	2500	ug/L	96.9	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Vanadium	513	ug/L	500	ug/L	102.5	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
	Zinc	503	ug/L	500	ug/L	100.6	90.0 – 110.0	P	25–JAN–10 11:25	012510–1
CCV01										
	Arsenic	48.8	ug/L	50	ug/L	97.5	90.0 – 110.0	MS	15–JAN–10 19:17	100115–2
	Beryllium	50.7	ug/L	50	ug/L	101.3	90.0 – 110.0	MS	15–JAN–10 19:17	100115–2
	Nickel	53	ug/L	50	ug/L	105.9	90.0 – 110.0	MS	15–JAN–10 19:17	100115–2
	Selenium	52.5	ug/L	50	ug/L	105	90.0 – 110.0	MS	15–JAN–10 19:17	100115–2
	Thallium	49.2	ug/L	50	ug/L	98.3	90.0 – 110.0	MS	15–JAN–10 19:17	100115–2

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 10-1126

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS4,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Uranium	53.1	ug/L	50	ug/L	106.2	90.0 – 110.0	MS	15-JAN-10 19:17	100115-2
	Mercury	5.14	ug/L	5	ug/L	102.8	80.0 – 120.0	AV	21-JAN-10 09:07	012110S1-3
	Aluminum	5200	ug/L	5000	ug/L	103.9	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Antimony	509	ug/L	500	ug/L	101.7	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Barium	512	ug/L	500	ug/L	102.4	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Cadmium	513	ug/L	500	ug/L	102.6	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Calcium	5210	ug/L	5000	ug/L	104.2	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Chromium	514	ug/L	500	ug/L	102.8	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Cobalt	512	ug/L	500	ug/L	102.4	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Copper	518	ug/L	500	ug/L	103.5	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Iron	5210	ug/L	5000	ug/L	104.2	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Lead	518	ug/L	500	ug/L	103.6	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Magnesium	5300	ug/L	5000	ug/L	105.9	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Manganese	504	ug/L	500	ug/L	100.8	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Potassium	5120	ug/L	5000	ug/L	102.4	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Silver	508	ug/L	500	ug/L	101.6	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Sodium	10300	ug/L	10000	ug/L	103	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Vanadium	518	ug/L	500	ug/L	103.6	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
	Zinc	512	ug/L	500	ug/L	102.5	90.0 – 110.0	P	25-JAN-10 11:47	012510-1
CCV02										
	Arsenic	49.1	ug/L	50	ug/L	98.2	90.0 – 110.0	MS	15-JAN-10 19:36	100115-2
	Beryllium	49.9	ug/L	50	ug/L	99.7	90.0 – 110.0	MS	15-JAN-10 19:36	100115-2
	Nickel	53.3	ug/L	50	ug/L	106.7	90.0 – 110.0	MS	15-JAN-10 19:36	100115-2
	Selenium	49.7	ug/L	50	ug/L	99.3	90.0 – 110.0	MS	15-JAN-10 19:36	100115-2
	Thallium	50	ug/L	50	ug/L	99.9	90.0 – 110.0	MS	15-JAN-10 19:36	100115-2
	Uranium	54	ug/L	50	ug/L	108.1	90.0 – 110.0	MS	15-JAN-10 19:36	100115-2
	Mercury	5.33	ug/L	5	ug/L	106.7	80.0 – 120.0	AV	21-JAN-10 09:27	012110S1-3
	Aluminum	5140	ug/L	5000	ug/L	102.9	90.0 – 110.0	P	25-JAN-10 12:12	012510-1
	Antimony	507	ug/L	500	ug/L	101.4	90.0 – 110.0	P	25-JAN-10 12:12	012510-1
	Barium	512	ug/L	500	ug/L	102.5	90.0 – 110.0	P	25-JAN-10 12:12	012510-1

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1126

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS4,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Cadmium	512	ug/L	500	ug/L	102.4	90.0 – 110.0	P	25–JAN–10 12:12	012510–1
	Calcium	5150	ug/L	5000	ug/L	103.1	90.0 – 110.0	P	25–JAN–10 12:12	012510–1
	Chromium	512	ug/L	500	ug/L	102.4	90.0 – 110.0	P	25–JAN–10 12:12	012510–1
	Cobalt	511	ug/L	500	ug/L	102.2	90.0 – 110.0	P	25–JAN–10 12:12	012510–1
	Copper	514	ug/L	500	ug/L	102.8	90.0 – 110.0	P	25–JAN–10 12:12	012510–1
	Iron	5140	ug/L	5000	ug/L	102.7	90.0 – 110.0	P	25–JAN–10 12:12	012510–1
	Lead	512	ug/L	500	ug/L	102.3	90.0 – 110.0	P	25–JAN–10 12:12	012510–1
	Magnesium	5220	ug/L	5000	ug/L	104.3	90.0 – 110.0	P	25–JAN–10 12:12	012510–1
	Manganese	505	ug/L	500	ug/L	100.9	90.0 – 110.0	P	25–JAN–10 12:12	012510–1
	Potassium	5050	ug/L	5000	ug/L	100.9	90.0 – 110.0	P	25–JAN–10 12:12	012510–1
	Silver	510	ug/L	500	ug/L	102	90.0 – 110.0	P	25–JAN–10 12:12	012510–1
	Sodium	10200	ug/L	10000	ug/L	101.8	90.0 – 110.0	P	25–JAN–10 12:12	012510–1
	Vanadium	518	ug/L	500	ug/L	103.7	90.0 – 110.0	P	25–JAN–10 12:12	012510–1
	Zinc	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	25–JAN–10 12:12	012510–1
CCV03										
	Arsenic	50.1	ug/L	50	ug/L	100.2	90.0 – 110.0	MS	15–JAN–10 20:26	100115–2
	Beryllium	49.9	ug/L	50	ug/L	99.7	90.0 – 110.0	MS	15–JAN–10 20:26	100115–2
	Nickel	52.4	ug/L	50	ug/L	104.7	90.0 – 110.0	MS	15–JAN–10 20:26	100115–2
	Selenium	51	ug/L	50	ug/L	102	90.0 – 110.0	MS	15–JAN–10 20:26	100115–2
	Thallium	49.5	ug/L	50	ug/L	99.1	90.0 – 110.0	MS	15–JAN–10 20:26	100115–2
	Uranium	52.8	ug/L	50	ug/L	105.6	90.0 – 110.0	MS	15–JAN–10 20:26	100115–2
	Mercury	5.01	ug/L	5	ug/L	100.1	80.0 – 120.0	AV	21–JAN–10 09:47	012110S1–3
	Aluminum	5250	ug/L	5000	ug/L	104.9	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Antimony	512	ug/L	500	ug/L	102.3	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Barium	516	ug/L	500	ug/L	103.2	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Cadmium	514	ug/L	500	ug/L	102.8	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Calcium	5190	ug/L	5000	ug/L	103.9	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Chromium	516	ug/L	500	ug/L	103.1	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Cobalt	514	ug/L	500	ug/L	102.7	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Copper	519	ug/L	500	ug/L	103.7	90.0 – 110.0	P	25–JAN–10 12:49	012510–1

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1126

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS4,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Iron	5250	ug/L	5000	ug/L	105	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Lead	517	ug/L	500	ug/L	103.4	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Magnesium	5280	ug/L	5000	ug/L	105.6	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Manganese	509	ug/L	500	ug/L	101.7	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Potassium	5140	ug/L	5000	ug/L	102.8	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Silver	515	ug/L	500	ug/L	103	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Sodium	10300	ug/L	10000	ug/L	103	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Vanadium	523	ug/L	500	ug/L	104.5	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
	Zinc	513	ug/L	500	ug/L	102.5	90.0 – 110.0	P	25–JAN–10 12:49	012510–1
CCV04										
	Arsenic	49.8	ug/L	50	ug/L	99.5	90.0 – 110.0	MS	15–JAN–10 21:15	100115–2
	Beryllium	47.8	ug/L	50	ug/L	95.6	90.0 – 110.0	MS	15–JAN–10 21:15	100115–2
	Nickel	53.7	ug/L	50	ug/L	107.3	90.0 – 110.0	MS	15–JAN–10 21:15	100115–2
	Selenium	50.3	ug/L	50	ug/L	100.5	90.0 – 110.0	MS	15–JAN–10 21:15	100115–2
	Thallium	49.7	ug/L	50	ug/L	99.5	90.0 – 110.0	MS	15–JAN–10 21:15	100115–2
	Uranium	53.1	ug/L	50	ug/L	106.2	90.0 – 110.0	MS	15–JAN–10 21:15	100115–2
	Mercury	5.21	ug/L	5	ug/L	104.2	80.0 – 120.0	AV	21–JAN–10 10:07	012110S1–3
	Aluminum	5200	ug/L	5000	ug/L	104	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Antimony	507	ug/L	500	ug/L	101.5	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Barium	516	ug/L	500	ug/L	103.3	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Cadmium	515	ug/L	500	ug/L	103	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Calcium	5160	ug/L	5000	ug/L	103.3	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Chromium	516	ug/L	500	ug/L	103.2	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Cobalt	514	ug/L	500	ug/L	102.9	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Copper	516	ug/L	500	ug/L	103.3	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Iron	5250	ug/L	5000	ug/L	105	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Lead	518	ug/L	500	ug/L	103.7	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Magnesium	5300	ug/L	5000	ug/L	106	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Manganese	509	ug/L	500	ug/L	101.8	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Potassium	5100	ug/L	5000	ug/L	102	90.0 – 110.0	P	25–JAN–10 13:19	012510–1

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1126

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS4,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
	Silver	514	ug/L	500	ug/L	102.7	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Sodium	10200	ug/L	10000	ug/L	102.1	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Vanadium	522	ug/L	500	ug/L	104.5	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
	Zinc	513	ug/L	500	ug/L	102.5	90.0 – 110.0	P	25–JAN–10 13:19	012510–1
CCV05										
	Arsenic	47.1	ug/L	50	ug/L	94.2	90.0 – 110.0	MS	15–JAN–10 21:53	100115–2
	Beryllium	47.7	ug/L	50	ug/L	95.4	90.0 – 110.0	MS	15–JAN–10 21:53	100115–2
	Nickel	52.5	ug/L	50	ug/L	105	90.0 – 110.0	MS	15–JAN–10 21:53	100115–2
	Selenium	49.6	ug/L	50	ug/L	99.1	90.0 – 110.0	MS	15–JAN–10 21:53	100115–2
	Thallium	49.6	ug/L	50	ug/L	99.2	90.0 – 110.0	MS	15–JAN–10 21:53	100115–2
	Uranium	53.4	ug/L	50	ug/L	106.9	90.0 – 110.0	MS	15–JAN–10 21:53	100115–2
	Mercury	5.34	ug/L	5	ug/L	106.7	80.0 – 120.0	AV	21–JAN–10 10:27	012110S1–3
CCV06										
	Arsenic	48	ug/L	50	ug/L	96	90.0 – 110.0	MS	15–JAN–10 22:36	100115–2
	Beryllium	46.7	ug/L	50	ug/L	93.4	90.0 – 110.0	MS	15–JAN–10 22:36	100115–2
	Nickel	52.2	ug/L	50	ug/L	104.4	90.0 – 110.0	MS	15–JAN–10 22:36	100115–2
	Selenium	49.7	ug/L	50	ug/L	99.5	90.0 – 110.0	MS	15–JAN–10 22:36	100115–2
	Thallium	50.2	ug/L	50	ug/L	100.3	90.0 – 110.0	MS	15–JAN–10 22:36	100115–2
	Uranium	53.3	ug/L	50	ug/L	106.5	90.0 – 110.0	MS	15–JAN–10 22:36	100115–2
	Mercury	5.31	ug/L	5	ug/L	106.2	80.0 – 120.0	AV	21–JAN–10 10:48	012110S1–3
CCV07										
	Arsenic	48.2	ug/L	50	ug/L	96.5	90.0 – 110.0	MS	15–JAN–10 23:14	100115–2
	Beryllium	45.2	ug/L	50	ug/L	90.4	90.0 – 110.0	MS	15–JAN–10 23:14	100115–2
	Nickel	53.2	ug/L	50	ug/L	106.4	90.0 – 110.0	MS	15–JAN–10 23:14	100115–2
	Selenium	49.7	ug/L	50	ug/L	99.4	90.0 – 110.0	MS	15–JAN–10 23:14	100115–2
	Thallium	49	ug/L	50	ug/L	98	90.0 – 110.0	MS	15–JAN–10 23:14	100115–2
	Uranium	52.8	ug/L	50	ug/L	105.6	90.0 – 110.0	MS	15–JAN–10 23:14	100115–2
	Mercury	5.2	ug/L	5	ug/L	104	80.0 – 120.0	AV	21–JAN–10 11:08	012110S1–3
CCV08										
	Mercury	5.36	ug/L	5	ug/L	107.2	80.0 – 120.0	AV	21–JAN–10 11:28	012110S1–3

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 10–1126

Contract: LANL01004 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS4,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
CCV09										
	Mercury	5.34	ug/L	5	ug/L	106.7	80.0 – 120.0	AV	21–JAN–10 11:48	012110S1–3
CCV10										
	Mercury	5.3	ug/L	5	ug/L	105.9	80.0 – 120.0	AV	21–JAN–10 12:09	012110S1–3
CCV11										
	Mercury	5.38	ug/L	5	ug/L	107.6	80.0 – 120.0	AV	21–JAN–10 12:29	012110S1–3
CCV12										
	Mercury	5.34	ug/L	5	ug/L	106.7	80.0 – 120.0	AV	21–JAN–10 12:49	012110S1–3

METALS
-2b-
CRDL Standard for AA & ICP

SDG No: 10-1126

Contract: LANL01004 **Lab Code:** GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: HG3,ICPMS4,OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Advisory Limits (%R)	M	Analysis Date/Time	Run Number
CRDL01										
	Nickel	2.2	ug/L	2	ug/L	109.8	70.0 – 130.0	MS	15-JAN-10 18:59	100115-2
	Thallium	1.04	ug/L	1	ug/L	104.4	70.0 – 130.0	MS	15-JAN-10 18:59	100115-2
	Arsenic	6.35	ug/L	5	ug/L	127	70.0 – 130.0	MS	15-JAN-10 18:59	100115-2
	Uranium	.249	ug/L	.2	ug/L	124.5	70.0 – 130.0	MS	15-JAN-10 18:59	100115-2
	Selenium	5.43	ug/L	5	ug/L	108.7	70.0 – 130.0	MS	15-JAN-10 18:59	100115-2
	Beryllium	.541	ug/L	.5	ug/L	108.2	70.0 – 130.0	MS	15-JAN-10 18:59	100115-2
	Mercury	.187	ug/L	.2	ug/L	93.5	70.0 – 130.0	AV	21-JAN-10 09:06	012110S1-3
PQL01										
	Manganese	10.4	ug/L	10	ug/L	103.7	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Potassium	141	ug/L	150	ug/L	93.8	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Silver	5.29	ug/L	5	ug/L	105.8	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Sodium	262	ug/L	300	ug/L	87.5	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Antimony	11.7	ug/L	10	ug/L	116.8	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Barium	5.05	ug/L	5	ug/L	100.9	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Magnesium	330	ug/L	300	ug/L	109.9	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Lead	11.3	ug/L	10	ug/L	113.4	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Iron	105	ug/L	100	ug/L	105.4	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Aluminum	216	ug/L	200	ug/L	107.8	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Cadmium	4.98	ug/L	5	ug/L	99.5	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Chromium	5.33	ug/L	5	ug/L	106.7	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Cobalt	4.63	ug/L	5	ug/L	92.6	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Copper	9.86	ug/L	10	ug/L	98.6	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Vanadium	5.15	ug/L	5	ug/L	103.1	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Zinc	10.2	ug/L	10	ug/L	102.3	70.0 – 130.0	P	25-JAN-10 11:32	012510-1
	Calcium	204	ug/L	200	ug/L	101.9	70.0 – 130.0	P	25-JAN-10 11:32	012510-1

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 10–1126

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
ICB01										
	Arsenic	1.0	+/–5	U	1.0	5.0	SOL	MS	15–JAN–10 18:53	100115–2
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	15–JAN–10 18:53	100115–2
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	15–JAN–10 18:53	100115–2
	Selenium	2.5	+/–5	U	2.5	5.0	SOL	MS	15–JAN–10 18:53	100115–2
	Thallium	0.3	+/–1	U	0.3	1.0	SOL	MS	15–JAN–10 18:53	100115–2
	Uranium	0.066	+/–.2	U	0.066	0.2	SOL	MS	15–JAN–10 18:53	100115–2
	Mercury	0.068	+/–.2	U	0.068	0.2	SOL	AV	21–JAN–10 09:04	012110S1–3
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	25–JAN–10 11:28	012510–1
	Antimony	–5.5	+/–10	J	3.3	10.0	SOL	P	25–JAN–10 11:28	012510–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 11:28	012510–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 11:28	012510–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	25–JAN–10 11:28	012510–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	25–JAN–10 11:28	012510–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	25–JAN–10 11:28	012510–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	25–JAN–10 11:28	012510–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	25–JAN–10 11:28	012510–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	25–JAN–10 11:28	012510–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	25–JAN–10 11:28	012510–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	25–JAN–10 11:28	012510–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	25–JAN–10 11:28	012510–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 11:28	012510–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	25–JAN–10 11:28	012510–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 11:28	012510–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	25–JAN–10 11:28	012510–1
CCB01										
	Arsenic	1.0	+/–5	U	1.0	5.0	SOL	MS	15–JAN–10 19:24	100115–2
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	15–JAN–10 19:24	100115–2
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	15–JAN–10 19:24	100115–2
	Selenium	2.5	+/–5	U	2.5	5.0	SOL	MS	15–JAN–10 19:24	100115–2
	Thallium	0.3	+/–1	U	0.3	1.0	SOL	MS	15–JAN–10 19:24	100115–2
	Uranium	0.066	+/–.2	U	0.066	0.2	SOL	MS	15–JAN–10 19:24	100115–2

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 10–1126

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Mercury	0.068	+/–.2	U	0.068	0.2	SOL	AV	21–JAN–10 09:09	012110S1–3
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	25–JAN–10 11:51	012510–1
	Antimony	3.3	+/–10	U	3.3	10.0	SOL	P	25–JAN–10 11:51	012510–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 11:51	012510–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 11:51	012510–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	25–JAN–10 11:51	012510–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	25–JAN–10 11:51	012510–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	25–JAN–10 11:51	012510–1
	Copper	5.54	+/–10	J	3.0	10.0	SOL	P	25–JAN–10 11:51	012510–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	25–JAN–10 11:51	012510–1
	Lead	2.5	+/–10	U	2.5	10.0	SOL	P	25–JAN–10 11:51	012510–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	25–JAN–10 11:51	012510–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	25–JAN–10 11:51	012510–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	25–JAN–10 11:51	012510–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 11:51	012510–1
	Sodium	70.0	+/–250	U	70.0	250	SOL	P	25–JAN–10 11:51	012510–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 11:51	012510–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	25–JAN–10 11:51	012510–1
CCB02										
	Arsenic	1.0	+/–5	U	1.0	5.0	SOL	MS	15–JAN–10 19:42	100115–2
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	15–JAN–10 19:42	100115–2
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	15–JAN–10 19:42	100115–2
	Selenium	2.5	+/–5	U	2.5	5.0	SOL	MS	15–JAN–10 19:42	100115–2
	Thallium	0.3	+/–1	U	0.3	1.0	SOL	MS	15–JAN–10 19:42	100115–2
	Uranium	0.129	+/–.2	J	0.066	0.2	SOL	MS	15–JAN–10 19:42	100115–2
	Mercury	0.068	+/–.2	U	0.068	0.2	SOL	AV	21–JAN–10 09:29	012110S1–3
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	25–JAN–10 12:15	012510–1
	Antimony	3.3	+/–10	U	3.3	10.0	SOL	P	25–JAN–10 12:15	012510–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 12:15	012510–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 12:15	012510–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	25–JAN–10 12:15	012510–1

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1126

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	25-JAN-10 12:15	012510-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	25-JAN-10 12:15	012510-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	25-JAN-10 12:15	012510-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	25-JAN-10 12:15	012510-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	25-JAN-10 12:15	012510-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	25-JAN-10 12:15	012510-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	25-JAN-10 12:15	012510-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	25-JAN-10 12:15	012510-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	25-JAN-10 12:15	012510-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	25-JAN-10 12:15	012510-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	25-JAN-10 12:15	012510-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	25-JAN-10 12:15	012510-1
CCB03										
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	15-JAN-10 20:32	100115-2
	Beryllium	0.1	+/-.5	U	0.1	0.5	SOL	MS	15-JAN-10 20:32	100115-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	15-JAN-10 20:32	100115-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	15-JAN-10 20:32	100115-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	15-JAN-10 20:32	100115-2
	Uranium	0.066	+/-.2	U	0.066	0.2	SOL	MS	15-JAN-10 20:32	100115-2
	Mercury	0.068	+/-.2	U	0.068	0.2	SOL	AV	21-JAN-10 09:49	012110S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	25-JAN-10 12:53	012510-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	25-JAN-10 12:53	012510-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	25-JAN-10 12:53	012510-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	25-JAN-10 12:53	012510-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	25-JAN-10 12:53	012510-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	25-JAN-10 12:53	012510-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	25-JAN-10 12:53	012510-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	25-JAN-10 12:53	012510-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	25-JAN-10 12:53	012510-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	25-JAN-10 12:53	012510-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	25-JAN-10 12:53	012510-1

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 10–1126

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	25–JAN–10 12:53	012510–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	25–JAN–10 12:53	012510–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 12:53	012510–1
	Sodium	–89.37	+/–250	J	70.0	250	SOL	P	25–JAN–10 12:53	012510–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 12:53	012510–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	25–JAN–10 12:53	012510–1
CCB04										
	Arsenic	1.0	+/–5	U	1.0	5.0	SOL	MS	15–JAN–10 21:22	100115–2
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	15–JAN–10 21:22	100115–2
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	15–JAN–10 21:22	100115–2
	Selenium	2.5	+/–5	U	2.5	5.0	SOL	MS	15–JAN–10 21:22	100115–2
	Thallium	0.3	+/–1	U	0.3	1.0	SOL	MS	15–JAN–10 21:22	100115–2
	Uranium	0.066	+/–.2	U	0.066	0.2	SOL	MS	15–JAN–10 21:22	100115–2
	Mercury	0.068	+/–.2	U	0.068	0.2	SOL	AV	21–JAN–10 10:09	012110S1–3
	Aluminum	68.0	+/–200	U	68.0	200	SOL	P	25–JAN–10 13:23	012510–1
	Antimony	3.3	+/–10	U	3.3	10.0	SOL	P	25–JAN–10 13:23	012510–1
	Barium	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 13:23	012510–1
	Cadmium	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 13:23	012510–1
	Calcium	80.0	+/–250	U	80.0	250	SOL	P	25–JAN–10 13:23	012510–1
	Chromium	1.5	+/–5	U	1.5	5.0	SOL	P	25–JAN–10 13:23	012510–1
	Cobalt	1.5	+/–5	U	1.5	5.0	SOL	P	25–JAN–10 13:23	012510–1
	Copper	3.0	+/–10	U	3.0	10.0	SOL	P	25–JAN–10 13:23	012510–1
	Iron	80.0	+/–250	U	80.0	250	SOL	P	25–JAN–10 13:23	012510–1
	Lead	2.65	+/–10	J	2.5	10.0	SOL	P	25–JAN–10 13:23	012510–1
	Magnesium	85.0	+/–300	U	85.0	300	SOL	P	25–JAN–10 13:23	012510–1
	Manganese	2.0	+/–10	U	2.0	10.0	SOL	P	25–JAN–10 13:23	012510–1
	Potassium	64.0	+/–250	U	64.0	250	SOL	P	25–JAN–10 13:23	012510–1
	Silver	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 13:23	012510–1
	Sodium	–98.71	+/–250	J	70.0	250	SOL	P	25–JAN–10 13:23	012510–1
	Vanadium	1.0	+/–5	U	1.0	5.0	SOL	P	25–JAN–10 13:23	012510–1
	Zinc	3.3	+/–10	U	3.3	10.0	SOL	P	25–JAN–10 13:23	012510–1

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 10–1126

Contract: LANL01004 **Lab Code: GEL**

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
CCB05										
	Arsenic	1.0	+/–5	U	1.0	5.0	SOL	MS	15–JAN–10 21:59	100115–2
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	15–JAN–10 21:59	100115–2
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	15–JAN–10 21:59	100115–2
	Selenium	2.5	+/–5	U	2.5	5.0	SOL	MS	15–JAN–10 21:59	100115–2
	Thallium	0.3	+/–1	U	0.3	1.0	SOL	MS	15–JAN–10 21:59	100115–2
	Uranium	0.066	+/–.2	U	0.066	0.2	SOL	MS	15–JAN–10 21:59	100115–2
	Mercury	0.068	+/–.2	U	0.068	0.2	SOL	AV	21–JAN–10 10:29	012110S1–3
CCB06										
	Arsenic	1.0	+/–5	U	1.0	5.0	SOL	MS	15–JAN–10 22:42	100115–2
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	15–JAN–10 22:42	100115–2
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	15–JAN–10 22:42	100115–2
	Selenium	2.5	+/–5	U	2.5	5.0	SOL	MS	15–JAN–10 22:42	100115–2
	Thallium	0.3	+/–1	U	0.3	1.0	SOL	MS	15–JAN–10 22:42	100115–2
	Uranium	0.066	+/–.2	U	0.066	0.2	SOL	MS	15–JAN–10 22:42	100115–2
	Mercury	0.068	+/–.2	U	0.068	0.2	SOL	AV	21–JAN–10 10:49	012110S1–3
CCB07										
	Arsenic	1.0	+/–5	U	1.0	5.0	SOL	MS	15–JAN–10 23:20	100115–2
	Beryllium	0.1	+/–.5	U	0.1	0.5	SOL	MS	15–JAN–10 23:20	100115–2
	Nickel	0.5	+/–2	U	0.5	2.0	SOL	MS	15–JAN–10 23:20	100115–2
	Selenium	2.5	+/–5	U	2.5	5.0	SOL	MS	15–JAN–10 23:20	100115–2
	Thallium	0.3	+/–1	U	0.3	1.0	SOL	MS	15–JAN–10 23:20	100115–2
	Uranium	0.066	+/–.2	U	0.066	0.2	SOL	MS	15–JAN–10 23:20	100115–2
	Mercury	0.068	+/–.2	U	0.068	0.2	SOL	AV	21–JAN–10 11:09	012110S1–3
CCB08										
	Mercury	0.068	+/–.2	U	0.068	0.2	SOL	AV	21–JAN–10 11:30	012110S1–3
CCB09										
	Mercury	0.068	+/–.2	U	0.068	0.2	SOL	AV	21–JAN–10 11:50	012110S1–3
CCB10										
	Mercury	0.068	+/–.2	U	0.068	0.2	SOL	AV	21–JAN–10 12:10	012110S1–3
CCB11										
	Mercury	0.068	+/–.2	U	0.068	0.2	SOL	AV	21–JAN–10 12:31	012110S1–3

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 10–1126

Contract: LANL01004

Lab Code: GEL

Sample ID	Analyte	Result ug/L	Acceptance	Conc Qual	MDL	RDL	Matrix	M	Analysis Date/Time	Run
CCB12										
	Mercury	0.068	+/–.2	U	0.068	0.2	SOL	AV	21–JAN–10 12:51	012110S1–3

METALS
–3b–
PREPARATION BLANK SUMMARY

SDG NO. 10–1126
Contract: LANL01004
Matrix: SOIL

Sample ID	Analyte	Result	Units	Acceptance Window	Conc Qual	M	MDL	RDL
1202011715								
	Thallium	0.058	mg/kg	+/–0.193	U	MS	0.058	0.193
	Uranium	0.0128	mg/kg	+/–0.0387	U	MS	0.0128	0.0387
	Arsenic	0.193	mg/kg	+/–0.967	U	MS	0.193	0.967
	Selenium	0.484	mg/kg	+/–0.967	U	MS	0.484	0.967
	Nickel	0.0967	mg/kg	+/–0.387	U	MS	0.0967	0.387
	Beryllium	0.0193	mg/kg	+/–0.0967	U	MS	0.0193	0.0967
1202011899								
	Aluminum	6300	ug/Kg	+/–18500	U	P	6300	18500
	Antimony	306	ug/Kg	+/–926	U	P	306	926
	Barium	92.6	ug/Kg	+/–463	U	P	92.6	463
	Cadmium	92.6	ug/Kg	+/–463	U	P	92.6	463
	Calcium	7410	ug/Kg	+/–23100	U	P	7410	23100
	Chromium	139	ug/Kg	+/–463	U	P	139	463
	Cobalt	139	ug/Kg	+/–463	U	P	139	463
	Copper	278	ug/Kg	+/–926	U	P	278	926
	Iron	7410	ug/Kg	+/–23100	U	P	7410	23100
	Lead	260	ug/Kg	+/–926	J	P	231	926
	Magnesium	7870	ug/Kg	+/–27800	U	P	7870	27800
	Manganese	185	ug/Kg	+/–926	U	P	185	926
	Potassium	5930	ug/Kg	+/–23100	U	P	5930	23100
	Silver	92.6	ug/Kg	+/–463	U	P	92.6	463
	Sodium	6480	ug/Kg	+/–23100	U	P	6480	23100
	Vanadium	92.6	ug/Kg	+/–463	U	P	92.6	463
	Zinc	306	ug/Kg	+/–926	U	P	306	926
1202019591								
	Mercury	4.03	ug/kg	+/–11.9	U	AV	4.03	11.9

METALS
–4–
Interference Check Sample

SDG No: 10–1126

Contract: LANL01004 **Lab Code:** GEL

ICS: O2Si

Instrument: OPTIMA1

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Aluminum	512000	ug/L	500000	ug/L	102	80.0 – 120.0	25–JAN–10 11:35	012510–1
	Antimony	9.71	ug/L					25–JAN–10 11:35	012510–1
	Barium	7.31	ug/L					25–JAN–10 11:35	012510–1
	Cadmium	3.56	ug/L					25–JAN–10 11:35	012510–1
	Calcium	488000	ug/L	500000	ug/L	97.7	80.0 – 120.0	25–JAN–10 11:35	012510–1
	Chromium	–0.22	ug/L					25–JAN–10 11:35	012510–1
	Cobalt	1.37	ug/L					25–JAN–10 11:35	012510–1
	Copper	3.25	ug/L					25–JAN–10 11:35	012510–1
	Iron	187000	ug/L	200000	ug/L	93.7	80.0 – 120.0	25–JAN–10 11:35	012510–1
	Lead	–5.72	ug/L					25–JAN–10 11:35	012510–1
	Magnesium	489000	ug/L	500000	ug/L	97.8	80.0 – 120.0	25–JAN–10 11:35	012510–1
	Manganese	–3.8	ug/L					25–JAN–10 11:35	012510–1
	Potassium	–83.8	ug/L					25–JAN–10 11:35	012510–1
	Silver	–6.72	ug/L					25–JAN–10 11:35	012510–1
	Sodium	–24.7	ug/L					25–JAN–10 11:35	012510–1
	Vanadium	1.91	ug/L					25–JAN–10 11:35	012510–1
	Zinc	0.335	ug/L					25–JAN–10 11:35	012510–1
ICSAB01									
	Aluminum	514000	ug/L	500000	ug/L	103	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Antimony	537	ug/L	500	ug/L	107	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Barium	512	ug/L	500	ug/L	102	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Cadmium	476	ug/L	500	ug/L	95.3	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Calcium	492000	ug/L	500000	ug/L	98.3	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Chromium	499	ug/L	500	ug/L	99.8	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Cobalt	452	ug/L	500	ug/L	90.5	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Copper	567	ug/L	500	ug/L	113	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Iron	190000	ug/L	200000	ug/L	94.8	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Lead	491	ug/L	500	ug/L	98.3	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Magnesium	494000	ug/L	500000	ug/L	98.9	80.0 – 120.0	25–JAN–10 11:38	012510–1

METALS
–4–
Interference Check Sample

SDG No: 10–1126

Contract: LANL01004 **Lab Code:** GEL

ICS:

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
	Manganese	485	ug/L	500	ug/L	97	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Potassium	5060	ug/L	5000	ug/L	101	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Silver	258	ug/L	250	ug/L	103	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Sodium	5070	ug/L	5000	ug/L	101	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Vanadium	527	ug/L	500	ug/L	105	80.0 – 120.0	25–JAN–10 11:38	012510–1
	Zinc	483	ug/L	500	ug/L	96.6	80.0 – 120.0	25–JAN–10 11:38	012510–1

METALS
–4–
Interference Check Sample

SDG No: 10–1126

Contract: LANL01004 **Lab Code:** GEL

ICS: O2Si

Instrument: ICPMS4

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Arsenic	0.026	ug/L					15–JAN–10 19:05	100115–2
	Beryllium	0.051	ug/L					15–JAN–10 19:05	100115–2
	Nickel	3.53	ug/L					15–JAN–10 19:05	100115–2
	Selenium	–0.932	ug/L					15–JAN–10 19:05	100115–2
	Thallium	–0.024	ug/L					15–JAN–10 19:05	100115–2
	Uranium	–0.003	ug/L					15–JAN–10 19:05	100115–2
ICSAB01									
	Arsenic	20.6	ug/L	20	ug/L	103	80.0 – 120.0	15–JAN–10 19:11	100115–2
	Beryllium	19.2	ug/L	20	ug/L	96.2	80.0 – 120.0	15–JAN–10 19:11	100115–2
	Nickel	22.5	ug/L	22.7	ug/L	98.9	80.0 – 120.0	15–JAN–10 19:11	100115–2
	Selenium	21.6	ug/L	20	ug/L	108	80.0 – 120.0	15–JAN–10 19:11	100115–2
	Thallium	17.7	ug/L	20	ug/L	88.5	80.0 – 120.0	15–JAN–10 19:11	100115–2
	Uranium	20.4	ug/L	20	ug/L	102	80.0 – 120.0	15–JAN–10 19:11	100115–2

METALS
-5a-
Matrix Spike Summary

SDG NO. 10-1126 **Client ID** RE12-10-7859S

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 93.1

Sample ID: 244137001 **Spike ID:** 1202011718

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	mg/kg	75-125	9.83		2.23		8.02	94.8		MS
Beryllium	mg/kg	75-125	5.06		0.962		5.01	81.8		MS
Nickel	mg/kg	75-125	12.6		8.11		5.01	89.8		MS
Selenium	mg/kg	75-125	1.73		0.523	U	2	78.6		MS
Thallium	mg/kg	75-125	9.45		0.234		10	92		MS
Uranium	mg/kg	75-125	6.38		1.27		5.01	102		MS

METALS
–5a–

Matrix Spike Duplicate Summary

SDG NO. 10–1126 **Client ID** RE12–10–7859SD

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 93.1

Sample ID: 244137001 **Spike ID:** 1202011720

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	mg/kg	75–125	9.49		2.23		8.14	89.2		MS
Beryllium	mg/kg	75–125	5.17		0.962		5.09	82.7		MS
Nickel	mg/kg	75–125	12.6		8.11		5.09	87.8		MS
Selenium	mg/kg	75–125	1.48		0.523	U	2.03	65.4	N	MS
Thallium	mg/kg	75–125	9.5		0.234		10.2	91.1		MS
Uranium	mg/kg	75–125	6.45		1.27		5.09	102		MS

METALS
–5a–

Matrix Spike Summary

SDG NO. 10–1126 **Client ID** RE12–10–7859S

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 93.1

Sample ID: 244137001 **Spike ID:** 1202011902

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cadmium	ug/Kg	75–125	52400		215	J	52100	100		P
Calcium	ug/Kg		3390000		2790000		521000	114	N/A	P
Chromium	ug/Kg	75–125	68000		12400		52100	107		P
Cobalt	ug/Kg	75–125	56300		5750		52100	97		P
Copper	ug/Kg	75–125	65400		6860		52100	112		P
Iron	ug/Kg		16000000		13200000		521000	542	N/A	P
Lead	ug/Kg	75–125	69900		15200		52100	105		P
Magnesium	ug/Kg	75–125	2880000		1870000		521000	194	N	P
Manganese	ug/Kg		558000		488000		52100	134	N/A	P
Potassium	ug/Kg	75–125	2620000		1600000		521000	196	N	P
Silver	ug/Kg	75–125	53800		104	U	52100	103		P
Sodium	ug/Kg	75–125	638000		100000		521000	103		P
Vanadium	ug/Kg	75–125	85100		28000		52100	109		P
Zinc	ug/Kg	75–125	86600		28400		52100	112		P
Aluminum	ug/Kg		19900000		10400000		521000	1830	N/A	P
Antimony	ug/Kg	75–125	34700		344	U	52100	66.3	N	P
Barium	ug/Kg	75–125	271000		194000		52100	148	N	P

METALS
–5a–

Matrix Spike Duplicate Summary

SDG NO. 10–1126 **Client ID** RE12–10–7859SD

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 93.1

Sample ID: 244137001 **Spike ID:** 1202011903

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Chromium	ug/Kg	75–125	69400		12400		52600	109		P
Cobalt	ug/Kg	75–125	57500		5750		52600	98.5		P
Copper	ug/Kg	75–125	67400		6860		52600	115		P
Iron	ug/Kg		15800000		13200000		526000	492	N/A	P
Lead	ug/Kg	75–125	72000		15200		52600	108		P
Magnesium	ug/Kg	75–125	2860000		1870000		526000	187	N	P
Manganese	ug/Kg		536000		488000		52600	91	N/A	P
Potassium	ug/Kg	75–125	2590000		1600000		526000	189	N	P
Silver	ug/Kg	75–125	55700		104	U	52600	106		P
Sodium	ug/Kg	75–125	654000		100000		526000	105		P
Vanadium	ug/Kg	75–125	85800		28000		52600	110		P
Zinc	ug/Kg	75–125	88100		28400		52600	114		P
Aluminum	ug/Kg		20300000		10400000		526000	1890	N/A	P
Antimony	ug/Kg	75–125	34400		344	U	52600	65.1	N	P
Barium	ug/Kg	75–125	273000		194000		52600	150	N	P
Cadmium	ug/Kg	75–125	54100		215	J	52600	103		P
Calcium	ug/Kg		3360000		2790000		526000	108	N/A	P

METALS
–5a–

Matrix Spike Summary

SDG NO. 10–1126 **Client ID** RE16–10–1438S

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 78

Sample ID: 244624001 **Spike ID:** 1202019594

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/kg	75–125	184		20.8		138	118		AV

METALS
–5a–

Matrix Spike Duplicate Summary

SDG NO. 10–1126 **Client ID** RE16–10–1438SD

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 78

Sample ID: 244624001 **Spike ID:** 1202019596

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/kg	75–125	185		20.8		136	121		AV

Metals
-6-
Duplicate Sample Summary

SDG No.: 10-1126

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE12-10-7859D

Sample ID: 244137001 **Duplicate ID:** 1202011717 **Percent Solids for Dup:** 93.1

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/-1.03	2.23		2.14		4.13		MS
Beryllium	mg/kg	+/-20%	0.962		0.909		5.7		MS
Nickel	mg/kg	+/-20%	8.11		8.13		.22		MS
Selenium	mg/kg		0.523	U	0.515	U			MS
Thallium	mg/kg	+/-.206	0.234		0.204	J	13.6		MS
Uranium	mg/kg	+/-20%	1.27		1.36		6.92		MS

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1126

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE12–10–7859SD

Sample ID: 1202011718 **Duplicate ID:** 1202011720 **Percent Solids for Dup:** 93.1

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/–20	9.83		9.49		3.52		MS
Beryllium	mg/kg	+/–20	5.06		5.17		2.06		MS
Nickel	mg/kg	+/–20	12.6		12.6		.283		MS
Selenium	mg/kg	+/–20	1.73		1.48		15.3		MS
Thallium	mg/kg	+/–20	9.45		9.5		.481		MS
Uranium	mg/kg	+/–20	6.38		6.45		1.03		MS

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1126

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE12–10–7859D

Sample ID: 244137001 **Duplicate ID:** 1202011900 **Percent Solids for Dup:** 93.1

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/–20%	10400000		11200000		8.25		P
Antimony	ug/Kg		344	U	346	U			P
Barium	ug/Kg	+/–20%	194000		215000		10.4		P
Cadmium	ug/Kg	+/–525	215	J	238	J	9.94		P
Calcium	ug/Kg	+/–20%	2790000		3950000		34.2	*	P
Chromium	ug/Kg	+/–20%	12400		12700		3		P
Cobalt	ug/Kg	+/–20%	5750		6560		13.1		P
Copper	ug/Kg	+/–20%	6860		7370		7.14		P
Iron	ug/Kg	+/–20%	13200000		13900000		5.02		P
Lead	ug/Kg	+/–20%	15200		16100		5.8		P
Magnesium	ug/Kg	+/–20%	1870000		1990000		5.96		P
Manganese	ug/Kg	+/–20%	488000		504000		3.11		P
Potassium	ug/Kg	+/–20%	1600000		1730000		7.96		P
Silver	ug/Kg		104	U	105	U			P
Sodium	ug/Kg	+/–26200	100000		101000		.831		P
Vanadium	ug/Kg	+/–20%	28000		29700		5.77		P
Zinc	ug/Kg	+/–20%	28400		29400		3.59		P

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1126

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE12–10–7859SD

Sample ID: 1202011902 **Duplicate ID:** 1202011903 **Percent Solids for Dup:** 93.1

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/–20	19900000		20300000		1.93		P
Antimony	ug/Kg	+/–20	34700		34400		1.08		P
Barium	ug/Kg	+/–20	271000		273000		.557		P
Cadmium	ug/Kg	+/–20	52400		54100		3.29		P
Calcium	ug/Kg	+/–20	3390000		3360000		.899		P
Chromium	ug/Kg	+/–20	68000		69400		2.08		P
Cobalt	ug/Kg	+/–20	56300		57500		2.1		P
Copper	ug/Kg	+/–20	65400		67400		3.03		P
Iron	ug/Kg	+/–20	16000000		15800000		1.49		P
Lead	ug/Kg	+/–20	69900		72000		3.04		P
Magnesium	ug/Kg	+/–20	2880000		2860000		.905		P
Manganese	ug/Kg	+/–20	558000		536000		4.04		P
Potassium	ug/Kg	+/–20	2620000		2590000		1.26		P
Silver	ug/Kg	+/–20	53800		55700		3.4		P
Sodium	ug/Kg	+/–20	638000		654000		2.35		P
Vanadium	ug/Kg	+/–20	85100		85800		.857		P
Zinc	ug/Kg	+/–20	86600		88100		1.7		P

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1126

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE16–10–1438D

Sample ID: 244624001 **Duplicate ID:** 1202019593 **Percent Solids for Dup:** 78

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg	+/–15.5	20.8		24.6		16.4		AV

Metals
–6–
Duplicate Sample Summary

SDG No.: 10–1126

Contract: LANL01004 **Lab Code:** GEL

Matrix: SOLID **Level:** Low **Client ID:** RE16–10–1438SD

Sample ID: 1202019594 **Duplicate ID:** 1202019596 **Percent Solids for Dup:** 78

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg	+/–20	184		185		.466		AV

METALS
–7–
Laboratory Control Sample Summary

SDG NO. 10–1126

Contract: LANL01004

Aqueous LCS Source: **Solid LCS Source:** ERA

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1202011716								
	Arsenic	mg/kg	104	110		105	83–120	MS
	Beryllium	mg/kg	77.6	78.1		101	81.2–126.8	MS
	Nickel	mg/kg	134	146		109	83.3–121.4	MS
	Selenium	mg/kg	286	300		105	80.2–125.9	MS
	Thallium	mg/kg	121	131		108	78–123.2	MS
	Uranium	mg/kg	2.13	2.02		94.6	61.9–130.7	MS

METALS
–7–
Laboratory Control Sample Summary

SDG NO. 10–1126

Contract: LANL01004

Aqueous LCS Source:

Solid LCS Source: ERA

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1202011904								
	Aluminum	ug/Kg	10500000	9470000		90.2	56–144	P
	Antimony	ug/Kg	173000	137000		79.3	71–130	P
	Barium	ug/Kg	198000	211000		107	80–120	P
	Cadmium	ug/Kg	60700	63400		104	81–120	P
	Calcium	ug/Kg	9870000	10500000		106	83–117	P
	Chromium	ug/Kg	236000	257000		109	80–120	P
	Cobalt	ug/Kg	91200	99000		109	81–120	P
	Copper	ug/Kg	174000	197000		113	81–118	P
	Iron	ug/Kg	18000000	20300000		113	51–149	P
	Lead	ug/Kg	86000	90700		105	79–121	P
	Magnesium	ug/Kg	4000000	4210000		105	79–122	P
	Manganese	ug/Kg	558000	573000		103	81–119	P
	Potassium	ug/Kg	4300000	4340000		101	74–127	P
	Silver	ug/Kg	30100	32500		108	66–134	P
	Sodium	ug/Kg	1020000	1060000		104	74–127	P
	Vanadium	ug/Kg	115000	132000		115	79–121	P
	Zinc	ug/Kg	594000	622000		105	80–121	P

METALS
–7–
Laboratory Control Sample Summary

SDG NO. 10–1126

Contract: LANL01004

Aqueous LCS Source: **Solid LCS Source:** ERA

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1202019592								
	Mercury	ug/kg	5150	5970		116	71.6–128.3	AV

METALS
–9–
Serial Dilution Sample Summary

SDG NO. 10–1126 **Client ID** RE12–10–7859L

Contract: LANL01004

Matrix: SOLID **Level:** Low

Sample ID: 244137001 **Serial Dilution ID:** 1202011719

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Arsenic	10.7		11.1	J	3.74			MS
Beryllium	4.6		5.25		14.1			MS
Nickel	38.8		45.7		17.8			MS
Selenium	2.5	U	12.5	U				MS
Thallium	1.12		1.97	J	75.4			MS
Uranium	6.07		6.6		8.73			MS

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 10-1126 **Client ID** RE12-10-7859L

Contract: LANL01004

Matrix: SOLID **Level:** Low

Sample ID: 244137001 **Serial Dilution ID:** 1202011901

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Aluminum	99300		102000		2.72		10	P
Antimony	3.3	U	16.5	U				P
Barium	1860		1890		1.34		10	P
Cadmium	2.06	J	5	U	100			P
Calcium	26800		27700		3.36		10	P
Chromium	118		119		.847		10	P
Cobalt	55.1		54.5		1.09			P
Copper	65.8		65		1.22			P
Iron	127000		132000		3.54		10	P
Lead	146		153		4.45		10	P
Magnesium	18000		18500		2.78		10	P
Manganese	4680		4780		2.14		10	P
Potassium	15300		15600		1.96		10	P
Silver	1	U	5	U				P
Sodium	960		645	J	32.8			P
Vanadium	268		268		0		10	P
Zinc	272		261		4.04		10	P

METALS
-9-
Serial Dilution Sample Summary

SDG NO. 10-1126 **Client ID** RE16-10-1438L

Contract: LANL01004

Matrix: SOLID **Level:** Low

Sample ID: 244624001 **Serial Dilution ID:** 1202019595

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Mercury	.274		.34	U	100			AV

METALS
–13–
SAMPLE PREPARATION SUMMARY

SDG No: 10–1126 **Method Type:** P

Contract: LANL01004 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number 940176							
1202011899	MB for batch 940176	MB	S	12–JAN–10	.54g	50mL	
1202011904	LCS for batch 940176	LCS	S	12–JAN–10	.506g	50mL	
1202011902	RE12–10–7859S	MS	S	12–JAN–10	.515g	50mL	
1202011903	RE12–10–7859SD	MSD	S	12–JAN–10	.511g	50mL	
1202011900	RE12–10–7859D	DUP	S	12–JAN–10	.512g	50mL	
244137001	RE12–10–7859	SAMPLE	S	12–JAN–10	.515g	50mL	
244137002	RE12–10–7851	SAMPLE	S	12–JAN–10	.523g	50mL	
244137003	RE12–10–7852	SAMPLE	S	12–JAN–10	.508g	50mL	
244137004	RE12–10–7850	SAMPLE	S	12–JAN–10	.519g	50mL	
244137005	RE12–10–7853	SAMPLE	S	12–JAN–10	.501g	50mL	
244137006	RE12–10–7848	SAMPLE	S	12–JAN–10	.514g	50mL	
244137007	RE12–10–7849	SAMPLE	S	12–JAN–10	.52g	50mL	

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 10-1126 **Method Type:** MS

Contract: LANL01004 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number	940085						
1202011715	MB for batch 940085	MB	S	12-JAN-10	.517g	50mL	
1202011716	LCS for batch 940085	LCS	S	12-JAN-10	.505g	50mL	
1202011718	RE12-10-7859S	MS	S	12-JAN-10	.536g	50mL	
1202011720	RE12-10-7859SD	MSD	S	12-JAN-10	.528g	50mL	
1202011717	RE12-10-7859D	DUP	S	12-JAN-10	.521g	50mL	
244137001	RE12-10-7859	SAMPLE	S	12-JAN-10	.514g	50mL	
244137002	RE12-10-7851	SAMPLE	S	12-JAN-10	.504g	50mL	
244137003	RE12-10-7852	SAMPLE	S	12-JAN-10	.509g	50mL	
244137004	RE12-10-7850	SAMPLE	S	12-JAN-10	.533g	50mL	
244137005	RE12-10-7853	SAMPLE	S	12-JAN-10	.502g	50mL	
244137006	RE12-10-7848	SAMPLE	S	12-JAN-10	.516g	50mL	
244137007	RE12-10-7849	SAMPLE	S	12-JAN-10	.508g	50mL	

METALS
–13–
SAMPLE PREPARATION SUMMARY

SDG No: 10–1126 **Method Type:** AV

Contract: LANL01004 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number 943241							
1202019591	MB for batch 943241	MB	S	20–JAN–10	.506g	30mL	
1202019592	LCS for batch 943241	LCS	S	20–JAN–10	.203g	30mL	
1202019594	RE16–10–1438S	MS	S	20–JAN–10	.559g	30mL	
1202019596	RE16–10–1438SD	MSD	S	20–JAN–10	.57g	30mL	
1202019593	RE16–10–1438D	DUP	S	20–JAN–10	.5g	30mL	
244137001	RE12–10–7859	SAMPLE	S	20–JAN–10	.548g	30mL	
244137002	RE12–10–7851	SAMPLE	S	20–JAN–10	.544g	30mL	
244137003	RE12–10–7852	SAMPLE	S	20–JAN–10	.522g	30mL	
244137004	RE12–10–7850	SAMPLE	S	20–JAN–10	.521g	30mL	
244137005	RE12–10–7853	SAMPLE	S	20–JAN–10	.545g	30mL	
244137006	RE12–10–7848	SAMPLE	S	20–JAN–10	.575g	30mL	
244137007	RE12–10–7849	SAMPLE	S	20–JAN–10	.533g	30mL	

Metals
–14–
Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: HG3
Start Date: 21–JAN–10 **End Date:** 21–JAN–10

Client Sdg: 10–1126
Method AV
Data File: 012110S1–3

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	08:52															X									
S0.2	1	08:54															X									
S0.5	1	08:55															X									
S2.0	1	08:57															X									
S5.0	1	08:59															X									
S10.0	1	09:01															X									
ICV01	1	09:02															X									
ICB01	1	09:04															X									
CRDL01	1	09:06															X									
CCV01	1	09:07															X									
CCB01	1	09:09															X									
ZZZZZZ	1	09:11																								
ZZZZZZ	10	09:12																								
ZZZZZZ	1	09:14																								
ZZZZZZ	1	09:16																								
ZZZZZZ	1	09:17																								
ZZZZZZ	1	09:19																								
ZZZZZZ	5	09:21																								
ZZZZZZ	1	09:22																								
ZZZZZZ	1	09:24																								
ZZZZZZ	1	09:26																								
CCV02	1	09:27															X									
CCB02	1	09:29															X									
ZZZZZZ	1	09:31																								
ZZZZZZ	1	09:32																								
ZZZZZZ	1	09:34																								
ZZZZZZ	1	09:36																								
ZZZZZZ	1	09:37																								
ZZZZZZ	1	09:39																								
ZZZZZZ	1	09:41																								
ZZZZZZ	10	09:42																								
ZZZZZZ	1	09:44																								
ZZZZZZ	1	09:46																								
CCV03	1	09:47															X									
CCB03	1	09:49															X									
ZZZZZZ	1	09:51																								
ZZZZZZ	1	09:52																								
ZZZZZZ	5	09:54																								
ZZZZZZ	1	09:56																								
ZZZZZZ	1	09:57																								

Metals
–14–
Analysis Run Log

Samp No.	D/F	Run Time																							
ZZZZZZ	1	09:59																							
ZZZZZZ	1	10:01																							
ZZZZZZ	1	10:02																							
ZZZZZZ	1	10:04																							
ZZZZZZ	1	10:06																							
CCV04	1	10:07													X										
CCB04	1	10:09													X										
ZZZZZZ	1	10:11																							
ZZZZZZ	1	10:12																							
ZZZZZZ	1	10:14																							
ZZZZZZ	1	10:16																							
ZZZZZZ	1	10:17																							
ZZZZZZ	1	10:19																							
ZZZZZZ	1	10:21																							
ZZZZZZ	1	10:22																							
ZZZZZZ	1	10:24																							
ZZZZZZ	1	10:26																							
CCV05	1	10:27													X										
CCB05	1	10:29													X										
ZZZZZZ	1	10:31																							
ZZZZZZ	1	10:32																							
ZZZZZZ	1	10:34																							
ZZZZZZ	10	10:36																							
ZZZZZZ	1	10:37																							
ZZZZZZ	1	10:39																							
ZZZZZZ	1	10:41																							
ZZZZZZ	1	10:43																							
ZZZZZZ	5	10:44																							
ZZZZZZ	1	10:46																							
CCV06	1	10:48													X										
CCB06	1	10:49													X										
ZZZZZZ	1	10:51																							
ZZZZZZ	1	10:53																							
ZZZZZZ	1	10:54																							
ZZZZZZ	1	10:56																							
ZZZZZZ	1	10:58																							
ZZZZZZ	1	10:59																							
ZZZZZZ	1	11:01																							
ZZZZZZ	1	11:03																							
ZZZZZZ	1	11:04																							

Metals
–14–
Analysis Run Log

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
ZZZZZZ	1	11:06																								
CCV07	1	11:08															X									
CCB07	1	11:09															X									
ZZZZZZ	1	11:11																								
ZZZZZZ	1	11:13																								
ZZZZZZ	1	11:15																								
ZZZZZZ	1	11:16																								
ZZZZZZ	1	11:18																								
ZZZZZZ	1	11:20																								
ZZZZZZ	10	11:21																								
ZZZZZZ	1	11:23																								
ZZZZZZ	1	11:25																								
ZZZZZZ	1	11:26																								
CCV08	1	11:28															X									
CCB08	1	11:30															X									
ZZZZZZ	1	11:31																								
ZZZZZZ	1	11:33																								
ZZZZZZ	1	11:35																								
ZZZZZZ	1	11:36																								
ZZZZZZ	1	11:38																								
ZZZZZZ	1	11:40																								
ZZZZZZ	1	11:41																								
ZZZZZZ	1	11:43																								
ZZZZZZ	1	11:45																								
ZZZZZZ	1	11:47																								
CCV09	1	11:48															X									
CCB09	1	11:50															X									
ZZZZZZ	1	11:52																								
ZZZZZZ	1	11:53																								
ZZZZZZ	1	11:55																								
ZZZZZZ	1	11:57																								
ZZZZZZ	1	11:58																								
ZZZZZZ	5	12:00																								
ZZZZZZ	1	12:02																								
ZZZZZZ	1	12:03																								
ZZZZZZ	1	12:05																								
ZZZZZZ	1	12:07																								
CCV10	1	12:09															X									
CCB10	1	12:10															X									
1202019591	1	12:12															X									

Metals
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Analysis Run Log

Samp No.	D/F	Run Time																								
1202019592	10	12:14														X										
244137001	1	12:15														X										
244137002	1	12:17														X										
244137003	1	12:19														X										
244137004	1	12:20														X										
244137005	1	12:22														X										
244137006	1	12:24														X										
244137007	1	12:25														X										
ZZZZZZ	1	12:27																								
CCV11	1	12:29														X										
CCB11	1	12:31														X										
ZZZZZZ	1	12:32																								
ZZZZZZ	1	12:34																								
ZZZZZZ	1	12:36																								
ZZZZZZ	1	12:37																								
ZZZZZZ	1	12:39																								
ZZZZZZ	1	12:41																								
1202019593	1	12:42														X										
1202019594	1	12:44														X										
1202019596	1	12:46														X										
1202019595	5	12:48														X										
CCV12	1	12:49														X										
CCB12	1	12:51														X										

Metals
–14–
Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: ICPMS4
Start Date: 15–JAN–10 **End Date:** 15–JAN–10

Client Sdg: 10–1126
Method MS
Data File: 100115–2

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	18:28			X		X											X		X			X	X		
S10	1	18:34			X		X											X		X			X	X		
S100	1	18:40			X		X											X		X			X	X		
ICV01	1	18:46			X		X											X		X			X	X		
ICB01	1	18:53			X		X											X		X			X	X		
CRDL01	1	18:59			X		X											X		X			X	X		
ICSA01	1	19:05			X		X											X		X			X	X		
ICSAB01	1	19:11			X		X											X		X			X	X		
CCV01	1	19:17			X		X											X		X			X	X		
CCB01	1	19:24			X		X											X		X			X	X		
LR01	1	19:30			X		X											X		X			X	X		
CCV02	1	19:36			X		X											X		X			X	X		
CCB02	1	19:42			X		X											X		X			X	X		
ZZZZZZ	2	19:48																								
ZZZZZZ	40	19:55																								
ZZZZZZ	2	20:01																								
ZZZZZZ	2	20:07																								
ZZZZZZ	2	20:13																								
ZZZZZZ	2	20:19																								
CCV03	1	20:26			X		X											X		X			X	X		
CCB03	1	20:32			X		X											X		X			X	X		
ZZZZZZ	10	20:38																								
ZZZZZZ	2	20:44																								
ZZZZZZ	2	20:50																								
ZZZZZZ	2	20:57																								
ZZZZZZ	2	21:03																								
ZZZZZZ	2	21:09																								
CCV04	1	21:15			X		X											X		X			X	X		
CCB04	1	21:22			X		X											X		X			X	X		
1202011715	2	21:28			X		X											X		X			X	X		
1202011716	40	21:34			X		X											X		X			X	X		
244137001	2	21:40			X		X											X		X			X	X		
1202011717	2	21:46			X		X											X		X			X	X		
CCV05	1	21:53			X		X											X		X			X	X		
CCB05	1	21:59			X		X											X		X			X	X		
1202011718	2	22:05			X		X											X		X			X	X		
1202011720	2	22:11			X		X											X		X			X	X		
1202011719	10	22:18			X		X											X		X			X	X		
244137002	2	22:24			X		X											X		X			X	X		
244137003	2	22:30			X		X											X		X			X	X		

Metals
–14–
Analysis Run Log

Samp No.	D/F	Run Time																							
CCV06	1	22:36			X		X										X		X			X	X		
CCB06	1	22:42			X		X										X		X			X	X		
244137004	2	22:49			X		X										X		X			X	X		
244137005	2	22:55			X		X										X		X			X	X		
244137006	2	23:01			X		X										X		X			X	X		
244137007	2	23:07			X		X										X		X			X	X		
CCV07	1	23:14			X		X										X		X			X	X		
CCB07	1	23:20			X		X										X		X			X	X		

Metals
–14–
Analysis Run Log

Contract: LANL01004
Lab Code: GEL
Inst Name: OPTIMA1
Start Date: 25–JAN–10 **End Date:** 25–JAN–10

Client Sdg: 10–1126
Method P
Data File: 012510–1

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	11:09	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
S0.1	1	11:12		X		X		X		X	X	X		X		X			X		X				X	X
S0.5	1	11:15	X	X		X		X	X	X	X	X		X	X	X			X		X				X	X
SCAL	1	11:19	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
S10	1	11:22	X						X				X		X							X				
ICV01	1	11:25	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICB01	1	11:28	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
PQL01	1	11:32	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICSA01	1	11:35	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICSAB01	1	11:38	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR01	1	11:41	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR02	1	11:43	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV01	1	11:47	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB01	1	11:51	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR03	1	12:08	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV02	1	12:12	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB02	1	12:15	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202011899	1	12:24	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202011904	1	12:28	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
244137001	1	12:31	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202011900	1	12:35	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202011902	1	12:38	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202011903	1	12:42	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202011901	5	12:46	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV03	1	12:49	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB03	1	12:53	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
244137002	1	12:57	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
244137003	1	13:01	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
244137004	1	13:04	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
244137005	1	13:08	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
244137006	1	13:12	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
244137007	1	13:15	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV04	1	13:19	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB04	1	13:23	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X

Standards

METALS
–10–
Instrument Detection Limits

SDG NO. 10–1126

Contract: LANL01004 **Lab Code: GEL** **MDL Effective Date:** 01–JUL–09

ICP/MS	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
SOLID	Aluminum		15.0	50
	Antimony		0.5	3
	Arsenic		1.0	5
	Barium		0.5	2
	Beryllium		0.1	.5
	Cadmium		0.1	1
	Calcium		33.0	100
	Chromium		1.0	3
	Cobalt		0.3	1
	Copper		0.33	1
	Iron		25.0	100
	Lead		0.5	2
	Magnesium		7.5	25
	Manganese		1.0	5
	Nickel		0.5	2
	Potassium		80.0	300
	Selenium		2.5	5
	Silver		0.2	1
	Sodium		80.0	250
	Thallium		0.3	1
	Uranium		0.066	.2
	Vanadium		2.0	10
	Zinc		2.0	10

METALS
–10–
Instrument Detection Limits

SDG NO. 10–1126

Contract: LANL01004 **Lab Code: GEL** **MDL Effective Date:** 15–JUN–09

MERCURY	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
SOLID	Mercury		0.068	.2

METALS
-10-
Instrument Detection Limits

SDG NO. 10-1126

Contract: LANL01004 **Lab Code: GEL** **MDL Effective Date:** 01-JUL-09

ICP	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
SOLID	Aluminum	396.153	68.0	200
	Antimony	206.836	3.3	10
	Arsenic	188.979	5.0	30
	Barium	233.527	1.0	5
	Beryllium	313.107	1.0	5
	Cadmium	226.502	1.0	5
	Calcium	317.933	80.0	250
	Chromium	267.716	1.5	5
	Cobalt	228.616	1.5	5
	Copper	324.752	3.0	10
	Iron	238.204	80.0	250
	Lead	220.353	2.5	10
	Magnesium	279.077	85.0	300
	Manganese	257.61	2.0	10
	Nickel	231.604	1.5	5
	Potassium	766.49	64.0	250
	Selenium	196.026	5.0	30
	Silver	328.068	1.0	5
	Sodium	589.592	70.0	250
	Thallium	190.801	5.0	20
	Uranium	409.014	10.0	50
	Vanadium	292.402	1.0	5
	Zinc	213.857	3.3	10

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1126
Effective Dates: 01-NOV-09

Parmname	Wavelength	Aluminum	Antimony	Arsenic	Barium	Beryllium
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	-0.08714	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	-0.36980	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	-0.02864	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1126
Effective Dates: 01-NOV-09

Parmname	Wavelength	Boron	Cadmium	Chromium	Cobalt	Copper
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	4.75140	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	-1.59900	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	-33.0980	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	1.36057
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.03970	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	122.96
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	4.07230	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	1.45160

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1126
Effective Dates: 01-NOV-09

Parmname	Wavelength	Iron	Lead	Magnesium	Manganese	Molybdenum
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	20.5430
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	1.47380
Arsenic	188.979	-0.05800	0.00000	0.00000	0.00000	1.97700
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.13300	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	-0.90500
Copper	324.752	-0.24488	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.01248	0.00000	0.00000	0.00000	-2.95230
Magnesium	279.077	1.47510	0.00000	0.00000	0.00000	-24.9658
Manganese	257.61	-0.12666	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	-0.03930	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	1.17810	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	-0.61937	0.00000	0.41160	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	17.0660
Silver	328.068	-0.06300	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.14830	0.00000	0.14260	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	-4.63400	0.00000
Tin	189.927	-0.09214	0.00000	-0.16050	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.18670	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	-0.08158	0.00000	0.00000	0.00000	-6.97050
Zinc	213.857	0.06940	0.00000	0.02727	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10-1126
Effective Dates: 01-NOV-09

Parmname	Wavelength	Nickel	Phosphorous	Selenium	Silicon	Silver
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	-0.99900	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	5.19130	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL
GEL Job No: 10-1126
Contract: LANL01004
Instrument: OPTIMA1
Effective Dates: 01-NOV-09
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Sulfur	Thallium	Tin	Titanium	Uranium
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	-3.74360	-0.55870
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.38100	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	2.08700	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.84100
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	-21.8313	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	38.5869	36.0710	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	-7.24690	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	-1.61770
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
–11–
Interelement Correction Factors

Lab Code: GEL
Contract: LANL01004
Instrument: OPTIMA1
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

GEL Job No: 10–1126
Effective Dates: 01–NOV–09

Parmname	Wavelength	Vanadium	Zinc
Aluminum	396.153	0.00000	0.00000
Antimony	206.836	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000
Barium	233.527	–1.80500	0.00000
Beryllium	313.107	0.00000	0.00000
Boron	249.677	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000
Chromium	267.716	–2.34600	0.00000
Cobalt	228.616	0.00000	0.00000
Copper	324.752	0.00000	0.00000
Iron	238.204	0.00000	0.00000
Lead	220.353	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000
Manganese	257.61	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000
Nickel	231.604	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000
Selenium	196.026	0.00000	0.00000
Silicon	251.611	0.00000	0.00000
Silver	328.068	–6.59800	0.00000
Sulfur	181.975	0.00000	0.00000
Thallium	190.801	0.00000	0.00000
Tin	189.927	0.00000	0.00000
Titanium	334.94	0.00000	0.00000
Uranium	409.014	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000
Zinc	213.857	0.00000	0.00000

METALS
–12–
Linear Ranges

SDG NO. 10–1126

Contract: LANL01004 **Lab Code: GEL**

Instrument ID ICPMS4

Analyte	Integration Time (msec)	LDR	Units	Effective Date
Antimony	1000	250	ug/L	01–NOV–09
Arsenic	1000	1000	ug/L	01–NOV–09
Barium	1000	1000	ug/L	01–NOV–09
Beryllium	1000	1000	ug/L	01–NOV–09
Cadmium	1000	1000	ug/L	01–NOV–09
Calcium	500	50000	ug/L	01–NOV–09
Chromium	1000	1000	ug/L	01–NOV–09
Aluminum	1	50000	ug/L	01–NOV–09
Cobalt	1000	1000	ug/L	01–NOV–09
Copper	1000	1000	ug/L	01–NOV–09
Iron	500	50000	ug/L	01–NOV–09
Lead	1000	5000	ug/L	01–NOV–09
Magnesium	1	50000	ug/L	01–NOV–09
Manganese	1000	1000	ug/L	01–NOV–09
Nickel	1000	1000	ug/L	01–NOV–09
Potassium	1	50000	ug/L	01–NOV–09
Selenium	1000	500	ug/L	01–NOV–09
Silver	1000	250	ug/L	01–NOV–09
Sodium	1	50000	ug/L	01–NOV–09
Thallium	1000	500	ug/L	01–NOV–09
Uranium	1000	5000	ug/L	01–NOV–09
Vanadium	1000	100	ug/L	01–NOV–09
Zinc	1000	2500	ug/L	01–NOV–09

METALS
–12–
Linear Ranges

SDG NO. 10–1126

Contract: LANL01004 **Lab Code: GEL**

Instrument ID OPTIMA1

Analyte	Integration Time (sec)	LDR	Units	Effective Date
Aluminum	20	500000	ug/L	01–NOV–09
Antimony	20	10000	ug/L	01–NOV–09
Arsenic	20	10000	ug/L	01–NOV–09
Barium	20	15000	ug/L	01–NOV–09
Beryllium	20	3000	ug/L	01–NOV–09
Cadmium	20	10000	ug/L	01–NOV–09
Calcium	20	500000	ug/L	01–NOV–09
Chromium	20	25000	ug/L	01–NOV–09
Cobalt	20	10000	ug/L	01–NOV–09
Copper	20	20000	ug/L	01–NOV–09
Iron	20	500000	ug/L	01–NOV–09
Lead	20	25000	ug/L	01–NOV–09
Magnesium	20	500000	ug/L	01–NOV–09
Manganese	20	10000	ug/L	01–NOV–09
Nickel	20	10000	ug/L	01–NOV–09
Selenium	20	10000	ug/L	01–NOV–09
Silver	20	1000	ug/L	01–NOV–09
Sodium	20	500000	ug/L	01–NOV–09
Thallium	20	10000	ug/L	01–NOV–09
Uranium	20	15000	ug/L	01–NOV–09
Vanadium	20	10000	ug/L	01–NOV–09
Zinc	20	15000	ug/L	01–NOV–09
Potassium	20	300000	ug/L	01–NOV–09

Raw Data

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Analysis Begun

Start Time: 1/25/2010 11:09:14 **Plasma On Time: 1/25/2010 05:31:26**
Logged In Analyst: optima **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N1030502Autosampler Model: AS-93plus

Sample Information File: C:\pe\optima1\Sample Information\012510.sif
Batch ID:
Results Data Set: 012510
Results Library: c:\pe\optima1\Results\Results.mdb

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Method Loaded
Method Name: Gen Eng fast_new Si **Method Last Saved: 1/25/2010 08:59:52**
IEC File: 011510.iec **MSF File:**
Method Description:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

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Sequence No.: 1 **Autosampler Location: 8**
Sample ID: S0 **Date Collected: 1/25/2010 11:09:16**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Replicate Data: S0

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	78032.5	78032.5	101	%	11:09:50
1	Al 396.153Radial†	-24.0	-23.9	[0.00]	µg/L	11:09:50
1	Ca 317.933Radial†	251.0	249.7	[0.00]	µg/L	11:10:10
1	Fe 238.204 Radial†	16.4	16.4	[0.00]	µg/L	11:10:10

1	K 766.490 Radial†	391.2	389.1	[0.00]	µg/L	11:09:50
1	Mg 279.077 IEC†	8.0	7.9	[0.00]	µg/L	11:10:10
1	Na 589.592 Radial†	608.0	604.8	[0.00]	µg/L	11:09:50
1	Sr 421.552†	479.0	476.5	[0.00]	µg/L	11:09:50
1	Sc 361.383	1883956.3	1883956.3	99.847	%	11:11:12
1	Y 371.029	1202190.0	1202190.0	99.859	%	11:11:12
1	Ag 328.068†	-110.5	-110.7	[0.00]	µg/L	11:11:18
1	As 188.979†	-3.4	-3.4	[0.00]	µg/L	11:11:38
1	B 249.677†	175.2	175.5	[0.00]	µg/L	11:11:38
1	Ba 233.527†	-25.8	-25.8	[0.00]	µg/L	11:11:38
1	Be 313.107†	3608.1	3613.7	[0.00]	µg/L	11:11:18
1	Cd 226.502†	-114.0	-114.2	[0.00]	µg/L	11:11:38
1	Co 228.616†	-39.1	-39.2	[0.00]	µg/L	11:11:38
1	Cr 267.716†	-70.0	-70.1	[0.00]	µg/L	11:11:38
1	Cu 324.752†	4026.3	4032.5	[0.00]	µg/L	11:11:18
1	Mn 257.610†	-177.5	-177.7	[0.00]	µg/L	11:11:38
1	Mo 202.031†	15.9	15.9	[0.00]	µg/L	11:11:38
1	Ni 231.604†	314.3	314.8	[0.00]	µg/L	11:11:38
1	P 214.914†	210.6	210.9	[0.00]	µg/L	11:11:38
1	Pb 220.353†	62.1	62.2	[0.00]	µg/L	11:11:38
1	S 181.975 Axial†	24.4	24.4	[0.00]	µg/L	11:11:38
1	Sb 206.836†	21.5	21.5	[0.00]	µg/L	11:11:38
1	Se 196.026†	5.8	5.8	[0.00]	µg/L	11:11:38
1	SiO2†	2401.4	2405.1	[0.00]	µg/L	11:11:18
1	Si 251.611†	275.6	276.0	[0.00]	µg/L	11:11:38
1	Sn 189.927†	20.0	20.0	[0.00]	µg/L	11:11:38
1	Ti 334.940†	722.0	723.1	[0.00]	µg/L	11:11:18
1	Tl 190.801†	-22.5	-22.5	[0.00]	µg/L	11:11:38
1	U 409.014†	-47.0	-47.0	[0.00]	µg/L	11:11:18
1	V 292.402†	-126.7	-126.9	[0.00]	µg/L	11:11:18
1	Zn 213.857†	602.9	603.8	[0.00]	µg/L	11:11:38
2	Sc RADIAL	77096.2	77096.2	99.3	%	11:10:16
2	Al 396.153Radial†	-31.8	-32.0	[0.00]	µg/L	11:10:16
2	Ca 317.933Radial†	251.0	252.7	[0.00]	µg/L	11:10:36
2	Fe 238.204 Radial†	14.0	14.1	[0.00]	µg/L	11:10:36
2	K 766.490 Radial†	395.5	398.2	[0.00]	µg/L	11:10:16
2	Mg 279.077 IEC†	11.6	11.6	[0.00]	µg/L	11:10:36
2	Na 589.592 Radial†	579.9	583.9	[0.00]	µg/L	11:10:16
2	Sr 421.552†	491.4	494.8	[0.00]	µg/L	11:10:16
2	Sc 361.383	1892390.0	1892390.0	100.29	%	11:11:44
2	Y 371.029	1207455.2	1207455.2	100.30	%	11:11:44
2	Ag 328.068†	-16.5	-16.5	[0.00]	µg/L	11:11:50
2	As 188.979†	-1.6	-1.6	[0.00]	µg/L	11:12:10
2	B 249.677†	175.8	175.3	[0.00]	µg/L	11:12:10
2	Ba 233.527†	-21.3	-21.2	[0.00]	µg/L	11:12:10
2	Be 313.107†	3661.6	3650.8	[0.00]	µg/L	11:11:50
2	Cd 226.502†	-113.4	-113.1	[0.00]	µg/L	11:12:10
2	Co 228.616†	-50.7	-50.5	[0.00]	µg/L	11:12:10
2	Cr 267.716†	-72.9	-72.7	[0.00]	µg/L	11:12:10
2	Cu 324.752†	4039.0	4027.2	[0.00]	µg/L	11:11:50
2	Mn 257.610†	-177.9	-177.3	[0.00]	µg/L	11:12:10
2	Mo 202.031†	9.4	9.4	[0.00]	µg/L	11:12:10
2	Ni 231.604†	308.4	307.5	[0.00]	µg/L	11:12:10
2	P 214.914†	208.9	208.3	[0.00]	µg/L	11:12:10
2	Pb 220.353†	55.0	54.8	[0.00]	µg/L	11:12:10
2	S 181.975 Axial†	24.6	24.5	[0.00]	µg/L	11:12:10
2	Sb 206.836†	22.7	22.6	[0.00]	µg/L	11:12:10
2	Se 196.026†	6.6	6.5	[0.00]	µg/L	11:12:10
2	SiO2†	2419.1	2412.0	[0.00]	µg/L	11:11:50
2	Si 251.611†	282.1	281.2	[0.00]	µg/L	11:12:10
2	Sn 189.927†	17.1	17.0	[0.00]	µg/L	11:12:10
2	Ti 334.940†	776.0	773.8	[0.00]	µg/L	11:11:50
2	Tl 190.801†	-18.5	-18.4	[0.00]	µg/L	11:12:10
2	U 409.014†	-48.2	-48.0	[0.00]	µg/L	11:11:50
2	V 292.402†	-175.4	-174.9	[0.00]	µg/L	11:11:50
2	Zn 213.857†	609.3	607.6	[0.00]	µg/L	11:12:10
3	Sc RADIAL	77735.9	77735.9	100	%	11:10:41
3	Al 396.153Radial†	-33.0	-33.0	[0.00]	µg/L	11:10:41
3	Ca 317.933Radial†	269.8	269.4	[0.00]	µg/L	11:11:02
3	Fe 238.204 Radial†	15.9	15.9	[0.00]	µg/L	11:11:02
3	K 766.490 Radial†	390.6	390.1	[0.00]	µg/L	11:10:41

3	Mg 279.077 IEC†	9.7	9.7	[0.00]	µg/L	11:11:02
3	Na 589.592 Radial†	591.5	590.7	[0.00]	µg/L	11:10:41
3	Sr 421.552†	475.4	474.7	[0.00]	µg/L	11:10:41
3	Sc 361.383	1884187.1	1884187.1	99.859	%	11:12:16
3	Y 371.029	1202001.3	1202001.3	99.844	%	11:12:16
3	Ag 328.068†	-109.1	-109.3	[0.00]	µg/L	11:12:22
3	As 188.979†	-0.4	-0.4	[0.00]	µg/L	11:12:42
3	B 249.677†	184.9	185.1	[0.00]	µg/L	11:12:42
3	Ba 233.527†	-27.2	-27.2	[0.00]	µg/L	11:12:42
3	Be 313.107†	3667.1	3672.3	[0.00]	µg/L	11:12:22
3	Cd 226.502†	-126.3	-126.5	[0.00]	µg/L	11:12:42
3	Co 228.616†	-44.0	-44.0	[0.00]	µg/L	11:12:42
3	Cr 267.716†	-73.4	-73.5	[0.00]	µg/L	11:12:42
3	Cu 324.752†	4033.6	4039.2	[0.00]	µg/L	11:12:22
3	Mn 257.610†	-181.7	-181.9	[0.00]	µg/L	11:12:42
3	Mo 202.031†	12.8	12.8	[0.00]	µg/L	11:12:42
3	Ni 231.604†	306.4	306.9	[0.00]	µg/L	11:12:42
3	P 214.914†	215.5	215.8	[0.00]	µg/L	11:12:42
3	Pb 220.353†	53.2	53.3	[0.00]	µg/L	11:12:42
3	S 181.975 Axial†	21.8	21.9	[0.00]	µg/L	11:12:42
3	Sb 206.836†	27.8	27.8	[0.00]	µg/L	11:12:42
3	Se 196.026†	9.1	9.1	[0.00]	µg/L	11:12:42
3	SiO2†	2438.1	2441.5	[0.00]	µg/L	11:12:22
3	Si 251.611†	281.7	282.1	[0.00]	µg/L	11:12:42
3	Sn 189.927†	22.7	22.8	[0.00]	µg/L	11:12:42
3	Ti 334.940†	702.4	703.4	[0.00]	µg/L	11:12:22
3	Tl 190.801†	-15.6	-15.7	[0.00]	µg/L	11:12:42
3	U 409.014†	-87.4	-87.5	[0.00]	µg/L	11:12:22
3	V 292.402†	-128.4	-128.6	[0.00]	µg/L	11:12:22
3	Zn 213.857†	606.3	607.2	[0.00]	µg/L	11:12:42

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1886844.5	4803.97	0.25%	100.00	%
Sc RADIAL	77621.5	478.49	0.62%	100.0	%
Y 371.029	1203882.2	3095.75	0.26%	100.000	%
Ag 328.068†	-78.8	53.99	68.52%	[0.00]	µg/L
Al 396.153Radial†	-29.6	5.01	16.90%	[0.00]	µg/L
As 188.979†	-1.8	1.48	83.20%	[0.00]	µg/L
B 249.677†	178.6	5.65	3.16%	[0.00]	µg/L
Ba 233.527†	-24.7	3.14	12.71%	[0.00]	µg/L
Be 313.107†	3645.6	29.67	0.81%	[0.00]	µg/L
Ca 317.933Radial†	257.2	10.63	4.13%	[0.00]	µg/L
Cd 226.502†	-117.9	7.45	6.31%	[0.00]	µg/L
Co 228.616†	-44.6	5.68	12.75%	[0.00]	µg/L
Cr 267.716†	-72.1	1.79	2.48%	[0.00]	µg/L
Cu 324.752†	4033.0	6.05	0.15%	[0.00]	µg/L
Fe 238.204 Radial†	15.4	1.20	7.80%	[0.00]	µg/L
K 766.490 Radial†	392.4	4.99	1.27%	[0.00]	µg/L
Mg 279.077 IEC†	9.8	1.86	19.09%	[0.00]	µg/L
Mn 257.610†	-179.0	2.54	1.42%	[0.00]	µg/L
Mo 202.031†	12.7	3.27	25.74%	[0.00]	µg/L
Na 589.592 Radial†	593.1	10.66	1.80%	[0.00]	µg/L
Ni 231.604†	309.7	4.41	1.42%	[0.00]	µg/L
P 214.914†	211.7	3.80	1.80%	[0.00]	µg/L
Pb 220.353†	56.7	4.76	8.38%	[0.00]	µg/L
S 181.975 Axial†	23.6	1.51	6.38%	[0.00]	µg/L
Sb 206.836†	24.0	3.35	13.97%	[0.00]	µg/L
Se 196.026†	7.1	1.73	24.27%	[0.00]	µg/L
SiO2†	2419.5	19.35	0.80%	[0.00]	µg/L
Si 251.611†	279.8	3.28	1.17%	[0.00]	µg/L
Sn 189.927†	19.9	2.87	14.39%	[0.00]	µg/L
Sr 421.552†	482.0	11.09	2.30%	[0.00]	µg/L
Ti 334.940†	733.5	36.29	4.95%	[0.00]	µg/L
Tl 190.801†	-18.9	3.46	18.31%	[0.00]	µg/L
U 409.014†	-60.9	23.11	37.96%	[0.00]	µg/L
V 292.402†	-143.5	27.26	19.00%	[0.00]	µg/L
Zn 213.857†	606.2	2.03	0.34%	[0.00]	µg/L

Sequence No.: 2
Sample ID: S0.1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 1/25/2010 11:12:52
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: S0.1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	80534.7	80534.7	104	%	11:13:26
1	K 766.490 Radial†	1996.3	1531.7	[1000]	µg/L	11:13:26
1	Sr 421.552†	18010.2	16876.7	[100]	µg/L	11:13:26
1	Sc 361.383	1888103.8	1888103.8	100.07	%	11:13:48
1	Y 371.029	1204769.6	1204769.6	100.07	%	11:13:48
1	Ag 328.068†	11396.1	11467.3	[100]	µg/L	11:13:53
1	As 188.979†	45.7	47.5	[100]	µg/L	11:14:14
1	B 249.677†	2326.0	2145.8	[100]	µg/L	11:13:53
1	Ba 233.527†	3639.4	3661.7	[100]	µg/L	11:13:53
1	Be 313.107†	153489.9	149741.9	[100]	µg/L	11:13:48
1	Cd 226.502†	3460.0	3575.6	[100]	µg/L	11:13:53
1	Co 228.616†	1845.3	1888.7	[100]	µg/L	11:14:14
1	Cr 267.716†	4530.3	4599.4	[100]	µg/L	11:13:53
1	Cu 324.752†	18552.1	14506.7	[100]	µg/L	11:13:53
1	Mn 257.610†	28429.9	28590.0	[100]	µg/L	11:13:53
1	Mo 202.031†	867.5	854.2	[100]	µg/L	11:14:14
1	Ni 231.604†	1986.7	1675.6	[100]	µg/L	11:14:14
1	P 214.914†	430.1	218.1	[500]	µg/L	11:14:14
1	Pb 220.353†	425.3	368.3	[100]	µg/L	11:14:14
1	S 181.975 Axial†	61.2	37.6	[200]	µg/L	11:14:14
1	Sb 206.836†	121.2	97.2	[100]	µg/L	11:14:14
1	Se 196.026†	76.2	69.1	[100]	µg/L	11:14:14
1	SiO2†	7813.9	5389.1	[1069.5]	µg/L	11:13:53
1	Si 251.611†	6605.9	6321.7	[500]	µg/L	11:13:53
1	Sn 189.927†	203.8	183.8	[100]	µg/L	11:14:14
1	Ti 334.940†	42773.1	42011.2	[100]	µg/L	11:13:53
1	Tl 190.801†	39.3	58.1	[100]	µg/L	11:14:14
1	U 409.014†	1079.6	1139.8	[100]	µg/L	11:13:53
1	V 292.402†	8457.3	8595.1	[100]	µg/L	11:13:53
1	Zn 213.857†	4276.3	3667.3	[100]	µg/L	11:13:53
2	Sc RADIAL	79649.4	79649.4	103	%	11:13:32
2	K 766.490 Radial†	1944.4	1502.5	[1000]	µg/L	11:13:32
2	Sr 421.552†	17828.6	16892.6	[100]	µg/L	11:13:32
2	Sc 361.383	1892562.2	1892562.2	100.30	%	11:14:20
2	Y 371.029	1207929.3	1207929.3	100.34	%	11:14:20
2	Ag 328.068†	11382.7	11427.1	[100]	µg/L	11:14:26
2	As 188.979†	45.5	47.2	[100]	µg/L	11:14:46
2	B 249.677†	2272.0	2086.5	[100]	µg/L	11:14:26
2	Ba 233.527†	3616.6	3630.4	[100]	µg/L	11:14:26
2	Be 313.107†	153888.8	149778.3	[100]	µg/L	11:14:20
2	Cd 226.502†	3438.5	3546.1	[100]	µg/L	11:14:26
2	Co 228.616†	1831.3	1870.4	[100]	µg/L	11:14:46
2	Cr 267.716†	4526.7	4585.1	[100]	µg/L	11:14:26
2	Cu 324.752†	18495.7	14406.9	[100]	µg/L	11:14:26
2	Mn 257.610†	28290.4	28384.0	[100]	µg/L	11:14:26
2	Mo 202.031†	861.6	846.3	[100]	µg/L	11:14:46
2	Ni 231.604†	1962.0	1646.3	[100]	µg/L	11:14:46
2	P 214.914†	432.5	219.5	[500]	µg/L	11:14:46
2	Pb 220.353†	422.4	364.4	[100]	µg/L	11:14:46
2	S 181.975 Axial†	61.2	37.4	[200]	µg/L	11:14:46
2	Sb 206.836†	118.8	94.4	[100]	µg/L	11:14:46
2	Se 196.026†	77.1	69.8	[100]	µg/L	11:14:46
2	SiO2†	7821.7	5378.5	[1069.5]	µg/L	11:14:26
2	Si 251.611†	6612.0	6312.2	[500]	µg/L	11:14:26
2	Sn 189.927†	211.6	191.1	[100]	µg/L	11:14:46
2	Ti 334.940†	42583.3	41721.2	[100]	µg/L	11:14:26
2	Tl 190.801†	37.8	56.6	[100]	µg/L	11:14:46
2	U 409.014†	1052.0	1109.7	[100]	µg/L	11:14:26
2	V 292.402†	8393.1	8511.2	[100]	µg/L	11:14:26

2	Zn 213.857†	4264.1	3645.0	[100]	µg/L	11:14:26
3	Sc RADIAL	79816.2	79816.2	103	%	11:13:37
3	K 766.490 Radial†	1968.3	1521.7	[1000]	µg/L	11:13:37
3	Sr 421.552†	17836.0	16863.5	[100]	µg/L	11:13:37
3	Sc 361.383	1901622.2	1901622.2	100.78	%	11:14:53
3	Y 371.029	1213669.0	1213669.0	100.81	%	11:14:53
3	Ag 328.068†	11401.4	11391.6	[100]	µg/L	11:14:58
3	As 188.979†	47.3	48.7	[100]	µg/L	11:15:19
3	B 249.677†	2290.2	2093.7	[100]	µg/L	11:14:58
3	Ba 233.527†	3638.1	3634.6	[100]	µg/L	11:14:58
3	Be 313.107†	154425.1	149579.5	[100]	µg/L	11:14:53
3	Cd 226.502†	3454.5	3545.6	[100]	µg/L	11:14:58
3	Co 228.616†	1828.5	1858.9	[100]	µg/L	11:15:19
3	Cr 267.716†	4512.7	4549.7	[100]	µg/L	11:14:58
3	Cu 324.752†	18554.0	14376.8	[100]	µg/L	11:14:58
3	Mn 257.610†	28408.2	28366.4	[100]	µg/L	11:14:58
3	Mo 202.031†	855.8	836.5	[100]	µg/L	11:15:19
3	Ni 231.604†	1971.4	1646.3	[100]	µg/L	11:15:19
3	P 214.914†	434.7	219.7	[500]	µg/L	11:15:19
3	Pb 220.353†	426.2	366.1	[100]	µg/L	11:15:19
3	S 181.975 Axial†	59.1	35.1	[200]	µg/L	11:15:19
3	Sb 206.836†	123.5	98.5	[100]	µg/L	11:15:19
3	Se 196.026†	82.7	74.9	[100]	µg/L	11:15:19
3	SiO2†	7817.0	5336.7	[1069.5]	µg/L	11:14:58
3	Si 251.611†	6612.0	6280.9	[500]	µg/L	11:14:58
3	Sn 189.927†	205.8	184.3	[100]	µg/L	11:15:19
3	Ti 334.940†	42798.6	41732.6	[100]	µg/L	11:14:58
3	Tl 190.801†	37.7	56.3	[100]	µg/L	11:15:19
3	U 409.014†	1103.7	1156.0	[100]	µg/L	11:14:58
3	V 292.402†	8425.6	8503.6	[100]	µg/L	11:14:58
3	Zn 213.857†	4286.2	3646.7	[100]	µg/L	11:14:58

Mean Data: S0.1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1894096.1	6888.54	0.36%	100.38	%
Sc RADIAL	80000.1	470.40	0.59%	103	%
Y 371.029	1208789.3	4511.59	0.37%	100.41	%
Ag 328.068†	11428.7	37.85	0.33%	[100]	µg/L
As 188.979†	47.8	0.80	1.67%	[100]	µg/L
B 249.677†	2108.7	32.37	1.53%	[100]	µg/L
Ba 233.527†	3642.2	16.98	0.47%	[100]	µg/L
Be 313.107†	149699.9	105.85	0.07%	[100]	µg/L
Cd 226.502†	3555.7	17.16	0.48%	[100]	µg/L
Co 228.616†	1872.6	15.01	0.80%	[100]	µg/L
Cr 267.716†	4578.0	25.58	0.56%	[100]	µg/L
Cu 324.752†	14430.1	68.02	0.47%	[100]	µg/L
K 766.490 Radial†	1518.6	14.85	0.98%	[1000]	µg/L
Mn 257.610†	28446.8	124.31	0.44%	[100]	µg/L
Mo 202.031†	845.6	8.86	1.05%	[100]	µg/L
Ni 231.604†	1656.1	16.92	1.02%	[100]	µg/L
P 214.914†	219.1	0.86	0.39%	[500]	µg/L
Pb 220.353†	366.3	1.95	0.53%	[100]	µg/L
S 181.975 Axial†	36.7	1.39	3.80%	[200]	µg/L
Sb 206.836†	96.7	2.09	2.16%	[100]	µg/L
Se 196.026†	71.3	3.22	4.52%	[100]	µg/L
SiO2†	5368.1	27.72	0.52%	[1069.5]	µg/L
Si 251.611†	6304.9	21.39	0.34%	[500]	µg/L
Sn 189.927†	186.4	4.08	2.19%	[100]	µg/L
Sr 421.552†	16877.6	14.58	0.09%	[100]	µg/L
Ti 334.940†	41821.6	164.24	0.39%	[100]	µg/L
Tl 190.801†	57.0	1.00	1.75%	[100]	µg/L
U 409.014†	1135.2	23.48	2.07%	[100]	µg/L
V 292.402†	8536.7	50.77	0.59%	[100]	µg/L
Zn 213.857†	3653.0	12.38	0.34%	[100]	µg/L

Sequence No.: 3
Sample ID: S0.5
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 1/25/2010 11:15:27
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: S0.5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	80431.0	80431.0	104	%	11:16:00
1	Al 396.153Radial†	8179.1	7923.0	[5000]	µg/L	11:16:00
1	Ca 317.933Radial†	7381.2	6866.1	[5000]	µg/L	11:16:21
1	K 766.490 Radial†	8818.8	8118.3	[5000]	µg/L	11:16:00
1	Mg 279.077 IEC†	545.9	517.0	[5000]	µg/L	11:16:21
1	Sr 421.552†	88819.5	85235.0	[500]	µg/L	11:16:00
1	Sc 361.383	1896465.4	1896465.4	100.51	%	11:17:24
1	Y 371.029	1206356.7	1206356.7	100.21	%	11:17:24
1	Ag 328.068†	56928.6	56718.6	[500]	µg/L	11:17:30
1	As 188.979†	235.5	236.1	[500]	µg/L	11:17:50
1	B 249.677†	11067.9	10833.1	[500]	µg/L	11:17:30
1	Ba 233.527†	18144.0	18076.7	[500]	µg/L	11:17:30
1	Be 313.107†	767427.9	759889.1	[500]	µg/L	11:17:24
1	Cd 226.502†	17660.2	17688.5	[500]	µg/L	11:17:30
1	Co 228.616†	9536.8	9533.0	[500]	µg/L	11:17:30
1	Cr 267.716†	22953.3	22908.9	[500]	µg/L	11:17:30
1	Cu 324.752†	76673.3	72251.4	[500]	µg/L	11:17:30
1	Mn 257.610†	141962.6	141421.4	[500]	µg/L	11:17:30
1	Mo 202.031†	4204.5	4170.4	[500]	µg/L	11:17:50
1	Ni 231.604†	8684.2	8330.4	[500]	µg/L	11:17:30
1	P 214.914†	1351.4	1132.8	[2500]	µg/L	11:17:50
1	Pb 220.353†	1895.6	1829.3	[500]	µg/L	11:17:50
1	S 181.975 Axial†	211.0	186.3	[1000]	µg/L	11:17:50
1	Sb 206.836†	514.6	488.0	[500]	µg/L	11:17:50
1	Se 196.026†	351.5	342.6	[500]	µg/L	11:17:50
1	SiO2†	29795.5	27224.9	[5347.5]	µg/L	11:17:30
1	Si 251.611†	32511.6	32066.8	[2500]	µg/L	11:17:30
1	Sn 189.927†	935.0	910.3	[500]	µg/L	11:17:50
1	Ti 334.940†	214232.3	212412.1	[500]	µg/L	11:17:24
1	Tl 190.801†	282.6	300.1	[500]	µg/L	11:17:50
1	U 409.014†	5608.9	5641.3	[500]	µg/L	11:17:30
1	V 292.402†	42938.0	42863.6	[500]	µg/L	11:17:30
1	Zn 213.857†	18907.2	18205.1	[500]	µg/L	11:17:30
2	Sc RADIAL	79612.4	79612.4	103	%	11:16:26
2	Al 396.153Radial†	8145.8	7971.7	[5000]	µg/L	11:16:26
2	Ca 317.933Radial†	7363.7	6922.3	[5000]	µg/L	11:16:47
2	K 766.490 Radial†	8737.1	8126.1	[5000]	µg/L	11:16:26
2	Mg 279.077 IEC†	543.0	519.6	[5000]	µg/L	11:16:47
2	Sr 421.552†	88191.0	85503.6	[500]	µg/L	11:16:26
2	Sc 361.383	1893328.1	1893328.1	100.34	%	11:17:57
2	Y 371.029	1204154.5	1204154.5	100.02	%	11:17:57
2	Ag 328.068†	57332.0	57214.5	[500]	µg/L	11:18:02
2	As 188.979†	234.5	235.4	[500]	µg/L	11:18:23
2	B 249.677†	11111.8	10895.2	[500]	µg/L	11:18:02
2	Ba 233.527†	18233.2	18195.5	[500]	µg/L	11:18:02
2	Be 313.107†	764439.0	758175.6	[500]	µg/L	11:17:57
2	Cd 226.502†	17764.6	17821.7	[500]	µg/L	11:18:02
2	Co 228.616†	9563.8	9575.6	[500]	µg/L	11:18:02
2	Cr 267.716†	23001.6	22994.9	[500]	µg/L	11:18:02
2	Cu 324.752†	77078.6	72781.7	[500]	µg/L	11:18:02
2	Mn 257.610†	142689.8	142380.2	[500]	µg/L	11:18:02
2	Mo 202.031†	4151.2	4124.2	[500]	µg/L	11:18:23
2	Ni 231.604†	8749.9	8410.3	[500]	µg/L	11:18:02
2	P 214.914†	1331.1	1114.9	[2500]	µg/L	11:18:23
2	Pb 220.353†	1874.5	1811.3	[500]	µg/L	11:18:23
2	S 181.975 Axial†	204.3	180.0	[1000]	µg/L	11:18:23
2	Sb 206.836†	508.2	482.5	[500]	µg/L	11:18:23
2	Se 196.026†	345.5	337.2	[500]	µg/L	11:18:23
2	SiO2†	29922.4	27400.4	[5347.5]	µg/L	11:18:02

2	Si 251.611†	32682.4	32290.7	[2500]	µg/L	11:18:02
2	Sn 189.927†	917.7	894.6	[500]	µg/L	11:18:23
2	Ti 334.940†	213477.2	212012.7	[500]	µg/L	11:17:57
2	Tl 190.801†	278.7	296.7	[500]	µg/L	11:18:23
2	U 409.014†	5732.8	5774.0	[500]	µg/L	11:18:02
2	V 292.402†	43152.3	43148.0	[500]	µg/L	11:18:02
2	Zn 213.857†	19013.1	18341.8	[500]	µg/L	11:18:02
3	Sc RADIAL	79849.1	79849.1	103	%	11:16:52
3	Al 396.153Radial†	8155.0	7957.2	[5000]	µg/L	11:16:52
3	Ca 317.933Radial†	7287.4	6826.8	[5000]	µg/L	11:17:13
3	K 766.490 Radial†	8756.5	8119.8	[5000]	µg/L	11:16:52
3	Mg 279.077 IEC†	537.4	512.7	[5000]	µg/L	11:17:13
3	Sr 421.552†	88251.6	85307.6	[500]	µg/L	11:16:52
3	Sc 361.383	1891616.1	1891616.1	100.25	%	11:18:29
3	Y 371.029	1203285.7	1203285.7	99.950	%	11:18:29
3	Ag 328.068†	53617.3	53560.9	[500]	µg/L	11:18:35
3	As 188.979†	201.2	202.5	[500]	µg/L	11:18:56
3	B 249.677†	10315.8	10111.1	[500]	µg/L	11:18:35
3	Ba 233.527†	16498.7	16481.8	[500]	µg/L	11:18:35
3	Be 313.107†	710979.9	705540.8	[500]	µg/L	11:18:29
3	Cd 226.502†	15896.7	15974.5	[500]	µg/L	11:18:35
3	Co 228.616†	8512.5	8535.6	[500]	µg/L	11:18:35
3	Cr 267.716†	19915.4	19937.2	[500]	µg/L	11:18:35
3	Cu 324.752†	69372.9	65164.9	[500]	µg/L	11:18:35
3	Mn 257.610†	126804.2	126663.4	[500]	µg/L	11:18:35
3	Mo 202.031†	3455.7	3434.3	[500]	µg/L	11:18:56
3	Ni 231.604†	7840.6	7511.1	[500]	µg/L	11:18:35
3	P 214.914†	1158.3	943.7	[2500]	µg/L	11:18:56
3	Pb 220.353†	1626.6	1565.7	[500]	µg/L	11:18:56
3	S 181.975 Axial†	181.5	157.5	[1000]	µg/L	11:18:56
3	Sb 206.836†	434.6	409.5	[500]	µg/L	11:18:56
3	Se 196.026†	302.4	294.5	[500]	µg/L	11:18:56
3	SiO2†	27510.5	25021.5	[5347.5]	µg/L	11:18:35
3	Si 251.611†	29883.2	29528.0	[2500]	µg/L	11:18:35
3	Sn 189.927†	758.9	737.0	[500]	µg/L	11:18:56
3	Ti 334.940†	197575.2	196343.3	[500]	µg/L	11:18:29
3	Tl 190.801†	255.1	273.3	[500]	µg/L	11:18:56
3	U 409.014†	5031.1	5079.2	[500]	µg/L	11:18:35
3	V 292.402†	38221.6	38268.7	[500]	µg/L	11:18:35
3	Zn 213.857†	17020.6	16371.5	[500]	µg/L	11:18:35

Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc.	Units
Sc 361.383	1893803.2	2459.34	0.13%	100.37	%
Sc RADIAL	79964.2	421.25	0.53%	103	%
Y 371.029	1204598.9	1583.04	0.13%	100.06	%
Ag 328.068†	55831.3	1981.84	3.55%	[500]	µg/L
Al 396.153Radial†	7950.6	25.00	0.31%	[5000]	µg/L
As 188.979†	224.7	19.24	8.56%	[500]	µg/L
B 249.677†	10613.1	435.86	4.11%	[500]	µg/L
Ba 233.527†	17584.7	956.92	5.44%	[500]	µg/L
Be 313.107†	741201.8	30895.21	4.17%	[500]	µg/L
Ca 317.933Radial†	6871.8	48.00	0.70%	[5000]	µg/L
Cd 226.502†	17161.6	1030.22	6.00%	[500]	µg/L
Co 228.616†	9214.7	588.51	6.39%	[500]	µg/L
Cr 267.716†	21947.0	1741.07	7.93%	[500]	µg/L
Cu 324.752†	70066.0	4252.72	6.07%	[500]	µg/L
K 766.490 Radial†	8121.4	4.16	0.05%	[5000]	µg/L
Mg 279.077 IEC†	516.4	3.50	0.68%	[5000]	µg/L
Mn 257.610†	136821.7	8810.40	6.44%	[500]	µg/L
Mo 202.031†	3909.7	412.33	10.55%	[500]	µg/L
Ni 231.604†	8083.9	497.68	6.16%	[500]	µg/L
P 214.914†	1063.8	104.40	9.81%	[2500]	µg/L
Pb 220.353†	1735.5	147.24	8.48%	[500]	µg/L
S 181.975 Axial†	174.6	15.16	8.68%	[1000]	µg/L
Sb 206.836†	460.0	43.82	9.52%	[500]	µg/L
Se 196.026†	324.8	26.35	8.11%	[500]	µg/L
SiO2†	26548.9	1325.65	4.99%	[5347.5]	µg/L
Si 251.611†	31295.2	1534.50	4.90%	[2500]	µg/L

Sn 189.927†	847.3	95.84	11.31%	[500]	µg/L
Sr 421.552†	85348.7	138.92	0.16%	[500]	µg/L
Ti 334.940†	206922.7	9164.18	4.43%	[500]	µg/L
Tl 190.801†	290.0	14.58	5.03%	[500]	µg/L
U 409.014†	5498.2	368.85	6.71%	[500]	µg/L
V 292.402†	41426.8	2738.67	6.61%	[500]	µg/L
Zn 213.857†	17639.4	1100.24	6.24%	[500]	µg/L

Sequence No.: 4
Sample ID: SCAL
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 1/25/2010 11:19:05
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: SCAL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	79328.4	79328.4	102	%	11:19:38
1	Al 396.153Radial†	15859.7	15548.1	[10000]	µg/L	11:19:38
1	Ca 317.933Radial†	14134.8	13573.4	[10000]	µg/L	11:19:59
1	Fe 238.204 Radial†	809.6	776.7	[10000]	µg/L	11:19:59
1	K 766.490 Radial†	16767.3	16014.1	[10000]	µg/L	11:19:38
1	Mg 279.077 IEC†	1053.4	1021.0	[10000]	µg/L	11:19:59
1	Na 589.592 Radial†	38382.9	36964.0	[10000]	µg/L	11:19:38
1	Sr 421.552†	170646.9	166493.3	[1000]	µg/L	11:19:38
1	Sc 361.383	1895536.5	1895536.5	100.46	%	11:21:02
1	Y 371.029	1203821.2	1203821.2	99.995	%	11:21:02
1	Ag 328.068†	113688.0	113245.5	[1000]	µg/L	11:21:08
1	As 188.979†	464.4	464.1	[1000]	µg/L	11:21:29
1	B 249.677†	21820.7	21542.0	[1000]	µg/L	11:21:08
1	Ba 233.527†	35786.3	35647.0	[1000]	µg/L	11:21:08
1	Be 313.107†	1484561.1	1474108.0	[1000]	µg/L	11:21:02
1	Cd 226.502†	34824.1	34782.3	[1000]	µg/L	11:21:08
1	Co 228.616†	18783.2	18741.7	[1000]	µg/L	11:21:08
1	Cr 267.716†	45158.3	45023.3	[1000]	µg/L	11:21:08
1	Cu 324.752†	147015.1	142308.0	[1000]	µg/L	11:21:08
1	Mn 257.610†	280840.6	279731.8	[1000]	µg/L	11:21:02
1	Mo 202.031†	8461.3	8409.7	[1000]	µg/L	11:21:08
1	Ni 231.604†	16785.5	16398.8	[1000]	µg/L	11:21:08
1	P 214.914†	2421.1	2198.3	[5000]	µg/L	11:21:29
1	Pb 220.353†	3631.0	3557.6	[1000]	µg/L	11:21:29
1	S 181.975 Axial†	387.1	361.8	[2000]	µg/L	11:21:29
1	Sb 206.836†	1002.3	973.8	[1000]	µg/L	11:21:29
1	Se 196.026†	688.8	678.5	[1000]	µg/L	11:21:29
1	SiO2†	55726.9	53051.8	[10695]	µg/L	11:21:08
1	Si 251.611†	63052.2	62483.3	[5000]	µg/L	11:21:08
1	Sn 189.927†	1835.8	1807.4	[1000]	µg/L	11:21:29
1	Ti 334.940†	422577.3	419906.1	[1000]	µg/L	11:21:02
1	Tl 190.801†	576.7	592.9	[1000]	µg/L	11:21:29
1	U 409.014†	11191.3	11200.8	[1000]	µg/L	11:21:08
1	V 292.402†	84529.5	84285.4	[1000]	µg/L	11:21:08
1	Zn 213.857†	36531.8	35758.1	[1000]	µg/L	11:21:08
2	Sc RADIAL	79747.1	79747.1	103	%	11:20:04
2	Al 396.153Radial†	15906.9	15512.6	[10000]	µg/L	11:20:04
2	Ca 317.933Radial†	14069.4	13437.1	[10000]	µg/L	11:20:25
2	Fe 238.204 Radial†	802.8	766.0	[10000]	µg/L	11:20:25
2	K 766.490 Radial†	16850.5	16008.9	[10000]	µg/L	11:20:04
2	Mg 279.077 IEC†	1051.6	1013.8	[10000]	µg/L	11:20:25
2	Na 589.592 Radial†	38530.0	36909.9	[10000]	µg/L	11:20:04
2	Sr 421.552†	171563.5	166508.7	[1000]	µg/L	11:20:04
2	Sc 361.383	1893755.5	1893755.5	100.37	%	11:21:36
2	Y 371.029	1203228.0	1203228.0	99.946	%	11:21:36
2	Ag 328.068†	112996.8	112663.3	[1000]	µg/L	11:21:41
2	As 188.979†	455.6	455.8	[1000]	µg/L	11:22:02
2	B 249.677†	21723.7	21465.8	[1000]	µg/L	11:21:41
2	Ba 233.527†	35617.2	35511.9	[1000]	µg/L	11:21:41
2	Be 313.107†	1477967.9	1468928.7	[1000]	µg/L	11:21:36
2	Cd 226.502†	34551.7	34543.5	[1000]	µg/L	11:21:41
2	Co 228.616†	18654.6	18631.1	[1000]	µg/L	11:21:41
2	Cr 267.716†	44994.5	44902.4	[1000]	µg/L	11:21:41
2	Cu 324.752†	146347.5	141780.4	[1000]	µg/L	11:21:41
2	Mn 257.610†	279470.9	278630.0	[1000]	µg/L	11:21:36
2	Mo 202.031†	8385.6	8342.3	[1000]	µg/L	11:21:41
2	Ni 231.604†	16761.3	16390.4	[1000]	µg/L	11:21:41
2	P 214.914†	2402.5	2182.0	[5000]	µg/L	11:22:02
2	Pb 220.353†	3606.7	3536.8	[1000]	µg/L	11:22:02

2	S 181.975 Axial†	384.1	359.1	[2000]	µg/L	11:22:02
2	Sb 206.836†	989.9	962.3	[1000]	µg/L	11:22:02
2	Se 196.026†	668.5	658.9	[1000]	µg/L	11:22:02
2	SiO2†	55528.8	52906.6	[10695]	µg/L	11:21:41
2	Si 251.611†	62862.4	62353.2	[5000]	µg/L	11:21:41
2	Sn 189.927†	1813.6	1787.0	[1000]	µg/L	11:22:02
2	Ti 334.940†	420685.7	418417.0	[1000]	µg/L	11:21:36
2	Tl 190.801†	573.3	590.1	[1000]	µg/L	11:22:02
2	U 409.014†	11126.7	11147.0	[1000]	µg/L	11:21:41
2	V 292.402†	84109.8	83946.3	[1000]	µg/L	11:21:41
2	Zn 213.857†	36344.6	35605.8	[1000]	µg/L	11:21:41
3	Sc RADIAL	79928.9	79928.9	103	%	11:20:30
3	Al 396.153Radial†	15956.4	15525.4	[10000]	µg/L	11:20:30
3	Ca 317.933Radial†	14159.8	13493.8	[10000]	µg/L	11:20:50
3	Fe 238.204 Radial†	810.2	771.3	[10000]	µg/L	11:20:50
3	K 766.490 Radial†	16879.6	15999.9	[10000]	µg/L	11:20:30
3	Mg 279.077 IEC†	1058.3	1018.0	[10000]	µg/L	11:20:50
3	Na 589.592 Radial†	38665.7	36956.4	[10000]	µg/L	11:20:30
3	Sr 421.552†	171990.6	166543.6	[1000]	µg/L	11:20:30
3	Sc 361.383	1896213.5	1896213.5	100.50	%	11:22:09
3	Y 371.029	1204985.1	1204985.1	100.09	%	11:22:09
3	Ag 328.068†	105043.3	104603.1	[1000]	µg/L	11:22:15
3	As 188.979†	380.9	380.8	[1000]	µg/L	11:22:35
3	B 249.677†	19933.3	19656.2	[1000]	µg/L	11:22:15
3	Ba 233.527†	31771.2	31639.0	[1000]	µg/L	11:22:15
3	Be 313.107†	1370712.8	1360294.6	[1000]	µg/L	11:22:09
3	Cd 226.502†	30792.7	30758.5	[1000]	µg/L	11:22:15
3	Co 228.616†	16432.0	16395.4	[1000]	µg/L	11:22:15
3	Cr 267.716†	38458.3	38340.4	[1000]	µg/L	11:22:15
3	Cu 324.752†	129570.3	124897.1	[1000]	µg/L	11:22:15
3	Mn 257.610†	259254.8	258152.9	[1000]	µg/L	11:22:09
3	Mo 202.031†	7391.6	7342.4	[1000]	µg/L	11:22:15
3	Ni 231.604†	14752.3	14369.7	[1000]	µg/L	11:22:15
3	P 214.914†	2046.2	1824.4	[5000]	µg/L	11:22:35
3	Pb 220.353†	3064.5	2992.6	[1000]	µg/L	11:22:35
3	S 181.975 Axial†	332.5	307.2	[2000]	µg/L	11:22:35
3	Sb 206.836†	834.6	806.5	[1000]	µg/L	11:22:35
3	Se 196.026†	585.0	575.0	[1000]	µg/L	11:22:35
3	SiO2†	50553.9	47884.6	[10695]	µg/L	11:22:15
3	Si 251.611†	56939.1	56378.0	[5000]	µg/L	11:22:15
3	Sn 189.927†	1466.7	1439.5	[1000]	µg/L	11:22:35
3	Ti 334.940†	387373.7	384726.2	[1000]	µg/L	11:22:09
3	Tl 190.801†	506.3	522.6	[1000]	µg/L	11:22:35
3	U 409.014†	9681.0	9694.0	[1000]	µg/L	11:22:15
3	V 292.402†	73546.7	73326.7	[1000]	µg/L	11:22:15
3	Zn 213.857†	32138.2	31373.3	[1000]	µg/L	11:22:15

Mean Data: SCAL

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1895168.5	1269.67	0.07%	100.44	%
Sc RADIAL	79668.1	307.98	0.39%	103	%
Y 371.029	1204011.4	893.84	0.07%	100.01	%
Ag 328.068†	110170.6	4830.41	4.38%	[1000]	µg/L
Al 396.153Radial†	15528.7	17.97	0.12%	[10000]	µg/L
As 188.979†	433.6	45.86	10.58%	[1000]	µg/L
B 249.677†	20888.0	1067.43	5.11%	[1000]	µg/L
Ba 233.527†	34266.0	2276.03	6.64%	[1000]	µg/L
Be 313.107†	1434443.8	64267.26	4.48%	[1000]	µg/L
Ca 317.933Radial†	13501.4	68.47	0.51%	[10000]	µg/L
Cd 226.502†	33361.5	2257.39	6.77%	[1000]	µg/L
Co 228.616†	17922.7	1323.89	7.39%	[1000]	µg/L
Cr 267.716†	42755.3	3823.95	8.94%	[1000]	µg/L
Cu 324.752†	136328.5	9903.38	7.26%	[1000]	µg/L
Fe 238.204 Radial†	771.3	5.36	0.70%	[10000]	µg/L
K 766.490 Radial†	16007.6	7.21	0.05%	[10000]	µg/L
Mg 279.077 IEC†	1017.6	3.60	0.35%	[10000]	µg/L
Mn 257.610†	272171.5	12153.00	4.47%	[1000]	µg/L
Mo 202.031†	8031.5	597.73	7.44%	[1000]	µg/L
Na 589.592 Radial†	36943.4	29.29	0.08%	[10000]	µg/L

Ni 231.604†	15719.6	1169.10	7.44%	[1000]	µg/L
P 214.914†	2068.2	211.32	10.22%	[5000]	µg/L
Pb 220.353†	3362.4	320.37	9.53%	[1000]	µg/L
S 181.975 Axial†	342.7	30.76	8.98%	[2000]	µg/L
Sb 206.836†	914.2	93.46	10.22%	[1000]	µg/L
Se 196.026†	637.5	54.97	8.62%	[1000]	µg/L
SiO2†	51281.0	2942.30	5.74%	[10695]	µg/L
Si 251.611†	60404.8	3487.94	5.77%	[5000]	µg/L
Sn 189.927†	1678.0	206.80	12.32%	[1000]	µg/L
Sr 421.552†	166515.2	25.76	0.02%	[1000]	µg/L
Ti 334.940†	407683.1	19895.18	4.88%	[1000]	µg/L
Tl 190.801†	568.5	39.78	7.00%	[1000]	µg/L
U 409.014†	10680.6	854.85	8.00%	[1000]	µg/L
V 292.402†	80519.5	6231.39	7.74%	[1000]	µg/L
Zn 213.857†	34245.7	2488.78	7.27%	[1000]	µg/L

Sequence No.: 5
Sample ID: S10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 1/25/2010 11:22:45
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: S10

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Analysis Time
1	Sc RADIAL	79578.4	79578.4	103	%	11:23:17
1	Al 396.153Radial†	78770.7	76863.4	[50000]	µg/L	11:23:17
1	Ca 317.933Radial†	69941.9	67964.7	[50000]	µg/L	11:23:17
1	Fe 238.204 Radial†	1595.8	1541.1	[20000]	µg/L	11:23:38
1	Mg 279.077 IEC†	5129.1	4993.2	[50000]	µg/L	11:23:38
1	Na 589.592 Radial†	76039.9	73576.9	[20000]	µg/L	11:23:17
1	Sc 361.383	1879410.0	1879410.0	99.606	%	11:24:41
1	Y 371.029	1186727.6	1186727.6	98.575	%	11:24:41
2	Sc RADIAL	79374.6	79374.6	102	%	11:23:43
2	Al 396.153Radial†	78466.3	76763.0	[50000]	µg/L	11:23:43
2	Ca 317.933Radial†	69535.6	67742.6	[50000]	µg/L	11:23:43
2	Fe 238.204 Radial†	1591.7	1541.1	[20000]	µg/L	11:24:04
2	Mg 279.077 IEC†	5107.4	4984.8	[50000]	µg/L	11:24:04
2	Na 589.592 Radial†	75691.6	73426.8	[20000]	µg/L	11:23:43
2	Sc 361.383	1894713.3	1894713.3	100.42	%	11:24:49
2	Y 371.029	1196799.8	1196799.8	99.412	%	11:24:49
3	Sc RADIAL	80137.1	80137.1	103	%	11:24:09
3	Al 396.153Radial†	79203.1	76746.5	[50000]	µg/L	11:24:09
3	Ca 317.933Radial†	70406.1	67938.8	[50000]	µg/L	11:24:09
3	Fe 238.204 Radial†	1591.0	1525.6	[20000]	µg/L	11:24:29
3	Mg 279.077 IEC†	5127.7	4956.9	[50000]	µg/L	11:24:29
3	Na 589.592 Radial†	76439.6	73447.0	[20000]	µg/L	11:24:09
3	Sc 361.383	1889202.6	1889202.6	100.12	%	11:24:57
3	Y 371.029	1192910.0	1192910.0	99.089	%	11:24:57

Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	1887775.3	7750.89	0.41%	100.05	%
Sc RADIAL	79696.7	394.79	0.50%	103	%
Y 371.029	1192145.8	5079.41	0.43%	99.025	%
Al 396.153Radial†	76790.9	63.27	0.08%	[50000]	µg/L
Ca 317.933Radial†	67882.0	121.43	0.18%	[50000]	µg/L
Fe 238.204 Radial†	1535.9	8.93	0.58%	[20000]	µg/L
Mg 279.077 IEC†	4978.3	18.98	0.38%	[50000]	µg/L
Na 589.592 Radial†	73483.6	81.49	0.11%	[20000]	µg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	110.5	0.00000	0.999981	
Al 396.153Radial	3	Lin Thru 0	0.0	1.537	0.00000	0.999992	
As 188.979	3	Lin Thru 0	0.0	0.4370	0.00000	0.999862	
B 249.677	3	Lin Thru 0	0.0	20.96	0.00000	0.999979	
Ba 233.527	3	Lin Thru 0	0.0	34.46	0.00000	0.999933	
Be 313.107	3	Lin Thru 0	0.0	1444	0.00000	0.999907	
Ca 317.933Radial	3	Lin Thru 0	0.0	1.358	0.00000	0.999999	
Cd 226.502	3	Lin Thru 0	0.0	33.57	0.00000	0.999921	
Co 228.616	3	Lin Thru 0	0.0	18.03	0.00000	0.999931	
Cr 267.716	3	Lin Thru 0	0.0	43.01	0.00000	0.999928	
Cu 324.752	3	Lin Thru 0	0.0	137.1	0.00000	0.999928	
Fe 238.204 Radia	2	Lin Thru 0	0.0	0.0769	0.00000	0.999998	
K 766.490 Radial	3	Lin Thru 0	0.0	1.605	0.00000	0.999971	
Mg 279.077 IEC	3	Lin Thru 0	0.0	0.0997	0.00000	0.999985	
Mn 257.610	3	Lin Thru 0	0.0	272.6	0.00000	0.999990	
Mo 202.031	3	Lin Thru 0	0.0	7.993	0.00000	0.999931	
Na 589.592 Radia	2	Lin Thru 0	0.0	3.678	0.00000	0.999998	

Ni 231.604	3	Lin Thru 0	0.0	15.82	0.00000	0.999927
P 214.914	3	Lin Thru 0	0.0	0.4162	0.00000	0.999924
Pb 220.353	3	Lin Thru 0	0.0	3.386	0.00000	0.999892
S 181.975 Axial	3	Lin Thru 0	0.0	0.1721	0.00000	0.999955
Sb 206.836	3	Lin Thru 0	0.0	0.9158	0.00000	0.999984
Se 196.026	3	Lin Thru 0	0.0	0.6405	0.00000	0.999921
SiO2	3	Lin Thru 0	0.0	4.830	0.00000	0.999896
Si 251.611	3	Lin Thru 0	0.0	12.17	0.00000	0.999892
Sn 189.927	3	Lin Thru 0	0.0	1.683	0.00000	0.999946
Sr 421.552	3	Lin Thru 0	0.0	167.4	0.00000	0.999950
Ti 334.940	3	Lin Thru 0	0.0	409.0	0.00000	0.999980
Tl 190.801	3	Lin Thru 0	0.0	0.5708	0.00000	0.999968
U 409.014	3	Lin Thru 0	0.0	10.75	0.00000	0.999919
V 292.402	3	Lin Thru 0	0.0	81.02	0.00000	0.999923
Zn 213.857	3	Lin Thru 0	0.0	34.47	0.00000	0.999914

Sequence No.: 6
Sample ID: ICV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 1/25/2010 11:25:05
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	79731.5	79731.5	103	%			11:25:39
1	Al 396.153Radial†	8004.2	7822.0	5078.1	µg/L	5078.1	ppb	11:25:39
1	Ca 317.933Radial†	7282.7	6832.7	5033.3	µg/L	5033.3	ppb	11:25:39
1	Fe 238.204 Radial†	413.6	387.2	5048.8	µg/L	5048.8	ppb	11:25:59
1	K 766.490 Radial†	4359.8	3852.0	2400.3	µg/L	2400.3	ppb	11:25:39
1	Mg 279.077 IEC†	532.9	509.1	5110.3	µg/L	5110.3	ppb	11:25:59
1	Na 589.592 Radial†	9773.3	8921.6	2425.5	µg/L	2425.5	ppb	11:25:39
1	Sr 421.552†	90161.4	87293.4	521.58	µg/L	521.58	ppb	11:25:39
1	Sc 361.383	1899898.5	1899898.5	100.69	%			11:27:03
1	Y 371.029	1208789.7	1208789.7	100.41	%			11:27:03
1	Ag 328.068†	28440.2	28323.6	260.07	µg/L	260.07	ppb	11:27:08
1	As 188.979†	220.6	220.9	504.44	µg/L	504.44	ppb	11:27:29
1	B 249.677†	11217.5	10961.8	523.88	µg/L	523.88	ppb	11:27:08
1	Ba 233.527†	17862.6	17764.6	516.42	µg/L	516.42	ppb	11:27:08
1	Be 313.107†	387309.8	381003.0	263.58	µg/L	263.58	ppb	11:27:03
1	Cd 226.502†	17136.7	17136.9	510.42	µg/L	510.42	ppb	11:27:08
1	Co 228.616†	9370.8	9351.0	518.09	µg/L	518.09	ppb	11:27:08
1	Cr 267.716†	21794.1	21716.4	505.30	µg/L	505.30	ppb	11:27:08
1	Cu 324.752†	75743.6	71190.2	519.78	µg/L	519.78	ppb	11:27:08
1	Mn 257.610†	139509.3	138729.7	509.45	µg/L	509.45	ppb	11:27:08
1	Mo 202.031†	4379.4	4336.6	542.76	µg/L	542.76	ppb	11:27:29
1	Ni 231.604†	8384.6	8017.3	506.38	µg/L	506.38	ppb	11:27:08
1	P 214.914†	1328.2	1107.4	2611.8	µg/L	2611.8	ppb	11:27:29
1	Pb 220.353†	1832.6	1763.3	520.97	µg/L	520.97	ppb	11:27:29
1	S 181.975 Axial†	473.0	446.1	2592.4	µg/L	2592.4	ppb	11:27:29
1	Sb 206.836†	505.7	478.3	525.06	µg/L	525.06	ppb	11:27:29
1	Se 196.026†	1720.2	1701.2	2669.0	µg/L	2669.0	ppb	11:27:29
1	SiO2†	54026.6	51235.9	10607	µg/L	10607	ppb	11:27:08
1	Si 251.611†	60733.3	60036.2	4932.4	µg/L	4932.4	ppb	11:27:08
1	Sn 189.927†	981.9	955.2	570.18	µg/L	570.18	ppb	11:27:29
1	Ti 334.940†	206207.3	204057.0	498.61	µg/L	498.61	ppb	11:27:03
1	Tl 190.801†	290.5	307.4	542.73	µg/L	542.73	ppb	11:27:29
1	U 409.014†	5385.5	5409.3	502.25	µg/L	502.25	ppb	11:27:08
1	V 292.402†	42287.9	42140.8	526.26	µg/L	526.26	ppb	11:27:08
1	Zn 213.857†	18584.8	17850.9	514.28	µg/L	514.28	ppb	11:27:08
2	Sc RADIAL	79302.7	79302.7	102	%			11:26:05
2	Al 396.153Radial†	7889.1	7751.5	5032.3	µg/L	5032.3	ppb	11:26:05
2	Ca 317.933Radial†	7182.6	6773.1	4989.3	µg/L	4989.3	ppb	11:26:05
2	Fe 238.204 Radial†	414.5	390.3	5088.9	µg/L	5088.9	ppb	11:26:25
2	K 766.490 Radial†	4331.1	3846.8	2397.1	µg/L	2397.1	ppb	11:26:05
2	Mg 279.077 IEC†	538.1	517.0	5189.6	µg/L	5189.6	ppb	11:26:25
2	Na 589.592 Radial†	9723.9	8924.7	2426.4	µg/L	2426.4	ppb	11:26:05
2	Sr 421.552†	89138.8	86767.1	518.44	µg/L	518.44	ppb	11:26:05
2	Sc 361.383	1894945.4	1894945.4	100.43	%			11:27:35
2	Y 371.029	1205540.4	1205540.4	100.14	%			11:27:35
2	Ag 328.068†	28489.3	28446.3	261.20	µg/L	261.20	ppb	11:27:41
2	As 188.979†	220.8	221.7	506.15	µg/L	506.15	ppb	11:28:02
2	B 249.677†	11228.3	11001.7	525.79	µg/L	525.79	ppb	11:27:41
2	Ba 233.527†	17979.1	17927.0	521.13	µg/L	521.13	ppb	11:27:41
2	Be 313.107†	386750.5	381451.6	263.89	µg/L	263.89	ppb	11:27:35
2	Cd 226.502†	17244.9	17289.1	514.96	µg/L	514.96	ppb	11:27:41
2	Co 228.616†	9396.3	9400.7	520.85	µg/L	520.85	ppb	11:27:41
2	Cr 267.716†	21916.2	21894.6	509.44	µg/L	509.44	ppb	11:27:41
2	Cu 324.752†	75924.2	71566.7	522.53	µg/L	522.53	ppb	11:27:41
2	Mn 257.610†	139891.7	139472.7	512.18	µg/L	512.18	ppb	11:27:41
2	Mo 202.031†	4335.1	4303.9	538.67	µg/L	538.67	ppb	11:28:02
2	Ni 231.604†	8487.0	8140.9	514.20	µg/L	514.20	ppb	11:27:41
2	P 214.914†	1322.3	1105.0	2605.5	µg/L	2605.5	ppb	11:28:02
2	Pb 220.353†	1830.2	1765.6	521.64	µg/L	521.64	ppb	11:28:02

2	S 181.975 Axial†	465.0	439.4	2553.6 µg/L	2553.6 ppb	11:28:02
2	Sb 206.836†	498.2	472.1	518.24 µg/L	518.24 ppb	11:28:02
2	Se 196.026†	1712.2	1697.8	2663.6 µg/L	2663.6 ppb	11:28:02
2	SiO2†	54135.1	51484.2	10658 µg/L	10658 ppb	11:27:41
2	Si 251.611†	60905.9	60365.7	4959.4 µg/L	4959.4 ppb	11:27:41
2	Sn 189.927†	969.2	945.1	564.20 µg/L	564.20 ppb	11:28:02
2	Ti 334.940†	206049.7	204435.4	499.53 µg/L	499.53 ppb	11:27:35
2	Tl 190.801†	280.4	298.1	526.57 µg/L	526.57 ppb	11:28:02
2	U 409.014†	5412.4	5450.1	506.05 µg/L	506.05 ppb	11:27:41
2	V 292.402†	42341.0	42303.5	528.25 µg/L	528.25 ppb	11:27:41
2	Zn 213.857†	18650.9	17965.0	517.55 µg/L	517.55 ppb	11:27:41
3	Sc RADIAL	79350.2	79350.2	102 %		11:26:31
3	Al 396.153Radial†	7955.5	7811.8	5073.0 µg/L	5073.0 ppb	11:26:31
3	Ca 317.933Radial†	7152.0	6739.0	4964.2 µg/L	4964.2 ppb	11:26:31
3	Fe 238.204 Radial†	408.0	383.7	5002.1 µg/L	5002.1 ppb	11:26:51
3	K 766.490 Radial†	4291.0	3805.1	2371.1 µg/L	2371.1 ppb	11:26:31
3	Mg 279.077 IEC†	529.6	508.3	5101.9 µg/L	5101.9 ppb	11:26:51
3	Na 589.592 Radial†	9677.6	8873.7	2412.5 µg/L	2412.5 ppb	11:26:31
3	Sr 421.552†	89074.6	86652.1	517.75 µg/L	517.75 ppb	11:26:31
3	Sc 361.383	1887675.2	1887675.2	100.04 %		11:28:08
3	Y 371.029	1200666.3	1200666.3	99.733 %		11:28:08
3	Ag 328.068†	27283.6	27350.4	250.99 µg/L	250.99 ppb	11:28:14
3	As 188.979†	190.4	192.1	438.55 µg/L	438.55 ppb	11:28:35
3	B 249.677†	10622.9	10439.6	498.88 µg/L	498.88 ppb	11:28:14
3	Ba 233.527†	16650.6	16668.0	484.52 µg/L	484.52 ppb	11:28:14
3	Be 313.107†	366437.4	362630.5	250.87 µg/L	250.87 ppb	11:28:08
3	Cd 226.502†	15894.1	16005.0	476.68 µg/L	476.68 ppb	11:28:14
3	Co 228.616†	8623.7	8664.5	480.00 µg/L	480.00 ppb	11:28:14
3	Cr 267.716†	19695.8	19759.2	459.76 µg/L	459.76 ppb	11:28:14
3	Cu 324.752†	70136.0	66072.2	482.46 µg/L	482.46 ppb	11:28:14
3	Mn 257.610†	128246.6	128369.2	471.43 µg/L	471.43 ppb	11:28:14
3	Mo 202.031†	3733.0	3718.7	465.44 µg/L	465.44 ppb	11:28:35
3	Ni 231.604†	7762.3	7449.2	470.51 µg/L	470.51 ppb	11:28:14
3	P 214.914†	1172.0	959.8	2259.7 µg/L	2259.7 ppb	11:28:35
3	Pb 220.353†	1618.6	1561.2	461.17 µg/L	461.17 ppb	11:28:35
3	S 181.975 Axial†	430.4	406.6	2363.0 µg/L	2363.0 ppb	11:28:35
3	Sb 206.836†	444.5	420.4	461.11 µg/L	461.11 ppb	11:28:35
3	Se 196.026†	1548.5	1540.7	2418.2 µg/L	2418.2 ppb	11:28:35
3	SiO2†	50907.2	48465.3	10034 µg/L	10034 ppb	11:28:14
3	Si 251.611†	57168.1	56863.2	4671.7 µg/L	4671.7 ppb	11:28:14
3	Sn 189.927†	823.7	803.4	479.94 µg/L	479.94 ppb	11:28:35
3	Ti 334.940†	194361.8	193542.8	472.90 µg/L	472.90 ppb	11:28:08
3	Tl 190.801†	261.4	280.1	494.75 µg/L	494.75 ppb	11:28:35
3	U 409.014†	4887.4	4946.1	459.17 µg/L	459.17 ppb	11:28:14
3	V 292.402†	38609.0	38735.4	483.48 µg/L	483.48 ppb	11:28:14
3	Zn 213.857†	17185.3	16571.5	477.39 µg/L	477.39 ppb	11:28:14

Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1894173.0	100.39	%	0.326				0.32%
Sc RADIAL	79461.5	102	%	0.3				0.30%
Y 371.029	1204998.8	100.09	%	0.340				0.34%
Ag 328.068†	28040.1	257.42	µg/L	5.600	257.42	ppb	5.600	2.18%
QC value within limits for Ag 328.068 Recovery = 102.97%								
Al 396.153Radial†	7795.1	5061.1	µg/L	25.11	5061.1	ppb	25.11	0.50%
QC value within limits for Al 396.153Radial Recovery = 101.22%								
As 188.979†	211.5	483.05	µg/L	38.544	483.05	ppb	38.544	7.98%
QC value within limits for As 188.979 Recovery = 96.61%								
B 249.677†	10801.0	516.18	µg/L	15.011	516.18	ppb	15.011	2.91%
QC value within limits for B 249.677 Recovery = 103.24%								
Ba 233.527†	17453.2	507.36	µg/L	19.916	507.36	ppb	19.916	3.93%
QC value within limits for Ba 233.527 Recovery = 101.47%								
Be 313.107†	375028.4	259.45	µg/L	7.429	259.45	ppb	7.429	2.86%
QC value within limits for Be 313.107 Recovery = 103.78%								
Ca 317.933Radial†	6781.6	4995.6	µg/L	34.97	4995.6	ppb	34.97	0.70%
QC value within limits for Ca 317.933Radial Recovery = 99.91%								
Cd 226.502†	16810.3	500.69	µg/L	20.918	500.69	ppb	20.918	4.18%
QC value within limits for Cd 226.502 Recovery = 100.14%								
Co 228.616†	9138.7	506.32	µg/L	22.829	506.32	ppb	22.829	4.51%

```
   QC value within limits for Co 228.616  Recovery = 101.26%
Cr 267.716†            21123.4      491.50 µg/L        27.566      491.50 ppb        27.566   5.61%
   QC value within limits for Cr 267.716  Recovery = 98.30%
Cu 324.752†            69609.7      508.26 µg/L        22.386      508.26 ppb        22.386   4.40%
   QC value within limits for Cu 324.752  Recovery = 101.65%
Fe 238.204 Radial†       387.1      5046.6 µg/L         43.46      5046.6 ppb         43.46   0.86%
   QC value within limits for Fe 238.204 Radial  Recovery = 100.93%
K 766.490 Radial†       3834.6      2389.5 µg/L         16.01      2389.5 ppb         16.01   0.67%
   QC value within limits for K 766.490 Radial  Recovery = 95.58%
Mg 279.077 IEC†          511.5      5133.9 µg/L         48.38      5133.9 ppb         48.38   0.94%
   QC value within limits for Mg 279.077 IEC  Recovery = 102.68%
Mn 257.610†           135523.9      497.69 µg/L        22.778      497.69 ppb        22.778   4.58%
   QC value within limits for Mn 257.610  Recovery = 99.54%
Mo 202.031†            4119.7      515.62 µg/L        43.504      515.62 ppb        43.504   8.44%
   QC value within limits for Mo 202.031  Recovery = 103.12%
Na 589.592 Radial†     8906.6      2421.5 µg/L          7.77      2421.5 ppb          7.77   0.32%
   QC value within limits for Na 589.592 Radial  Recovery = 96.86%
Ni 231.604†            7869.1      497.03 µg/L        23.300      497.03 ppb        23.300   4.69%
   QC value within limits for Ni 231.604  Recovery = 99.41%
P 214.914†             1057.4      2492.4 µg/L        201.48      2492.4 ppb        201.48   8.08%
   QC value within limits for P 214.914  Recovery = 99.69%
Pb 220.353†            1696.7      501.26 µg/L        34.723      501.26 ppb        34.723   6.93%
   QC value within limits for Pb 220.353  Recovery = 100.25%
S 181.975 Axial†        430.7      2503.0 µg/L        122.79      2503.0 ppb        122.79   4.91%
   QC value within limits for S 181.975 Axial  Recovery = 100.12%
Sb 206.836†             456.9      501.47 µg/L        35.119      501.47 ppb        35.119   7.00%
   QC value within limits for Sb 206.836  Recovery = 100.29%
Se 196.026†            1646.6      2583.6 µg/L        143.31      2583.6 ppb        143.31   5.55%
   QC value within limits for Se 196.026  Recovery = 103.34%
SiO2†                 50395.1       10433 µg/L         346.9       10433 ppb         346.9   3.33%
   QC value within limits for SiO2  Recovery = 97.55%
Si 251.611†           59088.4      4854.5 µg/L        158.90      4854.5 ppb        158.90   3.27%
   QC value within limits for Si 251.611  Recovery = 97.09%
Sn 189.927†             901.2      538.11 µg/L        50.461      538.11 ppb        50.461   9.38%
   QC value within limits for Sn 189.927  Recovery = 107.62%
Sr 421.552†           86904.2      519.26 µg/L         2.043      519.26 ppb         2.043   0.39%
   QC value within limits for Sr 421.552  Recovery = 103.85%
Ti 334.940†          200678.4      490.34 µg/L        15.115      490.34 ppb        15.115   3.08%
   QC value within limits for Ti 334.940  Recovery = 98.07%
Tl 190.801†             295.2      521.35 µg/L        24.411      521.35 ppb        24.411   4.68%
   QC value within limits for Tl 190.801  Recovery = 104.27%
U 409.014†             5268.5      489.16 µg/L        26.041      489.16 ppb        26.041   5.32%
   QC value within limits for U 409.014  Recovery = 97.83%
V 292.402†            41059.9      512.66 µg/L        25.293      512.66 ppb        25.293   4.93%
   QC value within limits for V 292.402  Recovery = 102.53%
Zn 213.857†           17462.5      503.07 µg/L        22.305      503.07 ppb        22.305   4.43%
   QC value within limits for Zn 213.857  Recovery = 100.61%
All analyte(s) passed QC.
```

Sequence No.: 7
Sample ID: ICB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 10
Date Collected: 1/25/2010 11:28:43
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	77905.5	77905.5	100	%			11:29:16
1	Al 396.153Radial†	-29.0	0.7	0.4821	µg/L	0.4821	ppb	11:29:16
1	Ca 317.933Radial†	269.4	11.2	8.2230	µg/L	8.2230	ppb	11:29:36
1	Fe 238.204 Radial†	17.5	2.0	25.414	µg/L	25.414	ppb	11:29:36
1	K 766.490 Radial†	404.9	10.9	6.8209	µg/L	6.8209	ppb	11:29:16
1	Mg 279.077 IEC†	12.7	2.9	29.444	µg/L	29.444	ppb	11:29:36
1	Na 589.592 Radial†	508.6	-86.3	-23.463	µg/L	-23.463	ppb	11:29:16
1	Sr 421.552†	458.4	-25.3	-0.1509	µg/L	-0.1509	ppb	11:29:16
1	Sc 361.383	1890481.2	1890481.2	100.19	%			11:30:38
1	Y 371.029	1206940.1	1206940.1	100.25	%			11:30:38
1	Ag 328.068†	-119.1	-40.1	-0.3608	µg/L	-0.3608	ppb	11:30:44
1	As 188.979†	1.0	2.8	6.3952	µg/L	6.3952	ppb	11:31:04
1	B 249.677†	166.1	-12.8	-0.6119	µg/L	-0.6119	ppb	11:31:04
1	Ba 233.527†	-18.9	5.8	0.1692	µg/L	0.1692	ppb	11:31:04
1	Be 313.107†	3669.7	17.0	0.0118	µg/L	0.0118	ppb	11:30:44
1	Cd 226.502†	-106.1	12.0	0.3562	µg/L	0.3562	ppb	11:31:04
1	Co 228.616†	-50.4	-5.7	-0.3161	µg/L	-0.3161	ppb	11:31:04
1	Cr 267.716†	-62.3	9.9	0.2293	µg/L	0.2293	ppb	11:31:04
1	Cu 324.752†	4002.6	-38.1	-0.2742	µg/L	-0.2742	ppb	11:30:44
1	Mn 257.610†	-148.1	31.2	0.1168	µg/L	0.1168	ppb	11:31:04
1	Mo 202.031†	14.9	2.1	0.2676	µg/L	0.2676	ppb	11:31:04
1	Ni 231.604†	321.7	11.4	0.7187	µg/L	0.7187	ppb	11:31:04
1	P 214.914†	210.7	-1.4	-3.3615	µg/L	-3.3615	ppb	11:31:04
1	Pb 220.353†	56.5	-0.4	-0.1054	µg/L	-0.1054	ppb	11:31:04
1	S 181.975 Axial†	21.7	-2.0	-11.432	µg/L	-11.432	ppb	11:31:04
1	Sb 206.836†	20.9	-3.1	-3.3499	µg/L	-3.3499	ppb	11:31:04
1	Se 196.026†	11.1	3.9	6.2031	µg/L	6.2031	ppb	11:31:04
1	SiO2†	2416.7	-7.5	-1.5575	µg/L	-1.5575	ppb	11:30:44
1	Si 251.611†	319.8	39.4	3.2336	µg/L	3.2336	ppb	11:31:04
1	Sn 189.927†	21.5	1.6	0.9390	µg/L	0.9390	ppb	11:31:04
1	Ti 334.940†	698.3	-36.5	-0.0913	µg/L	-0.0913	ppb	11:30:44
1	Tl 190.801†	-18.2	0.7	1.1934	µg/L	1.1934	ppb	11:31:04
1	U 409.014†	-131.1	-70.0	-6.5186	µg/L	-6.5186	ppb	11:30:44
1	V 292.402†	-142.3	1.4	0.0144	µg/L	0.0144	ppb	11:30:44
1	Zn 213.857†	639.1	31.7	0.9142	µg/L	0.9142	ppb	11:31:04
2	Sc RADIAL	77852.1	77852.1	100	%			11:29:42
2	Al 396.153Radial†	-19.5	10.2	6.6338	µg/L	6.6338	ppb	11:29:42
2	Ca 317.933Radial†	262.7	4.7	3.4628	µg/L	3.4628	ppb	11:30:02
2	Fe 238.204 Radial†	15.2	-0.3	-3.2625	µg/L	-3.2625	ppb	11:30:02
2	K 766.490 Radial†	421.3	27.6	17.187	µg/L	17.187	ppb	11:29:42
2	Mg 279.077 IEC†	13.0	3.2	32.190	µg/L	32.190	ppb	11:30:02
2	Na 589.592 Radial†	499.8	-94.8	-25.770	µg/L	-25.770	ppb	11:29:42
2	Sr 421.552†	528.8	45.2	0.2704	µg/L	0.2704	ppb	11:29:42
2	Sc 361.383	1899335.2	1899335.2	100.66	%			11:31:10
2	Y 371.029	1212077.8	1212077.8	100.68	%			11:31:10
2	Ag 328.068†	-53.6	25.6	0.2310	µg/L	0.2310	ppb	11:31:16
2	As 188.979†	-1.9	-0.1	-0.2160	µg/L	-0.2160	ppb	11:31:36
2	B 249.677†	168.2	-11.6	-0.5508	µg/L	-0.5508	ppb	11:31:36
2	Ba 233.527†	-19.7	5.1	0.1492	µg/L	0.1492	ppb	11:31:36
2	Be 313.107†	3726.8	56.7	0.0393	µg/L	0.0393	ppb	11:31:16
2	Cd 226.502†	-125.9	-7.1	-0.2116	µg/L	-0.2116	ppb	11:31:36
2	Co 228.616†	-46.1	-1.2	-0.0673	µg/L	-0.0673	ppb	11:31:36
2	Cr 267.716†	-48.9	23.5	0.5460	µg/L	0.5460	ppb	11:31:36
2	Cu 324.752†	4036.5	-23.0	-0.1680	µg/L	-0.1680	ppb	11:31:16
2	Mn 257.610†	-163.1	17.0	0.0607	µg/L	0.0607	ppb	11:31:36
2	Mo 202.031†	13.2	0.4	0.0542	µg/L	0.0542	ppb	11:31:36
2	Ni 231.604†	318.1	6.2	0.3947	µg/L	0.3947	ppb	11:31:36
2	P 214.914†	204.1	-8.9	-21.419	µg/L	-21.419	ppb	11:31:36
2	Pb 220.353†	64.6	7.4	2.1881	µg/L	2.1881	ppb	11:31:36

2	S 181.975 Axial†	21.0	-2.7	-15.744 µg/L	-15.744 ppb	11:31:36
2	Sb 206.836†	20.1	-4.0	-4.3847 µg/L	-4.3847 ppb	11:31:36
2	Se 196.026†	10.6	3.4	5.3781 µg/L	5.3781 ppb	11:31:36
2	SiO2†	2414.8	-20.6	-4.2646 µg/L	-4.2646 ppb	11:31:16
2	Si 251.611†	300.9	19.1	1.5722 µg/L	1.5722 ppb	11:31:36
2	Sn 189.927†	21.6	1.6	0.9393 µg/L	0.9393 ppb	11:31:36
2	Ti 334.940†	718.0	-20.1	-0.0517 µg/L	-0.0517 ppb	11:31:16
2	Tl 190.801†	-19.7	-0.7	-1.1551 µg/L	-1.1551 ppb	11:31:36
2	U 409.014†	-66.9	-5.6	-0.5218 µg/L	-0.5218 ppb	11:31:16
2	V 292.402†	-147.2	-2.7	-0.0327 µg/L	-0.0327 ppb	11:31:16
2	Zn 213.857†	641.1	30.7	0.8876 µg/L	0.8876 ppb	11:31:36
3	Sc RADIAL	77660.1	77660.1	100 %		11:30:08
3	Al 396.153Radial†	-29.0	0.6	0.4030 µg/L	0.4030 ppb	11:30:08
3	Ca 317.933Radial†	261.8	4.4	3.2658 µg/L	3.2658 ppb	11:30:28
3	Fe 238.204 Radial†	14.7	-0.7	-9.7044 µg/L	-9.7044 ppb	11:30:28
3	K 766.490 Radial†	384.6	-8.0	-4.9858 µg/L	-4.9858 ppb	11:30:08
3	Mg 279.077 IEC†	10.3	0.5	4.9578 µg/L	4.9578 ppb	11:30:28
3	Na 589.592 Radial†	493.0	-100.4	-27.283 µg/L	-27.283 ppb	11:30:08
3	Sr 421.552†	509.7	27.4	0.1640 µg/L	0.1640 ppb	11:30:08
3	Sc 361.383	1906349.6	1906349.6	101.03 %		11:31:42
3	Y 371.029	1216833.8	1216833.8	101.08 %		11:31:42
3	Ag 328.068†	-8.0	70.9	0.6424 µg/L	0.6424 ppb	11:31:48
3	As 188.979†	-1.1	0.7	1.5633 µg/L	1.5633 ppb	11:32:09
3	B 249.677†	160.4	-19.9	-0.9477 µg/L	-0.9477 ppb	11:32:09
3	Ba 233.527†	-22.6	2.4	0.0696 µg/L	0.0696 ppb	11:32:09
3	Be 313.107†	3708.2	24.7	0.0171 µg/L	0.0171 ppb	11:31:48
3	Cd 226.502†	-118.8	0.4	0.0121 µg/L	0.0121 ppb	11:32:09
3	Co 228.616†	-36.9	8.0	0.4448 µg/L	0.4448 ppb	11:32:09
3	Cr 267.716†	-48.9	23.6	0.5499 µg/L	0.5499 ppb	11:32:09
3	Cu 324.752†	4067.6	-7.0	-0.0523 µg/L	-0.0523 ppb	11:31:48
3	Mn 257.610†	-143.2	37.3	0.1352 µg/L	0.1352 ppb	11:32:09
3	Mo 202.031†	12.8	-0.0	-0.0023 µg/L	-0.0023 ppb	11:32:09
3	Ni 231.604†	314.7	1.7	0.1077 µg/L	0.1077 ppb	11:32:09
3	P 214.914†	206.2	-7.6	-18.139 µg/L	-18.139 ppb	11:32:09
3	Pb 220.353†	57.2	-0.1	-0.0395 µg/L	-0.0395 ppb	11:32:09
3	S 181.975 Axial†	22.0	-1.9	-10.826 µg/L	-10.826 ppb	11:32:09
3	Sb 206.836†	16.1	-8.0	-8.7690 µg/L	-8.7690 ppb	11:32:09
3	Se 196.026†	12.1	4.8	7.5110 µg/L	7.5110 ppb	11:32:09
3	SiO2†	2398.4	-45.6	-9.4491 µg/L	-9.4491 ppb	11:31:48
3	Si 251.611†	318.4	35.3	2.9038 µg/L	2.9038 ppb	11:32:09
3	Sn 189.927†	25.8	5.6	3.3295 µg/L	3.3295 ppb	11:32:09
3	Ti 334.940†	746.5	5.4	0.0129 µg/L	0.0129 ppb	11:31:48
3	Tl 190.801†	-22.1	-3.0	-5.2269 µg/L	-5.2269 ppb	11:32:09
3	U 409.014†	-60.2	1.3	0.1211 µg/L	0.1211 ppb	11:31:48
3	V 292.402†	-121.7	23.0	0.2853 µg/L	0.2853 ppb	11:31:48
3	Zn 213.857†	637.7	25.0	0.7253 µg/L	0.7253 ppb	11:32:09

Mean Data: ICB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1898722.0	100.63	%	0.421				0.42%
Sc RADIAL	77805.9	100	%	0.2				0.17%
Y 371.029	1211950.6	100.67	%	0.411				0.41%
Ag 328.068†	18.8	0.1709	µg/L	0.50430	0.1709	ppb	0.50430	295.08%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	3.9	2.5063	µg/L	3.57472	2.5063	ppb	3.57472	142.63%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	1.1	2.5808	µg/L	3.42101	2.5808	ppb	3.42101	132.55%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	-14.8	-0.7035	µg/L	0.21370	-0.7035	ppb	0.21370	30.38%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	4.5	0.1293	µg/L	0.05268	0.1293	ppb	0.05268	40.74%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	32.8	0.0227	µg/L	0.01459	0.0227	ppb	0.01459	64.18%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	6.8	4.9839	µg/L	2.80685	4.9839	ppb	2.80685	56.32%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	1.8	0.0522	µg/L	0.28600	0.0522	ppb	0.28600	547.58%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	0.4	0.0205	µg/L	0.38798	0.0205	ppb	0.38798	>999.9%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                19.0      0.4417 µg/L       0.18395      0.4417 ppb        0.18395  41.64%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†               -22.7     -0.1649 µg/L       0.11097     -0.1649 ppb        0.11097  67.31%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          0.3      4.1491 µg/L      18.69577      4.1491 ppb       18.69577 450.59%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†          10.2      6.3407 µg/L      11.09423      6.3407 ppb       11.09423 174.97%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†             2.2      22.197 µg/L       14.9928      22.197 ppb        14.9928  67.54%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†                28.5      0.1042 µg/L       0.03880      0.1042 ppb        0.03880  37.22%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                 0.9      0.1065 µg/L       0.14237      0.1065 ppb        0.14237 133.66%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†        -93.8     -25.505 µg/L        1.9238     -25.505 ppb         1.9238   7.54%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                 6.4      0.4070 µg/L       0.30571      0.4070 ppb        0.30571  75.10%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                 -6.0     -14.307 µg/L        9.6195     -14.307 ppb         9.6195  67.24%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 2.3      0.6811 µg/L       1.30554      0.6811 ppb        1.30554 191.68%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†           -2.2     -12.667 µg/L        2.6818     -12.667 ppb         2.6818  21.17%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                -5.0     -5.5012 µg/L       2.87687     -5.5012 ppb        2.87687  52.30%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 4.1      6.3640 µg/L       1.07551      6.3640 ppb        1.07551  16.90%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                     -24.6     -5.0904 µg/L       4.01010     -5.0904 ppb        4.01010  78.78%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†                31.3      2.5699 µg/L       0.87960      2.5699 ppb        0.87960  34.23%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 2.9      1.7359 µg/L       1.38008      1.7359 ppb        1.38008  79.50%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                15.8      0.0945 µg/L       0.21907      0.0945 ppb        0.21907 231.85%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†               -17.1     -0.0434 µg/L       0.05262     -0.0434 ppb        0.05262 121.32%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -1.0     -1.7295 µg/L       3.24849     -1.7295 ppb        3.24849 187.82%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                -24.8     -2.3065 µg/L       3.66198     -2.3065 ppb        3.66198 158.77%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                  7.2      0.0890 µg/L       0.17164      0.0890 ppb        0.17164 192.88%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†                29.1      0.8424 µg/L       0.10227      0.8424 ppb        0.10227  12.14%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 8
Sample ID: PQL
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 101
Date Collected: 1/25/2010 11:32:17
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	77852.6	77852.6	100	%			11:32:50
1	Al 396.153Radial†	306.5	335.2	217.89	µg/L	217.89	ppb	11:32:50
1	Ca 317.933Radial†	539.8	281.0	206.99	µg/L	206.99	ppb	11:33:10
1	Fe 238.204 Radial†	24.6	9.1	117.86	µg/L	117.86	ppb	11:33:10
1	K 766.490 Radial†	606.8	212.6	132.47	µg/L	132.47	ppb	11:32:50
1	Mg 279.077 IEC†	40.9	31.0	311.28	µg/L	311.28	ppb	11:33:10
1	Na 589.592 Radial†	1575.0	977.2	265.68	µg/L	265.68	ppb	11:32:50
1	Sr 421.552†	1359.3	873.2	5.2177	µg/L	5.2177	ppb	11:32:50
1	Sc 361.383	1897019.5	1897019.5	100.54	%			11:34:12
1	Y 371.029	1211132.2	1211132.2	100.60	%			11:34:12
1	Ag 328.068†	508.7	584.7	5.3332	µg/L	5.3332	ppb	11:34:18
1	As 188.979†	12.5	14.2	32.544	µg/L	32.544	ppb	11:34:38
1	B 249.677†	1145.9	961.1	45.870	µg/L	45.870	ppb	11:34:18
1	Ba 233.527†	151.5	175.4	5.0994	µg/L	5.0994	ppb	11:34:38
1	Be 313.107†	11153.0	7447.6	5.1540	µg/L	5.1540	ppb	11:34:18
1	Cd 226.502†	59.2	176.8	5.2582	µg/L	5.2582	ppb	11:34:38
1	Co 228.616†	45.2	89.5	4.9646	µg/L	4.9646	ppb	11:34:38
1	Cr 267.716†	171.0	242.1	5.6330	µg/L	5.6330	ppb	11:34:38
1	Cu 324.752†	5469.5	1407.1	10.277	µg/L	10.277	ppb	11:34:18
1	Mn 257.610†	2734.4	2898.7	10.638	µg/L	10.638	ppb	11:34:18
1	Mo 202.031†	97.6	84.3	10.555	µg/L	10.555	ppb	11:34:38
1	Ni 231.604†	403.0	91.1	5.7581	µg/L	5.7581	ppb	11:34:38
1	P 214.914†	272.9	59.7	142.57	µg/L	142.57	ppb	11:34:38
1	Pb 220.353†	102.5	45.2	13.316	µg/L	13.316	ppb	11:34:38
1	S 181.975 Axial†	39.9	16.1	93.609	µg/L	93.609	ppb	11:34:38
1	Sb 206.836†	32.1	8.0	8.8116	µg/L	8.8116	ppb	11:34:38
1	Se 196.026†	31.7	24.4	38.490	µg/L	38.490	ppb	11:34:38
1	SiO2†	3489.9	1051.6	217.72	µg/L	217.72	ppb	11:34:18
1	Si 251.611†	1535.9	1247.9	102.52	µg/L	102.52	ppb	11:34:38
1	Sn 189.927†	42.6	22.4	13.448	µg/L	13.448	ppb	11:34:38
1	Ti 334.940†	2850.7	2102.0	5.1181	µg/L	5.1181	ppb	11:34:18
1	Tl 190.801†	-7.0	11.9	20.953	µg/L	20.953	ppb	11:34:38
1	U 409.014†	433.7	492.2	45.763	µg/L	45.763	ppb	11:34:18
1	V 292.402†	274.3	416.3	5.2859	µg/L	5.2859	ppb	11:34:18
1	Zn 213.857†	988.4	376.9	10.869	µg/L	10.869	ppb	11:34:38
2	Sc RADIAL	78325.3	78325.3	101	%			11:33:16
2	Al 396.153Radial†	302.2	329.1	213.92	µg/L	213.92	ppb	11:33:16
2	Ca 317.933Radial†	535.8	273.8	201.66	µg/L	201.66	ppb	11:33:36
2	Fe 238.204 Radial†	24.2	8.5	111.30	µg/L	111.30	ppb	11:33:36
2	K 766.490 Radial†	616.3	218.3	136.06	µg/L	136.06	ppb	11:33:16
2	Mg 279.077 IEC†	42.2	32.0	321.30	µg/L	321.30	ppb	11:33:36
2	Na 589.592 Radial†	1574.9	967.6	263.07	µg/L	263.07	ppb	11:33:16
2	Sr 421.552†	1388.9	894.4	5.3441	µg/L	5.3441	ppb	11:33:16
2	Sc 361.383	1900266.2	1900266.2	100.71	%			11:34:44
2	Y 371.029	1213061.1	1213061.1	100.76	%			11:34:44
2	Ag 328.068†	527.2	602.3	5.4927	µg/L	5.4927	ppb	11:34:50
2	As 188.979†	11.4	13.1	29.928	µg/L	29.928	ppb	11:35:11
2	B 249.677†	1207.1	1019.9	48.676	µg/L	48.676	ppb	11:34:50
2	Ba 233.527†	167.1	190.6	5.5411	µg/L	5.5411	ppb	11:35:11
2	Be 313.107†	11224.9	7500.0	5.1902	µg/L	5.1902	ppb	11:34:50
2	Cd 226.502†	62.9	180.3	5.3647	µg/L	5.3647	ppb	11:35:11
2	Co 228.616†	46.4	90.7	5.0273	µg/L	5.0273	ppb	11:35:11
2	Cr 267.716†	175.3	246.2	5.7274	µg/L	5.7274	ppb	11:35:11
2	Cu 324.752†	5471.4	1399.7	10.222	µg/L	10.222	ppb	11:34:50
2	Mn 257.610†	2762.6	2922.1	10.723	µg/L	10.723	ppb	11:34:50
2	Mo 202.031†	97.3	83.9	10.507	µg/L	10.507	ppb	11:35:11
2	Ni 231.604†	394.5	81.9	5.1762	µg/L	5.1762	ppb	11:35:11
2	P 214.914†	274.6	60.9	145.46	µg/L	145.46	ppb	11:35:11
2	Pb 220.353†	92.9	35.5	10.470	µg/L	10.470	ppb	11:35:11

2	S 181.975 Axial†	40.7	16.8	97.408	µg/L	97.408 ppb	11:35:11
2	Sb 206.836†	38.2	14.0	15.342	µg/L	15.342 ppb	11:35:11
2	Se 196.026†	25.1	17.8	28.075	µg/L	28.075 ppb	11:35:11
2	SiO2†	3457.7	1013.8	209.87	µg/L	209.87 ppb	11:34:50
2	Si 251.611†	1521.6	1231.1	101.14	µg/L	101.14 ppb	11:35:11
2	Sn 189.927†	36.3	16.2	9.7226	µg/L	9.7226 ppb	11:35:11
2	Ti 334.940†	2932.7	2178.5	5.3044	µg/L	5.3044 ppb	11:34:50
2	Tl 190.801†	-6.2	12.7	22.327	µg/L	22.327 ppb	11:35:11
2	U 409.014†	437.3	495.0	46.029	µg/L	46.029 ppb	11:34:50
2	V 292.402†	291.0	432.4	5.4853	µg/L	5.4853 ppb	11:34:50
2	Zn 213.857†	981.4	368.3	10.622	µg/L	10.622 ppb	11:35:11
3	Sc RADIAL	78106.7	78106.7	101	%		11:33:42
3	Al 396.153Radial†	302.9	330.6	214.93	µg/L	214.93 ppb	11:33:42
3	Ca 317.933Radial†	536.0	275.4	202.86	µg/L	202.86 ppb	11:34:02
3	Fe 238.204 Radial†	22.3	6.7	87.019	µg/L	87.019 ppb	11:34:02
3	K 766.490 Radial†	642.9	246.5	153.60	µg/L	153.60 ppb	11:33:42
3	Mg 279.077 IEC†	45.6	35.6	356.91	µg/L	356.91 ppb	11:34:02
3	Na 589.592 Radial†	1552.9	950.2	258.32	µg/L	258.32 ppb	11:33:42
3	Sr 421.552†	1365.7	875.2	5.2295	µg/L	5.2295 ppb	11:33:42
3	Sc 361.383	1900668.9	1900668.9	100.73	%		11:35:17
3	Y 371.029	1213243.5	1213243.5	100.78	%		11:35:17
3	Ag 328.068†	477.5	552.9	5.0389	µg/L	5.0389 ppb	11:35:22
3	As 188.979†	11.1	12.8	29.285	µg/L	29.285 ppb	11:35:43
3	B 249.677†	1132.7	945.8	45.139	µg/L	45.139 ppb	11:35:22
3	Ba 233.527†	130.9	154.7	4.4959	µg/L	4.4959 ppb	11:35:43
3	Be 313.107†	10469.4	6747.7	4.6696	µg/L	4.6696 ppb	11:35:22
3	Cd 226.502†	27.0	144.7	4.3057	µg/L	4.3057 ppb	11:35:43
3	Co 228.616†	26.0	70.4	3.9047	µg/L	3.9047 ppb	11:35:43
3	Cr 267.716†	128.3	199.4	4.6399	µg/L	4.6399 ppb	11:35:43
3	Cu 324.752†	5315.8	1244.2	9.0840	µg/L	9.0840 ppb	11:35:22
3	Mn 257.610†	2494.8	2655.7	9.7406	µg/L	9.7406 ppb	11:35:22
3	Mo 202.031†	84.5	71.2	8.9103	µg/L	8.9103 ppb	11:35:43
3	Ni 231.604†	399.3	86.7	5.4784	µg/L	5.4784 ppb	11:35:43
3	P 214.914†	261.6	48.0	114.44	µg/L	114.44 ppb	11:35:43
3	Pb 220.353†	92.2	34.8	10.238	µg/L	10.238 ppb	11:35:43
3	S 181.975 Axial†	40.5	16.6	96.382	µg/L	96.382 ppb	11:35:43
3	Sb 206.836†	34.1	9.9	10.896	µg/L	10.896 ppb	11:35:43
3	Se 196.026†	32.5	25.1	39.512	µg/L	39.512 ppb	11:35:43
3	SiO2†	3393.1	948.9	196.44	µg/L	196.44 ppb	11:35:22
3	Si 251.611†	1363.6	1073.9	88.224	µg/L	88.224 ppb	11:35:43
3	Sn 189.927†	33.9	13.7	8.2725	µg/L	8.2725 ppb	11:35:43
3	Ti 334.940†	2717.8	1964.6	4.7787	µg/L	4.7787 ppb	11:35:22
3	Tl 190.801†	-6.3	12.6	22.227	µg/L	22.227 ppb	11:35:43
3	U 409.014†	541.3	598.2	55.632	µg/L	55.632 ppb	11:35:22
3	V 292.402†	227.0	368.8	4.6933	µg/L	4.6933 ppb	11:35:22
3	Zn 213.857†	932.5	319.6	9.2079	µg/L	9.2079 ppb	11:35:43

Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1899318.2	100.66	%	0.106				0.11%
Sc RADIAL	78094.9	101	%	0.3				0.30%
Y 371.029	1212478.9	100.71	%	0.097				0.10%
Ag 328.068†	580.0	5.2883	µg/L	0.23022	5.2883	ppb	0.23022	4.35%
QC value within limits for Ag 328.068 Recovery = 105.77%								
Al 396.153Radial†	331.7	215.58	µg/L	2.063	215.58	ppb	2.063	0.96%
QC value within limits for Al 396.153Radial Recovery = 107.79%								
As 188.979†	13.4	30.586	µg/L	1.7260	30.586	ppb	1.7260	5.64%
QC value within limits for As 188.979 Recovery = 101.95%								
B 249.677†	975.6	46.562	µg/L	1.8674	46.562	ppb	1.8674	4.01%
QC value within limits for B 249.677 Recovery = 93.12%								
Ba 233.527†	173.6	5.0455	µg/L	0.52468	5.0455	ppb	0.52468	10.40%
QC value within limits for Ba 233.527 Recovery = 100.91%								
Be 313.107†	7231.7	5.0046	µg/L	0.29070	5.0046	ppb	0.29070	5.81%
QC value within limits for Be 313.107 Recovery = 100.09%								
Ca 317.933Radial†	276.7	203.83	µg/L	2.796	203.83	ppb	2.796	1.37%
QC value within limits for Ca 317.933Radial Recovery = 101.92%								
Cd 226.502†	167.3	4.9762	µg/L	0.58309	4.9762	ppb	0.58309	11.72%
QC value within limits for Cd 226.502 Recovery = 99.52%								
Co 228.616†	83.5	4.6322	µg/L	0.63079	4.6322	ppb	0.63079	13.62%

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   QC value within limits for Co 228.616  Recovery = 92.64%
Cr 267.716†              229.2      5.3334 µg/L       0.60244      5.3334 ppb        0.60244  11.30%
   QC value within limits for Cr 267.716  Recovery = 106.67%
Cu 324.752†             1350.4      9.8607 µg/L       0.67320      9.8607 ppb        0.67320   6.83%
   QC value within limits for Cu 324.752  Recovery = 98.61%
Fe 238.204 Radial†        8.1      105.39 µg/L        16.247      105.39 ppb         16.247  15.42%
   QC value within limits for Fe 238.204 Radial  Recovery = 105.39%
K 766.490 Radial†        225.8      140.71 µg/L        11.309      140.71 ppb         11.309   8.04%
   QC value within limits for K 766.490 Radial  Recovery = 93.81%
Mg 279.077 IEC†           32.9      329.83 µg/L        23.983      329.83 ppb         23.983   7.27%
   QC value within limits for Mg 279.077 IEC  Recovery = 109.94%
Mn 257.610†             2825.5      10.367 µg/L        0.5443      10.367 ppb         0.5443   5.25%
   QC value within limits for Mn 257.610  Recovery = 103.67%
Mo 202.031†               79.8      9.9906 µg/L       0.93588      9.9906 ppb        0.93588   9.37%
   QC value within limits for Mo 202.031  Recovery = 99.91%
Na 589.592 Radial†       965.0      262.36 µg/L         3.733      262.36 ppb          3.733   1.42%
   QC value within limits for Na 589.592 Radial  Recovery = 87.45%
Ni 231.604†               86.6      5.4709 µg/L       0.29103      5.4709 ppb        0.29103   5.32%
   QC value within limits for Ni 231.604  Recovery = 109.42%
P 214.914†                56.2      134.15 µg/L        17.139      134.15 ppb         17.139  12.78%
   QC value within limits for P 214.914  Recovery = 89.44%
Pb 220.353†               38.5      11.341 µg/L        1.7142      11.341 ppb         1.7142  15.11%
   QC value within limits for Pb 220.353  Recovery = 113.41%
S 181.975 Axial†          16.5      95.800 µg/L        1.9652      95.800 ppb         1.9652   2.05%
   QC value within limits for S 181.975 Axial  Recovery = 95.80%
Sb 206.836†               10.6      11.683 µg/L        3.3356      11.683 ppb         3.3356  28.55%
   QC value within limits for Sb 206.836  Recovery = 116.83%
Se 196.026†               22.4      35.359 µg/L        6.3286      35.359 ppb         6.3286  17.90%
   QC value within limits for Se 196.026  Recovery = 117.86%
SiO2†                   1004.8      208.01 µg/L        10.759      208.01 ppb         10.759   5.17%
   QC value within limits for SiO2  Recovery = 97.66%
Si 251.611†             1184.3      97.296 µg/L        7.8866      97.296 ppb         7.8866   8.11%
   QC value within limits for Si 251.611  Recovery = 97.30%
Sn 189.927†               17.4      10.481 µg/L        2.6699      10.481 ppb         2.6699  25.47%
   QC value within limits for Sn 189.927  Recovery = 104.81%
Sr 421.552†              881.0      5.2638 µg/L       0.06985      5.2638 ppb        0.06985   1.33%
   QC value within limits for Sr 421.552  Recovery = 105.28%
Ti 334.940†             2081.7      5.0671 µg/L       0.26654      5.0671 ppb        0.26654   5.26%
   QC value within limits for Ti 334.940  Recovery = 101.34%
Tl 190.801†               12.4      21.836 µg/L        0.7664      21.836 ppb         0.7664   3.51%
   QC value within limits for Tl 190.801  Recovery = 109.18%
U 409.014†               528.5      49.141 µg/L        5.6227      49.141 ppb         5.6227  11.44%
   QC value within limits for U 409.014  Recovery = 98.28%
V 292.402†               405.8      5.1548 µg/L       0.41192      5.1548 ppb        0.41192   7.99%
   QC value within limits for V 292.402  Recovery = 103.10%
Zn 213.857†              354.9      10.233 µg/L        0.8964      10.233 ppb         0.8964   8.76%
   QC value within limits for Zn 213.857  Recovery = 102.33%
All analyte(s) passed QC.
```

Sequence No.: 9
Sample ID: ICSA
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 103
Date Collected: 1/25/2010 11:35:51
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICSA

Rep1#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	76590.0	76590.0	98.7	%			11:36:33
1	Al 396.153Radial†	774126.2	784582.4	510470	µg/L	510470	ppb	11:36:27
1	Ca 317.933Radial†	653287.3	661829.1	487530	µg/L	487530	ppb	11:36:27
1	Fe 238.204 Radial†	14246.1	14422.6	187640	µg/L	187640	ppb	11:36:33
1	K 766.490 Radial†	237.1	-152.1	-94.795	µg/L	-94.795	ppb	11:36:33
1	Mg 279.077 IEC†	48140.9	48779.5	489130	µg/L	489130	ppb	11:36:33
1	Na 589.592 Radial†	491.7	-94.7	-25.753	µg/L	-25.753	ppb	11:36:33
1	Sr 421.552†	1041.5	573.5	3.4269	µg/L	3.4269	ppb	11:36:33
1	Sc 361.383	1774551.0	1774551.0	94.049	%			11:37:07
1	Y 371.029	1119340.5	1119340.5	92.978	%			11:37:07
1	Ag 328.068†	-1977.9	-2024.3	-6.5474	µg/L	-6.5474	ppb	11:37:07
1	As 188.979†	-5.4	-4.0	-23.575	µg/L	-23.575	ppb	11:37:27
1	B 249.677†	2350.6	2320.7	110.74	µg/L	110.74	ppb	11:37:07
1	Ba 233.527†	215.6	254.0	7.3575	µg/L	7.3575	ppb	11:37:27
1	Be 313.107†	2930.6	-529.6	-0.3767	µg/L	-0.3767	ppb	11:37:07
1	Cd 226.502†	671.1	831.4	3.5628	µg/L	3.5628	ppb	11:37:27
1	Co 228.616†	-19.4	24.0	1.2637	µg/L	1.2637	ppb	11:37:27
1	Cr 267.716†	-77.7	-10.5	-0.2489	µg/L	-0.2489	ppb	11:37:27
1	Cu 324.752†	883.2	-3093.9	3.5225	µg/L	3.5225	ppb	11:37:07
1	Mn 257.610†	-2517.1	-2497.4	-3.7803	µg/L	-3.7803	ppb	11:37:07
1	Mo 202.031†	-80.4	-98.2	-5.1606	µg/L	-5.1606	ppb	11:37:27
1	Ni 231.604†	267.3	-25.5	0.8276	µg/L	0.8276	ppb	11:37:27
1	P 214.914†	212.6	14.4	28.305	µg/L	28.305	ppb	11:37:27
1	Pb 220.353†	-19.2	-77.2	-1.8976	µg/L	-1.8976	ppb	11:37:27
1	S 181.975 Axial†	46.8	26.1	151.73	µg/L	151.73	ppb	11:37:27
1	Sb 206.836†	47.3	26.3	-3.6305	µg/L	-3.6305	ppb	11:37:27
1	Se 196.026†	-377.3	-408.3	13.852	µg/L	13.852	ppb	11:37:27
1	SiO2†	2158.9	-124.0	-25.674	µg/L	-25.674	ppb	11:37:27
1	Si 251.611†	346.3	88.4	7.2627	µg/L	7.2627	ppb	11:37:27
1	Sn 189.927†	-326.3	-366.9	0.9334	µg/L	0.9334	ppb	11:37:27
1	Ti 334.940†	10905.5	10862.2	-4.2984	µg/L	-4.2984	ppb	11:37:07
1	Tl 190.801†	14.0	33.8	-25.899	µg/L	-25.899	ppb	11:37:27
1	U 409.014†	459.8	549.7	-4.6756	µg/L	-4.6756	ppb	11:37:07
1	V 292.402†	-699.2	-599.9	2.4978	µg/L	2.4978	ppb	11:37:07
1	Zn 213.857†	1756.2	1261.1	-0.0271	µg/L	-0.0271	ppb	11:37:27
2	Sc RADIAL	76435.4	76435.4	98.5	%			11:36:44
2	Al 396.153Radial†	771930.2	783938.9	510050	µg/L	510050	ppb	11:36:39
2	Ca 317.933Radial†	650121.8	659953.4	486150	µg/L	486150	ppb	11:36:39
2	Fe 238.204 Radial†	14168.3	14372.7	186990	µg/L	186990	ppb	11:36:44
2	K 766.490 Radial†	271.7	-116.5	-72.595	µg/L	-72.595	ppb	11:36:44
2	Mg 279.077 IEC†	47971.8	48706.5	488400	µg/L	488400	ppb	11:36:44
2	Na 589.592 Radial†	467.5	-118.3	-32.164	µg/L	-32.164	ppb	11:36:44
2	Sr 421.552†	1050.2	584.5	3.4927	µg/L	3.4927	ppb	11:36:44
2	Sc 361.383	1770584.7	1770584.7	93.838	%			11:37:34
2	Y 371.029	1117080.5	1117080.5	92.790	%			11:37:34
2	Ag 328.068†	-2027.2	-2081.5	-7.1125	µg/L	-7.1125	ppb	11:37:34
2	As 188.979†	-6.0	-4.6	-25.019	µg/L	-25.019	ppb	11:37:55
2	B 249.677†	2381.1	2358.8	112.56	µg/L	112.56	ppb	11:37:34
2	Ba 233.527†	210.0	248.6	7.1979	µg/L	7.1979	ppb	11:37:55
2	Be 313.107†	2907.7	-547.0	-0.3888	µg/L	-0.3888	ppb	11:37:34
2	Cd 226.502†	667.2	828.9	3.5602	µg/L	3.5602	ppb	11:37:55
2	Co 228.616†	-12.0	31.7	1.6929	µg/L	1.6929	ppb	11:37:55
2	Cr 267.716†	-95.2	-29.4	-0.6878	µg/L	-0.6878	ppb	11:37:55
2	Cu 324.752†	829.1	-3149.5	3.0272	µg/L	3.0272	ppb	11:37:34
2	Mn 257.610†	-2485.6	-2469.8	-3.7360	µg/L	-3.7360	ppb	11:37:34
2	Mo 202.031†	-86.9	-105.3	-6.0665	µg/L	-6.0665	ppb	11:37:55
2	Ni 231.604†	265.2	-27.1	0.7155	µg/L	0.7155	ppb	11:37:55
2	P 214.914†	208.0	10.0	18.194	µg/L	18.194	ppb	11:37:55
2	Pb 220.353†	-33.2	-92.1	-6.3038	µg/L	-6.3038	ppb	11:37:55

2	S 181.975 Axial†	60.7	41.1	238.78 µg/L	238.78 ppb	11:37:55
2	Sb 206.836†	67.0	47.5	19.551 µg/L	19.551 ppb	11:37:55
2	Se 196.026†	-376.9	-408.8	11.173 µg/L	11.173 ppb	11:37:55
2	SiO2†	2146.1	-132.5	-27.439 µg/L	-27.439 ppb	11:37:55
2	Si 251.611†	353.6	97.0	7.9678 µg/L	7.9678 ppb	11:37:55
2	Sn 189.927†	-322.9	-364.0	2.1601 µg/L	2.1601 ppb	11:37:55
2	Ti 334.940†	10914.7	10898.0	-4.1751 µg/L	-4.1751 ppb	11:37:34
2	Tl 190.801†	17.7	37.8	-18.722 µg/L	-18.722 ppb	11:37:55
2	U 409.014†	484.0	576.7	-1.9947 µg/L	-1.9947 ppb	11:37:34
2	V 292.402†	-775.2	-682.7	1.4369 µg/L	1.4369 ppb	11:37:34
2	Zn 213.857†	1765.4	1275.1	0.4521 µg/L	0.4521 ppb	11:37:55
3	Sc RADIAL	76432.7	76432.7	98.5 %		11:36:56
3	Al 396.153Radial†	778793.5	790936.7	514600 µg/L	514600 ppb	11:36:50
3	Ca 317.933Radial†	657589.9	667561.0	491750 µg/L	491750 ppb	11:36:50
3	Fe 238.204 Radial†	14207.3	14412.9	187510 µg/L	187510 ppb	11:36:56
3	K 766.490 Radial†	253.7	-134.8	-83.980 µg/L	-83.980 ppb	11:36:56
3	Mg 279.077 IEC†	48062.0	48799.9	489340 µg/L	489340 ppb	11:36:56
3	Na 589.592 Radial†	525.5	-59.5	-16.164 µg/L	-16.164 ppb	11:36:56
3	Sr 421.552†	995.7	529.2	3.1617 µg/L	3.1617 ppb	11:36:56
3	Sc 361.383	1763733.0	1763733.0	93.475 %		11:38:02
3	Y 371.029	1113405.9	1113405.9	92.485 %		11:38:02
3	Ag 328.068†	-1959.5	-2017.5	-6.4985 µg/L	-6.4985 ppb	11:38:02
3	As 188.979†	-6.0	-4.6	-25.208 µg/L	-25.208 ppb	11:38:22
3	B 249.677†	2290.8	2272.1	108.42 µg/L	108.42 ppb	11:38:02
3	Ba 233.527†	214.8	254.6	7.3718 µg/L	7.3718 ppb	11:38:22
3	Be 313.107†	2909.5	-533.0	-0.3790 µg/L	-0.3790 ppb	11:38:02
3	Cd 226.502†	666.5	830.9	3.5626 µg/L	3.5626 ppb	11:38:22
3	Co 228.616†	-21.4	21.7	1.1395 µg/L	1.1395 ppb	11:38:22
3	Cr 267.716†	-56.0	12.1	0.2770 µg/L	0.2770 ppb	11:38:22
3	Cu 324.752†	837.2	-3137.4	3.1879 µg/L	3.1879 ppb	11:38:02
3	Mn 257.610†	-2518.1	-2514.8	-3.8693 µg/L	-3.8693 ppb	11:38:02
3	Mo 202.031†	-81.1	-99.5	-5.3237 µg/L	-5.3237 ppb	11:38:22
3	Ni 231.604†	270.8	-20.0	1.1707 µg/L	1.1707 ppb	11:38:22
3	P 214.914†	220.5	24.2	53.306 µg/L	53.306 ppb	11:38:22
3	Pb 220.353†	-42.2	-101.9	-8.9550 µg/L	-8.9550 ppb	11:38:22
3	S 181.975 Axial†	61.4	42.0	244.25 µg/L	244.25 ppb	11:38:22
3	Sb 206.836†	61.7	42.0	13.216 µg/L	13.216 ppb	11:38:22
3	Se 196.026†	-376.4	-409.9	13.280 µg/L	13.280 ppb	11:38:22
3	SiO2†	2121.9	-149.6	-30.965 µg/L	-30.965 ppb	11:38:22
3	Si 251.611†	327.3	70.4	5.7816 µg/L	5.7816 ppb	11:38:22
3	Sn 189.927†	-320.3	-362.5	4.4652 µg/L	4.4652 ppb	11:38:22
3	Ti 334.940†	10694.7	10707.7	-4.6246 µg/L	-4.6246 ppb	11:38:02
3	Tl 190.801†	16.2	36.2	-22.441 µg/L	-22.441 ppb	11:38:22
3	U 409.014†	453.6	546.2	-5.2467 µg/L	-5.2467 ppb	11:38:02
3	V 292.402†	-748.1	-656.9	1.7881 µg/L	1.7881 ppb	11:38:02
3	Zn 213.857†	1765.2	1282.3	0.5799 µg/L	0.5799 ppb	11:38:22

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1769622.9	93.787	%	0.2900				0.31%
Sc RADIAL	76486.0	98.5	%	0.12				0.12%
Y 371.029	1116608.9	92.751	%	0.2488				0.27%
Ag 328.068†	-2041.1	-6.7195	µg/L	0.34122	-6.7195	ppb	0.34122	5.08%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	786486.0	511710	µg/L	2516.5	511710	ppb	2516.5	0.49%
QC value within limits for Al 396.153Radial Recovery = 102.34%								
As 188.979†	-4.4	-24.600	µg/L	0.8932	-24.600	ppb	0.8932	3.63%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	2317.2	110.57	µg/L	2.074	110.57	ppb	2.074	1.88%
QC value greater than the upper limit for B 249.677 Recovery = Not calculated								
Ba 233.527†	252.4	7.3091	µg/L	0.09658	7.3091	ppb	0.09658	1.32%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-536.5	-0.3815	µg/L	0.00643	-0.3815	ppb	0.00643	1.69%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	663114.5	488480	µg/L	2919.6	488480	ppb	2919.6	0.60%
QC value within limits for Ca 317.933Radial Recovery = 97.70%								
Cd 226.502†	830.4	3.5619	µg/L	0.00146	3.5619	ppb	0.00146	0.04%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	25.8	1.3653	µg/L	0.29038	1.3653	ppb	0.29038	21.27%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -9.2     -0.2199 µg/L      0.48307     -0.2199 ppb        0.48307 219.70%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†           -3126.9      3.2459 µg/L      0.25272      3.2459 ppb        0.25272   7.79%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†    14402.7      187380 µg/L        343.7      187380 ppb          343.7   0.18%
   QC value within limits for Fe 238.204 Radial  Recovery = 93.69%
K 766.490 Radial†      -134.5     -83.790 µg/L      11.1015     -83.790 ppb        11.1015  13.25%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†       48761.9      488960 µg/L        492.4      488960 ppb          492.4   0.10%
   QC value within limits for Mg 279.077 IEC  Recovery = 97.79%
Mn 257.610†           -2494.0     -3.7952 µg/L      0.06787     -3.7952 ppb        0.06787   1.79%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†            -101.0     -5.5170 µg/L      0.48287     -5.5170 ppb        0.48287   8.75%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†      -90.8     -24.694 µg/L       8.0526     -24.694 ppb         8.0526  32.61%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†             -24.2      0.9046 µg/L      0.23714      0.9046 ppb        0.23714  26.21%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†               16.2      33.269 µg/L      18.0744      33.269 ppb        18.0744  54.33%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†             -90.4     -5.7188 µg/L      3.56488     -5.7188 ppb        3.56488  62.34%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         36.4      211.59 µg/L       51.910      211.59 ppb         51.910  24.53%
   QC value greater than the upper limit for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†              38.6      9.7122 µg/L     11.98149      9.7122 ppb       11.98149 123.37%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†            -409.0      12.769 µg/L       1.4111      12.769 ppb         1.4111  11.05%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                  -135.4     -28.026 µg/L       2.6940     -28.026 ppb         2.6940   9.61%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              85.3      7.0040 µg/L      1.11585      7.0040 ppb        1.11585  15.93%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†            -364.5      2.5196 µg/L      1.79314      2.5196 ppb        1.79314  71.17%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†             562.4      3.3604 µg/L      0.17521      3.3604 ppb        0.17521   5.21%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†           10822.6     -4.3660 µg/L      0.23226     -4.3660 ppb        0.23226   5.32%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              35.9     -22.354 µg/L       3.5895     -22.354 ppb         3.5895  16.06%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†              557.5     -3.9723 µg/L      1.73633     -3.9723 ppb        1.73633  43.71%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†             -646.5      1.9076 µg/L      0.54045      1.9076 ppb        0.54045  28.33%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†            1272.8      0.3350 µg/L      0.32003      0.3350 ppb        0.32003  95.54%
   QC value within limits for Zn 213.857  Recovery = Not calculated
QC Failed.  Continue with analysis.
```

Sequence No.: 10
Sample ID: ICSAB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 104
Date Collected: 1/25/2010 11:38:31
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: ICSAB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	77763.0	77763.0	100	%			11:39:11
1	Al 396.153Radial†	791524.4	790114.3	514060	µg/L	514060	ppb	11:39:05
1	Ca 317.933Radial†	670245.7	668769.3	492640	µg/L	492640	ppb	11:39:05
1	Fe 238.204 Radial†	14624.2	14582.1	189720	µg/L	189720	ppb	11:39:11
1	K 766.490 Radial†	8478.5	8070.6	5029.1	µg/L	5029.1	ppb	11:39:11
1	Mg 279.077 IEC†	49337.9	49238.4	493740	µg/L	493740	ppb	11:39:11
1	Na 589.592 Radial†	19217.8	18589.7	5054.0	µg/L	5054.0	ppb	11:39:11
1	Sr 421.552†	85463.6	84826.1	506.84	µg/L	506.84	ppb	11:39:05
1	Sc 361.383	1767480.5	1767480.5	93.674	%			11:39:47
1	Y 371.029	1116273.1	1116273.1	92.723	%			11:39:47
1	Ag 328.068†	25074.2	26846.3	258.28	µg/L	258.28	ppb	11:39:47
1	As 188.979†	208.1	223.9	496.75	µg/L	496.75	ppb	11:40:07
1	B 249.677†	12658.0	13334.2	637.07	µg/L	637.07	ppb	11:39:47
1	Ba 233.527†	16484.5	17622.5	512.28	µg/L	512.28	ppb	11:39:47
1	Be 313.107†	334224.7	353150.5	244.28	µg/L	244.28	ppb	11:39:47
1	Cd 226.502†	15565.1	16734.2	477.50	µg/L	477.50	ppb	11:39:47
1	Co 228.616†	7623.5	8182.9	453.18	µg/L	453.18	ppb	11:40:07
1	Cr 267.716†	20025.1	21449.5	499.09	µg/L	499.09	ppb	11:39:47
1	Cu 324.752†	73413.3	74338.2	568.41	µg/L	568.41	ppb	11:39:47
1	Mn 257.610†	122376.4	130819.9	485.44	µg/L	485.44	ppb	11:39:47
1	Mo 202.031†	3656.5	3890.8	494.00	µg/L	494.00	ppb	11:40:07
1	Ni 231.604†	6990.5	7152.8	454.20	µg/L	454.20	ppb	11:40:07
1	P 214.914†	1234.1	1105.7	2598.1	µg/L	2598.1	ppb	11:40:07
1	Pb 220.353†	1557.4	1605.9	495.21	µg/L	495.21	ppb	11:40:07
1	S 181.975 Axial†	494.7	504.5	2931.7	µg/L	2931.7	ppb	11:40:07
1	Sb 206.836†	516.1	526.9	545.20	µg/L	545.20	ppb	11:40:07
1	Se 196.026†	1102.2	1169.5	2484.4	µg/L	2484.4	ppb	11:40:07
1	SiO2†	52966.1	54123.5	11205	µg/L	11205	ppb	11:39:47
1	Si 251.611†	59870.1	63633.5	5227.9	µg/L	5227.9	ppb	11:39:47
1	Sn 189.927†	513.5	528.3	535.12	µg/L	535.12	ppb	11:40:07
1	Ti 334.940†	206691.0	219916.0	506.57	µg/L	506.57	ppb	11:39:47
1	Tl 190.801†	279.9	317.7	476.03	µg/L	476.03	ppb	11:40:07
1	U 409.014†	5472.3	5902.8	492.75	µg/L	492.75	ppb	11:39:47
1	V 292.402†	38713.5	41471.4	527.39	µg/L	527.39	ppb	11:39:47
1	Zn 213.857†	17460.7	18033.7	483.30	µg/L	483.30	ppb	11:39:47
2	Sc RADIAL	77338.8	77338.8	99.6	%			11:39:23
2	Al 396.153Radial†	783571.3	786465.1	511680	µg/L	511680	ppb	11:39:17
2	Ca 317.933Radial†	661412.7	663573.1	488810	µg/L	488810	ppb	11:39:17
2	Fe 238.204 Radial†	14518.2	14555.8	189380	µg/L	189380	ppb	11:39:23
2	K 766.490 Radial†	8494.8	8133.4	5068.2	µg/L	5068.2	ppb	11:39:23
2	Mg 279.077 IEC†	49097.3	49267.0	494030	µg/L	494030	ppb	11:39:23
2	Na 589.592 Radial†	19168.4	18645.4	5069.1	µg/L	5069.1	ppb	11:39:23
2	Sr 421.552†	84629.5	84456.8	504.63	µg/L	504.63	ppb	11:39:17
2	Sc 361.383	1781400.2	1781400.2	94.412	%			11:40:15
2	Y 371.029	1124691.4	1124691.4	93.422	%			11:40:15
2	Ag 328.068†	25169.8	26738.5	257.28	µg/L	257.28	ppb	11:40:15
2	As 188.979†	202.8	216.6	480.28	µg/L	480.28	ppb	11:40:35
2	B 249.677†	12703.3	13276.6	634.32	µg/L	634.32	ppb	11:40:15
2	Ba 233.527†	16572.6	17578.3	510.99	µg/L	510.99	ppb	11:40:15
2	Be 313.107†	335885.2	352121.2	243.57	µg/L	243.57	ppb	11:40:15
2	Cd 226.502†	15600.6	16642.0	474.79	µg/L	474.79	ppb	11:40:15
2	Co 228.616†	7644.1	8141.1	450.86	µg/L	450.86	ppb	11:40:35
2	Cr 267.716†	20150.1	21414.9	498.28	µg/L	498.28	ppb	11:40:15
2	Cu 324.752†	73658.9	73985.9	565.79	µg/L	565.79	ppb	11:40:15
2	Mn 257.610†	123097.6	130563.0	484.44	µg/L	484.44	ppb	11:40:15
2	Mo 202.031†	3661.2	3865.2	490.78	µg/L	490.78	ppb	11:40:35
2	Ni 231.604†	7002.0	7106.8	451.29	µg/L	451.29	ppb	11:40:35
2	P 214.914†	1248.1	1110.3	2609.1	µg/L	2609.1	ppb	11:40:35
2	Pb 220.353†	1552.9	1588.0	489.83	µg/L	489.83	ppb	11:40:35

2	S 181.975 Axial†	498.2	504.0	2929.1	µg/L	2929.1 ppb	11:40:35
2	Sb 206.836†	502.7	508.5	525.28	µg/L	525.28 ppb	11:40:35
2	Se 196.026†	1111.4	1170.1	2482.9	µg/L	2482.9 ppb	11:40:35
2	SiO2†	53183.2	53911.7	11161	µg/L	11161 ppb	11:40:15
2	Si 251.611†	60192.6	63475.8	5214.9	µg/L	5214.9 ppb	11:40:15
2	Sn 189.927†	523.4	534.4	537.94	µg/L	537.94 ppb	11:40:35
2	Ti 334.940†	207770.9	219335.8	505.06	µg/L	505.06 ppb	11:40:15
2	Tl 190.801†	273.9	309.0	461.42	µg/L	461.42 ppb	11:40:35
2	U 409.014†	5456.0	5839.8	487.17	µg/L	487.17 ppb	11:40:15
2	V 292.402†	38950.5	41399.5	526.45	µg/L	526.45 ppb	11:40:15
2	Zn 213.857†	17566.2	17999.8	482.34	µg/L	482.34 ppb	11:40:15
3	Sc RADIAL	76966.1	76966.1	99.2	%		11:39:34
3	Al 396.153Radial†	786264.7	792989.9	515930	µg/L	515930 ppb	11:39:29
3	Ca 317.933Radial†	663910.6	669306.9	493040	µg/L	493040 ppb	11:39:29
3	Fe 238.204 Radial†	14470.7	14578.5	189670	µg/L	189670 ppb	11:39:34
3	K 766.490 Radial†	8497.0	8176.9	5095.3	µg/L	5095.3 ppb	11:39:34
3	Mg 279.077 IEC†	48971.3	49378.6	495150	µg/L	495150 ppb	11:39:34
3	Na 589.592 Radial†	19112.2	18681.9	5079.1	µg/L	5079.1 ppb	11:39:34
3	Sr 421.552†	84852.3	85092.9	508.43	µg/L	508.43 ppb	11:39:29
3	Sc 361.383	1771114.5	1771114.5	93.866	%		11:40:43
3	Y 371.029	1118477.4	1118477.4	92.906	%		11:40:43
3	Ag 328.068†	25072.3	26789.4	257.77	µg/L	257.77 ppb	11:40:43
3	As 188.979†	207.1	222.4	493.37	µg/L	493.37 ppb	11:41:03
3	B 249.677†	12591.0	13235.2	632.35	µg/L	632.35 ppb	11:40:43
3	Ba 233.527†	16552.9	17659.2	513.35	µg/L	513.35 ppb	11:40:43
3	Be 313.107†	334777.5	353007.3	244.18	µg/L	244.18 ppb	11:40:43
3	Cd 226.502†	15565.2	16700.2	476.50	µg/L	476.50 ppb	11:40:43
3	Co 228.616†	7643.5	8187.5	453.43	µg/L	453.43 ppb	11:41:03
3	Cr 267.716†	20084.3	21468.7	499.53	µg/L	499.53 ppb	11:40:43
3	Cu 324.752†	73422.5	74187.2	567.30	µg/L	567.30 ppb	11:40:43
3	Mn 257.610†	122661.1	130855.2	485.51	µg/L	485.51 ppb	11:40:43
3	Mo 202.031†	3661.8	3888.4	493.69	µg/L	493.69 ppb	11:41:03
3	Ni 231.604†	7013.8	7162.3	454.80	µg/L	454.80 ppb	11:41:03
3	P 214.914†	1263.1	1134.0	2666.8	µg/L	2666.8 ppb	11:41:03
3	Pb 220.353†	1541.2	1585.1	489.18	µg/L	489.18 ppb	11:41:03
3	S 181.975 Axial†	493.1	501.7	2915.5	µg/L	2915.5 ppb	11:41:03
3	Sb 206.836†	513.3	522.9	540.75	µg/L	540.75 ppb	11:41:03
3	Se 196.026†	1108.9	1174.2	2492.1	µg/L	2492.1 ppb	11:41:03
3	SiO2†	53065.1	54113.0	11203	µg/L	11203 ppb	11:40:43
3	Si 251.611†	59910.9	63545.9	5220.7	µg/L	5220.7 ppb	11:40:43
3	Sn 189.927†	518.6	532.6	538.02	µg/L	538.02 ppb	11:41:03
3	Ti 334.940†	206958.1	219747.9	506.05	µg/L	506.05 ppb	11:40:43
3	Tl 190.801†	273.4	310.1	462.78	µg/L	462.78 ppb	11:41:03
3	U 409.014†	5569.2	5994.0	501.21	µg/L	501.21 ppb	11:40:43
3	V 292.402†	38798.1	41476.8	527.46	µg/L	527.46 ppb	11:40:43
3	Zn 213.857†	17488.9	18025.5	482.98	µg/L	482.98 ppb	11:40:43

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1773331.7	93.984	%	0.3826				0.41%
Sc RADIAL	77356.0	99.7	%	0.51				0.52%
Y 371.029	1119814.0	93.017	%	0.3626				0.39%
Ag 328.068†	26791.4	257.78	µg/L	0.502	257.78	ppb	0.502	0.19%
QC value within limits for Ag 328.068 Recovery = 103.11%								
Al 396.153Radial†	789856.4	513890	µg/L	2127.5	513890	ppb	2127.5	0.41%
QC value within limits for Al 396.153Radial Recovery = 102.78%								
As 188.979†	221.0	490.13	µg/L	8.701	490.13	ppb	8.701	1.78%
QC value within limits for As 188.979 Recovery = 98.03%								
B 249.677†	13282.0	634.58	µg/L	2.372	634.58	ppb	2.372	0.37%
QC value greater than the upper limit for B 249.677 Recovery = 126.92%								
Ba 233.527†	17620.0	512.21	µg/L	1.177	512.21	ppb	1.177	0.23%
QC value within limits for Ba 233.527 Recovery = 102.44%								
Be 313.107†	352759.7	244.01	µg/L	0.386	244.01	ppb	0.386	0.16%
QC value within limits for Be 313.107 Recovery = 97.60%								
Ca 317.933Radial†	667216.4	491500	µg/L	2332.7	491500	ppb	2332.7	0.47%
QC value within limits for Ca 317.933Radial Recovery = 98.30%								
Cd 226.502†	16692.1	476.27	µg/L	1.370	476.27	ppb	1.370	0.29%
QC value within limits for Cd 226.502 Recovery = 95.25%								
Co 228.616†	8170.5	452.49	µg/L	1.418	452.49	ppb	1.418	0.31%

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   QC value within limits for Co 228.616  Recovery = 90.50%
Cr 267.716†          21444.4      498.97 µg/L        0.635      498.97 ppb        0.635   0.13%
   QC value within limits for Cr 267.716  Recovery = 99.79%
Cu 324.752†          74170.4      567.16 µg/L        1.313      567.16 ppb        1.313   0.23%
   QC value within limits for Cu 324.752  Recovery = 113.43%
Fe 238.204 Radial†   14572.1      189590 µg/L        185.3      189590 ppb        185.3   0.10%
   QC value within limits for Fe 238.204 Radial  Recovery = 94.80%
K 766.490 Radial†     8127.0      5064.2 µg/L        33.29      5064.2 ppb        33.29   0.66%
   QC value within limits for K 766.490 Radial  Recovery = 101.28%
Mg 279.077 IEC†      49294.6      494310 µg/L        743.0      494310 ppb        743.0   0.15%
   QC value within limits for Mg 279.077 IEC  Recovery = 98.86%
Mn 257.610†         130746.0      485.13 µg/L        0.597      485.13 ppb        0.597   0.12%
   QC value within limits for Mn 257.610  Recovery = 97.03%
Mo 202.031†           3881.4      492.82 µg/L        1.776      492.82 ppb        1.776   0.36%
   QC value within limits for Mo 202.031  Recovery = 98.56%
Na 589.592 Radial†   18639.0      5067.4 µg/L        12.61      5067.4 ppb        12.61   0.25%
   QC value within limits for Na 589.592 Radial  Recovery = 101.35%
Ni 231.604†           7140.6      453.43 µg/L        1.880      453.43 ppb        1.880   0.41%
   QC value within limits for Ni 231.604  Recovery = 90.69%
P 214.914†            1116.7      2624.7 µg/L        36.86      2624.7 ppb        36.86   1.40%
   QC value within limits for P 214.914  Recovery = 104.99%
Pb 220.353†           1593.0      491.41 µg/L        3.312      491.41 ppb        3.312   0.67%
   QC value within limits for Pb 220.353  Recovery = 98.28%
S 181.975 Axial†       503.4      2925.4 µg/L         8.69      2925.4 ppb         8.69   0.30%
   QC value within limits for S 181.975 Axial  Recovery = 117.02%
Sb 206.836†            519.4      537.08 µg/L       10.457      537.08 ppb       10.457   1.95%
   QC value within limits for Sb 206.836  Recovery = 107.42%
Se 196.026†           1171.3      2486.5 µg/L         4.94      2486.5 ppb         4.94   0.20%
   QC value within limits for Se 196.026  Recovery = 99.46%
SiO2†                54049.4       11190 µg/L         24.7       11190 ppb         24.7   0.22%
   QC value within limits for SiO2  Recovery = 104.62%
Si 251.611†          63551.7      5221.2 µg/L         6.50      5221.2 ppb         6.50   0.12%
   QC value within limits for Si 251.611  Recovery = 104.42%
Sn 189.927†            531.8      537.03 µg/L        1.655      537.03 ppb        1.655   0.31%
   QC value within limits for Sn 189.927  Recovery = 107.41%
Sr 421.552†          84791.9      506.64 µg/L        1.908      506.64 ppb        1.908   0.38%
   QC value within limits for Sr 421.552  Recovery = 101.33%
Ti 334.940†         219666.6      505.89 µg/L        0.764      505.89 ppb        0.764   0.15%
   QC value within limits for Ti 334.940  Recovery = 101.18%
Tl 190.801†            312.3      466.74 µg/L        8.071      466.74 ppb        8.071   1.73%
   QC value within limits for Tl 190.801  Recovery = 93.35%
U 409.014†            5912.2      493.71 µg/L        7.071      493.71 ppb        7.071   1.43%
   QC value within limits for U 409.014  Recovery = 98.74%
V 292.402†           41449.2      527.10 µg/L        0.563      527.10 ppb        0.563   0.11%
   QC value within limits for V 292.402  Recovery = 105.42%
Zn 213.857†          18019.7      482.87 µg/L        0.492      482.87 ppb        0.492   0.10%
   QC value within limits for Zn 213.857  Recovery = 96.57%
QC Failed.  Continue with analysis.
```

Sequence No.: 11
Sample ID: LR1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 105
Date Collected: 1/25/2010 11:41:12
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	76701.8	76701.8	98.8	%			11:41:53
1	Al 396.153Radial†	766439.3	775659.2	504660	µg/L	504660	ppb	11:41:48
1	Ca 317.933Radial†	647628.3	655136.6	482600	µg/L	482600	ppb	11:41:48
1	Fe 238.204 Radial†	34926.6	35330.0	459640	µg/L	459640	ppb	11:41:53
1	K 766.490 Radial†	263.4	-125.9	-78.469	µg/L	-78.469	ppb	11:41:53
1	Mg 279.077 IEC†	48114.3	48681.5	487860	µg/L	487860	ppb	11:41:53
1	Na 589.592 Radial†	1754877.0	1775326.3	482660	µg/L	482660	ppb	11:41:48
1	Sr 421.552†	1273.8	807.1	4.8225	µg/L	4.8225	ppb	11:41:53
1	Sc 361.383	1745963.0	1745963.0	92.533	%			11:42:30
1	Y 371.029	1096337.3	1096337.3	91.067	%			11:42:30
1	Ag 328.068†	-3976.5	-4218.5	-9.4751	µg/L	-9.4751	ppb	11:42:30
1	As 188.979†	-13.8	-13.2	-28.498	µg/L	-28.498	ppb	11:42:51
1	B 249.677†	5451.1	5712.4	272.59	µg/L	272.59	ppb	11:42:30
1	Ba 233.527†	516.9	583.4	16.858	µg/L	16.858	ppb	11:42:51
1	Be 313.107†	-1166.6	-4906.3	-3.4078	µg/L	-3.4078	ppb	11:42:30
1	Cd 226.502†	1706.6	1962.2	6.5084	µg/L	6.5084	ppb	11:42:30
1	Co 228.616†	126.3	181.0	9.9517	µg/L	9.9517	ppb	11:42:51
1	Cr 267.716†	227.5	317.9	7.3674	µg/L	7.3674	ppb	11:42:51
1	Cu 324.752†	-4175.8	-8545.7	1.5792	µg/L	1.5792	ppb	11:42:30
1	Mn 257.610†	-12961.1	-13827.9	-9.1351	µg/L	-9.1351	ppb	11:42:30
1	Mo 202.031†	-213.1	-243.0	-12.933	µg/L	-12.933	ppb	11:42:51
1	Ni 231.604†	247.4	-42.4	3.2850	µg/L	3.2850	ppb	11:42:51
1	P 214.914†	384.6	204.0	265.05	µg/L	265.05	ppb	11:42:51
1	Pb 220.353†	69.0	17.8	0.3233	µg/L	0.3233	ppb	11:42:51
1	S 181.975 Axial†	50.5	31.0	180.15	µg/L	180.15	ppb	11:42:51
1	Sb 206.836†	48.1	28.0	-1.8079	µg/L	-1.8079	ppb	11:42:51
1	Se 196.026†	-1040.7	-1131.8	-595.46	µg/L	-595.46	ppb	11:42:51
1	SiO2†	1719.8	-561.0	-116.14	µg/L	-116.14	ppb	11:42:51
1	Si 251.611†	-303.2	-607.4	-49.904	µg/L	-49.904	ppb	11:42:51
1	Sn 189.927†	-373.2	-423.3	-8.8070	µg/L	-8.8070	ppb	11:42:51
1	Ti 334.940†	11720.1	11932.3	-1.6831	µg/L	-1.6831	ppb	11:42:30
1	Tl 190.801†	9.7	29.4	-27.432	µg/L	-27.432	ppb	11:42:51
1	U 409.014†	145634.9	157447.0	14555	µg/L	14555	ppb	11:42:30
1	V 292.402†	-3037.4	-3139.0	0.6194	µg/L	0.6194	ppb	11:42:30
1	Zn 213.857†	2983.5	2618.0	26.542	µg/L	26.542	ppb	11:42:51
2	Sc RADIAL	77246.8	77246.8	99.5	%			11:42:06
2	Al 396.153Radial†	768791.3	772550.2	502640	µg/L	502640	ppb	11:42:00
2	Ca 317.933Radial†	650596.5	653495.1	481390	µg/L	481390	ppb	11:42:00
2	Fe 238.204 Radial†	35277.0	35432.6	460980	µg/L	460980	ppb	11:42:06
2	K 766.490 Radial†	312.9	-78.0	-48.632	µg/L	-48.632	ppb	11:42:06
2	Mg 279.077 IEC†	48505.6	48731.2	488360	µg/L	488360	ppb	11:42:06
2	Na 589.592 Radial†	1758896.6	1766835.4	480350	µg/L	480350	ppb	11:42:00
2	Sr 421.552†	1292.8	817.1	4.8822	µg/L	4.8822	ppb	11:42:06
2	Sc 361.383	1758526.3	1758526.3	93.199	%			11:42:58
2	Y 371.029	1104024.5	1104024.5	91.705	%			11:42:58
2	Ag 328.068†	-3891.1	-4096.3	-8.2839	µg/L	-8.2839	ppb	11:42:58
2	As 188.979†	-12.3	-11.4	-24.257	µg/L	-24.257	ppb	11:43:18
2	B 249.677†	5462.3	5682.2	271.15	µg/L	271.15	ppb	11:42:58
2	Ba 233.527†	500.9	562.2	16.244	µg/L	16.244	ppb	11:43:18
2	Be 313.107†	-1139.7	-4868.5	-3.3817	µg/L	-3.3817	ppb	11:42:58
2	Cd 226.502†	1695.6	1937.2	5.6142	µg/L	5.6142	ppb	11:42:58
2	Co 228.616†	110.9	163.6	8.9823	µg/L	8.9823	ppb	11:43:18
2	Cr 267.716†	247.8	337.9	7.8337	µg/L	7.8337	ppb	11:43:18
2	Cu 324.752†	-4239.6	-8582.0	1.5006	µg/L	1.5006	ppb	11:42:58
2	Mn 257.610†	-13034.8	-13806.9	-8.9002	µg/L	-8.9002	ppb	11:42:58
2	Mo 202.031†	-217.3	-245.9	-13.246	µg/L	-13.246	ppb	11:43:18
2	Ni 231.604†	240.7	-51.5	2.7260	µg/L	2.7260	ppb	11:43:18
2	P 214.914†	387.4	203.9	263.41	µg/L	263.41	ppb	11:43:18
2	Pb 220.353†	71.5	20.0	0.8319	µg/L	0.8319	ppb	11:43:18

2	S 181.975 Axial†	59.3	40.0	232.27 µg/L	232.27 ppb		11:43:18
2	Sb 206.836†	58.6	38.9	10.134 µg/L	10.134 ppb		11:43:18
2	Se 196.026†	-1031.7	-1114.1	-565.72 µg/L	-565.72 ppb		11:43:18
2	SiO2†	1710.7	-584.0	-120.90 µg/L	-120.90 ppb		11:43:18
2	Si 251.611†	-300.4	-602.1	-49.470 µg/L	-49.470 ppb		11:43:18
2	Sn 189.927†	-370.1	-417.0	-5.1274 µg/L	-5.1274 ppb		11:43:18
2	Ti 334.940†	11938.7	12076.4	-1.3894 µg/L	-1.3894 ppb		11:42:58
2	Tl 190.801†	6.9	26.3	-32.718 µg/L	-32.718 ppb		11:43:18
2	U 409.014†	146411.0	157155.4	14528 µg/L	14528 ppb		11:42:58
2	V 292.402†	-3051.2	-3130.3	0.7678 µg/L	0.7678 ppb		11:42:58
2	Zn 213.857†	2986.4	2598.2	25.878 µg/L	25.878 ppb		11:43:18
3	Sc RADIAL	77344.5	77344.5	99.6 %			11:42:19
3	Al 396.153Radial†	767779.2	770558.7	501340 µg/L	501340 ppb		11:42:13
3	Ca 317.933Radial†	649791.7	651861.7	480190 µg/L	480190 ppb		11:42:13
3	Fe 238.204 Radial†	35254.0	35364.8	460090 µg/L	460090 ppb		11:42:19
3	K 766.490 Radial†	285.5	-105.9	-65.981 µg/L	-65.981 ppb		11:42:19
3	Mg 279.077 IEC†	48456.3	48620.0	487240 µg/L	487240 ppb		11:42:19
3	Na 589.592 Radial†	1757607.3	1763309.1	479390 µg/L	479390 ppb		11:42:13
3	Sr 421.552†	1274.8	797.3	4.7640 µg/L	4.7640 ppb		11:42:19
3	Sc 361.383	1754603.8	1754603.8	92.991 %			11:43:25
3	Y 371.029	1102218.8	1102218.8	91.555 %			11:43:25
3	Ag 328.068†	-3904.7	-4120.2	-8.5575 µg/L	-8.5575 ppb		11:43:25
3	As 188.979†	-19.0	-18.6	-40.824 µg/L	-40.824 ppb		11:43:46
3	B 249.677†	5479.4	5713.8	272.66 µg/L	272.66 ppb		11:43:25
3	Ba 233.527†	514.8	578.4	16.712 µg/L	16.712 ppb		11:43:46
3	Be 313.107†	-1085.9	-4813.4	-3.3436 µg/L	-3.3436 ppb		11:43:25
3	Cd 226.502†	1758.9	2009.4	7.8641 µg/L	7.8641 ppb		11:43:25
3	Co 228.616†	116.2	169.5	9.3144 µg/L	9.3144 ppb		11:43:46
3	Cr 267.716†	264.4	356.4	8.2618 µg/L	8.2618 ppb		11:43:46
3	Cu 324.752†	-4116.5	-8459.7	2.2692 µg/L	2.2692 ppb		11:43:25
3	Mn 257.610†	-12901.1	-13694.4	-8.5603 µg/L	-8.5603 ppb		11:43:25
3	Mo 202.031†	-212.5	-241.2	-12.691 µg/L	-12.691 ppb		11:43:46
3	Ni 231.604†	241.0	-50.5	2.7750 µg/L	2.7750 ppb		11:43:46
3	P 214.914†	389.2	206.8	270.72 µg/L	270.72 ppb		11:43:46
3	Pb 220.353†	78.4	27.6	3.0611 µg/L	3.0611 ppb		11:43:46
3	S 181.975 Axial†	49.2	29.3	170.12 µg/L	170.12 ppb		11:43:46
3	Sb 206.836†	45.8	25.3	-4.6959 µg/L	-4.6959 ppb		11:43:46
3	Se 196.026†	-1037.5	-1122.8	-581.81 µg/L	-581.81 ppb		11:43:46
3	SiO2†	1693.8	-598.0	-123.81 µg/L	-123.81 ppb		11:43:46
3	Si 251.611†	-291.3	-593.0	-48.719 µg/L	-48.719 ppb		11:43:46
3	Sn 189.927†	-357.6	-404.5	1.7391 µg/L	1.7391 ppb		11:43:46
3	Ti 334.940†	11943.4	12110.2	-1.2382 µg/L	-1.2382 ppb		11:43:25
3	Tl 190.801†	2.4	21.5	-40.936 µg/L	-40.936 ppb		11:43:46
3	U 409.014†	145917.1	156975.4	14511 µg/L	14511 ppb		11:43:25
3	V 292.402†	-3064.3	-3151.8	0.4441 µg/L	0.4441 ppb		11:43:25
3	Zn 213.857†	2994.0	2613.5	26.426 µg/L	26.426 ppb		11:43:46

Mean Data: LR1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1753031.0	92.908	%	0.3407				0.37%
Sc RADIAL	77097.7	99.3	%	0.45				0.45%
Y 371.029	1100860.2	91.443	%	0.3339				0.37%
Ag 328.068†	-4145.0	-8.7722	µg/L	0.62390	-8.7722	ppb	0.62390	7.11%
Al 396.153Radial†	772922.7	502880	µg/L	1672.5	502880	ppb	1672.5	0.33%
QC value within limits for Al 396.153Radial Recovery = 100.58%								
As 188.979†	-14.4	-31.193	µg/L	8.6059	-31.193	ppb	8.6059	27.59%
B 249.677†	5702.8	272.14	µg/L	0.850	272.14	ppb	0.850	0.31%
Ba 233.527†	574.6	16.605	µg/L	0.3208	16.605	ppb	0.3208	1.93%
Be 313.107†	-4862.7	-3.3777	µg/L	0.03228	-3.3777	ppb	0.03228	0.96%
Ca 317.933Radial†	653497.8	481390	µg/L	1206.2	481390	ppb	1206.2	0.25%
QC value within limits for Ca 317.933Radial Recovery = 96.28%								
Cd 226.502†	1969.6	6.6622	µg/L	1.13285	6.6622	ppb	1.13285	17.00%
Co 228.616†	171.4	9.4162	µg/L	0.49267	9.4162	ppb	0.49267	5.23%
Cr 267.716†	337.4	7.8210	µg/L	0.44733	7.8210	ppb	0.44733	5.72%
Cu 324.752†	-8529.1	1.7830	µg/L	0.42289	1.7830	ppb	0.42289	23.72%
Fe 238.204 Radial†	35375.8	460240	µg/L	679.4	460240	ppb	679.4	0.15%
QC value within limits for Fe 238.204 Radial Recovery = 92.05%								
K 766.490 Radial†	-103.3	-64.360	µg/L	14.9842	-64.360	ppb	14.9842	23.28%
Mg 279.077 IEC†	48677.6	487820	µg/L	558.0	487820	ppb	558.0	0.11%

QC value within limits for Mg 279.077 IEC Recovery = 97.56%

Mn 257.610†	-13776.4	-8.8652 µg/L	0.28900	-8.8652 ppb	0.28900	3.26%
Mo 202.031†	-243.3	-12.957 µg/L	0.2783	-12.957 ppb	0.2783	2.15%
Na 589.592 Radial†	1768490.3	480800 µg/L	1679.4	480800 ppb	1679.4	0.35%

QC value within limits for Na 589.592 Radial Recovery = 96.16%

Ni 231.604†	-48.1	2.9287 µg/L	0.30958	2.9287 ppb	0.30958	10.57%
P 214.914†	204.9	266.39 µg/L	3.835	266.39 ppb	3.835	1.44%
Pb 220.353†	21.8	1.4054 µg/L	1.45626	1.4054 ppb	1.45626	103.62%
S 181.975 Axial†	33.4	194.18 µg/L	33.364	194.18 ppb	33.364	17.18%
Sb 206.836†	30.7	1.2099 µg/L	7.86193	1.2099 ppb	7.86193	649.78%
Se 196.026†	-1122.9	-581.00 µg/L	14.888	-581.00 ppb	14.888	2.56%
SiO2†	-581.0	-120.28 µg/L	3.871	-120.28 ppb	3.871	3.22%
Si 251.611†	-600.9	-49.364 µg/L	0.5994	-49.364 ppb	0.5994	1.21%
Sn 189.927†	-414.9	-4.0651 µg/L	5.35268	-4.0651 ppb	5.35268	131.67%
Sr 421.552†	807.2	4.8229 µg/L	0.05910	4.8229 ppb	0.05910	1.23%
Ti 334.940†	12039.6	-1.4369 µg/L	0.22625	-1.4369 ppb	0.22625	15.75%
Tl 190.801†	25.7	-33.695 µg/L	6.8049	-33.695 ppb	6.8049	20.20%
U 409.014†	157192.6	14531 µg/L	22.1	14531 ppb	22.1	0.15%

QC value within limits for U 409.014 Recovery = 96.87%

V 292.402†	-3140.4	0.6104 µg/L	0.16206	0.6104 ppb	0.16206	26.55%
Zn 213.857†	2609.9	26.282 µg/L	0.3546	26.282 ppb	0.3546	1.35%

All analyte(s) passed QC.

Sequence No.: 12
Sample ID: LR2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 108
Date Collected: 1/25/2010 11:43:55
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	78449.2	78449.2	101	%			11:44:38
1	Al 396.153Radial†	412.2	437.5	75.855	µg/L	75.855	ppb	11:44:38
1	Ca 317.933Radial†	361.1	100.1	73.716	µg/L	73.716	ppb	11:44:58
1	Fe 238.204 Radial†	-21.8	-37.0	-268.43	µg/L	-268.43	ppb	11:44:58
1	K 766.490 Radial†	495111.7	489495.7	305020	µg/L	305020	ppb	11:44:32
1	Mg 279.077 IEC†	-25.1	-34.6	-175.62	µg/L	-175.62	ppb	11:44:58
1	Na 589.592 Radial†	1843.8	1231.3	334.75	µg/L	334.75	ppb	11:44:38
1	Sr 421.552†	1703632.6	1685177.1	10069	µg/L	10069	ppb	11:44:32
1	Sc 361.383	1880990.4	1880990.4	99.690	%			11:46:30
1	Y 371.029	1190791.7	1190791.7	98.913	%			11:46:30
1	Ag 328.068†	-7011.5	-6954.5	6.0820	µg/L	6.0820	ppb	11:46:30
1	As 188.979†	4494.9	4510.7	10301	µg/L	10301	ppb	11:46:35
1	B 249.677†	105913.0	106064.0	5102.1	µg/L	5102.1	ppb	11:46:30
1	Ba 233.527†	368708.8	369881.0	10752	µg/L	10752	ppb	11:46:30
1	Be 313.107†	4307062.9	4316821.8	2984.7	µg/L	2984.7	ppb	11:46:19
1	Cd 226.502†	336638.7	337804.3	10073	µg/L	10073	ppb	11:46:30
1	Co 228.616†	180606.6	181213.3	10039	µg/L	10039	ppb	11:46:30
1	Cr 267.716†	1098519.0	1102009.9	25632	µg/L	25632	ppb	11:46:30
1	Cu 324.752†	2882017.9	2886954.4	21050	µg/L	21050	ppb	11:46:30
1	Mn 257.610†	2696843.5	2705415.7	9925.9	µg/L	9925.9	ppb	11:46:30
1	Mo 202.031†	81000.2	81239.6	10164	µg/L	10164	ppb	11:46:30
1	Ni 231.604†	161551.8	161744.9	10215	µg/L	10215	ppb	11:46:30
1	P 214.914†	8008.5	7821.7	16741	µg/L	16741	ppb	11:46:35
1	Pb 220.353†	87360.0	87575.2	25856	µg/L	25856	ppb	11:46:30
1	S 181.975 Axial†	9025.6	9030.0	52476	µg/L	52476	ppb	11:46:35
1	Sb 206.836†	9803.5	9810.0	10588	µg/L	10588	ppb	11:46:35
1	Se 196.026†	6699.2	6713.0	10481	µg/L	10481	ppb	11:46:35
1	SiO2†	494152.1	493270.5	102120	µg/L	102120	ppb	11:46:30
1	Si 251.611†	576988.0	578503.9	47528	µg/L	47528	ppb	11:46:30
1	Sn 189.927†	19331.9	19372.2	11512	µg/L	11512	ppb	11:46:35
1	Ti 334.940†	4095610.0	4107622.9	10043	µg/L	10043	ppb	11:46:19
1	Tl 190.801†	5839.0	5876.0	10388	µg/L	10388	ppb	11:46:35
1	U 409.014†	859.8	923.4	85.970	µg/L	85.970	ppb	11:46:30
1	V 292.402†	845131.7	847905.4	10603	µg/L	10603	ppb	11:46:30
1	Zn 213.857†	521794.8	522812.5	15089	µg/L	15089	ppb	11:46:30
2	Sc RADIAL	77793.9	77793.9	100	%			11:45:10
2	Al 396.153Radial†	388.6	417.4	65.768	µg/L	65.768	ppb	11:45:10
2	Ca 317.933Radial†	350.3	92.3	68.004	µg/L	68.004	ppb	11:45:30
2	Fe 238.204 Radial†	-23.1	-38.5	-290.12	µg/L	-290.12	ppb	11:45:30
2	K 766.490 Radial†	495063.8	493574.4	307570	µg/L	307570	ppb	11:45:04
2	Mg 279.077 IEC†	-25.7	-35.4	-186.09	µg/L	-186.09	ppb	11:45:30
2	Na 589.592 Radial†	1567.8	971.3	264.06	µg/L	264.06	ppb	11:45:10
2	Sr 421.552†	1705780.7	1701519.1	10167	µg/L	10167	ppb	11:45:04
2	Sc 361.383	1873324.3	1873324.3	99.283	%			11:46:54
2	Y 371.029	1186266.9	1186266.9	98.537	%			11:46:54
2	Ag 328.068†	-6914.6	-6885.7	5.8415	µg/L	5.8415	ppb	11:46:54
2	As 188.979†	4424.6	4458.3	10181	µg/L	10181	ppb	11:47:00
2	B 249.677†	104746.5	105323.9	5066.1	µg/L	5066.1	ppb	11:46:54
2	Ba 233.527†	363087.1	365732.3	10631	µg/L	10631	ppb	11:46:54
2	Be 313.107†	4301002.0	4328397.6	2992.7	µg/L	2992.7	ppb	11:46:44
2	Cd 226.502†	331540.7	334051.4	9961.1	µg/L	9961.1	ppb	11:46:54
2	Co 228.616†	177256.8	178580.7	9892.9	µg/L	9892.9	ppb	11:46:54
2	Cr 267.716†	1076560.1	1084401.9	25222	µg/L	25222	ppb	11:46:54
2	Cu 324.752†	2837071.7	2853514.5	20806	µg/L	20806	ppb	11:46:54
2	Mn 257.610†	2652606.2	2671929.6	9803.0	µg/L	9803.0	ppb	11:46:54
2	Mo 202.031†	79512.8	80073.9	10018	µg/L	10018	ppb	11:46:54
2	Ni 231.604†	158811.4	159647.8	10083	µg/L	10083	ppb	11:46:54
2	P 214.914†	7749.5	7593.7	16214	µg/L	16214	ppb	11:47:00
2	Pb 220.353†	86299.3	86865.4	25646	µg/L	25646	ppb	11:46:54

2	S 181.975 Axial†	8842.8	8883.0	51621 µg/L	51621 ppb	11:47:00
2	Sb 206.836†	9515.3	9560.0	10318 µg/L	10318 ppb	11:47:00
2	Se 196.026†	6550.7	6590.9	10290 µg/L	10290 ppb	11:47:00
2	SiO2†	488188.8	489292.7	101300 µg/L	101300 ppb	11:46:54
2	Si 251.611†	569782.9	573615.3	47126 µg/L	47126 ppb	11:46:54
2	Sn 189.927†	18589.9	18704.2	11115 µg/L	11115 ppb	11:47:00
2	Ti 334.940†	4088492.7	4117266.8	10067 µg/L	10067 ppb	11:46:44
2	Tl 190.801†	5702.0	5762.0	10189 µg/L	10189 ppb	11:47:00
2	U 409.014†	871.7	938.8	87.409 µg/L	87.409 ppb	11:46:54
2	V 292.402†	831178.7	837320.9	10470 µg/L	10470 ppb	11:46:54
2	Zn 213.857†	513696.4	516797.7	14915 µg/L	14915 ppb	11:46:54
3	Sc RADIAL	78723.7	78723.7	101 %		11:45:42
3	Al 396.153Radial†	409.6	433.5	94.282 µg/L	94.282 ppb	11:45:42
3	Ca 317.933Radial†	352.1	89.9	66.232 µg/L	66.232 ppb	11:46:02
3	Fe 238.204 Radial†	-21.4	-36.5	-284.30 µg/L	-284.30 ppb	11:46:02
3	K 766.490 Radial†	493309.2	486010.2	302850 µg/L	302850 ppb	11:45:36
3	Mg 279.077 IEC†	-28.6	-38.0	-226.71 µg/L	-226.71 ppb	11:46:02
3	Na 589.592 Radial†	1426.1	813.0	221.04 µg/L	221.04 ppb	11:45:42
3	Sr 421.552†	1696357.7	1672125.6	9991.0 µg/L	9991.0 ppb	11:45:36
3	Sc 361.383	1879763.6	1879763.6	99.625 %		11:47:20
3	Y 371.029	1190484.6	1190484.6	98.887 %		11:47:20
3	Ag 328.068†	-6322.2	-6267.3	5.2028 µg/L	5.2028 ppb	11:47:20
3	As 188.979†	4011.4	4028.3	9199.1 µg/L	9199.1 ppb	11:47:25
3	B 249.677†	98844.9	99038.7	4761.9 µg/L	4761.9 ppb	11:47:20
3	Ba 233.527†	334057.5	335340.5	9747.6 µg/L	9747.6 ppb	11:47:20
3	Be 313.107†	4039858.0	4051430.1	2801.2 µg/L	2801.2 ppb	11:47:09
3	Cd 226.502†	305146.7	306414.1	9136.9 µg/L	9136.9 ppb	11:47:20
3	Co 228.616†	161727.0	162380.8	8994.9 µg/L	8994.9 ppb	11:47:20
3	Cr 267.716†	964740.1	968446.2	22525 µg/L	22525 ppb	11:47:20
3	Cu 324.752†	2592535.6	2598268.4	18945 µg/L	18945 ppb	11:47:20
3	Mn 257.610†	2422072.8	2431375.4	8920.4 µg/L	8920.4 ppb	11:47:20
3	Mo 202.031†	72798.0	73059.6	9140.7 µg/L	9140.7 ppb	11:47:20
3	Ni 231.604†	144718.6	144954.0	9154.7 µg/L	9154.7 ppb	11:47:20
3	P 214.914†	6947.6	6762.1	14393 µg/L	14393 ppb	11:47:25
3	Pb 220.353†	80253.6	80499.2	23767 µg/L	23767 ppb	11:47:20
3	S 181.975 Axial†	8072.4	8079.2	46950 µg/L	46950 ppb	11:47:25
3	Sb 206.836†	8588.1	8596.4	9281.5 µg/L	9281.5 ppb	11:47:25
3	Se 196.026†	5980.3	5995.7	9360.7 µg/L	9360.7 ppb	11:47:25
3	SiO2†	456496.5	455796.5	94361 µg/L	94361 ppb	11:47:20
3	Si 251.611†	532414.8	534140.5	43883 µg/L	43883 ppb	11:47:20
3	Sn 189.927†	16519.3	16561.6	9841.8 µg/L	9841.8 ppb	11:47:25
3	Ti 334.940†	3848716.6	3862480.8	9444.0 µg/L	9444.0 ppb	11:47:09
3	Tl 190.801†	5323.8	5362.8	9483.3 µg/L	9483.3 ppb	11:47:25
3	U 409.014†	799.9	863.8	80.428 µg/L	80.428 ppb	11:47:20
3	V 292.402†	757730.1	760727.9	9511.7 µg/L	9511.7 ppb	11:47:20
3	Zn 213.857†	470872.3	472039.8	13624 µg/L	13624 ppb	11:47:20

Mean Data: LR2

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1878026.1	99.533	%	0.2182				0.22%
Sc RADIAL	78322.3	101	%	0.6				0.61%
Y 371.029	1189181.1	98.779	%	0.2100				0.21%
Ag 328.068†	-6702.5	5.7088	µg/L	0.45440	5.7088	ppb	0.45440	7.96%
Al 396.153Radial†	429.5	78.635	µg/L	14.4588	78.635	ppb	14.4588	18.39%
As 188.979†	4332.4	9893.8	µg/L	604.59	9893.8	ppb	604.59	6.11%
QC value within limits for As 188.979 Recovery = 98.94%								
B 249.677†	103475.5	4976.7	µg/L	186.90	4976.7	ppb	186.90	3.76%
QC value within limits for B 249.677 Recovery = 99.53%								
Ba 233.527†	356984.6	10377	µg/L	548.3	10377	ppb	548.3	5.28%
QC value less than the lower limit for Ba 233.527 Recovery = 69.18%								
Be 313.107†	4232216.5	2926.2	µg/L	108.33	2926.2	ppb	108.33	3.70%
QC value within limits for Be 313.107 Recovery = 97.54%								
Ca 317.933Radial†	94.1	69.318	µg/L	3.9111	69.318	ppb	3.9111	5.64%
Cd 226.502†	326089.9	9723.7	µg/L	511.24	9723.7	ppb	511.24	5.26%
QC value within limits for Cd 226.502 Recovery = 97.24%								
Co 228.616†	174058.3	9642.3	µg/L	565.41	9642.3	ppb	565.41	5.86%
QC value within limits for Co 228.616 Recovery = 96.42%								
Cr 267.716†	1051619.4	24460	µg/L	1687.7	24460	ppb	1687.7	6.90%
QC value within limits for Cr 267.716 Recovery = 97.84%								

Cu 324.752†	2779579.1	20267 µg/L	1151.4	20267 ppb	1151.4	5.68%
QC value within limits for Cu 324.752 Recovery = 101.34%						
Fe 238.204 Radial†	-37.3	-280.95 µg/L	11.227	-280.95 ppb	11.227	4.00%
K 766.490 Radial†	489693.4	305150 µg/L	2359.2	305150 ppb	2359.2	0.77%
QC value within limits for K 766.490 Radial Recovery = 101.72%						
Mg 279.077 IEC†	-36.0	-196.14 µg/L	26.988	-196.14 ppb	26.988	13.76%
Mn 257.610†	2602906.9	9549.8 µg/L	548.47	9549.8 ppb	548.47	5.74%
QC value within limits for Mn 257.610 Recovery = 95.50%						
Mo 202.031†	78124.4	9774.4 µg/L	553.60	9774.4 ppb	553.60	5.66%
QC value within limits for Mo 202.031 Recovery = 97.74%						
Na 589.592 Radial†	1005.2	273.28 µg/L	57.412	273.28 ppb	57.412	21.01%
Ni 231.604†	155448.9	9817.6 µg/L	577.83	9817.6 ppb	577.83	5.89%
QC value within limits for Ni 231.604 Recovery = 98.18%						
P 214.914†	7392.5	15783 µg/L	1232.0	15783 ppb	1232.0	7.81%
QC value within limits for P 214.914 Recovery = 105.22%						
Pb 220.353†	84979.9	25089 µg/L	1150.4	25089 ppb	1150.4	4.59%
QC value within limits for Pb 220.353 Recovery = 100.36%						
S 181.975 Axial†	8664.1	50349 µg/L	2974.4	50349 ppb	2974.4	5.91%
QC value within limits for S 181.975 Axial Recovery = 100.70%						
Sb 206.836†	9322.2	10062 µg/L	689.7	10062 ppb	689.7	6.85%
QC value within limits for Sb 206.836 Recovery = 100.62%						
Se 196.026†	6433.2	10044 µg/L	599.2	10044 ppb	599.2	5.97%
QC value within limits for Se 196.026 Recovery = 100.44%						
SiO2†	479453.2	99259 µg/L	4261.3	99259 ppb	4261.3	4.29%
QC value within limits for SiO2 Recovery = 92.77%						
Si 251.611†	562086.6	46179 µg/L	1998.5	46179 ppb	1998.5	4.33%
QC value within limits for Si 251.611 Recovery = 92.36%						
Sn 189.927†	18212.7	10823 µg/L	872.6	10823 ppb	872.6	8.06%
QC value within limits for Sn 189.927 Recovery = 108.23%						
Sr 421.552†	1686274.0	10076 µg/L	88.0	10076 ppb	88.0	0.87%
QC value within limits for Sr 421.552 Recovery = 100.76%						
Ti 334.940†	4029123.5	9851.4 µg/L	353.06	9851.4 ppb	353.06	3.58%
QC value within limits for Ti 334.940 Recovery = 98.51%						
Tl 190.801†	5667.0	10020 µg/L	475.5	10020 ppb	475.5	4.75%
QC value within limits for Tl 190.801 Recovery = 100.20%						
U 409.014†	908.7	84.602 µg/L	3.6861	84.602 ppb	3.6861	4.36%
V 292.402†	815318.1	10195 µg/L	595.3	10195 ppb	595.3	5.84%
QC value within limits for V 292.402 Recovery = 101.95%						
Zn 213.857†	503883.3	14543 µg/L	800.4	14543 ppb	800.4	5.50%
QC value within limits for Zn 213.857 Recovery = 96.95%						

QC Failed. Continue with analysis.

Sequence No.: 13
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 1/25/2010 11:47:34
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	79315.0	79315.0	102	%			11:48:12
1	Al 396.153Radial†	8142.7	7998.5	5193.2	µg/L	5193.2	ppb	11:48:12
1	Ca 317.933Radial†	7472.8	7056.0	5197.8	µg/L	5197.8	ppb	11:48:12
1	Fe 238.204 Radial†	426.2	401.6	5236.4	µg/L	5236.4	ppb	11:48:32
1	K 766.490 Radial†	8810.3	8229.8	5128.3	µg/L	5128.3	ppb	11:48:12
1	Mg 279.077 IEC†	548.8	527.3	5293.2	µg/L	5293.2	ppb	11:48:32
1	Na 589.592 Radial†	39319.8	37887.2	10300	µg/L	10300	ppb	11:48:12
1	Sr 421.552†	87553.2	85201.9	509.08	µg/L	509.08	ppb	11:48:12
1	Sc 361.383	1889203.4	1889203.4	100.13	%			11:49:36
1	Y 371.029	1201577.5	1201577.5	99.809	%			11:49:36
1	Ag 328.068†	57009.1	57016.7	519.84	µg/L	519.84	ppb	11:49:41
1	As 188.979†	239.7	241.2	550.93	µg/L	550.93	ppb	11:50:02
1	B 249.677†	11201.0	11008.4	526.15	µg/L	526.15	ppb	11:49:41
1	Ba 233.527†	18232.7	18234.7	530.08	µg/L	530.08	ppb	11:49:41
1	Be 313.107†	764677.6	760077.2	526.00	µg/L	526.00	ppb	11:49:36
1	Cd 226.502†	17715.9	17811.7	530.53	µg/L	530.53	ppb	11:49:41
1	Co 228.616†	9579.0	9611.7	532.49	µg/L	532.49	ppb	11:49:41
1	Cr 267.716†	23085.6	23128.9	538.15	µg/L	538.15	ppb	11:49:41
1	Cu 324.752†	77663.1	73533.1	536.89	µg/L	536.89	ppb	11:49:41
1	Mn 257.610†	142745.9	142746.7	524.21	µg/L	524.21	ppb	11:49:41
1	Mo 202.031†	4223.6	4205.7	526.38	µg/L	526.38	ppb	11:50:02
1	Ni 231.604†	8764.8	8444.2	533.36	µg/L	533.36	ppb	11:49:41
1	P 214.914†	1344.1	1130.8	2665.6	µg/L	2665.6	ppb	11:50:02
1	Pb 220.353†	1918.7	1859.5	549.29	µg/L	549.29	ppb	11:50:02
1	S 181.975 Axial†	210.4	186.5	1084.0	µg/L	1084.0	ppb	11:50:02
1	Sb 206.836†	513.3	488.7	535.84	µg/L	535.84	ppb	11:50:02
1	Se 196.026†	359.1	351.5	561.97	µg/L	561.97	ppb	11:50:02
1	SiO2†	29962.0	27505.1	5694.2	µg/L	5694.2	ppb	11:49:41
1	Si 251.611†	32763.9	32443.2	2665.4	µg/L	2665.4	ppb	11:49:41
1	Sn 189.927†	943.7	922.6	550.89	µg/L	550.89	ppb	11:50:02
1	Ti 334.940†	213642.9	212642.6	519.59	µg/L	519.59	ppb	11:49:36
1	Tl 190.801†	287.9	306.5	541.33	µg/L	541.33	ppb	11:50:02
1	U 409.014†	5635.0	5688.9	528.22	µg/L	528.22	ppb	11:49:41
1	V 292.402†	43095.0	43184.6	539.13	µg/L	539.13	ppb	11:49:41
1	Zn 213.857†	19098.9	18468.9	532.04	µg/L	532.04	ppb	11:49:41
2	Sc RADIAL	79260.8	79260.8	102	%			11:48:38
2	Al 396.153Radial†	8163.9	8024.7	5210.5	µg/L	5210.5	ppb	11:48:38
2	Ca 317.933Radial†	7505.8	7093.3	5225.2	µg/L	5225.2	ppb	11:48:38
2	Fe 238.204 Radial†	423.5	399.3	5206.0	µg/L	5206.0	ppb	11:48:58
2	K 766.490 Radial†	8818.9	8244.0	5137.2	µg/L	5137.2	ppb	11:48:38
2	Mg 279.077 IEC†	554.3	533.0	5350.4	µg/L	5350.4	ppb	11:48:58
2	Na 589.592 Radial†	39418.2	38009.9	10334	µg/L	10334	ppb	11:48:38
2	Sr 421.552†	87795.4	85497.7	510.85	µg/L	510.85	ppb	11:48:38
2	Sc 361.383	1902985.2	1902985.2	100.86	%			11:50:09
2	Y 371.029	1210026.5	1210026.5	100.51	%			11:50:09
2	Ag 328.068†	56948.8	56544.5	515.53	µg/L	515.53	ppb	11:50:14
2	As 188.979†	233.0	232.8	531.71	µg/L	531.71	ppb	11:50:35
2	B 249.677†	11182.2	10908.7	521.39	µg/L	521.39	ppb	11:50:14
2	Ba 233.527†	18196.1	18066.5	525.19	µg/L	525.19	ppb	11:50:14
2	Be 313.107†	770516.6	760335.6	526.18	µg/L	526.18	ppb	11:50:09
2	Cd 226.502†	17757.7	17725.0	527.95	µg/L	527.95	ppb	11:50:14
2	Co 228.616†	9561.4	9524.9	527.67	µg/L	527.67	ppb	11:50:14
2	Cr 267.716†	23095.6	22971.7	534.49	µg/L	534.49	ppb	11:50:14
2	Cu 324.752†	77699.0	73007.0	533.05	µg/L	533.05	ppb	11:50:14
2	Mn 257.610†	142502.9	141473.2	519.53	µg/L	519.53	ppb	11:50:14
2	Mo 202.031†	4155.2	4107.3	514.07	µg/L	514.07	ppb	11:50:35
2	Ni 231.604†	8748.6	8364.7	528.34	µg/L	528.34	ppb	11:50:14
2	P 214.914†	1341.4	1118.3	2636.0	µg/L	2636.0	ppb	11:50:35
2	Pb 220.353†	1893.3	1820.5	537.73	µg/L	537.73	ppb	11:50:35

2	S 181.975 Axial†	209.6	184.2	1070.6 µg/L	1070.6 ppb	11:50:35
2	Sb 206.836†	513.9	485.5	532.22 µg/L	532.22 ppb	11:50:35
2	Se 196.026†	365.0	354.7	567.00 µg/L	567.00 ppb	11:50:35
2	SiO2†	30030.4	27356.1	5663.4 µg/L	5663.4 ppb	11:50:14
2	Si 251.611†	32683.6	32126.5	2639.4 µg/L	2639.4 ppb	11:50:14
2	Sn 189.927†	927.0	899.2	537.01 µg/L	537.01 ppb	11:50:35
2	Ti 334.940†	215216.2	212657.3	519.62 µg/L	519.62 ppb	11:50:09
2	Tl 190.801†	283.2	299.7	529.48 µg/L	529.48 ppb	11:50:35
2	U 409.014†	5593.1	5606.5	520.56 µg/L	520.56 ppb	11:50:14
2	V 292.402†	43065.2	42843.4	534.80 µg/L	534.80 ppb	11:50:14
2	Zn 213.857†	19100.8	18332.6	528.12 µg/L	528.12 ppb	11:50:14
3	Sc RADIAL	79664.8	79664.8	103 %		11:49:04
3	Al 396.153Radial†	8164.3	7984.5	5186.1 µg/L	5186.1 ppb	11:49:04
3	Ca 317.933Radial†	7513.2	7063.3	5203.1 µg/L	5203.1 ppb	11:49:04
3	Fe 238.204 Radial†	423.8	397.5	5181.1 µg/L	5181.1 ppb	11:49:24
3	K 766.490 Radial†	8801.5	8183.3	5099.3 µg/L	5099.3 ppb	11:49:04
3	Mg 279.077 IEC†	546.7	522.9	5247.1 µg/L	5247.1 ppb	11:49:24
3	Na 589.592 Radial†	39398.7	37795.1	10275 µg/L	10275 ppb	11:49:04
3	Sr 421.552†	88014.0	85274.6	509.52 µg/L	509.52 ppb	11:49:04
3	Sc 361.383	1884204.7	1884204.7	99.860 %		11:50:41
3	Y 371.029	1197868.3	1197868.3	99.500 %		11:50:41
3	Ag 328.068†	53432.8	53586.5	488.41 µg/L	488.41 ppb	11:50:47
3	As 188.979†	202.2	204.3	466.56 µg/L	466.56 ppb	11:51:08
3	B 249.677†	10380.5	10216.4	488.25 µg/L	488.25 ppb	11:50:47
3	Ba 233.527†	16472.9	16520.7	480.24 µg/L	480.24 ppb	11:50:47
3	Be 313.107†	713372.7	710726.5	491.85 µg/L	491.85 ppb	11:50:41
3	Cd 226.502†	16008.4	16148.7	480.94 µg/L	480.94 ppb	11:50:47
3	Co 228.616†	8537.3	8593.8	476.03 µg/L	476.03 ppb	11:50:47
3	Cr 267.716†	20055.3	20155.5	468.97 µg/L	468.97 ppb	11:50:47
3	Cu 324.752†	70078.1	66143.3	483.00 µg/L	483.00 ppb	11:50:47
3	Mn 257.610†	127193.1	127550.3	468.45 µg/L	468.45 ppb	11:50:47
3	Mo 202.031†	3447.5	3439.7	430.54 µg/L	430.54 ppb	11:51:08
3	Ni 231.604†	7857.7	7559.0	477.45 µg/L	477.45 ppb	11:50:47
3	P 214.914†	1157.3	947.2	2228.8 µg/L	2228.8 ppb	11:51:08
3	Pb 220.353†	1636.9	1582.5	467.34 µg/L	467.34 ppb	11:51:08
3	S 181.975 Axial†	181.9	158.5	921.36 µg/L	921.36 ppb	11:51:08
3	Sb 206.836†	441.5	418.1	457.99 µg/L	457.99 ppb	11:51:08
3	Se 196.026†	314.1	307.4	493.04 µg/L	493.04 ppb	11:51:08
3	SiO2†	27637.4	25256.6	5228.7 µg/L	5228.7 ppb	11:50:47
3	Si 251.611†	29956.4	29718.5	2441.6 µg/L	2441.6 ppb	11:50:47
3	Sn 189.927†	760.3	741.4	443.24 µg/L	443.24 ppb	11:51:08
3	Ti 334.940†	198186.9	197731.1	483.13 µg/L	483.13 ppb	11:50:41
3	Tl 190.801†	257.9	277.2	489.64 µg/L	489.64 ppb	11:51:08
3	U 409.014†	5010.1	5078.0	471.40 µg/L	471.40 ppb	11:50:47
3	V 292.402†	38276.0	38473.1	480.02 µg/L	480.02 ppb	11:50:47
3	Zn 213.857†	17125.4	16543.2	476.52 µg/L	476.52 ppb	11:50:47

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1892131.1	100.28	%	0.515				0.51%
Sc RADIAL	79413.5	102	%	0.3				0.28%
Y 371.029	1203157.4	99.940	%	0.5176				0.52%
Ag 328.068†	55715.9	507.93	µg/L	17.040	507.93	ppb	17.040	3.35%
QC value within limits for Ag 328.068 Recovery = 101.59%								
Al 396.153Radial†	8002.6	5196.6	µg/L	12.58	5196.6	ppb	12.58	0.24%
QC value within limits for Al 396.153Radial Recovery = 103.93%								
As 188.979†	226.1	516.40	µg/L	44.221	516.40	ppb	44.221	8.56%
QC value within limits for As 188.979 Recovery = 103.28%								
B 249.677†	10711.2	511.93	µg/L	20.645	511.93	ppb	20.645	4.03%
QC value within limits for B 249.677 Recovery = 102.39%								
Ba 233.527†	17607.3	511.84	µg/L	27.473	511.84	ppb	27.473	5.37%
QC value within limits for Ba 233.527 Recovery = 102.37%								
Be 313.107†	743713.1	514.68	µg/L	19.769	514.68	ppb	19.769	3.84%
QC value within limits for Be 313.107 Recovery = 102.94%								
Ca 317.933Radial†	7070.9	5208.7	µg/L	14.55	5208.7	ppb	14.55	0.28%
QC value within limits for Ca 317.933Radial Recovery = 104.17%								
Cd 226.502†	17228.5	513.14	µg/L	27.914	513.14	ppb	27.914	5.44%
QC value within limits for Cd 226.502 Recovery = 102.63%								
Co 228.616†	9243.4	512.06	µg/L	31.301	512.06	ppb	31.301	6.11%

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   QC value within limits for Co 228.616  Recovery = 102.41%
Cr 267.716†            22085.4      513.87 µg/L        38.926      513.87 ppb         38.926   7.58%
   QC value within limits for Cr 267.716  Recovery = 102.77%
Cu 324.752†            70894.5      517.65 µg/L        30.066      517.65 ppb         30.066   5.81%
   QC value within limits for Cu 324.752  Recovery = 103.53%
Fe 238.204 Radial†       399.5      5207.8 µg/L         27.73      5207.8 ppb          27.73   0.53%
   QC value within limits for Fe 238.204 Radial  Recovery = 104.16%
K 766.490 Radial†       8219.0      5121.6 µg/L         19.79      5121.6 ppb          19.79   0.39%
   QC value within limits for K 766.490 Radial  Recovery = 102.43%
Mg 279.077 IEC†          527.8      5296.9 µg/L         51.73      5296.9 ppb          51.73   0.98%
   QC value within limits for Mg 279.077 IEC  Recovery = 105.94%
Mn 257.610†           137256.7      504.06 µg/L        30.931      504.06 ppb         30.931   6.14%
   QC value within limits for Mn 257.610  Recovery = 100.81%
Mo 202.031†            3917.5      490.33 µg/L        52.144      490.33 ppb         52.144  10.63%
   QC value within limits for Mo 202.031  Recovery = 98.07%
Na 589.592 Radial†    37897.4       10303 µg/L          29.3       10303 ppb           29.3   0.28%
   QC value within limits for Na 589.592 Radial  Recovery = 103.03%
Ni 231.604†            8122.6      513.05 µg/L        30.930      513.05 ppb         30.930   6.03%
   QC value within limits for Ni 231.604  Recovery = 102.61%
P 214.914†             1065.4      2510.1 µg/L        244.12      2510.1 ppb         244.12   9.73%
   QC value within limits for P 214.914  Recovery = 100.40%
Pb 220.353†            1754.2      518.12 µg/L        44.352      518.12 ppb         44.352   8.56%
   QC value within limits for Pb 220.353  Recovery = 103.62%
S 181.975 Axial†        176.4      1025.3 µg/L         90.28      1025.3 ppb          90.28   8.81%
   QC value within limits for S 181.975 Axial  Recovery = 102.53%
Sb 206.836†             464.1      508.68 µg/L        43.938      508.68 ppb         43.938   8.64%
   QC value within limits for Sb 206.836  Recovery = 101.74%
Se 196.026†             337.9      540.67 µg/L        41.327      540.67 ppb         41.327   7.64%
   QC value within limits for Se 196.026  Recovery = 108.13%
SiO2†                  26705.9      5528.8 µg/L        260.30      5528.8 ppb         260.30   4.71%
   QC value within limits for SiO2  Recovery = 103.39%
Si 251.611†            31429.4      2582.1 µg/L        122.42      2582.1 ppb         122.42   4.74%
   QC value within limits for Si 251.611  Recovery = 103.29%
Sn 189.927†             854.4      510.38 µg/L        58.554      510.38 ppb         58.554  11.47%
   QC value within limits for Sn 189.927  Recovery = 102.08%
Sr 421.552†            85324.7      509.82 µg/L         0.921      509.82 ppb          0.921   0.18%
   QC value within limits for Sr 421.552  Recovery = 101.96%
Ti 334.940†           207677.0      507.45 µg/L        21.057      507.45 ppb         21.057   4.15%
   QC value within limits for Ti 334.940  Recovery = 101.49%
Tl 190.801†             294.4      520.15 µg/L        27.078      520.15 ppb         27.078   5.21%
   QC value within limits for Tl 190.801  Recovery = 104.03%
U 409.014†             5457.8      506.73 µg/L        30.835      506.73 ppb         30.835   6.09%
   QC value within limits for U 409.014  Recovery = 101.35%
V 292.402†            41500.4      517.98 µg/L        32.951      517.98 ppb         32.951   6.36%
   QC value within limits for V 292.402  Recovery = 103.60%
Zn 213.857†           17781.6      512.23 µg/L        30.987      512.23 ppb         30.987   6.05%
   QC value within limits for Zn 213.857  Recovery = 102.45%
All analyte(s) passed QC.
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Sequence No.: 14
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 1/25/2010 11:51:16
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	77148.5	77148.5	99.4	%			11:51:49
1	Al 396.153Radial†	-8.7	20.9	13.592	µg/L	13.592	ppb	11:51:49
1	Ca 317.933Radial†	274.0	18.5	13.611	µg/L	13.611	ppb	11:52:10
1	Fe 238.204 Radial†	18.5	3.1	40.982	µg/L	40.982	ppb	11:52:10
1	K 766.490 Radial†	476.8	87.3	54.400	µg/L	54.400	ppb	11:51:49
1	Mg 279.077 IEC†	12.3	2.7	26.574	µg/L	26.574	ppb	11:52:10
1	Na 589.592 Radial†	688.0	99.1	26.948	µg/L	26.948	ppb	11:51:49
1	Sr 421.552†	537.6	58.9	0.3520	µg/L	0.3520	ppb	11:51:49
1	Sc 361.383	1888021.6	1888021.6	100.06	%			11:53:12
1	Y 371.029	1204918.0	1204918.0	100.09	%			11:53:12
1	Ag 328.068†	-51.4	27.4	0.2536	µg/L	0.2536	ppb	11:53:17
1	As 188.979†	-2.5	-0.7	-1.6000	µg/L	-1.6000	ppb	11:53:38
1	B 249.677†	216.5	37.7	1.8004	µg/L	1.8004	ppb	11:53:38
1	Ba 233.527†	-13.0	11.7	0.3414	µg/L	0.3414	ppb	11:53:38
1	Be 313.107†	3727.0	79.0	0.0546	µg/L	0.0546	ppb	11:53:17
1	Cd 226.502†	-103.2	14.8	0.4368	µg/L	0.4368	ppb	11:53:38
1	Co 228.616†	-35.6	9.0	0.5016	µg/L	0.5016	ppb	11:53:38
1	Cr 267.716†	-35.6	36.5	0.8501	µg/L	0.8501	ppb	11:53:38
1	Cu 324.752†	4782.4	746.4	5.4483	µg/L	5.4483	ppb	11:53:17
1	Mn 257.610†	-110.6	68.5	0.2556	µg/L	0.2556	ppb	11:53:38
1	Mo 202.031†	16.7	4.0	0.5049	µg/L	0.5049	ppb	11:53:38
1	Ni 231.604†	318.6	8.7	0.5477	µg/L	0.5477	ppb	11:53:38
1	P 214.914†	207.5	-4.3	-10.849	µg/L	-10.849	ppb	11:53:38
1	Pb 220.353†	59.1	2.3	0.6753	µg/L	0.6753	ppb	11:53:38
1	S 181.975 Axial†	21.3	-2.3	-13.647	µg/L	-13.647	ppb	11:53:38
1	Sb 206.836†	25.0	1.0	1.1056	µg/L	1.1056	ppb	11:53:38
1	Se 196.026†	14.7	7.6	11.886	µg/L	11.886	ppb	11:53:38
1	SiO2†	2491.5	70.4	14.576	µg/L	14.576	ppb	11:53:17
1	Si 251.611†	352.4	72.3	5.9438	µg/L	5.9438	ppb	11:53:38
1	Sn 189.927†	20.6	0.6	0.3838	µg/L	0.3838	ppb	11:53:38
1	Ti 334.940†	874.5	140.5	0.3417	µg/L	0.3417	ppb	11:53:17
1	Tl 190.801†	-19.0	-0.1	-0.1118	µg/L	-0.1118	ppb	11:53:38
1	U 409.014†	-12.9	48.0	4.4549	µg/L	4.4549	ppb	11:53:17
1	V 292.402†	-107.7	35.8	0.4546	µg/L	0.4546	ppb	11:53:17
1	Zn 213.857†	650.5	43.9	1.2598	µg/L	1.2598	ppb	11:53:38
2	Sc RADIAL	77284.2	77284.2	99.6	%			11:52:15
2	Al 396.153Radial†	-3.5	26.1	16.961	µg/L	16.961	ppb	11:52:15
2	Ca 317.933Radial†	271.7	15.6	11.505	µg/L	11.505	ppb	11:52:35
2	Fe 238.204 Radial†	17.1	1.7	22.136	µg/L	22.136	ppb	11:52:35
2	K 766.490 Radial†	428.6	38.0	23.686	µg/L	23.686	ppb	11:52:15
2	Mg 279.077 IEC†	11.0	1.3	12.991	µg/L	12.991	ppb	11:52:35
2	Na 589.592 Radial†	669.8	79.7	21.660	µg/L	21.660	ppb	11:52:15
2	Sr 421.552†	553.8	74.2	0.4434	µg/L	0.4434	ppb	11:52:15
2	Sc 361.383	1870425.1	1870425.1	99.130	%			11:53:44
2	Y 371.029	1193753.4	1193753.4	99.159	%			11:53:44
2	Ag 328.068†	-45.0	33.4	0.3074	µg/L	0.3074	ppb	11:53:49
2	As 188.979†	-2.5	-0.7	-1.6910	µg/L	-1.6910	ppb	11:54:10
2	B 249.677†	206.4	29.5	1.4115	µg/L	1.4115	ppb	11:54:10
2	Ba 233.527†	-18.0	6.5	0.1908	µg/L	0.1908	ppb	11:54:10
2	Be 313.107†	3817.7	205.6	0.1422	µg/L	0.1422	ppb	11:53:49
2	Cd 226.502†	-108.6	8.4	0.2468	µg/L	0.2468	ppb	11:54:10
2	Co 228.616†	-44.7	-0.5	-0.0281	µg/L	-0.0281	ppb	11:54:10
2	Cr 267.716†	-24.2	47.7	1.1096	µg/L	1.1096	ppb	11:54:10
2	Cu 324.752†	4805.6	814.8	5.9440	µg/L	5.9440	ppb	11:53:49
2	Mn 257.610†	-107.7	70.3	0.2604	µg/L	0.2604	ppb	11:54:10
2	Mo 202.031†	16.2	3.6	0.4500	µg/L	0.4500	ppb	11:54:10
2	Ni 231.604†	305.9	-1.2	-0.0745	µg/L	-0.0745	ppb	11:54:10
2	P 214.914†	213.5	3.7	8.1909	µg/L	8.1909	ppb	11:54:10
2	Pb 220.353†	64.8	8.6	2.5297	µg/L	2.5297	ppb	11:54:10

2	S 181.975 Axial†	18.9	-4.6	-26.512 µg/L	-26.512 ppb	11:54:10
2	Sb 206.836†	25.0	1.2	1.3125 µg/L	1.3125 ppb	11:54:10
2	Se 196.026†	9.9	2.9	4.5873 µg/L	4.5873 ppb	11:54:10
2	SiO2†	2480.1	82.3	17.046 µg/L	17.046 ppb	11:53:49
2	Si 251.611†	339.5	62.7	5.1517 µg/L	5.1517 ppb	11:54:10
2	Sn 189.927†	23.5	3.8	2.2617 µg/L	2.2617 ppb	11:54:10
2	Ti 334.940†	876.7	151.0	0.3682 µg/L	0.3682 ppb	11:53:49
2	Tl 190.801†	-19.9	-1.2	-2.1726 µg/L	-2.1726 ppb	11:54:10
2	U 409.014†	-74.3	-14.1	-1.3135 µg/L	-1.3135 ppb	11:53:49
2	V 292.402†	-93.1	49.5	0.6174 µg/L	0.6174 ppb	11:53:49
2	Zn 213.857†	646.5	46.0	1.3235 µg/L	1.3235 ppb	11:54:10
3	Sc RADIAL	77149.8	77149.8	99.4 %		11:52:41
3	Al 396.153Radial†	-4.1	25.5	16.579 µg/L	16.579 ppb	11:52:41
3	Ca 317.933Radial†	278.3	22.7	16.732 µg/L	16.732 ppb	11:53:01
3	Fe 238.204 Radial†	15.8	0.5	6.3305 µg/L	6.3305 ppb	11:53:01
3	K 766.490 Radial†	486.0	96.6	60.169 µg/L	60.169 ppb	11:52:41
3	Mg 279.077 IEC†	10.7	1.0	10.410 µg/L	10.410 ppb	11:53:01
3	Na 589.592 Radial†	634.2	45.0	12.224 µg/L	12.224 ppb	11:52:41
3	Sr 421.552†	532.4	53.7	0.3209 µg/L	0.3209 ppb	11:52:41
3	Sc 361.383	1883032.4	1883032.4	99.798 %		11:54:16
3	Y 371.029	1202049.6	1202049.6	99.848 %		11:54:16
3	Ag 328.068†	-72.8	5.9	0.0580 µg/L	0.0580 ppb	11:54:21
3	As 188.979†	-4.0	-2.2	-4.9913 µg/L	-4.9913 ppb	11:54:42
3	B 249.677†	210.0	31.8	1.5177 µg/L	1.5177 ppb	11:54:42
3	Ba 233.527†	-7.3	17.4	0.5053 µg/L	0.5053 ppb	11:54:42
3	Be 313.107†	3778.4	140.5	0.0971 µg/L	0.0971 ppb	11:54:21
3	Cd 226.502†	-109.4	8.3	0.2457 µg/L	0.2457 ppb	11:54:42
3	Co 228.616†	-34.6	9.9	0.5509 µg/L	0.5509 ppb	11:54:42
3	Cr 267.716†	-38.5	33.5	0.7790 µg/L	0.7790 ppb	11:54:42
3	Cu 324.752†	4740.1	716.7	5.2268 µg/L	5.2268 ppb	11:54:21
3	Mn 257.610†	-122.9	55.8	0.2053 µg/L	0.2053 ppb	11:54:42
3	Mo 202.031†	13.0	0.3	0.0427 µg/L	0.0427 ppb	11:54:42
3	Ni 231.604†	300.9	-8.2	-0.5184 µg/L	-0.5184 ppb	11:54:42
3	P 214.914†	206.0	-5.3	-13.223 µg/L	-13.223 ppb	11:54:42
3	Pb 220.353†	64.2	7.6	2.2325 µg/L	2.2325 ppb	11:54:42
3	S 181.975 Axial†	24.4	0.9	4.9820 µg/L	4.9820 ppb	11:54:42
3	Sb 206.836†	22.4	-1.6	-1.7263 µg/L	-1.7263 ppb	11:54:42
3	Se 196.026†	8.4	1.3	2.0066 µg/L	2.0066 ppb	11:54:42
3	SiO2†	2454.4	39.9	8.2573 µg/L	8.2573 ppb	11:54:21
3	Si 251.611†	343.4	64.3	5.2798 µg/L	5.2798 ppb	11:54:42
3	Sn 189.927†	27.1	7.3	4.3217 µg/L	4.3217 ppb	11:54:42
3	Ti 334.940†	838.5	106.8	0.2606 µg/L	0.2606 ppb	11:54:21
3	Tl 190.801†	-20.9	-2.1	-3.6035 µg/L	-3.6035 ppb	11:54:42
3	U 409.014†	-99.7	-39.1	-3.6378 µg/L	-3.6378 ppb	11:54:21
3	V 292.402†	-87.9	55.4	0.6821 µg/L	0.6821 ppb	11:54:21
3	Zn 213.857†	635.3	30.4	0.8755 µg/L	0.8755 ppb	11:54:42

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1880493.0	99.663	%	0.4806				0.48%
Sc RADIAL	77194.2	99.4	%	0.10				0.10%
Y 371.029	1200240.3	99.697	%	0.4816				0.48%
Ag 328.068†	22.2	0.2063	µg/L	0.13125	0.2063	ppb	0.13125	63.61%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	24.2	15.711	µg/L	1.8446	15.711	ppb	1.8446	11.74%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-1.2	-2.7608	µg/L	1.93225	-2.7608	ppb	1.93225	69.99%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	33.0	1.5765	µg/L	0.20104	1.5765	ppb	0.20104	12.75%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	11.9	0.3459	µg/L	0.15731	0.3459	ppb	0.15731	45.48%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	141.7	0.0980	µg/L	0.04382	0.0980	ppb	0.04382	44.72%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	18.9	13.949	µg/L	2.6298	13.949	ppb	2.6298	18.85%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	10.5	0.3098	µg/L	0.11003	0.3098	ppb	0.11003	35.52%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	6.2	0.3414	µg/L	0.32098	0.3414	ppb	0.32098	94.01%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              39.2      0.9129 µg/L       0.17400      0.9129 ppb        0.17400  19.06%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†             759.3      5.5397 µg/L       0.36726      5.5397 ppb        0.36726   6.63%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†        1.8     23.149 µg/L       17.3481     23.149 ppb        17.3481  74.94%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†        74.0     46.085 µg/L       19.6113     46.085 ppb        19.6113  42.55%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†           1.7     16.658 µg/L        8.6837     16.658 ppb         8.6837  52.13%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†              64.9      0.2405 µg/L       0.03053      0.2405 ppb        0.03053  12.70%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               2.7      0.3326 µg/L       0.25249      0.3326 ppb        0.25249  75.92%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†       74.6     20.277 µg/L        7.4584     20.277 ppb         7.4584  36.78%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†              -0.2     -0.0150 µg/L       0.53551     -0.0150 ppb        0.53551 >999.9%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†               -2.0     -5.2935 µg/L      11.73799     -5.2935 ppb       11.73799 221.75%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†               6.2      1.8125 µg/L       0.99599      1.8125 ppb        0.99599  54.95%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         -2.0     -11.726 µg/L       15.8345     -11.726 ppb        15.8345 135.04%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†               0.2      0.2306 µg/L       1.69789      0.2306 ppb        1.69789 736.26%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               3.9      6.1598 µg/L       5.12382      6.1598 ppb        5.12382  83.18%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    64.2     13.293 µg/L        4.5326     13.293 ppb         4.5326  34.10%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              66.4      5.4585 µg/L       0.42517      5.4585 ppb        0.42517   7.79%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               3.9      2.3224 µg/L       1.96966      2.3224 ppb        1.96966  84.81%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†              62.3      0.3721 µg/L       0.06367      0.3721 ppb        0.06367  17.11%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†             132.8      0.3235 µg/L       0.05609      0.3235 ppb        0.05609  17.34%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -1.1     -1.9626 µg/L       1.75533     -1.9626 ppb        1.75533  89.44%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†               -1.7     -0.1655 µg/L       4.16672     -0.1655 ppb        4.16672 >999.9%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†               46.9      0.5847 µg/L       0.11722      0.5847 ppb        0.11722  20.05%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†              40.1      1.1529 µg/L       0.24234      1.1529 ppb        0.24234  21.02%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Analysis Begun

Start Time: 1/25/2010 12:08:39 **Plasma On Time: 1/25/2010 05:31:26**
Logged In Analyst: optima **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N1030502Autosampler Model: AS-93plus

Sample Information File: C:\pe\optima1\Sample Information\012510.sif
Batch ID:
Results Data Set: 012510
Results Library: c:\pe\optima1\Results\Results.mdb

Method Loaded
Method Name: Gen Eng fast_new Si **Method Last Saved: 1/25/2010 11:12:44**
IEC File: 011510.iec **MSF File:**
Method Description:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

Sequence No.: 1 **Autosampler Location: 113**
Sample ID: LR2 **Date Collected: 1/25/2010 12:08:41**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Replicate Data: LR2

Rep1#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	77244.8	77244.8	99.5	%			12:09:15
1	Al 396.153Radial†	-19.6	9.9	6.4472	µg/L	6.4472	ppb	12:09:15
1	Ca 317.933Radial†	260.6	4.6	3.3958	µg/L	3.3958	ppb	12:09:36
1	Fe 238.204 Radial†	16.8	1.4	17.771	µg/L	17.771	ppb	12:09:36

1	K 766.490 Radial†	398.2	7.7	4.8224 µg/L	4.8224 ppb	12:09:15
1	Mg 279.077 IEC†	10.7	1.0	10.076 µg/L	10.076 ppb	12:09:36
1	Na 589.592 Radial†	430.1	-160.9	-43.744 µg/L	-43.744 ppb	12:09:15
1	Sr 421.552†	492.6	13.0	0.0775 µg/L	0.0775 ppb	12:09:15
1	Sc 361.383	1868004.5	1868004.5	99.002 %		12:10:38
1	Y 371.029	1192943.3	1192943.3	99.091 %		12:10:38
1	Ag 328.068†	-98.9	-21.1	-0.1894 µg/L	-0.1894 ppb	12:10:43
1	As 188.979†	-1.0	0.8	1.7922 µg/L	1.7922 ppb	12:11:04
1	B 249.677†	142.0	-35.2	-1.6765 µg/L	-1.6765 ppb	12:11:04
1	Ba 233.527†	367466.7	371197.6	10771 µg/L	10771 ppb	12:10:38
1	Be 313.107†	3579.8	-29.7	-0.0205 µg/L	-0.0205 ppb	12:10:43
1	Cd 226.502†	-110.6	6.2	0.1846 µg/L	0.1846 ppb	12:11:04
1	Co 228.616†	-328.2	-286.9	-15.913 µg/L	-15.913 ppb	12:11:04
1	Cr 267.716†	-48.6	23.0	0.5356 µg/L	0.5356 ppb	12:11:04
1	Cu 324.752†	4229.3	239.0	1.7450 µg/L	1.7450 ppb	12:10:43
1	Mn 257.610†	-145.7	31.8	0.1188 µg/L	0.1188 ppb	12:11:04
1	Mo 202.031†	16.9	4.3	0.5416 µg/L	0.5416 ppb	12:11:04
1	Ni 231.604†	354.7	48.6	3.0899 µg/L	3.0899 ppb	12:11:04
1	P 214.914†	207.7	-1.9	-4.7026 µg/L	-4.7026 ppb	12:11:04
1	Pb 220.353†	56.0	-0.2	-0.0657 µg/L	-0.0657 ppb	12:11:04
1	S 181.975 Axial†	20.8	-2.6	-15.092 µg/L	-15.092 ppb	12:11:04
1	Sb 206.836†	21.0	-2.8	-3.0381 µg/L	-3.0381 ppb	12:11:04
1	Se 196.026†	4.5	-2.6	-3.9624 µg/L	-3.9624 ppb	12:11:04
1	SiO2†	2386.3	-9.2	-1.9079 µg/L	-1.9079 ppb	12:10:43
1	Si 251.611†	295.2	18.4	1.5104 µg/L	1.5104 ppb	12:11:04
1	Sn 189.927†	29.3	9.7	5.7732 µg/L	5.7732 ppb	12:11:04
1	Ti 334.940†	683.9	-42.6	-0.1050 µg/L	-0.1050 ppb	12:10:43
1	Tl 190.801†	-23.1	-4.4	-7.6451 µg/L	-7.6451 ppb	12:11:04
1	U 409.014†	56.2	117.6	10.938 µg/L	10.938 ppb	12:10:43
1	V 292.402†	-132.4	9.7	0.1375 µg/L	0.1375 ppb	12:10:43
1	Zn 213.857†	631.0	31.2	0.8861 µg/L	0.8861 ppb	12:11:04
2	Sc RADIAL	78262.7	78262.7	101 %		12:09:41
2	Al 396.153Radial†	-52.4	-22.3	-14.526 µg/L	-14.526 ppb	12:09:41
2	Ca 317.933Radial†	266.0	6.5	4.8177 µg/L	4.8177 ppb	12:10:01
2	Fe 238.204 Radial†	14.3	-1.2	-16.212 µg/L	-16.212 ppb	12:10:01
2	K 766.490 Radial†	428.6	32.6	20.317 µg/L	20.317 ppb	12:09:41
2	Mg 279.077 IEC†	10.4	0.6	5.8086 µg/L	5.8086 ppb	12:10:01
2	Na 589.592 Radial†	418.2	-178.3	-48.478 µg/L	-48.478 ppb	12:09:41
2	Sr 421.552†	480.2	-5.8	-0.0345 µg/L	-0.0345 ppb	12:09:41
2	Sc 361.383	1864218.0	1864218.0	98.801 %		12:11:09
2	Y 371.029	1190216.8	1190216.8	98.865 %		12:11:09
2	Ag 328.068†	-132.6	-55.5	-0.5006 µg/L	-0.5006 ppb	12:11:15
2	As 188.979†	0.7	2.5	5.7300 µg/L	5.7300 ppb	12:11:35
2	B 249.677†	144.7	-32.2	-1.5365 µg/L	-1.5365 ppb	12:11:35
2	Ba 233.527†	367880.7	372370.5	10805 µg/L	10805 ppb	12:11:09
2	Be 313.107†	3667.6	66.5	0.0461 µg/L	0.0461 ppb	12:11:15
2	Cd 226.502†	-117.4	-0.9	-0.0218 µg/L	-0.0218 ppb	12:11:35
2	Co 228.616†	-321.3	-280.7	-15.566 µg/L	-15.566 ppb	12:11:35
2	Cr 267.716†	-49.1	22.4	0.5210 µg/L	0.5210 ppb	12:11:35
2	Cu 324.752†	4225.9	244.2	1.7782 µg/L	1.7782 ppb	12:11:15
2	Mn 257.610†	-134.7	42.7	0.1541 µg/L	0.1541 ppb	12:11:35
2	Mo 202.031†	14.9	2.3	0.2905 µg/L	0.2905 ppb	12:11:35
2	Ni 231.604†	338.7	33.1	2.1086 µg/L	2.1086 ppb	12:11:35
2	P 214.914†	217.6	8.6	20.437 µg/L	20.437 ppb	12:11:35
2	Pb 220.353†	58.2	2.2	0.6348 µg/L	0.6348 ppb	12:11:35
2	S 181.975 Axial†	17.9	-5.5	-31.912 µg/L	-31.912 ppb	12:11:35
2	Sb 206.836†	18.4	-5.3	-5.8186 µg/L	-5.8186 ppb	12:11:35
2	Se 196.026†	4.7	-2.4	-3.7976 µg/L	-3.7976 ppb	12:11:35
2	SiO2†	2400.0	9.6	1.9885 µg/L	1.9885 ppb	12:11:15
2	Si 251.611†	291.7	15.4	1.2659 µg/L	1.2659 ppb	12:11:35
2	Sn 189.927†	26.6	7.0	4.1562 µg/L	4.1562 ppb	12:11:35
2	Ti 334.940†	663.7	-61.7	-0.1512 µg/L	-0.1512 ppb	12:11:15
2	Tl 190.801†	-17.7	0.9	1.7002 µg/L	1.7002 ppb	12:11:35
2	U 409.014†	-64.7	-4.7	-0.4314 µg/L	-0.4314 ppb	12:11:15
2	V 292.402†	-114.3	27.8	0.3451 µg/L	0.3451 ppb	12:11:15
2	Zn 213.857†	619.2	20.6	0.5847 µg/L	0.5847 ppb	12:11:35
3	Sc RADIAL	77547.7	77547.7	99.9 %		12:10:07
3	Al 396.153Radial†	-27.8	1.8	1.1342 µg/L	1.1342 ppb	12:10:07
3	Ca 317.933Radial†	264.1	7.1	5.2317 µg/L	5.2317 ppb	12:10:27
3	Fe 238.204 Radial†	15.7	0.3	3.1466 µg/L	3.1466 ppb	12:10:27
3	K 766.490 Radial†	399.6	7.6	4.7209 µg/L	4.7209 ppb	12:10:07

3	Mg 279.077 IEC†	8.1	-1.6	-16.255 µg/L	-16.255 ppb	12:10:27
3	Na 589.592 Radial†	406.6	-186.2	-50.610 µg/L	-50.610 ppb	12:10:07
3	Sr 421.552†	520.6	39.1	0.2334 µg/L	0.2334 ppb	12:10:07
3	Sc 361.383	1876104.2	1876104.2	99.431 %		12:11:41
3	Y 371.029	1197591.5	1197591.5	99.477 %		12:11:41
3	Ag 328.068†	-97.9	-19.7	-0.1728 µg/L	-0.1728 ppb	12:11:47
3	As 188.979†	-1.4	0.4	0.8977 µg/L	0.8977 ppb	12:12:07
3	B 249.677†	134.0	-43.9	-2.0927 µg/L	-2.0927 ppb	12:12:07
3	Ba 233.527†	355959.8	358022.3	10389 µg/L	10389 ppb	12:11:41
3	Be 313.107†	3665.5	40.8	0.0283 µg/L	0.0283 ppb	12:11:47
3	Cd 226.502†	-112.1	5.1	0.1553 µg/L	0.1553 ppb	12:12:07
3	Co 228.616†	-284.4	-241.5	-13.393 µg/L	-13.393 ppb	12:12:07
3	Cr 267.716†	-51.9	19.9	0.4622 µg/L	0.4622 ppb	12:12:07
3	Cu 324.752†	4177.4	168.3	1.2278 µg/L	1.2278 ppb	12:11:47
3	Mn 257.610†	-156.1	22.0	0.0820 µg/L	0.0820 ppb	12:12:07
3	Mo 202.031†	16.8	4.2	0.5278 µg/L	0.5278 ppb	12:12:07
3	Ni 231.604†	357.0	49.3	3.1317 µg/L	3.1317 ppb	12:12:07
3	P 214.914†	207.3	-3.2	-7.7302 µg/L	-7.7302 ppb	12:12:07
3	Pb 220.353†	54.7	-1.8	-0.5393 µg/L	-0.5393 ppb	12:12:07
3	S 181.975 Axial†	22.2	-1.3	-7.3149 µg/L	-7.3149 ppb	12:12:07
3	Sb 206.836†	23.2	-0.7	-0.7453 µg/L	-0.7453 ppb	12:12:07
3	Se 196.026†	10.9	3.9	6.0597 µg/L	6.0597 ppb	12:12:07
3	SiO2†	2417.6	11.9	2.4698 µg/L	2.4698 ppb	12:11:47
3	Si 251.611†	290.2	12.1	0.9923 µg/L	0.9923 ppb	12:12:07
3	Sn 189.927†	22.8	3.0	1.7541 µg/L	1.7541 ppb	12:12:07
3	Ti 334.940†	670.8	-58.8	-0.1424 µg/L	-0.1424 ppb	12:11:47
3	Tl 190.801†	-21.4	-2.6	-4.5261 µg/L	-4.5261 ppb	12:12:07
3	U 409.014†	86.9	148.3	13.794 µg/L	13.794 ppb	12:11:47
3	V 292.402†	-82.2	60.8	0.7700 µg/L	0.7700 ppb	12:11:47
3	Zn 213.857†	621.1	18.4	0.5195 µg/L	0.5195 ppb	12:12:07

Mean Data: LR2

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1869442.3	99.078	%	0.3218				0.32%
Sc RADIAL	77685.1	100	%	0.7				0.67%
Y 371.029	1193583.9	99.145	%	0.3097				0.31%
Ag 328.068†	-32.1	-0.2876	µg/L	0.18467	-0.2876	ppb	0.18467	64.20%
Al 396.153Radial†	-3.5	-2.3147	µg/L	10.90347	-2.3147	ppb	10.90347	471.05%
As 188.979†	1.2	2.8067	µg/L	2.57090	2.8067	ppb	2.57090	91.60%
B 249.677†	-37.1	-1.7686	µg/L	0.28930	-1.7686	ppb	0.28930	16.36%
Ba 233.527†	367196.8	10655	µg/L	231.2	10655	ppb	231.2	2.17%
Be 313.107†	25.9	0.0180	µg/L	0.03452	0.0180	ppb	0.03452	192.05%
Ca 317.933Radial†	6.1	4.4817	µg/L	0.96292	4.4817	ppb	0.96292	21.49%
Cd 226.502†	3.5	0.1060	µg/L	0.11169	0.1060	ppb	0.11169	105.34%
Co 228.616†	-269.7	-14.957	µg/L	1.3660	-14.957	ppb	1.3660	9.13%
Cr 267.716†	21.8	0.5063	µg/L	0.03885	0.5063	ppb	0.03885	7.67%
Cu 324.752†	217.2	1.5837	µg/L	0.30860	1.5837	ppb	0.30860	19.49%
Fe 238.204 Radial†	0.1	1.5688	µg/L	17.04631	1.5688	ppb	17.04631	>999.9%
K 766.490 Radial†	16.0	9.9536	µg/L	8.97552	9.9536	ppb	8.97552	90.17%
Mg 279.077 IEC†	-0.0	-0.1233	µg/L	14.13221	-0.1233	ppb	14.13221	>999.9%
Mn 257.610†	32.2	0.1183	µg/L	0.03609	0.1183	ppb	0.03609	30.50%
Mo 202.031†	3.6	0.4533	µg/L	0.14119	0.4533	ppb	0.14119	31.14%
Na 589.592 Radial†	-175.1	-47.611	µg/L	3.5141	-47.611	ppb	3.5141	7.38%
Ni 231.604†	43.6	2.7767	µg/L	0.57897	2.7767	ppb	0.57897	20.85%
P 214.914†	1.2	2.6681	µg/L	15.46265	2.6681	ppb	15.46265	579.54%
Pb 220.353†	0.1	0.0099	µg/L	0.59071	0.0099	ppb	0.59071	>999.9%
S 181.975 Axial†	-3.1	-18.106	µg/L	12.5725	-18.106	ppb	12.5725	69.44%
Sb 206.836†	-2.9	-3.2006	µg/L	2.54055	-3.2006	ppb	2.54055	79.38%
Se 196.026†	-0.4	-0.5667	µg/L	5.73928	-0.5667	ppb	5.73928	>999.9%
SiO2†	4.1	0.8502	µg/L	2.40062	0.8502	ppb	2.40062	282.37%
Si 251.611†	15.3	1.2562	µg/L	0.25921	1.2562	ppb	0.25921	20.64%
Sn 189.927†	6.6	3.8945	µg/L	2.02226	3.8945	ppb	2.02226	51.93%
Sr 421.552†	15.4	0.0921	µg/L	0.13455	0.0921	ppb	0.13455	146.02%
Ti 334.940†	-54.4	-0.1328	µg/L	0.02456	-0.1328	ppb	0.02456	18.49%
Tl 190.801†	-2.0	-3.4904	µg/L	4.75799	-3.4904	ppb	4.75799	136.32%
U 409.014†	87.1	8.1003	µg/L	7.52543	8.1003	ppb	7.52543	92.90%
V 292.402†	32.8	0.4175	µg/L	0.32240	0.4175	ppb	0.32240	77.22%
Zn 213.857†	23.4	0.6634	µg/L	0.19557	0.6634	ppb	0.19557	29.48%

Sequence No.: 2
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 1/25/2010 12:12:16
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	79229.2	79229.2	102	%			12:12:52
1	Al 396.153Radial†	8061.8	7927.9	5147.3	µg/L	5147.3	ppb	12:12:52
1	Ca 317.933Radial†	7413.9	7006.2	5161.1	µg/L	5161.1	ppb	12:12:52
1	Fe 238.204 Radial†	417.6	393.7	5133.6	µg/L	5133.6	ppb	12:13:12
1	K 766.490 Radial†	8660.7	8092.5	5042.8	µg/L	5042.8	ppb	12:12:52
1	Mg 279.077 IEC†	543.2	522.4	5243.6	µg/L	5243.6	ppb	12:13:12
1	Na 589.592 Radial†	38842.1	37460.8	10185	µg/L	10185	ppb	12:12:52
1	Sr 421.552†	87555.5	85296.8	509.65	µg/L	509.65	ppb	12:12:52
1	Sc 361.383	1880008.8	1880008.8	99.638	%			12:14:15
1	Y 371.029	1195011.8	1195011.8	99.263	%			12:14:15
1	Ag 328.068†	57038.3	57324.5	522.63	µg/L	522.63	ppb	12:14:21
1	As 188.979†	234.2	236.8	540.85	µg/L	540.85	ppb	12:14:41
1	B 249.677†	11009.5	10870.9	519.59	µg/L	519.59	ppb	12:14:21
1	Ba 233.527†	18236.3	18327.3	532.77	µg/L	532.77	ppb	12:14:21
1	Be 313.107†	755724.0	754826.2	522.37	µg/L	522.37	ppb	12:14:15
1	Cd 226.502†	17693.9	17876.1	532.46	µg/L	532.46	ppb	12:14:21
1	Co 228.616†	9558.6	9637.9	533.96	µg/L	533.96	ppb	12:14:21
1	Cr 267.716†	22952.1	23107.6	537.66	µg/L	537.66	ppb	12:14:21
1	Cu 324.752†	76894.8	73141.4	534.02	µg/L	534.02	ppb	12:14:21
1	Mn 257.610†	142608.8	143306.3	526.25	µg/L	526.25	ppb	12:14:21
1	Mo 202.031†	4177.6	4180.1	523.18	µg/L	523.18	ppb	12:14:41
1	Ni 231.604†	8732.5	8454.5	534.01	µg/L	534.01	ppb	12:14:21
1	P 214.914†	1333.6	1126.7	2656.3	µg/L	2656.3	ppb	12:14:41
1	Pb 220.353†	1863.3	1813.3	535.63	µg/L	535.63	ppb	12:14:41
1	S 181.975 Axial†	207.7	184.8	1074.1	µg/L	1074.1	ppb	12:14:41
1	Sb 206.836†	513.3	491.2	538.49	µg/L	538.49	ppb	12:14:41
1	Se 196.026†	345.1	339.2	542.53	µg/L	542.53	ppb	12:14:41
1	SiO2†	29819.1	27507.9	5694.8	µg/L	5694.8	ppb	12:14:21
1	Si 251.611†	32603.6	32442.3	2665.3	µg/L	2665.3	ppb	12:14:21
1	Sn 189.927†	927.0	910.5	543.67	µg/L	543.67	ppb	12:14:41
1	Ti 334.940†	211168.5	211202.9	516.07	µg/L	516.07	ppb	12:14:15
1	Tl 190.801†	282.8	302.7	534.82	µg/L	534.82	ppb	12:14:41
1	U 409.014†	5621.4	5702.7	529.53	µg/L	529.53	ppb	12:14:21
1	V 292.402†	43002.2	43302.0	540.55	µg/L	540.55	ppb	12:14:21
1	Zn 213.857†	18950.0	18412.8	530.43	µg/L	530.43	ppb	12:14:21
2	Sc RADIAL	79973.7	79973.7	103	%			12:13:17
2	Al 396.153Radial†	8136.7	7927.0	5146.8	µg/L	5146.8	ppb	12:13:17
2	Ca 317.933Radial†	7476.3	6999.2	5155.9	µg/L	5155.9	ppb	12:13:17
2	Fe 238.204 Radial†	418.4	390.7	5093.8	µg/L	5093.8	ppb	12:13:38
2	K 766.490 Radial†	8725.4	8076.4	5032.7	µg/L	5032.7	ppb	12:13:17
2	Mg 279.077 IEC†	541.0	515.3	5172.6	µg/L	5172.6	ppb	12:13:38
2	Na 589.592 Radial†	39183.1	37437.6	10178	µg/L	10178	ppb	12:13:17
2	Sr 421.552†	88218.6	85142.0	508.73	µg/L	508.73	ppb	12:13:17
2	Sc 361.383	1882065.7	1882065.7	99.747	%			12:14:48
2	Y 371.029	1196337.2	1196337.2	99.373	%			12:14:48
2	Ag 328.068†	56613.9	56836.4	518.18	µg/L	518.18	ppb	12:14:54
2	As 188.979†	233.7	236.1	539.17	µg/L	539.17	ppb	12:15:14
2	B 249.677†	10919.5	10768.6	514.70	µg/L	514.70	ppb	12:14:54
2	Ba 233.527†	18019.7	18090.2	525.88	µg/L	525.88	ppb	12:14:54
2	Be 313.107†	758574.3	756854.8	523.77	µg/L	523.77	ppb	12:14:48
2	Cd 226.502†	17493.5	17655.8	525.90	µg/L	525.90	ppb	12:14:54
2	Co 228.616†	9431.4	9499.9	526.29	µg/L	526.29	ppb	12:14:54
2	Cr 267.716†	22773.4	22903.3	532.90	µg/L	532.90	ppb	12:14:54
2	Cu 324.752†	76407.4	72568.4	529.84	µg/L	529.84	ppb	12:14:54
2	Mn 257.610†	141166.0	141703.4	520.37	µg/L	520.37	ppb	12:14:54
2	Mo 202.031†	4149.0	4146.8	519.01	µg/L	519.01	ppb	12:15:14
2	Ni 231.604†	8652.5	8364.8	528.34	µg/L	528.34	ppb	12:14:54
2	P 214.914†	1335.7	1127.4	2658.2	µg/L	2658.2	ppb	12:15:14
2	Pb 220.353†	1873.9	1821.9	538.17	µg/L	538.17	ppb	12:15:14

2	S 181.975 Axial†	203.7	180.6	1049.6 µg/L	1049.6 ppb	12:15:14
2	Sb 206.836†	509.0	486.3	533.14 µg/L	533.14 ppb	12:15:14
2	Se 196.026†	344.9	338.6	541.54 µg/L	541.54 ppb	12:15:14
2	SiO2†	29599.7	27255.3	5642.5 µg/L	5642.5 ppb	12:14:54
2	Si 251.611†	32302.9	32105.1	2637.6 µg/L	2637.6 ppb	12:14:54
2	Sn 189.927†	917.9	900.3	537.59 µg/L	537.59 ppb	12:15:14
2	Ti 334.940†	212011.1	211815.9	517.57 µg/L	517.57 ppb	12:14:48
2	Tl 190.801†	283.1	302.7	534.81 µg/L	534.81 ppb	12:15:14
2	U 409.014†	5584.5	5659.5	525.52 µg/L	525.52 ppb	12:14:54
2	V 292.402†	42697.2	42949.1	536.14 µg/L	536.14 ppb	12:14:54
2	Zn 213.857†	18760.0	18201.5	524.33 µg/L	524.33 ppb	12:14:54
3	Sc RADIAL	79289.1	79289.1	102 %		12:13:43
3	Al 396.153Radial†	8053.5	7913.7	5140.0 µg/L	5140.0 ppb	12:13:43
3	Ca 317.933Radial†	7394.0	6981.2	5142.6 µg/L	5142.6 ppb	12:13:43
3	Fe 238.204 Radial†	422.0	397.6	5183.4 µg/L	5183.4 ppb	12:14:04
3	K 766.490 Radial†	8704.9	8129.4	5065.7 µg/L	5065.7 ppb	12:13:43
3	Mg 279.077 IEC†	542.5	521.3	5231.0 µg/L	5231.0 ppb	12:14:04
3	Na 589.592 Radial†	38883.2	37472.3	10188 µg/L	10188 ppb	12:13:43
3	Sr 421.552†	87376.4	85056.7	508.22 µg/L	508.22 ppb	12:13:43
3	Sc 361.383	1888076.8	1888076.8	100.07 %		12:15:21
3	Y 371.029	1200534.1	1200534.1	99.722 %		12:15:21
3	Ag 328.068†	53683.1	53726.9	489.67 µg/L	489.67 ppb	12:15:27
3	As 188.979†	197.9	199.6	455.89 µg/L	455.89 ppb	12:15:47
3	B 249.677†	10248.6	10063.3	480.94 µg/L	480.94 ppb	12:15:27
3	Ba 233.527†	16451.8	16465.8	478.65 µg/L	478.65 ppb	12:15:27
3	Be 313.107†	710597.9	706488.5	488.92 µg/L	488.92 ppb	12:15:21
3	Cd 226.502†	15905.0	16012.6	476.89 µg/L	476.89 ppb	12:15:27
3	Co 228.616†	8486.4	8525.4	472.24 µg/L	472.24 ppb	12:15:27
3	Cr 267.716†	19953.0	20012.0	465.64 µg/L	465.64 ppb	12:15:27
3	Cu 324.752†	69594.9	65516.5	478.43 µg/L	478.43 ppb	12:15:27
3	Mn 257.610†	127089.2	127185.3	467.11 µg/L	467.11 ppb	12:15:27
3	Mo 202.031†	3455.2	3440.2	430.61 µg/L	430.61 ppb	12:15:47
3	Ni 231.604†	7834.8	7520.0	474.99 µg/L	474.99 ppb	12:15:27
3	P 214.914†	1162.0	949.5	2234.7 µg/L	2234.7 ppb	12:15:47
3	Pb 220.353†	1619.4	1561.6	461.19 µg/L	461.19 ppb	12:15:47
3	S 181.975 Axial†	188.0	164.2	954.46 µg/L	954.46 ppb	12:15:47
3	Sb 206.836†	434.2	409.9	449.07 µg/L	449.07 ppb	12:15:47
3	Se 196.026†	310.3	303.0	486.13 µg/L	486.13 ppb	12:15:47
3	SiO2†	27533.2	25095.7	5195.4 µg/L	5195.4 ppb	12:15:27
3	Si 251.611†	29863.6	29564.4	2428.9 µg/L	2428.9 ppb	12:15:27
3	Sn 189.927†	749.3	728.9	435.78 µg/L	435.78 ppb	12:15:47
3	Ti 334.940†	197537.4	196675.0	480.55 µg/L	480.55 ppb	12:15:21
3	Tl 190.801†	255.4	274.1	484.27 µg/L	484.27 ppb	12:15:47
3	U 409.014†	5082.8	5140.4	477.21 µg/L	477.21 ppb	12:15:27
3	V 292.402†	38241.0	38359.5	478.61 µg/L	478.61 ppb	12:15:27
3	Zn 213.857†	17010.2	16392.9	472.17 µg/L	472.17 ppb	12:15:27

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1883383.7	99.817	%	0.2222				0.22%
Sc RADIAL	79497.3	102	%	0.5				0.52%
Y 371.029	1197294.3	99.453	%	0.2395				0.24%
Ag 328.068†	55962.6	510.16	µg/L	17.883	510.16	ppb	17.883	3.51%
QC value within limits for Ag 328.068 Recovery = 102.03%								
Al 396.153Radial†	7922.9	5144.7	µg/L	4.09	5144.7	ppb	4.09	0.08%
QC value within limits for Al 396.153Radial Recovery = 102.89%								
As 188.979†	224.2	511.97	µg/L	48.572	511.97	ppb	48.572	9.49%
QC value within limits for As 188.979 Recovery = 102.39%								
B 249.677†	10567.6	505.08	µg/L	21.047	505.08	ppb	21.047	4.17%
QC value within limits for B 249.677 Recovery = 101.02%								
Ba 233.527†	17627.8	512.43	µg/L	29.463	512.43	ppb	29.463	5.75%
QC value within limits for Ba 233.527 Recovery = 102.49%								
Be 313.107†	739389.8	511.69	µg/L	19.731	511.69	ppb	19.731	3.86%
QC value within limits for Be 313.107 Recovery = 102.34%								
Ca 317.933Radial†	6995.5	5153.2	µg/L	9.50	5153.2	ppb	9.50	0.18%
QC value within limits for Ca 317.933Radial Recovery = 103.06%								
Cd 226.502†	17181.5	511.75	µg/L	30.371	511.75	ppb	30.371	5.93%
QC value within limits for Cd 226.502 Recovery = 102.35%								
Co 228.616†	9221.1	510.83	µg/L	33.638	510.83	ppb	33.638	6.59%

QC value within limits for Co 228.616 Recovery = 102.17%

Cr 267.716†	22007.7	512.07 µg/L	40.279	512.07 ppb	40.279	7.87%

QC value within limits for Cr 267.716 Recovery = 102.41%

Cu 324.752†	70408.8	514.10 µg/L	30.958	514.10 ppb	30.958	6.02%

QC value within limits for Cu 324.752 Recovery = 102.82%

Fe 238.204 Radial†	394.0	5136.9 µg/L	44.92	5136.9 ppb	44.92	0.87%

QC value within limits for Fe 238.204 Radial Recovery = 102.74%

K 766.490 Radial†	8099.4	5047.1 µg/L	16.94	5047.1 ppb	16.94	0.34%

QC value within limits for K 766.490 Radial Recovery = 100.94%

Mg 279.077 IEC†	519.7	5215.7 µg/L	37.92	5215.7 ppb	37.92	0.73%

QC value within limits for Mg 279.077 IEC Recovery = 104.31%

Mn 257.610†	137398.3	504.57 µg/L	32.579	504.57 ppb	32.579	6.46%

QC value within limits for Mn 257.610 Recovery = 100.91%

Mo 202.031†	3922.4	490.94 µg/L	52.281	490.94 ppb	52.281	10.65%

QC value within limits for Mo 202.031 Recovery = 98.19%

Na 589.592 Radial†	37456.9	10183 µg/L	4.8	10183 ppb	4.8	0.05%

QC value within limits for Na 589.592 Radial Recovery = 101.83%

Ni 231.604†	8113.1	512.45 µg/L	32.561	512.45 ppb	32.561	6.35%

QC value within limits for Ni 231.604 Recovery = 102.49%

P 214.914†	1067.9	2516.4 µg/L	243.99	2516.4 ppb	243.99	9.70%

QC value within limits for P 214.914 Recovery = 100.66%

Pb 220.353†	1732.3	511.66 µg/L	43.730	511.66 ppb	43.730	8.55%

QC value within limits for Pb 220.353 Recovery = 102.33%

S 181.975 Axial†	176.6	1026.1 µg/L	63.20	1026.1 ppb	63.20	6.16%

QC value within limits for S 181.975 Axial Recovery = 102.61%

Sb 206.836†	462.5	506.90 µg/L	50.155	506.90 ppb	50.155	9.89%

QC value within limits for Sb 206.836 Recovery = 101.38%

Se 196.026†	326.9	523.40 µg/L	32.281	523.40 ppb	32.281	6.17%

QC value within limits for Se 196.026 Recovery = 104.68%

SiO2†	26619.6	5510.9 µg/L	274.48	5510.9 ppb	274.48	4.98%

QC value within limits for SiO2 Recovery = 103.06%

Si 251.611†	31370.6	2577.3 µg/L	129.26	2577.3 ppb	129.26	5.02%

QC value within limits for Si 251.611 Recovery = 103.09%

Sn 189.927†	846.5	505.68 µg/L	60.614	505.68 ppb	60.614	11.99%

QC value within limits for Sn 189.927 Recovery = 101.14%

Sr 421.552†	85165.2	508.87 µg/L	0.727	508.87 ppb	0.727	0.14%

QC value within limits for Sr 421.552 Recovery = 101.77%

Ti 334.940†	206564.6	504.73 µg/L	20.956	504.73 ppb	20.956	4.15%

QC value within limits for Ti 334.940 Recovery = 100.95%

Tl 190.801†	293.2	517.97 µg/L	29.182	517.97 ppb	29.182	5.63%

QC value within limits for Tl 190.801 Recovery = 103.59%

U 409.014†	5500.9	510.75 µg/L	29.120	510.75 ppb	29.120	5.70%

QC value within limits for U 409.014 Recovery = 102.15%

V 292.402†	41536.9	518.44 µg/L	34.556	518.44 ppb	34.556	6.67%

QC value within limits for V 292.402 Recovery = 103.69%

Zn 213.857†	17669.1	508.98 µg/L	32.018	508.98 ppb	32.018	6.29%

QC value within limits for Zn 213.857 Recovery = 101.80%

All analyte(s) passed QC.

Sequence No.: 3
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 1/25/2010 12:15:56
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	77578.1	77578.1	99.9	%			12:16:29
1	Al 396.153Radial†	-19.9	9.7	6.3206	µg/L	6.3206	ppb	12:16:29
1	Ca 317.933Radial†	259.0	1.9	1.4222	µg/L	1.4222	ppb	12:16:49
1	Fe 238.204 Radial†	17.0	1.6	20.262	µg/L	20.262	ppb	12:16:49
1	K 766.490 Radial†	441.8	49.6	30.896	µg/L	30.896	ppb	12:16:29
1	Mg 279.077 IEC†	6.9	-2.9	-28.809	µg/L	-28.809	ppb	12:16:49
1	Na 589.592 Radial†	361.1	-231.8	-63.023	µg/L	-63.023	ppb	12:16:29
1	Sr 421.552†	483.0	1.2	0.0073	µg/L	0.0073	ppb	12:16:29
1	Sc 361.383	1864230.9	1864230.9	98.802	%			12:17:51
1	Y 371.029	1188651.8	1188651.8	98.735	%			12:17:51
1	Ag 328.068†	-59.7	18.3	0.1691	µg/L	0.1691	ppb	12:17:57
1	As 188.979†	0.7	2.5	5.6441	µg/L	5.6441	ppb	12:18:17
1	B 249.677†	137.0	-40.0	-1.9065	µg/L	-1.9065	ppb	12:18:17
1	Ba 233.527†	-8.8	15.8	0.4603	µg/L	0.4603	ppb	12:18:17
1	Be 313.107†	3562.8	-39.5	-0.0273	µg/L	-0.0273	ppb	12:17:57
1	Cd 226.502†	-122.1	-5.7	-0.1700	µg/L	-0.1700	ppb	12:18:17
1	Co 228.616†	-49.6	-5.7	-0.3135	µg/L	-0.3135	ppb	12:18:17
1	Cr 267.716†	-65.3	5.9	0.1381	µg/L	0.1381	ppb	12:18:17
1	Cu 324.752†	4107.4	124.2	0.9087	µg/L	0.9087	ppb	12:17:57
1	Mn 257.610†	-175.3	1.6	0.0096	µg/L	0.0096	ppb	12:18:17
1	Mo 202.031†	18.7	6.2	0.7792	µg/L	0.7792	ppb	12:18:17
1	Ni 231.604†	314.8	8.9	0.5608	µg/L	0.5608	ppb	12:18:17
1	P 214.914†	209.7	0.5	1.1277	µg/L	1.1277	ppb	12:18:17
1	Pb 220.353†	61.2	5.2	1.5406	µg/L	1.5406	ppb	12:18:17
1	S 181.975 Axial†	17.4	-6.0	-34.739	µg/L	-34.739	ppb	12:18:17
1	Sb 206.836†	26.3	2.6	2.8464	µg/L	2.8464	ppb	12:18:17
1	Se 196.026†	2.6	-4.4	-6.9025	µg/L	-6.9025	ppb	12:18:17
1	SiO2†	2397.9	7.4	1.5331	µg/L	1.5331	ppb	12:17:57
1	Si 251.611†	295.1	18.9	1.5542	µg/L	1.5542	ppb	12:18:17
1	Sn 189.927†	21.0	1.4	0.7994	µg/L	0.7994	ppb	12:18:17
1	Ti 334.940†	657.4	-68.1	-0.1642	µg/L	-0.1642	ppb	12:17:57
1	Tl 190.801†	-19.2	-0.5	-0.8898	µg/L	-0.8898	ppb	12:18:17
1	U 409.014†	25.4	86.6	8.0522	µg/L	8.0522	ppb	12:17:57
1	V 292.402†	-119.9	22.1	0.2882	µg/L	0.2882	ppb	12:17:57
1	Zn 213.857†	604.6	5.8	0.1643	µg/L	0.1643	ppb	12:18:17
2	Sc RADIAL	77655.3	77655.3	100	%			12:16:55
2	Al 396.153Radial†	-21.8	7.9	5.0936	µg/L	5.0936	ppb	12:16:55
2	Ca 317.933Radial†	251.9	-5.5	-4.0192	µg/L	-4.0192	ppb	12:17:15
2	Fe 238.204 Radial†	15.8	0.4	5.2078	µg/L	5.2078	ppb	12:17:15
2	K 766.490 Radial†	336.9	-55.7	-34.721	µg/L	-34.721	ppb	12:16:55
2	Mg 279.077 IEC†	6.8	-3.0	-30.059	µg/L	-30.059	ppb	12:17:15
2	Na 589.592 Radial†	388.9	-204.4	-55.571	µg/L	-55.571	ppb	12:16:55
2	Sr 421.552†	501.4	19.2	0.1147	µg/L	0.1147	ppb	12:16:55
2	Sc 361.383	1857179.1	1857179.1	98.428	%			12:18:23
2	Y 371.029	1184212.7	1184212.7	98.366	%			12:18:23
2	Ag 328.068†	-79.7	-2.2	-0.0209	µg/L	-0.0209	ppb	12:18:28
2	As 188.979†	-1.7	0.0	0.1041	µg/L	0.1041	ppb	12:18:49
2	B 249.677†	134.2	-42.3	-2.0164	µg/L	-2.0164	ppb	12:18:49
2	Ba 233.527†	-8.7	15.9	0.4601	µg/L	0.4601	ppb	12:18:49
2	Be 313.107†	3580.3	-8.1	-0.0056	µg/L	-0.0056	ppb	12:18:28
2	Cd 226.502†	-118.8	-2.8	-0.0829	µg/L	-0.0829	ppb	12:18:49
2	Co 228.616†	-37.1	6.9	0.3812	µg/L	0.3812	ppb	12:18:49
2	Cr 267.716†	-74.2	-3.3	-0.0764	µg/L	-0.0764	ppb	12:18:49
2	Cu 324.752†	4043.9	75.5	0.5510	µg/L	0.5510	ppb	12:18:28
2	Mn 257.610†	-159.0	17.5	0.0659	µg/L	0.0659	ppb	12:18:49
2	Mo 202.031†	19.5	7.1	0.8876	µg/L	0.8876	ppb	12:18:49
2	Ni 231.604†	299.9	-5.1	-0.3200	µg/L	-0.3200	ppb	12:18:49
2	P 214.914†	212.7	4.4	10.561	µg/L	10.561	ppb	12:18:49
2	Pb 220.353†	52.6	-3.3	-0.9720	µg/L	-0.9720	ppb	12:18:49

2	S 181.975 Axial†	20.6	-2.7	-15.819 µg/L	-15.819 ppb	12:18:49
2	Sb 206.836†	25.5	1.9	2.1337 µg/L	2.1337 ppb	12:18:49
2	Se 196.026†	0.8	-6.3	-9.8617 µg/L	-9.8617 ppb	12:18:49
2	SiO2†	2427.4	46.6	9.6506 µg/L	9.6506 ppb	12:18:28
2	Si 251.611†	283.5	8.2	0.6752 µg/L	0.6752 ppb	12:18:49
2	Sn 189.927†	19.8	0.2	0.0930 µg/L	0.0930 ppb	12:18:49
2	Ti 334.940†	755.7	34.3	0.0861 µg/L	0.0861 ppb	12:18:28
2	Tl 190.801†	-21.1	-2.5	-4.3850 µg/L	-4.3850 ppb	12:18:49
2	U 409.014†	0.3	61.2	5.6948 µg/L	5.6948 ppb	12:18:28
2	V 292.402†	-159.7	-18.8	-0.2190 µg/L	-0.2190 ppb	12:18:28
2	Zn 213.857†	609.6	13.1	0.3826 µg/L	0.3826 ppb	12:18:49
3	Sc RADIAL	77205.1	77205.1	99.5 %		12:17:21
3	Al 396.153Radial†	-60.6	-31.3	-20.393 µg/L	-20.393 ppb	12:17:21
3	Ca 317.933Radial†	255.5	-0.4	-0.2865 µg/L	-0.2865 ppb	12:17:41
3	Fe 238.204 Radial†	17.0	1.7	21.877 µg/L	21.877 ppb	12:17:41
3	K 766.490 Radial†	344.3	-46.3	-28.823 µg/L	-28.823 ppb	12:17:21
3	Mg 279.077 IEC†	7.0	-2.7	-27.091 µg/L	-27.091 ppb	12:17:41
3	Na 589.592 Radial†	356.3	-234.9	-63.859 µg/L	-63.859 ppb	12:17:21
3	Sr 421.552†	505.1	25.8	0.1543 µg/L	0.1543 ppb	12:17:21
3	Sc 361.383	1863139.6	1863139.6	98.744 %		12:18:54
3	Y 371.029	1187987.9	1187987.9	98.680 %		12:18:54
3	Ag 328.068†	-33.5	44.8	0.4050 µg/L	0.4050 ppb	12:19:00
3	As 188.979†	-4.0	-2.3	-5.2923 µg/L	-5.2923 ppb	12:19:21
3	B 249.677†	133.1	-43.9	-2.0931 µg/L	-2.0931 ppb	12:19:21
3	Ba 233.527†	-8.4	16.2	0.4696 µg/L	0.4696 ppb	12:19:21
3	Be 313.107†	3640.2	40.9	0.0283 µg/L	0.0283 ppb	12:19:00
3	Cd 226.502†	-107.7	8.8	0.2611 µg/L	0.2611 ppb	12:19:21
3	Co 228.616†	-43.5	0.5	0.0305 µg/L	0.0305 ppb	12:19:21
3	Cr 267.716†	-63.9	7.3	0.1707 µg/L	0.1707 ppb	12:19:21
3	Cu 324.752†	4065.5	84.3	0.6175 µg/L	0.6175 ppb	12:19:00
3	Mn 257.610†	-168.4	8.4	0.0350 µg/L	0.0350 ppb	12:19:21
3	Mo 202.031†	14.4	1.9	0.2373 µg/L	0.2373 ppb	12:19:21
3	Ni 231.604†	311.7	5.9	0.3759 µg/L	0.3759 ppb	12:19:21
3	P 214.914†	213.4	4.4	10.506 µg/L	10.506 ppb	12:19:21
3	Pb 220.353†	54.5	-1.5	-0.4776 µg/L	-0.4776 ppb	12:19:21
3	S 181.975 Axial†	17.8	-5.6	-32.497 µg/L	-32.497 ppb	12:19:21
3	Sb 206.836†	25.9	2.2	2.4303 µg/L	2.4303 ppb	12:19:21
3	Se 196.026†	9.3	2.3	3.5570 µg/L	3.5570 ppb	12:19:21
3	SiO2†	2357.3	-32.2	-6.6687 µg/L	-6.6687 ppb	12:19:00
3	Si 251.611†	292.1	16.0	1.3186 µg/L	1.3186 ppb	12:19:21
3	Sn 189.927†	18.2	-1.5	-0.8908 µg/L	-0.8908 ppb	12:19:21
3	Ti 334.940†	700.4	-24.1	-0.0569 µg/L	-0.0569 ppb	12:19:00
3	Tl 190.801†	-18.0	0.7	1.2097 µg/L	1.2097 ppb	12:19:21
3	U 409.014†	147.0	209.7	19.510 µg/L	19.510 ppb	12:19:00
3	V 292.402†	-167.4	-26.1	-0.2981 µg/L	-0.2981 ppb	12:19:00
3	Zn 213.857†	605.4	6.9	0.1992 µg/L	0.1992 ppb	12:19:21

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	1861516.6	98.658	%	0.2012				0.20%
Sc RADIAL	77479.5	99.8	%	0.31				0.31%
Y 371.029	1186950.8	98.594	%	0.1989				0.20%
Ag 328.068†	20.3	0.1844	µg/L	0.21338	0.1844	ppb	0.21338	115.70%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-4.6	-2.9929	µg/L	15.08132	-2.9929	ppb	15.08132	503.91%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	0.1	0.1520	µg/L	5.46837	0.1520	ppb	5.46837	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	-42.0	-2.0053	µg/L	0.09377	-2.0053	ppb	0.09377	4.68%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	16.0	0.4633	µg/L	0.00539	0.4633	ppb	0.00539	1.16%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-2.2	-0.0015	µg/L	0.02805	-0.0015	ppb	0.02805	>999.9%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-1.3	-0.9611	µg/L	2.78274	-0.9611	ppb	2.78274	289.52%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	0.1	0.0027	µg/L	0.22797	0.0027	ppb	0.22797	>999.9%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	0.6	0.0327	µg/L	0.34737	0.0327	ppb	0.34737	>999.9%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                3.3      0.0775 µg/L       0.13424      0.0775 ppb        0.13424 173.31%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†               94.7      0.6924 µg/L       0.19023      0.6924 ppb        0.19023  27.48%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†         1.2     15.782 µg/L        9.1933     15.782 ppb         9.1933  58.25%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†        -17.5    -10.883 µg/L       36.3015    -10.883 ppb        36.3015 333.56%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†           -2.9    -28.653 µg/L        1.4901    -28.653 ppb         1.4901   5.20%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†                9.2      0.0369 µg/L       0.02820      0.0369 ppb        0.02820  76.50%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                5.1      0.6347 µg/L       0.34843      0.6347 ppb        0.34843  54.90%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†      -223.7    -60.817 µg/L        4.5631    -60.817 ppb         4.5631   7.50%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                3.2      0.2055 µg/L       0.46447      0.2055 ppb        0.46447 225.97%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                 3.1      7.3982 µg/L       5.43047      7.3982 ppb        5.43047  73.40%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                0.1      0.0303 µg/L       1.33109      0.0303 ppb        1.33109 >999.9%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†          -4.8    -27.685 µg/L       10.3369    -27.685 ppb        10.3369  37.34%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                2.3      2.4701 µg/L       0.35800      2.4701 ppb        0.35800  14.49%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -2.8     -4.4024 µg/L       7.05006     -4.4024 ppb        7.05006 160.14%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                      7.3      1.5050 µg/L       8.15968      1.5050 ppb        8.15968 542.18%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†               14.4      1.1827 µg/L       0.45499      1.1827 ppb        0.45499  38.47%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                0.0      0.0005 µg/L       0.84888      0.0005 ppb        0.84888 >999.9%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†               15.4      0.0921 µg/L       0.07602      0.0921 ppb        0.07602  82.54%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†              -19.3     -0.0450 µg/L       0.12558     -0.0450 ppb        0.12558 279.15%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -0.8     -1.3550 µg/L       2.82619     -1.3550 ppb        2.82619 208.57%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†               119.2     11.086 µg/L        7.3904      11.086 ppb         7.3904  66.67%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                -7.6     -0.0763 µg/L       0.31816     -0.0763 ppb        0.31816 417.05%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†                8.6      0.2487 µg/L       0.11728      0.2487 ppb        0.11728  47.16%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
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Analysis Begun

Start Time: 1/25/2010 12:24:53 **Plasma On Time: 1/25/2010 05:31:26**
Logged In Analyst: optima **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N1030502Autosampler Model: AS-93plus

Sample Information File: C:\pe\optima1\Sample Information\012510.sif
Batch ID:
Results Data Set: 012510
Results Library: c:\pe\optima1\Results\Results.mdb

==========

Sequence No.: 1 **Autosampler Location: 301**
Sample ID: 1202011899|940177|1 **Date Collected: 1/25/2010 12:24:56**
Analyst: HSC **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Replicate Data: 1202011899|940177|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	77100.5	77100.5	99.3	%			12:25:32
1	Al 396.153Radial†	14.5	44.2	28.755	µg/L	28.755	ppb	12:25:32
1	Ca 317.933Radial†	280.4	25.1	18.459	µg/L	18.459	ppb	12:25:52
1	Fe 238.204 Radial†	18.0	2.7	34.833	µg/L	34.833	ppb	12:25:52
1	K 766.490 Radial†	414.7	25.1	15.612	µg/L	15.612	ppb	12:25:32
1	Mg 279.077 IEC†	10.3	0.6	6.1142	µg/L	6.1142	ppb	12:25:52
1	Na 589.592 Radial†	558.0	-31.3	-8.5050	µg/L	-8.5050	ppb	12:25:32
1	Sr 421.552†	477.1	-1.6	-0.0098	µg/L	-0.0098	ppb	12:25:32
1	Sc 361.383	1837787.0	1837787.0	97.400	%			12:26:54
1	Y 371.029	1170496.1	1170496.1	97.227	%			12:26:54
1	Ag 328.068†	-80.6	-3.9	-0.0325	µg/L	-0.0325	ppb	12:26:59
1	As 188.979†	-2.3	-0.5	-1.2215	µg/L	-1.2215	ppb	12:27:20
1	B 249.677†	156.8	-17.6	-0.8398	µg/L	-0.8398	ppb	12:27:20
1	Ba 233.527†	-4.5	20.1	0.5826	µg/L	0.5826	ppb	12:27:20
1	Be 313.107†	3634.2	85.7	0.0592	µg/L	0.0592	ppb	12:26:59
1	Cd 226.502†	-115.0	-0.2	-0.0096	µg/L	-0.0096	ppb	12:27:20
1	Co 228.616†	-44.3	-0.9	-0.0483	µg/L	-0.0483	ppb	12:27:20
1	Cr 267.716†	-58.7	11.8	0.2741	µg/L	0.2741	ppb	12:27:20
1	Cu 324.752†	4123.7	200.8	1.4688	µg/L	1.4688	ppb	12:26:59
1	Mn 257.610†	-71.7	105.4	0.3912	µg/L	0.3912	ppb	12:27:20
1	Mo 202.031†	17.0	4.7	0.5932	µg/L	0.5932	ppb	12:27:20
1	Ni 231.604†	299.4	-2.3	-0.1476	µg/L	-0.1476	ppb	12:27:20
1	P 214.914†	214.2	8.2	19.556	µg/L	19.556	ppb	12:27:20
1	Pb 220.353†	64.5	9.5	2.7871	µg/L	2.7871	ppb	12:27:20
1	S 181.975 Axial†	21.3	-1.7	-9.9202	µg/L	-9.9202	ppb	12:27:20
1	Sb 206.836†	22.6	-0.7	-0.8135	µg/L	-0.8135	ppb	12:27:20
1	Se 196.026†	8.1	1.1	1.8699	µg/L	1.8699	ppb	12:27:20
1	SiO2†	2487.0	133.9	27.715	µg/L	27.715	ppb	12:26:59
1	Si 251.611†	384.1	114.6	9.4121	µg/L	9.4121	ppb	12:27:20
1	Sn 189.927†	23.1	3.8	2.2453	µg/L	2.2453	ppb	12:27:20
1	Ti 334.940†	850.8	140.0	0.3422	µg/L	0.3422	ppb	12:26:59
1	Tl 190.801†	-16.4	2.1	3.6789	µg/L	3.6789	ppb	12:27:20
1	U 409.014†	33.1	94.8	8.8145	µg/L	8.8145	ppb	12:26:59
1	V 292.402†	-130.2	9.8	0.1371	µg/L	0.1371	ppb	12:26:59
1	Zn 213.857†	663.0	74.5	2.1568	µg/L	2.1568	ppb	12:27:20
2	Sc RADIAL	77523.5	77523.5	99.9	%			12:25:58
2	Al 396.153Radial†	-22.3	7.3	4.7410	µg/L	4.7410	ppb	12:25:58
2	Ca 317.933Radial†	275.6	18.7	13.803	µg/L	13.803	ppb	12:26:18
2	Fe 238.204 Radial†	17.8	2.4	31.299	µg/L	31.299	ppb	12:26:18
2	K 766.490 Radial†	446.1	54.2	33.771	µg/L	33.771	ppb	12:25:58
2	Mg 279.077 IEC†	9.8	0.0	0.0471	µg/L	0.0471	ppb	12:26:18
2	Na 589.592 Radial†	505.7	-86.7	-23.572	µg/L	-23.572	ppb	12:25:58
2	Sr 421.552†	495.6	14.2	0.0847	µg/L	0.0847	ppb	12:25:58
2	Sc 361.383	1843602.1	1843602.1	97.708	%			12:27:26
2	Y 371.029	1174655.3	1174655.3	97.572	%			12:27:26
2	Ag 328.068†	-94.6	-18.0	-0.1589	µg/L	-0.1589	ppb	12:27:31
2	As 188.979†	-0.3	1.5	3.3711	µg/L	3.3711	ppb	12:27:52

2	B 249.677†	138.0	-37.4	-1.7854 µg/L	-1.7854 ppb	12:27:52
2	Ba 233.527†	-19.0	5.3	0.1553 µg/L	0.1553 ppb	12:27:52
2	Be 313.107†	3590.9	29.5	0.0203 µg/L	0.0203 ppb	12:27:31
2	Cd 226.502†	-112.5	2.8	0.0787 µg/L	0.0787 ppb	12:27:52
2	Co 228.616†	-42.5	1.1	0.0591 µg/L	0.0591 ppb	12:27:52
2	Cr 267.716†	-60.3	10.4	0.2409 µg/L	0.2409 ppb	12:27:52
2	Cu 324.752†	4106.5	169.9	1.2430 µg/L	1.2430 ppb	12:27:31
2	Mn 257.610†	-65.0	112.4	0.4167 µg/L	0.4167 ppb	12:27:52
2	Mo 202.031†	11.3	-1.2	-0.1441 µg/L	-0.1441 ppb	12:27:52
2	Ni 231.604†	305.4	2.8	0.1765 µg/L	0.1765 ppb	12:27:52
2	P 214.914†	211.8	5.1	12.170 µg/L	12.170 ppb	12:27:52
2	Pb 220.353†	64.1	8.9	2.6039 µg/L	2.6039 ppb	12:27:52
2	S 181.975 Axial†	21.5	-1.6	-9.3939 µg/L	-9.3939 ppb	12:27:52
2	Sb 206.836†	26.9	3.6	3.9252 µg/L	3.9252 ppb	12:27:52
2	Se 196.026†	10.2	3.3	5.2329 µg/L	5.2329 ppb	12:27:52
2	SiO2†	2462.3	100.5	20.814 µg/L	20.814 ppb	12:27:31
2	Si 251.611†	382.8	111.9	9.1972 µg/L	9.1972 ppb	12:27:52
2	Sn 189.927†	21.9	2.5	1.4927 µg/L	1.4927 ppb	12:27:52
2	Ti 334.940†	827.9	113.8	0.2785 µg/L	0.2785 ppb	12:27:31
2	Tl 190.801†	-16.6	1.9	3.2579 µg/L	3.2579 ppb	12:27:52
2	U 409.014†	68.3	130.8	12.164 µg/L	12.164 ppb	12:27:31
2	V 292.402†	-117.1	23.6	0.3048 µg/L	0.3048 ppb	12:27:31
2	Zn 213.857†	655.7	64.9	1.8790 µg/L	1.8790 ppb	12:27:52
3	Sc RADIAL	77300.6	77300.6	99.6 %		12:26:24
3	Al 396.153Radial†	-28.6	0.9	0.5685 µg/L	0.5685 ppb	12:26:24
3	Ca 317.933Radial†	278.4	22.3	16.401 µg/L	16.401 ppb	12:26:44
3	Fe 238.204 Radial†	17.5	2.2	28.291 µg/L	28.291 ppb	12:26:44
3	K 766.490 Radial†	465.8	75.3	46.924 µg/L	46.924 ppb	12:26:24
3	Mg 279.077 IEC†	11.2	1.5	15.315 µg/L	15.315 ppb	12:26:44
3	Na 589.592 Radial†	513.8	-77.2	-20.981 µg/L	-20.981 ppb	12:26:24
3	Sr 421.552†	520.6	40.8	0.2437 µg/L	0.2437 ppb	12:26:24
3	Sc 361.383	1834114.9	1834114.9	97.205 %		12:27:57
3	Y 371.029	1167818.4	1167818.4	97.004 %		12:27:57
3	Ag 328.068†	-91.3	-15.1	-0.1314 µg/L	-0.1314 ppb	12:28:03
3	As 188.979†	-1.3	0.5	1.0752 µg/L	1.0752 ppb	12:28:23
3	B 249.677†	142.9	-31.6	-1.5079 µg/L	-1.5079 ppb	12:28:23
3	Ba 233.527†	-9.8	14.7	0.4267 µg/L	0.4267 ppb	12:28:23
3	Be 313.107†	3632.2	91.0	0.0630 µg/L	0.0630 ppb	12:28:03
3	Cd 226.502†	-114.2	0.5	0.0113 µg/L	0.0113 ppb	12:28:23
3	Co 228.616†	-43.8	-0.5	-0.0277 µg/L	-0.0277 ppb	12:28:23
3	Cr 267.716†	-44.4	26.4	0.6141 µg/L	0.6141 ppb	12:28:23
3	Cu 324.752†	4131.5	217.3	1.5886 µg/L	1.5886 ppb	12:28:03
3	Mn 257.610†	-68.6	108.5	0.4011 µg/L	0.4011 ppb	12:28:23
3	Mo 202.031†	13.6	1.3	0.1613 µg/L	0.1613 ppb	12:28:23
3	Ni 231.604†	305.5	4.5	0.2879 µg/L	0.2879 ppb	12:28:23
3	P 214.914†	202.7	-3.2	-7.7955 µg/L	-7.7955 ppb	12:28:23
3	Pb 220.353†	65.2	10.3	3.0231 µg/L	3.0231 ppb	12:28:23
3	S 181.975 Axial†	24.2	1.3	7.7400 µg/L	7.7400 ppb	12:28:23
3	Sb 206.836†	24.9	1.6	1.7855 µg/L	1.7855 ppb	12:28:23
3	Se 196.026†	5.2	-1.8	-2.7213 µg/L	-2.7213 ppb	12:28:23
3	SiO2†	2503.3	155.8	32.245 µg/L	32.245 ppb	12:28:03
3	Si 251.611†	373.1	104.1	8.5506 µg/L	8.5506 ppb	12:28:23
3	Sn 189.927†	25.8	6.6	3.9253 µg/L	3.9253 ppb	12:28:23
3	Ti 334.940†	751.1	39.2	0.0950 µg/L	0.0950 ppb	12:28:03
3	Tl 190.801†	-24.8	-6.6	-11.522 µg/L	-11.522 ppb	12:28:23
3	U 409.014†	83.6	146.8	13.657 µg/L	13.657 ppb	12:28:03
3	V 292.402†	-100.2	40.4	0.5171 µg/L	0.5171 ppb	12:28:03
3	Zn 213.857†	650.7	63.2	1.8281 µg/L	1.8281 ppb	12:28:23

Mean Data: 1202011899|940177|1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1838501.3	97.438	%	0.2535				0.26%
Sc RADIAL	77308.2	99.6	%	0.27				0.27%
Y 371.029	1170989.9	97.268	%	0.2862				0.29%
Ag 328.068†	-12.3	-0.1076	µg/L	0.06647	-0.1076	ppb	0.06647	61.77%
Al 396.153Radial†	17.5	11.355	µg/L	15.2128	11.355	ppb	15.2128	133.98%
As 188.979†	0.5	1.0749	µg/L	2.29627	1.0749	ppb	2.29627	213.62%
B 249.677†	-28.9	-1.3777	µg/L	0.48604	-1.3777	ppb	0.48604	35.28%
Ba 233.527†	13.4	0.3882	µg/L	0.21623	0.3882	ppb	0.21623	55.70%

Be 313.107†	68.7	0.0475	µg/L	0.02360	0.0475	ppb	0.02360 49.69%
Ca 317.933Radial†	22.0	16.221	µg/L	2.3334	16.221	ppb	2.3334 14.38%
Cd 226.502†	1.0	0.0268	µg/L	0.04611	0.0268	ppb	0.04611 172.03%
Co 228.616†	-0.1	-0.0056	µg/L	0.05701	-0.0056	ppb	0.05701 >999.9%
Cr 267.716†	16.2	0.3764	µg/L	0.20657	0.3764	ppb	0.20657 54.88%
Cu 324.752†	196.0	1.4335	µg/L	0.17547	1.4335	ppb	0.17547 12.24%
Fe 238.204 Radial†	2.4	31.474	µg/L	3.2746	31.474	ppb	3.2746 10.40%
K 766.490 Radial†	51.5	32.102	µg/L	15.7225	32.102	ppb	15.7225 48.98%
Mg 279.077 IEC†	0.7	7.1588	µg/L	7.68750	7.1588	ppb	7.68750 107.38%
Mn 257.610†	108.8	0.4030	µg/L	0.01283	0.4030	ppb	0.01283 3.18%
Mo 202.031†	1.6	0.2035	µg/L	0.37046	0.2035	ppb	0.37046 182.07%
Na 589.592 Radial†	-65.1	-17.686	µg/L	8.0560	-17.686	ppb	8.0560 45.55%
Ni 231.604†	1.7	0.1056	µg/L	0.22623	0.1056	ppb	0.22623 214.26%
P 214.914†	3.4	7.9768	µg/L	14.14964	7.9768	ppb	14.14964 177.39%
Pb 220.353†	9.5	2.8047	µg/L	0.21013	2.8047	ppb	0.21013 7.49%
S 181.975 Axial†	-0.7	-3.8580	µg/L	10.04768	-3.8580	ppb	10.04768 260.43%
Sb 206.836†	1.5	1.6324	µg/L	2.37306	1.6324	ppb	2.37306 145.37%
Se 196.026†	0.9	1.4605	µg/L	3.99289	1.4605	ppb	3.99289 273.39%
SiO2†	130.1	26.925	µg/L	5.7561	26.925	ppb	5.7561 21.38%
Si 251.611†	110.2	9.0533	µg/L	0.44840	9.0533	ppb	0.44840 4.95%
Sn 189.927†	4.3	2.5544	µg/L	1.24545	2.5544	ppb	1.24545 48.76%
Sr 421.552†	17.8	0.1062	µg/L	0.12811	0.1062	ppb	0.12811 120.58%
Ti 334.940†	97.7	0.2386	µg/L	0.12835	0.2386	ppb	0.12835 53.80%
Tl 190.801†	-0.9	-1.5286	µg/L	8.65749	-1.5286	ppb	8.65749 566.38%
U 409.014†	124.2	11.545	µg/L	2.4799	11.545	ppb	2.4799 21.48%
V 292.402†	24.6	0.3197	µg/L	0.19043	0.3197	ppb	0.19043 59.57%
Zn 213.857†	67.5	1.9546	µg/L	0.17689	1.9546	ppb	0.17689 9.05%

Sequence No.: 2
Sample ID: 1202011904|940177|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 302
Date Collected: 1/25/2010 12:28:32
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202011904|940177|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	78836.0	78836.0	102	%			12:29:11
1	Al 396.153Radial†	148879.3	146615.6	95381	µg/L	95381	ppb	12:29:06
1	Ca 317.933Radial†	146066.6	143559.3	105750	µg/L	105750	ppb	12:29:06
1	Fe 238.204 Radial†	16045.1	15782.5	205350	µg/L	205350	ppb	12:29:11
1	K 766.490 Radial†	71654.9	70158.7	43719	µg/L	43719	ppb	12:29:06
1	Mg 279.077 IEC†	4347.2	4270.5	42629	µg/L	42629	ppb	12:29:11
1	Na 589.592 Radial†	40623.5	39404.6	10713	µg/L	10713	ppb	12:29:06
1	Sr 421.552†	412997.9	406153.9	2426.8	µg/L	2426.8	ppb	12:29:06
1	Sc 361.383	1883729.3	1883729.3	99.835	%			12:29:48
1	Y 371.029	1220408.1	1220408.1	101.37	%			12:29:48
1	Ag 328.068†	33788.3	33922.9	328.61	µg/L	328.61	ppb	12:29:54
1	As 188.979†	499.0	501.6	1153.1	µg/L	1153.1	ppb	12:30:14
1	B 249.677†	35845.6	35726.3	1708.9	µg/L	1708.9	ppb	12:29:54
1	Ba 233.527†	73473.7	73619.9	2138.6	µg/L	2138.6	ppb	12:29:54
1	Be 313.107†	1226432.2	1224814.8	845.54	µg/L	845.54	ppb	12:29:48
1	Cd 226.502†	22134.2	22288.8	642.23	µg/L	642.23	ppb	12:29:54
1	Co 228.616†	18204.1	18278.7	1001.1	µg/L	1001.1	ppb	12:29:54
1	Cr 267.716†	111804.3	112061.3	2606.6	µg/L	2606.6	ppb	12:29:54
1	Cu 324.752†	273175.2	269594.0	1994.3	µg/L	1994.3	ppb	12:29:54
1	Mn 257.610†	1568205.8	1570978.2	5789.4	µg/L	5789.4	ppb	12:29:48
1	Mo 202.031†	4271.0	4265.4	541.46	µg/L	541.46	ppb	12:30:14
1	Ni 231.604†	23635.7	23365.1	1478.8	µg/L	1478.8	ppb	12:29:54
1	P 214.914†	3867.8	3662.5	8469.3	µg/L	8469.3	ppb	12:30:14
1	Pb 220.353†	3162.1	3110.6	914.33	µg/L	914.33	ppb	12:30:14
1	S 181.975 Axial†	753.1	730.7	4246.3	µg/L	4246.3	ppb	12:30:14
1	Sb 206.836†	1314.9	1293.1	1384.3	µg/L	1384.3	ppb	12:30:14
1	Se 196.026†	1645.7	1641.3	3012.9	µg/L	3012.9	ppb	12:30:14
1	SiO2†	397836.7	396075.0	81997	µg/L	81997	ppb	12:29:48
1	Si 251.611†	460527.9	461009.7	37875	µg/L	37875	ppb	12:29:48
1	Sn 189.927†	1849.3	1832.5	1139.2	µg/L	1139.2	ppb	12:30:14
1	Ti 334.940†	2577473.7	2581002.6	6309.0	µg/L	6309.0	ppb	12:29:48
1	Tl 190.801†	734.7	754.8	1371.2	µg/L	1371.2	ppb	12:30:14
1	U 409.014†	-837.1	-777.6	-107.34	µg/L	-107.34	ppb	12:29:54
1	V 292.402†	106277.6	106596.8	1336.6	µg/L	1336.6	ppb	12:29:54
1	Zn 213.857†	217866.8	217620.9	6291.7	µg/L	6291.7	ppb	12:29:54
2	Sc RADIAL	78784.4	78784.4	101	%			12:29:23
2	Al 396.153Radial†	149686.4	147506.7	95960	µg/L	95960	ppb	12:29:17
2	Ca 317.933Radial†	146840.7	144416.2	106380	µg/L	106380	ppb	12:29:17
2	Fe 238.204 Radial†	16016.9	15765.0	205120	µg/L	205120	ppb	12:29:23
2	K 766.490 Radial†	71996.1	70541.0	43957	µg/L	43957	ppb	12:29:17
2	Mg 279.077 IEC†	4333.2	4259.5	42518	µg/L	42518	ppb	12:29:23
2	Na 589.592 Radial†	40846.0	39650.1	10780	µg/L	10780	ppb	12:29:17
2	Sr 421.552†	415453.4	408839.4	2442.8	µg/L	2442.8	ppb	12:29:17
2	Sc 361.383	1873410.6	1873410.6	99.288	%			12:30:22
2	Y 371.029	1214427.6	1214427.6	100.88	%			12:30:22
2	Ag 328.068†	33634.3	33954.3	328.88	µg/L	328.88	ppb	12:30:27
2	As 188.979†	502.7	508.1	1167.8	µg/L	1167.8	ppb	12:30:48
2	B 249.677†	35647.2	35724.2	1708.8	µg/L	1708.8	ppb	12:30:27
2	Ba 233.527†	72877.8	73425.1	2133.0	µg/L	2133.0	ppb	12:30:27
2	Be 313.107†	1222066.9	1227184.5	847.17	µg/L	847.17	ppb	12:30:22
2	Cd 226.502†	21913.5	22188.5	639.26	µg/L	639.26	ppb	12:30:27
2	Co 228.616†	18119.4	18293.9	1001.9	µg/L	1001.9	ppb	12:30:27
2	Cr 267.716†	111088.3	111957.0	2604.2	µg/L	2604.2	ppb	12:30:27
2	Cu 324.752†	271982.4	269899.8	1996.5	µg/L	1996.5	ppb	12:30:27
2	Mn 257.610†	1563533.8	1574924.6	5803.8	µg/L	5803.8	ppb	12:30:22
2	Mo 202.031†	4271.9	4289.8	544.50	µg/L	544.50	ppb	12:30:48
2	Ni 231.604†	23404.3	23262.4	1472.3	µg/L	1472.3	ppb	12:30:27
2	P 214.914†	3883.2	3699.3	8557.9	µg/L	8557.9	ppb	12:30:48
2	Pb 220.353†	3176.0	3142.0	923.65	µg/L	923.65	ppb	12:30:48

2	S 181.975 Axial†	756.6	738.4	4290.9	µg/L	4290.9 ppb	12:30:48
2	Sb 206.836†	1318.2	1303.7	1395.9	µg/L	1395.9 ppb	12:30:48
2	Se 196.026†	1643.8	1648.5	3024.0	µg/L	3024.0 ppb	12:30:48
2	SiO2†	396333.5	396756.0	82138	µg/L	82138 ppb	12:30:22
2	Si 251.611†	458956.0	461967.2	37954	µg/L	37954 ppb	12:30:22
2	Sn 189.927†	1846.1	1839.4	1143.4	µg/L	1143.4 ppb	12:30:48
2	Ti 334.940†	2569876.2	2587570.9	6325.1	µg/L	6325.1 ppb	12:30:22
2	Tl 190.801†	743.3	767.5	1393.6	µg/L	1393.6 ppb	12:30:48
2	U 409.014†	-842.9	-788.0	-108.31	µg/L	-108.31 ppb	12:30:27
2	V 292.402†	105698.6	106600.0	1336.6	µg/L	1336.6 ppb	12:30:27
2	Zn 213.857†	216534.8	217481.3	6287.7	µg/L	6287.7 ppb	12:30:27
3	Sc RADIAL	78541.2	78541.2	101	%		12:29:34
3	Al 396.153Radial†	149744.5	148020.6	96295	µg/L	96295 ppb	12:29:29
3	Ca 317.933Radial†	147051.3	145072.2	106870	µg/L	106870 ppb	12:29:29
3	Fe 238.204 Radial†	15999.3	15796.6	205530	µg/L	205530 ppb	12:29:34
3	K 766.490 Radial†	72015.3	70779.5	44106	µg/L	44106 ppb	12:29:29
3	Mg 279.077 IEC†	4329.8	4269.3	42617	µg/L	42617 ppb	12:29:34
3	Na 589.592 Radial†	40927.7	39855.4	10836	µg/L	10836 ppb	12:29:29
3	Sr 421.552†	415690.4	410340.8	2451.8	µg/L	2451.8 ppb	12:29:29
3	Sc 361.383	1879257.5	1879257.5	99.598	%		12:30:55
3	Y 371.029	1218357.9	1218357.9	101.20	%		12:30:55
3	Ag 328.068†	33750.6	33965.6	329.02	µg/L	329.02 ppb	12:31:01
3	As 188.979†	493.6	497.4	1143.4	µg/L	1143.4 ppb	12:31:22
3	B 249.677†	35813.0	35778.9	1711.4	µg/L	1711.4 ppb	12:31:01
3	Ba 233.527†	73246.8	73567.3	2137.1	µg/L	2137.1 ppb	12:31:01
3	Be 313.107†	1224224.6	1225521.5	846.02	µg/L	846.02 ppb	12:30:55
3	Cd 226.502†	22074.1	22281.1	641.98	µg/L	641.98 ppb	12:31:01
3	Co 228.616†	18172.2	18290.2	1001.7	µg/L	1001.7 ppb	12:31:01
3	Cr 267.716†	111493.9	112016.1	2605.5	µg/L	2605.5 ppb	12:31:01
3	Cu 324.752†	272925.1	269994.0	1997.2	µg/L	1997.2 ppb	12:31:01
3	Mn 257.610†	1566285.1	1572787.5	5796.0	µg/L	5796.0 ppb	12:30:55
3	Mo 202.031†	4239.2	4243.6	538.74	µg/L	538.74 ppb	12:31:22
3	Ni 231.604†	23552.4	23337.8	1477.1	µg/L	1477.1 ppb	12:31:01
3	P 214.914†	3859.1	3663.0	8470.1	µg/L	8470.1 ppb	12:31:22
3	Pb 220.353†	3156.9	3112.9	915.04	µg/L	915.04 ppb	12:31:22
3	S 181.975 Axial†	746.1	725.5	4215.9	µg/L	4215.9 ppb	12:31:22
3	Sb 206.836†	1314.5	1295.9	1387.2	µg/L	1387.2 ppb	12:31:22
3	Se 196.026†	1631.1	1630.5	2997.0	µg/L	2997.0 ppb	12:31:22
3	SiO2†	397039.2	396222.6	82028	µg/L	82028 ppb	12:30:55
3	Si 251.611†	459819.5	461396.1	37907	µg/L	37907 ppb	12:30:55
3	Sn 189.927†	1839.2	1826.7	1136.0	µg/L	1136.0 ppb	12:31:22
3	Ti 334.940†	2575668.3	2585333.3	6319.6	µg/L	6319.6 ppb	12:30:55
3	Tl 190.801†	732.9	754.8	1371.1	µg/L	1371.1 ppb	12:31:22
3	U 409.014†	-901.0	-843.8	-113.59	µg/L	-113.59 ppb	12:31:01
3	V 292.402†	106103.4	106675.3	1337.5	µg/L	1337.5 ppb	12:31:01
3	Zn 213.857†	217486.2	217758.0	6295.7	µg/L	6295.7 ppb	12:31:01

Mean Data: 1202011904|940177|1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1878799.2	99.574	%	0.2742				0.28%
Sc RADIAL	78720.5	101	%	0.2				0.20%
Y 371.029	1217731.2	101.15	%	0.252				0.25%
Ag 328.068†	33947.6	328.84	µg/L	0.206	328.84	ppb	0.206	0.06%
Al 396.153Radial†	147381.0	95879	µg/L	462.6	95879	ppb	462.6	0.48%
As 188.979†	502.3	1154.7	µg/L	12.32	1154.7	ppb	12.32	1.07%
B 249.677†	35743.1	1709.7	µg/L	1.48	1709.7	ppb	1.48	0.09%
Ba 233.527†	73537.4	2136.2	µg/L	2.92	2136.2	ppb	2.92	0.14%
Be 313.107†	1225840.2	846.24	µg/L	0.839	846.24	ppb	0.839	0.10%
Ca 317.933Radial†	144349.2	106330	µg/L	558.9	106330	ppb	558.9	0.53%
Cd 226.502†	22252.8	641.16	µg/L	1.646	641.16	ppb	1.646	0.26%
Co 228.616†	18287.6	1001.6	µg/L	0.42	1001.6	ppb	0.42	0.04%
Cr 267.716†	112011.4	2605.4	µg/L	1.22	2605.4	ppb	1.22	0.05%
Cu 324.752†	269829.2	1996.0	µg/L	1.53	1996.0	ppb	1.53	0.08%
Fe 238.204 Radial†	15781.4	205340	µg/L	205.4	205340	ppb	205.4	0.10%
K 766.490 Radial†	70493.1	43927	µg/L	195.2	43927	ppb	195.2	0.44%
Mg 279.077 IEC†	4266.4	42588	µg/L	60.7	42588	ppb	60.7	0.14%
Mn 257.610†	1572896.8	5796.4	µg/L	7.23	5796.4	ppb	7.23	0.12%
Mo 202.031†	4266.3	541.57	µg/L	2.882	541.57	ppb	2.882	0.53%
Na 589.592 Radial†	39636.7	10776	µg/L	61.4	10776	ppb	61.4	0.57%

Ni 231.604†	23321.8	1476.1	µg/L	3.37	1476.1	ppb	3.37	0.23%
P 214.914†	3675.0	8499.1	µg/L	50.90	8499.1	ppb	50.90	0.60%
Pb 220.353†	3121.8	917.67	µg/L	5.187	917.67	ppb	5.187	0.57%
S 181.975 Axial†	731.5	4251.0	µg/L	37.71	4251.0	ppb	37.71	0.89%
Sb 206.836†	1297.5	1389.1	µg/L	6.03	1389.1	ppb	6.03	0.43%
Se 196.026†	1640.1	3011.3	µg/L	13.57	3011.3	ppb	13.57	0.45%
SiO2†	396351.2	82054	µg/L	74.2	82054	ppb	74.2	0.09%
Si 251.611†	461457.7	37912	µg/L	39.6	37912	ppb	39.6	0.10%
Sn 189.927†	1832.9	1139.5	µg/L	3.73	1139.5	ppb	3.73	0.33%
Sr 421.552†	408444.7	2440.5	µg/L	12.67	2440.5	ppb	12.67	0.52%
Ti 334.940†	2584635.6	6317.9	µg/L	8.17	6317.9	ppb	8.17	0.13%
Tl 190.801†	759.0	1378.6	µg/L	12.96	1378.6	ppb	12.96	0.94%
U 409.014†	-803.2	-109.75	µg/L	3.362	-109.75	ppb	3.362	3.06%
V 292.402†	106624.0	1336.9	µg/L	0.54	1336.9	ppb	0.54	0.04%
Zn 213.857†	217620.1	6291.7	µg/L	3.99	6291.7	ppb	3.99	0.06%

Sequence No.: 3
Sample ID: 244137001|940177|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 303
Date Collected: 1/25/2010 12:31:30
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 244137001|940177|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	79356.1	79356.1	102	%			12:32:03
1	Al 396.153Radial†	156085.6	152703.6	99353	µg/L	99353	ppb	12:32:03
1	Ca 317.933Radial†	37614.4	36535.0	26913	µg/L	26913	ppb	12:32:23
1	Fe 238.204 Radial†	9990.9	9757.1	126940	µg/L	126940	ppb	12:32:23
1	K 766.490 Radial†	25506.1	24556.2	15302	µg/L	15302	ppb	12:32:03
1	Mg 279.077 IEC†	1861.4	1810.9	18030	µg/L	18030	ppb	12:32:23
1	Na 589.592 Radial†	4222.3	3537.0	961.60	µg/L	961.60	ppb	12:32:23
1	Sr 421.552†	53959.0	52297.6	312.48	µg/L	312.48	ppb	12:32:03
1	Sc 361.383	1892826.0	1892826.0	100.32	%			12:33:29
1	Y 371.029	1238363.8	1238363.8	102.86	%			12:33:29
1	Ag 328.068†	-1374.1	-1290.9	-1.9192	µg/L	-1.9192	ppb	12:33:34
1	As 188.979†	11.1	12.9	35.464	µg/L	35.464	ppb	12:33:55
1	B 249.677†	2196.9	2011.3	96.166	µg/L	96.166	ppb	12:33:34
1	Ba 233.527†	65704.7	65521.8	1901.7	µg/L	1901.7	ppb	12:33:34
1	Be 313.107†	21403.7	17690.4	10.110	µg/L	10.110	ppb	12:33:34
1	Cd 226.502†	447.7	564.2	2.5394	µg/L	2.5394	ppb	12:33:55
1	Co 228.616†	1206.4	1247.1	57.462	µg/L	57.462	ppb	12:33:55
1	Cr 267.716†	5142.1	5198.0	121.04	µg/L	121.04	ppb	12:33:34
1	Cu 324.752†	10831.9	6764.6	66.969	µg/L	66.969	ppb	12:33:34
1	Mn 257.610†	1287384.5	1283495.2	4725.2	µg/L	4725.2	ppb	12:33:29
1	Mo 202.031†	-5.6	-18.3	2.5400	µg/L	2.5400	ppb	12:33:55
1	Ni 231.604†	1537.3	1222.7	78.882	µg/L	78.882	ppb	12:33:55
1	P 214.914†	956.8	742.1	1702.3	µg/L	1702.3	ppb	12:33:55
1	Pb 220.353†	560.7	502.2	148.91	µg/L	148.91	ppb	12:33:55
1	S 181.975 Axial†	195.9	171.7	997.67	µg/L	997.67	ppb	12:33:55
1	Sb 206.836†	31.3	7.2	4.6908	µg/L	4.6908	ppb	12:33:55
1	Se 196.026†	-295.4	-301.6	-211.92	µg/L	-211.92	ppb	12:33:55
1	SiO2†	450324.8	446482.2	92433	µg/L	92433	ppb	12:33:29
1	Si 251.611†	520696.1	518770.8	42620	µg/L	42620	ppb	12:33:29
1	Sn 189.927†	-107.6	-127.2	-54.485	µg/L	-54.485	ppb	12:33:55
1	Ti 334.940†	2302261.8	2294252.9	5608.6	µg/L	5608.6	ppb	12:33:29
1	Tl 190.801†	-46.8	-27.7	10.361	µg/L	10.361	ppb	12:33:55
1	U 409.014†	-537.4	-474.9	-63.465	µg/L	-63.465	ppb	12:33:29
1	V 292.402†	21613.9	21689.1	274.64	µg/L	274.64	ppb	12:33:34
1	Zn 213.857†	10472.7	9833.4	277.80	µg/L	277.80	ppb	12:33:34
2	Sc RADIAL	79564.8	79564.8	103	%			12:32:29
2	Al 396.153Radial†	156419.6	152629.0	99304	µg/L	99304	ppb	12:32:29
2	Ca 317.933Radial†	37302.9	36134.6	26618	µg/L	26618	ppb	12:32:49
2	Fe 238.204 Radial†	9942.8	9684.5	126000	µg/L	126000	ppb	12:32:49
2	K 766.490 Radial†	25586.6	24569.2	15310	µg/L	15310	ppb	12:32:29
2	Mg 279.077 IEC†	1849.4	1794.4	17866	µg/L	17866	ppb	12:32:49
2	Na 589.592 Radial†	4221.9	3525.7	958.54	µg/L	958.54	ppb	12:32:49
2	Sr 421.552†	53971.5	52171.4	311.73	µg/L	311.73	ppb	12:32:29
2	Sc 361.383	1893939.7	1893939.7	100.38	%			12:34:03
2	Y 371.029	1239622.3	1239622.3	102.97	%			12:34:03
2	Ag 328.068†	-1356.5	-1272.7	-1.8259	µg/L	-1.8259	ppb	12:34:08
2	As 188.979†	10.1	11.9	33.048	µg/L	33.048	ppb	12:34:29
2	B 249.677†	2138.3	1951.6	93.319	µg/L	93.319	ppb	12:34:08
2	Ba 233.527†	65231.9	65012.2	1887.0	µg/L	1887.0	ppb	12:34:08
2	Be 313.107†	21289.5	17564.1	10.021	µg/L	10.021	ppb	12:34:08
2	Cd 226.502†	443.2	559.5	2.5035	µg/L	2.5035	ppb	12:34:29
2	Co 228.616†	1180.9	1221.1	56.012	µg/L	56.012	ppb	12:34:29
2	Cr 267.716†	5137.6	5190.4	120.86	µg/L	120.86	ppb	12:34:08
2	Cu 324.752†	10719.6	6646.5	65.976	µg/L	65.976	ppb	12:34:08
2	Mn 257.610†	1288576.2	1283927.8	4726.6	µg/L	4726.6	ppb	12:34:03
2	Mo 202.031†	6.0	-6.7	3.9472	µg/L	3.9472	ppb	12:34:29
2	Ni 231.604†	1505.2	1189.8	76.788	µg/L	76.788	ppb	12:34:29
2	P 214.914†	949.5	734.3	1684.3	µg/L	1684.3	ppb	12:34:29
2	Pb 220.353†	554.7	495.9	147.07	µg/L	147.07	ppb	12:34:29

2	S 181.975 Axial†	201.3	177.0	1028.4	µg/L	1028.4 ppb	12:34:29
2	Sb 206.836†	30.0	5.9	3.3378	µg/L	3.3378 ppb	12:34:29
2	Se 196.026†	-284.7	-290.8	-197.05	µg/L	-197.05 ppb	12:34:29
2	SiO2†	450972.8	446863.8	92512	µg/L	92512 ppb	12:34:03
2	Si 251.611†	521536.9	519303.3	42664	µg/L	42664 ppb	12:34:03
2	Sn 189.927†	-107.3	-126.8	-54.458	µg/L	-54.458 ppb	12:34:29
2	Ti 334.940†	2304821.5	2295453.5	5611.5	µg/L	5611.5 ppb	12:34:03
2	Tl 190.801†	-46.2	-27.1	11.543	µg/L	11.543 ppb	12:34:29
2	U 409.014†	-583.4	-520.3	-67.546	µg/L	-67.546 ppb	12:34:03
2	V 292.402†	21473.8	21536.8	272.72	µg/L	272.72 ppb	12:34:08
2	Zn 213.857†	10456.6	9811.2	277.23	µg/L	277.23 ppb	12:34:08
3	Sc RADIAL	79754.1	79754.1	103	%		12:32:55
3	Al 396.153Radial†	156699.1	152538.7	99245	µg/L	99245 ppb	12:32:55
3	Ca 317.933Radial†	37654.4	36390.3	26807	µg/L	26807 ppb	12:33:15
3	Fe 238.204 Radial†	10018.5	9735.1	126650	µg/L	126650 ppb	12:33:15
3	K 766.490 Radial†	25614.1	24536.7	15290	µg/L	15290 ppb	12:32:55
3	Mg 279.077 IEC†	1868.4	1808.7	18008	µg/L	18008 ppb	12:33:15
3	Na 589.592 Radial†	4234.4	3528.1	959.19	µg/L	959.19 ppb	12:33:15
3	Sr 421.552†	54044.3	52117.2	311.40	µg/L	311.40 ppb	12:32:55
3	Sc 361.383	1893336.4	1893336.4	100.34	%		12:34:37
3	Y 371.029	1238640.0	1238640.0	102.89	%		12:34:37
3	Ag 328.068†	-1329.3	-1246.0	-1.6403	µg/L	-1.6403 ppb	12:34:42
3	As 188.979†	7.6	9.4	27.407	µg/L	27.407 ppb	12:35:03
3	B 249.677†	2053.5	1867.8	89.307	µg/L	89.307 ppb	12:34:42
3	Ba 233.527†	62137.1	61948.8	1798.0	µg/L	1798.0 ppb	12:34:42
3	Be 313.107†	20389.7	16674.2	9.4779	µg/L	9.4779 ppb	12:34:42
3	Cd 226.502†	399.9	516.5	1.1441	µg/L	1.1441 ppb	12:35:03
3	Co 228.616†	1099.0	1139.8	51.901	µg/L	51.901 ppb	12:35:03
3	Cr 267.716†	4819.4	4875.0	113.52	µg/L	113.52 ppb	12:34:42
3	Cu 324.752†	10478.8	6409.9	64.342	µg/L	64.342 ppb	12:34:42
3	Mn 257.610†	1250617.9	1246508.8	4589.4	µg/L	4589.4 ppb	12:34:37
3	Mo 202.031†	6.5	-6.2	4.0382	µg/L	4.0382 ppb	12:35:03
3	Ni 231.604†	1440.6	1125.9	72.763	µg/L	72.763 ppb	12:35:03
3	P 214.914†	882.8	668.1	1525.1	µg/L	1525.1 ppb	12:35:03
3	Pb 220.353†	533.0	474.4	140.70	µg/L	140.70 ppb	12:35:03
3	S 181.975 Axial†	186.7	162.4	943.82	µg/L	943.82 ppb	12:35:03
3	Sb 206.836†	23.7	-0.3	-3.4443	µg/L	-3.4443 ppb	12:35:03
3	Se 196.026†	-262.5	-268.8	-161.26	µg/L	-161.26 ppb	12:35:03
3	SiO2†	440870.0	436938.9	90457	µg/L	90457 ppb	12:34:37
3	Si 251.611†	509758.2	507730.6	41713	µg/L	41713 ppb	12:34:37
3	Sn 189.927†	-90.9	-110.5	-44.647	µg/L	-44.647 ppb	12:35:03
3	Ti 334.940†	2225810.6	2217445.3	5420.8	µg/L	5420.8 ppb	12:34:37
3	Tl 190.801†	-39.4	-20.4	21.090	µg/L	21.090 ppb	12:35:03
3	U 409.014†	-504.4	-441.8	-60.340	µg/L	-60.340 ppb	12:34:37
3	V 292.402†	20263.5	20337.5	257.94	µg/L	257.94 ppb	12:34:42
3	Zn 213.857†	9928.8	9288.6	262.04	µg/L	262.04 ppb	12:34:42

Mean Data: 244137001|940177|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1893367.4	100.35	%	0.030				0.03%
Sc RADIAL	79558.3	102	%	0.3				0.25%
Y 371.029	1238875.4	102.91	%	0.055				0.05%
Ag 328.068†	-1269.9	-1.7951	µg/L	0.14199	-1.7951	ppb	0.14199	7.91%
Al 396.153Radial†	152623.8	99301	µg/L	53.7	99301	ppb	53.7	0.05%
As 188.979†	11.4	31.973	µg/L	4.1345	31.973	ppb	4.1345	12.93%
B 249.677†	1943.6	92.931	µg/L	3.4459	92.931	ppb	3.4459	3.71%
Ba 233.527†	64160.9	1862.2	µg/L	56.10	1862.2	ppb	56.10	3.01%
Be 313.107†	17309.6	9.8697	µg/L	0.34217	9.8697	ppb	0.34217	3.47%
Ca 317.933Radial†	36353.3	26779	µg/L	149.4	26779	ppb	149.4	0.56%
Cd 226.502†	546.7	2.0623	µg/L	0.79543	2.0623	ppb	0.79543	38.57%
Co 228.616†	1202.7	55.125	µg/L	2.8847	55.125	ppb	2.8847	5.23%
Cr 267.716†	5087.8	118.47	µg/L	4.292	118.47	ppb	4.292	3.62%
Cu 324.752†	6607.0	65.762	µg/L	1.3262	65.762	ppb	1.3262	2.02%
Fe 238.204 Radial†	9725.6	126530	µg/L	484.4	126530	ppb	484.4	0.38%
K 766.490 Radial†	24554.0	15301	µg/L	10.2	15301	ppb	10.2	0.07%
Mg 279.077 IEC†	1804.7	17968	µg/L	89.2	17968	ppb	89.2	0.50%
Mn 257.610†	1271310.6	4680.4	µg/L	78.79	4680.4	ppb	78.79	1.68%
Mo 202.031†	-10.4	3.5084	µg/L	0.83991	3.5084	ppb	0.83991	23.94%
Na 589.592 Radial†	3530.3	959.78	µg/L	1.610	959.78	ppb	1.610	0.17%

Ni 231.604†	1179.5	76.145	µg/L	3.1098	76.145	ppb	3.1098	4.08%
P 214.914†	714.8	1637.2	µg/L	97.49	1637.2	ppb	97.49	5.95%
Pb 220.353†	490.8	145.56	µg/L	4.308	145.56	ppb	4.308	2.96%
S 181.975 Axial†	170.3	989.95	µg/L	42.795	989.95	ppb	42.795	4.32%
Sb 206.836†	4.3	1.5281	µg/L	4.35899	1.5281	ppb	4.35899	285.26%
Se 196.026†	-287.0	-190.07	µg/L	26.040	-190.07	ppb	26.040	13.70%
SiO2†	443428.3	91801	µg/L	1164.2	91801	ppb	1164.2	1.27%
Si 251.611†	515268.2	42333	µg/L	536.7	42333	ppb	536.7	1.27%
Sn 189.927†	-121.5	-51.197	µg/L	5.6721	-51.197	ppb	5.6721	11.08%
Sr 421.552†	52195.4	311.87	µg/L	0.553	311.87	ppb	0.553	0.18%
Ti 334.940†	2269050.6	5546.9	µg/L	109.29	5546.9	ppb	109.29	1.97%
Tl 190.801†	-25.1	14.331	µg/L	5.8833	14.331	ppb	5.8833	41.05%
U 409.014†	-479.0	-63.784	µg/L	3.6135	-63.784	ppb	3.6135	5.67%
V 292.402†	21187.8	268.43	µg/L	9.137	268.43	ppb	9.137	3.40%
Zn 213.857†	9644.4	272.36	µg/L	8.937	272.36	ppb	8.937	3.28%

Sequence No.: 4
Sample ID: 1202011900|940177|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 304
Date Collected: 1/25/2010 12:35:13
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202011900|940177|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	79717.9	79717.9	103	%			12:35:45
1	Al 396.153Radial†	168985.7	164571.5	107070	µg/L	107070	ppb	12:35:45
1	Ca 317.933Radial†	52741.2	51097.0	37640	µg/L	37640	ppb	12:35:45
1	Fe 238.204 Radial†	10491.4	10200.1	132700	µg/L	132700	ppb	12:36:06
1	K 766.490 Radial†	27492.4	26377.0	16437	µg/L	16437	ppb	12:35:45
1	Mg 279.077 IEC†	1969.1	1907.6	18994	µg/L	18994	ppb	12:36:06
1	Na 589.592 Radial†	4249.8	3544.9	963.77	µg/L	963.77	ppb	12:36:06
1	Sr 421.552†	67785.6	65521.0	391.49	µg/L	391.49	ppb	12:35:45
1	Sc 361.383	1883988.8	1883988.8	99.849	%			12:37:11
1	Y 371.029	1235849.8	1235849.8	102.66	%			12:37:11
1	Ag 328.068†	-1377.8	-1301.1	-1.5744	µg/L	-1.5744	ppb	12:37:17
1	As 188.979†	9.9	11.7	32.479	µg/L	32.479	ppb	12:37:37
1	B 249.677†	2213.4	2038.2	97.453	µg/L	97.453	ppb	12:37:17
1	Ba 233.527†	71322.7	71455.6	2073.9	µg/L	2073.9	ppb	12:37:17
1	Be 313.107†	22198.4	18586.4	10.664	µg/L	10.664	ppb	12:37:17
1	Cd 226.502†	481.0	599.6	2.9496	µg/L	2.9496	ppb	12:37:37
1	Co 228.616†	1343.5	1390.1	65.030	µg/L	65.030	ppb	12:37:37
1	Cr 267.716†	5218.9	5298.8	123.39	µg/L	123.39	ppb	12:37:17
1	Cu 324.752†	11256.8	7240.9	71.243	µg/L	71.243	ppb	12:37:17
1	Mn 257.610†	1313168.1	1315337.5	4842.7	µg/L	4842.7	ppb	12:37:11
1	Mo 202.031†	2.2	-10.5	3.7289	µg/L	3.7289	ppb	12:37:37
1	Ni 231.604†	1613.5	1306.3	84.229	µg/L	84.229	ppb	12:37:37
1	P 214.914†	881.1	670.7	1527.7	µg/L	1527.7	ppb	12:37:37
1	Pb 220.353†	581.4	525.5	156.00	µg/L	156.00	ppb	12:37:37
1	S 181.975 Axial†	216.5	193.2	1123.0	µg/L	1123.0	ppb	12:37:37
1	Sb 206.836†	24.7	0.8	-3.0750	µg/L	-3.0750	ppb	12:37:37
1	Se 196.026†	-308.5	-316.1	-218.27	µg/L	-218.27	ppb	12:37:37
1	SiO2†	423239.0	421461.0	87253	µg/L	87253	ppb	12:37:11
1	Si 251.611†	489629.5	490091.9	40264	µg/L	40264	ppb	12:37:11
1	Sn 189.927†	-124.0	-144.1	-61.490	µg/L	-61.490	ppb	12:37:37
1	Ti 334.940†	2362085.2	2364932.1	5781.5	µg/L	5781.5	ppb	12:37:11
1	Tl 190.801†	-47.1	-28.3	9.3232	µg/L	9.3232	ppb	12:37:37
1	U 409.014†	-655.8	-595.9	-76.182	µg/L	-76.182	ppb	12:37:11
1	V 292.402†	22421.9	22599.4	286.18	µg/L	286.18	ppb	12:37:17
1	Zn 213.857†	10644.1	10054.1	283.85	µg/L	283.85	ppb	12:37:17
2	Sc RADIAL	80477.4	80477.4	104	%			12:36:11
2	Al 396.153Radial†	170548.1	164525.6	107040	µg/L	107040	ppb	12:36:11
2	Ca 317.933Radial†	53202.8	51057.5	37611	µg/L	37611	ppb	12:36:11
2	Fe 238.204 Radial†	10490.9	10103.2	131440	µg/L	131440	ppb	12:36:32
2	K 766.490 Radial†	27805.3	26426.1	16467	µg/L	16467	ppb	12:36:11
2	Mg 279.077 IEC†	1975.3	1895.5	18874	µg/L	18874	ppb	12:36:32
2	Na 589.592 Radial†	4273.5	3528.7	959.36	µg/L	959.36	ppb	12:36:32
2	Sr 421.552†	68472.1	65560.2	391.72	µg/L	391.72	ppb	12:36:11
2	Sc 361.383	1890072.6	1890072.6	100.17	%			12:37:45
2	Y 371.029	1239763.8	1239763.8	102.98	%			12:37:45
2	Ag 328.068†	-1412.5	-1331.3	-1.9160	µg/L	-1.9160	ppb	12:37:51
2	As 188.979†	12.3	14.0	37.787	µg/L	37.787	ppb	12:38:11
2	B 249.677†	2246.9	2064.4	98.706	µg/L	98.706	ppb	12:37:51
2	Ba 233.527†	71904.4	71806.3	2084.1	µg/L	2084.1	ppb	12:37:51
2	Be 313.107†	22344.9	18661.2	10.714	µg/L	10.714	ppb	12:37:51
2	Cd 226.502†	468.4	585.5	2.6695	µg/L	2.6695	ppb	12:38:11
2	Co 228.616†	1331.8	1374.1	64.134	µg/L	64.134	ppb	12:38:11
2	Cr 267.716†	5237.8	5301.0	123.44	µg/L	123.44	ppb	12:37:51
2	Cu 324.752†	11247.8	7195.6	70.737	µg/L	70.737	ppb	12:37:51
2	Mn 257.610†	1318434.9	1316362.1	4846.3	µg/L	4846.3	ppb	12:37:45
2	Mo 202.031†	-0.4	-13.2	3.3492	µg/L	3.3492	ppb	12:38:11
2	Ni 231.604†	1603.5	1291.0	83.248	µg/L	83.248	ppb	12:38:11
2	P 214.914†	872.8	659.6	1502.2	µg/L	1502.2	ppb	12:38:11
2	Pb 220.353†	596.4	538.7	159.92	µg/L	159.92	ppb	12:38:11

2	S 181.975 Axial†	217.7	193.7	1125.9 µg/L	1125.9 ppb	12:38:11
2	Sb 206.836†	30.5	6.5	3.2148 µg/L	3.2148 ppb	12:38:11
2	Se 196.026†	-325.1	-331.7	-245.05 µg/L	-245.05 ppb	12:38:11
2	SiO2†	424973.0	421827.6	87329 µg/L	87329 ppb	12:37:45
2	Si 251.611†	491191.4	490072.6	40263 µg/L	40263 ppb	12:37:45
2	Sn 189.927†	-121.1	-140.8	-59.688 µg/L	-59.688 ppb	12:38:11
2	Ti 334.940†	2371431.1	2366647.4	5785.7 µg/L	5785.7 ppb	12:37:45
2	Tl 190.801†	-37.6	-18.6	26.393 µg/L	26.393 ppb	12:38:11
2	U 409.014†	-459.0	-397.4	-57.535 µg/L	-57.535 ppb	12:37:45
2	V 292.402†	22625.8	22730.7	287.75 µg/L	287.75 ppb	12:37:51
2	Zn 213.857†	10688.6	10064.2	284.21 µg/L	284.21 ppb	12:37:51
3	Sc RADIAL	79737.1	79737.1	103 %		12:36:37
3	Al 396.153Radial†	169750.6	165276.4	107530 µg/L	107530 ppb	12:36:37
3	Ca 317.933Radial†	52731.6	51075.3	37624 µg/L	37624 ppb	12:36:37
3	Fe 238.204 Radial†	10490.4	10196.6	132660 µg/L	132660 ppb	12:36:57
3	K 766.490 Radial†	27627.6	26502.1	16515 µg/L	16515 ppb	12:36:37
3	Mg 279.077 IEC†	1971.8	1909.7	19015 µg/L	19015 ppb	12:36:57
3	Na 589.592 Radial†	4249.1	3543.3	963.32 µg/L	963.32 ppb	12:36:57
3	Sr 421.552†	68087.0	65798.5	393.15 µg/L	393.15 ppb	12:36:37
3	Sc 361.383	1895514.1	1895514.1	100.46 %		12:38:19
3	Y 371.029	1241847.4	1241847.4	103.15 %		12:38:19
3	Ag 328.068†	-1365.1	-1280.0	-1.4651 µg/L	-1.4651 ppb	12:38:25
3	As 188.979†	13.0	14.8	39.497 µg/L	39.497 ppb	12:38:45
3	B 249.677†	2152.5	1964.0	93.906 µg/L	93.906 ppb	12:38:25
3	Ba 233.527†	69285.4	68993.3	2002.5 µg/L	2002.5 ppb	12:38:25
3	Be 313.107†	21595.3	17850.9	10.224 µg/L	10.224 ppb	12:38:25
3	Cd 226.502†	424.2	540.1	1.1753 µg/L	1.1753 ppb	12:38:45
3	Co 228.616†	1222.9	1261.9	58.300 µg/L	58.300 ppb	12:38:45
3	Cr 267.716†	4987.1	5036.4	117.28 µg/L	117.28 ppb	12:38:25
3	Cu 324.752†	10973.6	6890.4	68.681 µg/L	68.681 ppb	12:38:25
3	Mn 257.610†	1285208.2	1279509.0	4711.3 µg/L	4711.3 ppb	12:38:19
3	Mo 202.031†	9.6	-3.1	4.6497 µg/L	4.6497 ppb	12:38:45
3	Ni 231.604†	1510.2	1193.5	77.108 µg/L	77.108 ppb	12:38:45
3	P 214.914†	832.3	616.8	1398.7 µg/L	1398.7 ppb	12:38:45
3	Pb 220.353†	544.5	485.3	144.13 µg/L	144.13 ppb	12:38:45
3	S 181.975 Axial†	213.1	188.5	1095.3 µg/L	1095.3 ppb	12:38:45
3	Sb 206.836†	25.0	0.9	-2.8188 µg/L	-2.8188 ppb	12:38:45
3	Se 196.026†	-279.1	-285.0	-169.79 µg/L	-169.79 ppb	12:38:45
3	SiO2†	417140.5	412813.1	85462 µg/L	85462 ppb	12:38:19
3	Si 251.611†	482409.8	479923.6	39429 µg/L	39429 ppb	12:38:19
3	Sn 189.927†	-113.9	-133.3	-55.071 µg/L	-55.071 ppb	12:38:45
3	Ti 334.940†	2302129.4	2290866.5	5600.4 µg/L	5600.4 ppb	12:38:19
3	Tl 190.801†	-43.8	-24.7	13.541 µg/L	13.541 ppb	12:38:45
3	U 409.014†	-411.6	-348.8	-53.186 µg/L	-53.186 ppb	12:38:19
3	V 292.402†	21587.9	21632.6	274.26 µg/L	274.26 ppb	12:38:25
3	Zn 213.857†	10365.2	9711.6	273.95 µg/L	273.95 ppb	12:38:25

Mean Data: 1202011900|940177|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1889858.5	100.16	%	0.306				0.31%
Sc RADIAL	79977.5	103	%	0.6				0.54%
Y 371.029	1239153.7	102.93	%	0.253				0.25%
Ag 328.068†	-1304.2	-1.6518	µg/L	0.23520	-1.6518	ppb	0.23520	14.24%
Al 396.153Radial†	164791.2	107220	µg/L	273.8	107220	ppb	273.8	0.26%
As 188.979†	13.5	36.588	µg/L	3.6593	36.588	ppb	3.6593	10.00%
B 249.677†	2022.2	96.688	µg/L	2.4897	96.688	ppb	2.4897	2.57%
Ba 233.527†	70751.7	2053.5	µg/L	44.49	2053.5	ppb	44.49	2.17%
Be 313.107†	18366.2	10.534	µg/L	0.2698	10.534	ppb	0.2698	2.56%
Ca 317.933Radial†	51076.6	37625	µg/L	14.5	37625	ppb	14.5	0.04%
Cd 226.502†	575.1	2.2648	µg/L	0.95383	2.2648	ppb	0.95383	42.12%
Co 228.616†	1342.0	62.488	µg/L	3.6547	62.488	ppb	3.6547	5.85%
Cr 267.716†	5212.1	121.37	µg/L	3.542	121.37	ppb	3.542	2.92%
Cu 324.752†	7109.0	70.220	µg/L	1.3569	70.220	ppb	1.3569	1.93%
Fe 238.204 Radial†	10166.6	132270	µg/L	714.9	132270	ppb	714.9	0.54%
K 766.490 Radial†	26435.1	16473	µg/L	39.3	16473	ppb	39.3	0.24%
Mg 279.077 IEC†	1904.3	18961	µg/L	76.2	18961	ppb	76.2	0.40%
Mn 257.610†	1303736.2	4800.1	µg/L	76.96	4800.1	ppb	76.96	1.60%
Mo 202.031†	-8.9	3.9093	µg/L	0.66878	3.9093	ppb	0.66878	17.11%
Na 589.592 Radial†	3539.0	962.15	µg/L	2.426	962.15	ppb	2.426	0.25%

Ni 231.604†	1263.6	81.528	µg/L	3.8596	81.528	ppb	3.8596	4.73%
P 214.914†	649.0	1476.2	µg/L	68.33	1476.2	ppb	68.33	4.63%
Pb 220.353†	516.5	153.35	µg/L	8.219	153.35	ppb	8.219	5.36%
S 181.975 Axial†	191.8	1114.7	µg/L	16.85	1114.7	ppb	16.85	1.51%
Sb 206.836†	2.7	-0.8930	µg/L	3.55975	-0.8930	ppb	3.55975	398.63%
Se 196.026†	-310.9	-211.04	µg/L	38.147	-211.04	ppb	38.147	18.08%
SiO2†	418700.5	86681	µg/L	1056.2	86681	ppb	1056.2	1.22%
Si 251.611†	486696.0	39985	µg/L	481.9	39985	ppb	481.9	1.21%
Sn 189.927†	-139.4	-58.750	µg/L	3.3109	-58.750	ppb	3.3109	5.64%
Sr 421.552†	65626.6	392.12	µg/L	0.897	392.12	ppb	0.897	0.23%
Ti 334.940†	2340815.3	5722.5	µg/L	105.79	5722.5	ppb	105.79	1.85%
Tl 190.801†	-23.9	16.419	µg/L	8.8914	16.419	ppb	8.8914	54.15%
U 409.014†	-447.4	-62.301	µg/L	12.2164	-62.301	ppb	12.2164	19.61%
V 292.402†	22320.9	282.73	µg/L	7.376	282.73	ppb	7.376	2.61%
Zn 213.857†	9943.3	280.67	µg/L	5.823	280.67	ppb	5.823	2.07%

Sequence No.: 5
Sample ID: 1202011902|940177|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 305
Date Collected: 1/25/2010 12:38:54
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202011902|940177|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	79590.0	79590.0	103	%			12:39:28
1	Al 396.153Radial†	302085.8	294644.1	191690	µg/L	191690	ppb	12:39:28
1	Ca 317.933Radial†	45765.0	44375.8	32689	µg/L	32689	ppb	12:39:28
1	Fe 238.204 Radial†	12169.0	11852.6	154210	µg/L	154210	ppb	12:39:48
1	K 766.490 Radial†	41906.0	40477.1	25223	µg/L	25223	ppb	12:39:28
1	Mg 279.077 IEC†	2871.9	2791.1	27841	µg/L	27841	ppb	12:39:48
1	Na 589.592 Radial†	23751.2	22570.6	6136.3	µg/L	6136.3	ppb	12:39:28
1	Sr 421.552†	146241.3	142142.4	849.31	µg/L	849.31	ppb	12:39:28
1	Sc 361.383	1885362.6	1885362.6	99.921	%			12:40:54
1	Y 371.029	1231587.5	1231587.5	102.30	%			12:40:54
1	Ag 328.068†	55922.3	56045.1	522.32	µg/L	522.32	ppb	12:41:00
1	As 188.979†	231.5	233.5	540.50	µg/L	540.50	ppb	12:41:20
1	B 249.677†	13038.4	12870.0	615.19	µg/L	615.19	ppb	12:41:00
1	Ba 233.527†	91315.0	91411.5	2654.0	µg/L	2654.0	ppb	12:41:00
1	Be 313.107†	779180.3	776147.1	534.55	µg/L	534.55	ppb	12:40:54
1	Cd 226.502†	17578.4	17710.2	510.74	µg/L	510.74	ppb	12:41:00
1	Co 228.616†	10240.5	10293.2	556.08	µg/L	556.08	ppb	12:41:20
1	Cr 267.716†	28608.3	28702.8	667.94	µg/L	667.94	ppb	12:41:00
1	Cu 324.752†	88788.2	84825.0	639.93	µg/L	639.93	ppb	12:41:00
1	Mn 257.610†	1461217.2	1462544.6	5385.3	µg/L	5385.3	ppb	12:40:54
1	Mo 202.031†	3734.2	3724.4	471.83	µg/L	471.83	ppb	12:41:20
1	Ni 231.604†	9793.1	9491.1	601.45	µg/L	601.45	ppb	12:41:20
1	P 214.914†	1180.3	969.5	2200.9	µg/L	2200.9	ppb	12:41:20
1	Pb 220.353†	2362.9	2308.0	686.12	µg/L	686.12	ppb	12:41:20
1	S 181.975 Axial†	1141.2	1118.5	6499.9	µg/L	6499.9	ppb	12:41:20
1	Sb 206.836†	340.2	316.5	343.52	µg/L	343.52	ppb	12:41:20
1	Se 196.026†	-12.8	-20.0	284.11	µg/L	284.11	ppb	12:41:20
1	SiO2†	406538.4	404438.4	83729	µg/L	83729	ppb	12:40:54
1	Si 251.611†	470464.2	470554.2	38659	µg/L	38659	ppb	12:40:54
1	Sn 189.927†	789.6	770.3	484.53	µg/L	484.53	ppb	12:41:20
1	Ti 334.940†	2985980.5	2987593.9	7303.1	µg/L	7303.1	ppb	12:40:54
1	Tl 190.801†	235.9	255.0	521.15	µg/L	521.15	ppb	12:41:20
1	U 409.014†	4569.8	4634.3	407.73	µg/L	407.73	ppb	12:41:00
1	V 292.402†	66229.8	66425.3	833.61	µg/L	833.61	ppb	12:41:00
1	Zn 213.857†	30197.0	29614.5	846.61	µg/L	846.61	ppb	12:41:00
2	Sc RADIAL	80411.5	80411.5	104	%			12:39:54
2	Al 396.153Radial†	303178.0	292688.5	190420	µg/L	190420	ppb	12:39:54
2	Ca 317.933Radial†	45885.9	44036.6	32439	µg/L	32439	ppb	12:39:54
2	Fe 238.204 Radial†	12243.4	11803.2	153570	µg/L	153570	ppb	12:40:14
2	K 766.490 Radial†	42032.4	40181.6	25039	µg/L	25039	ppb	12:39:54
2	Mg 279.077 IEC†	2874.7	2765.2	27582	µg/L	27582	ppb	12:40:14
2	Na 589.592 Radial†	23925.3	22502.1	6117.7	µg/L	6117.7	ppb	12:39:54
2	Sr 421.552†	146762.7	141188.6	843.61	µg/L	843.61	ppb	12:39:54
2	Sc 361.383	1888909.6	1888909.6	100.11	%			12:41:28
2	Y 371.029	1233963.9	1233963.9	102.50	%			12:41:28
2	Ag 328.068†	55617.1	55635.1	518.52	µg/L	518.52	ppb	12:41:34
2	As 188.979†	241.6	243.1	562.56	µg/L	562.56	ppb	12:41:54
2	B 249.677†	12921.7	12728.9	608.45	µg/L	608.45	ppb	12:41:34
2	Ba 233.527†	90664.5	90590.1	2630.1	µg/L	2630.1	ppb	12:41:34
2	Be 313.107†	781746.2	777245.9	535.30	µg/L	535.30	ppb	12:41:28
2	Cd 226.502†	17482.6	17581.4	506.97	µg/L	506.97	ppb	12:41:34
2	Co 228.616†	10202.2	10235.6	552.85	µg/L	552.85	ppb	12:41:54
2	Cr 267.716†	28339.7	28380.8	660.45	µg/L	660.45	ppb	12:41:34
2	Cu 324.752†	88256.4	84126.9	634.75	µg/L	634.75	ppb	12:41:34
2	Mn 257.610†	1467115.2	1465690.2	5396.8	µg/L	5396.8	ppb	12:41:28
2	Mo 202.031†	3708.6	3691.9	467.74	µg/L	467.74	ppb	12:41:54
2	Ni 231.604†	9749.5	9429.1	597.52	µg/L	597.52	ppb	12:41:54
2	P 214.914†	1175.6	962.7	2185.2	µg/L	2185.2	ppb	12:41:54
2	Pb 220.353†	2359.3	2300.0	683.68	µg/L	683.68	ppb	12:41:54

2	S 181.975 Axial†	1138.8	1114.0	6473.6 µg/L	6473.6 ppb	12:41:54
2	Sb 206.836†	335.4	311.0	337.57 µg/L	337.57 ppb	12:41:54
2	Se 196.026†	-24.2	-31.3	265.09 µg/L	265.09 ppb	12:41:54
2	SiO2†	407971.7	405106.1	83867 µg/L	83867 ppb	12:41:28
2	Si 251.611†	472126.7	471330.7	38723 µg/L	38723 ppb	12:41:28
2	Sn 189.927†	797.9	777.1	488.38 µg/L	488.38 ppb	12:41:54
2	Ti 334.940†	2997294.4	2993284.0	7317.1 µg/L	7317.1 ppb	12:41:28
2	Tl 190.801†	239.1	257.7	526.21 µg/L	526.21 ppb	12:41:54
2	U 409.014†	4565.8	4621.7	406.66 µg/L	406.66 ppb	12:41:34
2	V 292.402†	65697.9	65769.6	825.43 µg/L	825.43 ppb	12:41:34
2	Zn 213.857†	29978.8	29339.8	838.71 µg/L	838.71 ppb	12:41:34
3	Sc RADIAL	80141.0	80141.0	103 %		12:40:20
3	Al 396.153Radial†	301870.3	292409.8	190240 µg/L	190240 ppb	12:40:20
3	Ca 317.933Radial†	45627.6	43935.9	32365 µg/L	32365 ppb	12:40:20
3	Fe 238.204 Radial†	12161.0	11763.3	153050 µg/L	153050 ppb	12:40:40
3	K 766.490 Radial†	41997.4	40284.7	25103 µg/L	25103 ppb	12:40:20
3	Mg 279.077 IEC†	2862.1	2762.4	27554 µg/L	27554 ppb	12:40:40
3	Na 589.592 Radial†	23810.2	22468.6	6108.6 µg/L	6108.6 ppb	12:40:20
3	Sr 421.552†	145963.7	140893.0	841.84 µg/L	841.84 ppb	12:40:20
3	Sc 361.383	1893868.2	1893868.2	100.37 %		12:42:02
3	Y 371.029	1236206.3	1236206.3	102.68 %		12:42:02
3	Ag 328.068†	54445.4	54322.3	506.36 µg/L	506.36 ppb	12:42:07
3	As 188.979†	217.5	218.5	506.29 µg/L	506.29 ppb	12:42:28
3	B 249.677†	12596.2	12370.8	591.31 µg/L	591.31 ppb	12:42:07
3	Ba 233.527†	87112.8	86814.4	2520.5 µg/L	2520.5 ppb	12:42:07
3	Be 313.107†	764813.5	758331.4	522.28 µg/L	522.28 ppb	12:42:02
3	Cd 226.502†	16898.2	16953.4	488.28 µg/L	488.28 ppb	12:42:07
3	Co 228.616†	9465.5	9475.0	511.05 µg/L	511.05 ppb	12:42:28
3	Cr 267.716†	26941.1	26913.3	626.30 µg/L	626.30 ppb	12:42:07
3	Cu 324.752†	84638.9	80292.0	606.72 µg/L	606.72 ppb	12:42:07
3	Mn 257.610†	1436423.1	1431274.9	5270.5 µg/L	5270.5 ppb	12:42:02
3	Mo 202.031†	3452.2	3426.6	434.53 µg/L	434.53 ppb	12:42:28
3	Ni 231.604†	9067.6	8724.2	553.00 µg/L	553.00 ppb	12:42:28
3	P 214.914†	1106.7	890.9	2015.6 µg/L	2015.6 ppb	12:42:28
3	Pb 220.353†	2216.7	2151.7	639.90 µg/L	639.90 ppb	12:42:28
3	S 181.975 Axial†	1080.6	1053.0	6119.4 µg/L	6119.4 ppb	12:42:28
3	Sb 206.836†	318.4	293.2	317.95 µg/L	317.95 ppb	12:42:28
3	Se 196.026†	7.2	0.0	312.95 µg/L	312.95 ppb	12:42:28
3	SiO2†	400926.5	397020.1	82193 µg/L	82193 ppb	12:42:02
3	Si 251.611†	464295.1	462293.4	37980 µg/L	37980 ppb	12:42:02
3	Sn 189.927†	738.2	715.5	451.76 µg/L	451.76 ppb	12:42:28
3	Ti 334.940†	2923656.7	2912080.4	7118.5 µg/L	7118.5 ppb	12:42:02
3	Tl 190.801†	225.3	243.3	498.86 µg/L	498.86 ppb	12:42:28
3	U 409.014†	4338.1	4382.9	384.52 µg/L	384.52 ppb	12:42:07
3	V 292.402†	62861.3	62771.6	788.04 µg/L	788.04 ppb	12:42:07
3	Zn 213.857†	28928.3	28214.9	806.34 µg/L	806.34 ppb	12:42:07

Mean Data: 1202011902|940177|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1889380.2	100.13	%	0.226				0.23%
Sc RADIAL	80047.5	103	%	0.5				0.52%
Y 371.029	1233919.2	102.50	%	0.192				0.19%
Ag 328.068†	55334.2	515.73	µg/L	8.337	515.73	ppb	8.337	1.62%
Al 396.153Radial†	293247.5	190780	µg/L	791.8	190780	ppb	791.8	0.42%
As 188.979†	231.7	536.45	µg/L	28.350	536.45	ppb	28.350	5.28%
B 249.677†	12656.6	604.98	µg/L	12.314	604.98	ppb	12.314	2.04%
Ba 233.527†	89605.4	2601.5	µg/L	71.18	2601.5	ppb	71.18	2.74%
Be 313.107†	770574.8	530.71	µg/L	7.308	530.71	ppb	7.308	1.38%
Ca 317.933Radial†	44116.1	32498	µg/L	169.8	32498	ppb	169.8	0.52%
Cd 226.502†	17415.0	502.00	µg/L	12.028	502.00	ppb	12.028	2.40%
Co 228.616†	10001.3	540.00	µg/L	25.118	540.00	ppb	25.118	4.65%
Cr 267.716†	27999.0	651.56	µg/L	22.196	651.56	ppb	22.196	3.41%
Cu 324.752†	83081.3	627.14	µg/L	17.869	627.14	ppb	17.869	2.85%
Fe 238.204 Radial†	11806.3	153610	µg/L	582.3	153610	ppb	582.3	0.38%
K 766.490 Radial†	40314.5	25122	µg/L	93.5	25122	ppb	93.5	0.37%
Mg 279.077 IEC†	2772.9	27659	µg/L	158.4	27659	ppb	158.4	0.57%
Mn 257.610†	1453169.9	5350.9	µg/L	69.86	5350.9	ppb	69.86	1.31%
Mo 202.031†	3614.3	458.03	µg/L	20.454	458.03	ppb	20.454	4.47%
Na 589.592 Radial†	22513.8	6120.8	µg/L	14.14	6120.8	ppb	14.14	0.23%

Ni 231.604†	9214.8	583.99 µg/L	26.912	583.99 ppb	26.912	4.61%
P 214.914†	941.0	2133.9 µg/L	102.74	2133.9 ppb	102.74	4.81%
Pb 220.353†	2253.2	669.90 µg/L	26.009	669.90 ppb	26.009	3.88%
S 181.975 Axial†	1095.2	6364.3 µg/L	212.51	6364.3 ppb	212.51	3.34%
Sb 206.836†	306.9	333.01 µg/L	13.380	333.01 ppb	13.380	4.02%
Se 196.026†	-17.1	287.38 µg/L	24.095	287.38 ppb	24.095	8.38%
SiO2†	402188.2	83263 µg/L	929.2	83263 ppb	929.2	1.12%
Si 251.611†	468059.4	38454 µg/L	411.5	38454 ppb	411.5	1.07%
Sn 189.927†	754.3	474.89 µg/L	20.124	474.89 ppb	20.124	4.24%
Sr 421.552†	141408.0	844.92 µg/L	3.902	844.92 ppb	3.902	0.46%
Ti 334.940†	2964319.4	7246.2 µg/L	110.83	7246.2 ppb	110.83	1.53%
Tl 190.801†	252.0	515.41 µg/L	14.548	515.41 ppb	14.548	2.82%
U 409.014†	4546.3	399.63 µg/L	13.103	399.63 ppb	13.103	3.28%
V 292.402†	64988.8	815.69 µg/L	24.293	815.69 ppb	24.293	2.98%
Zn 213.857†	29056.4	830.55 µg/L	21.337	830.55 ppb	21.337	2.57%

Sequence No.: 6
Sample ID: 1202011903|940177|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 306
Date Collected: 1/25/2010 12:42:37
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202011903|940177|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	79945.9	79945.9	103	%			12:43:11
1	Al 396.153Radial†	304951.5	296115.1	192650	µg/L	192650	ppb	12:43:11
1	Ca 317.933Radial†	44887.1	43324.8	31915	µg/L	31915	ppb	12:43:11
1	Fe 238.204 Radial†	11866.0	11505.6	149700	µg/L	149700	ppb	12:43:31
1	K 766.490 Radial†	40979.7	39395.8	24549	µg/L	24549	ppb	12:43:11
1	Mg 279.077 IEC†	2810.6	2719.1	27124	µg/L	27124	ppb	12:43:31
1	Na 589.592 Radial†	24066.8	22774.0	6191.6	µg/L	6191.6	ppb	12:43:11
1	Sr 421.552†	144790.2	140098.6	837.09	µg/L	837.09	ppb	12:43:11
1	Sc 361.383	1858959.0	1858959.0	98.522	%			12:44:37
1	Y 371.029	1212047.7	1212047.7	100.68	%			12:44:37
1	Ag 328.068†	56117.2	57037.8	530.97	µg/L	530.97	ppb	12:44:43
1	As 188.979†	241.6	247.0	571.18	µg/L	571.18	ppb	12:45:03
1	B 249.677†	12904.8	12919.8	617.57	µg/L	617.57	ppb	12:44:43
1	Ba 233.527†	88826.4	90183.6	2618.3	µg/L	2618.3	ppb	12:44:43
1	Be 313.107†	782693.0	790788.2	544.66	µg/L	544.66	ppb	12:44:37
1	Cd 226.502†	17542.2	17923.3	517.61	µg/L	517.61	ppb	12:44:43
1	Co 228.616†	10247.4	10445.7	564.44	µg/L	564.44	ppb	12:45:03
1	Cr 267.716†	28210.4	28705.7	668.00	µg/L	668.00	ppb	12:44:43
1	Cu 324.752†	88631.3	85927.9	647.35	µg/L	647.35	ppb	12:44:43
1	Mn 257.610†	1372780.3	1393551.8	5131.6	µg/L	5131.6	ppb	12:44:37
1	Mo 202.031†	3738.5	3781.8	478.85	µg/L	478.85	ppb	12:45:03
1	Ni 231.604†	9801.9	9639.2	610.75	µg/L	610.75	ppb	12:45:03
1	P 214.914†	1151.1	956.6	2173.3	µg/L	2173.3	ppb	12:45:03
1	Pb 220.353†	2376.2	2355.1	700.25	µg/L	700.25	ppb	12:45:03
1	S 181.975 Axial†	1151.9	1145.6	6657.4	µg/L	6657.4	ppb	12:45:03
1	Sb 206.836†	329.9	310.9	337.56	µg/L	337.56	ppb	12:45:03
1	Se 196.026†	5.1	-2.0	303.08	µg/L	303.08	ppb	12:45:03
1	SiO2†	436911.5	441045.9	91307	µg/L	91307	ppb	12:44:37
1	Si 251.611†	505603.4	512908.0	42139	µg/L	42139	ppb	12:44:37
1	Sn 189.927†	804.9	797.1	499.72	µg/L	499.72	ppb	12:45:03
1	Ti 334.940†	2965286.9	3009034.5	7355.6	µg/L	7355.6	ppb	12:44:37
1	Tl 190.801†	248.6	271.3	549.40	µg/L	549.40	ppb	12:45:03
1	U 409.014†	4592.6	4722.3	416.59	µg/L	416.59	ppb	12:44:43
1	V 292.402†	64639.2	65752.3	825.12	µg/L	825.12	ppb	12:44:43
1	Zn 213.857†	29747.1	29587.1	846.02	µg/L	846.02	ppb	12:44:43
2	Sc RADIAL	79751.4	79751.4	103	%			12:43:37
2	Al 396.153Radial†	304910.2	296796.7	193090	µg/L	193090	ppb	12:43:37
2	Ca 317.933Radial†	44834.1	43379.5	31955	µg/L	31955	ppb	12:43:37
2	Fe 238.204 Radial†	11939.1	11604.8	150990	µg/L	150990	ppb	12:43:57
2	K 766.490 Radial†	41062.7	39573.6	24660	µg/L	24660	ppb	12:43:37
2	Mg 279.077 IEC†	2822.1	2737.0	27302	µg/L	27302	ppb	12:43:57
2	Na 589.592 Radial†	24143.4	22905.5	6227.4	µg/L	6227.4	ppb	12:43:37
2	Sr 421.552†	144601.5	140257.7	838.05	µg/L	838.05	ppb	12:43:37
2	Sc 361.383	1860900.1	1860900.1	98.625	%			12:45:11
2	Y 371.029	1213213.1	1213213.1	100.78	%			12:45:11
2	Ag 328.068†	56368.8	57233.5	532.84	µg/L	532.84	ppb	12:45:17
2	As 188.979†	241.7	246.9	571.04	µg/L	571.04	ppb	12:45:37
2	B 249.677†	12956.0	12958.0	619.40	µg/L	619.40	ppb	12:45:17
2	Ba 233.527†	89160.8	90428.6	2625.5	µg/L	2625.5	ppb	12:45:17
2	Be 313.107†	786568.8	793889.4	546.80	µg/L	546.80	ppb	12:45:11
2	Cd 226.502†	17607.9	17971.3	518.88	µg/L	518.88	ppb	12:45:17
2	Co 228.616†	10159.6	10345.8	558.84	µg/L	558.84	ppb	12:45:37
2	Cr 267.716†	28385.3	28853.1	671.43	µg/L	671.43	ppb	12:45:17
2	Cu 324.752†	89081.6	86290.5	650.17	µg/L	650.17	ppb	12:45:17
2	Mn 257.610†	1379694.1	1399108.6	5152.2	µg/L	5152.2	ppb	12:45:11
2	Mo 202.031†	3713.4	3752.4	475.22	µg/L	475.22	ppb	12:45:37
2	Ni 231.604†	9694.5	9519.9	603.23	µg/L	603.23	ppb	12:45:37
2	P 214.914†	1134.9	939.0	2129.7	µg/L	2129.7	ppb	12:45:37
2	Pb 220.353†	2369.8	2346.1	697.55	µg/L	697.55	ppb	12:45:37

2	S 181.975 Axial†	1148.6	1141.0	6630.9	µg/L	6630.9 ppb	12:45:37
2	Sb 206.836†	325.2	305.7	331.83	µg/L	331.83 ppb	12:45:37
2	Se 196.026†	8.7	1.7	311.40	µg/L	311.40 ppb	12:45:37
2	SiO2†	438932.0	442632.0	91636	µg/L	91636 ppb	12:45:11
2	Si 251.611†	507934.7	514736.4	42289	µg/L	42289 ppb	12:45:11
2	Sn 189.927†	802.0	793.3	497.61	µg/L	497.61 ppb	12:45:37
2	Ti 334.940†	2979022.8	3019822.3	7382.0	µg/L	7382.0 ppb	12:45:11
2	Tl 190.801†	240.2	262.5	534.27	µg/L	534.27 ppb	12:45:37
2	U 409.014†	4666.1	4792.0	422.89	µg/L	422.89 ppb	12:45:17
2	V 292.402†	64937.2	65986.0	828.06	µg/L	828.06 ppb	12:45:17
2	Zn 213.857†	29826.9	29636.6	847.41	µg/L	847.41 ppb	12:45:17
3	Sc RADIAL	80393.7	80393.7	104	%		12:44:03
3	Al 396.153Radial†	307530.7	296956.0	193200	µg/L	193200 ppb	12:44:03
3	Ca 317.933Radial†	45261.3	43443.4	32002	µg/L	32002 ppb	12:44:03
3	Fe 238.204 Radial†	11942.8	11515.6	149830	µg/L	149830 ppb	12:44:24
3	K 766.490 Radial†	41352.3	39533.9	24635	µg/L	24635 ppb	12:44:03
3	Mg 279.077 IEC†	2830.6	2723.2	27165	µg/L	27165 ppb	12:44:24
3	Na 589.592 Radial†	24364.0	22930.8	6234.2	µg/L	6234.2 ppb	12:44:03
3	Sr 421.552†	146191.5	140668.5	840.50	µg/L	840.50 ppb	12:44:03
3	Sc 361.383	1867336.9	1867336.9	98.966	%		12:45:45
3	Y 371.029	1215945.5	1215945.5	101.00	%		12:45:45
3	Ag 328.068†	55677.7	56338.1	524.45	µg/L	524.45 ppb	12:45:50
3	As 188.979†	223.1	227.2	526.12	µg/L	526.12 ppb	12:46:11
3	B 249.677†	12685.8	12639.7	604.16	µg/L	604.16 ppb	12:45:50
3	Ba 233.527†	86671.5	87601.6	2543.4	µg/L	2543.4 ppb	12:45:50
3	Be 313.107†	767050.5	771418.1	531.33	µg/L	531.33 ppb	12:45:45
3	Cd 226.502†	17295.1	17593.7	507.73	µg/L	507.73 ppb	12:45:50
3	Co 228.616†	9463.7	9607.1	518.31	µg/L	518.31 ppb	12:46:11
3	Cr 267.716†	27179.7	27535.8	640.78	µg/L	640.78 ppb	12:45:50
3	Cu 324.752†	86223.1	83090.8	626.68	µg/L	626.68 ppb	12:45:50
3	Mn 257.610†	1347077.2	1361328.8	5013.4	µg/L	5013.4 ppb	12:45:45
3	Mo 202.031†	3463.4	3486.9	441.95	µg/L	441.95 ppb	12:46:11
3	Ni 231.604†	9070.0	8855.0	561.22	µg/L	561.22 ppb	12:46:11
3	P 214.914†	1083.0	882.6	1997.2	µg/L	1997.2 ppb	12:46:11
3	Pb 220.353†	2244.8	2211.5	657.79	µg/L	657.79 ppb	12:46:11
3	S 181.975 Axial†	1092.6	1080.4	6278.3	µg/L	6278.3 ppb	12:46:11
3	Sb 206.836†	307.9	287.1	311.29	µg/L	311.29 ppb	12:46:11
3	Se 196.026†	14.8	7.8	318.64	µg/L	318.64 ppb	12:46:11
3	SiO2†	430116.0	432189.8	89474	µg/L	89474 ppb	12:45:45
3	Si 251.611†	498012.9	502935.7	41319	µg/L	41319 ppb	12:45:45
3	Sn 189.927†	750.3	738.3	464.80	µg/L	464.80 ppb	12:46:11
3	Ti 334.940†	2896562.0	2926088.2	7152.8	µg/L	7152.8 ppb	12:45:45
3	Tl 190.801†	231.9	253.2	515.67	µg/L	515.67 ppb	12:46:11
3	U 409.014†	4467.4	4574.9	402.85	µg/L	402.85 ppb	12:45:50
3	V 292.402†	62605.2	63402.7	795.77	µg/L	795.77 ppb	12:45:50
3	Zn 213.857†	29030.1	28727.2	821.31	µg/L	821.31 ppb	12:45:50

Mean Data: 1202011903|940177|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1862398.7	98.704	%	0.2324				0.24%
Sc RADIAL	80030.3	103	%	0.4				0.41%
Y 371.029	1213735.4	100.82	%	0.166				0.16%
Ag 328.068†	56869.8	529.42	µg/L	4.402	529.42	ppb	4.402	0.83%
Al 396.153Radial†	296622.6	192980	µg/L	290.9	192980	ppb	290.9	0.15%
As 188.979†	240.4	556.11	µg/L	25.973	556.11	ppb	25.973	4.67%
B 249.677†	12839.2	613.71	µg/L	8.320	613.71	ppb	8.320	1.36%
Ba 233.527†	89404.6	2595.7	µg/L	45.48	2595.7	ppb	45.48	1.75%
Be 313.107†	785365.2	540.93	µg/L	8.383	540.93	ppb	8.383	1.55%
Ca 317.933Radial†	43382.5	31957	µg/L	43.7	31957	ppb	43.7	0.14%
Cd 226.502†	17829.4	514.74	µg/L	6.107	514.74	ppb	6.107	1.19%
Co 228.616†	10132.9	547.20	µg/L	25.168	547.20	ppb	25.168	4.60%
Cr 267.716†	28364.9	660.07	µg/L	16.795	660.07	ppb	16.795	2.54%
Cu 324.752†	85103.1	641.40	µg/L	12.826	641.40	ppb	12.826	2.00%
Fe 238.204 Radial†	11542.0	150170	µg/L	711.2	150170	ppb	711.2	0.47%
K 766.490 Radial†	39501.1	24615	µg/L	58.1	24615	ppb	58.1	0.24%
Mg 279.077 IEC†	2726.4	27197	µg/L	93.4	27197	ppb	93.4	0.34%
Mn 257.610†	1384663.1	5099.1	µg/L	74.89	5099.1	ppb	74.89	1.47%
Mo 202.031†	3673.7	465.34	µg/L	20.334	465.34	ppb	20.334	4.37%
Na 589.592 Radial†	22870.1	6217.7	µg/L	22.89	6217.7	ppb	22.89	0.37%

Ni 231.604†	9338.1	591.73 µg/L	26.691	591.73 ppb	26.691	4.51%
P 214.914†	926.1	2100.1 µg/L	91.70	2100.1 ppb	91.70	4.37%
Pb 220.353†	2304.2	685.20 µg/L	23.773	685.20 ppb	23.773	3.47%
S 181.975 Axial†	1122.3	6522.2 µg/L	211.65	6522.2 ppb	211.65	3.25%
Sb 206.836†	301.2	326.89 µg/L	13.814	326.89 ppb	13.814	4.23%
Se 196.026†	2.5	311.04 µg/L	7.785	311.04 ppb	7.785	2.50%
SiO2†	438622.6	90806 µg/L	1165.0	90806 ppb	1165.0	1.28%
Si 251.611†	510193.4	41916 µg/L	521.8	41916 ppb	521.8	1.24%
Sn 189.927†	776.2	487.38 µg/L	19.584	487.38 ppb	19.584	4.02%
Sr 421.552†	140341.6	838.55 µg/L	1.757	838.55 ppb	1.757	0.21%
Ti 334.940†	2984981.7	7296.8 µg/L	125.40	7296.8 ppb	125.40	1.72%
Tl 190.801†	262.3	533.11 µg/L	16.893	533.11 ppb	16.893	3.17%
U 409.014†	4696.4	414.11 µg/L	10.247	414.11 ppb	10.247	2.47%
V 292.402†	65047.0	816.32 µg/L	17.857	816.32 ppb	17.857	2.19%
Zn 213.857†	29317.0	838.25 µg/L	14.681	838.25 ppb	14.681	1.75%

Sequence No.: 7
Sample ID: 1202011901|940177|5
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 307
Date Collected: 1/25/2010 12:46:20
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 1202011901|940177|5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	77132.7	77132.7	99.4	%			12:46:53
1	Al 396.153Radial†	31148.1	31375.1	20413	µg/L	20413	ppb	12:46:53
1	Ca 317.933Radial†	7720.5	7512.2	5533.8	µg/L	5533.8	ppb	12:46:53
1	Fe 238.204 Radial†	2023.9	2021.2	26297	µg/L	26297	ppb	12:47:13
1	K 766.490 Radial†	5364.6	5006.2	3119.5	µg/L	3119.5	ppb	12:46:53
1	Mg 279.077 IEC†	378.9	371.5	3698.6	µg/L	3698.6	ppb	12:47:13
1	Na 589.592 Radial†	1060.7	474.3	128.96	µg/L	128.96	ppb	12:46:53
1	Sr 421.552†	11115.0	10703.4	63.953	µg/L	63.953	ppb	12:46:53
1	Sc 361.383	1867686.2	1867686.2	98.985	%			12:48:16
1	Y 371.029	1194062.9	1194062.9	99.184	%			12:48:16
1	Ag 328.068†	-342.7	-267.4	-0.4112	µg/L	-0.4112	ppb	12:48:21
1	As 188.979†	-0.5	1.3	4.2244	µg/L	4.2244	ppb	12:48:42
1	B 249.677†	543.1	370.0	17.697	µg/L	17.697	ppb	12:48:21
1	Ba 233.527†	13125.8	13285.2	385.60	µg/L	385.60	ppb	12:48:21
1	Be 313.107†	7100.5	3527.7	2.0068	µg/L	2.0068	ppb	12:48:21
1	Cd 226.502†	0.8	118.7	0.5810	µg/L	0.5810	ppb	12:48:42
1	Co 228.616†	205.7	252.4	11.612	µg/L	11.612	ppb	12:48:42
1	Cr 267.716†	981.9	1064.1	24.777	µg/L	24.777	ppb	12:48:21
1	Cu 324.752†	5319.7	1341.3	13.435	µg/L	13.435	ppb	12:48:21
1	Mn 257.610†	260310.1	263159.3	968.85	µg/L	968.85	ppb	12:48:16
1	Mo 202.031†	7.8	-4.9	0.3892	µg/L	0.3892	ppb	12:48:42
1	Ni 231.604†	557.0	253.0	16.324	µg/L	16.324	ppb	12:48:42
1	P 214.914†	363.6	155.6	357.09	µg/L	357.09	ppb	12:48:42
1	Pb 220.353†	161.8	106.8	31.650	µg/L	31.650	ppb	12:48:42
1	S 181.975 Axial†	56.3	33.3	193.43	µg/L	193.43	ppb	12:48:42
1	Sb 206.836†	26.9	3.2	2.8189	µg/L	2.8189	ppb	12:48:42
1	Se 196.026†	-52.1	-59.8	-39.745	µg/L	-39.745	ppb	12:48:42
1	SiO2†	89793.0	88294.6	18279	µg/L	18279	ppb	12:48:21
1	Si 251.611†	102356.8	103126.9	8472.5	µg/L	8472.5	ppb	12:48:21
1	Sn 189.927†	-9.6	-29.6	-13.241	µg/L	-13.241	ppb	12:48:42
1	Ti 334.940†	463417.1	467437.3	1142.7	µg/L	1142.7	ppb	12:48:16
1	Tl 190.801†	-23.4	-4.8	3.6066	µg/L	3.6066	ppb	12:48:42
1	U 409.014†	-228.8	-170.3	-19.836	µg/L	-19.836	ppb	12:48:21
1	V 292.402†	4141.3	4327.3	54.839	µg/L	54.839	ppb	12:48:21
1	Zn 213.857†	2534.8	1954.6	55.159	µg/L	55.159	ppb	12:48:42
2	Sc RADIAL	76848.8	76848.8	99.0	%			12:47:18
2	Al 396.153Radial†	31104.7	31447.1	20460	µg/L	20460	ppb	12:47:18
2	Ca 317.933Radial†	7716.3	7536.6	5551.8	µg/L	5551.8	ppb	12:47:18
2	Fe 238.204 Radial†	2017.3	2022.2	26308	µg/L	26308	ppb	12:47:39
2	K 766.490 Radial†	5357.9	5019.3	3127.7	µg/L	3127.7	ppb	12:47:18
2	Mg 279.077 IEC†	376.2	370.2	3685.3	µg/L	3685.3	ppb	12:47:39
2	Na 589.592 Radial†	1087.4	505.3	137.37	µg/L	137.37	ppb	12:47:18
2	Sr 421.552†	11084.3	10713.8	64.015	µg/L	64.015	ppb	12:47:18
2	Sc 361.383	1867538.9	1867538.9	98.977	%			12:48:49
2	Y 371.029	1193991.8	1193991.8	99.178	%			12:48:49
2	Ag 328.068†	-365.4	-290.4	-0.6132	µg/L	-0.6132	ppb	12:48:54
2	As 188.979†	-0.5	1.3	4.1973	µg/L	4.1973	ppb	12:49:15
2	B 249.677†	535.1	362.0	17.312	µg/L	17.312	ppb	12:48:54
2	Ba 233.527†	13023.5	13182.9	382.63	µg/L	382.63	ppb	12:48:54
2	Be 313.107†	7075.5	3503.0	1.9900	µg/L	1.9900	ppb	12:48:54
2	Cd 226.502†	4.7	122.6	0.6956	µg/L	0.6956	ppb	12:49:15
2	Co 228.616†	199.1	245.8	11.246	µg/L	11.246	ppb	12:49:15
2	Cr 267.716†	961.2	1043.2	24.292	µg/L	24.292	ppb	12:48:54
2	Cu 324.752†	5288.0	1309.7	13.207	µg/L	13.207	ppb	12:48:54
2	Mn 257.610†	260100.6	262968.3	968.16	µg/L	968.16	ppb	12:48:49
2	Mo 202.031†	8.6	-4.0	0.4957	µg/L	0.4957	ppb	12:49:15
2	Ni 231.604†	554.5	250.5	16.163	µg/L	16.163	ppb	12:49:15
2	P 214.914†	355.0	147.0	336.54	µg/L	336.54	ppb	12:49:15
2	Pb 220.353†	165.0	110.0	32.600	µg/L	32.600	ppb	12:49:15

2	S 181.975 Axial†	58.7	35.7	207.42	µg/L	207.42 ppb	12:49:15
2	Sb 206.836†	23.2	-0.5	-1.2366	µg/L	-1.2366 ppb	12:49:15
2	Se 196.026†	-47.5	-55.1	-32.397	µg/L	-32.397 ppb	12:49:15
2	SiO2†	89260.1	87763.3	18169	µg/L	18169 ppb	12:48:54
2	Si 251.611†	101964.3	102738.5	8440.6	µg/L	8440.6 ppb	12:48:54
2	Sn 189.927†	-5.0	-25.0	-10.512	µg/L	-10.512 ppb	12:49:15
2	Ti 334.940†	463089.9	467143.6	1142.0	µg/L	1142.0 ppb	12:48:49
2	Tl 190.801†	-31.2	-12.7	-10.189	µg/L	-10.189 ppb	12:49:15
2	U 409.014†	-282.1	-224.1	-24.845	µg/L	-24.845 ppb	12:48:54
2	V 292.402†	4198.7	4385.5	55.553	µg/L	55.553 ppb	12:48:54
2	Zn 213.857†	2509.3	1929.0	54.419	µg/L	54.419 ppb	12:49:15
3	Sc RADIAL	76868.3	76868.3	99.0	%		12:47:44
3	Al 396.153Radial†	30989.2	31322.5	20379	µg/L	20379 ppb	12:47:44
3	Ca 317.933Radial†	7686.6	7504.7	5528.3	µg/L	5528.3 ppb	12:47:44
3	Fe 238.204 Radial†	2015.5	2019.8	26278	µg/L	26278 ppb	12:48:05
3	K 766.490 Radial†	5347.0	5007.0	3120.0	µg/L	3120.0 ppb	12:47:44
3	Mg 279.077 IEC†	380.5	374.5	3728.5	µg/L	3728.5 ppb	12:48:05
3	Na 589.592 Radial†	1027.9	444.9	120.95	µg/L	120.95 ppb	12:47:44
3	Sr 421.552†	11018.8	10644.7	63.603	µg/L	63.603 ppb	12:47:44
3	Sc 361.383	1871497.8	1871497.8	99.187	%		12:49:22
3	Y 371.029	1196565.3	1196565.3	99.392	%		12:49:22
3	Ag 328.068†	-336.5	-260.5	-0.3788	µg/L	-0.3788 ppb	12:49:27
3	As 188.979†	-2.0	-0.3	0.6619	µg/L	0.6619 ppb	12:49:48
3	B 249.677†	482.6	307.9	14.728	µg/L	14.728 ppb	12:49:27
3	Ba 233.527†	12334.6	12460.5	361.66	µg/L	361.66 ppb	12:49:27
3	Be 313.107†	6883.9	3294.8	1.8656	µg/L	1.8656 ppb	12:49:27
3	Cd 226.502†	-14.4	103.4	0.1255	µg/L	0.1255 ppb	12:49:48
3	Co 228.616†	173.1	219.1	9.8782	µg/L	9.8782 ppb	12:49:48
3	Cr 267.716†	881.5	960.8	22.371	µg/L	22.371 ppb	12:49:27
3	Cu 324.752†	5170.6	1180.0	12.257	µg/L	12.257 ppb	12:49:27
3	Mn 257.610†	250341.5	252573.3	930.01	µg/L	930.01 ppb	12:49:22
3	Mo 202.031†	10.5	-2.1	0.7390	µg/L	0.7390 ppb	12:49:48
3	Ni 231.604†	520.4	215.0	13.921	µg/L	13.921 ppb	12:49:48
3	P 214.914†	336.3	127.3	289.32	µg/L	289.32 ppb	12:49:48
3	Pb 220.353†	147.2	91.6	27.189	µg/L	27.189 ppb	12:49:48
3	S 181.975 Axial†	50.4	27.2	158.12	µg/L	158.12 ppb	12:49:48
3	Sb 206.836†	24.3	0.5	-0.0924	µg/L	-0.0924 ppb	12:49:48
3	Se 196.026†	-43.8	-51.2	-26.418	µg/L	-26.418 ppb	12:49:48
3	SiO2†	84874.3	83150.7	17214	µg/L	17214 ppb	12:49:27
3	Si 251.611†	96848.1	97362.5	7999.0	µg/L	7999.0 ppb	12:49:27
3	Sn 189.927†	-11.3	-31.3	-14.230	µg/L	-14.230 ppb	12:49:48
3	Ti 334.940†	442955.4	445854.3	1089.9	µg/L	1089.9 ppb	12:49:22
3	Tl 190.801†	-22.9	-4.2	4.0092	µg/L	4.0092 ppb	12:49:48
3	U 409.014†	-247.0	-188.1	-21.493	µg/L	-21.493 ppb	12:49:27
3	V 292.402†	3792.9	3967.4	50.392	µg/L	50.392 ppb	12:49:27
3	Zn 213.857†	2263.1	1675.5	47.073	µg/L	47.073 ppb	12:49:48

Mean Data: 1202011901|940177|5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1868907.6	99.049	%	0.1189				0.12%
Sc RADIAL	76949.9	99.1	%	0.20				0.21%
Y 371.029	1194873.4	99.252	%	0.1217				0.12%
Ag 328.068†	-272.8	-0.4677	µg/L	0.12700	-0.4677	ppb	0.12700	27.15%
Al 396.153Radial†	31381.6	20418	µg/L	40.7	20418	ppb	40.7	0.20%
As 188.979†	0.8	3.0279	µg/L	2.04906	3.0279	ppb	2.04906	67.67%
B 249.677†	346.6	16.579	µg/L	1.6146	16.579	ppb	1.6146	9.74%
Ba 233.527†	12976.2	376.63	µg/L	13.049	376.63	ppb	13.049	3.46%
Be 313.107†	3441.8	1.9541	µg/L	0.07711	1.9541	ppb	0.07711	3.95%
Ca 317.933Radial†	7517.8	5537.9	µg/L	12.28	5537.9	ppb	12.28	0.22%
Cd 226.502†	114.9	0.4674	µg/L	0.30157	0.4674	ppb	0.30157	64.52%
Co 228.616†	239.1	10.912	µg/L	0.9140	10.912	ppb	0.9140	8.38%
Cr 267.716†	1022.7	23.813	µg/L	1.2722	23.813	ppb	1.2722	5.34%
Cu 324.752†	1277.0	12.966	µg/L	0.6249	12.966	ppb	0.6249	4.82%
Fe 238.204 Radial†	2021.1	26294	µg/L	15.4	26294	ppb	15.4	0.06%
K 766.490 Radial†	5010.8	3122.4	µg/L	4.59	3122.4	ppb	4.59	0.15%
Mg 279.077 IEC†	372.1	3704.1	µg/L	22.14	3704.1	ppb	22.14	0.60%
Mn 257.610†	259567.0	955.67	µg/L	22.227	955.67	ppb	22.227	2.33%
Mo 202.031†	-3.7	0.5413	µg/L	0.17934	0.5413	ppb	0.17934	33.13%
Na 589.592 Radial†	474.8	129.09	µg/L	8.215	129.09	ppb	8.215	6.36%

Ni 231.604†	239.5	15.469	µg/L	1.3435	15.469	ppb	1.3435 8.68%
P 214.914†	143.3	327.65	µg/L	34.751	327.65	ppb	34.751 10.61%
Pb 220.353†	102.8	30.480	µg/L	2.8888	30.480	ppb	2.8888 9.48%
S 181.975 Axial†	32.1	186.32	µg/L	25.409	186.32	ppb	25.409 13.64%
Sb 206.836†	1.0	0.4966	µg/L	2.09095	0.4966	ppb	2.09095 421.01%
Se 196.026†	-55.4	-32.853	µg/L	6.6750	-32.853	ppb	6.6750 20.32%
SiO2†	86402.9	17888	µg/L	585.7	17888	ppb	585.7 3.27%
Si 251.611†	101076.0	8304.1	µg/L	264.69	8304.1	ppb	264.69 3.19%
Sn 189.927†	-28.6	-12.661	µg/L	1.9253	-12.661	ppb	1.9253 15.21%
Sr 421.552†	10687.3	63.857	µg/L	0.2224	63.857	ppb	0.2224 0.35%
Ti 334.940†	460145.1	1124.9	µg/L	30.26	1124.9	ppb	30.26 2.69%
Tl 190.801†	-7.2	-0.8578	µg/L	8.08362	-0.8578	ppb	8.08362 942.41%
U 409.014†	-194.2	-22.058	µg/L	2.5517	-22.058	ppb	2.5517 11.57%
V 292.402†	4226.7	53.594	µg/L	2.7965	53.594	ppb	2.7965 5.22%
Zn 213.857†	1853.0	52.217	µg/L	4.4699	52.217	ppb	4.4699 8.56%

Sequence No.: 8
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 1/25/2010 12:49:58
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	78493.7	78493.7	101	%			12:50:36
1	Al 396.153Radial†	8125.4	8064.8	5236.4	µg/L	5236.4	ppb	12:50:36
1	Ca 317.933Radial†	7421.7	7082.0	5216.9	µg/L	5216.9	ppb	12:50:36
1	Fe 238.204 Radial†	424.5	404.3	5271.8	µg/L	5271.8	ppb	12:50:56
1	K 766.490 Radial†	8744.0	8254.4	5143.6	µg/L	5143.6	ppb	12:50:36
1	Mg 279.077 IEC†	541.8	526.0	5279.7	µg/L	5279.7	ppb	12:50:56
1	Na 589.592 Radial†	38904.5	37879.1	10298	µg/L	10298	ppb	12:50:36
1	Sr 421.552†	87605.0	86149.6	514.75	µg/L	514.75	ppb	12:50:36
1	Sc 361.383	1874943.3	1874943.3	99.369	%			12:52:00
1	Y 371.029	1192559.8	1192559.8	99.060	%			12:52:00
1	Ag 328.068†	57273.6	57715.9	526.19	µg/L	526.19	ppb	12:52:06
1	As 188.979†	234.3	237.5	542.49	µg/L	542.49	ppb	12:52:26
1	B 249.677†	10974.3	10865.3	519.33	µg/L	519.33	ppb	12:52:06
1	Ba 233.527†	18188.2	18328.4	532.81	µg/L	532.81	ppb	12:52:06
1	Be 313.107†	762594.4	763789.4	528.57	µg/L	528.57	ppb	12:52:00
1	Cd 226.502†	17593.8	17823.3	530.88	µg/L	530.88	ppb	12:52:06
1	Co 228.616†	9496.7	9601.6	531.92	µg/L	531.92	ppb	12:52:06
1	Cr 267.716†	22952.0	23169.7	539.10	µg/L	539.10	ppb	12:52:06
1	Cu 324.752†	77117.8	73574.3	537.20	µg/L	537.20	ppb	12:52:06
1	Mn 257.610†	142671.2	143755.8	527.91	µg/L	527.91	ppb	12:52:06
1	Mo 202.031†	4166.9	4180.6	523.25	µg/L	523.25	ppb	12:52:26
1	Ni 231.604†	8713.7	8459.3	534.32	µg/L	534.32	ppb	12:52:06
1	P 214.914†	1341.1	1137.9	2682.6	µg/L	2682.6	ppb	12:52:26
1	Pb 220.353†	1870.2	1825.3	539.15	µg/L	539.15	ppb	12:52:26
1	S 181.975 Axial†	204.6	182.3	1059.4	µg/L	1059.4	ppb	12:52:26
1	Sb 206.836†	512.7	492.0	539.34	µg/L	539.34	ppb	12:52:26
1	Se 196.026†	349.0	344.1	550.49	µg/L	550.49	ppb	12:52:26
1	SiO2†	29953.1	27723.7	5739.5	µg/L	5739.5	ppb	12:52:06
1	Si 251.611†	32709.4	32637.2	2681.4	µg/L	2681.4	ppb	12:52:06
1	Sn 189.927†	920.5	906.4	541.29	µg/L	541.29	ppb	12:52:26
1	Ti 334.940†	213705.4	214328.4	523.71	µg/L	523.71	ppb	12:52:00
1	Tl 190.801†	279.5	300.2	530.41	µg/L	530.41	ppb	12:52:26
1	U 409.014†	5772.5	5870.0	545.07	µg/L	545.07	ppb	12:52:06
1	V 292.402†	43071.1	43488.0	542.87	µg/L	542.87	ppb	12:52:06
1	Zn 213.857†	18906.5	18420.3	530.63	µg/L	530.63	ppb	12:52:06
2	Sc RADIAL	78742.8	78742.8	101	%			12:51:02
2	Al 396.153Radial†	8155.2	8068.7	5238.9	µg/L	5238.9	ppb	12:51:02
2	Ca 317.933Radial†	7406.1	7043.4	5188.5	µg/L	5188.5	ppb	12:51:02
2	Fe 238.204 Radial†	423.9	402.4	5246.6	µg/L	5246.6	ppb	12:51:22
2	K 766.490 Radial†	8709.6	8193.1	5105.5	µg/L	5105.5	ppb	12:51:02
2	Mg 279.077 IEC†	543.2	525.7	5277.1	µg/L	5277.1	ppb	12:51:22
2	Na 589.592 Radial†	39004.5	37856.0	10292	µg/L	10292	ppb	12:51:02
2	Sr 421.552†	87913.1	86179.2	514.92	µg/L	514.92	ppb	12:51:02
2	Sc 361.383	1863844.6	1863844.6	98.781	%			12:52:33
2	Y 371.029	1185305.0	1185305.0	98.457	%			12:52:33
2	Ag 328.068†	56692.6	57471.0	523.96	µg/L	523.96	ppb	12:52:38
2	As 188.979†	233.5	238.2	543.98	µg/L	543.98	ppb	12:52:59
2	B 249.677†	10851.0	10806.3	516.51	µg/L	516.51	ppb	12:52:38
2	Ba 233.527†	17991.8	18238.6	530.20	µg/L	530.20	ppb	12:52:38
2	Be 313.107†	757693.1	763397.4	528.30	µg/L	528.30	ppb	12:52:33
2	Cd 226.502†	17420.0	17752.9	528.78	µg/L	528.78	ppb	12:52:38
2	Co 228.616†	9434.7	9595.7	531.60	µg/L	531.60	ppb	12:52:38
2	Cr 267.716†	22700.9	23053.1	536.39	µg/L	536.39	ppb	12:52:38
2	Cu 324.752†	76244.8	73152.7	534.12	µg/L	534.12	ppb	12:52:38
2	Mn 257.610†	141047.7	142967.2	525.02	µg/L	525.02	ppb	12:52:38
2	Mo 202.031†	4152.7	4191.2	524.58	µg/L	524.58	ppb	12:52:59
2	Ni 231.604†	8623.7	8420.4	531.86	µg/L	531.86	ppb	12:52:38
2	P 214.914†	1335.1	1139.9	2687.6	µg/L	2687.6	ppb	12:52:59
2	Pb 220.353†	1876.0	1842.4	544.22	µg/L	544.22	ppb	12:52:59

2	S 181.975 Axial†	206.6	185.6	1078.4 µg/L	1078.4 ppb	12:52:59
2	Sb 206.836†	508.6	490.9	538.22 µg/L	538.22 ppb	12:52:59
2	Se 196.026†	344.7	341.8	546.91 µg/L	546.91 ppb	12:52:59
2	SiO2†	29672.9	27619.5	5717.9 µg/L	5717.9 ppb	12:52:38
2	Si 251.611†	32358.8	32478.3	2668.3 µg/L	2668.3 ppb	12:52:38
2	Sn 189.927†	912.3	903.6	539.62 µg/L	539.62 ppb	12:52:59
2	Ti 334.940†	212546.0	214435.4	523.97 µg/L	523.97 ppb	12:52:33
2	Tl 190.801†	279.0	301.3	532.40 µg/L	532.40 ppb	12:52:59
2	U 409.014†	5608.9	5739.0	532.89 µg/L	532.89 ppb	12:52:38
2	V 292.402†	42599.2	43268.3	540.15 µg/L	540.15 ppb	12:52:38
2	Zn 213.857†	18741.0	18366.0	529.07 µg/L	529.07 ppb	12:52:38
3	Sc RADIAL	78679.6	78679.6	101 %		12:51:28
3	Al 396.153Radial†	8186.6	8106.1	5265.1 µg/L	5265.1 ppb	12:51:28
3	Ca 317.933Radial†	7385.0	7028.4	5177.4 µg/L	5177.4 ppb	12:51:28
3	Fe 238.204 Radial†	422.5	401.4	5232.2 µg/L	5232.2 ppb	12:51:49
3	K 766.490 Radial†	8801.2	8290.4	5166.1 µg/L	5166.1 ppb	12:51:28
3	Mg 279.077 IEC†	543.8	526.7	5285.3 µg/L	5285.3 ppb	12:51:49
3	Na 589.592 Radial†	38995.6	37878.1	10298 µg/L	10298 ppb	12:51:28
3	Sr 421.552†	87965.8	86300.9	515.65 µg/L	515.65 ppb	12:51:28
3	Sc 361.383	1871685.4	1871685.4	99.197 %		12:53:06
3	Y 371.029	1189753.8	1189753.8	98.826 %		12:53:06
3	Ag 328.068†	53828.9	54343.6	495.29 µg/L	495.29 ppb	12:53:11
3	As 188.979†	199.6	203.0	463.62 µg/L	463.62 ppb	12:53:32
3	B 249.677†	10254.2	10158.7	485.50 µg/L	485.50 ppb	12:53:11
3	Ba 233.527†	16503.3	16661.7	484.34 µg/L	484.34 ppb	12:53:11
3	Be 313.107†	711557.7	713675.1	493.89 µg/L	493.89 ppb	12:53:06
3	Cd 226.502†	15923.6	16170.5	481.58 µg/L	481.58 ppb	12:53:11
3	Co 228.616†	8502.0	8615.4	477.22 µg/L	477.22 ppb	12:53:11
3	Cr 267.716†	20018.4	20252.7	471.24 µg/L	471.24 ppb	12:53:11
3	Cu 324.752†	69857.4	66390.2	484.81 µg/L	484.81 ppb	12:53:11
3	Mn 257.610†	127603.8	128816.3	473.10 µg/L	473.10 ppb	12:53:11
3	Mo 202.031†	3463.9	3479.3	435.50 µg/L	435.50 ppb	12:53:32
3	Ni 231.604†	7788.4	7541.7	476.36 µg/L	476.36 ppb	12:53:11
3	P 214.914†	1164.2	962.0	2264.1 µg/L	2264.1 ppb	12:53:32
3	Pb 220.353†	1625.0	1581.4	467.04 µg/L	467.04 ppb	12:53:32
3	S 181.975 Axial†	183.6	161.5	938.49 µg/L	938.49 ppb	12:53:32
3	Sb 206.836†	438.0	417.6	457.41 µg/L	457.41 ppb	12:53:32
3	Se 196.026†	309.0	304.4	488.44 µg/L	488.44 ppb	12:53:32
3	SiO2†	27734.4	25539.5	5287.3 µg/L	5287.3 ppb	12:53:11
3	Si 251.611†	30092.4	30056.3	2469.3 µg/L	2469.3 ppb	12:53:11
3	Sn 189.927†	759.9	746.2	446.05 µg/L	446.05 ppb	12:53:32
3	Ti 334.940†	198368.5	199241.7	486.82 µg/L	486.82 ppb	12:53:06
3	Tl 190.801†	256.1	277.1	489.49 µg/L	489.49 ppb	12:53:32
3	U 409.014†	5024.7	5126.3	475.88 µg/L	475.88 ppb	12:53:11
3	V 292.402†	38404.8	38859.3	484.83 µg/L	484.83 ppb	12:53:11
3	Zn 213.857†	17073.5	16605.5	478.32 µg/L	478.32 ppb	12:53:11

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1870157.8	99.116	%	0.3023				0.31%
Sc RADIAL	78638.7	101	%	0.2				0.16%
Y 371.029	1189206.2	98.781	%	0.3039				0.31%
Ag 328.068†	56510.2	515.15	µg/L	17.230	515.15	ppb	17.230	3.34%
QC value within limits for Ag 328.068 Recovery = 103.03%								
Al 396.153Radial†	8079.9	5246.8	µg/L	15.90	5246.8	ppb	15.90	0.30%
QC value within limits for Al 396.153Radial Recovery = 104.94%								
As 188.979†	226.2	516.70	µg/L	45.972	516.70	ppb	45.972	8.90%
QC value within limits for As 188.979 Recovery = 103.34%								
B 249.677†	10610.1	507.11	µg/L	18.769	507.11	ppb	18.769	3.70%
QC value within limits for B 249.677 Recovery = 101.42%								
Ba 233.527†	17742.9	515.78	µg/L	27.260	515.78	ppb	27.260	5.29%
QC value within limits for Ba 233.527 Recovery = 103.16%								
Be 313.107†	746954.0	516.92	µg/L	19.945	516.92	ppb	19.945	3.86%
QC value within limits for Be 313.107 Recovery = 103.38%								
Ca 317.933Radial†	7051.3	5194.3	µg/L	20.36	5194.3	ppb	20.36	0.39%
QC value within limits for Ca 317.933Radial Recovery = 103.89%								
Cd 226.502†	17248.9	513.75	µg/L	27.872	513.75	ppb	27.872	5.43%
QC value within limits for Cd 226.502 Recovery = 102.75%								
Co 228.616†	9270.9	513.58	µg/L	31.487	513.58	ppb	31.487	6.13%

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   QC value within limits for Co 228.616  Recovery = 102.72%
Cr 267.716†            22158.5      515.58 µg/L        38.423      515.58 ppb        38.423   7.45%
   QC value within limits for Cr 267.716  Recovery = 103.12%
Cu 324.752†            71039.1      518.71 µg/L        29.398      518.71 ppb        29.398   5.67%
   QC value within limits for Cu 324.752  Recovery = 103.74%
Fe 238.204 Radial†       402.7      5250.2 µg/L         20.05      5250.2 ppb         20.05   0.38%
   QC value within limits for Fe 238.204 Radial  Recovery = 105.00%
K 766.490 Radial†       8246.0      5138.4 µg/L         30.65      5138.4 ppb         30.65   0.60%
   QC value within limits for K 766.490 Radial  Recovery = 102.77%
Mg 279.077 IEC†          526.1      5280.7 µg/L          4.20      5280.7 ppb          4.20   0.08%
   QC value within limits for Mg 279.077 IEC  Recovery = 105.61%
Mn 257.610†           138513.1      508.68 µg/L        30.847      508.68 ppb        30.847   6.06%
   QC value within limits for Mn 257.610  Recovery = 101.74%
Mo 202.031†             3950.4      494.44 µg/L        51.048      494.44 ppb        51.048  10.32%
   QC value within limits for Mo 202.031  Recovery = 98.89%
Na 589.592 Radial†     37871.1       10296 µg/L           3.6       10296 ppb           3.6   0.03%
   QC value within limits for Na 589.592 Radial  Recovery = 102.96%
Ni 231.604†             8140.5      514.18 µg/L        32.773      514.18 ppb        32.773   6.37%
   QC value within limits for Ni 231.604  Recovery = 102.84%
P 214.914†              1079.9      2544.8 µg/L       243.09      2544.8 ppb       243.09   9.55%
   QC value within limits for P 214.914  Recovery = 101.79%
Pb 220.353†             1749.7      516.80 µg/L        43.170      516.80 ppb        43.170   8.35%
   QC value within limits for Pb 220.353  Recovery = 103.36%
S 181.975 Axial†         176.5      1025.4 µg/L         75.87      1025.4 ppb         75.87   7.40%
   QC value within limits for S 181.975 Axial  Recovery = 102.54%
Sb 206.836†              466.8      511.66 µg/L        46.983      511.66 ppb        46.983   9.18%
   QC value within limits for Sb 206.836  Recovery = 102.33%
Se 196.026†              330.1      528.61 µg/L        34.835      528.61 ppb        34.835   6.59%
   QC value within limits for Se 196.026  Recovery = 105.72%
SiO2†                   26960.9      5581.6 µg/L       255.07      5581.6 ppb       255.07   4.57%
   QC value within limits for SiO2  Recovery = 104.38%
Si 251.611†             31724.0      2606.3 µg/L       118.83      2606.3 ppb       118.83   4.56%
   QC value within limits for Si 251.611  Recovery = 104.25%
Sn 189.927†              852.1      508.98 µg/L        54.509      508.98 ppb        54.509  10.71%
   QC value within limits for Sn 189.927  Recovery = 101.80%
Sr 421.552†             86209.9      515.11 µg/L         0.479      515.11 ppb         0.479   0.09%
   QC value within limits for Sr 421.552  Recovery = 103.02%
Ti 334.940†            209335.2      511.50 µg/L        21.374      511.50 ppb        21.374   4.18%
   QC value within limits for Ti 334.940  Recovery = 102.30%
Tl 190.801†              292.9      517.43 µg/L        24.218      517.43 ppb        24.218   4.68%
   QC value within limits for Tl 190.801  Recovery = 103.49%
U 409.014†              5578.4      517.95 µg/L        36.934      517.95 ppb        36.934   7.13%
   QC value within limits for U 409.014  Recovery = 103.59%
V 292.402†              41871.9      522.62 µg/L        32.750      522.62 ppb        32.750   6.27%
   QC value within limits for V 292.402  Recovery = 104.52%
Zn 213.857†             17797.3      512.67 µg/L        29.760      512.67 ppb        29.760   5.80%
   QC value within limits for Zn 213.857  Recovery = 102.53%
All analyte(s) passed QC.
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Sequence No.: 9
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 1/25/2010 12:53:41
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	77269.4	77269.4	99.5	%			12:54:14
1	Al 396.153Radial†	-54.1	-24.7	-16.109	µg/L	-16.109	ppb	12:54:14
1	Ca 317.933Radial†	258.6	2.6	1.8795	µg/L	1.8795	ppb	12:54:34
1	Fe 238.204 Radial†	18.1	2.7	35.433	µg/L	35.433	ppb	12:54:34
1	K 766.490 Radial†	351.3	-39.6	-24.662	µg/L	-24.662	ppb	12:54:14
1	Mg 279.077 IEC†	13.2	3.5	35.201	µg/L	35.201	ppb	12:54:34
1	Na 589.592 Radial†	222.9	-369.2	-100.37	µg/L	-100.37	ppb	12:54:14
1	Sr 421.552†	498.3	18.6	0.1111	µg/L	0.1111	ppb	12:54:14
1	Sc 361.383	1857621.9	1857621.9	98.451	%			12:55:36
1	Y 371.029	1185305.2	1185305.2	98.457	%			12:55:36
1	Ag 328.068†	-112.9	-35.9	-0.3222	µg/L	-0.3222	ppb	12:55:42
1	As 188.979†	-2.9	-1.2	-2.6542	µg/L	-2.6542	ppb	12:56:02
1	B 249.677†	131.9	-44.7	-2.1323	µg/L	-2.1323	ppb	12:56:02
1	Ba 233.527†	-24.4	-0.0	0.0000	µg/L	0.0000	ppb	12:56:02
1	Be 313.107†	3642.5	54.2	0.0374	µg/L	0.0374	ppb	12:55:42
1	Cd 226.502†	-121.2	-5.2	-0.1583	µg/L	-0.1583	ppb	12:56:02
1	Co 228.616†	-53.4	-9.7	-0.5385	µg/L	-0.5385	ppb	12:56:02
1	Cr 267.716†	-55.5	15.7	0.3662	µg/L	0.3662	ppb	12:56:02
1	Cu 324.752†	4008.0	38.0	0.2823	µg/L	0.2823	ppb	12:55:42
1	Mn 257.610†	-109.5	67.8	0.2519	µg/L	0.2519	ppb	12:56:02
1	Mo 202.031†	17.5	5.0	0.6300	µg/L	0.6300	ppb	12:56:02
1	Ni 231.604†	314.9	10.1	0.6386	µg/L	0.6386	ppb	12:56:02
1	P 214.914†	208.4	-0.0	-0.0315	µg/L	-0.0315	ppb	12:56:02
1	Pb 220.353†	54.7	-1.1	-0.3321	µg/L	-0.3321	ppb	12:56:02
1	S 181.975 Axial†	22.1	-1.1	-6.4777	µg/L	-6.4777	ppb	12:56:02
1	Sb 206.836†	22.6	-1.1	-1.1610	µg/L	-1.1610	ppb	12:56:02
1	Se 196.026†	5.8	-1.2	-1.7880	µg/L	-1.7880	ppb	12:56:02
1	SiO2†	2411.8	30.2	6.2536	µg/L	6.2536	ppb	12:55:42
1	Si 251.611†	339.2	64.8	5.3213	µg/L	5.3213	ppb	12:56:02
1	Sn 189.927†	24.7	5.1	3.0618	µg/L	3.0618	ppb	12:56:02
1	Ti 334.940†	834.1	113.8	0.2755	µg/L	0.2755	ppb	12:55:42
1	Tl 190.801†	-23.0	-4.4	-7.7964	µg/L	-7.7964	ppb	12:56:02
1	U 409.014†	-114.0	-54.9	-5.1147	µg/L	-5.1147	ppb	12:55:42
1	V 292.402†	-133.4	8.0	0.1006	µg/L	0.1006	ppb	12:55:42
1	Zn 213.857†	604.9	8.2	0.2312	µg/L	0.2312	ppb	12:56:02
2	Sc RADIAL	76616.0	76616.0	98.7	%			12:54:40
2	Al 396.153Radial†	-25.8	3.5	2.2735	µg/L	2.2735	ppb	12:54:40
2	Ca 317.933Radial†	246.3	-7.7	-5.6670	µg/L	-5.6670	ppb	12:55:00
2	Fe 238.204 Radial†	18.7	3.5	45.075	µg/L	45.075	ppb	12:55:00
2	K 766.490 Radial†	352.2	-35.6	-22.179	µg/L	-22.179	ppb	12:54:40
2	Mg 279.077 IEC†	8.6	-1.0	-10.502	µg/L	-10.502	ppb	12:55:00
2	Na 589.592 Radial†	289.7	-299.6	-81.445	µg/L	-81.445	ppb	12:54:40
2	Sr 421.552†	549.2	74.4	0.4443	µg/L	0.4443	ppb	12:54:40
2	Sc 361.383	1870664.4	1870664.4	99.142	%			12:56:08
2	Y 371.029	1194298.7	1194298.7	99.204	%			12:56:08
2	Ag 328.068†	-93.5	-15.5	-0.1378	µg/L	-0.1378	ppb	12:56:14
2	As 188.979†	-1.7	0.0	0.0821	µg/L	0.0821	ppb	12:56:34
2	B 249.677†	124.3	-53.3	-2.5412	µg/L	-2.5412	ppb	12:56:34
2	Ba 233.527†	-22.9	1.6	0.0465	µg/L	0.0465	ppb	12:56:34
2	Be 313.107†	3631.6	17.4	0.0120	µg/L	0.0120	ppb	12:56:14
2	Cd 226.502†	-124.0	-7.2	-0.2185	µg/L	-0.2185	ppb	12:56:34
2	Co 228.616†	-46.3	-2.1	-0.1187	µg/L	-0.1187	ppb	12:56:34
2	Cr 267.716†	-71.9	-0.4	-0.0098	µg/L	-0.0098	ppb	12:56:34
2	Cu 324.752†	4041.6	43.6	0.3241	µg/L	0.3241	ppb	12:56:14
2	Mn 257.610†	-128.1	49.8	0.1892	µg/L	0.1892	ppb	12:56:34
2	Mo 202.031†	11.8	-0.8	-0.0939	µg/L	-0.0939	ppb	12:56:34
2	Ni 231.604†	304.8	-2.3	-0.1452	µg/L	-0.1452	ppb	12:56:34
2	P 214.914†	215.9	6.1	14.653	µg/L	14.653	ppb	12:56:34
2	Pb 220.353†	57.7	1.5	0.4355	µg/L	0.4355	ppb	12:56:34

2	S 181.975 Axial†	18.5	-4.9	-28.717 µg/L	-28.717 ppb	12:56:34
2	Sb 206.836†	27.9	4.2	4.5917 µg/L	4.5917 ppb	12:56:34
2	Se 196.026†	10.1	3.0	4.8395 µg/L	4.8395 ppb	12:56:34
2	SiO2†	2416.7	18.1	3.7488 µg/L	3.7488 ppb	12:56:14
2	Si 251.611†	339.3	62.4	5.1294 µg/L	5.1294 ppb	12:56:34
2	Sn 189.927†	21.9	2.2	1.2987 µg/L	1.2987 ppb	12:56:34
2	Ti 334.940†	838.7	112.5	0.2758 µg/L	0.2758 ppb	12:56:14
2	Tl 190.801†	-18.2	0.6	1.0000 µg/L	1.0000 ppb	12:56:34
2	U 409.014†	-68.6	-8.3	-0.7793 µg/L	-0.7793 ppb	12:56:14
2	V 292.402†	-144.0	-1.8	-0.0215 µg/L	-0.0215 ppb	12:56:14
2	Zn 213.857†	607.5	6.5	0.1880 µg/L	0.1880 ppb	12:56:34
3	Sc RADIAL	76861.6	76861.6	99.0 %		12:55:06
3	Al 396.153Radial†	-37.5	-8.3	-5.3833 µg/L	-5.3833 ppb	12:55:06
3	Ca 317.933Radial†	246.2	-8.7	-6.3782 µg/L	-6.3782 ppb	12:55:26
3	Fe 238.204 Radial†	18.5	3.2	42.022 µg/L	42.022 ppb	12:55:26
3	K 766.490 Radial†	354.7	-34.3	-21.346 µg/L	-21.346 ppb	12:55:06
3	Mg 279.077 IEC†	6.7	-2.9	-29.565 µg/L	-29.565 ppb	12:55:26
3	Na 589.592 Radial†	273.0	-317.4	-86.292 µg/L	-86.292 ppb	12:55:06
3	Sr 421.552†	523.3	46.5	0.2778 µg/L	0.2778 ppb	12:55:06
3	Sc 361.383	1867926.6	1867926.6	98.997 %		12:56:40
3	Y 371.029	1191879.1	1191879.1	99.003 %		12:56:40
3	Ag 328.068†	-75.8	2.3	0.0250 µg/L	0.0250 ppb	12:56:46
3	As 188.979†	-4.5	-2.8	-6.4139 µg/L	-6.4139 ppb	12:57:07
3	B 249.677†	129.3	-48.0	-2.2895 µg/L	-2.2895 ppb	12:57:07
3	Ba 233.527†	-19.6	5.0	0.1447 µg/L	0.1447 ppb	12:57:07
3	Be 313.107†	3692.0	83.8	0.0580 µg/L	0.0580 ppb	12:56:46
3	Cd 226.502†	-117.9	-1.2	-0.0403 µg/L	-0.0403 ppb	12:57:07
3	Co 228.616†	-48.4	-4.3	-0.2402 µg/L	-0.2402 ppb	12:57:07
3	Cr 267.716†	-62.1	9.3	0.2171 µg/L	0.2171 ppb	12:57:07
3	Cu 324.752†	4002.5	10.1	0.0792 µg/L	0.0792 ppb	12:56:46
3	Mn 257.610†	-122.1	55.7	0.2112 µg/L	0.2112 ppb	12:57:07
3	Mo 202.031†	17.9	5.3	0.6686 µg/L	0.6686 ppb	12:57:07
3	Ni 231.604†	308.3	1.7	0.1053 µg/L	0.1053 ppb	12:57:07
3	P 214.914†	210.7	1.2	2.8422 µg/L	2.8422 ppb	12:57:07
3	Pb 220.353†	70.7	14.7	4.3338 µg/L	4.3338 ppb	12:57:07
3	S 181.975 Axial†	20.0	-3.4	-19.543 µg/L	-19.543 ppb	12:57:07
3	Sb 206.836†	25.5	1.8	1.9531 µg/L	1.9531 ppb	12:57:07
3	Se 196.026†	5.9	-1.1	-1.6823 µg/L	-1.6823 ppb	12:57:07
3	SiO2†	2428.1	33.2	6.8656 µg/L	6.8656 ppb	12:56:46
3	Si 251.611†	332.4	56.0	4.5996 µg/L	4.5996 ppb	12:57:07
3	Sn 189.927†	22.9	3.2	1.8881 µg/L	1.8881 ppb	12:57:07
3	Ti 334.940†	786.5	61.0	0.1514 µg/L	0.1514 ppb	12:56:46
3	Tl 190.801†	-22.5	-3.8	-6.6623 µg/L	-6.6623 ppb	12:57:07
3	U 409.014†	-110.8	-51.1	-4.7595 µg/L	-4.7595 ppb	12:56:46
3	V 292.402†	-119.6	22.6	0.2821 µg/L	0.2821 ppb	12:56:46
3	Zn 213.857†	606.6	6.5	0.1890 µg/L	0.1890 ppb	12:57:07

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1865404.3	98.864	%	0.3645				0.37%
Sc RADIAL	76915.7	99.1	%	0.43				0.43%
Y 371.029	1190494.3	98.888	%	0.3866				0.39%
Ag 328.068†	-16.4	-0.1450	µg/L	0.17371	-0.1450	ppb	0.17371	119.81%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-9.8	-6.4062	µg/L	9.23369	-6.4062	ppb	9.23369	144.14%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-1.3	-2.9953	µg/L	3.26138	-2.9953	ppb	3.26138	108.88%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	-48.6	-2.3210	µg/L	0.20628	-2.3210	ppb	0.20628	8.89%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	2.2	0.0637	µg/L	0.07389	0.0637	ppb	0.07389	115.97%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	51.8	0.0358	µg/L	0.02304	0.0358	ppb	0.02304	64.38%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-4.6	-3.3886	µg/L	4.57613	-3.3886	ppb	4.57613	135.05%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	-4.5	-0.1390	µg/L	0.09066	-0.1390	ppb	0.09066	65.21%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	-5.4	-0.2991	µg/L	0.21604	-0.2991	ppb	0.21604	72.22%

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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                 8.2      0.1912 µg/L       0.18932      0.1912 ppb        0.18932  99.03%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†                30.6      0.2285 µg/L       0.13101      0.2285 ppb        0.13101  57.32%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†          3.1      40.843 µg/L        4.9275      40.843 ppb         4.9275  12.06%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†         -36.5     -22.729 µg/L        1.7246     -22.729 ppb         1.7246   7.59%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†           -0.2      -1.6223 µg/L      33.28382      -1.6223 ppb       33.28382 >999.9%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†                57.8      0.2174 µg/L       0.03180      0.2174 ppb        0.03180  14.62%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                 3.2      0.4016 µg/L       0.42954      0.4016 ppb        0.42954 106.97%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†       -328.7     -89.367 µg/L        9.8283     -89.367 ppb         9.8283  11.00%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†                 3.1      0.1996 µg/L       0.40030      0.1996 ppb        0.40030 200.57%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                  2.4      5.8212 µg/L       7.78234      5.8212 ppb        7.78234 133.69%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†                 5.0      1.4791 µg/L       2.50193      1.4791 ppb        2.50193 169.16%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†           -3.1     -18.246 µg/L       11.1762     -18.246 ppb        11.1762  61.25%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†                 1.6      1.7946 µg/L       2.87963      1.7946 ppb        2.87963 160.46%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                 0.2      0.4564 µg/L       3.79619      0.4564 ppb        3.79619 831.74%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                      27.2      5.6227 µg/L       1.65145      5.6227 ppb        1.65145  29.37%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†                61.1      5.0168 µg/L       0.37380      5.0168 ppb        0.37380   7.45%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 3.5      2.0829 µg/L       0.89758      2.0829 ppb        0.89758  43.09%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†                46.5      0.2777 µg/L       0.16663      0.2777 ppb        0.16663  60.00%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†                95.8      0.2342 µg/L       0.07176      0.2342 ppb        0.07176  30.64%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                -2.6     -4.4863 µg/L       4.78495     -4.4863 ppb        4.78495 106.66%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†                -38.1     -3.5511 µg/L       2.40707     -3.5511 ppb        2.40707  67.78%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†                  9.6      0.1204 µg/L       0.15277      0.1204 ppb        0.15277 126.85%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†                 7.1      0.2027 µg/L       0.02467      0.2027 ppb        0.02467  12.17%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Sequence No.: 10
Sample ID: 244137002|940177|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 308
Date Collected: 1/25/2010 12:57:15
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 244137002|940177|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	79286.6	79286.6	102	%			12:57:54
1	Al 396.153Radial†	199778.2	195612.4	127270	µg/L	127270	ppb	12:57:54
1	Ca 317.933Radial†	35738.1	34730.3	25584	µg/L	25584	ppb	12:58:14
1	Fe 238.204 Radial†	11623.7	11364.2	147850	µg/L	147850	ppb	12:58:14
1	K 766.490 Radial†	32736.0	31656.1	19726	µg/L	19726	ppb	12:57:54
1	Mg 279.077 IEC†	2171.5	2116.1	21070	µg/L	21070	ppb	12:58:14
1	Na 589.592 Radial†	3418.7	2753.9	748.70	µg/L	748.70	ppb	12:58:14
1	Sr 421.552†	52997.1	51402.1	307.13	µg/L	307.13	ppb	12:57:54
1	Sc 361.383	1885154.7	1885154.7	99.910	%			12:59:20
1	Y 371.029	1236703.2	1236703.2	102.73	%			12:59:20
1	Ag 328.068†	-1491.8	-1414.3	-1.4862	µg/L	-1.4862	ppb	12:59:26
1	As 188.979†	7.1	8.9	27.554	µg/L	27.554	ppb	12:59:46
1	B 249.677†	2415.9	2239.4	107.07	µg/L	107.07	ppb	12:59:26
1	Ba 233.527†	74305.3	74396.7	2159.3	µg/L	2159.3	ppb	12:59:26
1	Be 313.107†	25113.6	21490.5	12.370	µg/L	12.370	ppb	12:59:26
1	Cd 226.502†	532.0	650.4	2.7548	µg/L	2.7548	ppb	12:59:26
1	Co 228.616†	1511.7	1557.7	72.655	µg/L	72.655	ppb	12:59:46
1	Cr 267.716†	5463.5	5540.4	129.02	µg/L	129.02	ppb	12:59:26
1	Cu 324.752†	11791.7	7769.2	77.200	µg/L	77.200	ppb	12:59:26
1	Mn 257.610†	1279363.6	1280689.4	4717.5	µg/L	4717.5	ppb	12:59:20
1	Mo 202.031†	-7.2	-20.0	3.1204	µg/L	3.1204	ppb	12:59:46
1	Ni 231.604†	1691.3	1383.1	89.270	µg/L	89.270	ppb	12:59:46
1	P 214.914†	712.9	501.8	1115.2	µg/L	1115.2	ppb	12:59:46
1	Pb 220.353†	583.5	527.3	157.05	µg/L	157.05	ppb	12:59:46
1	S 181.975 Axial†	149.5	126.1	732.59	µg/L	732.59	ppb	12:59:46
1	Sb 206.836†	31.5	7.6	5.0861	µg/L	5.0861	ppb	12:59:46
1	Se 196.026†	-344.6	-352.1	-250.84	µg/L	-250.84	ppb	12:59:46
1	SiO2†	473786.2	471791.4	97672	µg/L	97672	ppb	12:59:20
1	Si 251.611†	548218.7	548430.3	45057	µg/L	45057	ppb	12:59:20
1	Sn 189.927†	-111.9	-131.9	-55.057	µg/L	-55.057	ppb	12:59:46
1	Ti 334.940†	2690507.5	2692185.8	6581.3	µg/L	6581.3	ppb	12:59:20
1	Tl 190.801†	-56.8	-38.0	0.4761	µg/L	0.4761	ppb	12:59:46
1	U 409.014†	-672.4	-612.2	-79.064	µg/L	-79.064	ppb	12:59:20
1	V 292.402†	24375.4	24540.8	310.95	µg/L	310.95	ppb	12:59:26
1	Zn 213.857†	11213.9	10617.8	299.34	µg/L	299.34	ppb	12:59:26
2	Sc RADIAL	79752.7	79752.7	103	%			12:58:20
2	Al 396.153Radial†	201540.9	196185.0	127640	µg/L	127640	ppb	12:58:20
2	Ca 317.933Radial†	35436.6	34232.4	25217	µg/L	25217	ppb	12:58:41
2	Fe 238.204 Radial†	11529.7	11206.2	145790	µg/L	145790	ppb	12:58:41
2	K 766.490 Radial†	32980.1	31706.3	19757	µg/L	19757	ppb	12:58:20
2	Mg 279.077 IEC†	2156.8	2089.4	20803	µg/L	20803	ppb	12:58:41
2	Na 589.592 Radial†	3410.9	2726.7	741.31	µg/L	741.31	ppb	12:58:41
2	Sr 421.552†	53376.8	51468.4	307.53	µg/L	307.53	ppb	12:58:20
2	Sc 361.383	1869757.5	1869757.5	99.094	%			12:59:54
2	Y 371.029	1226387.2	1226387.2	101.87	%			12:59:54
2	Ag 328.068†	-1528.8	-1464.0	-2.0619	µg/L	-2.0619	ppb	13:00:00
2	As 188.979†	15.2	17.1	46.309	µg/L	46.309	ppb	13:00:20
2	B 249.677†	2425.7	2269.2	108.49	µg/L	108.49	ppb	13:00:00
2	Ba 233.527†	73939.2	74639.6	2166.4	µg/L	2166.4	ppb	13:00:00
2	Be 313.107†	24957.6	21540.0	12.399	µg/L	12.399	ppb	13:00:00
2	Cd 226.502†	547.1	670.0	3.5725	µg/L	3.5725	ppb	13:00:00
2	Co 228.616†	1529.4	1588.0	74.306	µg/L	74.306	ppb	13:00:20
2	Cr 267.716†	5418.4	5540.0	129.01	µg/L	129.01	ppb	13:00:00
2	Cu 324.752†	11762.6	7837.2	77.410	µg/L	77.410	ppb	13:00:00
2	Mn 257.610†	1271038.5	1282833.0	4725.1	µg/L	4725.1	ppb	12:59:54
2	Mo 202.031†	-17.2	-30.0	1.7833	µg/L	1.7833	ppb	13:00:20
2	Ni 231.604†	1685.3	1391.0	89.742	µg/L	89.742	ppb	13:00:20
2	P 214.914†	732.2	527.2	1177.8	µg/L	1177.8	ppb	13:00:20
2	Pb 220.353†	582.9	531.4	158.36	µg/L	158.36	ppb	13:00:20

2	S 181.975 Axial†	154.9	132.7	771.33 µg/L	771.33 ppb	13:00:20
2	Sb 206.836†	21.9	-1.9	-5.2574 µg/L	-5.2574 ppb	13:00:20
2	Se 196.026†	-335.4	-345.6	-244.82 µg/L	-244.82 ppb	13:00:20
2	SiO2†	471110.5	472996.3	97922 µg/L	97922 ppb	12:59:54
2	Si 251.611†	544904.2	549604.1	45154 µg/L	45154 ppb	12:59:54
2	Sn 189.927†	-120.5	-141.5	-61.102 µg/L	-61.102 ppb	13:00:20
2	Ti 334.940†	2674229.8	2697935.1	6595.3 µg/L	6595.3 ppb	12:59:54
2	Tl 190.801†	-60.4	-42.1	-6.4298 µg/L	-6.4298 ppb	13:00:20
2	U 409.014†	-558.6	-502.9	-68.587 µg/L	-68.587 ppb	12:59:54
2	V 292.402†	24222.3	24587.1	311.41 µg/L	311.41 ppb	13:00:00
2	Zn 213.857†	11149.6	10645.3	300.24 µg/L	300.24 ppb	13:00:00
3	Sc RADIAL	80499.3	80499.3	104 %		12:58:46
3	Al 396.153Radial†	202804.6	195584.2	127250 µg/L	127250 ppb	12:58:46
3	Ca 317.933Radial†	35391.3	33868.9	24949 µg/L	24949 ppb	12:59:07
3	Fe 238.204 Radial†	11515.9	11088.8	144270 µg/L	144270 ppb	12:59:07
3	K 766.490 Radial†	33198.5	31619.2	19703 µg/L	19703 ppb	12:58:46
3	Mg 279.077 IEC†	2163.3	2076.2	20673 µg/L	20673 ppb	12:59:07
3	Na 589.592 Radial†	3402.8	2688.1	730.80 µg/L	730.80 ppb	12:59:07
3	Sr 421.552†	53727.9	51325.2	306.67 µg/L	306.67 ppb	12:58:46
3	Sc 361.383	1873768.7	1873768.7	99.307 %		13:00:28
3	Y 371.029	1228179.2	1228179.2	102.02 %		13:00:28
3	Ag 328.068†	-1508.2	-1440.0	-2.0339 µg/L	-2.0339 ppb	13:00:34
3	As 188.979†	4.0	5.8	20.297 µg/L	20.297 ppb	13:00:54
3	B 249.677†	2331.3	2168.9	103.69 µg/L	103.69 ppb	13:00:34
3	Ba 233.527†	71112.4	71633.4	2079.1 µg/L	2079.1 ppb	13:00:34
3	Be 313.107†	23950.8	20472.4	11.742 µg/L	11.742 ppb	13:00:34
3	Cd 226.502†	508.2	629.6	2.5337 µg/L	2.5337 ppb	13:00:34
3	Co 228.616†	1391.4	1445.7	66.864 µg/L	66.864 ppb	13:00:54
3	Cr 267.716†	5168.5	5276.6	122.88 µg/L	122.88 ppb	13:00:34
3	Cu 324.752†	11452.7	7499.7	74.736 µg/L	74.736 ppb	13:00:34
3	Mn 257.610†	1239413.5	1248241.5	4598.0 µg/L	4598.0 ppb	13:00:28
3	Mo 202.031†	-8.0	-20.7	2.8894 µg/L	2.8894 ppb	13:00:54
3	Ni 231.604†	1560.2	1261.3	81.534 µg/L	81.534 ppb	13:00:54
3	P 214.914†	680.4	473.5	1050.2 µg/L	1050.2 ppb	13:00:54
3	Pb 220.353†	545.3	492.3	146.86 µg/L	146.86 ppb	13:00:54
3	S 181.975 Axial†	146.7	124.2	721.48 µg/L	721.48 ppb	13:00:54
3	Sb 206.836†	17.3	-6.6	-10.244 µg/L	-10.244 ppb	13:00:54
3	Se 196.026†	-299.7	-308.9	-190.64 µg/L	-190.64 ppb	13:00:54
3	SiO2†	461950.2	462754.3	95802 µg/L	95802 ppb	13:00:28
3	Si 251.611†	534240.6	537688.9	44175 µg/L	44175 ppb	13:00:28
3	Sn 189.927†	-104.9	-125.6	-51.846 µg/L	-51.846 ppb	13:00:54
3	Ti 334.940†	2592767.1	2610126.8	6380.6 µg/L	6380.6 ppb	13:00:28
3	Tl 190.801†	-51.4	-32.9	7.4992 µg/L	7.4992 ppb	13:00:54
3	U 409.014†	-571.1	-514.3	-69.420 µg/L	-69.420 ppb	13:00:28
3	V 292.402†	23136.0	23440.9	297.18 µg/L	297.18 ppb	13:00:34
3	Zn 213.857†	10783.1	10252.2	288.96 µg/L	288.96 ppb	13:00:34

Mean Data: 244137002|940177|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1876227.0	99.437	%	0.4233				0.43%
Sc RADIAL	79846.2	103	%	0.8				0.77%
Y 371.029	1230423.2	102.20	%	0.458				0.45%
Ag 328.068†	-1439.4	-1.8607	µg/L	0.32460	-1.8607	ppb	0.32460	17.45%
Al 396.153Radial†	195793.9	127390	µg/L	220.6	127390	ppb	220.6	0.17%
As 188.979†	10.6	31.387	µg/L	13.4229	31.387	ppb	13.4229	42.77%
B 249.677†	2225.9	106.42	µg/L	2.463	106.42	ppb	2.463	2.31%
Ba 233.527†	73556.5	2134.9	µg/L	48.47	2134.9	ppb	48.47	2.27%
Be 313.107†	21167.6	12.170	µg/L	0.3714	12.170	ppb	0.3714	3.05%
Ca 317.933Radial†	34277.2	25250	µg/L	318.6	25250	ppb	318.6	1.26%
Cd 226.502†	650.0	2.9537	µg/L	0.54716	2.9537	ppb	0.54716	18.52%
Co 228.616†	1530.5	71.275	µg/L	3.9079	71.275	ppb	3.9079	5.48%
Cr 267.716†	5452.4	126.97	µg/L	3.544	126.97	ppb	3.544	2.79%
Cu 324.752†	7702.0	76.449	µg/L	1.4866	76.449	ppb	1.4866	1.94%
Fe 238.204 Radial†	11219.7	145970	µg/L	1797.9	145970	ppb	1797.9	1.23%
K 766.490 Radial†	31660.5	19729	µg/L	27.3	19729	ppb	27.3	0.14%
Mg 279.077 IEC†	2093.9	20849	µg/L	202.1	20849	ppb	202.1	0.97%
Mn 257.610†	1270588.0	4680.2	µg/L	71.29	4680.2	ppb	71.29	1.52%
Mo 202.031†	-23.6	2.5977	µg/L	0.71470	2.5977	ppb	0.71470	27.51%
Na 589.592 Radial†	2722.9	740.27	µg/L	8.991	740.27	ppb	8.991	1.21%

Ni 231.604†	1345.1	86.849	µg/L	4.6084	86.849	ppb	4.6084	5.31%
P 214.914†	500.8	1114.4	µg/L	63.78	1114.4	ppb	63.78	5.72%
Pb 220.353†	517.0	154.09	µg/L	6.300	154.09	ppb	6.300	4.09%
S 181.975 Axial†	127.6	741.80	µg/L	26.172	741.80	ppb	26.172	3.53%
Sb 206.836†	-0.3	-3.4719	µg/L	7.81964	-3.4719	ppb	7.81964	225.23%
Se 196.026†	-335.5	-228.77	µg/L	33.156	-228.77	ppb	33.156	14.49%
SiO2†	469180.6	97132	µg/L	1158.9	97132	ppb	1158.9	1.19%
Si 251.611†	545241.1	44795	µg/L	539.5	44795	ppb	539.5	1.20%
Sn 189.927†	-133.0	-56.002	µg/L	4.7001	-56.002	ppb	4.7001	8.39%
Sr 421.552†	51398.6	307.11	µg/L	0.428	307.11	ppb	0.428	0.14%
Ti 334.940†	2666749.2	6519.1	µg/L	120.09	6519.1	ppb	120.09	1.84%
Tl 190.801†	-37.7	0.5151	µg/L	6.96457	0.5151	ppb	6.96457	>999.9%
U 409.014†	-543.1	-72.357	µg/L	5.8231	-72.357	ppb	5.8231	8.05%
V 292.402†	24189.6	306.51	µg/L	8.087	306.51	ppb	8.087	2.64%
Zn 213.857†	10505.1	296.18	µg/L	6.270	296.18	ppb	6.270	2.12%

Sequence No.: 11
Sample ID: 244137003|940177|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 309
Date Collected: 1/25/2010 13:01:03
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 244137003|940177|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	78992.0	78992.0	102	%			13:01:36
1	Al 396.153Radial†	153167.8	150540.1	97945	µg/L	97945	ppb	13:01:36
1	Ca 317.933Radial†	27021.9	26295.8	19371	µg/L	19371	ppb	13:01:57
1	Fe 238.204 Radial†	9480.8	9300.9	121010	µg/L	121010	ppb	13:01:57
1	K 766.490 Radial†	32681.1	31721.7	19767	µg/L	19767	ppb	13:01:36
1	Mg 279.077 IEC†	1703.7	1664.3	16566	µg/L	16566	ppb	13:01:57
1	Na 589.592 Radial†	2322.9	1689.5	459.32	µg/L	459.32	ppb	13:01:57
1	Sr 421.552†	39974.3	38798.8	231.82	µg/L	231.82	ppb	13:01:36
1	Sc 361.383	1865206.5	1865206.5	98.853	%			13:03:02
1	Y 371.029	1216581.9	1216581.9	101.05	%			13:03:02
1	Ag 328.068†	-1304.0	-1240.3	-1.9017	µg/L	-1.9017	ppb	13:03:08
1	As 188.979†	6.4	8.2	24.871	µg/L	24.871	ppb	13:03:28
1	B 249.677†	2007.2	1851.9	88.810	µg/L	88.810	ppb	13:03:08
1	Ba 233.527†	60445.3	61171.3	1775.5	µg/L	1775.5	ppb	13:03:08
1	Be 313.107†	20864.2	17460.7	9.9177	µg/L	9.9177	ppb	13:03:08
1	Cd 226.502†	415.7	538.5	2.5114	µg/L	2.5114	ppb	13:03:28
1	Co 228.616†	1158.2	1216.3	55.569	µg/L	55.569	ppb	13:03:28
1	Cr 267.716†	11678.4	11886.0	276.55	µg/L	276.55	ppb	13:03:08
1	Cu 324.752†	10847.9	6940.8	67.428	µg/L	67.428	ppb	13:03:08
1	Mn 257.610†	1148089.5	1161587.3	4277.2	µg/L	4277.2	ppb	13:03:02
1	Mo 202.031†	6.5	-6.1	3.8334	µg/L	3.8334	ppb	13:03:28
1	Ni 231.604†	2570.0	2290.1	146.30	µg/L	146.30	ppb	13:03:28
1	P 214.914†	739.7	536.5	1212.8	µg/L	1212.8	ppb	13:03:28
1	Pb 220.353†	518.4	467.6	138.83	µg/L	138.83	ppb	13:03:28
1	S 181.975 Axial†	175.6	154.0	895.06	µg/L	895.06	ppb	13:03:28
1	Sb 206.836†	27.7	4.0	-0.0185	µg/L	-0.0185	ppb	13:03:28
1	Se 196.026†	-272.8	-283.1	-198.29	µg/L	-198.29	ppb	13:03:28
1	SiO2†	441418.2	444119.5	91944	µg/L	91944	ppb	13:03:02
1	Si 251.611†	510562.3	516205.5	42410	µg/L	42410	ppb	13:03:02
1	Sn 189.927†	-91.2	-112.2	-48.076	µg/L	-48.076	ppb	13:03:28
1	Ti 334.940†	2303852.6	2329845.8	5695.6	µg/L	5695.6	ppb	13:03:02
1	Tl 190.801†	-56.2	-38.0	-7.1286	µg/L	-7.1286	ppb	13:03:28
1	U 409.014†	-338.6	-281.7	-44.210	µg/L	-44.210	ppb	13:03:02
1	V 292.402†	20489.7	20870.9	264.62	µg/L	264.62	ppb	13:03:08
1	Zn 213.857†	9497.1	9001.1	253.72	µg/L	253.72	ppb	13:03:08
2	Sc RADIAL	78982.9	78982.9	102	%			13:02:02
2	Al 396.153Radial†	153266.0	150653.8	98019	µg/L	98019	ppb	13:02:02
2	Ca 317.933Radial†	26936.2	26214.7	19311	µg/L	19311	ppb	13:02:23
2	Fe 238.204 Radial†	9459.3	9280.8	120740	µg/L	120740	ppb	13:02:23
2	K 766.490 Radial†	32611.3	31656.7	19727	µg/L	19727	ppb	13:02:02
2	Mg 279.077 IEC†	1704.2	1665.1	16574	µg/L	16574	ppb	13:02:23
2	Na 589.592 Radial†	2309.1	1676.2	455.70	µg/L	455.70	ppb	13:02:23
2	Sr 421.552†	39973.8	38802.7	231.85	µg/L	231.85	ppb	13:02:02
2	Sc 361.383	1879442.4	1879442.4	99.608	%			13:03:36
2	Y 371.029	1225618.5	1225618.5	101.81	%			13:03:36
2	Ag 328.068†	-1250.8	-1176.9	-1.3472	µg/L	-1.3472	ppb	13:03:42
2	As 188.979†	6.5	8.3	24.994	µg/L	24.994	ppb	13:04:02
2	B 249.677†	2040.6	1870.0	89.669	µg/L	89.669	ppb	13:03:42
2	Ba 233.527†	60544.3	60807.5	1764.9	µg/L	1764.9	ppb	13:03:42
2	Be 313.107†	20751.6	17187.7	9.7300	µg/L	9.7300	ppb	13:03:42
2	Cd 226.502†	399.7	519.2	1.9645	µg/L	1.9645	ppb	13:04:02
2	Co 228.616†	1145.7	1194.8	54.384	µg/L	54.384	ppb	13:04:02
2	Cr 267.716†	11659.4	11777.4	274.02	µg/L	274.02	ppb	13:03:42
2	Cu 324.752†	10870.6	6880.4	66.952	µg/L	66.952	ppb	13:03:42
2	Mn 257.610†	1155662.5	1160393.0	4272.8	µg/L	4272.8	ppb	13:03:36
2	Mo 202.031†	-1.8	-14.5	2.7731	µg/L	2.7731	ppb	13:04:02
2	Ni 231.604†	2556.3	2256.6	144.18	µg/L	144.18	ppb	13:04:02
2	P 214.914†	743.2	534.4	1208.0	µg/L	1208.0	ppb	13:04:02
2	Pb 220.353†	516.4	461.7	137.10	µg/L	137.10	ppb	13:04:02

2	S 181.975 Axial†	174.4	151.5	880.43	µg/L	880.43 ppb	13:04:02
2	Sb 206.836†	24.7	0.9	-3.4541	µg/L	-3.4541 ppb	13:04:02
2	Se 196.026†	-273.6	-281.8	-196.71	µg/L	-196.71 ppb	13:04:02
2	SiO2†	444509.7	443840.9	91886	µg/L	91886 ppb	13:03:36
2	Si 251.611†	514107.0	515852.0	42381	µg/L	42381 ppb	13:03:36
2	Sn 189.927†	-89.1	-109.4	-46.446	µg/L	-46.446 ppb	13:04:02
2	Ti 334.940†	2320038.6	2328442.4	5692.2	µg/L	5692.2 ppb	13:03:36
2	Tl 190.801†	-53.5	-34.8	-1.5237	µg/L	-1.5237 ppb	13:04:02
2	U 409.014†	-402.6	-343.3	-49.904	µg/L	-49.904 ppb	13:03:36
2	V 292.402†	20613.1	20837.7	264.17	µg/L	264.17 ppb	13:03:42
2	Zn 213.857†	9513.1	8944.4	252.10	µg/L	252.10 ppb	13:03:42
3	Sc RADIAL	79296.7	79296.7	102	%		13:02:28
3	Al 396.153Radial†	153180.1	149973.8	97577	µg/L	97577 ppb	13:02:28
3	Ca 317.933Radial†	26965.9	26139.0	19255	µg/L	19255 ppb	13:02:48
3	Fe 238.204 Radial†	9456.8	9241.6	120230	µg/L	120230 ppb	13:02:48
3	K 766.490 Radial†	32698.1	31614.9	19701	µg/L	19701 ppb	13:02:28
3	Mg 279.077 IEC†	1699.5	1653.9	16462	µg/L	16462 ppb	13:02:48
3	Na 589.592 Radial†	2302.9	1661.2	451.63	µg/L	451.63 ppb	13:02:48
3	Sr 421.552†	39888.4	38563.8	230.42	µg/L	230.42 ppb	13:02:28
3	Sc 361.383	1878372.6	1878372.6	99.551	%		13:04:10
3	Y 371.029	1224301.8	1224301.8	101.70	%		13:04:10
3	Ag 328.068†	-1225.9	-1152.6	-1.2356	µg/L	-1.2356 ppb	13:04:16
3	As 188.979†	8.4	10.2	29.360	µg/L	29.360 ppb	13:04:36
3	B 249.677†	1981.8	1812.1	86.890	µg/L	86.890 ppb	13:04:16
3	Ba 233.527†	58569.4	58858.3	1708.3	µg/L	1708.3 ppb	13:04:16
3	Be 313.107†	20104.6	16549.7	9.3593	µg/L	9.3593 ppb	13:04:16
3	Cd 226.502†	366.9	486.4	1.0369	µg/L	1.0369 ppb	13:04:36
3	Co 228.616†	1064.0	1113.4	50.259	µg/L	50.259 ppb	13:04:36
3	Cr 267.716†	11156.6	11279.0	262.43	µg/L	262.43 ppb	13:04:16
3	Cu 324.752†	10710.0	6725.3	65.750	µg/L	65.750 ppb	13:04:16
3	Mn 257.610†	1122826.0	1128069.2	4154.1	µg/L	4154.1 ppb	13:04:10
3	Mo 202.031†	0.7	-12.0	3.0652	µg/L	3.0652 ppb	13:04:36
3	Ni 231.604†	2403.7	2104.9	134.58	µg/L	134.58 ppb	13:04:36
3	P 214.914†	702.4	493.9	1111.0	µg/L	1111.0 ppb	13:04:36
3	Pb 220.353†	488.7	434.2	128.96	µg/L	128.96 ppb	13:04:36
3	S 181.975 Axial†	171.9	149.1	866.29	µg/L	866.29 ppb	13:04:36
3	Sb 206.836†	24.6	0.7	-3.4896	µg/L	-3.4896 ppb	13:04:36
3	Se 196.026†	-258.1	-266.4	-173.70	µg/L	-173.70 ppb	13:04:36
3	SiO2†	434466.0	434006.0	89850	µg/L	89850 ppb	13:04:10
3	Si 251.611†	502629.5	504616.7	41458	µg/L	41458 ppb	13:04:10
3	Sn 189.927†	-90.6	-111.0	-47.460	µg/L	-47.460 ppb	13:04:36
3	Ti 334.940†	2242863.9	2252246.3	5505.9	µg/L	5505.9 ppb	13:04:10
3	Tl 190.801†	-49.5	-30.8	3.3381	µg/L	3.3381 ppb	13:04:36
3	U 409.014†	-352.8	-293.5	-45.192	µg/L	-45.192 ppb	13:04:10
3	V 292.402†	19672.9	19905.1	252.61	µg/L	252.61 ppb	13:04:16
3	Zn 213.857†	9230.6	8666.1	244.10	µg/L	244.10 ppb	13:04:16

Mean Data: 244137003|940177|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1874340.5	99.337	%	0.4202				0.42%
Sc RADIAL	79090.6	102	%	0.2				0.23%
Y 371.029	1222167.4	101.52	%	0.406				0.40%
Ag 328.068†	-1190.0	-1.4948	µg/L	0.35673	-1.4948	ppb	0.35673	23.86%
Al 396.153Radial†	150389.2	97847	µg/L	237.0	97847	ppb	237.0	0.24%
As 188.979†	8.9	26.408	µg/L	2.5567	26.408	ppb	2.5567	9.68%
B 249.677†	1844.7	88.456	µg/L	1.4227	88.456	ppb	1.4227	1.61%
Ba 233.527†	60279.0	1749.6	µg/L	36.10	1749.6	ppb	36.10	2.06%
Be 313.107†	17066.0	9.6690	µg/L	0.28417	9.6690	ppb	0.28417	2.94%
Ca 317.933Radial†	26216.5	19312	µg/L	57.8	19312	ppb	57.8	0.30%
Cd 226.502†	514.7	1.8376	µg/L	0.74536	1.8376	ppb	0.74536	40.56%
Co 228.616†	1174.8	53.404	µg/L	2.7872	53.404	ppb	2.7872	5.22%
Cr 267.716†	11647.5	271.00	µg/L	7.531	271.00	ppb	7.531	2.78%
Cu 324.752†	6848.8	66.710	µg/L	0.8649	66.710	ppb	0.8649	1.30%
Fe 238.204 Radial†	9274.4	120660	µg/L	392.7	120660	ppb	392.7	0.33%
K 766.490 Radial†	31664.4	19731	µg/L	33.5	19731	ppb	33.5	0.17%
Mg 279.077 IEC†	1661.1	16534	µg/L	62.6	16534	ppb	62.6	0.38%
Mn 257.610†	1150016.5	4234.7	µg/L	69.82	4234.7	ppb	69.82	1.65%
Mo 202.031†	-10.9	3.2239	µg/L	0.54770	3.2239	ppb	0.54770	16.99%
Na 589.592 Radial†	1675.6	455.55	µg/L	3.844	455.55	ppb	3.844	0.84%

Ni 231.604†	2217.2	141.68	µg/L	6.244	141.68	ppb	6.244	4.41%
P 214.914†	521.6	1177.3	µg/L	57.46	1177.3	ppb	57.46	4.88%
Pb 220.353†	454.5	134.96	µg/L	5.267	134.96	ppb	5.267	3.90%
S 181.975 Axial†	151.5	880.59	µg/L	14.386	880.59	ppb	14.386	1.63%
Sb 206.836†	1.9	-2.3207	µg/L	1.99387	-2.3207	ppb	1.99387	85.92%
Se 196.026†	-277.1	-189.56	µg/L	13.763	-189.56	ppb	13.763	7.26%
SiO2†	440655.5	91227	µg/L	1192.5	91227	ppb	1192.5	1.31%
Si 251.611†	512224.7	42083	µg/L	541.5	42083	ppb	541.5	1.29%
Sn 189.927†	-110.9	-47.328	µg/L	0.8231	-47.328	ppb	0.8231	1.74%
Sr 421.552†	38721.8	231.36	µg/L	0.818	231.36	ppb	0.818	0.35%
Ti 334.940†	2303511.5	5631.2	µg/L	108.56	5631.2	ppb	108.56	1.93%
Tl 190.801†	-34.6	-1.7714	µg/L	5.23777	-1.7714	ppb	5.23777	295.68%
U 409.014†	-306.2	-46.436	µg/L	3.0441	-46.436	ppb	3.0441	6.56%
V 292.402†	20537.9	260.47	µg/L	6.804	260.47	ppb	6.804	2.61%
Zn 213.857†	8870.5	249.97	µg/L	5.152	249.97	ppb	5.152	2.06%

Sequence No.: 12
Sample ID: 244137004|940177|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 310
Date Collected: 1/25/2010 13:04:45
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 244137004|940177|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	79280.3	79280.3	102	%			13:05:18
1	Al 396.153Radial†	135540.3	132734.1	86360	µg/L	86360	ppb	13:05:18
1	Ca 317.933Radial†	28567.0	27712.1	20414	µg/L	20414	ppb	13:05:39
1	Fe 238.204 Radial†	9277.0	9067.4	117970	µg/L	117970	ppb	13:05:39
1	K 766.490 Radial†	29026.0	28026.2	17464	µg/L	17464	ppb	13:05:18
1	Mg 279.077 IEC†	1609.1	1565.7	15580	µg/L	15580	ppb	13:05:39
1	Na 589.592 Radial†	2365.3	1722.7	468.36	µg/L	468.36	ppb	13:05:39
1	Sr 421.552†	38981.4	37683.8	225.16	µg/L	225.16	ppb	13:05:18
1	Sc 361.383	1871609.6	1871609.6	99.193	%			13:06:43
1	Y 371.029	1216968.8	1216968.8	101.09	%			13:06:43
1	Ag 328.068†	-1268.7	-1200.2	-1.8076	µg/L	-1.8076	ppb	13:06:49
1	As 188.979†	12.3	14.2	38.202	µg/L	38.202	ppb	13:07:10
1	B 249.677†	1924.3	1761.3	84.620	µg/L	84.620	ppb	13:06:49
1	Ba 233.527†	54092.9	54558.0	1583.6	µg/L	1583.6	ppb	13:06:49
1	Be 313.107†	18852.4	15360.3	8.6976	µg/L	8.6976	ppb	13:06:49
1	Cd 226.502†	395.7	516.9	2.2780	µg/L	2.2780	ppb	13:07:10
1	Co 228.616†	1056.0	1109.2	50.922	µg/L	50.922	ppb	13:07:10
1	Cr 267.716†	15269.8	15466.2	359.79	µg/L	359.79	ppb	13:06:49
1	Cu 324.752†	12396.4	8464.3	78.115	µg/L	78.115	ppb	13:06:49
1	Mn 257.610†	1004509.6	1012865.3	3731.2	µg/L	3731.2	ppb	13:06:43
1	Mo 202.031†	89.4	77.4	14.167	µg/L	14.167	ppb	13:07:10
1	Ni 231.604†	3631.7	3351.5	213.38	µg/L	213.38	ppb	13:07:10
1	P 214.914†	789.1	583.8	1324.2	µg/L	1324.2	ppb	13:07:10
1	Pb 220.353†	475.1	422.2	124.93	µg/L	124.93	ppb	13:07:10
1	S 181.975 Axial†	171.2	149.0	865.62	µg/L	865.62	ppb	13:07:10
1	Sb 206.836†	24.9	1.1	-4.0588	µg/L	-4.0588	ppb	13:07:10
1	Se 196.026†	-261.1	-270.4	-183.84	µg/L	-183.84	ppb	13:07:10
1	SiO2†	412652.3	413591.8	85624	µg/L	85624	ppb	13:06:43
1	Si 251.611†	477388.0	480994.1	39517	µg/L	39517	ppb	13:06:43
1	Sn 189.927†	-93.9	-114.6	-49.726	µg/L	-49.726	ppb	13:07:10
1	Ti 334.940†	2062492.1	2078547.3	5081.2	µg/L	5081.2	ppb	13:06:43
1	Tl 190.801†	-50.1	-31.7	-3.8262	µg/L	-3.8262	ppb	13:07:10
1	U 409.014†	-601.7	-545.7	-68.415	µg/L	-68.415	ppb	13:06:49
1	V 292.402†	19620.2	19923.4	253.01	µg/L	253.01	ppb	13:06:49
1	Zn 213.857†	9027.8	8495.1	238.93	µg/L	238.93	ppb	13:06:49
2	Sc RADIAL	79584.6	79584.6	103	%			13:05:44
2	Al 396.153Radial†	136508.8	133171.3	86644	µg/L	86644	ppb	13:05:44
2	Ca 317.933Radial†	28597.1	27634.5	20357	µg/L	20357	ppb	13:06:05
2	Fe 238.204 Radial†	9271.1	9027.0	117440	µg/L	117440	ppb	13:06:05
2	K 766.490 Radial†	29205.3	28092.5	17506	µg/L	17506	ppb	13:05:44
2	Mg 279.077 IEC†	1600.8	1551.5	15438	µg/L	15438	ppb	13:06:05
2	Na 589.592 Radial†	2355.3	1704.1	463.29	µg/L	463.29	ppb	13:06:05
2	Sr 421.552†	39243.3	37793.4	225.82	µg/L	225.82	ppb	13:05:44
2	Sc 361.383	1883034.1	1883034.1	99.798	%			13:07:17
2	Y 371.029	1223464.5	1223464.5	101.63	%			13:07:17
2	Ag 328.068†	-1203.0	-1126.6	-1.1904	µg/L	-1.1904	ppb	13:07:22
2	As 188.979†	7.1	8.9	26.023	µg/L	26.023	ppb	13:07:43
2	B 249.677†	1885.4	1710.6	82.196	µg/L	82.196	ppb	13:07:22
2	Ba 233.527†	54015.4	54149.4	1571.7	µg/L	1571.7	ppb	13:07:22
2	Be 313.107†	18786.8	15179.3	8.5765	µg/L	8.5765	ppb	13:07:22
2	Cd 226.502†	394.0	512.7	2.2125	µg/L	2.2125	ppb	13:07:43
2	Co 228.616†	1058.2	1104.9	50.707	µg/L	50.707	ppb	13:07:43
2	Cr 267.716†	15222.7	15325.6	356.52	µg/L	356.52	ppb	13:07:22
2	Cu 324.752†	12330.8	8322.7	77.009	µg/L	77.009	ppb	13:07:22
2	Mn 257.610†	1008612.7	1010832.7	3723.6	µg/L	3723.6	ppb	13:07:17
2	Mo 202.031†	79.8	67.2	12.874	µg/L	12.874	ppb	13:07:43
2	Ni 231.604†	3634.4	3332.0	212.14	µg/L	212.14	ppb	13:07:43
2	P 214.914†	775.3	565.1	1280.1	µg/L	1280.1	ppb	13:07:43
2	Pb 220.353†	478.1	422.3	125.00	µg/L	125.00	ppb	13:07:43

2	S 181.975 Axial†	170.0	146.8	852.96	µg/L	852.96 ppb	13:07:43
2	Sb 206.836†	25.3	1.4	-3.6920	µg/L	-3.6920 ppb	13:07:43
2	Se 196.026†	-267.2	-274.9	-191.94	µg/L	-191.94 ppb	13:07:43
2	SiO2†	414472.6	412891.8	85479	µg/L	85479 ppb	13:07:17
2	Si 251.611†	479269.3	479959.4	39432	µg/L	39432 ppb	13:07:17
2	Sn 189.927†	-86.8	-106.9	-45.234	µg/L	-45.234 ppb	13:07:43
2	Ti 334.940†	2070669.1	2074125.7	5070.4	µg/L	5070.4 ppb	13:07:17
2	Tl 190.801†	-53.0	-34.2	-8.3572	µg/L	-8.3572 ppb	13:07:43
2	U 409.014†	-665.9	-606.4	-73.983	µg/L	-73.983 ppb	13:07:22
2	V 292.402†	19543.6	19726.6	250.53	µg/L	250.53 ppb	13:07:22
2	Zn 213.857†	8966.6	8378.5	235.59	µg/L	235.59 ppb	13:07:22
3	Sc RADIAL	79084.9	79084.9	102	%		13:06:10
3	Al 396.153Radial†	135413.6	132937.6	86492	µg/L	86492 ppb	13:06:10
3	Ca 317.933Radial†	28520.7	27735.7	20431	µg/L	20431 ppb	13:06:31
3	Fe 238.204 Radial†	9256.1	9069.4	117990	µg/L	117990 ppb	13:06:31
3	K 766.490 Radial†	28967.2	28038.7	17472	µg/L	17472 ppb	13:06:10
3	Mg 279.077 IEC†	1605.6	1566.1	15584	µg/L	15584 ppb	13:06:31
3	Na 589.592 Radial†	2356.5	1719.8	467.56	µg/L	467.56 ppb	13:06:31
3	Sr 421.552†	38865.2	37664.0	225.04	µg/L	225.04 ppb	13:06:10
3	Sc 361.383	1879574.1	1879574.1	99.615	%		13:07:50
3	Y 371.029	1220763.1	1220763.1	101.40	%		13:07:50
3	Ag 328.068†	-1204.2	-1130.1	-1.2533	µg/L	-1.2533 ppb	13:07:56
3	As 188.979†	5.2	7.0	21.732	µg/L	21.732 ppb	13:08:16
3	B 249.677†	1823.8	1652.3	79.386	µg/L	79.386 ppb	13:07:56
3	Ba 233.527†	52096.6	52322.9	1518.7	µg/L	1518.7 ppb	13:07:56
3	Be 313.107†	18129.6	14554.2	8.1973	µg/L	8.1973 ppb	13:07:56
3	Cd 226.502†	364.0	483.3	1.2592	µg/L	1.2592 ppb	13:08:16
3	Co 228.616†	987.1	1035.5	47.150	µg/L	47.150 ppb	13:08:16
3	Cr 267.716†	14509.5	14637.7	340.52	µg/L	340.52 ppb	13:07:56
3	Cu 324.752†	12010.0	8023.5	74.904	µg/L	74.904 ppb	13:07:56
3	Mn 257.610†	982603.5	986583.3	3634.7	µg/L	3634.7 ppb	13:07:50
3	Mo 202.031†	85.5	73.1	13.627	µg/L	13.627 ppb	13:08:16
3	Ni 231.604†	3405.2	3108.6	198.02	µg/L	198.02 ppb	13:08:16
3	P 214.914†	745.5	536.7	1211.5	µg/L	1211.5 ppb	13:08:16
3	Pb 220.353†	455.1	400.1	118.41	µg/L	118.41 ppb	13:08:16
3	S 181.975 Axial†	168.0	145.1	842.93	µg/L	842.93 ppb	13:08:16
3	Sb 206.836†	27.9	4.0	-0.6462	µg/L	-0.6462 ppb	13:08:16
3	Se 196.026†	-249.8	-257.8	-164.20	µg/L	-164.20 ppb	13:08:16
3	SiO2†	406067.7	405218.8	83890	µg/L	83890 ppb	13:07:50
3	Si 251.611†	469755.2	471292.5	38720	µg/L	38720 ppb	13:07:50
3	Sn 189.927†	-84.1	-104.3	-43.616	µg/L	-43.616 ppb	13:08:16
3	Ti 334.940†	2009574.9	2016614.6	4929.8	µg/L	4929.8 ppb	13:07:50
3	Tl 190.801†	-40.6	-21.8	11.704	µg/L	11.704 ppb	13:08:16
3	U 409.014†	-602.6	-544.1	-68.265	µg/L	-68.265 ppb	13:07:56
3	V 292.402†	18700.2	18916.0	240.53	µg/L	240.53 ppb	13:07:56
3	Zn 213.857†	8684.4	8111.8	227.88	µg/L	227.88 ppb	13:07:56

Mean Data: 244137004|940177|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1878072.6	99.535	%	0.3105				0.31%
Sc RADIAL	79316.6	102	%	0.3				0.32%
Y 371.029	1220398.8	101.37	%	0.271				0.27%
Ag 328.068†	-1152.3	-1.4171	µg/L	0.33966	-1.4171	ppb	0.33966	23.97%
Al 396.153Radial†	132947.7	86499	µg/L	142.4	86499	ppb	142.4	0.16%
As 188.979†	10.0	28.652	µg/L	8.5442	28.652	ppb	8.5442	29.82%
B 249.677†	1708.1	82.067	µg/L	2.6195	82.067	ppb	2.6195	3.19%
Ba 233.527†	53676.8	1558.0	µg/L	34.55	1558.0	ppb	34.55	2.22%
Be 313.107†	15031.2	8.4905	µg/L	0.26103	8.4905	ppb	0.26103	3.07%
Ca 317.933Radial†	27694.1	20401	µg/L	39.0	20401	ppb	39.0	0.19%
Cd 226.502†	504.3	1.9166	µg/L	0.57023	1.9166	ppb	0.57023	29.75%
Co 228.616†	1083.2	49.593	µg/L	2.1187	49.593	ppb	2.1187	4.27%
Cr 267.716†	15143.2	352.28	µg/L	10.313	352.28	ppb	10.313	2.93%
Cu 324.752†	8270.2	76.676	µg/L	1.6310	76.676	ppb	1.6310	2.13%
Fe 238.204 Radial†	9054.6	117800	µg/L	311.7	117800	ppb	311.7	0.26%
K 766.490 Radial†	28052.5	17481	µg/L	21.9	17481	ppb	21.9	0.13%
Mg 279.077 IEC†	1561.1	15534	µg/L	83.1	15534	ppb	83.1	0.53%
Mn 257.610†	1003427.1	3696.5	µg/L	53.63	3696.5	ppb	53.63	1.45%
Mo 202.031†	72.6	13.556	µg/L	0.6494	13.556	ppb	0.6494	4.79%
Na 589.592 Radial†	1715.5	466.40	µg/L	2.726	466.40	ppb	2.726	0.58%

Ni 231.604†	3264.1	207.85	µg/L	8.529	207.85	ppb	8.529	4.10%
P 214.914†	561.9	1271.9	µg/L	56.83	1271.9	ppb	56.83	4.47%
Pb 220.353†	414.9	122.78	µg/L	3.784	122.78	ppb	3.784	3.08%
S 181.975 Axial†	146.9	853.84	µg/L	11.366	853.84	ppb	11.366	1.33%
Sb 206.836†	2.2	-2.7990	µg/L	1.87334	-2.7990	ppb	1.87334	66.93%
Se 196.026†	-267.7	-180.00	µg/L	14.266	-180.00	ppb	14.266	7.93%
SiO2†	410567.5	84998	µg/L	961.7	84998	ppb	961.7	1.13%
Si 251.611†	477415.3	39223	µg/L	437.7	39223	ppb	437.7	1.12%
Sn 189.927†	-108.6	-46.192	µg/L	3.1652	-46.192	ppb	3.1652	6.85%
Sr 421.552†	37713.7	225.34	µg/L	0.416	225.34	ppb	0.416	0.18%
Ti 334.940†	2056429.2	5027.2	µg/L	84.48	5027.2	ppb	84.48	1.68%
Tl 190.801†	-29.2	-0.1599	µg/L	10.52095	-0.1599	ppb	10.52095	>999.9%
U 409.014†	-565.4	-70.221	µg/L	3.2587	-70.221	ppb	3.2587	4.64%
V 292.402†	19522.0	248.02	µg/L	6.608	248.02	ppb	6.608	2.66%
Zn 213.857†	8328.5	234.13	µg/L	5.666	234.13	ppb	5.666	2.42%

Sequence No.: 13
Sample ID: 244137005|940177|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 311
Date Collected: 1/25/2010 13:08:25
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 244137005|940177|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc.	Calib. Units	Sample Conc.	Sample Units	Analysis Time
1	Sc RADIAL	79598.3	79598.3	103	%			13:08:58
1	Al 396.153Radial†	186738.7	182130.9	118500	µg/L	118500	ppb	13:08:58
1	Ca 317.933Radial†	41156.6	39877.2	29375	µg/L	29375	ppb	13:08:58
1	Fe 238.204 Radial†	10773.6	10490.6	136480	µg/L	136480	ppb	13:09:18
1	K 766.490 Radial†	26468.5	25418.7	15839	µg/L	15839	ppb	13:08:58
1	Mg 279.077 IEC†	1969.4	1910.7	19021	µg/L	19021	ppb	13:09:18
1	Na 589.592 Radial†	4185.1	3488.0	948.30	µg/L	948.30	ppb	13:09:18
1	Sr 421.552†	55986.7	54114.3	323.34	µg/L	323.34	ppb	13:08:58
1	Sc 361.383	1898710.3	1898710.3	100.63	%			13:10:24
1	Y 371.029	1244738.5	1244738.5	103.39	%			13:10:24
1	Ag 328.068†	-1447.9	-1360.1	-1.8416	µg/L	-1.8416	ppb	13:10:29
1	As 188.979†	11.3	13.0	36.204	µg/L	36.204	ppb	13:10:50
1	B 249.677†	2290.9	2097.9	100.32	µg/L	100.32	ppb	13:10:29
1	Ba 233.527†	66971.5	66577.7	1932.4	µg/L	1932.4	ppb	13:10:29
1	Be 313.107†	22707.8	18920.3	10.890	µg/L	10.890	ppb	13:10:29
1	Cd 226.502†	463.1	578.1	1.8848	µg/L	1.8848	ppb	13:10:50
1	Co 228.616†	1170.3	1207.5	54.877	µg/L	54.877	ppb	13:10:50
1	Cr 267.716†	5733.1	5769.3	134.33	µg/L	134.33	ppb	13:10:29
1	Cu 324.752†	10986.2	6884.5	69.170	µg/L	69.170	ppb	13:10:29
1	Mn 257.610†	1168816.3	1161690.9	4279.5	µg/L	4279.5	ppb	13:10:24
1	Mo 202.031†	-2.8	-15.5	3.2508	µg/L	3.2508	ppb	13:10:50
1	Ni 231.604†	1665.0	1344.9	86.730	µg/L	86.730	ppb	13:10:50
1	P 214.914†	895.6	678.4	1546.8	µg/L	1546.8	ppb	13:10:50
1	Pb 220.353†	589.2	528.8	157.45	µg/L	157.45	ppb	13:10:50
1	S 181.975 Axial†	204.1	179.2	1041.4	µg/L	1041.4	ppb	13:10:50
1	Sb 206.836†	30.6	6.4	3.4900	µg/L	3.4900	ppb	13:10:50
1	Se 196.026†	-305.1	-310.3	-205.89	µg/L	-205.89	ppb	13:10:50
1	SiO2†	444107.8	438912.9	90866	µg/L	90866	ppb	13:10:24
1	Si 251.611†	513964.8	510473.0	41939	µg/L	41939	ppb	13:10:24
1	Sn 189.927†	-108.9	-128.1	-53.462	µg/L	-53.462	ppb	13:10:50
1	Ti 334.940†	2386078.9	2370433.9	5794.8	µg/L	5794.8	ppb	13:10:24
1	Tl 190.801†	-45.3	-26.2	12.323	µg/L	12.323	ppb	13:10:50
1	U 409.014†	-492.9	-428.9	-60.669	µg/L	-60.669	ppb	13:10:24
1	V 292.402†	22944.0	22944.1	290.67	µg/L	290.67	ppb	13:10:29
1	Zn 213.857†	10295.2	9624.6	271.20	µg/L	271.20	ppb	13:10:29
2	Sc RADIAL	79594.1	79594.1	103	%			13:09:24
2	Al 396.153Radial†	186857.1	182255.8	118580	µg/L	118580	ppb	13:09:24
2	Ca 317.933Radial†	41059.3	39784.4	29307	µg/L	29307	ppb	13:09:24
2	Fe 238.204 Radial†	10674.3	10394.3	135230	µg/L	135230	ppb	13:09:44
2	K 766.490 Radial†	26575.9	25524.8	15905	µg/L	15905	ppb	13:09:24
2	Mg 279.077 IEC†	1953.5	1895.3	18868	µg/L	18868	ppb	13:09:44
2	Na 589.592 Radial†	4167.5	3471.1	943.69	µg/L	943.69	ppb	13:09:44
2	Sr 421.552†	55954.7	54086.0	323.17	µg/L	323.17	ppb	13:09:24
2	Sc 361.383	1897791.6	1897791.6	100.58	%			13:10:58
2	Y 371.029	1244406.2	1244406.2	103.37	%			13:10:58
2	Ag 328.068†	-1429.4	-1342.3	-1.7545	µg/L	-1.7545	ppb	13:11:03
2	As 188.979†	10.3	12.1	33.905	µg/L	33.905	ppb	13:11:24
2	B 249.677†	2222.3	2030.9	97.123	µg/L	97.123	ppb	13:11:03
2	Ba 233.527†	67187.8	66825.0	1939.6	µg/L	1939.6	ppb	13:11:03
2	Be 313.107†	22685.7	18909.3	10.884	µg/L	10.884	ppb	13:11:03
2	Cd 226.502†	466.5	581.8	2.1328	µg/L	2.1328	ppb	13:11:24
2	Co 228.616†	1155.2	1193.1	54.084	µg/L	54.084	ppb	13:11:24
2	Cr 267.716†	5744.6	5783.6	134.66	µg/L	134.66	ppb	13:11:03
2	Cu 324.752†	10995.6	6899.2	69.102	µg/L	69.102	ppb	13:11:03
2	Mn 257.610†	1168510.9	1161949.5	4280.3	µg/L	4280.3	ppb	13:10:58
2	Mo 202.031†	-2.2	-14.9	3.2778	µg/L	3.2778	ppb	13:11:24
2	Ni 231.604†	1650.2	1330.9	85.834	µg/L	85.834	ppb	13:11:24
2	P 214.914†	881.2	664.4	1514.4	µg/L	1514.4	ppb	13:11:24
2	Pb 220.353†	585.6	525.5	156.52	µg/L	156.52	ppb	13:11:24

2	S 181.975 Axial†	206.5	181.7	1055.7	µg/L	1055.7 ppb	13:11:24
2	Sb 206.836†	29.8	5.7	2.7119	µg/L	2.7119 ppb	13:11:24
2	Se 196.026†	-316.1	-321.5	-225.76	µg/L	-225.76 ppb	13:11:24
2	SiO2†	443838.3	438858.5	90855	µg/L	90855 ppb	13:10:58
2	Si 251.611†	513393.7	510152.5	41912	µg/L	41912 ppb	13:10:58
2	Sn 189.927†	-106.4	-125.7	-52.191	µg/L	-52.191 ppb	13:11:24
2	Ti 334.940†	2383544.2	2369061.5	5791.4	µg/L	5791.4 ppb	13:10:58
2	Tl 190.801†	-49.5	-30.3	5.1345	µg/L	5.1345 ppb	13:11:24
2	U 409.014†	-544.6	-480.6	-65.298	µg/L	-65.298 ppb	13:10:58
2	V 292.402†	23001.5	23012.3	291.44	µg/L	291.44 ppb	13:11:03
2	Zn 213.857†	10320.5	9654.8	272.15	µg/L	272.15 ppb	13:11:03
3	Sc RADIAL	80094.4	80094.4	103	%		13:09:50
3	Al 396.153Radial†	188331.2	182546.3	118770	µg/L	118770 ppb	13:09:50
3	Ca 317.933Radial†	41480.2	39942.3	29423	µg/L	29423 ppb	13:09:50
3	Fe 238.204 Radial†	10692.6	10347.0	134620	µg/L	134620 ppb	13:10:10
3	K 766.490 Radial†	26713.7	25496.5	15888	µg/L	15888 ppb	13:09:50
3	Mg 279.077 IEC†	1956.4	1886.2	18777	µg/L	18777 ppb	13:10:10
3	Na 589.592 Radial†	4174.5	3452.5	938.65	µg/L	938.65 ppb	13:10:10
3	Sr 421.552†	56395.8	54172.6	323.68	µg/L	323.68 ppb	13:09:50
3	Sc 361.383	1898723.7	1898723.7	100.63	%		13:11:31
3	Y 371.029	1243208.2	1243208.2	103.27	%		13:11:31
3	Ag 328.068†	-1368.1	-1280.8	-1.3241	µg/L	-1.3241 ppb	13:11:37
3	As 188.979†	12.3	14.0	38.272	µg/L	38.272 ppb	13:11:58
3	B 249.677†	2105.6	1913.8	91.526	µg/L	91.526 ppb	13:11:37
3	Ba 233.527†	64579.0	64199.7	1863.4	µg/L	1863.4 ppb	13:11:37
3	Be 313.107†	21885.4	18102.9	10.388	µg/L	10.388 ppb	13:11:37
3	Cd 226.502†	412.1	527.4	0.5791	µg/L	0.5791 ppb	13:11:58
3	Co 228.616†	1075.8	1113.7	50.019	µg/L	50.019 ppb	13:11:58
3	Cr 267.716†	5477.3	5515.1	128.41	µg/L	128.41 ppb	13:11:37
3	Cu 324.752†	10797.9	6697.4	67.545	µg/L	67.545 ppb	13:11:37
3	Mn 257.610†	1139684.2	1132732.9	4173.0	µg/L	4173.0 ppb	13:11:31
3	Mo 202.031†	-3.2	-15.9	3.1238	µg/L	3.1238 ppb	13:11:58
3	Ni 231.604†	1563.2	1243.7	80.315	µg/L	80.315 ppb	13:11:58
3	P 214.914†	845.9	629.0	1429.9	µg/L	1429.9 ppb	13:11:58
3	Pb 220.353†	564.7	504.5	150.34	µg/L	150.34 ppb	13:11:58
3	S 181.975 Axial†	196.5	171.7	997.62	µg/L	997.62 ppb	13:11:58
3	Sb 206.836†	26.0	1.8	-1.4248	µg/L	-1.4248 ppb	13:11:58
3	Se 196.026†	-283.8	-289.2	-176.48	µg/L	-176.48 ppb	13:11:58
3	SiO2†	435903.5	430756.8	89177	µg/L	89177 ppb	13:11:31
3	Si 251.611†	504459.3	501023.4	41162	µg/L	41162 ppb	13:11:31
3	Sn 189.927†	-97.9	-117.2	-47.193	µg/L	-47.193 ppb	13:11:58
3	Ti 334.940†	2317671.6	2302437.8	5628.6	µg/L	5628.6 ppb	13:11:31
3	Tl 190.801†	-45.8	-26.6	9.8321	µg/L	9.8321 ppb	13:11:58
3	U 409.014†	-426.4	-362.9	-54.264	µg/L	-54.264 ppb	13:11:31
3	V 292.402†	21925.7	21932.0	278.08	µg/L	278.08 ppb	13:11:37
3	Zn 213.857†	10006.1	9337.3	263.00	µg/L	263.00 ppb	13:11:37

Mean Data: 244137005|940177|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1898408.5	100.61	%	0.028				0.03%
Sc RADIAL	79762.2	103	%	0.4				0.36%
Y 371.029	1244117.7	103.34	%	0.067				0.06%
Ag 328.068†	-1327.7	-1.6401	µg/L	0.27706	-1.6401	ppb	0.27706	16.89%
Al 396.153Radial†	182311.0	118620	µg/L	138.7	118620	ppb	138.7	0.12%
As 188.979†	13.0	36.127	µg/L	2.1842	36.127	ppb	2.1842	6.05%
B 249.677†	2014.2	96.323	µg/L	4.4521	96.323	ppb	4.4521	4.62%
Ba 233.527†	65867.5	1911.8	µg/L	42.08	1911.8	ppb	42.08	2.20%
Be 313.107†	18644.2	10.721	µg/L	0.2883	10.721	ppb	0.2883	2.69%
Ca 317.933Radial†	39868.0	29368	µg/L	58.4	29368	ppb	58.4	0.20%
Cd 226.502†	562.4	1.5323	µg/L	0.83468	1.5323	ppb	0.83468	54.47%
Co 228.616†	1171.4	52.993	µg/L	2.6064	52.993	ppb	2.6064	4.92%
Cr 267.716†	5689.3	132.47	µg/L	3.518	132.47	ppb	3.518	2.66%
Cu 324.752†	6827.0	68.606	µg/L	0.9189	68.606	ppb	0.9189	1.34%
Fe 238.204 Radial†	10410.6	135440	µg/L	951.7	135440	ppb	951.7	0.70%
K 766.490 Radial†	25480.0	15878	µg/L	34.2	15878	ppb	34.2	0.22%
Mg 279.077 IEC†	1897.4	18889	µg/L	123.1	18889	ppb	123.1	0.65%
Mn 257.610†	1152124.4	4244.3	µg/L	61.71	4244.3	ppb	61.71	1.45%
Mo 202.031†	-15.4	3.2175	µg/L	0.08223	3.2175	ppb	0.08223	2.56%
Na 589.592 Radial†	3470.6	943.55	µg/L	4.827	943.55	ppb	4.827	0.51%

Ni 231.604†	1306.5	84.293 µg/L	3.4743	84.293 ppb	3.4743	4.12%
P 214.914†	657.3	1497.0 µg/L	60.33	1497.0 ppb	60.33	4.03%
Pb 220.353†	519.6	154.77 µg/L	3.865	154.77 ppb	3.865	2.50%
S 181.975 Axial†	177.5	1031.6 µg/L	30.25	1031.6 ppb	30.25	2.93%
Sb 206.836†	4.6	1.5924 µg/L	2.64178	1.5924 ppb	2.64178	165.90%
Se 196.026†	-307.0	-202.71 µg/L	24.794	-202.71 ppb	24.794	12.23%
SiO2†	436176.1	90299 µg/L	971.6	90299 ppb	971.6	1.08%
Si 251.611†	507216.3	41671 µg/L	440.8	41671 ppb	440.8	1.06%
Sn 189.927†	-123.7	-50.949 µg/L	3.3139	-50.949 ppb	3.3139	6.50%
Sr 421.552†	54124.3	323.39 µg/L	0.264	323.39 ppb	0.264	0.08%
Ti 334.940†	2347311.1	5738.3 µg/L	95.02	5738.3 ppb	95.02	1.66%
Tl 190.801†	-27.7	9.0964 µg/L	3.65009	9.0964 ppb	3.65009	40.13%
U 409.014†	-424.1	-60.077 µg/L	5.5408	-60.077 ppb	5.5408	9.22%
V 292.402†	22629.5	286.73 µg/L	7.506	286.73 ppb	7.506	2.62%
Zn 213.857†	9538.9	268.78 µg/L	5.032	268.78 ppb	5.032	1.87%

Sequence No.: 14
Sample ID: 244137006|940177|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 312
Date Collected: 1/25/2010 13:12:06
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 244137006|940177|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	79678.5	79678.5	103	%			13:12:39
1	Al 396.153Radial†	149924.1	146083.4	95045	µg/L	95045	ppb	13:12:39
1	Ca 317.933Radial†	27761.6	26787.6	19733	µg/L	19733	ppb	13:12:59
1	Fe 238.204 Radial†	10797.0	10502.8	136640	µg/L	136640	ppb	13:12:59
1	K 766.490 Radial†	28579.9	27449.7	17105	µg/L	17105	ppb	13:12:39
1	Mg 279.077 IEC†	1874.4	1816.2	18073	µg/L	18073	ppb	13:12:59
1	Na 589.592 Radial†	2662.9	2001.0	544.02	µg/L	544.02	ppb	13:12:59
1	Sr 421.552†	41036.4	39495.0	235.98	µg/L	235.98	ppb	13:12:39
1	Sc 361.383	1894085.0	1894085.0	100.38	%			13:14:05
1	Y 371.029	1237233.6	1237233.6	102.77	%			13:14:05
1	Ag 328.068†	-1474.2	-1389.7	-2.0869	µg/L	-2.0869	ppb	13:14:11
1	As 188.979†	3.3	5.1	18.568	µg/L	18.568	ppb	13:14:31
1	B 249.677†	2140.2	1953.4	93.449	µg/L	93.449	ppb	13:14:11
1	Ba 233.527†	54236.5	54053.9	1569.0	µg/L	1569.0	ppb	13:14:11
1	Be 313.107†	20277.5	16554.3	9.6944	µg/L	9.6944	ppb	13:14:11
1	Cd 226.502†	483.8	599.8	2.4982	µg/L	2.4982	ppb	13:14:31
1	Co 228.616†	1159.4	1199.6	56.857	µg/L	56.857	ppb	13:14:31
1	Cr 267.716†	6363.8	6411.5	149.27	µg/L	149.27	ppb	13:14:11
1	Cu 324.752†	14647.9	10558.9	95.983	µg/L	95.983	ppb	13:14:11
1	Mn 257.610†	1232814.0	1228280.4	4523.9	µg/L	4523.9	ppb	13:14:05
1	Mo 202.031†	-10.3	-22.9	2.3225	µg/L	2.3225	ppb	13:14:31
1	Ni 231.604†	1431.4	1116.2	72.274	µg/L	72.274	ppb	13:14:31
1	P 214.914†	1061.8	846.1	1940.2	µg/L	1940.2	ppb	13:14:31
1	Pb 220.353†	1280.5	1218.8	359.86	µg/L	359.86	ppb	13:14:31
1	S 181.975 Axial†	156.4	132.2	768.04	µg/L	768.04	ppb	13:14:31
1	Sb 206.836†	31.0	7.0	4.5528	µg/L	4.5528	ppb	13:14:31
1	Se 196.026†	-317.8	-323.7	-231.20	µg/L	-231.20	ppb	13:14:31
1	SiO2†	449856.0	445716.8	92274	µg/L	92274	ppb	13:14:05
1	Si 251.611†	520384.6	518115.5	42567	µg/L	42567	ppb	13:14:05
1	Sn 189.927†	-87.7	-107.3	-43.351	µg/L	-43.351	ppb	13:14:31
1	Ti 334.940†	1903982.5	1895970.7	4634.6	µg/L	4634.6	ppb	13:14:05
1	Tl 190.801†	-51.1	-32.0	-5.6339	µg/L	-5.6339	ppb	13:14:31
1	U 409.014†	-462.1	-399.4	-57.360	µg/L	-57.360	ppb	13:14:05
1	V 292.402†	23050.9	23106.2	292.71	µg/L	292.71	ppb	13:14:11
1	Zn 213.857†	11157.1	10508.2	296.90	µg/L	296.90	ppb	13:14:11
2	Sc RADIAL	79946.0	79946.0	103	%			13:13:05
2	Al 396.153Radial†	150818.1	146462.6	95292	µg/L	95292	ppb	13:13:05
2	Ca 317.933Radial†	27668.0	26606.3	19599	µg/L	19599	ppb	13:13:25
2	Fe 238.204 Radial†	10772.9	10444.2	135880	µg/L	135880	ppb	13:13:25
2	K 766.490 Radial†	28739.3	27511.2	17143	µg/L	17143	ppb	13:13:05
2	Mg 279.077 IEC†	1865.2	1801.2	17923	µg/L	17923	ppb	13:13:25
2	Na 589.592 Radial†	2677.8	2006.8	545.60	µg/L	545.60	ppb	13:13:25
2	Sr 421.552†	41311.1	39627.9	236.78	µg/L	236.78	ppb	13:13:05
2	Sc 361.383	1897547.5	1897547.5	100.57	%			13:14:39
2	Y 371.029	1239642.1	1239642.1	102.97	%			13:14:39
2	Ag 328.068†	-1436.5	-1349.6	-1.7686	µg/L	-1.7686	ppb	13:14:45
2	As 188.979†	10.7	12.4	35.230	µg/L	35.230	ppb	13:15:05
2	B 249.677†	2214.7	2023.6	96.797	µg/L	96.797	ppb	13:14:45
2	Ba 233.527†	54356.9	54075.0	1569.6	µg/L	1569.6	ppb	13:14:45
2	Be 313.107†	20401.9	16641.3	9.7591	µg/L	9.7591	ppb	13:14:45
2	Cd 226.502†	472.0	587.2	2.2089	µg/L	2.2089	ppb	13:15:05
2	Co 228.616†	1141.7	1179.9	55.787	µg/L	55.787	ppb	13:15:05
2	Cr 267.716†	6339.4	6375.7	148.43	µg/L	148.43	ppb	13:14:45
2	Cu 324.752†	14611.3	10495.9	95.418	µg/L	95.418	ppb	13:14:45
2	Mn 257.610†	1232503.8	1225730.9	4514.4	µg/L	4514.4	ppb	13:14:39
2	Mo 202.031†	-9.1	-21.8	2.4383	µg/L	2.4383	ppb	13:15:05
2	Ni 231.604†	1436.3	1118.5	72.410	µg/L	72.410	ppb	13:15:05
2	P 214.914†	1051.4	833.8	1911.4	µg/L	1911.4	ppb	13:15:05
2	Pb 220.353†	1291.4	1227.4	362.45	µg/L	362.45	ppb	13:15:05

2	S 181.975 Axial†	155.7	131.2	762.33	µg/L	762.33 ppb	13:15:05
2	Sb 206.836†	25.4	1.3	-1.5824	µg/L	-1.5824 ppb	13:15:05
2	Se 196.026†	-313.5	-318.9	-225.26	µg/L	-225.26 ppb	13:15:05
2	SiO2†	449464.8	444510.1	92025	µg/L	92025 ppb	13:14:39
2	Si 251.611†	520052.3	516839.1	42462	µg/L	42462 ppb	13:14:39
2	Sn 189.927†	-90.7	-110.1	-45.116	µg/L	-45.116 ppb	13:15:05
2	Ti 334.940†	1902545.1	1891080.4	4622.7	µg/L	4622.7 ppb	13:14:39
2	Tl 190.801†	-49.3	-30.1	-2.4222	µg/L	-2.4222 ppb	13:15:05
2	U 409.014†	-616.7	-552.4	-71.475	µg/L	-71.475 ppb	13:14:39
2	V 292.402†	23136.0	23149.0	293.18	µg/L	293.18 ppb	13:14:45
2	Zn 213.857†	11157.4	10488.3	296.37	µg/L	296.37 ppb	13:14:45
3	Sc RADIAL	79611.7	79611.7	103	%		13:13:31
3	Al 396.153Radial†	149957.9	146238.8	95146	µg/L	95146 ppb	13:13:31
3	Ca 317.933Radial†	27749.1	26798.1	19741	µg/L	19741 ppb	13:13:51
3	Fe 238.204 Radial†	10817.9	10532.0	137020	µg/L	137020 ppb	13:13:51
3	K 766.490 Radial†	28684.3	27574.8	17183	µg/L	17183 ppb	13:13:31
3	Mg 279.077 IEC†	1879.0	1822.2	18133	µg/L	18133 ppb	13:13:51
3	Na 589.592 Radial†	2662.9	2003.3	544.64	µg/L	544.64 ppb	13:13:51
3	Sr 421.552†	41008.0	39500.8	236.02	µg/L	236.02 ppb	13:13:31
3	Sc 361.383	1889516.4	1889516.4	100.14	%		13:15:13
3	Y 371.029	1232958.1	1232958.1	102.42	%		13:15:13
3	Ag 328.068†	-1385.1	-1304.4	-1.3774	µg/L	-1.3774 ppb	13:15:18
3	As 188.979†	11.9	13.6	38.085	µg/L	38.085 ppb	13:15:39
3	B 249.677†	2115.3	1933.7	92.498	µg/L	92.498 ppb	13:15:18
3	Ba 233.527†	52297.2	52248.0	1516.6	µg/L	1516.6 ppb	13:15:18
3	Be 313.107†	19558.3	15885.0	9.2917	µg/L	9.2917 ppb	13:15:18
3	Cd 226.502†	422.3	539.6	0.6551	µg/L	0.6551 ppb	13:15:39
3	Co 228.616†	1051.4	1094.5	51.364	µg/L	51.364 ppb	13:15:39
3	Cr 267.716†	6021.1	6084.6	141.66	µg/L	141.66 ppb	13:15:18
3	Cu 324.752†	14197.2	10144.1	93.011	µg/L	93.011 ppb	13:15:18
3	Mn 257.610†	1192838.9	1191331.1	4388.4	µg/L	4388.4 ppb	13:15:13
3	Mo 202.031†	2.1	-10.6	3.8775	µg/L	3.8775 ppb	13:15:39
3	Ni 231.604†	1347.7	1036.1	67.220	µg/L	67.220 ppb	13:15:39
3	P 214.914†	1000.3	787.2	1799.0	µg/L	1799.0 ppb	13:15:39
3	Pb 220.353†	1208.7	1150.3	339.63	µg/L	339.63 ppb	13:15:39
3	S 181.975 Axial†	151.6	127.8	742.58	µg/L	742.58 ppb	13:15:39
3	Sb 206.836†	31.3	7.3	5.0332	µg/L	5.0332 ppb	13:15:39
3	Se 196.026†	-290.0	-296.7	-188.39	µg/L	-188.39 ppb	13:15:39
3	SiO2†	438005.0	434966.1	90049	µg/L	90049 ppb	13:15:13
3	Si 251.611†	506699.3	505703.0	41547	µg/L	41547 ppb	13:15:13
3	Sn 189.927†	-78.1	-97.9	-37.722	µg/L	-37.722 ppb	13:15:39
3	Ti 334.940†	1834100.6	1830773.6	4475.2	µg/L	4475.2 ppb	13:15:13
3	Tl 190.801†	-45.3	-26.3	2.3963	µg/L	2.3963 ppb	13:15:39
3	U 409.014†	-518.3	-456.7	-62.737	µg/L	-62.737 ppb	13:15:13
3	V 292.402†	21925.0	22037.5	279.53	µg/L	279.53 ppb	13:15:18
3	Zn 213.857†	10702.1	10080.7	284.51	µg/L	284.51 ppb	13:15:18

Mean Data: 244137006|940177|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1893716.3	100.36	%	0.213				0.21%
Sc RADIAL	79745.4	103	%	0.2				0.22%
Y 371.029	1236611.3	102.72	%	0.281				0.27%
Ag 328.068†	-1347.9	-1.7443	µg/L	0.35535	-1.7443	ppb	0.35535	20.37%
Al 396.153Radial†	146261.6	95161	µg/L	124.1	95161	ppb	124.1	0.13%
As 188.979†	10.4	30.628	µg/L	10.5412	30.628	ppb	10.5412	34.42%
B 249.677†	1970.2	94.248	µg/L	2.2584	94.248	ppb	2.2584	2.40%
Ba 233.527†	53459.0	1551.7	µg/L	30.45	1551.7	ppb	30.45	1.96%
Be 313.107†	16360.2	9.5818	µg/L	0.25323	9.5818	ppb	0.25323	2.64%
Ca 317.933Radial†	26730.7	19691	µg/L	79.4	19691	ppb	79.4	0.40%
Cd 226.502†	575.5	1.7874	µg/L	0.99118	1.7874	ppb	0.99118	55.45%
Co 228.616†	1158.0	54.670	µg/L	2.9119	54.670	ppb	2.9119	5.33%
Cr 267.716†	6290.6	146.45	µg/L	4.174	146.45	ppb	4.174	2.85%
Cu 324.752†	10399.7	94.804	µg/L	1.5782	94.804	ppb	1.5782	1.66%
Fe 238.204 Radial†	10493.0	136520	µg/L	581.3	136520	ppb	581.3	0.43%
K 766.490 Radial†	27511.9	17144	µg/L	39.0	17144	ppb	39.0	0.23%
Mg 279.077 IEC†	1813.2	18043	µg/L	107.9	18043	ppb	107.9	0.60%
Mn 257.610†	1215114.1	4475.6	µg/L	75.66	4475.6	ppb	75.66	1.69%
Mo 202.031†	-18.4	2.8795	µg/L	0.86628	2.8795	ppb	0.86628	30.08%
Na 589.592 Radial†	2003.7	544.75	µg/L	0.794	544.75	ppb	0.794	0.15%

Ni 231.604†	1090.3	70.635	µg/L	2.9583	70.635	ppb	2.9583	4.19%
P 214.914†	822.4	1883.5	µg/L	74.64	1883.5	ppb	74.64	3.96%
Pb 220.353†	1198.8	353.98	µg/L	12.494	353.98	ppb	12.494	3.53%
S 181.975 Axial†	130.4	757.65	µg/L	13.357	757.65	ppb	13.357	1.76%
Sb 206.836†	5.2	2.6679	µg/L	3.68867	2.6679	ppb	3.68867	138.26%
Se 196.026†	-313.1	-214.95	µg/L	23.195	-214.95	ppb	23.195	10.79%
SiO2†	441731.0	91449	µg/L	1219.3	91449	ppb	1219.3	1.33%
Si 251.611†	513552.6	42192	µg/L	560.9	42192	ppb	560.9	1.33%
Sn 189.927†	-105.1	-42.063	µg/L	3.8612	-42.063	ppb	3.8612	9.18%
Sr 421.552†	39541.3	236.26	µg/L	0.449	236.26	ppb	0.449	0.19%
Ti 334.940†	1872608.2	4577.5	µg/L	88.79	4577.5	ppb	88.79	1.94%
Tl 190.801†	-29.5	-1.8866	µg/L	4.04183	-1.8866	ppb	4.04183	214.24%
U 409.014†	-469.5	-63.857	µg/L	7.1241	-63.857	ppb	7.1241	11.16%
V 292.402†	22764.2	288.48	µg/L	7.750	288.48	ppb	7.750	2.69%
Zn 213.857†	10359.1	292.59	µg/L	7.008	292.59	ppb	7.008	2.40%

Sequence No.: 15
Sample ID: 244137007|940177|1
Analyst: HSC
Initial Sample Wt:
Dilution:

Autosampler Location: 313
Date Collected: 1/25/2010 13:15:49
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: 244137007|940177|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	79761.4	79761.4	103	%			13:16:21
1	Al 396.153Radial†	211208.7	205571.9	133750	µg/L	133750	ppb	13:16:21
1	Ca 317.933Radial†	29822.9	28765.6	21190	µg/L	21190	ppb	13:16:42
1	Fe 238.204 Radial†	11930.7	11595.2	150850	µg/L	150850	ppb	13:16:42
1	K 766.490 Radial†	32086.0	30832.7	19213	µg/L	19213	ppb	13:16:21
1	Mg 279.077 IEC†	2437.6	2362.5	23537	µg/L	23537	ppb	13:16:42
1	Na 589.592 Radial†	3380.2	2696.4	733.08	µg/L	733.08	ppb	13:16:42
1	Sr 421.552†	53626.0	51705.3	308.94	µg/L	308.94	ppb	13:16:21
1	Sc 361.383	1884660.0	1884660.0	99.884	%			13:17:48
1	Y 371.029	1229931.7	1229931.7	102.16	%			13:17:48
1	Ag 328.068†	-1670.1	-1593.3	-2.8664	µg/L	-2.8664	ppb	13:17:53
1	As 188.979†	11.9	13.7	38.896	µg/L	38.896	ppb	13:18:14
1	B 249.677†	2405.6	2229.7	106.58	µg/L	106.58	ppb	13:17:53
1	Ba 233.527†	74943.2	75054.8	2178.4	µg/L	2178.4	ppb	13:17:53
1	Be 313.107†	24319.2	20701.8	11.905	µg/L	11.905	ppb	13:17:53
1	Cd 226.502†	566.3	684.8	3.4379	µg/L	3.4379	ppb	13:17:53
1	Co 228.616†	1403.5	1449.7	67.113	µg/L	67.113	ppb	13:18:14
1	Cr 267.716†	4975.6	5053.4	117.70	µg/L	117.70	ppb	13:17:53
1	Cu 324.752†	11985.4	7966.3	79.055	µg/L	79.055	ppb	13:17:53
1	Mn 257.610†	1192609.3	1194170.6	4400.4	µg/L	4400.4	ppb	13:17:48
1	Mo 202.031†	-19.0	-31.8	1.7583	µg/L	1.7583	ppb	13:18:14
1	Ni 231.604†	1640.5	1332.7	86.130	µg/L	86.130	ppb	13:18:14
1	P 214.914†	714.1	503.3	1118.0	µg/L	1118.0	ppb	13:18:14
1	Pb 220.353†	573.5	517.4	154.37	µg/L	154.37	ppb	13:18:14
1	S 181.975 Axial†	133.8	110.4	641.37	µg/L	641.37	ppb	13:18:14
1	Sb 206.836†	21.5	-2.5	-5.4894	µg/L	-5.4894	ppb	13:18:14
1	Se 196.026†	-344.1	-351.6	-246.17	µg/L	-246.17	ppb	13:18:14
1	SiO2†	461969.0	460084.9	95249	µg/L	95249	ppb	13:17:48
1	Si 251.611†	534456.0	534795.6	43937	µg/L	43937	ppb	13:17:48
1	Sn 189.927†	-109.2	-129.3	-53.705	µg/L	-53.705	ppb	13:18:14
1	Ti 334.940†	2602372.9	2604655.8	6367.0	µg/L	6367.0	ppb	13:17:48
1	Tl 190.801†	-59.0	-40.1	-5.7161	µg/L	-5.7161	ppb	13:18:14
1	U 409.014†	-577.0	-516.8	-70.340	µg/L	-70.340	ppb	13:17:48
1	V 292.402†	24984.0	25156.4	318.68	µg/L	318.68	ppb	13:17:53
1	Zn 213.857†	11342.8	10749.8	302.90	µg/L	302.90	ppb	13:17:53
2	Sc RADIAL	79887.9	79887.9	103	%			13:16:48
2	Al 396.153Radial†	211284.7	205320.4	133590	µg/L	133590	ppb	13:16:48
2	Ca 317.933Radial†	29787.7	28685.4	21131	µg/L	21131	ppb	13:17:08
2	Fe 238.204 Radial†	11929.0	11575.1	150590	µg/L	150590	ppb	13:17:08
2	K 766.490 Radial†	32156.6	30851.9	19225	µg/L	19225	ppb	13:16:48
2	Mg 279.077 IEC†	2436.6	2357.7	23490	µg/L	23490	ppb	13:17:08
2	Na 589.592 Radial†	3378.2	2689.3	731.14	µg/L	731.14	ppb	13:17:08
2	Sr 421.552†	53605.6	51602.9	308.33	µg/L	308.33	ppb	13:16:48
2	Sc 361.383	1880630.4	1880630.4	99.671	%			13:18:21
2	Y 371.029	1227678.8	1227678.8	101.98	%			13:18:21
2	Ag 328.068†	-1581.1	-1507.5	-2.0923	µg/L	-2.0923	ppb	13:18:27
2	As 188.979†	11.5	13.3	38.033	µg/L	38.033	ppb	13:18:47
2	B 249.677†	2371.1	2200.3	105.18	µg/L	105.18	ppb	13:18:27
2	Ba 233.527†	74936.3	75208.6	2182.9	µg/L	2182.9	ppb	13:18:27
2	Be 313.107†	24280.3	20715.0	11.917	µg/L	11.917	ppb	13:18:27
2	Cd 226.502†	521.2	640.8	2.1555	µg/L	2.1555	ppb	13:18:27
2	Co 228.616†	1384.4	1433.5	66.227	µg/L	66.227	ppb	13:18:47
2	Cr 267.716†	5013.6	5102.3	118.84	µg/L	118.84	ppb	13:18:27
2	Cu 324.752†	11919.1	7925.5	78.720	µg/L	78.720	ppb	13:18:27
2	Mn 257.610†	1187780.8	1191884.5	4392.0	µg/L	4392.0	ppb	13:18:21
2	Mo 202.031†	-17.2	-30.0	1.9678	µg/L	1.9678	ppb	13:18:47
2	Ni 231.604†	1630.8	1326.4	85.733	µg/L	85.733	ppb	13:18:47
2	P 214.914†	722.9	513.6	1143.0	µg/L	1143.0	ppb	13:18:47
2	Pb 220.353†	568.4	513.5	153.22	µg/L	153.22	ppb	13:18:47

2	S 181.975 Axial†	129.3	106.1	616.49	µg/L	616.49 ppb	13:18:47
2	Sb 206.836†	18.4	-5.5	-8.8179	µg/L	-8.8179 ppb	13:18:47
2	Se 196.026†	-348.7	-357.0	-255.07	µg/L	-255.07 ppb	13:18:47
2	SiO2†	460691.2	459793.9	95189	µg/L	95189 ppb	13:18:21
2	Si 251.611†	532587.3	534067.3	43877	µg/L	43877 ppb	13:18:21
2	Sn 189.927†	-114.4	-134.7	-56.960	µg/L	-56.960 ppb	13:18:47
2	Ti 334.940†	2594433.4	2602272.6	6361.2	µg/L	6361.2 ppb	13:18:21
2	Tl 190.801†	-53.2	-34.5	4.1397	µg/L	4.1397 ppb	13:18:47
2	U 409.014†	-600.9	-542.0	-72.649	µg/L	-72.649 ppb	13:18:21
2	V 292.402†	25104.6	25331.0	320.82	µg/L	320.82 ppb	13:18:27
2	Zn 213.857†	11402.4	10833.9	305.35	µg/L	305.35 ppb	13:18:27
3	Sc RADIAL	79302.5	79302.5	102	%		13:17:14
3	Al 396.153Radial†	210416.7	205986.3	134020	µg/L	134020 ppb	13:17:14
3	Ca 317.933Radial†	29797.9	28909.0	21296	µg/L	21296 ppb	13:17:34
3	Fe 238.204 Radial†	11948.5	11679.8	151950	µg/L	151950 ppb	13:17:34
3	K 766.490 Radial†	31995.1	30924.5	19270	µg/L	19270 ppb	13:17:14
3	Mg 279.077 IEC†	2439.1	2377.6	23688	µg/L	23688 ppb	13:17:34
3	Na 589.592 Radial†	3371.4	2706.8	735.91	µg/L	735.91 ppb	13:17:34
3	Sr 421.552†	53351.4	51738.5	309.14	µg/L	309.14 ppb	13:17:14
3	Sc 361.383	1886278.1	1886278.1	99.970	%		13:18:55
3	Y 371.029	1230081.5	1230081.5	102.18	%		13:18:55
3	Ag 328.068†	-1588.7	-1510.4	-2.1448	µg/L	-2.1448 ppb	13:19:01
3	As 188.979†	13.1	14.9	41.811	µg/L	41.811 ppb	13:19:21
3	B 249.677†	2260.0	2082.0	99.530	µg/L	99.530 ppb	13:19:01
3	Ba 233.527†	71948.9	71995.3	2089.6	µg/L	2089.6 ppb	13:19:01
3	Be 313.107†	23257.8	19619.2	11.227	µg/L	11.227 ppb	13:19:01
3	Cd 226.502†	514.8	632.8	1.7571	µg/L	1.7571 ppb	13:19:01
3	Co 228.616†	1285.3	1330.2	60.876	µg/L	60.876 ppb	13:19:21
3	Cr 267.716†	4787.5	4861.0	113.22	µg/L	113.22 ppb	13:19:01
3	Cu 324.752†	11589.6	7560.1	76.246	µg/L	76.246 ppb	13:19:01
3	Mn 257.610†	1162863.4	1163391.6	4287.6	µg/L	4287.6 ppb	13:18:55
3	Mo 202.031†	-26.8	-39.5	0.8301	µg/L	0.8301 ppb	13:19:21
3	Ni 231.604†	1522.0	1212.8	78.570	µg/L	78.570 ppb	13:19:21
3	P 214.914†	673.8	462.4	1019.2	µg/L	1019.2 ppb	13:19:21
3	Pb 220.353†	541.5	484.9	144.75	µg/L	144.75 ppb	13:19:21
3	S 181.975 Axial†	120.9	97.4	565.79	µg/L	565.79 ppb	13:19:21
3	Sb 206.836†	24.4	0.5	-2.2400	µg/L	-2.2400 ppb	13:19:21
3	Se 196.026†	-308.9	-316.1	-188.53	µg/L	-188.53 ppb	13:19:21
3	SiO2†	453898.1	451614.9	93495	µg/L	93495 ppb	13:18:55
3	Si 251.611†	525239.7	525117.6	43142	µg/L	43142 ppb	13:18:55
3	Sn 189.927†	-106.8	-126.7	-52.039	µg/L	-52.039 ppb	13:19:21
3	Ti 334.940†	2527979.5	2528005.1	6179.6	µg/L	6179.6 ppb	13:18:55
3	Tl 190.801†	-45.7	-26.9	15.426	µg/L	15.426 ppb	13:19:21
3	U 409.014†	-620.7	-560.0	-74.521	µg/L	-74.521 ppb	13:18:55
3	V 292.402†	23803.4	23954.0	303.87	µg/L	303.87 ppb	13:19:01
3	Zn 213.857†	10953.6	10350.7	291.29	µg/L	291.29 ppb	13:19:01

Mean Data: 244137007|940177|1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1883856.2	99.842	%	0.1541				0.15%
Sc RADIAL	79650.6	103	%	0.4				0.39%
Y 371.029	1229230.7	102.11	%	0.112				0.11%
Ag 328.068†	-1537.0	-2.3678	µg/L	0.43252	-2.3678	ppb	0.43252	18.27%
Al 396.153Radial†	205626.2	133790	µg/L	218.8	133790	ppb	218.8	0.16%
As 188.979†	13.9	39.580	µg/L	1.9799	39.580	ppb	1.9799	5.00%
B 249.677†	2170.7	103.77	µg/L	3.734	103.77	ppb	3.734	3.60%
Ba 233.527†	74086.2	2150.3	µg/L	52.61	2150.3	ppb	52.61	2.45%
Be 313.107†	20345.3	11.683	µg/L	0.3948	11.683	ppb	0.3948	3.38%
Ca 317.933Radial†	28786.7	21205	µg/L	83.5	21205	ppb	83.5	0.39%
Cd 226.502†	652.8	2.4502	µg/L	0.87830	2.4502	ppb	0.87830	35.85%
Co 228.616†	1404.5	64.739	µg/L	3.3743	64.739	ppb	3.3743	5.21%
Cr 267.716†	5005.6	116.59	µg/L	2.972	116.59	ppb	2.972	2.55%
Cu 324.752†	7817.3	78.007	µg/L	1.5345	78.007	ppb	1.5345	1.97%
Fe 238.204 Radial†	11616.7	151130	µg/L	722.6	151130	ppb	722.6	0.48%
K 766.490 Radial†	30869.7	19236	µg/L	30.2	19236	ppb	30.2	0.16%
Mg 279.077 IEC†	2365.9	23572	µg/L	103.5	23572	ppb	103.5	0.44%
Mn 257.610†	1183148.9	4360.0	µg/L	62.83	4360.0	ppb	62.83	1.44%
Mo 202.031†	-33.8	1.5187	µg/L	0.60552	1.5187	ppb	0.60552	39.87%
Na 589.592 Radial†	2697.5	733.38	µg/L	2.396	733.38	ppb	2.396	0.33%

Ni 231.604†	1290.6	83.478	µg/L	4.2546	83.478	ppb	4.2546	5.10%
P 214.914†	493.1	1093.4	µg/L	65.47	1093.4	ppb	65.47	5.99%
Pb 220.353†	505.3	150.78	µg/L	5.257	150.78	ppb	5.257	3.49%
S 181.975 Axial†	104.6	607.89	µg/L	38.518	607.89	ppb	38.518	6.34%
Sb 206.836†	-2.5	-5.5158	µg/L	3.28902	-5.5158	ppb	3.28902	59.63%
Se 196.026†	-341.6	-229.92	µg/L	36.121	-229.92	ppb	36.121	15.71%
SiO2†	457164.6	94644	µg/L	995.4	94644	ppb	995.4	1.05%
Si 251.611†	531326.8	43652	µg/L	442.8	43652	ppb	442.8	1.01%
Sn 189.927†	-130.2	-54.235	µg/L	2.5027	-54.235	ppb	2.5027	4.61%
Sr 421.552†	51682.2	308.80	µg/L	0.422	308.80	ppb	0.422	0.14%
Ti 334.940†	2578311.2	6302.6	µg/L	106.57	6302.6	ppb	106.57	1.69%
Tl 190.801†	-33.8	4.6166	µg/L	10.57910	4.6166	ppb	10.57910	229.16%
U 409.014†	-539.6	-72.503	µg/L	2.0943	-72.503	ppb	2.0943	2.89%
V 292.402†	24813.8	314.46	µg/L	9.228	314.46	ppb	9.228	2.93%
Zn 213.857†	10644.8	299.85	µg/L	7.508	299.85	ppb	7.508	2.50%

Sequence No.: 16
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 1/25/2010 13:19:30
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	78145.3	78145.3	101	%			13:20:07
1	Al 396.153Radial†	8054.3	8029.9	5213.7	µg/L	5213.7	ppb	13:20:07
1	Ca 317.933Radial†	7345.3	7038.8	5185.1	µg/L	5185.1	ppb	13:20:07
1	Fe 238.204 Radial†	424.0	405.7	5289.2	µg/L	5289.2	ppb	13:20:27
1	K 766.490 Radial†	8651.2	8200.7	5110.2	µg/L	5110.2	ppb	13:20:07
1	Mg 279.077 IEC†	546.4	532.9	5349.4	µg/L	5349.4	ppb	13:20:27
1	Na 589.592 Radial†	38596.6	37744.8	10262	µg/L	10262	ppb	13:20:07
1	Sr 421.552†	86918.6	85854.0	512.98	µg/L	512.98	ppb	13:20:07
1	Sc 361.383	1889937.9	1889937.9	100.16	%			13:21:30
1	Y 371.029	1202382.0	1202382.0	99.875	%			13:21:30
1	Ag 328.068†	56760.5	56746.4	517.37	µg/L	517.37	ppb	13:21:36
1	As 188.979†	236.1	237.5	542.52	µg/L	542.52	ppb	13:21:56
1	B 249.677†	10858.0	10661.6	509.59	µg/L	509.59	ppb	13:21:36
1	Ba 233.527†	18096.9	18092.0	525.94	µg/L	525.94	ppb	13:21:36
1	Be 313.107†	762682.6	757788.7	524.42	µg/L	524.42	ppb	13:21:30
1	Cd 226.502†	17532.1	17621.3	524.85	µg/L	524.85	ppb	13:21:36
1	Co 228.616†	9469.5	9498.6	526.22	µg/L	526.22	ppb	13:21:36
1	Cr 267.716†	22801.4	22836.2	531.34	µg/L	531.34	ppb	13:21:36
1	Cu 324.752†	76274.8	72117.0	526.57	µg/L	526.57	ppb	13:21:36
1	Mn 257.610†	141818.6	141765.5	520.61	µg/L	520.61	ppb	13:21:36
1	Mo 202.031†	4211.7	4192.1	524.69	µg/L	524.69	ppb	13:21:56
1	Ni 231.604†	8672.7	8348.8	527.34	µg/L	527.34	ppb	13:21:36
1	P 214.914†	1348.1	1134.2	2674.9	µg/L	2674.9	ppb	13:21:56
1	Pb 220.353†	1895.4	1835.6	542.21	µg/L	542.21	ppb	13:21:56
1	S 181.975 Axial†	204.9	181.0	1051.6	µg/L	1051.6	ppb	13:21:56
1	Sb 206.836†	509.9	485.1	531.94	µg/L	531.94	ppb	13:21:56
1	Se 196.026†	351.1	343.4	549.49	µg/L	549.49	ppb	13:21:56
1	SiO2†	29770.1	27301.8	5652.2	µg/L	5652.2	ppb	13:21:36
1	Si 251.611†	32472.0	32139.0	2640.4	µg/L	2640.4	ppb	13:21:36
1	Sn 189.927†	934.1	912.7	545.01	µg/L	545.01	ppb	13:21:56
1	Ti 334.940†	213683.9	212600.7	519.48	µg/L	519.48	ppb	13:21:30
1	Tl 190.801†	287.5	305.9	540.43	µg/L	540.43	ppb	13:21:56
1	U 409.014†	5710.8	5762.3	535.05	µg/L	535.05	ppb	13:21:36
1	V 292.402†	42829.1	42902.5	535.63	µg/L	535.63	ppb	13:21:36
1	Zn 213.857†	18773.2	18136.2	522.43	µg/L	522.43	ppb	13:21:36
2	Sc RADIAL	79047.0	79047.0	102	%			13:20:33
2	Al 396.153Radial†	8131.3	8014.3	5203.7	µg/L	5203.7	ppb	13:20:33
2	Ca 317.933Radial†	7397.1	7006.5	5161.2	µg/L	5161.2	ppb	13:20:33
2	Fe 238.204 Radial†	424.8	401.7	5237.7	µg/L	5237.7	ppb	13:20:53
2	K 766.490 Radial†	8773.7	8223.1	5124.1	µg/L	5124.1	ppb	13:20:33
2	Mg 279.077 IEC†	547.3	527.7	5296.7	µg/L	5296.7	ppb	13:20:53
2	Na 589.592 Radial†	38890.3	37595.9	10221	µg/L	10221	ppb	13:20:33
2	Sr 421.552†	87763.9	85699.2	512.06	µg/L	512.06	ppb	13:20:33
2	Sc 361.383	1874108.9	1874108.9	99.325	%			13:22:03
2	Y 371.029	1192433.3	1192433.3	99.049	%			13:22:03
2	Ag 328.068†	57303.0	57771.2	526.70	µg/L	526.70	ppb	13:22:09
2	As 188.979†	233.9	237.3	541.91	µg/L	541.91	ppb	13:22:29
2	B 249.677†	11006.2	10902.3	521.10	µg/L	521.10	ppb	13:22:09
2	Ba 233.527†	18283.7	18432.7	535.84	µg/L	535.84	ppb	13:22:09
2	Be 313.107†	758336.7	759844.4	525.84	µg/L	525.84	ppb	13:22:03
2	Cd 226.502†	17689.7	17927.8	533.99	µg/L	533.99	ppb	13:22:09
2	Co 228.616†	9550.8	9660.3	535.18	µg/L	535.18	ppb	13:22:09
2	Cr 267.716†	23032.6	23261.2	541.23	µg/L	541.23	ppb	13:22:09
2	Cu 324.752†	77076.3	73567.0	537.14	µg/L	537.14	ppb	13:22:09
2	Mn 257.610†	143119.2	144270.8	529.80	µg/L	529.80	ppb	13:22:09
2	Mo 202.031†	4132.4	4147.8	519.14	µg/L	519.14	ppb	13:22:29
2	Ni 231.604†	8726.1	8475.6	535.35	µg/L	535.35	ppb	13:22:09
2	P 214.914†	1336.4	1133.8	2672.7	µg/L	2672.7	ppb	13:22:29
2	Pb 220.353†	1883.6	1839.7	543.40	µg/L	543.40	ppb	13:22:29

2	S 181.975 Axial†	204.0	181.8	1056.4 µg/L	1056.4 ppb	13:22:29
2	Sb 206.836†	505.5	484.9	531.55 µg/L	531.55 ppb	13:22:29
2	Se 196.026†	350.0	345.2	552.14 µg/L	552.14 ppb	13:22:29
2	SiO2†	30033.1	27817.7	5758.9 µg/L	5758.9 ppb	13:22:09
2	Si 251.611†	32799.1	32742.2	2690.0 µg/L	2690.0 ppb	13:22:09
2	Sn 189.927†	921.6	907.9	542.18 µg/L	542.18 ppb	13:22:29
2	Ti 334.940†	212556.2	213267.2	521.11 µg/L	521.11 ppb	13:22:03
2	Tl 190.801†	290.0	310.9	549.12 µg/L	549.12 ppb	13:22:29
2	U 409.014†	5676.0	5775.4	536.28 µg/L	536.28 ppb	13:22:09
2	V 292.402†	43140.3	43576.9	543.93 µg/L	543.93 ppb	13:22:09
2	Zn 213.857†	19006.1	18529.0	533.78 µg/L	533.78 ppb	13:22:09
3	Sc RADIAL	79341.6	79341.6	102 %		13:20:59
3	Al 396.153Radial†	8121.9	7975.5	5180.1 µg/L	5180.1 ppb	13:20:59
3	Ca 317.933Radial†	7398.1	6980.5	5142.1 µg/L	5142.1 ppb	13:20:59
3	Fe 238.204 Radial†	425.3	400.7	5222.9 µg/L	5222.9 ppb	13:21:19
3	K 766.490 Radial†	8699.5	8118.4	5058.9 µg/L	5058.9 ppb	13:20:59
3	Mg 279.077 IEC†	545.3	523.7	5255.5 µg/L	5255.5 ppb	13:21:19
3	Na 589.592 Radial†	38727.7	37295.0	10139 µg/L	10139 ppb	13:20:59
3	Sr 421.552†	87700.9	85317.5	509.78 µg/L	509.78 ppb	13:20:59
3	Sc 361.383	1875695.0	1875695.0	99.409 %		13:22:36
3	Y 371.029	1193585.1	1193585.1	99.145 %		13:22:36
3	Ag 328.068†	54068.0	54468.2	496.44 µg/L	496.44 ppb	13:22:41
3	As 188.979†	198.7	201.7	460.69 µg/L	460.69 ppb	13:23:02
3	B 249.677†	10266.6	10149.0	485.04 µg/L	485.04 ppb	13:22:41
3	Ba 233.527†	16633.1	16756.7	487.10 µg/L	487.10 ppb	13:22:41
3	Be 313.107†	712199.2	712787.0	493.28 µg/L	493.28 ppb	13:22:36
3	Cd 226.502†	16088.3	16301.9	485.51 µg/L	485.51 ppb	13:22:41
3	Co 228.616†	8596.6	8692.3	481.49 µg/L	481.49 ppb	13:22:41
3	Cr 267.716†	20217.1	20409.4	474.88 µg/L	474.88 ppb	13:22:41
3	Cu 324.752†	70079.7	66463.3	485.34 µg/L	485.34 ppb	13:22:41
3	Mn 257.610†	128902.8	129848.0	476.88 µg/L	476.88 ppb	13:22:41
3	Mo 202.031†	3486.5	3494.5	437.41 µg/L	437.41 ppb	13:23:02
3	Ni 231.604†	7941.2	7678.7	485.02 µg/L	485.02 ppb	13:22:41
3	P 214.914†	1172.1	967.4	2277.0 µg/L	2277.0 ppb	13:23:02
3	Pb 220.353†	1636.4	1589.4	469.39 µg/L	469.39 ppb	13:23:02
3	S 181.975 Axial†	185.7	163.2	948.15 µg/L	948.15 ppb	13:23:02
3	Sb 206.836†	439.8	418.4	458.31 µg/L	458.31 ppb	13:23:02
3	Se 196.026†	304.6	299.3	480.47 µg/L	480.47 ppb	13:23:02
3	SiO2†	27931.5	25678.0	5316.0 µg/L	5316.0 ppb	13:22:41
3	Si 251.611†	30364.6	30265.3	2486.5 µg/L	2486.5 ppb	13:22:41
3	Sn 189.927†	764.1	748.7	447.56 µg/L	447.56 ppb	13:23:02
3	Ti 334.940†	198804.5	199252.7	486.85 µg/L	486.85 ppb	13:22:36
3	Tl 190.801†	257.1	277.5	490.24 µg/L	490.24 ppb	13:23:02
3	U 409.014†	4987.9	5078.5	471.44 µg/L	471.44 ppb	13:22:41
3	V 292.402†	38715.8	39089.4	487.69 µg/L	487.69 ppb	13:22:41
3	Zn 213.857†	17231.8	16728.1	481.84 µg/L	481.84 ppb	13:22:41

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1879913.9	99.633	%	0.4620				0.46%
Sc RADIAL	78844.7	102	%	0.8				0.79%
Y 371.029	1196133.5	99.356	%	0.4520				0.45%
Ag 328.068†	56328.6	513.50	µg/L	15.495	513.50	ppb	15.495	3.02%
QC value within limits for Ag 328.068 Recovery = 102.70%								
Al 396.153Radial†	8006.6	5199.1	µg/L	17.26	5199.1	ppb	17.26	0.33%
QC value within limits for Al 396.153Radial Recovery = 103.98%								
As 188.979†	225.5	515.04	µg/L	47.067	515.04	ppb	47.067	9.14%
QC value within limits for As 188.979 Recovery = 103.01%								
B 249.677†	10571.0	505.24	µg/L	18.417	505.24	ppb	18.417	3.65%
QC value within limits for B 249.677 Recovery = 101.05%								
Ba 233.527†	17760.5	516.29	µg/L	25.759	516.29	ppb	25.759	4.99%
QC value within limits for Ba 233.527 Recovery = 103.26%								
Be 313.107†	743473.4	514.51	µg/L	18.404	514.51	ppb	18.404	3.58%
QC value within limits for Be 313.107 Recovery = 102.90%								
Ca 317.933Radial†	7008.6	5162.8	µg/L	21.52	5162.8	ppb	21.52	0.42%
QC value within limits for Ca 317.933Radial Recovery = 103.26%								
Cd 226.502†	17283.7	514.78	µg/L	25.761	514.78	ppb	25.761	5.00%
QC value within limits for Cd 226.502 Recovery = 102.96%								
Co 228.616†	9283.7	514.30	µg/L	28.764	514.30	ppb	28.764	5.59%

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   QC value within limits for Co 228.616  Recovery = 102.86%
Cr 267.716†            22168.9      515.82 µg/L        35.795      515.82 ppb        35.795   6.94%
   QC value within limits for Cr 267.716  Recovery = 103.16%
Cu 324.752†            70715.8      516.35 µg/L        27.371      516.35 ppb        27.371   5.30%
   QC value within limits for Cu 324.752  Recovery = 103.27%
Fe 238.204 Radial†       402.7      5249.9 µg/L         34.79      5249.9 ppb         34.79   0.66%
   QC value within limits for Fe 238.204 Radial  Recovery = 105.00%
K 766.490 Radial†       8180.8      5097.7 µg/L         34.34      5097.7 ppb         34.34   0.67%
   QC value within limits for K 766.490 Radial  Recovery = 101.95%
Mg 279.077 IEC†          528.1      5300.6 µg/L         47.04      5300.6 ppb         47.04   0.89%
   QC value within limits for Mg 279.077 IEC  Recovery = 106.01%
Mn 257.610†           138628.1      509.10 µg/L        28.275      509.10 ppb        28.275   5.55%
   QC value within limits for Mn 257.610  Recovery = 101.82%
Mo 202.031†             3944.8      493.74 µg/L        48.871      493.74 ppb        48.871   9.90%
   QC value within limits for Mo 202.031  Recovery = 98.75%
Na 589.592 Radial†     37545.2       10207 µg/L          62.3       10207 ppb          62.3   0.61%
   QC value within limits for Na 589.592 Radial  Recovery = 102.07%
Ni 231.604†             8167.7      515.90 µg/L        27.042      515.90 ppb        27.042   5.24%
   QC value within limits for Ni 231.604  Recovery = 103.18%
P 214.914†              1078.5      2541.5 µg/L        229.08      2541.5 ppb        229.08   9.01%
   QC value within limits for P 214.914  Recovery = 101.66%
Pb 220.353†             1754.9      518.33 µg/L        42.390      518.33 ppb        42.390   8.18%
   QC value within limits for Pb 220.353  Recovery = 103.67%
S 181.975 Axial†         175.3      1018.7 µg/L         61.18      1018.7 ppb         61.18   6.01%
   QC value within limits for S 181.975 Axial  Recovery = 101.87%
Sb 206.836†              462.8      507.26 µg/L        42.398      507.26 ppb        42.398   8.36%
   QC value within limits for Sb 206.836  Recovery = 101.45%
Se 196.026†              329.3      527.37 µg/L        40.633      527.37 ppb        40.633   7.70%
   QC value within limits for Se 196.026  Recovery = 105.47%
SiO2†                  26932.5      5575.7 µg/L        231.17      5575.7 ppb        231.17   4.15%
   QC value within limits for SiO2  Recovery = 104.27%
Si 251.611†            31715.5      2605.6 µg/L        106.11      2605.6 ppb        106.11   4.07%
   QC value within limits for Si 251.611  Recovery = 104.23%
Sn 189.927†              856.4      511.58 µg/L        55.463      511.58 ppb        55.463  10.84%
   QC value within limits for Sn 189.927  Recovery = 102.32%
Sr 421.552†            85623.6      511.60 µg/L         1.650      511.60 ppb         1.650   0.32%
   QC value within limits for Sr 421.552  Recovery = 102.32%
Ti 334.940†           208373.5      509.15 µg/L        19.328      509.15 ppb        19.328   3.80%
   QC value within limits for Ti 334.940  Recovery = 101.83%
Tl 190.801†              298.1      526.59 µg/L        31.787      526.59 ppb        31.787   6.04%
   QC value within limits for Tl 190.801  Recovery = 105.32%
U 409.014†              5538.7      514.26 µg/L        37.085      514.26 ppb        37.085   7.21%
   QC value within limits for U 409.014  Recovery = 102.85%
V 292.402†             41856.3      522.42 µg/L        30.357      522.42 ppb        30.357   5.81%
   QC value within limits for V 292.402  Recovery = 104.48%
Zn 213.857†            17797.8      512.68 µg/L        27.307      512.68 ppb        27.307   5.33%
   QC value within limits for Zn 213.857  Recovery = 102.54%
All analyte(s) passed QC.
```

Sequence No.: 17
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 1/25/2010 13:23:11
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc.	Calib. Units	Conc.	Sample Units	Analysis Time
1	Sc RADIAL	77026.4	77026.4	99.2	%			13:23:44
1	Al 396.153Radial†	-32.2	-2.8	-1.8139	µg/L	-1.8139	ppb	13:23:44
1	Ca 317.933Radial†	249.9	-5.4	-3.9805	µg/L	-3.9805	ppb	13:24:04
1	Fe 238.204 Radial†	19.0	3.7	47.744	µg/L	47.744	ppb	13:24:04
1	K 766.490 Radial†	371.3	-18.3	-11.409	µg/L	-11.409	ppb	13:23:44
1	Mg 279.077 IEC†	5.8	-3.9	-38.882	µg/L	-38.882	ppb	13:24:04
1	Na 589.592 Radial†	232.7	-358.6	-97.485	µg/L	-97.485	ppb	13:23:44
1	Sr 421.552†	496.9	18.7	0.1119	µg/L	0.1119	ppb	13:23:44
1	Sc 361.383	1857219.2	1857219.2	98.430	%			13:25:06
1	Y 371.029	1183877.4	1183877.4	98.338	%			13:25:06
1	Ag 328.068†	-104.6	-27.5	-0.2443	µg/L	-0.2443	ppb	13:25:11
1	As 188.979†	-1.1	0.7	1.5153	µg/L	1.5153	ppb	13:25:32
1	B 249.677†	144.7	-31.6	-1.5081	µg/L	-1.5081	ppb	13:25:32
1	Ba 233.527†	-28.4	-4.1	-0.1193	µg/L	-0.1193	ppb	13:25:32
1	Be 313.107†	3728.9	142.8	0.0988	µg/L	0.0988	ppb	13:25:11
1	Cd 226.502†	-124.7	-8.8	-0.2671	µg/L	-0.2671	ppb	13:25:32
1	Co 228.616†	-46.6	-2.7	-0.1521	µg/L	-0.1521	ppb	13:25:32
1	Cr 267.716†	-51.9	19.4	0.4504	µg/L	0.4504	ppb	13:25:32
1	Cu 324.752†	3978.2	8.7	0.0701	µg/L	0.0701	ppb	13:25:11
1	Mn 257.610†	-139.2	37.6	0.1459	µg/L	0.1459	ppb	13:25:32
1	Mo 202.031†	13.6	1.1	0.1341	µg/L	0.1341	ppb	13:25:32
1	Ni 231.604†	304.1	-0.8	-0.0498	µg/L	-0.0498	ppb	13:25:32
1	P 214.914†	222.0	13.9	33.384	µg/L	33.384	ppb	13:25:32
1	Pb 220.353†	69.4	13.7	4.0450	µg/L	4.0450	ppb	13:25:32
1	S 181.975 Axial†	25.1	1.9	10.810	µg/L	10.810	ppb	13:25:32
1	Sb 206.836†	21.0	-2.6	-2.8860	µg/L	-2.8860	ppb	13:25:32
1	Se 196.026†	8.2	1.2	1.9504	µg/L	1.9504	ppb	13:25:32
1	SiO2†	2427.9	47.1	9.7583	µg/L	9.7583	ppb	13:25:11
1	Si 251.611†	327.7	53.2	4.3692	µg/L	4.3692	ppb	13:25:32
1	Sn 189.927†	22.0	2.4	1.4442	µg/L	1.4442	ppb	13:25:32
1	Ti 334.940†	810.4	89.9	0.2228	µg/L	0.2228	ppb	13:25:11
1	Tl 190.801†	-20.7	-2.2	-3.7622	µg/L	-3.7622	ppb	13:25:32
1	U 409.014†	1.7	62.6	5.8181	µg/L	5.8181	ppb	13:25:11
1	V 292.402†	-125.1	16.3	0.2123	µg/L	0.2123	ppb	13:25:11
1	Zn 213.857†	601.0	4.4	0.1282	µg/L	0.1282	ppb	13:25:32
2	Sc RADIAL	76944.6	76944.6	99.1	%			13:24:10
2	Al 396.153Radial†	-60.3	-31.2	-20.322	µg/L	-20.322	ppb	13:24:10
2	Ca 317.933Radial†	250.4	-4.7	-3.4273	µg/L	-3.4273	ppb	13:24:30
2	Fe 238.204 Radial†	17.1	1.8	23.425	µg/L	23.425	ppb	13:24:30
2	K 766.490 Radial†	349.6	-39.8	-24.812	µg/L	-24.812	ppb	13:24:10
2	Mg 279.077 IEC†	13.4	3.8	37.911	µg/L	37.911	ppb	13:24:30
2	Na 589.592 Radial†	221.3	-369.8	-100.55	µg/L	-100.55	ppb	13:24:10
2	Sr 421.552†	501.6	24.1	0.1438	µg/L	0.1438	ppb	13:24:10
2	Sc 361.383	1857302.4	1857302.4	98.434	%			13:25:38
2	Y 371.029	1183964.7	1183964.7	98.346	%			13:25:38
2	Ag 328.068†	-83.5	-6.0	-0.0502	µg/L	-0.0502	ppb	13:25:43
2	As 188.979†	-1.5	0.3	0.5828	µg/L	0.5828	ppb	13:26:04
2	B 249.677†	110.7	-66.2	-3.1577	µg/L	-3.1577	ppb	13:26:04
2	Ba 233.527†	-18.2	6.2	0.1819	µg/L	0.1819	ppb	13:26:04
2	Be 313.107†	3673.2	86.0	0.0595	µg/L	0.0595	ppb	13:25:43
2	Cd 226.502†	-114.8	1.3	0.0367	µg/L	0.0367	ppb	13:26:04
2	Co 228.616†	-51.8	-8.1	-0.4474	µg/L	-0.4474	ppb	13:26:04
2	Cr 267.716†	-68.4	2.6	0.0606	µg/L	0.0606	ppb	13:26:04
2	Cu 324.752†	3927.7	-42.8	-0.3089	µg/L	-0.3089	ppb	13:25:43
2	Mn 257.610†	-138.1	38.7	0.1437	µg/L	0.1437	ppb	13:26:04
2	Mo 202.031†	11.0	-1.6	-0.1939	µg/L	-0.1939	ppb	13:26:04
2	Ni 231.604†	308.1	3.2	0.2055	µg/L	0.2055	ppb	13:26:04
2	P 214.914†	212.9	4.6	11.112	µg/L	11.112	ppb	13:26:04
2	Pb 220.353†	63.5	7.7	2.2653	µg/L	2.2653	ppb	13:26:04

2	S 181.975 Axial†	20.0	-3.3	-19.311 µg/L	-19.311 ppb	13:26:04
2	Sb 206.836†	23.5	-0.1	-0.1538 µg/L	-0.1538 ppb	13:26:04
2	Se 196.026†	7.9	0.9	1.4615 µg/L	1.4615 ppb	13:26:04
2	SiO2†	2395.2	13.8	2.8572 µg/L	2.8572 ppb	13:25:43
2	Si 251.611†	310.2	35.4	2.9067 µg/L	2.9067 ppb	13:26:04
2	Sn 189.927†	24.9	5.4	3.1994 µg/L	3.1994 ppb	13:26:04
2	Ti 334.940†	779.7	58.6	0.1403 µg/L	0.1403 ppb	13:25:43
2	Tl 190.801†	-24.9	-6.4	-11.207 µg/L	-11.207 ppb	13:26:04
2	U 409.014†	81.3	143.4	13.342 µg/L	13.342 ppb	13:25:43
2	V 292.402†	-106.0	35.8	0.4551 µg/L	0.4551 ppb	13:25:43
2	Zn 213.857†	599.9	3.3	0.0909 µg/L	0.0909 ppb	13:26:04
3	Sc RADIAL	76994.5	76994.5	99.2 %		13:24:35
3	Al 396.153Radial†	-12.7	16.9	10.972 µg/L	10.972 ppb	13:24:35
3	Ca 317.933Radial†	251.5	-3.7	-2.7138 µg/L	-2.7138 ppb	13:24:56
3	Fe 238.204 Radial†	15.6	0.2	3.1197 µg/L	3.1197 ppb	13:24:56
3	K 766.490 Radial†	383.0	-6.4	-3.9637 µg/L	-3.9637 ppb	13:24:35
3	Mg 279.077 IEC†	12.7	3.1	31.000 µg/L	31.000 ppb	13:24:56
3	Na 589.592 Radial†	230.4	-360.8	-98.098 µg/L	-98.098 ppb	13:24:35
3	Sr 421.552†	527.3	49.6	0.2963 µg/L	0.2963 ppb	13:24:35
3	Sc 361.383	1852109.3	1852109.3	98.159 %		13:26:09
3	Y 371.029	1181520.6	1181520.6	98.143 %		13:26:09
3	Ag 328.068†	-29.8	48.5	0.4375 µg/L	0.4375 ppb	13:26:15
3	As 188.979†	-4.2	-2.5	-5.7460 µg/L	-5.7460 ppb	13:26:35
3	B 249.677†	109.4	-67.2	-3.2056 µg/L	-3.2056 ppb	13:26:35
3	Ba 233.527†	-23.1	1.2	0.0341 µg/L	0.0341 ppb	13:26:35
3	Be 313.107†	3695.3	119.0	0.0824 µg/L	0.0824 ppb	13:26:15
3	Cd 226.502†	-111.2	4.6	0.1377 µg/L	0.1377 ppb	13:26:35
3	Co 228.616†	-45.8	-2.0	-0.1131 µg/L	-0.1131 ppb	13:26:35
3	Cr 267.716†	-51.2	19.9	0.4623 µg/L	0.4623 ppb	13:26:35
3	Cu 324.752†	3950.8	-8.1	-0.0586 µg/L	-0.0586 ppb	13:26:15
3	Mn 257.610†	-131.7	44.8	0.1637 µg/L	0.1637 ppb	13:26:35
3	Mo 202.031†	15.5	3.1	0.3903 µg/L	0.3903 ppb	13:26:35
3	Ni 231.604†	306.6	2.6	0.1655 µg/L	0.1655 ppb	13:26:35
3	P 214.914†	209.5	1.7	4.0740 µg/L	4.0740 ppb	13:26:35
3	Pb 220.353†	61.1	5.5	1.6319 µg/L	1.6319 ppb	13:26:35
3	S 181.975 Axial†	20.6	-2.6	-15.091 µg/L	-15.091 ppb	13:26:35
3	Sb 206.836†	30.6	7.2	7.9111 µg/L	7.9111 ppb	13:26:35
3	Se 196.026†	6.0	-1.0	-1.5909 µg/L	-1.5909 ppb	13:26:35
3	SiO2†	2389.6	14.8	3.0707 µg/L	3.0707 ppb	13:26:15
3	Si 251.611†	322.5	48.7	4.0033 µg/L	4.0033 ppb	13:26:35
3	Sn 189.927†	16.7	-2.9	-1.7017 µg/L	-1.7017 ppb	13:26:35
3	Ti 334.940†	765.9	46.8	0.1120 µg/L	0.1120 ppb	13:26:15
3	Tl 190.801†	-24.8	-6.4	-11.258 µg/L	-11.258 ppb	13:26:35
3	U 409.014†	-8.2	52.5	4.8833 µg/L	4.8833 ppb	13:26:15
3	V 292.402†	-158.7	-18.2	-0.2150 µg/L	-0.2150 ppb	13:26:15
3	Zn 213.857†	602.8	7.9	0.2279 µg/L	0.2279 ppb	13:26:35

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1855543.6	98.341	%	0.1576				0.16%
Sc RADIAL	76988.5	99.2	%	0.05				0.05%
Y 371.029	1183120.9	98.275	%	0.1152				0.12%
Ag 328.068†	5.0	0.0477	µg/L	0.35125	0.0477	ppb	0.35125	736.84%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153Radial†	-5.7	-3.7216	µg/L	15.73403	-3.7216	ppb	15.73403	422.78%
QC value within limits for Al 396.153Radial Recovery = Not calculated								
As 188.979†	-0.5	-1.2160	µg/L	3.95076	-1.2160	ppb	3.95076	324.90%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	-55.0	-2.6238	µg/L	0.96648	-2.6238	ppb	0.96648	36.84%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	1.1	0.0322	µg/L	0.15060	0.0322	ppb	0.15060	467.20%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	116.0	0.0802	µg/L	0.01974	0.0802	ppb	0.01974	24.61%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933Radial†	-4.6	-3.3739	µg/L	0.63502	-3.3739	ppb	0.63502	18.82%
QC value within limits for Ca 317.933Radial Recovery = Not calculated								
Cd 226.502†	-0.9	-0.0309	µg/L	0.21068	-0.0309	ppb	0.21068	681.60%
QC value within limits for Cd 226.502 Recovery = Not calculated								
Co 228.616†	-4.3	-0.2375	µg/L	0.18282	-0.2375	ppb	0.18282	76.96%

```
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              13.9      0.3244 µg/L       0.22857      0.3244 ppb        0.22857  70.45%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 324.752†             -14.1     -0.0991 µg/L       0.19269     -0.0991 ppb        0.19269 194.35%
   QC value within limits for Cu 324.752  Recovery = Not calculated
Fe 238.204 Radial†        1.9      24.763 µg/L       22.3421      24.763 ppb        22.3421  90.22%
   QC value within limits for Fe 238.204 Radial  Recovery = Not calculated
K 766.490 Radial†       -21.5     -13.395 µg/L       10.5653     -13.395 ppb        10.5653  78.88%
   QC value within limits for K 766.490 Radial  Recovery = Not calculated
Mg 279.077 IEC†           1.0      10.010 µg/L       42.4820      10.010 ppb        42.4820 424.41%
   QC value within limits for Mg 279.077 IEC  Recovery = Not calculated
Mn 257.610†              40.4      0.1511 µg/L       0.01097      0.1511 ppb        0.01097   7.26%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               0.9      0.1102 µg/L       0.29281      0.1102 ppb        0.29281 265.74%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Na 589.592 Radial†      -363.1     -98.710 µg/L        1.6202     -98.710 ppb         1.6202   1.64%
   QC value within limits for Na 589.592 Radial  Recovery = Not calculated
Ni 231.604†               1.7      0.1071 µg/L       0.13733      0.1071 ppb        0.13733 128.28%
   QC value within limits for Ni 231.604  Recovery = Not calculated
P 214.914†                6.7      16.190 µg/L       15.3004      16.190 ppb        15.3004  94.51%
   QC value within limits for P 214.914  Recovery = Not calculated
Pb 220.353†               9.0      2.6474 µg/L       1.25109      2.6474 ppb        1.25109  47.26%
   QC value within limits for Pb 220.353  Recovery = Not calculated
S 181.975 Axial†         -1.4     -7.8637 µg/L      16.30936     -7.8637 ppb       16.30936 207.40%
   QC value within limits for S 181.975 Axial  Recovery = Not calculated
Sb 206.836†               1.5      1.6238 µg/L       5.61372      1.6238 ppb        5.61372 345.72%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               0.4      0.6070 µg/L       1.91906      0.6070 ppb        1.91906 316.16%
   QC value within limits for Se 196.026  Recovery = Not calculated
SiO2†                    25.3      5.2288 µg/L       3.92419      5.2288 ppb        3.92419  75.05%
   QC value within limits for SiO2  Recovery = Not calculated
Si 251.611†              45.8      3.7597 µg/L       0.76106      3.7597 ppb        0.76106  20.24%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               1.6      0.9806 µg/L       2.48325      0.9806 ppb        2.48325 253.23%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Sr 421.552†              30.8      0.1840 µg/L       0.09853      0.1840 ppb        0.09853  53.56%
   QC value within limits for Sr 421.552  Recovery = Not calculated
Ti 334.940†              65.1      0.1584 µg/L       0.05754      0.1584 ppb        0.05754  36.33%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -5.0     -8.7422 µg/L       4.31286     -8.7422 ppb        4.31286  49.33%
   QC value within limits for Tl 190.801  Recovery = Not calculated
U 409.014†               86.2      8.0146 µg/L       4.63759      8.0146 ppb        4.63759  57.86%
   QC value within limits for U 409.014  Recovery = Not calculated
V 292.402†               11.3      0.1508 µg/L       0.33926      0.1508 ppb        0.33926 224.98%
   QC value within limits for V 292.402  Recovery = Not calculated
Zn 213.857†               5.2      0.1490 µg/L       0.07081      0.1490 ppb        0.07081  47.51%
   QC value within limits for Zn 213.857  Recovery = Not calculated
All analyte(s) passed QC.
```

Daily Performance Report

Sample ID: Sample
Sample Date/Time: Friday, January 15, 2010 12:11:42
Sample Description:
Method File: C:\elandata\Method\daily2.mth
Dataset File: c:\elandata\Dataset\090811\Sample.358
Tuning File: c:\elandata\Tuning\default2.tun
Optimization File: c:\elandata\Optimize\default.dac
Dual Detector Mode: Pulse
Acq. Dead Time(ns): 35
Current Dead Time (ns): 35

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Be	9.0	561.8	561.811	19.640	3.5
	Mg	24.0	10019.3	10019.313	125.740	1.3
	Co	58.9	23669.0	23668.995	330.169	1.4
	Rh	102.9	44514.2	44514.249	357.944	0.8
	In	114.9	61105.0	61105.009	383.776	0.6
	Pb	208.0	21363.2	21363.162	98.479	0.5
⌈>	Ba	137.9	50046.0	50045.984	424.733	0.8
⌊	Ba++	69.0	807.6	0.016	0.000	2.0
⌈>	Ce	139.9	58723.3	58723.258	619.580	1.1
⌊	CeO	155.9	987.4	0.017	0.000	2.0
	Bkgd	220.0	9.2	9.200	1.823	19.8

Current Optimization File Data

Current Value	Description
0.86	Nebulizer Gas Flow
9.00	Lens Voltage
1000.00	ICP RF Power
-1875.00	Analog Stage Voltage
1100.00	Pulse Stage Voltage
50.00	Discriminator Threshold
-2.00	AC Rod Offset

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	9	9.0	512.0
Co	59	9	9.0	18118.1
In	115	9	9.8	45625.4

ICPMS #4 TUNING REPORT

File Name: default2.tun
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas Peak W
He	3.0	3.0	599	2060	0.700
Be	9.0	9.1	2050	2045	0.709
Mg	24.0	24.0	5681	2075	0.766
Mg	25.0	25.0	5919	2080	0.703
Mg	26.0	26.0	6161	2085	0.750
Co	58.9	58.9	14184	2140	0.730
Rh	102.9	102.9	24868	2230	0.714
In	114.9	114.9	27779	2255	0.722
Ce	139.9	139.9	33854	2310	0.692
Pb	206.0	206.0	49936	2500	0.749
Pb	207.0	207.0	50089	2380	0.649
Pb	208.0	208.0	50448	2570	0.643
U	238.1	238.0	57684	2510	0.679

ICPMS#4 - Summary Report

Sample ID: Blank
Sample Date/Time: Friday, January 15, 2010 18:28:27
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\Blank.071

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7		ug/L		10	
	Be	9		ug/L		3	
	B	11		ug/L		63	
	Na	23		ug/L		15342	
	Mg	24		ug/L		1000	
	Al	27		ug/L		333	
	P	31		ug/L		2155	
	K	39		ug/L		353663	
	Ca	43		ug/L		467	
>	Sc	45		ug/L		231676	
	Ti	47		ug/L		180	
	V	51		ug/L		6738	
	Cr	52		ug/L		831	
	Cr	53		ug/L		157379	
	Mn	55		ug/L		760	
	Fe	57		ug/L		4685	
	Co	59		ug/L		118	
	Ni	60		ug/L		40	
	Cu	63		ug/L		80	
	Cu	65		ug/L		57	
	Zn	66		ug/L		46	
	Zn	67		ug/L		6871	
	Zn	68		ug/L		589	
>	Ge	74		ug/L		118547	
	As	75		ug/L		219	
	Se	77		ug/L		5386	
	Se	82		ug/L		1	
	Kr	83		ug/L		48	
	Sr	88		ug/L		66	
	Y	89		ug/L		13	
	Zr	90		ug/L		123	
	Mo	98		ug/L		19	
	Ag	107		ug/L		47	
	Cd	111		ug/L		8	
	Cd	114		ug/L		16	
>	In	115		ug/L		77728	
	Sn	120		ug/L		128	
	Sb	121		ug/L		149	
	Sb	123		ug/L		175	
	Ba	135		ug/L		17	
	Ba	137		ug/L		18	
	Ho	165		ug/L		7	
>	Lu	175		ug/L		67479	
	Tl	205		ug/L		114	
	Pb	208		ug/L		237	
	Bi	209		ug/L		29	
	Th	232		ug/L		161	
	U	238		ug/L		55	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9991
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	0.9999
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Simple Linear	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45					
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175					
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Friday, January 15, 2010 18:34:38
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\Standard 1.072

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**10.000**	**ug/L**	4.273	1963	0.009
	Be	9	**10.000**	**ug/L**	4.958	526	0.002
	B	11	**20.000**	**ug/L**	2.749	1078	0.004
	Na	23	**1000.000**	**ug/L**	3.116	1164619	5.077
	Mg	24	**1000.000**	**ug/L**	5.221	798757	3.523
	Al	27	**1000.000**	**ug/L**	1.429	1166808	5.149
	P	31	**1000.000**	**ug/L**	1.233	62062	0.265
	K	39	**1000.000**	**ug/L**	6.797	2203157	8.201
	Ca	43	**1000.000**	**ug/L**	1.975	4267	0.017
>	Sc	45		**ug/L**		226498	226497.676
	Ti	47	**10.000**	**ug/L**	4.797	2050	0.008
	V	51	**10.000**	**ug/L**	32.056	18146	0.051
	Cr	52	**10.000**	**ug/L**	1.722	18720	0.079
	Cr	53		**ug/L**		186329	0.144
	Mn	55	**10.000**	**ug/L**	2.552	29294	0.126
	Fe	57	**1000.000**	**ug/L**	2.300	62645	0.256
	Co	59	**10.000**	**ug/L**	2.744	21922	0.096
	Ni	60	**10.000**	**ug/L**	2.615	4567	0.020
	Cu	63		**ug/L**		10441	0.046
	Cu	65	**10.000**	**ug/L**	2.079	5010	0.022
	Zn	66	**10.000**	**ug/L**	0.969	2539	0.021
	Zn	67		**ug/L**		8189	0.012
	Zn	68		**ug/L**		2468	0.016
>	Ge	74		**ug/L**		117149	117148.959
	As	75	**10.000**	**ug/L**	8.815	3450	0.028
	Se	77		**ug/L**		6866	0.013
	Se	82	**10.000**	**ug/L**	3.571	306	0.003
	Kr	83		**ug/L**		44	-0.000
	Sr	88	**10.000**	**ug/L**	1.203	46239	0.606
	Y	89		**ug/L**		19	0.000
	Zr	90	**10.000**	**ug/L**	2.989	24472	0.320
	Mo	98	**10.000**	**ug/L**	4.123	10456	0.137
	Ag	107	**10.000**	**ug/L**	1.882	17337	0.227
	Cd	111	**10.000**	**ug/L**	4.021	4075	0.053
	Cd	114		**ug/L**		9658	0.127
>	In	115		**ug/L**		76184	76184.142
	Sn	120	**10.000**	**ug/L**	1.375	18800	0.245
	Sb	121	**10.000**	**ug/L**	6.685	13872	0.180
	Sb	123		**ug/L**		10533	0.136
	Ba	135		**ug/L**		4278	0.064
	Ba	137	**10.000**	**ug/L**	2.327	7360	0.110
	Ho	165		**ug/L**		8	0.000
>	Lu	175		**ug/L**		66966	66965.939
	Tl	205	**10.000**	**ug/L**	2.402	10129	0.150
	Pb	208	**10.000**	**ug/L**	1.386	40603	0.603
	Bi	209		**ug/L**		28	-0.000
	Th	232	**10.000**	**ug/L**	2.716	49365	0.735
	U	238	**10.000**	**ug/L**	1.690	50702	0.756

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45					
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175					
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Friday, January 15, 2010 18:40:47
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\Standard 2.073

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**99.970**	ug/L	1.632	19115	0.084
	Be	9	**99.973**	ug/L	2.094	5132	0.022
	B	11	**200.022**	ug/L	2.799	10417	0.045
	Na	23	**10004.009**	ug/L	3.827	12084031	52.915
	Mg	24	**9999.134**	ug/L	4.678	7964021	34.923
	Al	27	**10002.622**	ug/L	4.641	12064376	52.893
	P	31	**9997.867**	ug/L	0.198	593134	2.592
	K	39	**9992.261**	ug/L	2.174	17693087	76.057
	Ca	43	**9997.633**	ug/L	0.521	37943	0.164
>	Sc	45		ug/L		228051	228051.479
	Ti	47	**99.947**	ug/L	0.552	18100	0.079
	V	51	**100.295**	ug/L	2.029	172686	0.728
	Cr	52	**99.935**	ug/L	1.171	169953	0.742
	Cr	53		ug/L		177983	0.101
	Mn	55	**99.974**	ug/L	1.296	280829	1.228
	Fe	57	**9996.400**	ug/L	0.658	568858	2.474
	Co	59	**99.953**	ug/L	1.275	209802	0.919
	Ni	60	**99.957**	ug/L	1.045	43755	0.192
	Cu	63		ug/L		99020	0.434
	Cu	65	**99.961**	ug/L	1.491	48077	0.211
	Zn	66	**100.007**	ug/L	0.797	25189	0.214
	Zn	67		ug/L		11111	0.037
	Zn	68		ug/L		18489	0.153
>	Ge	74		ug/L		117356	117356.248
	As	75	**99.911**	ug/L	2.284	29896	0.253
	Se	77		ug/L		7770	0.021
	Se	82	**99.970**	ug/L	1.826	2969	0.025
	Kr	83		ug/L		55	0.000
	Sr	88	**99.988**	ug/L	1.779	455355	5.987
	Y	89		ug/L		53	0.001
	Zr	90	**99.990**	ug/L	1.437	240732	3.164
	Mo	98	**100.003**	ug/L	1.972	104529	1.374
	Ag	107	**99.972**	ug/L	0.794	167986	2.208
	Cd	111	**99.990**	ug/L	0.512	40209	0.529
	Cd	114		ug/L		94778	1.246
>	In	115		ug/L		76051	76051.173
	Sn	120	**99.981**	ug/L	1.830	182988	2.405
	Sb	121	**99.999**	ug/L	5.652	137107	1.802
	Sb	123		ug/L		104750	1.376
	Ba	135		ug/L		42993	0.636
	Ba	137	**99.987**	ug/L	1.977	73103	1.082
	Ho	165		ug/L		8	0.000
>	Lu	175		ug/L		67547	67546.662
	Tl	205	**99.981**	ug/L	1.903	99201	1.467
	Pb	208	**99.968**	ug/L	1.826	394850	5.843
	Bi	209		ug/L		54	0.000
	Th	232	**99.989**	ug/L	1.755	491035	7.268
	U	238	**99.975**	ug/L	1.677	498231	7.376

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45					
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175					
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Friday, January 15, 2010 18:46:57
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 1.074

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**52.181**	ug/L	1.642	9819	0.044
	Be	9	**52.574**	ug/L	1.722	2657	0.012
	B	11	**103.332**	ug/L	1.733	5323	0.023
	Na	23	**4746.294**	ug/L	4.046	5647610	25.105
	Mg	24	**5215.359**	ug/L	3.530	4087205	18.215
	Al	27	**4753.857**	ug/L	5.054	5639298	25.138
	P	31	**4980.195**	ug/L	0.161	291702	1.291
	K	39	**5577.512**	ug/L	7.685	9868490	42.454
	Ca	43	**5012.633**	ug/L	0.989	18940	0.082
>	Sc	45		ug/L		224343	224343.407
	Ti	47	**50.656**	ug/L	1.398	9110	0.040
	V	51	**49.275**	ug/L	6.980	86790	0.358
	Cr	52	**51.583**	ug/L	0.725	86689	0.383
	Cr	53		ug/L		180076	0.123
	Mn	55	**52.564**	ug/L	1.556	145602	0.646
	Fe	57	**5093.008**	ug/L	1.651	287334	1.261
	Co	59	**51.450**	ug/L	0.518	106295	0.473
	Ni	60	**53.528**	ug/L	0.070	23069	0.103
	Cu	63		ug/L		51011	0.227
	Cu	65	**51.423**	ug/L	0.452	24357	0.108
	Zn	66	**52.299**	ug/L	2.535	12930	0.112
	Zn	67		ug/L		9470	0.024
	Zn	68		ug/L		9876	0.081
>	Ge	74		ug/L		115045	115044.635
	As	75	**50.440**	ug/L	2.891	14897	0.128
	Se	77		ug/L		7326	0.018
	Se	82	**50.738**	ug/L	1.120	1478	0.013
	Kr	83		ug/L		46	-0.000
	Sr	88	**52.292**	ug/L	1.619	234783	3.131
	Y	89		ug/L		24	0.000
	Zr	90	**50.476**	ug/L	1.530	119847	1.597
	Mo	98	**50.192**	ug/L	1.534	51724	0.690
	Ag	107	**50.628**	ug/L	2.071	83874	1.118
	Cd	111	**51.236**	ug/L	1.074	20314	0.271
	Cd	114		ug/L		47382	0.632
>	In	115		ug/L		74965	74964.932
	Sn	120	**51.609**	ug/L	1.749	93167	1.241
	Sb	121	**52.447**	ug/L	2.129	70973	0.945
	Sb	123		ug/L		55213	0.734
	Ba	135		ug/L		21707	0.329
	Ba	137	**51.413**	ug/L	2.361	36681	0.556
	Ho	165		ug/L		8	0.000
>	Lu	175		ug/L		65901	65900.649
	Tl	205	**48.911**	ug/L	1.296	47408	0.718
	Pb	208	**52.049**	ug/L	1.095	200697	3.042
	Bi	209		ug/L		77	0.001
	Th	232	**52.983**	ug/L	0.801	253943	3.851
	U	238	**54.621**	ug/L	0.826	265617	4.030

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	104.361				
	Be	9	105.149				
	B	11	103.332				
	Na	23	94.926				
	Mg	24	104.307				
	Al	27	94.136				
	P	31	99.604				
	K	39	111.550				
	Ca	43	100.253				
>	Sc	45			96.8		
	Ti	47	101.313				
	V	51	98.550				
	Cr	52	103.166				
	Cr	53					
	Mn	55	105.128				
	Fe	57	101.860				
	Co	59	102.901				
	Ni	60	107.055				
	Cu	63					
	Cu	65	102.846				
	Zn	66	104.599				
	Zn	67					
	Zn	68					
>	Ge	74			97.0		
	As	75	100.880				
	Se	77					
	Se	82	101.476				
	Kr	83					
	Sr	88	104.585				
	Y	89					
	Zr	90	100.953				
	Mo	98	100.384				
	Ag	107	101.255				
	Cd	111	102.472				
	Cd	114					
>	In	115			96.4		
	Sn	120	103.218				
	Sb	121	104.894				
	Sb	123					
	Ba	135					
	Ba	137	102.825				
	Ho	165					
>	Lu	175			97.7		
	Tl	205	97.822				
	Pb	208	104.099				
	Bi	209					
	Th	232	105.966				
	U	238	109.241				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	K	39	ICV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Friday, January 15, 2010 18:53:09
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 2.075

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.031**	ug/L	48.598	16	0.000
	Be	9	**-0.019**	ug/L	1.323	2	-0.000
	B	11	**4.258**	ug/L	14.622	286	0.001
	Na	23	**-0.508**	ug/L	370.497	14674	-0.003
	Mg	24	**0.823**	ug/L	228.859	1667	0.003
	Al	27	**1.091**	ug/L	42.824	1667	0.006
	P	31	**0.324**	ug/L	275.936	2168	0.000
	K	39	**-1.869**	ug/L	461.703	349221	-0.014
	Ca	43	**4.404**	ug/L	293.661	482	0.000
>	Sc	45		ug/L		230954	230953.592
	Ti	47	**-0.010**	ug/L	337.232	177	-0.000
	V	51	**-1.599**	ug/L	105.587	4039	-0.012
	Cr	52	**0.274**	ug/L	43.451	1298	0.002
	Cr	53		ug/L		151396	-0.024
	Mn	55	**0.008**	ug/L	87.695	781	0.000
	Fe	57	**1.267**	ug/L	157.763	4742	0.000
	Co	59	**0.011**	ug/L	19.972	140	0.000
	Ni	60	**-0.013**	ug/L	23.124	34	-0.000
	Cu	63		ug/L		84	0.000
	Cu	65	**0.002**	ug/L	2401.868	57	0.000
	Zn	66	**0.050**	ug/L	84.382	60	0.000
	Zn	67		ug/L		6426	-0.004
	Zn	68		ug/L		598	0.000
>	Ge	74		ug/L		119805	119804.854
	As	75	**0.478**	ug/L	220.637	369	0.001
	Se	77		ug/L		5273	-0.001
	Se	82	**-0.065**	ug/L	287.500	-1	-0.000
	Kr	83		ug/L		47	-0.000
	Sr	88	**0.006**	ug/L	98.736	96	0.000
	Y	89		ug/L		11	-0.000
	Zr	90	**0.147**	ug/L	22.620	484	0.005
	Mo	98	**0.050**	ug/L	29.682	72	0.001
	Ag	107	**0.013**	ug/L	38.977	70	0.000
	Cd	111	**0.022**	ug/L	68.789	17	0.000
	Cd	114		ug/L		27	0.000
>	In	115		ug/L		77635	77634.984
	Sn	120	**0.155**	ug/L	17.008	417	0.004
	Sb	121	**0.902**	ug/L	10.069	1410	0.016
	Sb	123		ug/L		1061	0.011
	Ba	135		ug/L		19	0.000
	Ba	137	**0.016**	ug/L	74.239	29	0.000
	Ho	165		ug/L		6	-0.000
>	Lu	175		ug/L		67315	67314.907
	Tl	205	**0.101**	ug/L	27.065	214	0.001
	Pb	208	**0.009**	ug/L	37.773	273	0.001
	Bi	209		ug/L		31	0.000
	Th	232	**0.140**	ug/L	20.730	846	0.010
	U	238	**0.015**	ug/L	43.223	128	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		99.7			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		101.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		99.9			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		99.8			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Friday, January 15, 2010 18:59:21
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 3.076

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**10.931**	ug/L	2.717	2075	0.009
	Be	9	**0.541**	ug/L	19.025	30	0.000
	B	11	**16.904**	ug/L	2.371	926	0.004
	Na	23	**248.554**	ug/L	6.155	311365	1.315
	Mg	24	**18.255**	ug/L	28.385	15342	0.064
	Al	27	**32.211**	ug/L	10.818	38719	0.170
	P	31	**61.673**	ug/L	2.373	5701	0.016
	K	39	**315.713**	ug/L	2.200	885985	2.403
	Ca	43	**226.805**	ug/L	11.683	1295	0.004
>	Sc	45		ug/L		225457	225457.064
	Ti	47	**9.260**	ug/L	1.103	1816	0.007
	V	51	**9.318**	ug/L	49.870	21801	0.068
	Cr	52	**11.476**	ug/L	3.246	20012	0.085
	Cr	53		ug/L		183780	0.136
	Mn	55	**5.724**	ug/L	1.763	16593	0.070
	Fe	57	**111.261**	ug/L	2.288	10768	0.028
	Co	59	**1.110**	ug/L	1.322	2417	0.010
	Ni	60	**2.195**	ug/L	4.858	988	0.004
	Cu	63		ug/L		1220	0.005
	Cu	65	**1.124**	ug/L	4.112	589	0.002
	Zn	66	**10.893**	ug/L	1.023	2769	0.023
	Zn	67		ug/L		8115	0.012
	Zn	68		ug/L		2627	0.018
>	Ge	74		ug/L		116705	116704.951
	As	75	**6.350**	ug/L	3.298	2092	0.016
	Se	77		ug/L		6912	0.014
	Se	82	**5.434**	ug/L	14.366	162	0.001
	Kr	83		ug/L		50	0.000
	Sr	88	**11.069**	ug/L	1.457	50340	0.663
	Y	89		ug/L		11	-0.000
	Zr	90	**2.222**	ug/L	2.901	5452	0.070
	Mo	98	**0.573**	ug/L	2.334	616	0.008
	Ag	107	**1.010**	ug/L	1.662	1739	0.022
	Cd	111	**1.096**	ug/L	3.969	448	0.006
	Cd	114		ug/L		1053	0.014
>	In	115		ug/L		75856	75855.934
	Sn	120	**5.549**	ug/L	2.075	10248	0.133
	Sb	121	**3.605**	ug/L	4.489	5070	0.065
	Sb	123		ug/L		3962	0.050
	Ba	135		ug/L		920	0.014
	Ba	137	**2.169**	ug/L	5.683	1551	0.023
	Ho	165		ug/L		6	-0.000
>	Lu	175		ug/L		65355	65354.817
	Tl	205	**1.044**	ug/L	3.582	1112	0.015
	Pb	208	**2.242**	ug/L	2.513	8791	0.131
	Bi	209		ug/L		32	0.000
	Th	232	**1.154**	ug/L	2.080	5640	0.084
	U	238	**0.249**	ug/L	7.444	1255	0.018

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	109.306				
	Be	9	108.121				
	B	11	112.695				
	Na	23	99.422				
	Mg	24	121.699				
	Al	27	107.370				
	P	31	123.347				
	K	39	105.238				
	Ca	43	113.402				
>	Sc	45			97.3		
	Ti	47	92.598				
	V	51	93.182				
	Cr	52	114.757				
	Cr	53					
	Mn	55	114.473				
	Fe	57	111.261				
	Co	59	110.981				
	Ni	60	109.730				
	Cu	63					
	Cu	65	112.414				
	Zn	66	108.934				
	Zn	67					
	Zn	68					
>	Ge	74			98.4		
	As	75	127.006				
	Se	77					
	Se	82	108.686				
	Kr	83					
	Sr	88	110.694				
	Y	89					
	Zr	90	111.081				
	Mo	98	114.567				
	Ag	107	101.023				
	Cd	111	109.619				
	Cd	114					
>	In	115			97.6		
	Sn	120	110.986				
	Sb	121	120.156				
	Sb	123					
	Ba	135					
	Ba	137	108.441				
	Ho	165					
>	Lu	175			96.9		
	Tl	205	104.433				
	Pb	208	112.091				
	Bi	209					
	Th	232	115.445				
	U	238	124.647				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Friday, January 15, 2010 19:05:32
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 4.077

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.153**	**ug/L**	39.652	37	0.000
	Be	9	**0.051**	**ug/L**	91.791	5	0.000
	B	11	**1.634**	**ug/L**	17.102	140	0.000
	Na	23	**95165.438**	**ug/L**	4.934	109635378	503.366
	Mg	24	**94119.626**	**ug/L**	4.688	71594081	328.727
	Al	27	**92114.507**	**ug/L**	7.209	106088766	487.095
	P	31	**95073.933**	**ug/L**	0.910	5369441	24.645
	K	39	**102963.270**	**ug/L**	1.662	171014497	783.719
	Ca	43	**95541.006**	**ug/L**	0.633	342535	1.571
>	Sc	45		**ug/L**		217790	217790.080
	Ti	47	**1457.146**	**ug/L**	0.389	249714	1.146
	V	51	**-3.728**	**ug/L**	25.068	442	-0.027
	Cr	52	**4.155**	**ug/L**	4.653	7498	0.031
	Cr	53		**ug/L**		127421	-0.094
	Mn	55	**6.366**	**ug/L**	1.411	17748	0.078
	Fe	57	**98597.764**	**ug/L**	0.272	5319478	24.404
	Co	59	**0.299**	**ug/L**	7.776	710	0.003
	Ni	60	**3.532**	**ug/L**	2.406	1513	0.007
	Cu	63		**ug/L**		2062	0.009
	Cu	65	**2.582**	**ug/L**	4.275	1238	0.005
	Zn	66	**4.359**	**ug/L**	3.765	1066	0.009
	Zn	67		**ug/L**		6114	-0.002
	Zn	68		**ug/L**		721	0.002
>	Ge	74		**ug/L**		109533	109533.408
	As	75	**0.026**	**ug/L**	3185.147	210	0.000
	Se	77		**ug/L**		4623	-0.003
	Se	82	**-0.932**	**ug/L**	46.674	-25	-0.000
	Kr	83		**ug/L**		79	0.000
	Sr	88	**1.159**	**ug/L**	2.420	4999	0.069
	Y	89		**ug/L**		134	0.002
	Zr	90	**0.545**	**ug/L**	46.986	1346	0.017
	Mo	98	**1971.567**	**ug/L**	2.830	1928769	27.096
	Ag	107	**0.059**	**ug/L**	9.223	136	0.001
	Cd	111	**0.259**	**ug/L**	74.462	105	0.001
	Cd	114		**ug/L**		2281	0.032
>	In	115		**ug/L**		71203	71203.119
	Sn	120	**0.176**	**ug/L**	8.122	419	0.004
	Sb	121	**0.294**	**ug/L**	12.478	514	0.005
	Sb	123		**ug/L**		443	0.004
	Ba	135		**ug/L**		287	0.004
	Ba	137	**0.651**	**ug/L**	4.126	480	0.007
	Ho	165		**ug/L**		190	0.003
>	Lu	175		**ug/L**		65658	65658.203
	Tl	205	**-0.024**	**ug/L**	16.986	88	-0.000
	Pb	208	**0.171**	**ug/L**	3.459	887	0.010
	Bi	209		**ug/L**		131	0.002
	Th	232	**0.108**	**ug/L**	29.774	672	0.008
	U	238	**-0.003**	**ug/L**	45.827	37	-0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23	95.165				
	Mg	24	94.120				
	Al	27	92.115				
	P	31	95.074				
	K	39	102.963				
	Ca	43	95.541				
>	Sc	45		94.0			
	Ti	47	72.857				
	V	51					
	Cr	52	112.301				
	Cr	53					
	Mn	55	109.761				
	Fe	57	98.598				
	Co	59	119.609				
	Ni	60	130.811				
	Cu	63					
	Cu	65	89.045				
	Zn	66	121.086				
	Zn	67					
	Zn	68					
>	Ge	74		92.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88	96.546				
	Y	89					
	Zr	90					
	Mo	98	98.578				
	Ag	107					
	Cd	111	64.636				
	Cd	114					
>	In	115		91.6			
	Sn	120					
	Sb	121	294.227				
	Sb	123					
	Ba	135					
	Ba	137	97.122				
	Ho	165					
>	Lu	175		97.3			
	Tl	205					
	Pb	208	85.578				
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Ti	47	ICSA is out of limits

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Friday, January 15, 2010 19:11:43
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 5.078

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**19.921**	**ug/L**	1.824	3600	0.017
	Be	9	**19.240**	**ug/L**	4.977	934	0.004
	B	11	**19.360**	**ug/L**	2.379	1003	0.004
	Na	23	**94751.274**	**ug/L**	2.332	107810656	501.175
	Mg	24	**93995.344**	**ug/L**	3.794	70608842	328.293
	Al	27	**90775.171**	**ug/L**	2.325	103245516	480.013
	P	31	**96052.410**	**ug/L**	0.678	5357421	24.898
	K	39	**102178.685**	**ug/L**	3.533	167616858	777.747
	Ca	43	**95676.819**	**ug/L**	1.335	338762	1.573
>	Sc	45		**ug/L**		215095	215095.023
	Ti	47	**1478.065**	**ug/L**	0.546	250164	1.162
	V	51	**15.996**	**ug/L**	9.191	31236	0.116
	Cr	52	**23.914**	**ug/L**	2.595	38945	0.177
	Cr	53		**ug/L**		122548	-0.110
	Mn	55	**25.908**	**ug/L**	0.950	69166	0.318
	Fe	57	**99318.569**	**ug/L**	0.579	5291977	24.583
	Co	59	**19.598**	**ug/L**	1.254	38887	0.180
	Ni	60	**22.453**	**ug/L**	2.958	9298	0.043
	Cu	63		**ug/L**		19400	0.090
	Cu	65	**21.152**	**ug/L**	1.321	9637	0.045
	Zn	66	**23.252**	**ug/L**	2.484	5485	0.050
	Zn	67		**ug/L**		6444	0.001
	Zn	68		**ug/L**		3790	0.030
>	Ge	74		**ug/L**		109265	109265.050
	As	75	**20.628**	**ug/L**	2.224	5906	0.052
	Se	77		**ug/L**		4935	-0.000
	Se	82	**21.545**	**ug/L**	6.547	596	0.005
	Kr	83		**ug/L**		68	0.000
	Sr	88	**21.986**	**ug/L**	0.827	94007	1.317
	Y	89		**ug/L**		144	0.002
	Zr	90	**21.635**	**ug/L**	1.542	48967	0.685
	Mo	98	**1975.399**	**ug/L**	1.958	1937106	27.148
	Ag	107	**18.993**	**ug/L**	0.692	29981	0.420
	Cd	111	**20.008**	**ug/L**	1.018	7555	0.106
	Cd	114		**ug/L**		19443	0.272
>	In	115		**ug/L**		71356	71356.416
	Sn	120	**20.399**	**ug/L**	1.184	35128	0.491
	Sb	121	**22.077**	**ug/L**	2.058	28515	0.398
	Sb	123		**ug/L**		21888	0.304
	Ba	135		**ug/L**		8345	0.125
	Ba	137	**19.898**	**ug/L**	1.213	14323	0.215
	Ho	165		**ug/L**		198	0.003
>	Lu	175		**ug/L**		66433	66433.456
	Tl	205	**17.707**	**ug/L**	1.454	17376	0.260
	Pb	208	**18.871**	**ug/L**	1.099	73498	1.103
	Bi	209		**ug/L**		184	0.002
	Th	232	**20.167**	**ug/L**	0.486	97544	1.466
	U	238	**20.436**	**ug/L**	1.067	100210	1.508

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	99.606				
	Be	9	96.201				
	B	11	96.800				
	Na	23	94.751				
	Mg	24	93.995				
	Al	27	90.775				
	P	31	96.052				
	K	39	102.179				
	Ca	43	95.677				
>	Sc	45		92.8			
	Ti	47	73.903				
	V	51	79.979				
	Cr	52	100.902				
	Cr	53					
	Mn	55	100.418				
	Fe	57	99.319				
	Co	59	96.778				
	Ni	60	98.911				
	Cu	63					
	Cu	65	92.366				
	Zn	66	98.525				
	Zn	67					
	Zn	68					
>	Ge	74		92.2			
	As	75	103.140				
	Se	77					
	Se	82	107.723				
	Kr	83					
	Sr	88	103.707				
	Y	89					
	Zr	90	108.176				
	Mo	98	98.770				
	Ag	107	94.967				
	Cd	111	98.078				
	Cd	114					
>	In	115		91.8			
	Sn	120	101.997				
	Sb	121	109.835				
	Sb	123					
	Ba	135					
	Ba	137	96.264				
	Ho	165					
>	Lu	175		98.5			
	Tl	205	88.536				
	Pb	208	93.421				
	Bi	209					
	Th	232	100.836				
	U	238	102.179				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Ti	47	ICSAB is out of limits
QC Std 5	V	51	ICSAB is out of limits

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, January 15, 2010 19:17:55
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 6.079

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**51.809**	**ug/L**	1.681	9634	0.043
	Be	9	**50.649**	**ug/L**	2.469	2529	0.011
	B	11	**97.838**	**ug/L**	2.377	4984	0.022
	Na	23	**4727.067**	**ug/L**	1.809	5557324	25.003
	Mg	24	**5038.547**	**ug/L**	0.596	3902473	17.598
	Al	27	**4770.819**	**ug/L**	8.036	5589319	25.228
	P	31	**4950.628**	**ug/L**	0.811	286553	1.283
	K	39	**5115.616**	**ug/L**	4.653	8974840	38.938
	Ca	43	**4882.538**	**ug/L**	1.518	18243	0.080
>	Sc	45		**ug/L**		221704	221703.838
	Ti	47	**51.077**	**ug/L**	0.788	9076	0.040
	V	51	**50.947**	**ug/L**	6.602	88487	0.370
	Cr	52	**51.628**	**ug/L**	0.299	85743	0.383
	Cr	53		**ug/L**		165973	0.070
	Mn	55	**51.767**	**ug/L**	2.090	141705	0.636
	Fe	57	**5071.429**	**ug/L**	0.185	282776	1.255
	Co	59	**51.203**	**ug/L**	1.115	104534	0.471
	Ni	60	**52.971**	**ug/L**	3.265	22557	0.102
	Cu	63		**ug/L**		49696	0.224
	Cu	65	**51.259**	**ug/L**	1.565	23991	0.108
	Zn	66	**51.277**	**ug/L**	2.535	12613	0.110
	Zn	67		**ug/L**		8834	0.019
	Zn	68		**ug/L**		9437	0.078
>	Ge	74		**ug/L**		114420	114420.232
	As	75	**48.772**	**ug/L**	1.334	14337	0.123
	Se	77		**ug/L**		6916	0.015
	Se	82	**52.522**	**ug/L**	3.113	1521	0.013
	Kr	83		**ug/L**		46	-0.000
	Sr	88	**51.507**	**ug/L**	0.243	231673	3.084
	Y	89		**ug/L**		35	0.000
	Zr	90	**49.083**	**ug/L**	1.564	116753	1.553
	Mo	98	**49.353**	**ug/L**	1.607	50949	0.678
	Ag	107	**49.311**	**ug/L**	1.193	81848	1.089
	Cd	111	**49.938**	**ug/L**	1.988	19832	0.264
	Cd	114		**ug/L**		46923	0.625
>	In	115		**ug/L**		75095	75094.855
	Sn	120	**50.780**	**ug/L**	0.693	91841	1.221
	Sb	121	**50.610**	**ug/L**	2.977	68611	0.912
	Sb	123		**ug/L**		52578	0.698
	Ba	135		**ug/L**		21265	0.321
	Ba	137	**50.823**	**ug/L**	0.858	36432	0.550
	Ho	165		**ug/L**		13	0.000
>	Lu	175		**ug/L**		66206	66206.076
	Tl	205	**49.164**	**ug/L**	0.660	47878	0.721
	Pb	208	**50.608**	**ug/L**	0.904	196039	2.958
	Bi	209		**ug/L**		59	0.000
	Th	232	**51.613**	**ug/L**	1.517	248496	3.752
	U	238	**53.097**	**ug/L**	1.333	259377	3.917

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	103.618				
	Be	9	101.299				
	B	11	97.838				
	Na	23	94.541				
	Mg	24	100.771				
	Al	27	94.472				
	P	31	99.013				
	K	39	102.312				
	Ca	43	97.651				
>	Sc	45		95.7			
	Ti	47	102.154				
	V	51	101.894				
	Cr	52	103.256				
	Cr	53					
	Mn	55	103.534				
	Fe	57	101.429				
	Co	59	102.406				
	Ni	60	105.943				
	Cu	63					
	Cu	65	102.518				
	Zn	66	102.555				
	Zn	67					
	Zn	68					
>	Ge	74		96.5			
	As	75	97.544				
	Se	77					
	Se	82	105.044				
	Kr	83					
	Sr	88	103.014				
	Y	89					
	Zr	90	98.165				
	Mo	98	98.706				
	Ag	107	98.623				
	Cd	111	99.875				
	Cd	114					
>	In	115		96.6			
	Sn	120	101.559				
	Sb	121	101.220				
	Sb	123					
	Ba	135					
	Ba	137	101.646				
	Ho	165					
>	Lu	175		98.1			
	Tl	205	98.328				
	Pb	208	101.216				
	Bi	209					
	Th	232	103.225				
	U	238	106.193				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, January 15, 2010 19:24:08
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 7.080

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	0.069	ug/L	63.034	23	0.000
	Be	9	0.021	ug/L	245.373	4	0.000
	B	11	2.339	ug/L	21.643	181	0.001
	Na	23	4.008	ug/L	18.985	19680	0.021
	Mg	24	3.040	ug/L	107.781	3334	0.011
	Al	27	3.097	ug/L	28.984	4001	0.016
	P	31	1.483	ug/L	127.386	2180	0.000
	K	39	-4.163	ug/L	425.536	336606	-0.032
	Ca	43	8.245	ug/L	83.114	484	0.000
>	Sc	45		ug/L		225231	225230.895
	Ti	47	0.326	ug/L	20.113	232	0.000
	V	51	-2.940	ug/L	93.211	1709	-0.021
	Cr	52	0.153	ug/L	106.551	1061	0.001
	Cr	53		ug/L		139633	-0.059
	Mn	55	-0.011	ug/L	103.790	708	-0.000
	Fe	57	2.568	ug/L	109.934	4696	0.001
	Co	59	0.015	ug/L	20.264	145	0.000
	Ni	60	0.003	ug/L	634.177	41	0.000
	Cu	63		ug/L		78	0.000
	Cu	65	-0.002	ug/L	681.736	54	-0.000
	Zn	66	0.016	ug/L	71.265	50	0.000
	Zn	67		ug/L		6187	-0.005
	Zn	68		ug/L		487	-0.001
>	Ge	74		ug/L		117389	117388.899
	As	75	0.250	ug/L	233.964	293	0.001
	Se	77		ug/L		5010	-0.003
	Se	82	0.009	ug/L	2770.914	2	0.000
	Kr	83		ug/L		51	0.000
	Sr	88	0.010	ug/L	64.480	111	0.001
	Y	89		ug/L		11	-0.000
	Zr	90	0.118	ug/L	18.891	408	0.004
	Mo	98	0.152	ug/L	3.609	179	0.002
	Ag	107	0.016	ug/L	50.456	74	0.000
	Cd	111	0.006	ug/L	116.662	11	0.000
	Cd	114		ug/L		29	0.000
>	In	115		ug/L		76476	76475.973
	Sn	120	0.122	ug/L	11.691	350	0.003
	Sb	121	0.521	ug/L	12.173	865	0.009
	Sb	123		ug/L		703	0.007
	Ba	135		ug/L		22	0.000
	Ba	137	0.008	ug/L	135.987	23	0.000
	Ho	165		ug/L		7	-0.000
>	Lu	175		ug/L		66415	66415.382
	Tl	205	0.134	ug/L	23.375	242	0.002
	Pb	208	0.018	ug/L	25.309	305	0.001
	Bi	209		ug/L		26	-0.000
	Th	232	0.083	ug/L	26.539	559	0.006
	U	238	0.012	ug/L	30.140	115	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			97.2		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			99.0		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			98.4		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			98.4		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 10
Sample Date/Time: Friday, January 15, 2010 19:30:20
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 10.081

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**1003.977**	ug/L	1.822	174537	0.841
	Be	9	**999.892**	ug/L	1.337	46671	0.225
	B	11	**1.332**	ug/L	30.543	119	0.000
	Na	23	**47378.391**	ug/L	5.530	52004576	250.602
	Mg	24	**48706.402**	ug/L	3.016	35304421	170.114
	Al	27	**46020.264**	ug/L	3.807	50467688	243.352
	P	31	**23464.681**	ug/L	0.124	1263815	6.082
	K	39	**51906.634**	ug/L	2.252	82298367	395.094
	Ca	43	**48447.940**	ug/L	0.908	165657	0.797
>	Sc	45		ug/L		207468	207467.611
	Ti	47	**36.247**	ug/L	2.637	6076	0.029
	V	51	**1027.089**	ug/L	1.283	1552946	7.456
	Cr	52	**946.277**	ug/L	1.612	1457607	7.023
	Cr	53		ug/L		316126	0.845
	Mn	55	**982.067**	ug/L	2.467	2503232	12.065
	Fe	57	**49833.149**	ug/L	2.251	2562665	12.334
	Co	59	**924.103**	ug/L	2.997	1763232	8.501
	Ni	60	**944.687**	ug/L	3.114	375778	1.812
	Cu	63		ug/L		831206	4.007
	Cu	65	**923.544**	ug/L	1.200	403634	1.946
	Zn	66	**2336.183**	ug/L	0.594	533527	5.005
	Zn	67		ug/L		90913	0.795
	Zn	68		ug/L		379885	3.559
>	Ge	74		ug/L		106600	106599.656
	As	75	**915.987**	ug/L	0.337	247350	2.319
	Se	77		ug/L		15058	0.096
	Se	82	**489.679**	ug/L	1.183	13206	0.124
	Kr	83		ug/L		61	0.000
	Sr	88	**1022.321**	ug/L	2.569	4209789	61.217
	Y	89		ug/L		143	0.002
	Zr	90	**510.148**	ug/L	2.424	1110211	16.143
	Mo	98	**1008.183**	ug/L	0.788	952934	13.856
	Ag	107	**245.900**	ug/L	0.605	373618	5.432
	Cd	111	**992.505**	ug/L	1.648	360846	5.247
	Cd	114		ug/L		848249	12.334
>	In	115		ug/L		68776	68776.428
	Sn	120	**1034.553**	ug/L	2.727	1711133	24.883
	Sb	121	**262.594**	ug/L	4.626	325384	4.731
	Sb	123		ug/L		250722	3.644
	Ba	135		ug/L		391136	5.941
	Ba	137	**936.269**	ug/L	0.964	667092	10.133
	Ho	165		ug/L		62	0.001
>	Lu	175		ug/L		65838	65838.390
	Tl	205	**475.103**	ug/L	2.074	459043	6.972
	Pb	208	**4796.867**	ug/L	2.428	18452769	280.354
	Bi	209		ug/L		436	0.006
	Th	232	**2442.512**	ug/L	1.826	11686532	177.539
	U	238	**5031.886**	ug/L	2.454	24435718	371.248

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	100.398				
	Be	9	99.989				
	B	11					
	Na	23	94.757				
	Mg	24	97.413				
	Al	27	92.041				
	P	31	93.859				
	K	39	103.813				
	Ca	43	96.896				
>	Sc	45		89.6			
	Ti	47					
	V	51	102.709				
	Cr	52	94.628				
	Cr	53					
	Mn	55	98.207				
	Fe	57	99.666				
	Co	59	92.410				
	Ni	60	94.469				
	Cu	63					
	Cu	65	92.354				
	Zn	66	93.447				
	Zn	67					
	Zn	68					
>	Ge	74		89.9			
	As	75	91.599				
	Se	77					
	Se	82	97.936				
	Kr	83					
	Sr	88	102.232				
	Y	89					
	Zr	90	102.030				
	Mo	98	100.818				
	Ag	107	98.360				
	Cd	111	99.251				
	Cd	114					
>	In	115		88.5			
	Sn	120	103.455				
	Sb	121	105.038				
	Sb	123					
	Ba	135					
	Ba	137	93.627				
	Ho	165					
>	Lu	175		97.6			
	Tl	205	95.021				
	Pb	208	95.937				
	Bi	209					
	Th	232	97.700				
	U	238	100.638				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 11
Sample Date/Time: Friday, January 15, 2010 19:36:29
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 11.082

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**51.981**	**ug/L**	0.974	9558	0.044
	Be	9	**49.845**	**ug/L**	2.432	2461	0.011
	B	11	**97.423**	**ug/L**	3.504	4908	0.022
	Na	23	**4844.176**	**ug/L**	6.317	5628602	25.623
	Mg	24	**5065.587**	**ug/L**	5.766	3879381	17.692
	Al	27	**5021.958**	**ug/L**	3.584	5822554	26.556
	P	31	**4897.602**	**ug/L**	0.483	280304	1.270
	K	39	**5045.980**	**ug/L**	4.947	8753639	38.408
	Ca	43	**4886.259**	**ug/L**	0.544	18049	0.080
>	Sc	45		**ug/L**		219186	219185.680
	Ti	47	**49.770**	**ug/L**	0.490	8748	0.039
	V	51	**51.293**	**ug/L**	1.549	87991	0.372
	Cr	52	**51.261**	**ug/L**	0.444	84172	0.380
	Cr	53		**ug/L**		162176	0.061
	Mn	55	**51.228**	**ug/L**	1.220	138655	0.629
	Fe	57	**5044.137**	**ug/L**	0.942	278071	1.249
	Co	59	**50.934**	**ug/L**	0.575	102815	0.469
	Ni	60	**53.327**	**ug/L**	1.627	22454	0.102
	Cu	63		**ug/L**		49585	0.226
	Cu	65	**51.917**	**ug/L**	0.748	24026	0.109
	Zn	66	**52.049**	**ug/L**	0.641	12732	0.112
	Zn	67		**ug/L**		9008	0.021
	Zn	68		**ug/L**		9615	0.080
>	Ge	74		**ug/L**		113793	113792.614
	As	75	**49.081**	**ug/L**	1.084	14348	0.124
	Se	77		**ug/L**		6437	0.011
	Se	82	**49.670**	**ug/L**	1.375	1431	0.013
	Kr	83		**ug/L**		58	0.000
	Sr	88	**51.410**	**ug/L**	1.372	229324	3.078
	Y	89		**ug/L**		19	0.000
	Zr	90	**51.193**	**ug/L**	0.490	120761	1.620
	Mo	98	**49.730**	**ug/L**	1.656	50918	0.683
	Ag	107	**49.869**	**ug/L**	0.063	82083	1.102
	Cd	111	**50.778**	**ug/L**	0.522	20000	0.268
	Cd	114		**ug/L**		47134	0.633
>	In	115		**ug/L**		74473	74473.021
	Sn	120	**53.018**	**ug/L**	1.707	95092	1.275
	Sb	121	**53.468**	**ug/L**	3.561	71880	0.963
	Sb	123		**ug/L**		54881	0.735
	Ba	135		**ug/L**		21392	0.320
	Ba	137	**50.138**	**ug/L**	1.303	36222	0.543
	Ho	165		**ug/L**		11	0.000
>	Lu	175		**ug/L**		66721	66721.114
	Tl	205	**49.960**	**ug/L**	0.542	49025	0.733
	Pb	208	**51.560**	**ug/L**	0.601	201293	3.013
	Bi	209		**ug/L**		66	0.001
	Th	232	**53.039**	**ug/L**	0.888	257382	3.855
	U	238	**54.038**	**ug/L**	0.528	266064	3.987

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	103.961				
	Be	9	99.691				
	B	11	97.423				
	Na	23	96.884				
	Mg	24	101.312				
	Al	27	99.445				
	P	31	97.952				
	K	39	100.920				
	Ca	43	97.725				
>	Sc	45		94.6			
	Ti	47	99.541				
	V	51	102.586				
	Cr	52	102.523				
	Cr	53					
	Mn	55	102.457				
	Fe	57	100.883				
	Co	59	101.867				
	Ni	60	106.653				
	Cu	63					
	Cu	65	103.833				
	Zn	66	104.098				
	Zn	67					
	Zn	68					
>	Ge	74		96.0			
	As	75	98.163				
	Se	77					
	Se	82	99.340				
	Kr	83					
	Sr	88	102.821				
	Y	89					
	Zr	90	102.385				
	Mo	98	99.461				
	Ag	107	99.737				
	Cd	111	101.556				
	Cd	114					
>	In	115		95.8			
	Sn	120	106.037				
	Sb	121	106.936				
	Sb	123					
	Ba	135					
	Ba	137	100.275				
	Ho	165					
>	Lu	175		98.9			
	Tl	205	99.919				
	Pb	208	103.121				
	Bi	209					
	Th	232	106.078				
	U	238	108.075				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 12
Sample Date/Time: Friday, January 15, 2010 19:42:41
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 12.083

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.191**	**ug/L**	6.196	46	0.000
	Be	9	**0.008**	**ug/L**	138.172	3	0.000
	B	11	**2.402**	**ug/L**	15.061	183	0.001
	Na	23	**4.008**	**ug/L**	172.101	19682	0.021
	Mg	24	**3.014**	**ug/L**	106.959	3334	0.011
	Al	27	**2.817**	**ug/L**	91.794	3667	0.015
	P	31	**-1.291**	**ug/L**	47.732	2015	-0.000
	K	39	**-9.205**	**ug/L**	78.068	327379	-0.070
	Ca	43	**-2.748**	**ug/L**	212.540	443	-0.000
>	Sc	45		**ug/L**		224762	224761.592
	Ti	47	**0.011**	**ug/L**	599.423	176	0.000
	V	51	**-0.948**	**ug/L**	201.447	5002	-0.007
	Cr	52	**0.173**	**ug/L**	32.963	1096	0.001
	Cr	53		**ug/L**		138125	-0.065
	Mn	55	**0.018**	**ug/L**	59.273	788	0.000
	Fe	57	**-0.844**	**ug/L**	212.553	4498	-0.000
	Co	59	**0.033**	**ug/L**	48.377	183	0.000
	Ni	60	**0.014**	**ug/L**	124.982	45	0.000
	Cu	63		**ug/L**		118	0.000
	Cu	65	**0.048**	**ug/L**	56.074	78	0.000
	Zn	66	**0.178**	**ug/L**	32.513	91	0.000
	Zn	67		**ug/L**		6276	-0.004
	Zn	68		**ug/L**		561	-0.000
>	Ge	74		**ug/L**		117356	117356.311
	As	75	**-0.110**	**ug/L**	589.908	185	-0.000
	Se	77		**ug/L**		4760	-0.005
	Se	82	**-0.178**	**ug/L**	76.646	-4	-0.000
	Kr	83		**ug/L**		47	-0.000
	Sr	88	**0.025**	**ug/L**	47.948	182	0.001
	Y	89		**ug/L**		11	-0.000
	Zr	90	**0.188**	**ug/L**	19.652	583	0.006
	Mo	98	**0.136**	**ug/L**	21.214	164	0.002
	Ag	107	**0.028**	**ug/L**	32.757	95	0.001
	Cd	111	**0.019**	**ug/L**	43.567	16	0.000
	Cd	114		**ug/L**		57	0.001
>	In	115		**ug/L**		77553	77552.858
	Sn	120	**0.530**	**ug/L**	14.452	1116	0.013
	Sb	121	**1.295**	**ug/L**	9.764	1957	0.023
	Sb	123		**ug/L**		1591	0.018
	Ba	135		**ug/L**		25	0.000
	Ba	137	**0.051**	**ug/L**	40.072	55	0.001
	Ho	165		**ug/L**		5	-0.000
>	Lu	175		**ug/L**		67199	67198.687
	Tl	205	**0.274**	**ug/L**	16.056	384	0.004
	Pb	208	**0.237**	**ug/L**	10.853	1166	0.014
	Bi	209		**ug/L**		26	-0.000
	Th	232	**0.254**	**ug/L**	6.763	1403	0.018
	U	238	**0.129**	**ug/L**	33.693	694	0.010

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		97.0			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		99.0			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		99.8			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		99.6			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, January 15, 2010 20:26:07
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 6.090

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**51.267**	ug/L	2.272	9322	0.043
	Be	9	**49.852**	ug/L	1.956	2434	0.011
	B	11	**95.068**	ug/L	1.866	4738	0.022
	Na	23	**4974.149**	ug/L	2.449	5718888	26.310
	Mg	24	**4660.693**	ug/L	6.719	3527876	16.278
	Al	27	**5039.010**	ug/L	3.116	5775352	26.646
	P	31	**4816.541**	ug/L	1.915	272728	1.249
	K	39	**5139.130**	ug/L	1.260	8812626	39.117
	Ca	43	**4864.896**	ug/L	1.602	17778	0.080
>	Sc	45		ug/L		216801	216801.462
	Ti	47	**49.344**	ug/L	1.235	8581	0.039
	V	51	**48.858**	ug/L	11.057	83200	0.355
	Cr	52	**51.467**	ug/L	1.059	83593	0.382
	Cr	53		ug/L		148862	0.007
	Mn	55	**51.162**	ug/L	1.467	136969	0.629
	Fe	57	**5010.941**	ug/L	1.297	273312	1.240
	Co	59	**50.602**	ug/L	0.510	101036	0.465
	Ni	60	**52.372**	ug/L	0.679	21814	0.100
	Cu	63		ug/L		48369	0.223
	Cu	65	**50.993**	ug/L	0.652	23341	0.107
	Zn	66	**51.071**	ug/L	1.697	12267	0.109
	Zn	67		ug/L		8051	0.014
	Zn	68		ug/L		9211	0.077
>	Ge	74		ug/L		111719	111719.291
	As	75	**50.092**	ug/L	1.786	14372	0.127
	Se	77		ug/L		5923	0.008
	Se	82	**51.022**	ug/L	4.864	1443	0.013
	Kr	83		ug/L		47	0.000
	Sr	88	**50.375**	ug/L	0.481	221313	3.016
	Y	89		ug/L		69	0.001
	Zr	90	**49.358**	ug/L	0.908	114690	1.562
	Mo	98	**49.314**	ug/L	0.890	49733	0.678
	Ag	107	**49.759**	ug/L	1.124	80662	1.099
	Cd	111	**50.210**	ug/L	0.969	19477	0.265
	Cd	114		ug/L		46008	0.627
>	In	115		ug/L		73350	73349.985
	Sn	120	**50.425**	ug/L	1.031	89090	1.213
	Sb	121	**50.607**	ug/L	3.106	67032	0.912
	Sb	123		ug/L		51228	0.696
	Ba	135		ug/L		20811	0.314
	Ba	137	**49.920**	ug/L	2.881	35782	0.540
	Ho	165		ug/L		12	0.000
>	Lu	175		ug/L		66216	66216.126
	Tl	205	**49.542**	ug/L	1.691	48240	0.727
	Pb	208	**50.330**	ug/L	1.116	194986	2.942
	Bi	209		ug/L		54	0.000
	Th	232	**51.428**	ug/L	1.716	247641	3.738
	U	238	**52.799**	ug/L	0.943	257973	3.895

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	102.533				
	Be	9	99.704				
	B	11	95.068				
	Na	23	99.483				
	Mg	24	93.214				
	Al	27	99.782				
	P	31	96.331				
	K	39	102.783				
	Ca	43	97.298				
>	Sc	45			93.6		
	Ti	47	98.687				
	V	51	97.716				
	Cr	52	102.934				
	Cr	53					
	Mn	55	102.324				
	Fe	57	100.219				
	Co	59	101.204				
	Ni	60	104.744				
	Cu	63					
	Cu	65	101.986				
	Zn	66	102.143				
	Zn	67					
	Zn	68					
>	Ge	74			94.2		
	As	75	100.183				
	Se	77					
	Se	82	102.044				
	Kr	83					
	Sr	88	100.750				
	Y	89					
	Zr	90	98.717				
	Mo	98	98.628				
	Ag	107	99.519				
	Cd	111	100.421				
	Cd	114					
>	In	115			94.4		
	Sn	120	100.850				
	Sb	121	101.214				
	Sb	123					
	Ba	135					
	Ba	137	99.839				
	Ho	165					
>	Lu	175			98.1		
	Tl	205	99.084				
	Pb	208	100.659				
	Bi	209					
	Th	232	102.856				
	U	238	105.599				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, January 15, 2010 20:32:20
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 7.091

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.180**	**ug/L**	20.686	42	0.000
	Be	9	**0.073**	**ug/L**	42.311	6	0.000
	B	11	**3.315**	**ug/L**	23.322	220	0.001
	Na	23	**-1.673**	**ug/L**	107.725	12339	-0.009
	Mg	24	**0.986**	**ug/L**	156.631	1667	0.003
	Al	27	**5.586**	**ug/L**	47.630	6668	0.030
	P	31	**-1.492**	**ug/L**	87.245	1917	-0.000
	K	39	**-16.302**	**ug/L**	94.242	301495	-0.124
	Ca	43	**1.363**	**ug/L**	820.823	438	0.000
>	Sc	45		**ug/L**		215002	215001.634
	Ti	47	**0.165**	**ug/L**	22.224	195	0.000
	V	51	**-1.202**	**ug/L**	187.088	4369	-0.009
	Cr	52	**0.150**	**ug/L**	21.731	1010	0.001
	Cr	53		**ug/L**		123741	-0.104
	Mn	55	**0.022**	**ug/L**	61.593	764	0.000
	Fe	57	**-7.925**	**ug/L**	6.756	3926	-0.002
	Co	59	**0.016**	**ug/L**	19.591	141	0.000
	Ni	60	**0.006**	**ug/L**	6.373	40	0.000
	Cu	63		**ug/L**		79	0.000
	Cu	65	**0.003**	**ug/L**	301.622	54	0.000
	Zn	66	**0.075**	**ug/L**	71.872	62	0.000
	Zn	67		**ug/L**		5270	-0.011
	Zn	68		**ug/L**		399	-0.001
>	Ge	74		**ug/L**		111735	111735.071
	As	75	**-0.917**	**ug/L**	82.801	-52	-0.002
	Se	77		**ug/L**		4010	-0.010
	Se	82	**-0.240**	**ug/L**	288.514	-6	-0.000
	Kr	83		**ug/L**		45	0.000
	Sr	88	**0.017**	**ug/L**	21.920	136	0.001
	Y	89		**ug/L**		17	0.000
	Zr	90	**0.140**	**ug/L**	25.781	440	0.004
	Mo	98	**0.047**	**ug/L**	14.032	66	0.001
	Ag	107	**0.016**	**ug/L**	28.150	71	0.000
	Cd	111	**0.016**	**ug/L**	122.956	14	0.000
	Cd	114		**ug/L**		29	0.000
>	In	115		**ug/L**		73170	73169.966
	Sn	120	**0.129**	**ug/L**	11.801	349	0.003
	Sb	121	**0.432**	**ug/L**	3.854	709	0.008
	Sb	123		**ug/L**		567	0.006
	Ba	135		**ug/L**		24	0.000
	Ba	137	**0.020**	**ug/L**	49.090	32	0.000
	Ho	165		**ug/L**		7	-0.000
>	Lu	175		**ug/L**		65161	65160.925
	Tl	205	**0.271**	**ug/L**	14.207	369	0.004
	Pb	208	**0.051**	**ug/L**	8.615	424	0.003
	Bi	209		**ug/L**		24	-0.000
	Th	232	**0.091**	**ug/L**	12.022	586	0.007
	U	238	**0.023**	**ug/L**	31.314	164	0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			92.8		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			94.3		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			94.1		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			96.6		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, January 15, 2010 21:15:50
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 6.098

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**50.212**	**ug/L**	3.194	9225	0.042
	Be	9	**47.818**	**ug/L**	1.376	2360	0.011
	B	11	**93.815**	**ug/L**	4.379	4723	0.021
	Na	23	**4604.005**	**ug/L**	2.945	5348241	24.352
	Mg	24	**4894.675**	**ug/L**	6.634	3743398	17.095
	Al	27	**4911.806**	**ug/L**	9.883	5692053	25.973
	P	31	**4747.998**	**ug/L**	1.973	271620	1.231
	K	39	**5233.012**	**ug/L**	8.249	9051523	39.832
	Ca	43	**4868.696**	**ug/L**	0.984	17979	0.080
>	Sc	45		**ug/L**		219100	219100.410
	Ti	47	**49.156**	**ug/L**	1.193	8637	0.039
	V	51	**43.898**	**ug/L**	3.992	76160	0.319
	Cr	52	**52.556**	**ug/L**	3.194	86208	0.390
	Cr	53		**ug/L**		149967	0.005
	Mn	55	**52.447**	**ug/L**	2.593	141842	0.644
	Fe	57	**5071.378**	**ug/L**	2.821	279350	1.255
	Co	59	**51.504**	**ug/L**	4.201	103859	0.474
	Ni	60	**53.667**	**ug/L**	2.665	22579	0.103
	Cu	63		**ug/L**		49768	0.227
	Cu	65	**52.290**	**ug/L**	2.710	24179	0.110
	Zn	66	**50.078**	**ug/L**	2.816	12395	0.107
	Zn	67		**ug/L**		7763	0.009
	Zn	68		**ug/L**		9371	0.076
>	Ge	74		**ug/L**		115139	115138.654
	As	75	**49.762**	**ug/L**	1.486	14717	0.126
	Se	77		**ug/L**		6646	0.012
	Se	82	**50.272**	**ug/L**	3.819	1465	0.013
	Kr	83		**ug/L**		36	-0.000
	Sr	88	**51.564**	**ug/L**	2.009	230088	3.088
	Y	89		**ug/L**		63	0.001
	Zr	90	**50.364**	**ug/L**	1.094	118849	1.594
	Mo	98	**49.876**	**ug/L**	0.377	51085	0.685
	Ag	107	**49.851**	**ug/L**	0.645	82084	1.101
	Cd	111	**49.992**	**ug/L**	0.968	19698	0.264
	Cd	114		**ug/L**		47012	0.631
>	In	115		**ug/L**		74502	74501.651
	Sn	120	**49.846**	**ug/L**	1.135	89442	1.199
	Sb	121	**50.285**	**ug/L**	1.865	67638	0.906
	Sb	123		**ug/L**		52262	0.699
	Ba	135		**ug/L**		21096	0.329
	Ba	137	**51.967**	**ug/L**	0.428	36066	0.562
	Ho	165		**ug/L**		13	0.000
>	Lu	175		**ug/L**		64098	64098.462
	Tl	205	**49.735**	**ug/L**	0.694	46888	0.730
	Pb	208	**51.715**	**ug/L**	0.909	193951	3.023
	Bi	209		**ug/L**		52	0.000
	Th	232	**52.172**	**ug/L**	1.245	243210	3.792
	U	238	**53.083**	**ug/L**	1.859	251059	3.916

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	100.425				
	Be	9	95.637				
	B	11	93.815				
	Na	23	92.080				
	Mg	24	97.894				
	Al	27	97.263				
	P	31	94.960				
	K	39	104.660				
	Ca	43	97.374				
>	Sc	45			94.6		
	Ti	47	98.311				
	V	51	87.795				
	Cr	52	105.112				
	Cr	53					
	Mn	55	104.895				
	Fe	57	101.428				
	Co	59	103.009				
	Ni	60	107.333				
	Cu	63					
	Cu	65	104.580				
	Zn	66	100.156				
	Zn	67					
	Zn	68					
>	Ge	74			97.1		
	As	75	99.524				
	Se	77					
	Se	82	100.545				
	Kr	83					
	Sr	88	103.128				
	Y	89					
	Zr	90	100.728				
	Mo	98	99.752				
	Ag	107	99.702				
	Cd	111	99.984				
	Cd	114					
>	In	115			95.8		
	Sn	120	99.693				
	Sb	121	100.570				
	Sb	123					
	Ba	135					
	Ba	137	103.934				
	Ho	165					
>	Lu	175			95.0		
	Tl	205	99.471				
	Pb	208	103.430				
	Bi	209					
	Th	232	104.344				
	U	238	106.167				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	V	51	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, January 15, 2010 21:22:03
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 7.099

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.149**	**ug/L**	29.222	37	0.000
	Be	9	**0.017**	**ug/L**	187.163	4	0.000
	B	11	**2.554**	**ug/L**	14.404	187	0.001
	Na	23	**-2.764**	**ug/L**	79.976	11338	-0.015
	Mg	24	**0.936**	**ug/L**	80.994	1667	0.003
	Al	27	**5.750**	**ug/L**	0.469	7002	0.030
	P	31	**-2.733**	**ug/L**	46.095	1889	-0.001
	K	39	**-21.236**	**ug/L**	16.341	300121	-0.162
	Ca	43	**-7.273**	**ug/L**	111.302	417	-0.000
>	Sc	45		**ug/L**		219871	219871.301
	Ti	47	**0.028**	**ug/L**	251.940	175	0.000
	V	51	**-3.840**	**ug/L**	63.781	277	-0.028
	Cr	52	**0.703**	**ug/L**	7.674	1935	0.005
	Cr	53		**ug/L**		122449	-0.122
	Mn	55	**0.058**	**ug/L**	27.175	879	0.001
	Fe	57	**-3.887**	**ug/L**	88.304	4234	-0.001
	Co	59	**0.015**	**ug/L**	18.591	142	0.000
	Ni	60	**0.010**	**ug/L**	128.449	43	0.000
	Cu	63		**ug/L**		93	0.000
	Cu	65	**0.008**	**ug/L**	145.055	58	0.000
	Zn	66	**0.069**	**ug/L**	41.598	63	0.000
	Zn	67		**ug/L**		5045	-0.015
	Zn	68		**ug/L**		392	-0.002
>	Ge	74		**ug/L**		116731	116730.802
	As	75	**-0.024**	**ug/L**	5561.322	208	-0.000
	Se	77		**ug/L**		4393	-0.008
	Se	82	**0.093**	**ug/L**	268.775	4	0.000
	Kr	83		**ug/L**		40	-0.000
	Sr	88	**0.019**	**ug/L**	22.960	154	0.001
	Y	89		**ug/L**		25	0.000
	Zr	90	**0.115**	**ug/L**	17.773	399	0.004
	Mo	98	**0.042**	**ug/L**	29.712	63	0.001
	Ag	107	**0.015**	**ug/L**	27.367	71	0.000
	Cd	111	**0.012**	**ug/L**	65.097	13	0.000
	Cd	114		**ug/L**		27	0.000
>	In	115		**ug/L**		76534	76533.721
	Sn	120	**0.118**	**ug/L**	6.937	344	0.003
	Sb	121	**0.413**	**ug/L**	17.494	715	0.007
	Sb	123		**ug/L**		579	0.005
	Ba	135		**ug/L**		39	0.000
	Ba	137	**0.077**	**ug/L**	18.916	72	0.001
	Ho	165		**ug/L**		5	-0.000
>	Lu	175		**ug/L**		65956	65955.899
	Tl	205	**0.100**	**ug/L**	18.674	209	0.001
	Pb	208	**0.029**	**ug/L**	20.622	344	0.002
	Bi	209		**ug/L**		18	-0.000
	Th	232	**0.077**	**ug/L**	19.536	525	0.006
	U	238	**0.016**	**ug/L**	27.802	129	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			94.9		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			98.5		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			98.5		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			97.7		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 1202011715
Sample Date/Time: Friday, January 15, 2010 21:28:17
Sample Type:
Sample Description: LANL 6020 MB
Number of Replicates: 3
Batch ID: 940086|2|sk|
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\1202011715.100

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.106**	**ug/L**	18.443	28	0.000
	Be	9	**0.011**	**ug/L**	607.932	3	0.000
	B	11	**1.079**	**ug/L**	19.874	111	0.000
	Na	23	**1.826**	**ug/L**	71.499	16343	0.010
	Mg	24	**2.293**	**ug/L**	118.418	2667	0.008
	Al	27	**5.884**	**ug/L**	30.706	7002	0.031
	P	31	**20.617**	**ug/L**	14.420	3154	0.005
	K	39	**-16.727**	**ug/L**	75.586	301495	-0.127
	Ca	43	**14.409**	**ug/L**	63.032	485	0.000
>	Sc	45		**ug/L**		215348	215348.284
	Ti	47	**0.295**	**ug/L**	7.267	217	0.000
	V	51	**-3.138**	**ug/L**	50.625	1350	-0.023
	Cr	52	**1.305**	**ug/L**	6.353	2858	0.010
	Cr	53		**ug/L**		108231	-0.177
	Mn	55	**0.460**	**ug/L**	4.517	1923	0.006
	Fe	57	**37.046**	**ug/L**	11.157	6327	0.009
	Co	59	**0.001**	**ug/L**	1187.489	111	0.000
	Ni	60	**0.133**	**ug/L**	19.863	93	0.000
	Cu	63		**ug/L**		196	0.001
	Cu	65	**0.141**	**ug/L**	5.108	117	0.000
	Zn	66	**0.899**	**ug/L**	1.922	258	0.002
	Zn	67		**ug/L**		4552	-0.017
	Zn	68		**ug/L**		498	-0.000
>	Ge	74		**ug/L**		111372	111372.260
	As	75	**-0.517**	**ug/L**	115.091	61	-0.001
	Se	77		**ug/L**		3714	-0.012
	Se	82	**0.171**	**ug/L**	144.732	6	0.000
	Kr	83		**ug/L**		35	-0.000
	Sr	88	**0.044**	**ug/L**	16.927	257	0.003
	Y	89		**ug/L**		30	0.000
	Zr	90	**0.316**	**ug/L**	26.569	854	0.010
	Mo	98	**0.023**	**ug/L**	21.353	41	0.000
	Ag	107	**-0.000**	**ug/L**	1933.840	45	-0.000
	Cd	111	**0.015**	**ug/L**	60.244	13	0.000
	Cd	114		**ug/L**		15	-0.000
>	In	115		**ug/L**		73894	73893.539
	Sn	120	**0.136**	**ug/L**	6.006	364	0.003
	Sb	121	**0.103**	**ug/L**	22.548	278	0.002
	Sb	123		**ug/L**		260	0.001
	Ba	135		**ug/L**		52	0.001
	Ba	137	**0.105**	**ug/L**	13.429	90	0.001
	Ho	165		**ug/L**		8	0.000
>	Lu	175		**ug/L**		64528	64528.435
	Tl	205	**0.009**	**ug/L**	327.489	118	0.000
	Pb	208	**0.029**	**ug/L**	3.955	335	0.002
	Bi	209		**ug/L**		25	-0.000
	Th	232	**0.056**	**ug/L**	29.121	417	0.004
	U	238	**-0.005**	**ug/L**	23.353	28	-0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		93.0			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		93.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		95.1			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		95.6			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 1202011716
Sample Date/Time: Friday, January 15, 2010 21:34:31
Sample Type:
Sample Description: LANL 6020 LCS
Number of Replicates: 3
Batch ID: 940086|40|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\1202011716.101

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**2.776**	ug/L	3.942	523	0.002
	Be	9	**19.720**	ug/L	1.444	983	0.004
	B	11	**36.521**	ug/L	3.369	1890	0.008
	Na	23	**245.036**	ug/L	11.424	300824	1.296
	Mg	24	**1085.120**	ug/L	1.409	837872	3.790
	Al	27	**3257.005**	ug/L	4.712	3803958	17.223
	P	31	**213.382**	ug/L	3.084	14268	0.055
	K	39	**1259.278**	ug/L	0.809	2453850	9.585
	Ca	43	**2615.976**	ug/L	3.047	9943	0.043
>	Sc	45		ug/L		220841	220840.795
	Ti	47	**122.985**	ug/L	1.298	21529	0.097
	V	51	**23.751**	ug/L	5.631	44503	0.172
	Cr	52	**63.198**	ug/L	1.092	104370	0.469
	Cr	53		ug/L		150275	0.001
	Mn	55	**149.118**	ug/L	2.016	405269	1.832
	Fe	57	**4774.646**	ug/L	2.449	265430	1.182
	Co	59	**25.245**	ug/L	1.125	51397	0.232
	Ni	60	**36.837**	ug/L	1.354	15639	0.071
	Cu	63		ug/L		44868	0.203
	Cu	65	**46.941**	ug/L	0.260	21892	0.099
	Zn	66	**155.264**	ug/L	0.703	37731	0.333
	Zn	67		ug/L		11543	0.044
	Zn	68		ug/L		27271	0.236
>	Ge	74		ug/L		113301	113301.339
	As	75	**27.687**	ug/L	2.549	8149	0.070
	Se	77		ug/L		6889	0.015
	Se	82	**75.725**	ug/L	2.747	2172	0.019
	Kr	83		ug/L		37	-0.000
	Sr	88	**61.507**	ug/L	0.908	272863	3.683
	Y	89		ug/L		14179	0.191
	Zr	90	**2.669**	ug/L	1.075	6372	0.084
	Mo	98	**12.798**	ug/L	2.109	13045	0.176
	Ag	107	**6.775**	ug/L	2.364	11129	0.150
	Cd	111	**15.882**	ug/L	4.535	6224	0.084
	Cd	114		ug/L		14708	0.198
>	In	115		ug/L		74077	74077.174
	Sn	120	**12.518**	ug/L	0.416	22427	0.301
	Sb	121	**8.740**	ug/L	0.935	11805	0.157
	Sb	123		ug/L		9022	0.120
	Ba	135		ug/L		21733	0.330
	Ba	137	**52.632**	ug/L	1.891	37531	0.570
	Ho	165		ug/L		585	0.009
>	Lu	175		ug/L		65869	65868.513
	Tl	205	**32.974**	ug/L	1.243	31980	0.484
	Pb	208	**24.273**	ug/L	2.114	93657	1.419
	Bi	209		ug/L		665	0.010
	Th	232	**2.639**	ug/L	0.729	12793	0.192
	U	238	**0.509**	ug/L	3.436	2527	0.038

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			95.3		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			95.6		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			95.3		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			97.6		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ti 47 Upper, S, EEE	Ti	47	Sample is out of limits (over linear range)

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 244137001
Sample Date/Time: Friday, January 15, 2010 21:40:44
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 940086|2|sk|
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\244137001.102

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**71.098**	ug/L	1.716	14225	0.060
	Be	9	**4.604**	ug/L	6.181	250	0.001
	B	11	**18.362**	ug/L	4.490	1059	0.004
	Na	23	**602.912**	ug/L	7.202	775879	3.189
	Mg	24	**10575.216**	ug/L	7.865	8805579	36.936
	Al	27	**84229.805**	ug/L	1.897	106266469	445.401
	P	31	**706.081**	ug/L	2.064	45875	0.183
	K	39	**9874.549**	ug/L	7.434	18274107	75.161
	Ca	43	**12512.069**	ug/L	2.335	49546	0.206
>	Sc	45		ug/L		238611	238610.943
	Ti	47	**1646.229**	ug/L	0.464	309038	1.294
	V	51	**107.235**	ug/L	3.286	192585	0.778
	Cr	52	**47.984**	ug/L	3.715	85780	0.356
	Cr	53		ug/L		110198	-0.217
	Mn	55	**2147.604**	ug/L	3.473	6292176	26.384
	Fe	57	**58047.652**	ug/L	4.664	3430132	14.368
	Co	59	**27.536**	ug/L	4.079	60518	0.253
	Ni	60	**38.802**	ug/L	4.845	17781	0.074
	Cu	63		ug/L		30364	0.127
	Cu	65	**29.937**	ug/L	2.269	15101	0.063
	Zn	66	**144.806**	ug/L	2.569	32960	0.310
	Zn	67		ug/L		10769	0.044
	Zn	68		ug/L		27356	0.253
>	Ge	74		ug/L		106171	106171.385
	As	75	**10.690**	ug/L	6.063	3065	0.027
	Se	77		ug/L		3556	-0.012
	Se	82	**0.717**	ug/L	27.498	20	0.000
	Kr	83		ug/L		83	0.000
	Sr	88	**177.164**	ug/L	1.914	751160	10.609
	Y	89		ug/L		255693	3.612
	Zr	90	**128.529**	ug/L	1.891	288077	4.067
	Mo	98	**1.852**	ug/L	3.080	1819	0.025
	Ag	107	**0.544**	ug/L	3.005	893	0.012
	Cd	111	**2.092**	ug/L	12.341	791	0.011
	Cd	114		ug/L		390	0.005
>	In	115		ug/L		70817	70817.482
	Sn	120	**0.888**	ug/L	4.236	1628	0.021
	Sb	121	**0.161**	ug/L	14.007	341	0.003
	Sb	123		ug/L		295	0.002
	Ba	135		ug/L		424494	6.214
	Ba	137	**971.853**	ug/L	1.495	718499	10.518
	Ho	165		ug/L		10199	0.149
>	Lu	175		ug/L		68321	68320.691
	Tl	205	**1.119**	ug/L	4.530	1237	0.016
	Pb	208	**73.279**	ug/L	1.454	292798	4.283
	Bi	209		ug/L		3118	0.045
	Th	232	**42.966**	ug/L	1.507	213503	3.123
	U	238	**6.074**	ug/L	1.881	30668	0.448

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		103.0			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		89.6			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		91.1			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		101.2			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEEAl	27	Sample is out of limits (over linear range)
Ti 47 Upper, S, EEETi	47	Sample is out of limits (over linear range)
V 51 Upper, S, EEE V	51	Sample is out of limits (over linear range)
Mn 55 Upper, S, EEIMn	55	Sample is out of limits (over linear range)
Fe 57 Upper, S, EEEFe	57	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 1202011717
Sample Date/Time: Friday, January 15, 2010 21:46:56
Sample Type:
Sample Description: LANL 6020 DUP
Number of Replicates: 3
Batch ID: 940086|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\1202011717.103

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**72.421**	ug/L	0.824	14530	0.061
	Be	9	**4.408**	ug/L	1.333	240	0.001
	B	11	**17.137**	ug/L	5.588	995	0.004
	Na	23	**649.819**	ug/L	3.484	838250	3.437
	Mg	24	**10398.233**	ug/L	2.107	8690122	36.317
	Al	27	**84547.051**	ug/L	4.694	106977282	447.079
	P	31	**690.332**	ug/L	1.253	45033	0.179
	K	39	**10119.050**	ug/L	4.139	18790241	77.022
	Ca	43	**13262.471**	ug/L	0.427	52645	0.218
>	Sc	45		ug/L		239237	239237.358
	Ti	47	**1717.054**	ug/L	0.297	323197	1.350
	V	51	**100.578**	ug/L	0.397	181640	0.730
	Cr	52	**47.216**	ug/L	1.351	84699	0.350
	Cr	53		ug/L		108534	-0.226
	Mn	55	**2183.301**	ug/L	0.549	6417757	26.822
	Fe	57	**56238.487**	ug/L	1.645	3335003	13.920
	Co	59	**28.016**	ug/L	1.272	61778	0.258
	Ni	60	**39.417**	ug/L	1.002	18125	0.076
	Cu	63		ug/L		30854	0.129
	Cu	65	**29.830**	ug/L	1.365	15093	0.063
	Zn	66	**143.560**	ug/L	0.543	32897	0.308
	Zn	67		ug/L		10741	0.043
	Zn	68		ug/L		27395	0.251
>	Ge	74		ug/L		106835	106834.740
	As	75	**10.397**	ug/L	3.464	3009	0.026
	Se	77		ug/L		3601	-0.012
	Se	82	**0.206**	ug/L	225.314	7	0.000
	Kr	83		ug/L		79	0.000
	Sr	88	**182.068**	ug/L	0.547	793638	10.902
	Y	89		ug/L		251744	3.459
	Zr	90	**126.671**	ug/L	1.642	291862	4.008
	Mo	98	**1.878**	ug/L	3.576	1896	0.026
	Ag	107	**0.526**	ug/L	4.212	890	0.012
	Cd	111	**2.215**	ug/L	14.760	860	0.012
	Cd	114		ug/L		417	0.006
>	In	115		ug/L		72794	72794.426
	Sn	120	**0.906**	ug/L	4.103	1707	0.022
	Sb	121	**0.139**	ug/L	17.459	322	0.003
	Sb	123		ug/L		268	0.001
	Ba	135		ug/L		447330	6.534
	Ba	137	**1021.175**	ug/L	0.869	756700	11.052
	Ho	165		ug/L		9823	0.143
>	Lu	175		ug/L		68470	68469.718
	Tl	205	**0.990**	ug/L	1.523	1111	0.015
	Pb	208	**66.975**	ug/L	1.300	268255	3.914
	Bi	209		ug/L		3161	0.046
	Th	232	**43.300**	ug/L	1.868	215640	3.147
	U	238	**6.598**	ug/L	2.497	33383	0.487

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		103.3			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		90.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		93.7			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		101.5			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEEAl	27	Sample is out of limits (over linear range)
Ti 47 Upper, S, EEETi	47	Sample is out of limits (over linear range)
V 51 Upper, S, EEE V	51	Sample is out of limits (over linear range)
Mn 55 Upper, S, EEIMn	55	Sample is out of limits (over linear range)
Fe 57 Upper, S, EEEFe	57	Sample is out of limits (over linear range)

Ba 137 Upper, S, EEBa 137Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, January 15, 2010 21:53:09
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 6.104

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**50.000**	**ug/L**	1.498	9186	0.042
	Be	9	**47.674**	**ug/L**	3.224	2352	0.011
	B	11	**92.473**	**ug/L**	2.264	4657	0.021
	Na	23	**4517.399**	**ug/L**	1.605	5248452	23.894
	Mg	24	**5210.967**	**ug/L**	9.287	3987142	18.200
	Al	27	**4677.871**	**ug/L**	3.736	5419945	24.736
	P	31	**4758.239**	**ug/L**	0.960	272192	1.233
	K	39	**5113.656**	**ug/L**	7.195	8862765	38.923
	Ca	43	**4945.251**	**ug/L**	0.290	18248	0.081
>	Sc	45		**ug/L**		219026	219025.950
	Ti	47	**50.357**	**ug/L**	0.807	8843	0.040
	V	51	**45.539**	**ug/L**	5.130	78789	0.331
	Cr	52	**52.351**	**ug/L**	0.393	85882	0.389
	Cr	53		**ug/L**		147447	-0.006
	Mn	55	**51.622**	**ug/L**	1.866	139600	0.634
	Fe	57	**5019.504**	**ug/L**	1.567	276512	1.242
	Co	59	**50.725**	**ug/L**	0.520	102315	0.467
	Ni	60	**52.483**	**ug/L**	1.512	22086	0.101
	Cu	63		**ug/L**		49132	0.224
	Cu	65	**51.153**	**ug/L**	2.143	23658	0.108
	Zn	66	**50.189**	**ug/L**	0.586	12363	0.108
	Zn	67		**ug/L**		7670	0.009
	Zn	68		**ug/L**		9252	0.076
>	Ge	74		**ug/L**		114570	114570.141
	As	75	**47.099**	**ug/L**	4.001	13869	0.119
	Se	77		**ug/L**		6381	0.010
	Se	82	**49.558**	**ug/L**	4.082	1438	0.013
	Kr	83		**ug/L**		38	-0.000
	Sr	88	**50.895**	**ug/L**	1.417	224398	3.048
	Y	89		**ug/L**		84	0.001
	Zr	90	**49.847**	**ug/L**	1.626	116213	1.577
	Mo	98	**50.241**	**ug/L**	1.269	50840	0.690
	Ag	107	**50.261**	**ug/L**	2.150	81764	1.110
	Cd	111	**50.369**	**ug/L**	2.940	19608	0.266
	Cd	114		**ug/L**		46143	0.627
>	In	115		**ug/L**		73606	73605.629
	Sn	120	**50.405**	**ug/L**	1.821	89347	1.212
	Sb	121	**50.331**	**ug/L**	2.250	66885	0.907
	Sb	123		**ug/L**		51388	0.696
	Ba	135		**ug/L**		20634	0.319
	Ba	137	**51.417**	**ug/L**	2.649	35992	0.556
	Ho	165		**ug/L**		14	0.000
>	Lu	175		**ug/L**		64645	64644.914
	Tl	205	**49.615**	**ug/L**	0.723	47173	0.728
	Pb	208	**51.143**	**ug/L**	0.758	193450	2.989
	Bi	209		**ug/L**		43	0.000
	Th	232	**52.173**	**ug/L**	1.454	245298	3.792
	U	238	**53.432**	**ug/L**	0.343	254891	3.942

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	100.000				
	Be	9	95.348				
	B	11	92.473				
	Na	23	90.348				
	Mg	24	104.219				
	Al	27	92.631				
	P	31	95.165				
	K	39	102.273				
	Ca	43	98.905				
>	Sc	45			94.5		
	Ti	47	100.715				
	V	51	91.077				
	Cr	52	104.701				
	Cr	53					
	Mn	55	103.243				
	Fe	57	100.390				
	Co	59	101.450				
	Ni	60	104.966				
	Cu	63					
	Cu	65	102.306				
	Zn	66	100.378				
	Zn	67					
	Zn	68					
>	Ge	74			96.6		
	As	75	94.198				
	Se	77					
	Se	82	99.117				
	Kr	83					
	Sr	88	101.789				
	Y	89					
	Zr	90	99.694				
	Mo	98	100.483				
	Ag	107	100.522				
	Cd	111	100.739				
	Cd	114					
>	In	115			94.7		
	Sn	120	100.809				
	Sb	121	100.663				
	Sb	123					
	Ba	135					
	Ba	137	102.834				
	Ho	165					
>	Lu	175			95.8		
	Tl	205	99.231				
	Pb	208	102.286				
	Bi	209					
	Th	232	104.347				
	U	238	106.863				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, January 15, 2010 21:59:22
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 7.105

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.130**	**ug/L**	33.970	33	0.000
	Be	9	**0.030**	**ug/L**	166.084	4	0.000
	B	11	**2.472**	**ug/L**	8.906	182	0.001
	Na	23	**-4.999**	**ug/L**	79.116	8670	-0.026
	Mg	24	**1.382**	**ug/L**	164.054	2000	0.005
	Al	27	**3.490**	**ug/L**	63.210	4334	0.018
	P	31	**-4.733**	**ug/L**	39.572	1764	-0.001
	K	39	**-31.790**	**ug/L**	16.245	280734	-0.242
	Ca	43	**-18.752**	**ug/L**	46.070	373	-0.000
>	Sc	45		**ug/L**		218509	218509.001
	Ti	47	**0.158**	**ug/L**	33.347	197	0.000
	V	51	**-2.833**	**ug/L**	85.567	1846	-0.021
	Cr	52	**0.569**	**ug/L**	18.515	1707	0.004
	Cr	53		**ug/L**		119313	-0.133
	Mn	55	**0.080**	**ug/L**	6.011	933	0.001
	Fe	57	**-4.757**	**ug/L**	46.548	4161	-0.001
	Co	59	**0.013**	**ug/L**	71.327	137	0.000
	Ni	60	**0.010**	**ug/L**	86.790	42	0.000
	Cu	63		**ug/L**		69	-0.000
	Cu	65	**-0.011**	**ug/L**	107.549	48	-0.000
	Zn	66	**0.066**	**ug/L**	29.718	61	0.000
	Zn	67		**ug/L**		4869	-0.015
	Zn	68		**ug/L**		378	-0.002
>	Ge	74		**ug/L**		114566	114566.033
	As	75	**-0.789**	**ug/L**	103.717	-17	-0.002
	Se	77		**ug/L**		4294	-0.008
	Se	82	**-0.260**	**ug/L**	183.699	-6	-0.000
	Kr	83		**ug/L**		43	-0.000
	Sr	88	**0.019**	**ug/L**	24.899	148	0.001
	Y	89		**ug/L**		19	0.000
	Zr	90	**0.142**	**ug/L**	17.642	455	0.004
	Mo	98	**0.037**	**ug/L**	21.431	57	0.001
	Ag	107	**0.003**	**ug/L**	227.946	51	0.000
	Cd	111	**0.019**	**ug/L**	31.783	15	0.000
	Cd	114		**ug/L**		26	0.000
>	In	115		**ug/L**		74959	74959.412
	Sn	120	**0.102**	**ug/L**	20.908	308	0.002
	Sb	121	**0.409**	**ug/L**	13.736	695	0.007
	Sb	123		**ug/L**		555	0.005
	Ba	135		**ug/L**		32	0.000
	Ba	137	**0.054**	**ug/L**	4.553	56	0.001
	Ho	165		**ug/L**		9	0.000
>	Lu	175		**ug/L**		65418	65417.766
	Tl	205	**0.076**	**ug/L**	22.607	183	0.001
	Pb	208	**0.023**	**ug/L**	17.498	317	0.001
	Bi	209		**ug/L**		18	-0.000
	Th	232	**0.089**	**ug/L**	18.220	577	0.006
	U	238	**0.014**	**ug/L**	27.405	123	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		94.3			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		96.6			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		96.4			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		96.9			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 1202011718
Sample Date/Time: Friday, January 15, 2010 22:05:35
Sample Type:
Sample Description: LANL 6020 MS
Number of Replicates: 3
Batch ID: 940086|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\1202011718.106

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**96.852**	**ug/L**	1.010	19551	0.081
	Be	9	**25.263**	**ug/L**	4.541	1371	0.006
	B	11	**57.375**	**ug/L**	2.565	3200	0.013
	Na	23	**1505.389**	**ug/L**	2.797	1932868	7.963
	Mg	24	**12006.677**	**ug/L**	1.968	10098706	41.935
	Al	27	**92291.191**	**ug/L**	2.952	117461766	488.029
	P	31	**1503.492**	**ug/L**	0.669	96071	0.390
	K	39	**12597.211**	**ug/L**	4.613	23453147	95.885
	Ca	43	**13497.844**	**ug/L**	1.295	53911	0.222
>	Sc	45		**ug/L**		240750	240750.318
	Ti	47	**1693.317**	**ug/L**	0.732	320761	1.332
	V	51	**130.324**	**ug/L**	1.496	234803	0.946
	Cr	52	**72.574**	**ug/L**	2.266	130561	0.539
	Cr	53		**ug/L**		112370	-0.212
	Mn	55	**2021.207**	**ug/L**	0.527	5979140	24.831
	Fe	57	**59525.683**	**ug/L**	1.196	3552352	14.734
	Co	59	**49.596**	**ug/L**	1.111	109974	0.456
	Ni	60	**62.921**	**ug/L**	1.041	29090	0.121
	Cu	63		**ug/L**		55320	0.229
	Cu	65	**53.303**	**ug/L**	1.873	27088	0.112
	Zn	66	**178.701**	**ug/L**	1.913	40967	0.383
	Zn	67		**ug/L**		11950	0.054
	Zn	68		**ug/L**		32493	0.299
>	Ge	74		**ug/L**		106936	106935.620
	As	75	**49.058**	**ug/L**	3.895	13470	0.124
	Se	77		**ug/L**		3732	-0.011
	Se	82	**8.608**	**ug/L**	6.757	234	0.002
	Kr	83		**ug/L**		93	0.000
	Sr	88	**214.900**	**ug/L**	1.066	913805	12.868
	Y	89		**ug/L**		269003	3.788
	Zr	90	**151.728**	**ug/L**	1.491	341055	4.801
	Mo	98	**20.932**	**ug/L**	2.021	20442	0.288
	Ag	107	**24.014**	**ug/L**	2.023	37705	0.530
	Cd	111	**7.220**	**ug/L**	2.686	2717	0.038
	Cd	114		**ug/L**		4735	0.066
>	In	115		**ug/L**		71011	71011.049
	Sn	120	**9.676**	**ug/L**	1.385	16643	0.233
	Sb	121	**10.393**	**ug/L**	3.146	13431	0.187
	Sb	123		**ug/L**		10438	0.145
	Ba	135		**ug/L**		434912	6.422
	Ba	137	**1006.223**	**ug/L**	1.263	737476	10.890
	Ho	165		**ug/L**		10481	0.155
>	Lu	175		**ug/L**		67726	67725.512
	Tl	205	**47.169**	**ug/L**	2.431	46985	0.692
	Pb	208	**162.952**	**ug/L**	1.140	645244	9.524
	Bi	209		**ug/L**		3269	0.048
	Th	232	**67.477**	**ug/L**	0.392	332337	4.905
	U	238	**31.832**	**ug/L**	0.617	159107	2.349

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			103.9		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			90.2		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			91.4		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			100.4		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEEAl	27	Sample is out of limits (over linear range)
Ti 47 Upper, S, EEETi	47	Sample is out of limits (over linear range)
V 51 Upper, S, EEE V	51	Sample is out of limits (over linear range)
Mn 55 Upper, S, EEIMn	55	Sample is out of limits (over linear range)
Fe 57 Upper, S, EEEFe	57	Sample is out of limits (over linear range)

Ba 137 Upper, S, EEBa 137Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 1202011720
Sample Date/Time: Friday, January 15, 2010 22:11:48
Sample Type:
Sample Description: LANL 6020 MSD
Number of Replicates: 3
Batch ID: 940086|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\1202011720.107

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**99.255**	**ug/L**	1.133	20014	0.083
	Be	9	**25.403**	**ug/L**	2.346	1378	0.006
	B	11	**62.463**	**ug/L**	1.444	3474	0.014
	Na	23	**1452.274**	**ug/L**	4.291	1863186	7.682
	Mg	24	**11756.619**	**ug/L**	3.156	9875488	41.062
	Al	27	**96302.027**	**ug/L**	6.239	122437454	509.238
	P	31	**1441.538**	**ug/L**	1.632	92095	0.374
	K	39	**12588.255**	**ug/L**	3.446	23405958	95.817
	Ca	43	**12608.566**	**ug/L**	0.927	50335	0.207
>	Sc	45		**ug/L**		240481	240480.638
	Ti	47	**2033.420**	**ug/L**	0.758	384699	1.599
	V	51	**131.911**	**ug/L**	1.661	237274	0.958
	Cr	52	**73.516**	**ug/L**	2.021	132065	0.546
	Cr	53		**ug/L**		111145	-0.217
	Mn	55	**2022.528**	**ug/L**	1.101	5976223	24.847
	Fe	57	**58850.778**	**ug/L**	0.609	3507905	14.566
	Co	59	**48.955**	**ug/L**	1.521	108419	0.450
	Ni	60	**61.807**	**ug/L**	1.025	28545	0.119
	Cu	63		**ug/L**		53860	0.224
	Cu	65	**51.967**	**ug/L**	1.366	26386	0.109
	Zn	66	**174.806**	**ug/L**	0.391	39710	0.374
	Zn	67		**ug/L**		11641	0.052
	Zn	68		**ug/L**		31162	0.289
>	Ge	74		**ug/L**		105931	105931.046
	As	75	**46.654**	**ug/L**	3.796	12703	0.118
	Se	77		**ug/L**		3645	-0.011
	Se	82	**7.273**	**ug/L**	9.501	196	0.002
	Kr	83		**ug/L**		88	0.000
	Sr	88	**202.549**	**ug/L**	2.253	864632	12.129
	Y	89		**ug/L**		255234	3.580
	Zr	90	**152.278**	**ug/L**	1.952	343617	4.819
	Mo	98	**22.325**	**ug/L**	3.402	21886	0.307
	Ag	107	**23.568**	**ug/L**	2.506	37153	0.521
	Cd	111	**7.098**	**ug/L**	3.874	2682	0.038
	Cd	114		**ug/L**		4717	0.066
>	In	115		**ug/L**		71300	71299.703
	Sn	120	**10.337**	**ug/L**	3.528	17838	0.249
	Sb	121	**18.949**	**ug/L**	2.770	24470	0.341
	Sb	123		**ug/L**		18418	0.256
	Ba	135		**ug/L**		419079	6.165
	Ba	137	**972.409**	**ug/L**	1.042	715348	10.524
	Ho	165		**ug/L**		9992	0.147
>	Lu	175		**ug/L**		67972	67971.667
	Tl	205	**46.689**	**ug/L**	2.003	46684	0.685
	Pb	208	**160.214**	**ug/L**	0.910	636702	9.364
	Bi	209		**ug/L**		3103	0.045
	Th	232	**67.832**	**ug/L**	0.513	335294	4.930
	U	238	**31.680**	**ug/L**	1.452	158923	2.337

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		103.8			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		89.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		91.7			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		100.7			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	Sample is out of limits (over linear range)
Ti 47 Upper, S, EEE	Ti	47	Sample is out of limits (over linear range)
V 51 Upper, S, EEE	V	51	Sample is out of limits (over linear range)
Mn 55 Upper, S, EEE	Mn	55	Sample is out of limits (over linear range)
Fe 57 Upper, S, EEE	Fe	57	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 1202011719
Sample Date/Time: Friday, January 15, 2010 22:18:02
Sample Type:
Sample Description: LANL 6020 SDILT
Number of Replicates: 3
Batch ID: 940086|10|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\1202011719.108

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**15.783**	ug/L	2.172	2849	0.013
	Be	9	**1.047**	ug/L	5.944	53	0.000
	B	11	**6.002**	ug/L	8.470	351	0.001
	Na	23	**142.261**	ug/L	4.636	175742	0.752
	Mg	24	**2218.788**	ug/L	4.004	1664717	7.749
	Al	27	**18211.922**	ug/L	1.463	20682978	96.303
	P	31	**162.044**	ug/L	1.070	11018	0.042
	K	39	**2371.701**	ug/L	6.862	4205758	18.053
	Ca	43	**2852.575**	ug/L	1.210	10503	0.047
>	Sc	45		ug/L		214742	214742.276
	Ti	47	**377.693**	ug/L	0.625	63947	0.297
	V	51	**19.829**	ug/L	1.896	37153	0.144
	Cr	52	**11.393**	ug/L	2.628	18925	0.085
	Cr	53		ug/L		125950	-0.093
	Mn	55	**475.633**	ug/L	0.652	1255430	5.843
	Fe	57	**12670.655**	ug/L	0.770	677768	3.136
	Co	59	**6.325**	ug/L	2.016	12604	0.058
	Ni	60	**9.138**	ug/L	1.121	3800	0.018
	Cu	63		ug/L		6607	0.030
	Cu	65	**7.410**	ug/L	7.619	3407	0.016
	Zn	66	**31.228**	ug/L	2.000	7276	0.067
	Zn	67		ug/L		6521	0.002
	Zn	68		ug/L		6203	0.052
>	Ge	74		ug/L		108154	108154.339
	As	75	**2.221**	ug/L	35.390	810	0.006
	Se	77		ug/L		4541	-0.003
	Se	82	**-0.008**	ug/L	1625.053	1	-0.000
	Kr	83		ug/L		44	-0.000
	Sr	88	**36.813**	ug/L	0.949	155617	2.204
	Y	89		ug/L		52651	0.746
	Zr	90	**26.162**	ug/L	1.373	58532	0.828
	Mo	98	**0.374**	ug/L	4.461	380	0.005
	Ag	107	**0.119**	ug/L	6.423	228	0.003
	Cd	111	**0.395**	ug/L	20.715	155	0.002
	Cd	114		ug/L		86	0.001
>	In	115		ug/L		70570	70569.610
	Sn	120	**0.226**	ug/L	4.945	500	0.005
	Sb	121	**0.115**	ug/L	42.645	281	0.002
	Sb	123		ug/L		249	0.001
	Ba	135		ug/L		87361	1.359
	Ba	137	**213.212**	ug/L	1.244	148303	2.307
	Ho	165		ug/L		2036	0.032
>	Lu	175		ug/L		64268	64268.228
	Tl	205	**0.393**	ug/L	10.451	479	0.006
	Pb	208	**15.976**	ug/L	1.144	60230	0.934
	Bi	209		ug/L		677	0.010
	Th	232	**9.149**	ug/L	1.261	42889	0.665
	U	238	**1.315**	ug/L	2.209	6288	0.097

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			92.7		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			91.2		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			90.8		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			95.2		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ti 47 Upper, S, EEE	Ti	47	Sample is out of limits (over linear range)

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 244137002
Sample Date/Time: Friday, January 15, 2010 22:24:17
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 940086|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\244137002.109

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**79.071**	ug/L	1.928	16127	0.066
	Be	9	**4.598**	ug/L	5.593	255	0.001
	B	11	**16.678**	ug/L	4.954	986	0.004
	Na	23	**521.950**	ug/L	10.777	686870	2.761
	Mg	24	**10561.054**	ug/L	2.092	8972352	36.886
	Al	27	**90754.936**	ug/L	4.386	116750954	479.906
	P	31	**520.344**	ug/L	1.469	35071	0.135
	K	39	**12867.956**	ug/L	8.297	24184583	97.946
	Ca	43	**10980.097**	ug/L	1.832	44397	0.181
>	Sc	45		ug/L		243283	243282.700
	Ti	47	**1782.310**	ug/L	1.406	341114	1.401
	V	51	**108.232**	ug/L	3.912	198122	0.786
	Cr	52	**49.366**	ug/L	2.541	89980	0.366
	Cr	53		ug/L		105999	-0.243
	Mn	55	**1945.428**	ug/L	1.481	5814324	23.900
	Fe	57	**61917.359**	ug/L	1.801	3732637	15.326
	Co	59	**30.690**	ug/L	1.847	68795	0.282
	Ni	60	**41.515**	ug/L	0.599	19410	0.080
	Cu	63		ug/L		34394	0.141
	Cu	65	**32.910**	ug/L	1.709	16922	0.069
	Zn	66	**143.736**	ug/L	2.044	33355	0.308
	Zn	67		ug/L		10694	0.041
	Zn	68		ug/L		27523	0.249
>	Ge	74		ug/L		108209	108208.830
	As	75	**10.825**	ug/L	9.303	3162	0.027
	Se	77		ug/L		3572	-0.012
	Se	82	**-0.039**	ug/L	497.919	0	-0.000
	Kr	83		ug/L		97	0.000
	Sr	88	**159.473**	ug/L	1.615	684856	9.549
	Y	89		ug/L		259998	3.626
	Zr	90	**129.437**	ug/L	1.914	293830	4.096
	Mo	98	**1.707**	ug/L	3.898	1699	0.023
	Ag	107	**0.593**	ug/L	2.094	984	0.013
	Cd	111	**2.149**	ug/L	2.500	822	0.011
	Cd	114		ug/L		345	0.005
>	In	115		ug/L		71732	71732.043
	Sn	120	**1.014**	ug/L	2.943	1867	0.024
	Sb	121	**0.103**	ug/L	6.725	271	0.002
	Sb	123		ug/L		257	0.001
	Ba	135		ug/L		433303	6.349
	Ba	137	**1003.222**	ug/L	0.143	740961	10.857
	Ho	165		ug/L		10196	0.149
>	Lu	175		ug/L		68243	68242.633
	Tl	205	**1.135**	ug/L	1.366	1252	0.017
	Pb	208	**63.860**	ug/L	0.890	254957	3.732
	Bi	209		ug/L		2983	0.043
	Th	232	**44.347**	ug/L	1.626	220129	3.223
	U	238	**6.222**	ug/L	2.921	31381	0.459

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		105.0			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		91.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		92.3			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		101.1			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	Sample is out of limits (over linear range)
Ti 47 Upper, S, EEE	Ti	47	Sample is out of limits (over linear range)
V 51 Upper, S, EEE	V	51	Sample is out of limits (over linear range)
Mn 55 Upper, S, EEE	Mn	55	Sample is out of limits (over linear range)
Fe 57 Upper, S, EEE	Fe	57	Sample is out of limits (over linear range)

Ba 137 Upper, S, EEBa 137Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 244137003
Sample Date/Time: Friday, January 15, 2010 22:30:32
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 940086|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\244137003.110

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**62.148**	ug/L	2.568	12436	0.052
	Be	9	**3.939**	ug/L	8.272	214	0.001
	B	11	**14.529**	ug/L	4.714	851	0.003
	Na	23	**383.093**	ug/L	7.840	498913	2.026
	Mg	24	**9129.315**	ug/L	12.207	7594556	31.885
	Al	27	**70301.711**	ug/L	3.553	88673860	371.751
	P	31	**553.757**	ug/L	1.391	36474	0.144
	K	39	**11061.845**	ug/L	2.830	20456618	84.199
	Ca	43	**8765.375**	ug/L	0.711	34873	0.144
>	Sc	45		ug/L		238686	238686.207
	Ti	47	**1393.761**	ug/L	0.728	261770	1.096
	V	51	**86.750**	ug/L	1.656	157267	0.630
	Cr	52	**55.338**	ug/L	1.183	98866	0.411
	Cr	53		ug/L		107540	-0.228
	Mn	55	**1711.872**	ug/L	3.205	5018805	21.031
	Fe	57	**49368.458**	ug/L	3.046	2920137	12.219
	Co	59	**24.420**	ug/L	1.721	53724	0.225
	Ni	60	**40.573**	ug/L	3.264	18603	0.078
	Cu	63		ug/L		27800	0.116
	Cu	65	**27.091**	ug/L	0.530	13679	0.057
	Zn	66	**118.422**	ug/L	1.624	27774	0.254
	Zn	67		ug/L		9539	0.029
	Zn	68		ug/L		22654	0.202
>	Ge	74		ug/L		109328	109328.294
	As	75	**7.865**	ug/L	13.213	2380	0.020
	Se	77		ug/L		3586	-0.013
	Se	82	**-0.007**	ug/L	1557.670	1	-0.000
	Kr	83		ug/L		82	0.000
	Sr	88	**122.686**	ug/L	1.165	535634	7.346
	Y	89		ug/L		220517	3.025
	Zr	90	**110.934**	ug/L	1.313	256024	3.510
	Mo	98	**1.400**	ug/L	3.437	1420	0.019
	Ag	107	**0.460**	ug/L	1.062	786	0.010
	Cd	111	**1.751**	ug/L	7.241	683	0.009
	Cd	114		ug/L		340	0.004
>	In	115		ug/L		72908	72907.705
	Sn	120	**0.775**	ug/L	1.479	1480	0.019
	Sb	121	**0.067**	ug/L	25.948	228	0.001
	Sb	123		ug/L		200	0.000
	Ba	135		ug/L		348999	5.142
	Ba	137	**809.511**	ug/L	1.272	594780	8.761
	Ho	165		ug/L		8588	0.126
>	Lu	175		ug/L		67890	67890.326
	Tl	205	**0.873**	ug/L	5.977	984	0.013
	Pb	208	**55.298**	ug/L	1.283	219623	3.232
	Bi	209		ug/L		2552	0.037
	Th	232	**36.598**	ug/L	3.007	180690	2.660
	U	238	**8.062**	ug/L	3.333	40418	0.595

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		103.0			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		92.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		93.8			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		100.6			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEEAl	27	Sample is out of limits (over linear range)
Ti 47 Upper, S, EEETi	47	Sample is out of limits (over linear range)
Mn 55 Upper, S, EElMn	55	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, January 15, 2010 22:36:45
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 6.111

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**49.303**	**ug/L**	0.671	8974	0.041
	Be	9	**46.699**	**ug/L**	1.456	2283	0.011
	B	11	**92.827**	**ug/L**	2.925	4630	0.021
	Na	23	**4406.620**	**ug/L**	5.582	5070256	23.308
	Mg	24	**4785.600**	**ug/L**	5.032	3627940	16.714
	Al	27	**4597.719**	**ug/L**	0.434	5275562	24.312
	P	31	**4687.376**	**ug/L**	0.560	265648	1.215
	K	39	**5111.077**	**ug/L**	7.231	8768386	38.904
	Ca	43	**4818.402**	**ug/L**	1.202	17628	0.079
>	Sc	45		**ug/L**		216981	216981.422
	Ti	47	**49.319**	**ug/L**	0.830	8583	0.039
	V	51	**44.943**	**ug/L**	6.051	77066	0.326
	Cr	52	**52.206**	**ug/L**	0.275	84851	0.387
	Cr	53		**ug/L**		144397	-0.014
	Mn	55	**51.684**	**ug/L**	0.964	138479	0.635
	Fe	57	**5053.664**	**ug/L**	0.971	275809	1.251
	Co	59	**50.690**	**ug/L**	1.201	101297	0.466
	Ni	60	**52.189**	**ug/L**	0.928	21753	0.100
	Cu	63		**ug/L**		48891	0.225
	Cu	65	**51.356**	**ug/L**	0.281	23527	0.108
	Zn	66	**49.674**	**ug/L**	1.809	12189	0.106
	Zn	67		**ug/L**		7558	0.008
	Zn	68		**ug/L**		9228	0.076
>	Ge	74		**ug/L**		114136	114135.973
	As	75	**48.001**	**ug/L**	4.565	14083	0.122
	Se	77		**ug/L**		6556	0.012
	Se	82	**49.742**	**ug/L**	1.117	1437	0.013
	Kr	83		**ug/L**		36	-0.000
	Sr	88	**50.487**	**ug/L**	0.896	224312	3.023
	Y	89		**ug/L**		86	0.001
	Zr	90	**49.032**	**ug/L**	1.777	115194	1.552
	Mo	98	**48.698**	**ug/L**	1.958	49657	0.669
	Ag	107	**49.795**	**ug/L**	1.709	81631	1.100
	Cd	111	**49.326**	**ug/L**	0.257	19353	0.261
	Cd	114		**ug/L**		45862	0.618
>	In	115		**ug/L**		74185	74185.075
	Sn	120	**49.248**	**ug/L**	1.199	87986	1.185
	Sb	121	**49.522**	**ug/L**	1.368	66339	0.892
	Sb	123		**ug/L**		51089	0.686
	Ba	135		**ug/L**		20591	0.323
	Ba	137	**51.151**	**ug/L**	1.239	35232	0.554
	Ho	165		**ug/L**		15	0.000
>	Lu	175		**ug/L**		63612	63612.282
	Tl	205	**50.153**	**ug/L**	1.495	46923	0.736
	Pb	208	**51.853**	**ug/L**	1.370	193003	3.031
	Bi	209		**ug/L**		50	0.000
	Th	232	**52.267**	**ug/L**	0.847	241820	3.799
	U	238	**53.271**	**ug/L**	1.125	250061	3.930

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	98.606				
	Be	9	93.398				
	B	11	92.827				
	Na	23	88.132				
	Mg	24	95.712				
	Al	27	91.044				
	P	31	93.748				
	K	39	102.222				
	Ca	43	96.368				
>	Sc	45		93.7			
	Ti	47	98.638				
	V	51	89.886				
	Cr	52	104.411				
	Cr	53					
	Mn	55	103.367				
	Fe	57	101.073				
	Co	59	101.381				
	Ni	60	104.378				
	Cu	63					
	Cu	65	102.711				
	Zn	66	99.349				
	Zn	67					
	Zn	68					
>	Ge	74		96.3			
	As	75	96.003				
	Se	77					
	Se	82	99.484				
	Kr	83					
	Sr	88	100.975				
	Y	89					
	Zr	90	98.063				
	Mo	98	97.395				
	Ag	107	99.590				
	Cd	111	98.652				
	Cd	114					
>	In	115		95.4			
	Sn	120	98.497				
	Sb	121	99.045				
	Sb	123					
	Ba	135					
	Ba	137	102.302				
	Ho	165					
>	Lu	175		94.3			
	Tl	205	100.307				
	Pb	208	103.707				
	Bi	209					
	Th	232	104.534				
	U	238	106.542				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Na	23	CCV is out of limits (+/- 10%)
QC Std 6	V	51	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, January 15, 2010 22:42:59
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 7.112

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.189**	ug/L	30.479	44	0.000
	Be	9	**0.003**	ug/L	1185.171	3	0.000
	B	11	**2.488**	ug/L	13.642	182	0.001
	Na	23	**-4.447**	ug/L	113.368	9337	-0.024
	Mg	24	**0.950**	ug/L	159.486	1667	0.003
	Al	27	**7.523**	ug/L	11.138	9003	0.040
	P	31	**-3.939**	ug/L	22.352	1808	-0.001
	K	39	**-28.575**	ug/L	13.417	285832	-0.218
	Ca	43	**-22.602**	ug/L	33.681	359	-0.000
>	Sc	45		ug/L		218342	218341.753
	Ti	47	**0.153**	ug/L	47.335	196	0.000
	V	51	**-4.475**	ug/L	16.944	-746	-0.032
	Cr	52	**0.782**	ug/L	10.249	2051	0.006
	Cr	53		ug/L		117034	-0.143
	Mn	55	**0.064**	ug/L	21.876	887	0.001
	Fe	57	**-2.090**	ug/L	117.546	4302	-0.001
	Co	59	**0.012**	ug/L	38.549	134	0.000
	Ni	60	**-0.006**	ug/L	147.022	36	-0.000
	Cu	63		ug/L		90	0.000
	Cu	65	**-0.010**	ug/L	147.590	49	-0.000
	Zn	66	**0.064**	ug/L	10.094	60	0.000
	Zn	67		ug/L		4868	-0.015
	Zn	68		ug/L		383	-0.002
>	Ge	74		ug/L		113423	113423.309
	As	75	**-0.408**	ug/L	182.858	93	-0.001
	Se	77		ug/L		4364	-0.007
	Se	82	**0.039**	ug/L	695.502	2	0.000
	Kr	83		ug/L		35	-0.000
	Sr	88	**0.015**	ug/L	9.202	128	0.001
	Y	89		ug/L		28	0.000
	Zr	90	**0.129**	ug/L	15.373	419	0.004
	Mo	98	**0.038**	ug/L	11.418	57	0.001
	Ag	107	**0.018**	ug/L	28.915	75	0.000
	Cd	111	**0.023**	ug/L	89.244	17	0.000
	Cd	114		ug/L		26	0.000
>	In	115		ug/L		74006	74005.739
	Sn	120	**0.100**	ug/L	21.093	301	0.002
	Sb	121	**0.401**	ug/L	19.788	677	0.007
	Sb	123		ug/L		570	0.005
	Ba	135		ug/L		30	0.000
	Ba	137	**0.057**	ug/L	24.421	57	0.001
	Ho	165		ug/L		8	0.000
>	Lu	175		ug/L		63770	63769.659
	Tl	205	**0.100**	ug/L	8.945	202	0.001
	Pb	208	**0.029**	ug/L	28.547	331	0.002
	Bi	209		ug/L		21	-0.000
	Th	232	**0.090**	ug/L	17.738	572	0.007
	U	238	**0.014**	ug/L	24.722	120	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			94.2		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			95.7		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			95.2		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			94.5		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 244137004
Sample Date/Time: Friday, January 15, 2010 22:49:12
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 940086|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\244137004.113

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**59.636**	**ug/L**	0.523	11591	0.050
	Be	9	**3.408**	**ug/L**	4.401	181	0.001
	B	11	**14.458**	**ug/L**	3.454	823	0.003
	Na	23	**424.352**	**ug/L**	1.109	535522	2.245
	Mg	24	**8738.124**	**ug/L**	1.098	7073713	30.519
	Al	27	**67859.115**	**ug/L**	1.799	83165063	358.834
	P	31	**605.229**	**ug/L**	1.572	38509	0.157
	K	39	**11638.554**	**ug/L**	11.523	20890171	88.588
	Ca	43	**9393.031**	**ug/L**	0.794	36253	0.154
>	Sc	45		**ug/L**		231734	231733.539
	Ti	47	**1484.551**	**ug/L**	0.114	270693	1.167
	V	51	**85.965**	**ug/L**	2.718	151351	0.624
	Cr	52	**57.462**	**ug/L**	0.214	99659	0.426
	Cr	53		**ug/L**		107991	-0.213
	Mn	55	**1595.920**	**ug/L**	1.743	4543846	19.606
	Fe	57	**50075.596**	**ug/L**	0.622	2876920	12.394
	Co	59	**23.266**	**ug/L**	1.551	49713	0.214
	Ni	60	**45.880**	**ug/L**	0.212	20430	0.088
	Cu	63		**ug/L**		35189	0.152
	Cu	65	**35.666**	**ug/L**	0.732	17469	0.075
	Zn	66	**120.454**	**ug/L**	1.881	27404	0.258
	Zn	67		**ug/L**		9421	0.031
	Zn	68		**ug/L**		22338	0.206
>	Ge	74		**ug/L**		106058	106057.677
	As	75	**7.748**	**ug/L**	15.698	2276	0.020
	Se	77		**ug/L**		3456	-0.013
	Se	82	**0.647**	**ug/L**	102.981	18	0.000
	Kr	83		**ug/L**		69	0.000
	Sr	88	**126.921**	**ug/L**	0.408	540788	7.600
	Y	89		**ug/L**		194333	2.731
	Zr	90	**105.554**	**ug/L**	1.704	237753	3.340
	Mo	98	**2.277**	**ug/L**	1.261	2243	0.031
	Ag	107	**0.490**	**ug/L**	3.503	814	0.011
	Cd	111	**1.862**	**ug/L**	2.765	708	0.010
	Cd	114		**ug/L**		364	0.005
>	In	115		**ug/L**		71150	71149.538
	Sn	120	**0.895**	**ug/L**	1.892	1649	0.022
	Sb	121	**0.232**	**ug/L**	13.765	434	0.004
	Sb	123		**ug/L**		359	0.003
	Ba	135		**ug/L**		346187	5.177
	Ba	137	**813.154**	**ug/L**	0.897	588518	8.800
	Ho	165		**ug/L**		7586	0.113
>	Lu	175		**ug/L**		66873	66873.495
	Tl	205	**0.823**	**ug/L**	6.895	920	0.012
	Pb	208	**52.901**	**ug/L**	1.345	206995	3.092
	Bi	209		**ug/L**		2317	0.034
	Th	232	**35.909**	**ug/L**	0.855	174702	2.610
	U	238	**8.714**	**ug/L**	1.869	43043	0.643

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		100.0			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		89.5			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		91.5			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		99.1			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	Sample is out of limits (over linear range)
Ti 47 Upper, S, EEE	Ti	47	Sample is out of limits (over linear range)
Mn 55 Upper, S, EEI	Mn	55	Sample is out of limits (over linear range)
Fe 57 Upper, S, EEE	Fe	57	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 244137005
Sample Date/Time: Friday, January 15, 2010 22:55:25
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 940086|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\244137005.114

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**60.369**	ug/L	2.308	12032	0.051
	Be	9	**3.971**	ug/L	3.037	215	0.001
	B	11	**15.310**	ug/L	2.460	890	0.003
	Na	23	**564.468**	ug/L	7.227	724984	2.986
	Mg	24	**9229.903**	ug/L	5.163	7666396	32.237
	Al	27	**69127.608**	ug/L	2.278	86896828	365.542
	P	31	**632.722**	ug/L	1.519	41185	0.164
	K	39	**9578.504**	ug/L	1.418	17690138	72.908
	Ca	43	**12263.263**	ug/L	0.825	48392	0.202
>	Sc	45		ug/L		237667	237666.656
	Ti	47	**1421.020**	ug/L	0.589	265756	1.117
	V	51	**93.594**	ug/L	2.137	168371	0.679
	Cr	52	**44.793**	ug/L	1.645	79850	0.332
	Cr	53		ug/L		104550	-0.239
	Mn	55	**1875.255**	ug/L	0.614	5475828	23.038
	Fe	57	**51232.549**	ug/L	0.608	3018786	12.681
	Co	59	**25.597**	ug/L	0.713	56088	0.235
	Ni	60	**36.714**	ug/L	1.683	16774	0.070
	Cu	63		ug/L		28502	0.120
	Cu	65	**28.022**	ug/L	0.828	14087	0.059
	Zn	66	**127.178**	ug/L	1.340	29767	0.272
	Zn	67		ug/L		9882	0.033
	Zn	68		ug/L		24647	0.221
>	Ge	74		ug/L		109104	109104.185
	As	75	**9.860**	ug/L	13.259	2922	0.025
	Se	77		ug/L		3594	-0.012
	Se	82	**0.639**	ug/L	164.223	19	0.000
	Kr	83		ug/L		80	0.000
	Sr	88	**161.723**	ug/L	0.425	708624	9.684
	Y	89		ug/L		240646	3.289
	Zr	90	**106.907**	ug/L	0.741	247644	3.383
	Mo	98	**1.622**	ug/L	2.849	1649	0.022
	Ag	107	**0.484**	ug/L	2.308	826	0.011
	Cd	111	**1.856**	ug/L	7.698	725	0.010
	Cd	114		ug/L		325	0.004
>	In	115		ug/L		73171	73171.349
	Sn	120	**0.853**	ug/L	3.342	1622	0.021
	Sb	121	**0.131**	ug/L	4.892	314	0.002
	Sb	123		ug/L		274	0.001
	Ba	135		ug/L		381190	5.554
	Ba	137	**879.575**	ug/L	0.714	653355	9.519
	Ho	165		ug/L		9264	0.135
>	Lu	175		ug/L		68633	68633.497
	Tl	205	**0.870**	ug/L	1.535	992	0.013
	Pb	208	**60.858**	ug/L	0.276	244357	3.557
	Bi	209		ug/L		2917	0.042
	Th	232	**37.345**	ug/L	1.340	186461	2.715
	U	238	**5.745**	ug/L	1.431	29147	0.424

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		102.6			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		92.0			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		94.1			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		101.7			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	Sample is out of limits (over linear range)
Ti 47 Upper, S, EEE	Ti	47	Sample is out of limits (over linear range)
Mn 55 Upper, S, EEE	Mn	55	Sample is out of limits (over linear range)
Fe 57 Upper, S, EEE	Fe	57	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 244137006
Sample Date/Time: Friday, January 15, 2010 23:01:38
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 940086|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\244137006.115

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**51.176**	ug/L	1.700	10100	0.043
	Be	9	**3.110**	ug/L	7.003	168	0.001
	B	11	**12.609**	ug/L	7.966	737	0.003
	Na	23	**311.800**	ug/L	7.625	403644	1.649
	Mg	24	**9071.039**	ug/L	8.739	7456006	31.682
	Al	27	**55993.366**	ug/L	7.527	69659625	296.089
	P	31	**733.355**	ug/L	0.543	46911	0.190
	K	39	**9571.176**	ug/L	0.841	17498431	72.852
	Ca	43	**7616.398**	ug/L	0.584	29933	0.125
>	Sc	45		ug/L		235263	235263.402
	Ti	47	**1300.321**	ug/L	0.364	240738	1.022
	V	51	**99.819**	ug/L	3.003	177334	0.725
	Cr	52	**41.125**	ug/L	1.424	72652	0.305
	Cr	53		ug/L		102916	-0.242
	Mn	55	**1531.293**	ug/L	1.110	4426724	18.812
	Fe	57	**51219.964**	ug/L	0.811	2987403	12.678
	Co	59	**21.975**	ug/L	0.731	47680	0.202
	Ni	60	**33.587**	ug/L	0.785	15194	0.064
	Cu	63		ug/L		31603	0.134
	Cu	65	**31.906**	ug/L	1.230	15870	0.067
	Zn	66	**127.715**	ug/L	1.631	29682	0.274
	Zn	67		ug/L		9479	0.030
	Zn	68		ug/L		23429	0.211
>	Ge	74		ug/L		108350	108350.147
	As	75	**7.933**	ug/L	2.111	2376	0.020
	Se	77		ug/L		3509	-0.013
	Se	82	**0.730**	ug/L	42.078	21	0.000
	Kr	83		ug/L		68	0.000
	Sr	88	**106.637**	ug/L	2.005	461894	6.385
	Y	89		ug/L		218705	3.024
	Zr	90	**84.603**	ug/L	1.039	193734	2.677
	Mo	98	**1.565**	ug/L	3.229	1573	0.022
	Ag	107	**0.408**	ug/L	4.345	696	0.009
	Cd	111	**1.492**	ug/L	10.823	578	0.008
	Cd	114		ug/L		372	0.005
>	In	115		ug/L		72319	72319.370
	Sn	120	**0.859**	ug/L	3.481	1614	0.021
	Sb	121	**0.102**	ug/L	10.793	271	0.002
	Sb	123		ug/L		220	0.001
	Ba	135		ug/L		270817	4.009
	Ba	137	**631.252**	ug/L	1.901	461444	6.832
	Ho	165		ug/L		8600	0.127
>	Lu	175		ug/L		67552	67552.370
	Tl	205	**0.702**	ug/L	8.559	811	0.010
	Pb	208	**54.219**	ug/L	1.692	214265	3.169
	Bi	209		ug/L		2149	0.031
	Th	232	**32.653**	ug/L	1.872	160464	2.373
	U	238	**7.560**	ug/L	3.068	37723	0.558

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			101.5		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			91.4		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			93.0		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			100.1		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	Sample is out of limits (over linear range)
Ti 47 Upper, S, EEE	Ti	47	Sample is out of limits (over linear range)
Mn 55 Upper, S, EEI	Mn	55	Sample is out of limits (over linear range)
Fe 57 Upper, S, EEE	Fe	57	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 244137007
Sample Date/Time: Friday, January 15, 2010 23:07:52
Sample Type:
Sample Description: LANL 6020
Number of Replicates: 3
Batch ID: 940086|2|skj
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\244137007.116

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**72.556**	ug/L	0.125	14704	0.061
	Be	9	**4.363**	ug/L	4.626	240	0.001
	B	11	**11.544**	ug/L	5.242	699	0.003
	Na	23	**445.029**	ug/L	11.730	584829	2.354
	Mg	24	**11418.482**	ug/L	10.345	9642007	39.881
	Al	27	**81077.524**	ug/L	1.562	103600922	428.732
	P	31	**425.582**	ug/L	1.353	28906	0.110
	K	39	**10735.958**	ug/L	10.030	20111546	81.718
	Ca	43	**8819.985**	ug/L	1.208	35527	0.145
>	Sc	45		ug/L		241657	241656.894
	Ti	47	**1560.249**	ug/L	1.287	296672	1.227
	V	51	**112.093**	ug/L	3.738	203647	0.814
	Cr	52	**46.511**	ug/L	1.826	84280	0.345
	Cr	53		ug/L		102909	-0.253
	Mn	55	**1768.772**	ug/L	1.397	5251773	21.730
	Fe	57	**60132.738**	ug/L	0.713	3601578	14.884
	Co	59	**28.423**	ug/L	0.963	63307	0.261
	Ni	60	**40.994**	ug/L	0.222	19041	0.079
	Cu	63		ug/L		32964	0.136
	Cu	65	**31.792**	ug/L	0.299	16243	0.067
	Zn	66	**143.723**	ug/L	1.165	33121	0.308
	Zn	67		ug/L		10414	0.039
	Zn	68		ug/L		27134	0.248
>	Ge	74		ug/L		107434	107434.200
	As	75	**12.503**	ug/L	2.717	3599	0.032
	Se	77		ug/L		3492	-0.013
	Se	82	**-0.108**	ug/L	90.678	-2	-0.000
	Kr	83		ug/L		93	0.000
	Sr	88	**154.492**	ug/L	2.076	664002	9.251
	Y	89		ug/L		235665	3.283
	Zr	90	**112.438**	ug/L	3.328	255462	3.558
	Mo	98	**1.154**	ug/L	5.802	1156	0.016
	Ag	107	**0.526**	ug/L	3.193	877	0.012
	Cd	111	**1.810**	ug/L	7.983	694	0.010
	Cd	114		ug/L		254	0.003
>	In	115		ug/L		71790	71789.703
	Sn	120	**0.701**	ug/L	6.811	1328	0.017
	Sb	121	**0.026**	ug/L	43.376	171	0.000
	Sb	123		ug/L		175	0.000
	Ba	135		ug/L		425444	6.398
	Ba	137	**998.445**	ug/L	1.250	718644	10.806
	Ho	165		ug/L		9022	0.136
>	Lu	175		ug/L		66512	66511.830
	Tl	205	**0.919**	ug/L	3.701	1010	0.013
	Pb	208	**61.212**	ug/L	1.810	238137	3.578
	Bi	209		ug/L		2853	0.042
	Th	232	**41.791**	ug/L	1.372	202170	3.038
	U	238	**4.347**	ug/L	2.076	21384	0.321

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		104.3			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		90.6			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		92.4			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175		98.6			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	Sample is out of limits (over linear range)
Ti 47 Upper, S, EEE	Ti	47	Sample is out of limits (over linear range)
V 51 Upper, S, EEE	V	51	Sample is out of limits (over linear range)
Mn 55 Upper, S, EEE	Mn	55	Sample is out of limits (over linear range)
Fe 57 Upper, S, EEE	Fe	57	Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, January 15, 2010 23:14:05
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 6.117

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	49.942	ug/L	1.641	9151	0.042
	Be	9	45.189	ug/L	1.923	2224	0.010
	B	11	92.155	ug/L	2.797	4628	0.021
	Na	23	4583.119	ug/L	6.731	5307850	24.242
	Mg	24	4549.047	ug/L	0.839	3471430	15.888
	Al	27	4763.181	ug/L	2.930	5503244	25.187
	P	31	4671.936	ug/L	1.824	266559	1.211
	K	39	5073.949	ug/L	5.440	8768386	38.621
	Ca	43	4907.572	ug/L	0.812	18064	0.081
>	Sc	45		ug/L		218442	218442.042
	Ti	47	50.463	ug/L	0.710	8837	0.040
	V	51	47.685	ug/L	8.207	81928	0.346
	Cr	52	53.399	ug/L	2.381	87347	0.396
	Cr	53		ug/L		144783	-0.016
	Mn	55	53.035	ug/L	0.930	143044	0.652
	Fe	57	5153.406	ug/L	0.489	283042	1.276
	Co	59	51.698	ug/L	1.094	103991	0.476
	Ni	60	53.177	ug/L	1.206	22317	0.102
	Cu	63		ug/L		49823	0.228
	Cu	65	52.411	ug/L	1.325	24169	0.110
	Zn	66	50.854	ug/L	1.566	12592	0.109
	Zn	67		ug/L		7626	0.008
	Zn	68		ug/L		9375	0.076
>	Ge	74		ug/L		115180	115179.654
	As	75	48.244	ug/L	5.167	14278	0.122
	Se	77		ug/L		6680	0.013
	Se	82	49.714	ug/L	3.672	1450	0.013
	Kr	83		ug/L		41	-0.000
	Sr	88	51.368	ug/L	0.598	228599	3.076
	Y	89		ug/L		108	0.001
	Zr	90	51.343	ug/L	2.295	120814	1.625
	Mo	98	49.724	ug/L	0.143	50793	0.683
	Ag	107	50.450	ug/L	2.435	82833	1.114
	Cd	111	50.202	ug/L	1.322	19727	0.265
	Cd	114		ug/L		46554	0.626
>	In	115		ug/L		74300	74299.762
	Sn	120	49.287	ug/L	1.609	88192	1.185
	Sb	121	49.627	ug/L	2.318	66575	0.894
	Sb	123		ug/L		51217	0.687
	Ba	135		ug/L		20709	0.326
	Ba	137	51.495	ug/L	1.257	35383	0.557
	Ho	165		ug/L		11	0.000
>	Lu	175		ug/L		63462	63461.951
	Tl	205	48.999	ug/L	1.783	45734	0.719
	Pb	208	51.896	ug/L	0.286	192709	3.033
	Bi	209		ug/L		54	0.000
	Th	232	51.955	ug/L	0.746	239807	3.776
	U	238	52.797	ug/L	0.889	247250	3.895

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	99.884				
	Be	9	90.378				
	B	11	92.155				
	Na	23	91.662				
	Mg	24	90.981				
	Al	27	94.320				
	P	31	93.439				
	K	39	101.479				
	Ca	43	98.151				
>	Sc	45			94.3		
	Ti	47	100.926				
	V	51	95.370				
	Cr	52	106.798				
	Cr	53					
	Mn	55	106.070				
	Fe	57	103.068				
	Co	59	103.396				
	Ni	60	106.355				
	Cu	63					
	Cu	65	104.822				
	Zn	66	101.707				
	Zn	67					
	Zn	68					
>	Ge	74			97.2		
	As	75	96.488				
	Se	77					
	Se	82	99.427				
	Kr	83					
	Sr	88	102.736				
	Y	89					
	Zr	90	102.686				
	Mo	98	99.449				
	Ag	107	100.900				
	Cd	111	100.403				
	Cd	114					
>	In	115			95.6		
	Sn	120	98.574				
	Sb	121	99.253				
	Sb	123					
	Ba	135					
	Ba	137	102.991				
	Ho	165					
>	Lu	175			94.0		
	Tl	205	97.998				
	Pb	208	103.792				
	Bi	209					
	Th	232	103.910				
	U	238	105.595				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, January 15, 2010 23:20:18
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: C:\elandata\Dataset\100115\QC Std 7.118

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.154**	**ug/L**	42.605	38	0.000
	Be	9	**0.003**	**ug/L**	2053.987	3	0.000
	B	11	**2.198**	**ug/L**	19.452	171	0.000
	Na	23	**-5.145**	**ug/L**	59.405	8670	-0.027
	Mg	24	**0.904**	**ug/L**	215.781	1667	0.003
	Al	27	**3.669**	**ug/L**	105.580	4668	0.019
	P	31	**-4.435**	**ug/L**	62.040	1816	-0.001
	K	39	**-16.734**	**ug/L**	82.834	311707	-0.127
	Ca	43	**-19.739**	**ug/L**	43.304	377	-0.000
>	Sc	45		**ug/L**		222872	222871.728
	Ti	47	**0.129**	**ug/L**	112.660	195	0.000
	V	51	**-3.334**	**ug/L**	45.533	1079	-0.024
	Cr	52	**0.844**	**ug/L**	8.436	2195	0.006
	Cr	53		**ug/L**		119277	-0.144
	Mn	55	**0.057**	**ug/L**	22.909	888	0.001
	Fe	57	**-4.249**	**ug/L**	64.345	4271	-0.001
	Co	59	**0.008**	**ug/L**	95.484	129	0.000
	Ni	60	**-0.018**	**ug/L**	75.958	31	-0.000
	Cu	63		**ug/L**		67	-0.000
	Cu	65	**-0.020**	**ug/L**	81.732	45	-0.000
	Zn	66	**0.070**	**ug/L**	32.274	63	0.000
	Zn	67		**ug/L**		4783	-0.017
	Zn	68		**ug/L**		377	-0.002
>	Ge	74		**ug/L**		115875	115874.626
	As	75	**-0.347**	**ug/L**	110.689	114	-0.001
	Se	77		**ug/L**		4560	-0.006
	Se	82	**-0.030**	**ug/L**	666.276	0	-0.000
	Kr	83		**ug/L**		40	-0.000
	Sr	88	**0.016**	**ug/L**	28.244	138	0.001
	Y	89		**ug/L**		27	0.000
	Zr	90	**0.153**	**ug/L**	17.062	482	0.005
	Mo	98	**0.034**	**ug/L**	24.209	53	0.000
	Ag	107	**0.016**	**ug/L**	48.830	72	0.000
	Cd	111	**0.026**	**ug/L**	51.232	18	0.000
	Cd	114		**ug/L**		27	0.000
>	In	115		**ug/L**		75009	75009.331
	Sn	120	**0.084**	**ug/L**	12.321	276	0.002
	Sb	121	**0.372**	**ug/L**	14.895	646	0.007
	Sb	123		**ug/L**		556	0.005
	Ba	135		**ug/L**		31	0.000
	Ba	137	**0.040**	**ug/L**	26.310	44	0.000
	Ho	165		**ug/L**		7	0.000
>	Lu	175		**ug/L**		63606	63605.589
	Tl	205	**0.058**	**ug/L**	41.605	162	0.001
	Pb	208	**0.025**	**ug/L**	33.227	316	0.001
	Bi	209		**ug/L**		17	-0.000
	Th	232	**0.085**	**ug/L**	19.442	545	0.006
	U	238	**0.017**	**ug/L**	32.245	131	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	0.9996
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			96.2		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			97.7		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			96.5		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Lu	175			94.3		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

==========

Analysis Begun

Logged In Analyst: Administrator **Technique: AA FIMS-MHS**
Spectrometer Model: FIMS-100, S/N B050-9550 **Autosampler Model: S10**

Sample Information File: C:\data-AA\Administrator\Sample Information\012110S1.SIF
Batch ID:
Results Data Set: 012110S1
Results Library: C:\data-AA\Administrator\Results\Results.mdb

==========

Method Loaded
Method Name: SOIL **Method Last Saved: 1/4/2010 13:53:20**
Method Description: 7471A, ILM04 ANALYST JXL

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: Calib Blank **Date Collected: 1/21/2010 08:51:16**
Analyst: **Data Type: Original**

Replicate Data: Calib Blank

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0001	0.0001	0.0001	08:52:08	Yes
2		[0.00]	0.0001	-0.0001	0.0001	08:52:38	Yes
Mean:		[0.00]	0.0001				
SD:		0.00	0.0000				
%RSD:		0.00	11.64				

Auto-zero performed.

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: S0.2 **Date Collected: 1/21/2010 08:52:57**
Analyst: **Data Type: Original**

Replicate Data: S0.2

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.2]	0.0021	0.0089	0.0022	08:53:47	Yes
2		[0.2]	0.0022	0.0096	0.0022	08:54:17	Yes
Mean:		[0.2]	0.0021				
SD:		0.0	0.0001				
%RSD:		0.0	2.46				

Standard number 1 applied. [0.2]
Correlation Coef.: 1.000000 Slope: 0.01058 Intercept: 0.00000

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: S0.5 **Date Collected: 1/21/2010 08:54:36**
Analyst: **Data Type: Original**

Replicate Data: S0.5

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.5]	0.0057	0.0253	0.0058	08:55:27	Yes
2		[0.5]	0.0057	0.0252	0.0058	08:55:57	Yes
Mean:		[0.5]	0.0057				
SD:		0.0	0.0000				
%RSD:		0.0	0.38				

Standard number 2 applied. [0.5]
Correlation Coef.: 0.999400 Slope: 0.01150 Intercept: -0.00007

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: S2.0 **Date Collected: 1/21/2010 08:56:16**
Analyst: **Data Type: Original**

Replicate Data: S2.0

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.0]	0.0219	0.0980	0.0220	08:57:08	Yes
2		[2.0]	0.0218	0.0968	0.0219	08:57:38	Yes
Mean:		[2.0]	0.0218				
SD:		0.0	0.0000				
%RSD:		0.0	0.22				

Standard number 3 applied. [2.0]
Correlation Coef.: 0.999885 Slope: 0.01091 Intercept: 0.00006

Sequence No.: 5 **Autosampler Location: 5**
Sample ID: S5.0 **Date Collected: 1/21/2010 08:57:58**
Analyst: **Data Type: Original**

Replicate Data: S5.0

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.0]	0.0539	0.2409	0.0539	08:58:50	Yes
2		[5.0]	0.0533	0.2366	0.0534	08:59:20	Yes
Mean:		[5.0]	0.0536				
SD:		0.0	0.0004				
%RSD:		0.0	0.68				

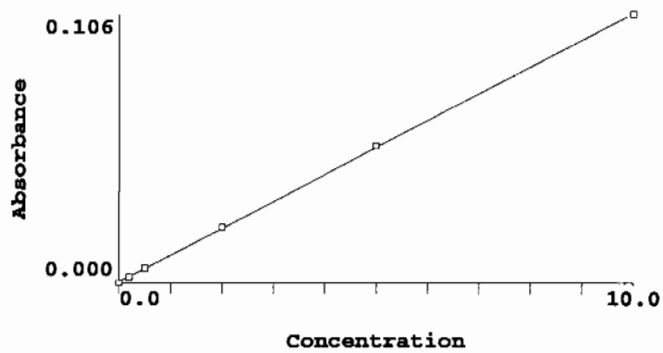
Standard number 4 applied. [5.0]
Correlation Coef.: 0.999955 Slope: 0.01071 Intercept: 0.00016

Sequence No.: 6 **Autosampler Location: 6**
Sample ID: S10.0 **Date Collected: 1/21/2010 08:59:40**
Analyst: **Data Type: Original**

Replicate Data: S10.0

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.0]	0.1058	0.4741	0.1059	09:00:30	Yes
2		[10.0]	0.1054	0.4709	0.1055	09:01:00	Yes
Mean:		[10.0]	0.1056				
SD:		0.0	0.0003				
%RSD:		0.0	0.28				

Standard number 5 applied. [10.0]
Correlation Coef.: 0.999960 Slope: 0.01056 Intercept: 0.00033



Calibration data for Hg 253.7 **Equation: Linear, Calculated Intercept**

ID	Mean Signal (Abs)	Entered Conc. ug/L	Calculated Conc. ug/L	Standard Deviation	%RSD
Calib Blank	0.0000	0	-0.031	0.00	11.6
S0.2	0.0021	0.2	0.169	0.00	2.5
S0.5	0.0057	0.5	0.511	0.00	0.4
S2.0	0.0218	2.0	2.036	0.00	0.2

S5.0	0.0536	5.0	5.045	0.00	0.7
S10.0	0.1056	10.0	9.971	0.00	0.3

Correlation Coef.: 0.999960 Slope: 0.01056 Intercept: 0.00033

Sequence No.: 7 **Autosampler Location: 9**
Sample ID: ICV **Date Collected: 1/21/2010 09:01:18**
Analyst: **Data Type: Original**

Replicate Data: ICV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.186	5.186	0.0551	0.2441	0.0552	09:02:10	Yes
2	5.123	5.123	0.0544	0.2407	0.0545	09:02:40	Yes
Mean:	5.154	5.154	0.0548				
SD:	0.044	0.044	0.0005				
%RSD:	0.858	0.858	0.85				

QC value within limits for Hg 253.7 Recovery = 103.09%
All analyte(s) passed QC.

Sequence No.: 8 **Autosampler Location: 10**
Sample ID: ICB **Date Collected: 1/21/2010 09:02:59**
Analyst: **Data Type: Original**

Replicate Data: ICB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.030	-0.030	0.0000	-0.0004	0.0001	09:03:50	Yes
2	-0.029	-0.029	0.0000	-0.0000	0.0001	09:04:20	Yes
Mean:	-0.030	-0.030	0.0000				
SD:	0.001	0.001	0.0000				
%RSD:	4.257	4.257	70.02				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 9 **Autosampler Location: 11**
Sample ID: CRDL **Date Collected: 1/21/2010 09:04:40**
Analyst: **Data Type: Original**

Replicate Data: CRDL

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.187	0.187	0.0023	0.0096	0.0024	09:05:31	Yes
2	0.186	0.186	0.0023	0.0098	0.0024	09:06:01	Yes
Mean:	0.187	0.187	0.0023				
SD:	0.000	0.000	0.0000				
%RSD:	0.075	0.075	0.06				

QC value within limits for Hg 253.7 Recovery = 93.30%
All analyte(s) passed QC.

Sequence No.: 10 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 1/21/2010 09:06:21**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.162	5.162	0.0548	0.2407	0.0549	09:07:12	Yes
2	5.121	5.121	0.0544	0.2374	0.0545	09:07:42	Yes
Mean:	5.142	5.142	0.0546				
SD:	0.029	0.029	0.0003				
%RSD:	0.573	0.573	0.57				

QC value within limits for Hg 253.7 Recovery = 102.83%
All analyte(s) passed QC.

Sequence No.: 11 Autosampler Location: 8
Sample ID: CCB Date Collected: 1/21/2010 09:08:01
Analyst: Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.026	-0.026	0.0001	-0.0003	0.0001	09:08:52	Yes
2	-0.020	-0.020	0.0001	-0.0000	0.0002	09:09:22	Yes
Mean:	-0.023	-0.023	0.0001				
SD:	0.004	0.004	0.0000				
%RSD:	15.98	15.98	44.26				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 12 Autosampler Location: 12
Sample ID: 1202012918|940555|1 Date Collected: 1/21/2010 09:09:41
Analyst: JXL Data Type: Original

Replicate Data: 1202012918|940555|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.022	-0.022	0.0001	0.0001	0.0002	09:10:32	Yes
2	-0.024	-0.024	0.0001	-0.0007	0.0002	09:11:02	Yes
Mean:	-0.023	-0.023	0.0001				
SD:	0.001	0.001	0.0000				
%RSD:	6.177	6.177	16.20				

Sequence No.: 13 Autosampler Location: 13
Sample ID: 1202012919|940555|10 Date Collected: 1/21/2010 09:11:22
Analyst: JXL Data Type: Original

Replicate Data: 1202012919|940555|10

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	3.829	3.829	0.0408	0.1769	0.0409	09:12:14	Yes
2	3.784	3.784	0.0403	0.1741	0.0404	09:12:44	Yes
Mean:	3.807	3.807	0.0405				
SD:	0.032	0.032	0.0003				
%RSD:	0.846	0.846	0.84				

Sequence No.: 14 Autosampler Location: 14
Sample ID: 244218001|940555|1 Date Collected: 1/21/2010 09:13:05
Analyst: JXL Data Type: Original

Replicate Data: 244218001|940555|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.653	0.653	0.0072	0.0314	0.0073	09:13:55	Yes
2	0.664	0.664	0.0073	0.0313	0.0074	09:14:25	Yes
Mean:	0.658	0.658	0.0073				
SD:	0.008	0.008	0.0001				
%RSD:	1.265	1.265	1.21				

Sequence No.: 15 Autosampler Location: 15
Sample ID: 1202012920|940555|1 Date Collected: 1/21/2010 09:14:44
Analyst: JXL Data Type: Original

Replicate Data: 1202012920|940555|1

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak

Replicate Data: 244218003|940555|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.460	0.460	0.0052	0.0225	0.0053	09:23:53	Yes
2	0.465	0.465	0.0052	0.0230	0.0053	09:24:23	Yes
Mean:	0.462	0.462	0.0052				
SD:	0.003	0.003	0.0000				
%RSD:	0.691	0.691	0.65				

==========

Sequence No.: 21 **Autosampler Location: 21**
Sample ID: 244218004|940555|1 **Date Collected: 1/21/2010 09:24:43**
Analyst: JXL **Data Type: Original**

Replicate Data: 244218004|940555|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.356	1.356	0.0147	0.0643	0.0147	09:25:34	Yes
2	1.370	1.370	0.0148	0.0654	0.0149	09:26:03	Yes
Mean:	1.363	1.363	0.0147				
SD:	0.010	0.010	0.0001				
%RSD:	0.725	0.725	0.71				

==========

Sequence No.: 22 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 1/21/2010 09:26:23**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.357	5.357	0.0569	0.2458	0.0570	09:27:14	Yes
2	5.309	5.309	0.0564	0.2442	0.0565	09:27:44	Yes
Mean:	5.333	5.333	0.0566				
SD:	0.034	0.034	0.0004				
%RSD:	0.644	0.644	0.64				

QC value within limits for Hg 253.7 Recovery = 106.66%
All analyte(s) passed QC.

==========

Sequence No.: 23 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 1/21/2010 09:28:02**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.018	-0.018	0.0001	0.0018	0.0002	09:28:53	Yes
2	-0.023	-0.023	0.0001	0.0008	0.0002	09:29:23	Yes
Mean:	-0.021	-0.021	0.0001				
SD:	0.004	0.004	0.0000				
%RSD:	18.05	18.05	34.79				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 24 **Autosampler Location: 22**
Sample ID: 244218005|940555|1 **Date Collected: 1/21/2010 09:29:42**
Analyst: JXL **Data Type: Original**

Replicate Data: 244218005|940555|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.950	0.950	0.0104	0.0447	0.0105	09:30:34	Yes
2	0.949	0.949	0.0103	0.0445	0.0104	09:31:03	Yes

Replicate Data: 1202012926|940558|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.462	0.462	0.0052	0.0229	0.0053	09:45:37	Yes
2	0.462	0.462	0.0052	0.0227	0.0053	09:46:07	Yes
Mean:	0.462	0.462	0.0052				
SD:	0.000	0.000	0.0000				
%RSD:	0.014	0.014	0.01				

==========

Sequence No.: 34 Autosampler Location: 7
Sample ID: CCV Date Collected: 1/21/2010 09:46:26
Analyst: Data Type: Original

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.014	5.014	0.0533	0.2300	0.0534	09:47:16	Yes
2	4.996	4.996	0.0531	0.2286	0.0532	09:47:46	Yes
Mean:	5.005	5.005	0.0532				
SD:	0.013	0.013	0.0001				
%RSD:	0.261	0.261	0.26				

QC value within limits for Hg 253.7 Recovery = 100.10%
All analyte(s) passed QC.

==========

Sequence No.: 35 Autosampler Location: 8
Sample ID: CCB Date Collected: 1/21/2010 09:48:05
Analyst: Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.009	-0.009	0.0002	0.0018	0.0003	09:48:56	Yes
2	-0.019	-0.019	0.0001	0.0009	0.0002	09:49:25	Yes
Mean:	-0.014	-0.014	0.0002				
SD:	0.007	0.007	0.0001				
%RSD:	47.22	47.22	38.56				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 36 Autosampler Location: 32
Sample ID: 1202012927|940558|1 Date Collected: 1/21/2010 09:49:45
Analyst: JXL Data Type: Original

Replicate Data: 1202012927|940558|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.628	2.628	0.0281	0.1214	0.0282	09:50:35	Yes
2	2.635	2.635	0.0282	0.1219	0.0282	09:51:05	Yes
Mean:	2.632	2.632	0.0281				
SD:	0.005	0.005	0.0000				
%RSD:	0.179	0.179	0.18				

==========

Sequence No.: 37 Autosampler Location: 33
Sample ID: 1202012929|940558|1 Date Collected: 1/21/2010 09:51:25
Analyst: JXL Data Type: Original

Replicate Data: 1202012929|940558|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.873	2.873	0.0307	0.1327	0.0308	09:52:15	Yes
2	2.876	2.876	0.0307	0.1328	0.0308	09:52:45	Yes
Mean:	2.875	2.875	0.0307				
SD:	0.002	0.002	0.0000				

1	1.193	1.193	0.0129	0.0558	0.0130	10:00:41	Yes
2	1.194	1.194	0.0129	0.0557	0.0130	10:01:11	Yes
Mean:	1.193	1.193	0.0129				
SD:	0.001	0.001	0.0000				
%RSD:	0.076	0.076	0.07				

Sequence No.: 43 **Autosampler Location: 39**
Sample ID: 244224006|940558|1 **Date Collected: 1/21/2010 10:01:30**
Analyst: JXL **Data Type: Original**

Replicate Data: 244224006|940558|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.455	0.455	0.0051	0.0223	0.0052	10:02:21	Yes
2	0.459	0.459	0.0052	0.0221	0.0053	10:02:51	Yes
Mean:	0.457	0.457	0.0052				
SD:	0.003	0.003	0.0000				
%RSD:	0.573	0.573	0.54				

Sequence No.: 44 **Autosampler Location: 40**
Sample ID: 244224007|940558|1 **Date Collected: 1/21/2010 10:03:10**
Analyst: JXL **Data Type: Original**

Replicate Data: 244224007|940558|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.943	0.943	0.0103	0.0439	0.0104	10:04:01	Yes
2	0.951	0.951	0.0104	0.0442	0.0105	10:04:31	Yes
Mean:	0.947	0.947	0.0103				
SD:	0.006	0.006	0.0001				
%RSD:	0.592	0.592	0.57				

Sequence No.: 45 **Autosampler Location: 41**
Sample ID: 244224008|940558|1 **Date Collected: 1/21/2010 10:04:50**
Analyst: JXL **Data Type: Original**

Replicate Data: 244224008|940558|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.136	1.136	0.0123	0.0521	0.0124	10:05:41	Yes
2	1.131	1.131	0.0123	0.0516	0.0124	10:06:11	Yes
Mean:	1.133	1.133	0.0123				
SD:	0.004	0.004	0.0000				
%RSD:	0.325	0.325	0.32				

Sequence No.: 46 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 1/21/2010 10:06:30**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.226	5.226	0.0555	0.2329	0.0556	10:07:21	Yes
2	5.198	5.198	0.0552	0.2319	0.0553	10:07:50	Yes
Mean:	5.212	5.212	0.0554				
SD:	0.020	0.020	0.0002				
%RSD:	0.390	0.390	0.39				

QC value within limits for Hg 253.7 Recovery = 104.24%
All analyte(s) passed QC.

Sequence No.: 47 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 1/21/2010 10:08:09**

Analyst: Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.014	-0.014	0.0002	0.0008	0.0003	10:09:00	Yes
2	-0.016	-0.016	0.0002	0.0005	0.0002	10:09:30	Yes
Mean:	-0.015	-0.015	0.0002				
SD:	0.002	0.002	0.0000				
%RSD:	11.41	11.41	10.58				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 48 Autosampler Location: 42
Sample ID: 244224009|940558|1 Date Collected: 1/21/2010 10:09:49
Analyst: JXL Data Type: Original

Replicate Data: 244224009|940558|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.101	2.101	0.0225	0.0961	0.0226	10:10:40	Yes
2	2.094	2.094	0.0224	0.0934	0.0225	10:11:10	Yes
Mean:	2.097	2.097	0.0225				
SD:	0.005	0.005	0.0001				
%RSD:	0.244	0.244	0.24				

Sequence No.: 49 Autosampler Location: 43
Sample ID: 244224010|940558|1 Date Collected: 1/21/2010 10:11:29
Analyst: JXL Data Type: Original

Replicate Data: 244224010|940558|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.389	0.389	0.0044	0.0186	0.0045	10:12:20	Yes
2	0.395	0.395	0.0045	0.0185	0.0046	10:12:50	Yes
Mean:	0.392	0.392	0.0045				
SD:	0.004	0.004	0.0000				
%RSD:	1.041	1.041	0.96				

Sequence No.: 50 Autosampler Location: 44
Sample ID: 244224011|940558|1 Date Collected: 1/21/2010 10:13:10
Analyst: JXL Data Type: Original

Replicate Data: 244224011|940558|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.491	0.491	0.0055	0.0230	0.0056	10:14:00	Yes
2	0.496	0.496	0.0056	0.0234	0.0057	10:14:30	Yes
Mean:	0.494	0.494	0.0055				
SD:	0.004	0.004	0.0000				
%RSD:	0.732	0.732	0.69				

Sequence No.: 51 Autosampler Location: 45
Sample ID: 244224012|940558|1 Date Collected: 1/21/2010 10:14:50
Analyst: JXL Data Type: Original

Replicate Data: 244224012|940558|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.210	0.210	0.0025	0.0108	0.0026	10:15:41	Yes
2	0.202	0.202	0.0025	0.0096	0.0026	10:16:11	Yes
Mean:	0.206	0.206	0.0025				

#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.370	0.370	0.0042	0.0180	0.0043	10:24:06	Yes
2	0.369	0.369	0.0042	0.0176	0.0043	10:24:36	Yes
Mean:	0.369	0.369	0.0042				
SD:	0.001	0.001	0.0000				
%RSD:	0.332	0.332	0.31				

==========

Sequence No.: 57 **Autosampler Location: 51**
Sample ID: 244224018|940558|1 **Date Collected: 1/21/2010 10:24:56**
Analyst: JXL **Data Type: Original**

Replicate Data: 244224018|940558|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.211	0.211	0.0026	0.0103	0.0026	10:25:47	Yes
2	0.216	0.216	0.0026	0.0108	0.0027	10:26:17	Yes
Mean:	0.213	0.213	0.0026				
SD:	0.004	0.004	0.0000				
%RSD:	1.743	1.743	1.52				

==========

Sequence No.: 58 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 1/21/2010 10:26:36**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.339	5.339	0.0567	0.2394	0.0568	10:27:26	Yes
2	5.332	5.332	0.0566	0.2380	0.0567	10:27:56	Yes
Mean:	5.335	5.335	0.0567				
SD:	0.004	0.004	0.0000				
%RSD:	0.083	0.083	0.08				

QC value within limits for Hg 253.7 Recovery = 106.71%
All analyte(s) passed QC.

==========

Sequence No.: 59 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 1/21/2010 10:28:15**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.016	-0.016	0.0002	0.0007	0.0003	10:29:06	Yes
2	-0.020	-0.020	0.0001	0.0008	0.0002	10:29:36	Yes
Mean:	-0.018	-0.018	0.0001				
SD:	0.003	0.003	0.0000				
%RSD:	15.65	15.65	19.99				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 60 **Autosampler Location: 52**
Sample ID: 244224019|940558|1 **Date Collected: 1/21/2010 10:29:56**
Analyst: JXL **Data Type: Original**

Replicate Data: 244224019|940558|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.179	0.179	0.0022	0.0092	0.0023	10:30:47	Yes
2	0.178	0.178	0.0022	0.0090	0.0023	10:31:17	Yes
Mean:	0.178	0.178	0.0022				
SD:	0.001	0.001	0.0000				
%RSD:	0.344	0.344	0.29				

Mean:	0.570	0.570	0.0063
SD:	0.001	0.001	0.0000
%RSD:	0.135	0.135	0.13

==========

Sequence No.: 66 **Autosampler Location: 58**
Sample ID: 1202019605|943247|1 **Date Collected: 1/21/2010 10:40:00**
Analyst: JXL **Data Type: Original**

Replicate Data: 1202019605|943247|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.875	2.875	0.0307	0.1294	0.0308	10:40:51	Yes
2	2.855	2.855	0.0305	0.1280	0.0306	10:41:21	Yes
Mean:	2.865	2.865	0.0306				
SD:	0.014	0.014	0.0001				
%RSD:	0.494	0.494	0.49				

==========

Sequence No.: 67 **Autosampler Location: 59**
Sample ID: 1202019607|943247|1 **Date Collected: 1/21/2010 10:41:41**
Analyst: JXL **Data Type: Original**

Replicate Data: 1202019607|943247|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.844	2.844	0.0304	0.1269	0.0304	10:42:32	Yes
2	2.848	2.848	0.0304	0.1268	0.0305	10:43:02	Yes
Mean:	2.846	2.846	0.0304				
SD:	0.003	0.003	0.0000				
%RSD:	0.098	0.098	0.10				

==========

Sequence No.: 68 **Autosampler Location: 60**
Sample ID: 1202019606|943247|5 **Date Collected: 1/21/2010 10:43:22**
Analyst: JXL **Data Type: Original**

Replicate Data: 1202019606|943247|5

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.084	0.084	0.0012	0.0055	0.0013	10:44:13	Yes
2	0.082	0.082	0.0012	0.0052	0.0013	10:44:43	Yes
Mean:	0.083	0.083	0.0012				
SD:	0.001	0.001	0.0000				
%RSD:	1.782	1.782	1.29				

==========

Sequence No.: 69 **Autosampler Location: 61**
Sample ID: 244036002|943247|1 **Date Collected: 1/21/2010 10:45:03**
Analyst: JXL **Data Type: Original**

Replicate Data: 244036002|943247|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.113	0.113	0.0015	0.0062	0.0016	10:45:55	Yes
2	0.119	0.119	0.0016	0.0070	0.0017	10:46:25	Yes
Mean:	0.116	0.116	0.0016				
SD:	0.004	0.004	0.0000				
%RSD:	3.256	3.256	2.56				

==========

Sequence No.: 70 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 1/21/2010 10:46:45**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.284	5.284	0.0561	0.2371	0.0562	10:47:35	Yes
2	5.335	5.335	0.0567	0.2379	0.0568	10:48:05	Yes
Mean:	5.309	5.309	0.0564				
SD:	0.036	0.036	0.0004				
%RSD:	0.683	0.683	0.68				

QC value within limits for Hg 253.7 Recovery = 106.19%
All analyte(s) passed QC.

Sequence No.: 71 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 1/21/2010 10:48:24**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.021	-0.021	0.0001	0.0007	0.0002	10:49:15	Yes
2	-0.023	-0.023	0.0001	0.0005	0.0002	10:49:45	Yes
Mean:	-0.022	-0.022	0.0001				
SD:	0.002	0.002	0.0000				
%RSD:	8.128	8.128	19.65				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 72 **Autosampler Location: 62**
Sample ID: 244036003|943247|1 **Date Collected: 1/21/2010 10:50:05**
Analyst: JXL **Data Type: Original**

Replicate Data: 244036003|943247|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.403	0.403	0.0046	0.0198	0.0047	10:50:56	Yes
2	0.398	0.398	0.0045	0.0194	0.0046	10:51:26	Yes
Mean:	0.401	0.401	0.0046				
SD:	0.004	0.004	0.0000				
%RSD:	1.047	1.047	0.97				

Sequence No.: 73 **Autosampler Location: 63**
Sample ID: 244036004|943247|1 **Date Collected: 1/21/2010 10:51:46**
Analyst: JXL **Data Type: Original**

Replicate Data: 244036004|943247|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.354	0.354	0.0041	0.0175	0.0042	10:52:37	Yes
2	0.360	0.360	0.0041	0.0174	0.0042	10:53:07	Yes
Mean:	0.357	0.357	0.0041				
SD:	0.004	0.004	0.0000				
%RSD:	1.186	1.186	1.09				

Sequence No.: 74 **Autosampler Location: 64**
Sample ID: 244036005|943247|1 **Date Collected: 1/21/2010 10:53:26**
Analyst: JXL **Data Type: Original**

Replicate Data: 244036005|943247|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.158	0.158	0.0020	0.0085	0.0021	10:54:18	Yes
2	0.162	0.162	0.0020	0.0084	0.0021	10:54:48	Yes
Mean:	0.160	0.160	0.0020				
SD:	0.003	0.003	0.0000				
%RSD:	1.738	1.738	1.45				

2	0.086	0.086	0.0012	0.0056	0.0013	11:03:14	Yes
Mean:	0.085	0.085	0.0012				
SD:	0.001	0.001	0.0000				
%RSD:	1.723	1.723	1.26				

==========

Sequence No.: 80 **Autosampler Location: 70**
Sample ID: 244036011|943247|1 **Date Collected: 1/21/2010 11:03:34**
Analyst: JXL **Data Type: Original**

Replicate Data: 244036011|943247|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.658	0.658	0.0073	0.0313	0.0074	11:04:25	Yes
2	0.665	0.665	0.0074	0.0323	0.0074	11:04:55	Yes
Mean:	0.661	0.661	0.0073				
SD:	0.005	0.005	0.0001				
%RSD:	0.767	0.767	0.73				

==========

Sequence No.: 81 **Autosampler Location: 71**
Sample ID: 244036012|943247|1 **Date Collected: 1/21/2010 11:05:15**
Analyst: JXL **Data Type: Original**

Replicate Data: 244036012|943247|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.327	0.327	0.0038	0.0164	0.0039	11:06:07	Yes
2	0.330	0.330	0.0038	0.0166	0.0039	11:06:37	Yes
Mean:	0.328	0.328	0.0038				
SD:	0.002	0.002	0.0000				
%RSD:	0.604	0.604	0.55				

==========

Sequence No.: 82 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 1/21/2010 11:06:57**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.212	5.212	0.0554	0.2342	0.0555	11:07:47	Yes
2	5.183	5.183	0.0551	0.2332	0.0552	11:08:17	Yes
Mean:	5.198	5.198	0.0552				
SD:	0.020	0.020	0.0002				
%RSD:	0.390	0.390	0.39				

QC value within limits for Hg 253.7 Recovery = 103.95%
All analyte(s) passed QC.

==========

Sequence No.: 83 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 1/21/2010 11:08:35**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.022	-0.022	0.0001	0.0004	0.0002	11:09:26	Yes
2	-0.021	-0.021	0.0001	0.0006	0.0002	11:09:56	Yes
Mean:	-0.021	-0.021	0.0001				
SD:	0.001	0.001	0.0000				
%RSD:	3.694	3.694	7.61				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 84 **Autosampler Location: 72**

1	0.254	0.254	0.0030	0.0126	0.0031	11:26:18	Yes
2	0.251	0.251	0.0030	0.0123	0.0031	11:26:48	Yes
Mean:	0.253	0.253	0.0030				
SD:	0.002	0.002	0.0000				
%RSD:	0.760	0.760	0.68				

Sequence No.: 94 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 1/21/2010 11:27:08**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.361	5.361	0.0569	0.2398	0.0570	11:27:59	Yes
2	5.361	5.361	0.0569	0.2388	0.0570	11:28:29	Yes
Mean:	5.361	5.361	0.0569				
SD:	0.000	0.000	0.0000				
%RSD:	0.001	0.001	0.00				

QC value within limits for Hg 253.7 Recovery = 107.23%
All analyte(s) passed QC.

Sequence No.: 95 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 1/21/2010 11:28:48**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.023	-0.023	0.0001	0.0004	0.0002	11:29:38	Yes
2	-0.022	-0.022	0.0001	0.0006	0.0002	11:30:08	Yes
Mean:	-0.022	-0.022	0.0001				
SD:	0.001	0.001	0.0000				
%RSD:	2.377	2.377	5.97				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 96 **Autosampler Location: 82**
Sample ID: 244125004|943237|1 **Date Collected: 1/21/2010 11:30:27**
Analyst: JXL **Data Type: Original**

Replicate Data: 244125004|943237|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.188	0.188	0.0023	0.0096	0.0024	11:31:19	Yes
2	0.192	0.192	0.0024	0.0100	0.0024	11:31:49	Yes
Mean:	0.190	0.190	0.0023				
SD:	0.002	0.002	0.0000				
%RSD:	1.269	1.269	1.09				

Sequence No.: 97 **Autosampler Location: 83**
Sample ID: 244611001|943237|1 **Date Collected: 1/21/2010 11:32:09**
Analyst: JXL **Data Type: Original**

Replicate Data: 244611001|943237|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	12.03	12.03	0.1274	0.5384	0.1275	11:33:01	Yes
	Sample concentration is greater than that of the highest standard.						
2	12.01	12.01	0.1271	0.5374	0.1272	11:33:30	Yes
	Sample concentration is greater than that of the highest standard.						
Mean:	12.02	12.02	0.1272				
SD:	0.018	0.018	0.0002				
%RSD:	0.146	0.146	0.15				

1	0.713	0.713	0.0079	0.0330	0.0080	11:41:28	Yes
2	0.713	0.713	0.0079	0.0337	0.0079	11:41:58	Yes
Mean:	0.713	0.713	0.0079				
SD:	0.000	0.000	0.0000				
%RSD:	0.055	0.055	0.05				

Sequence No.: 103 **Autosampler Location: 89**
Sample ID: 244611007|943237|1 **Date Collected: 1/21/2010 11:42:18**
Analyst: JXL **Data Type: Original**

Replicate Data: 244611007|943237|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.352	0.352	0.0040	0.0173	0.0041	11:43:09	Yes
2	0.358	0.358	0.0041	0.0179	0.0042	11:43:39	Yes
Mean:	0.355	0.355	0.0041				
SD:	0.005	0.005	0.0000				
%RSD:	1.280	1.280	1.18				

Sequence No.: 104 **Autosampler Location: 90**
Sample ID: 244611008|943237|1 **Date Collected: 1/21/2010 11:43:59**
Analyst: JXL **Data Type: Original**

Replicate Data: 244611008|943237|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.013	1.013	0.0110	0.0470	0.0111	11:44:51	Yes
2	1.008	1.008	0.0110	0.0465	0.0111	11:45:21	Yes
Mean:	1.011	1.011	0.0110				
SD:	0.003	0.003	0.0000				
%RSD:	0.344	0.344	0.33				

Sequence No.: 105 **Autosampler Location: 91**
Sample ID: 244612001|943237|1 **Date Collected: 1/21/2010 11:45:41**
Analyst: JXL **Data Type: Original**

Replicate Data: 244612001|943237|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.281	0.281	0.0033	0.0140	0.0034	11:46:32	Yes
2	0.278	0.278	0.0033	0.0139	0.0034	11:47:02	Yes
Mean:	0.280	0.280	0.0033				
SD:	0.002	0.002	0.0000				
%RSD:	0.769	0.769	0.69				

Sequence No.: 106 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 1/21/2010 11:47:22**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.347	5.347	0.0568	0.2395	0.0569	11:48:13	Yes
2	5.324	5.324	0.0566	0.2385	0.0566	11:48:43	Yes
Mean:	5.335	5.335	0.0567				
SD:	0.016	0.016	0.0002				
%RSD:	0.306	0.306	0.30				

QC value within limits for Hg 253.7 Recovery = 106.71%
All analyte(s) passed QC.

Sequence No.: 107 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 1/21/2010 11:49:02**

Analyst: Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.016	-0.016	0.0002	0.0010	0.0002	11:49:53	Yes
2	-0.024	-0.024	0.0001	0.0003	0.0002	11:50:23	Yes
Mean:	-0.020	-0.020	0.0001				
SD:	0.005	0.005	0.0001				
%RSD:	26.50	26.50	45.59				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 108 Autosampler Location: 92
Sample ID: 244613001|943237|1 Date Collected: 1/21/2010 11:50:42
Analyst: JXL Data Type: Original

Replicate Data: 244613001|943237|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.236	0.236	0.0028	0.0121	0.0029	11:51:33	Yes
2	0.239	0.239	0.0029	0.0122	0.0029	11:52:03	Yes
Mean:	0.237	0.237	0.0028				
SD:	0.002	0.002	0.0000				
%RSD:	0.793	0.793	0.70				

Sequence No.: 109 Autosampler Location: 93
Sample ID: 244619001|943237|1 Date Collected: 1/21/2010 11:52:23
Analyst: JXL Data Type: Original

Replicate Data: 244619001|943237|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.136	0.136	0.0018	0.0077	0.0019	11:53:15	Yes
2	0.138	0.138	0.0018	0.0080	0.0019	11:53:45	Yes
Mean:	0.137	0.137	0.0018				
SD:	0.001	0.001	0.0000				
%RSD:	0.934	0.934	0.76				

Sequence No.: 110 Autosampler Location: 94
Sample ID: 1202019575|943237|1 Date Collected: 1/21/2010 11:54:05
Analyst: JXL Data Type: Original

Replicate Data: 1202019575|943237|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.148	0.148	0.0019	0.0079	0.0020	11:54:57	Yes
2	0.146	0.146	0.0019	0.0081	0.0020	11:55:27	Yes
Mean:	0.147	0.147	0.0019				
SD:	0.002	0.002	0.0000				
%RSD:	1.140	1.140	0.94				

Sequence No.: 111 Autosampler Location: 95
Sample ID: 1202019576|943237|1 Date Collected: 1/21/2010 11:55:47
Analyst: JXL Data Type: Original

Replicate Data: 1202019576|943237|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.463	2.463	0.0263	0.1105	0.0264	11:56:38	Yes
2	2.448	2.448	0.0262	0.1101	0.0263	11:57:08	Yes
Mean:	2.455	2.455	0.0263				

#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.171	0.171	0.0021	0.0089	0.0022	12:05:09	Yes
2	0.179	0.179	0.0022	0.0095	0.0023	12:05:39	Yes
Mean:	0.175	0.175	0.0022				
SD:	0.005	0.005	0.0001				
%RSD:	3.090	3.090	2.62				

==========

Sequence No.: 117 **Autosampler Location: 101**
Sample ID: 244619005|943237|1 **Date Collected: 1/21/2010 12:05:59**
Analyst: JXL **Data Type: Original**

Replicate Data: 244619005|943237|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.128	0.128	0.0017	0.0072	0.0018	12:06:51	Yes
2	0.122	0.122	0.0016	0.0072	0.0017	12:07:21	Yes
Mean:	0.125	0.125	0.0016				
SD:	0.004	0.004	0.0000				
%RSD:	3.081	3.081	2.46				

==========

Sequence No.: 118 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 1/21/2010 12:07:41**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.299	5.299	0.0563	0.2378	0.0564	12:08:31	Yes
2	5.293	5.293	0.0562	0.2378	0.0563	12:09:01	Yes
Mean:	5.296	5.296	0.0563				
SD:	0.004	0.004	0.0000				
%RSD:	0.074	0.074	0.07				

QC value within limits for Hg 253.7 Recovery = 105.92%
All analyte(s) passed QC.

==========

Sequence No.: 119 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 1/21/2010 12:09:20**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.027	-0.027	0.0000	0.0000	0.0001	12:10:11	Yes
2	-0.024	-0.024	0.0001	0.0007	0.0002	12:10:41	Yes
Mean:	-0.026	-0.026	0.0001				
SD:	0.003	0.003	0.0000				
%RSD:	10.84	10.84	47.53				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 120 **Autosampler Location: 102**
Sample ID: 1202019591|943244|1 **Date Collected: 1/21/2010 12:11:00**
Analyst: JXL **Data Type: Original**

Replicate Data: 1202019591|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.023	-0.023	0.0001	0.0004	0.0002	12:11:52	Yes
2	-0.028	-0.028	0.0000	0.0004	0.0001	12:12:22	Yes
Mean:	-0.026	-0.026	0.0001				
SD:	0.004	0.004	0.0000				
%RSD:	14.36	14.36	63.86				

Sequence No.: 121
Sample ID: 1202019592|943244|10
Analyst: JXL
Autosampler Location: 103
Date Collected: 1/21/2010 12:12:43
Data Type: Original

Replicate Data: 1202019592|943244|10

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	4.044	4.044	0.0430	0.1821	0.0431	12:13:35	Yes
2	4.036	4.036	0.0430	0.1811	0.0430	12:14:04	Yes
Mean:	4.040	4.040	0.0430				
SD:	0.006	0.006	0.0001				
%RSD:	0.149	0.149	0.15				

Sequence No.: 122
Sample ID: 244137001|943244|1
Analyst: JXL
Autosampler Location: 104
Date Collected: 1/21/2010 12:14:25
Data Type: Original

Replicate Data: 244137001|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.257	0.257	0.0030	0.0127	0.0031	12:15:17	Yes
2	0.255	0.255	0.0030	0.0126	0.0031	12:15:47	Yes
Mean:	0.256	0.256	0.0030				
SD:	0.002	0.002	0.0000				
%RSD:	0.623	0.623	0.55				

Sequence No.: 123
Sample ID: 244137002|943244|1
Analyst: JXL
Autosampler Location: 105
Date Collected: 1/21/2010 12:16:07
Data Type: Original

Replicate Data: 244137002|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.247	0.247	0.0029	0.0127	0.0030	12:16:59	Yes
2	0.249	0.249	0.0030	0.0126	0.0030	12:17:29	Yes
Mean:	0.248	0.248	0.0030				
SD:	0.001	0.001	0.0000				
%RSD:	0.398	0.398	0.35				

Sequence No.: 124
Sample ID: 244137003|943244|1
Analyst: JXL
Autosampler Location: 106
Date Collected: 1/21/2010 12:17:49
Data Type: Original

Replicate Data: 244137003|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.230	0.230	0.0028	0.0117	0.0028	12:18:41	Yes
2	0.233	0.233	0.0028	0.0117	0.0029	12:19:11	Yes
Mean:	0.231	0.231	0.0028				
SD:	0.002	0.002	0.0000				
%RSD:	0.929	0.929	0.82				

Sequence No.: 125
Sample ID: 244137004|943244|1
Analyst: JXL
Autosampler Location: 107
Date Collected: 1/21/2010 12:19:31
Data Type: Original

Replicate Data: 244137004|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.204	0.204	0.0025	0.0113	0.0026	12:20:23	Yes
2	0.204	0.204	0.0025	0.0107	0.0026	12:20:53	Yes

Mean:	0.204	0.204	0.0025
SD:	0.000	0.000	0.0000
%RSD:	0.156	0.156	0.14

==========

Sequence No.: 126 **Autosampler Location: 108**
Sample ID: 244137005|943244|1 **Date Collected: 1/21/2010 12:21:13**
Analyst: JXL **Data Type: Original**

Replicate Data: 244137005|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.270	0.270	0.0032	0.0143	0.0033	12:22:05	Yes
2	0.265	0.265	0.0031	0.0132	0.0032	12:22:35	Yes
Mean:	0.267	0.267	0.0032				
SD:	0.003	0.003	0.0000				
%RSD:	1.233	1.233	1.10				

==========

Sequence No.: 127 **Autosampler Location: 109**
Sample ID: 244137006|943244|1 **Date Collected: 1/21/2010 12:22:55**
Analyst: JXL **Data Type: Original**

Replicate Data: 244137006|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.245	0.245	0.0029	0.0132	0.0030	12:23:47	Yes
2	0.243	0.243	0.0029	0.0126	0.0030	12:24:17	Yes
Mean:	0.244	0.244	0.0029				
SD:	0.002	0.002	0.0000				
%RSD:	0.652	0.652	0.58				

==========

Sequence No.: 128 **Autosampler Location: 110**
Sample ID: 244137007|943244|1 **Date Collected: 1/21/2010 12:24:37**
Analyst: JXL **Data Type: Original**

Replicate Data: 244137007|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.240	0.240	0.0029	0.0132	0.0030	12:25:29	Yes
2	0.236	0.236	0.0028	0.0127	0.0029	12:25:58	Yes
Mean:	0.238	0.238	0.0028				
SD:	0.003	0.003	0.0000				
%RSD:	1.099	1.099	0.97				

==========

Sequence No.: 129 **Autosampler Location: 111**
Sample ID: 244621001|943244|1 **Date Collected: 1/21/2010 12:26:19**
Analyst: JXL **Data Type: Original**

Replicate Data: 244621001|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.282	0.282	0.0033	0.0145	0.0034	12:27:11	Yes
2	0.279	0.279	0.0033	0.0144	0.0034	12:27:41	Yes
Mean:	0.280	0.280	0.0033				
SD:	0.002	0.002	0.0000				
%RSD:	0.837	0.837	0.75				

==========

Sequence No.: 130 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 1/21/2010 12:28:02**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.388	5.388	0.0572	0.2438	0.0573	12:28:53	Yes
2	5.368	5.368	0.0570	0.2438	0.0571	12:29:23	Yes
Mean:	5.378	5.378	0.0571				
SD:	0.014	0.014	0.0002				
%RSD:	0.270	0.270	0.27				

QC value within limits for Hg 253.7 Recovery = 107.56%
All analyte(s) passed QC.

Sequence No.: 131 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 1/21/2010 12:29:42**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.028	-0.028	0.0000	-0.0000	0.0001	12:30:33	Yes
2	-0.026	-0.026	0.0001	0.0004	0.0001	12:31:03	Yes
Mean:	-0.027	-0.027	0.0000				
SD:	0.001	0.001	0.0000				
%RSD:	4.640	4.640	27.43				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 132 **Autosampler Location: 112**
Sample ID: 244621002|943244|1 **Date Collected: 1/21/2010 12:31:22**
Analyst: JXL **Data Type: Original**

Replicate Data: 244621002|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.208	0.208	0.0025	0.0113	0.0026	12:32:14	Yes
2	0.202	0.202	0.0025	0.0110	0.0025	12:32:44	Yes
Mean:	0.205	0.205	0.0025				
SD:	0.005	0.005	0.0000				
%RSD:	2.264	2.264	1.96				

Sequence No.: 133 **Autosampler Location: 113**
Sample ID: 244621003|943244|1 **Date Collected: 1/21/2010 12:33:04**
Analyst: JXL **Data Type: Original**

Replicate Data: 244621003|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.239	0.239	0.0029	0.0128	0.0029	12:33:56	Yes
2	0.232	0.232	0.0028	0.0119	0.0029	12:34:26	Yes
Mean:	0.236	0.236	0.0028				
SD:	0.004	0.004	0.0000				
%RSD:	1.887	1.887	1.67				

Sequence No.: 134 **Autosampler Location: 114**
Sample ID: 244621004|943244|1 **Date Collected: 1/21/2010 12:34:46**
Analyst: JXL **Data Type: Original**

Replicate Data: 244621004|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.406	0.406	0.0046	0.0196	0.0047	12:35:38	Yes
2	0.400	0.400	0.0046	0.0195	0.0046	12:36:08	Yes
Mean:	0.403	0.403	0.0046				
SD:	0.004	0.004	0.0000				
%RSD:	1.047	1.047	0.97				

Sequence No.: 135
Sample ID: 244621005|943244|1
Analyst: JXL
Autosampler Location: 115
Date Collected: 1/21/2010 12:36:29
Data Type: Original

Replicate Data: 244621005|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.226	0.226	0.0027	0.0111	0.0028	12:37:21	Yes
2	0.233	0.233	0.0028	0.0120	0.0029	12:37:51	Yes
Mean:	0.229	0.229	0.0028				
SD:	0.005	0.005	0.0001				
%RSD:	2.202	2.202	1.94				

Sequence No.: 136
Sample ID: 244621006|943244|1
Analyst: JXL
Autosampler Location: 116
Date Collected: 1/21/2010 12:38:12
Data Type: Original

Replicate Data: 244621006|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.239	0.239	0.0029	0.0121	0.0029	12:39:03	Yes
2	0.246	0.246	0.0029	0.0129	0.0030	12:39:33	Yes
Mean:	0.242	0.242	0.0029				
SD:	0.005	0.005	0.0000				
%RSD:	1.947	1.947	1.72				

Sequence No.: 137
Sample ID: 244624001|943244|1
Analyst: JXL
Autosampler Location: 117
Date Collected: 1/21/2010 12:39:54
Data Type: Original

Replicate Data: 244624001|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.275	0.275	0.0032	0.0135	0.0033	12:40:46	Yes
2	0.273	0.273	0.0032	0.0137	0.0033	12:41:16	Yes
Mean:	0.274	0.274	0.0032				
SD:	0.001	0.001	0.0000				
%RSD:	0.547	0.547	0.49				

Sequence No.: 138
Sample ID: 1202019593|943244|1
Analyst: JXL
Autosampler Location: 118
Date Collected: 1/21/2010 12:41:36
Data Type: Original

Replicate Data: 1202019593|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.318	0.318	0.0037	0.0158	0.0038	12:42:28	Yes
2	0.319	0.319	0.0037	0.0161	0.0038	12:42:58	Yes
Mean:	0.318	0.318	0.0037				
SD:	0.001	0.001	0.0000				
%RSD:	0.178	0.178	0.16				

Sequence No.: 139
Sample ID: 1202019594|943244|1
Analyst: JXL
Autosampler Location: 119
Date Collected: 1/21/2010 12:43:19
Data Type: Original

Replicate Data: 1202019594|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.660	2.660	0.0284	0.1210	0.0285	12:44:11	Yes

2	2.659	2.659	0.0284	0.1210	0.0285	12:44:41	Yes
Mean:	2.660	2.660	0.0284				
SD:	0.001	0.001	0.0000				
%RSD:	0.020	0.020	0.02				

==========

Sequence No.: 140 **Autosampler Location: 120**
Sample ID: 1202019596|943244|1 **Date Collected: 1/21/2010 12:45:01**
Analyst: JXL **Data Type: Original**

Replicate Data: 1202019596|943244|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.730	2.730	0.0292	0.1242	0.0293	12:45:54	Yes
2	2.719	2.719	0.0290	0.1227	0.0291	12:46:23	Yes
Mean:	2.725	2.725	0.0291				
SD:	0.008	0.008	0.0001				
%RSD:	0.292	0.292	0.29				

==========

Sequence No.: 141 **Autosampler Location: 121**
Sample ID: 1202019595|943244|5 **Date Collected: 1/21/2010 12:46:44**
Analyst: JXL **Data Type: Original**

Replicate Data: 1202019595|943244|5

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.038	0.038	0.0007	0.0034	0.0008	12:47:36	Yes
2	0.035	0.035	0.0007	0.0032	0.0008	12:48:06	Yes
Mean:	0.036	0.036	0.0007				
SD:	0.002	0.002	0.0000				
%RSD:	6.508	6.508	3.49				

==========

Sequence No.: 142 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 1/21/2010 12:48:27**
Analyst: **Data Type: Original**

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.353	5.353	0.0569	0.2420	0.0570	12:49:17	Yes
2	5.319	5.319	0.0565	0.2389	0.0566	12:49:47	Yes
Mean:	5.336	5.336	0.0567				
SD:	0.024	0.024	0.0003				
%RSD:	0.454	0.454	0.45				

QC value within limits for Hg 253.7 Recovery = 106.73%
All analyte(s) passed QC.

==========

Sequence No.: 143 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 1/21/2010 12:50:06**
Analyst: **Data Type: Original**

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.025	-0.025	0.0001	0.0003	0.0002	12:50:57	Yes
2	-0.030	-0.030	0.0000	-0.0004	0.0001	12:51:27	Yes
Mean:	-0.027	-0.027	0.0000				
SD:	0.003	0.003	0.0000				
%RSD:	11.59	11.59	80.94				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 144 **Autosampler Location: 122**

Miscellaneous

Prep LogBook

Analyst: AXG2 Verified by:_____

Batch: 940085

Lab SOP: GL-MA-E-009 REV# 19

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202011716	UI062540-MS	.505	g
MS	1202011718	UI091015-A	.5	mL
MS	1202011718	UI091015-B	.5	mL
MSD	1202011720	UI091015-A	.5	mL
MSD	1202011720	UI091015-B	.5	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202011715		SW846 3050B	12-JAN-2010 07:30	0.517 g	50 mL	96.7118	SOIL
LCS	1202011716		SW846 3050B	12-JAN-2010 07:30	0.505 g	50 mL	99.0099	SOIL
SAMPLE	244137001		SW846 3050B	12-JAN-2010 07:30	0.514 g	50 mL	97.27626	SOIL
DUP	1202011717	244137001	SW846 3050B	12-JAN-2010 07:30	0.521 g	50 mL	95.96929	SOIL
MS	1202011718	244137001	SW846 3050B	12-JAN-2010 07:30	0.536 g	50 mL	93.28358	SOIL
MSD	1202011720	244137001	SW846 3050B	12-JAN-2010 07:30	0.528 g	50 mL	94.69697	SOIL
SDILT	1202011719	244137001	SW846 3050B	12-JAN-2010 07:30	0.514 g	50 mL	97.27626	SOIL
SAMPLE	244137002		SW846 3050B	12-JAN-2010 07:30	0.504 g	50 mL	99.20635	SOIL
SAMPLE	244137003		SW846 3050B	12-JAN-2010 07:30	0.509 g	50 mL	98.23183	SOIL
SAMPLE	244137004		SW846 3050B	12-JAN-2010 07:30	0.533 g	50 mL	93.80863	SOIL
SAMPLE	244137005		SW846 3050B	12-JAN-2010 07:30	0.502 g	50 mL	99.60159	SOIL
SAMPLE	244137006		SW846 3050B	12-JAN-2010 07:30	0.516 g	50 mL	96.89922	SOIL
SAMPLE	244137007		SW846 3050B	12-JAN-2010 07:30	0.508 g	50 mL	98.4252	SOIL

Reagent/Solvent Lot ID	Amount	Description
1203655-02	1.5 mL	Hydrogen Peroxide 30%
1252836	5 mL	Nitric Acid CONC.

Comments Sample 244137001 consist of brown, clumpy soil with artifacts.

Prep LogBook

Analyst: AXG2 Verified by:_____

Batch: 940176

Lab SOP: GL-MA-E-009 REV# 19

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202011904	UI062540-I	.506	g
MS	1202011902	UI091216-01	.25	mL
MS	1202011902	UI091216-06	.25	mL
MSD	1202011903	UI091216-01	.25	mL
MSD	1202011903	UI091216-06	.25	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202011899		SW846 3050B	12-JAN-2010 08:00	0.54 g	50 mL	92.59259	SOIL
LCS	1202011904		SW846 3050B	12-JAN-2010 08:00	0.506 g	50 mL	98.81423	SOIL
SAMPLE	244137001		SW846 3050B	12-JAN-2010 08:00	0.515 g	50 mL	97.08738	SOIL
DUP	1202011900	244137001	SW846 3050B	12-JAN-2010 08:00	0.512 g	50 mL	97.65625	SOIL
SDILT	1202011901	244137001	SW846 3050B	12-JAN-2010 08:00	0.515 g	50 mL	97.08738	SOIL
MS	1202011902	244137001	SW846 3050B	12-JAN-2010 08:00	0.515 g	50 mL	97.08738	SOIL
MSD	1202011903	244137001	SW846 3050B	12-JAN-2010 08:00	0.511 g	50 mL	97.84736	SOIL
SAMPLE	244137002		SW846 3050B	12-JAN-2010 08:00	0.523 g	50 mL	95.60229	SOIL
SAMPLE	244137003		SW846 3050B	12-JAN-2010 08:00	0.508 g	50 mL	98.4252	SOIL
SAMPLE	244137004		SW846 3050B	12-JAN-2010 08:00	0.519 g	50 mL	96.33911	SOIL
SAMPLE	244137005		SW846 3050B	12-JAN-2010 08:00	0.501 g	50 mL	99.8004	SOIL
SAMPLE	244137006		SW846 3050B	12-JAN-2010 08:00	0.514 g	50 mL	97.27626	SOIL
SAMPLE	244137007		SW846 3050B	12-JAN-2010 08:00	0.52 g	50 mL	96.15385	SOIL

Reagent/Solvent Lot ID	Amount	Description
1252838	10 mL	HYDROCHLORIC ACID
1252836	1.25 mL	Nitric Acid CONC.

Comments: Sample 244137001 consist of brown, clumpy soil with artifacts.

Prep LogBook

Analyst: TXB3 Verified by:_____

Batch: 943241

Lab SOP: GL-MA-E-010 REV# 23

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202019592	UI031809A	.203	g
MS	1202019594	WHG100120-14	.3	mL
MSD	1202019596	WHG100120-14	.3	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202019591		SW846 7471A Prep	20-JAN-2010 14:15	0.506 g	30 mL	59.28854	SOIL
LCS	1202019592		SW846 7471A Prep	20-JAN-2010 14:15	0.203 g	30 mL	147.78325	SOIL
SAMPLE	244137001		SW846 7471A Prep	20-JAN-2010 14:15	0.548 g	30 mL	54.74453	SOIL
SAMPLE	244137002		SW846 7471A Prep	20-JAN-2010 14:15	0.544 g	30 mL	55.14706	SOIL
SAMPLE	244137003		SW846 7471A Prep	20-JAN-2010 14:15	0.522 g	30 mL	57.47126	SOIL
SAMPLE	244137004		SW846 7471A Prep	20-JAN-2010 14:15	0.521 g	30 mL	57.58157	SOIL
SAMPLE	244137005		SW846 7471A Prep	20-JAN-2010 14:15	0.545 g	30 mL	55.04587	SOIL
SAMPLE	244137006		SW846 7471A Prep	20-JAN-2010 14:15	0.575 g	30 mL	52.17391	SOIL
SAMPLE	244137007		SW846 7471A Prep	20-JAN-2010 14:15	0.533 g	30 mL	56.28518	SOIL
SAMPLE	244621001		SW846 7471A Prep	20-JAN-2010 14:15	0.6 g	30 mL	50	SOIL
SAMPLE	244621002		SW846 7471A Prep	20-JAN-2010 14:15	0.502 g	30 mL	59.76096	SOIL
SAMPLE	244621003		SW846 7471A Prep	20-JAN-2010 14:15	0.546 g	30 mL	54.94505	SOIL
SAMPLE	244621004		SW846 7471A Prep	20-JAN-2010 14:15	0.515 g	30 mL	58.25243	SOIL
SAMPLE	244621005		SW846 7471A Prep	20-JAN-2010 14:15	0.6 g	30 mL	50	SOIL
SAMPLE	244621006		SW846 7471A Prep	20-JAN-2010 14:15	0.526 g	30 mL	57.03422	SOIL
SAMPLE	244624001		SW846 7471A Prep	20-JAN-2010 14:15	0.508 g	30 mL	59.05512	SOIL
DUP	1202019593	244624001	SW846 7471A Prep	20-JAN-2010 14:15	0.5 g	30 mL	60	SOIL
MS	1202019594	244624001	SW846 7471A Prep	20-JAN-2010 14:15	0.559 g	30 mL	53.66726	SOIL
MSD	1202019596	244624001	SW846 7471A Prep	20-JAN-2010 14:15	0.57 g	30 mL	52.63158	SOIL
SDILT	1202019595	244624001	SW846 7471A Prep	20-JAN-2010 14:15	0.508 g	30 mL	59.05512	SOIL
SAMPLE	244624002		SW846 7471A Prep	20-JAN-2010 14:15	0.516 g	30 mL	58.13953	SOIL
SAMPLE	244624003		SW846 7471A Prep	20-JAN-2010 14:15	0.516 g	30 mL	58.13953	SOIL
SAMPLE	244624004		SW846 7471A Prep	20-JAN-2010 14:15	0.564 g	30 mL	53.19149	SOIL
SAMPLE	244624005		SW846 7471A Prep	20-JAN-2010 14:15	0.517 g	30 mL	58.02708	SOIL
SAMPLE	244624006		SW846 7471A Prep	20-JAN-2010 14:15	0.56 g	30 mL	53.57143	SOIL

Reagent/Solvent Lot ID	Amount	Description
1236355-A	1.125 mL	Hydrochloric Acid Conc.
1257474-1	.375 mL	NITRIC ACID
1255535-C	7.5 mL	5% KMnO4 solution
1255532-C	2 mL	Hg reducing agent

Comments: Sample 244624001 is a dry brown soil.
Digestion Start Date: 20-JAN-10 14:15
Digestion End Date: 20-JAN-10 14:45

Prep LogBook

WHG100120-07	30 uL	Mercury Working Standard 1st Source CAL S 0.2/CRA
WHG100120-08	75 uL	Mercury Working Standard 1st Source CAL S 0.5
WHG100120-11	1.5 mL	Mercury Working 1st Source CAL S 10.0
WHG100120-09	300 uL	Mercury Working 1st Source CAL S 2.0
WHG100120-10	750 uL	Mercury Working 1st Source CAL S 5.0/CCV
WHG100120-12	750 uL	Mercury Working 2nd Source S 5.0/ICV

DER Report No.: 780905
Revision No.:

DATA EXCEPTION REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
18-JAN-10	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ICP/MS	SW846 3050B/6020	Solid	LANL
Batch ID:	**Sample Numbers:**		
940086	See Below		

Potentially affected work order(s)(SDG): 244137(10-1126)

Application Issues:

Failed Recovery for MSD/PSD

Specification and Requirements Exception Description:	DER Disposition:
1. Failed Recovery for MSD/PSD: QC 1202011720MSD	The matrix spike duplicate recovery failed outside of the control limits for Se due to possible matrix interferences and/or non-homogeneity. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported.

Originator's Name:

Samantha Jacobs 19-JAN-10

Data Validator/Group Leader:

Rose Jenkins 20-JAN-10

DATA EXCEPTION REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
27-JAN-10	Industrial	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ICP	SW846 3050B/6010B	Solid	LANL
Batch ID:	**Sample Numbers:**		
940177	See Below		

Potentially affected work order(s)(SDG): 244137(10-1126)

Application Issues:

Failed Recovery for MS/PS

Failed RPD for DUP

Failed Recovery for MSD/PSD

Specification and Requirements Exception Description:	DER Disposition:
1. Failed Recovery for MS/PS: QC 1202011902MS 2. Failed RPD for DUP: QC 1202011900DUP 3. Failed Recovery for MSD/PSD: QC 1202011903MSD	1./3. The matrix spike and matrix spike duplicate recovery failed outside of the control limits for antimony,barium,magnesium and potassium due to possible matrix interferences and/or non-homogeneity. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported. 2. The sample and sample duplicate % RPD failed outside the control limits for calcium due to possible sample non-homogeneity and/or matrix interference. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported.

Originator's Name:

Helen Camello 28-JAN-10

Data Validator/Group Leader:

Louise Smith 28-JAN-10

Standard Logbook

Serial ID: UHG1167639-01 **Opened:** 13-AUG-09 **Amount :** 125 mL
Name: MHGSTOCK1 **Received:** 13-AUG-09 **Catalog Number :** PLHG4-2Y
Type: Source Material **Expires:** 13-AUG-10 **Lot Number :** 15-37HG
Employee: Bryan Davis **Solvent :** 10% HNO3
Supplier: Spex
Description: Mercury Source Standard #1 1,000 mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	1000 mg/L		

Serial ID: UHG1167641-02 **Opened:** 13-AUG-09 **Amount :** 100 mL
Name: MHGSTOCK2 **Received:** 13-AUG-09 **Catalog Number :** AHG1KN-100
Type: Source Material **Expires:** 13-AUG-10 **Lot Number :** 4905530
Employee: Bryan Davis **Solvent :** 3% HNO3
Supplier: Ricca Chemical Company
Description: Mercury Source Standard #2 1,000 mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	999.7 mg/L		

Serial ID: UI031809A **Opened:** 18-MAR-09 **Catalog Number :** 540
Name: METALSOILSRM **Received:** 18-MAR-09 **Lot Number :** D061-540
Type: Source Material **Expires:** 10-OCT-10
Employee: Jamie Johnson
Supplier: ERA
Description: Metals LCS Soil SRM
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	10600 mg/kg	Antimony	126 mg/kg
Arsenic	225 mg/kg	Barium	565 mg/kg
Beryllium	162 mg/kg	Boron	107 mg/kg
Cadmium	69.1 mg/kg	Calcium	10000 mg/kg
Chromium	124 mg/kg	Cobalt	115 mg/kg
Copper	66.7 mg/kg	Iron	17600 mg/kg
Lead	223 mg/kg	Magnesium	4260 mg/kg
Manganese	368 mg/kg	Mercury	5.15 mg/kg
Molybdenum	107 mg/kg	Nickel	172 mg/kg
Potassium	4090 mg/kg	Selenium	147 mg/kg
Silver	35.2 mg/kg	Sodium	538 mg/kg
Strontium	117 mg/kg	Thallium	173 mg/kg
Tin	164 mg/kg	Titanium	381 mg/kg
Vanadium	93.9 mg/kg	Zinc	349 mg/kg

Standard Logbook

Serial ID: UI062540-I **Opened:** 12-JUN-09 **Amount :** 80 g
Name: ICP SOIL SRM **Received:** 12-JUN-09 **Lot Number :** D062-540
Type: Source Material **Expires:** 31-JAN-12
Employee: Bryan Davis
Supplier: ERA
Description: Metals Soil LCS SRM ICP/Hg
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	10500 mg/kg	Antimony	173 mg/kg
Arsenic	104 mg/kg	Barium	198 mg/kg
Beryllium	77.6 mg/kg	Boron	141 mg/kg
Cadmium	60.7 mg/kg	Calcium	9870 mg/kg
Chromium	236 mg/kg	Cobalt	91.2 mg/kg
Copper	174 mg/kg	Iron	18000 mg/kg
Lead	86 mg/kg	Magnesium	4000 mg/kg
Manganese	558 mg/kg	Mercury	8.46 mg/kg
Molybdenum	48.6 mg/kg	Nickel	134 mg/kg
Phosphorous	736 mg/kg	Potassium	4300 mg/kg
Selenium	286 mg/kg	Silica	2591 mg/kg
Silicon	1211 mg/kg	Silver	30.1 mg/kg
Sodium	1020 mg/kg	Strontium	227 mg/kg
Sulfur	385 mg/kg	Thallium	121 mg/kg
Tin	104 mg/kg	Titanium	462 mg/kg
Vanadium	115 mg/kg	Zinc	594 mg/kg

Serial ID: UI062540-MS **Opened:** 12-JUN-09 **Lot Number :** D062-540
Name: ICPMS SOIL SRM **Received:** 12-JUN-09
Type: Source Material **Expires:** 31-JAN-12
Employee: Bryan Davis
Supplier: ERA
Description: Metals Soil LCS SRM ICPMS
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	10500 mg/kg	Antimony	67.4 mg/kg
Arsenic	104 mg/kg	Barium	198 mg/kg
Beryllium	77.6 mg/kg	Boron	141 mg/kg
Cadmium	60.6 mg/kg	Calcium	9870 mg/kg
Chromium	236 mg/kg	Cobalt	91.2 mg/kg
Copper	174 mg/kg	Iron	18000 mg/kg
Lead	86 mg/kg	Lithium	10.6 mg/kg
Magnesium	4000 mg/kg	Manganese	558 mg/kg
Mercury	8.46 mg/kg	Molybdenum	48.6 mg/kg
Nickel	134 mg/kg	Phosphorous	755 mg/kg
Potassium	4300 mg/kg	Selenium	286 mg/kg
Silver	30.1 mg/kg	Sodium	1020 mg/kg

Analyte	Concentration	Analyte	Concentration
Strontium	227 mg/kg	Thallium	121 mg/kg
Thorium	9.84 mg/kg	Tin	104 mg/kg
Titanium	462 mg/kg	Uranium	2.13 mg/kg
Uranium-235	.0153 mg/kg	Uranium-238	2.11 mg/kg
Vanadium	92.4 mg/kg	Zinc	594 mg/kg
Zirconium	10.6 mg/kg		

Serial ID: UI090422-40 **Opened:** 04-MAY-09 **Amount :** 500 mL
Name: TRACE ICP ICSA SOLN A **Received:** 22-APR-09 **Catalog Number :** 160005-01-03
Type: Source Material **Expires:** 04-MAY-10 **Lot Number :** 1013357
Employee: Helen Camello **Solvent :** 5%HNO3
Supplier: o2si
Description: TRACE ICP ICSA SOLN A mg/L+/-0.5%IN5%HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Calcium	5000 mg/L
Iron	2000 mg/L	Magnesium	5000 mg/L

Serial ID: UI090610-03 **Opened:** 10-JUN-09 **Catalog Number :** 060074-06-01
Name: ICPMS Tungsten - 10mg/L S **Received:** 10-JUN-09 **Lot Number :** 1016338
Type: Source Material **Expires:** 10-JUN-10 **Solvent :** 2% HNO3
Employee: Paul Boyd
Supplier: O2SI
Description: ICPMS Tungsten standard SPIKE - 10mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Tungsten	10 mg/L		

Serial ID: UI090701-09 **Opened:** 01-JUL-09 **Amount :** 250 mL
Name: ICP-MS CRDL Master #1 **Received:** 01-JUL-09 **Catalog Number :** 160044-09-02
Type: Source Material **Expires:** 01-JUL-10 **Lot Number :** 1016477
Employee: Paul Boyd **Solvent :** +/- 0.5% IN 2% HNO3
Supplier: O2SI
Description: ICPMS CRDL Master Soln #1
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	15 mg/L	Arsenic	5 mg/L
Barium	2 mg/L	Beryllium	.5 mg/L
Boron	15 mg/L	Cadmium	1 mg/L
Calcium	100 mg/L	Chromium	3 mg/L
Cobalt	1 mg/L	Copper	1 mg/L

Analyte	Concentration	Analyte	Concentration
Iron	25 mg/L	Lead	2 mg/L
Lithium	10 mg/L	Magnesium	15 mg/L
Manganese	5 mg/L	Nickel	2 mg/L
Phosphorous	50 mg/L	Potassium	300 mg/L
Selenium	5 mg/L	Sodium	250 mg/L
Strontium	10 mg/L	Thallium	1 mg/L
Thorium	1 mg/L	Uranium	.2 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

Serial ID: UI090701-10 **Opened:** 01-JUL-09 **Amount :** 250 mL
Name: ICP-MS CRDL Master #2 **Received:** 01-JUL-09 **Catalog Number :** 160044-08-02
Type: Source Material **Expires:** 01-JUL-10 **Lot Number :** 1016476
Employee: Paul Boyd **Solvent :** +/- 0.5% IN 2% HNO3
Supplier: 02SI
Description: ICPMS CRDL Soln #2
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Molybdenum	.5 mg/L
Silver	1 mg/L	Tin	2 mg/L
Titanium	10 mg/L	Tungsten	5 mg/L
Zirconium	2 mg/L		

Serial ID: UI090701-40 **Opened:** 01-JUL-09 **Amount :** 500 mL
Name: TRACE ICP Stock PQL Sta **Received:** 30-JUN-09 **Catalog Number :** 160543-01-03
Type: Source Material **Expires:** 01-JUL-10 **Lot Number :** 1016475
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3+TrHF
Supplier: 02si
Description: TRACE ICP Stock PQL Standard
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	100 mg/L	Antimony	5 mg/L
Arsenic	15 mg/L	Barium	2.5 mg/L
Beryllium	2.5 mg/L	Boron	25 mg/L
Cadmium	2.5 mg/L	Calcium	100 mg/L
Chromium	2.5 mg/L	Cobalt	2.5 mg/L
Copper	5 mg/L	Iron	50 mg/L
Lead	5 mg/L	Magnesium	150 mg/L
Manganese	5 mg/L	Molybdenum	5 mg/L
Nickel	2.5 mg/L	Phosphorous	75 mg/L
Potassium	75 mg/L	Selenium	15 mg/L
Silicon	50 mg/L	Silver	2.5 mg/L
Sodium	150 mg/L	Strontium	2.5 mg/L
Sulfur	50 mg/L	Thallium	10 mg/L

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Tin	5 mg/L	Titanium	2.5 mg/L
Uranium	25 mg/L	Vanadium	2.5 mg/L
Zinc	5 mg/L		

Serial ID: UI090828-42 **Opened:** 16-SEP-09 **Amount :** 500 mL
Name: TRACE ICP Na-1000SOUR **Received:** 27-AUG-09 **Catalog Number :** 060011-02-03
Type: Source Material **Expires:** 16-SEP-10 **Lot Number :** 1017098
Employee: Helen Camello **Solvent :** 1%HNO3
Supplier: 02SI
Description: Sodium 1000 +/- 3 ug/mL in 1% HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

Serial ID: UI090925-40 **Opened:** 23-OCT-09 **Amount :** 500 mL
Name: SECOND SOURCE STD -1 **Received:** 25-SEP-09 **Catalog Number :** SGELMX38-500N
Type: Source Material **Expires:** 30-SEP-10 **Lot Number :** 4909129
Employee: Helen Camello **Solvent :** 5%HNO3
Supplier: SPECTRO PURE
Description: SECOND SOURCE STD #1A 5%HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Arsenic	100 mg/L
Barium	100 mg/L	Boron	100 mg/L
Cadmium	100 mg/L	Calcium	1000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	1000 mg/L
Lead	100 mg/L	Phosphorous	500 mg/L
Potassium	500 mg/L	Selenium	500 mg/L
Sodium	500 mg/L	Strontium	100 mg/L

Serial ID: UI090925-41 **Opened:** 23-OCT-09 **Amount :** 500 mL
Name: SECOND SOURCE STD -1 **Received:** 25-SEP-09 **Catalog Number :** SGELMX39-500B
Type: Source Material **Expires:** 30-SEP-10 **Lot Number :** 4909130
Employee: Helen Camello **Solvent :** 5%HNO3,TR.HF
Supplier: SPECTRO PURE
Description: SECOND SOURCE STD #1B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 mg/L	Beryllium	50 mg/L
Magnesium	1000 mg/L	Manganese	100 mg/L

Analyte	Concentration	Analyte	Concentration
Molybdenum	100 mg/L	Nickel	100 mg/L
Silver	50 mg/L	Sulfur	500 mg/L
Thallium	100 mg/L	Tin	100 mg/L
Titanium	100 mg/L	Uranium	100 mg/L
Vanadium	100 mg/L	Zinc	100 mg/L

Serial ID: UI091015-42 **Opened:** 28-OCT-09 **Amount :** 500 mL
Name: SI 1000mg/L **Received:** 15-OCT-09 **Catalog Number :** 060014-02-03
Type: Source Material **Expires:** 28-OCT-10 **Lot Number :** 1017581
Employee: Helen Camello **Solvent :** 0.3%H2O(NH4)2SiF6
Supplier: o2si
Description: Silicon 1000mg/L+/-0.3%in H2O(NH4)2SiF6
Comments: None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

Serial ID: UI091015-A **Opened:** 15-OCT-09 **Catalog Number :** 160067-03
Name: ICP-MS DOE SOIL SPIKE **Received:** 15-OCT-09 **Lot Number :** 1017142
Type: Source Material **Expires:** 15-OCT-10
Employee: Francena Armstrong
Supplier: 02si
Description: ICP-MS Spike for soil products.
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	8 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Boron	10 mg/L	Cadmium	1 mg/L
Calcium	200 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	20 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L
Phosphorus, Total as P	200 mg/L	Potassium	200 mg/L
Selenium	2 mg/L	Sodium	200 mg/L
Strontium	5 mg/L	Thallium	10 mg/L
Thorium	5 mg/L	Uranium	5 mg/L
Uranium-235	.036 mg/L	Uranium-238	4.964 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

Standard Logbook

Serial ID: UI091015-B **Opened:** 15-OCT-09 **Catalog Number :** 160067-03
Name: ICP-MS DOE SOIL SPIKE **Received:** 15-OCT-09 **Lot Number :** 1017142
Type: Source Material **Expires:** 15-OCT-10
Employee: Francena Armstrong
Supplier: 02si
Description: ICP-MS Spike for Soil Products
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	5 mg/L
Silicon	200 mg/L	Silver	5 mg/L
Tin	5 mg/L	Zirconium	5 mg/L

Serial ID: UI091102-40 **Opened:** 16-NOV-09 **Amount :** 500 mL
Name: TRACE CALSTD#1A SOUF **Received:** 02-NOV-09 **Catalog Number :** HP2270-1-500
Type: Source Material **Expires:** 31-OCT-10 **Lot Number :** 0930215
Employee: Helen Camello **Solvent :** HNO3
Supplier: Environmental Express
Description: Trace Calibration Std #1A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	2000 mg/L	Arsenic	200 mg/L
Barium	200 mg/L	Beryllium	200 mg/L
Boron	200 mg/L	Cadmium	200 mg/L
Calcium	2000 mg/L	Chromium	200 mg/L
Cobalt	200 mg/L	Copper	200 mg/L
Iron	2000 mg/L	Lead	200 mg/L
Magnesium	2000 mg/L	Manganese	200 mg/L
Nickel	200 mg/L	Phosphorous	1000 mg/L
Potassium	2000 mg/L	Selenium	200 mg/L
Sodium	2000 mg/L	Strontium	200 mg/L
Thallium	200 mg/L	Uranium	200 mg/L
Vanadium	200 mg/L	Zinc	200 mg/L

Serial ID: UI091102-41 **Opened:** 16-NOV-09 **Amount :** 500 mL
Name: TRACE CALSTD#1B SOUF **Received:** 02-NOV-09 **Catalog Number :** HP2270-2-500
Type: Source Material **Expires:** 31-OCT-10 **Lot Number :** 0930216
Employee: Helen Camello **Solvent :** HNO3
Supplier: Environmental Express
Description: Trace Calibration Standard #1B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	200 mg/L	Molybdenum	200 mg/L
Silver	200 mg/L	Sulfur	400 mg/L

Analyte	Concentration	Analyte	Concentration
Tin	200 mg/L	Titanium	200 mg/L

Serial ID: UI091102-42 **Opened:** 17-NOV-09 **Amount :** 200 mL
Name: SILICON **Received:** 02-NOV-09 **Catalog Number :** HP100050-4F
Type: Source Material **Expires:** 17-NOV-10 **Lot Number :** 0921924
Employee: Helen Camello **Solvent :** H20/tr HF
Supplier: ENVIRNMENTAL EXPRESS
Description: SILICON 1000mg/L H20/tr HF
Comments: None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

Serial ID: UI091212-11 **Opened:** 12-DEC-09 **Amount :** 1000 mL
Name: ICP-MS ICSA Master A **Received:** 12-DEC-09 **Catalog Number :** 160013-01-01L
Type: Source Material **Expires:** 12-DEC-10 **Lot Number :** 1015303
Employee: Paul Boyd **Solvent :** 2% HNO3
Supplier: 02SI
Description: ICP-MS ICSA Master A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

Serial ID: UI091212-60 **Opened:** 12-DEC-09 **Amount :** .5 mL
Name: ICPMS High Range Standa **Received:** 12-DEC-09 **Catalog Number :** 160212-02-01
Type: Source Material **Expires:** 12-DEC-10 **Lot Number :** 1018064
Employee: Paul Boyd **Solvent :** 2%HNO3 + Tr HF
Supplier: O2SI
Description: Linear Range Standard A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Arsenic	100 mg/L
Barium	250 mg/L	Beryllium	100 mg/L
Cadmium	100 mg/L	Calcium	5000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	5000 mg/L
Lead	500 mg/L	Lithium	100 mg/L

Analyte	Concentration	Analyte	Concentration
Magnesium	5000 mg/L	Manganese	100 mg/L
Nickel	100 mg/L	Phosphorous	2500 mg/L
Potassium	5000 mg/L	Selenium	50 mg/L
Sodium	5000 mg/L	Strontium	100 mg/L
Thallium	50 mg/L	Thorium	250 mg/L
Uranium	500 mg/L	Vanadium	100 mg/L
Zinc	250 mg/L		

Serial ID: UI091212-61 **Opened:** 12-DEC-09 **Amount :** .5 mL
Name: ICPMS High Range Standar **Received:** 12-DEC-09 **Catalog Number :** 160212-02-01
Type: Source Material **Expires:** 12-DEC-10 **Lot Number :** 1018064
Employee: Paul Boyd **Solvent :** 2%HNO3 + Tr HF
Supplier: O2SI
Description: Linear Range Standard B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	25 mg/L	Molybdenum	100 mg/L
Silver	25 mg/L	Tin	100 mg/L
Tungsten	100 mg/L	Zirconium	50 mg/L

Serial ID: UI091216-01 **Opened:** 16-DEC-09 **Lot Number :** 1018095
Name: METALSPIKE-1 **Received:** 16-DEC-09
Type: Source Material **Expires:** 16-DEC-10
Employee: Francena Armstrong
Supplier: OS2I
Description: Metals Spike Mix I
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 ug/mL	Arsenic	100 ug/mL
Barium	100 ug/mL	Beryllium	100 ug/mL
Boron	100 ug/mL	Cadmium	100 ug/mL
Calcium	1000 ug/mL	Cobalt	100 ug/mL
Iron	1000 ug/mL	Lead	100 ug/mL
Magnesium	1000 ug/mL	Phosphorous	100 ug/mL
Potassium	1000 ug/mL	Silver	100 ug/mL
Sodium	1000 ug/mL	Strontium	100 ug/mL

Serial ID: UI091216-06 **Opened:** 16-DEC-09 **Lot Number :** 1018096
Name: METALSPIKE-2 **Received:** 16-DEC-09
Type: Source Material **Expires:** 16-DEC-10
Employee: Francena Armstrong
Supplier: OS2I

Description: Metals Spike Mix II
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 ug/mL	Chromium	100 ug/mL
Copper	100 ug/mL	Manganese	100 ug/mL
Molybdenum	100 ug/mL	Nickel	100 ug/mL
Selenium	100 ug/mL	Silica	2141 ug/mL
Silicon	1000 ug/mL	Sulfur	1000 ug/mL
Thallium	100 ug/mL	Tin	100 ug/mL
Titanium	100 ug/mL	Uranium	100 ug/mL
Vanadium	100 ug/mL	Zinc	100 ug/mL

Serial ID: UI091217-06 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master A **Received:** 17-DEC-09 **Catalog Number :** 160055-01
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018209
Employee: Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV SOLN A - 10ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	2020 mg/L	Calcium	2000 mg/L
Iron	2000 mg/L	Magnesium	2000 mg/L
Phosphorous	2000 mg/L	Potassium	2000 mg/L
Sodium	2000 mg/L		

Serial ID: UI091217-07 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master B **Received:** 17-DEC-09 **Catalog Number :** 160054-02
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018210
Employee: Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV Soln B - 10ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	20 mg/L	Barium	20 mg/L
Beryllium	20 mg/L	Boron	40 mg/L
Cadmium	20 mg/L	Chromium	20 mg/L
Cobalt	20 mg/L	Copper	20 mg/L
Lead	20 mg/L	Lithium	20 mg/L
Manganese	20 mg/L	Nickel	20 mg/L
Selenium	20 mg/L	Strontium	20 mg/L
Thallium	20 mg/L	Thorium	20 mg/L
Uranium	20 mg/L	Vanadium	20 mg/L
Zinc	20 mg/L		

Standard Logbook

Serial ID:	UI091217-08	**Opened:**	17-DEC-09	**Amount :**	250 mL
Name:	ICP-MS ICV/CCV Master C	**Received:**	17-DEC-09	**Catalog Number :**	160054-03
Type:	Source Material	**Expires:**	17-DEC-10	**Lot Number :**	1018211
Employee:	Paul Boyd			**Solvent :**	+/- 0.5% in 5% HNO3 100 cm2
Supplier:	02SI				

Description: ICPMS ICV/CCV Soln C - 10ppm

Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	20 mg/L
Silver	20 mg/L	Tin	20 mg/L
Titanium	20 mg/L	Tungsten	20 mg/L
Zirconium	20 mg/L		

Serial ID:	UI091217-12	**Opened:**	17-DEC-09	**Amount :**	250 mL
Name:	ICP-MS ICSAB Master B	**Received:**	17-DEC-09	**Catalog Number :**	160033-02
Type:	Source Material	**Expires:**	17-DEC-10	**Lot Number :**	1018212
Employee:	Paul Boyd			**Solvent :**	+/- 0.5% in 2% HNO3
Supplier:	02SI				

Description: ICPMS ICSAB Master B

Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	2 mg/L	Barium	2 mg/L
Beryllium	2 mg/L	Boron	2 mg/L
Cadmium	2 mg/L	Chromium	2 mg/L
Cobalt	2 mg/L	Copper	2 mg/L
Lead	2 mg/L	Lithium	2 mg/L
Manganese	2 mg/L	Nickel	2 mg/L
Selenium	2 mg/L	Strontium	2 mg/L
Thallium	2 mg/L	Thorium	2 mg/L
Uranium	2 mg/L	Vanadium	2 mg/L
Zinc	2 mg/L		

Serial ID:	UI091217-13	**Opened:**	17-DEC-09	**Amount :**	250 mL
Name:	ICP-MS ICSAB Master C	**Received:**	17-DEC-09	**Catalog Number :**	160033-03
Type:	Source Material	**Expires:**	17-DEC-10	**Lot Number :**	1016926
Employee:	Paul Boyd			**Solvent :**	+/- 0.5% in 2% HNO3
Supplier:	02SI				

Description: ICPMS ICSAB Master C

Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Silver	2 mg/L
Tin	2 mg/L	Tungsten	2 mg/L
Zirconium	2 mg/L		

Standard Logbook

Serial ID: UI100114-40 **Opened:** 14-JAN-10 **Amount :** 500 mL
Name: ICP HIGH RANGE STD-A **Received:** 14-JAN-10 **Catalog Number :** 160211-05-03
Type: Source Material **Expires:** 14-JAN-11 **Lot Number :** 1018160
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3
Supplier: 02SI
Description: ICP HIGH RANGE STD SOLUTION A
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	10000 ug/L	Arsenic	10000 ug/L
Barium	15000 ug/L	Beryllium	3000 ug/L
Boron	5000 ug/L	Cadmium	10000 ug/L
Chromium	25000 ug/L	Cobalt	10000 ug/L
Copper	20000 ug/L	Lead	25000 ug/L
Manganese	10000 ug/L	Molybdenum	10000 ug/L
Nickel	10000 ug/L	Phosphorous	15000 ug/L
Potassium	300000 ug/L	Selenium	10000 ug/L
Silica	107000 ug/L	Silicon	50000 ug/L
Silver	1000 ug/L	Strontium	10000 ug/L
Sulfur	50000 ug/L	Thallium	10000 ug/L
Tin	10000 ug/L	Titanium	10000 ug/L
Vanadium	10000 ug/L	Zinc	15000 ug/L

Serial ID: UI100114-41 **Opened:** 14-JAN-10 **Amount :** 500 mL
Name: ICP HIGH RANGE STD B **Received:** 14-JAN-10 **Catalog Number :** 160211-05-03
Type: Source Material **Expires:** 14-JAN-11 **Lot Number :** 1018160
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3
Supplier: 02SI
Description: ICP HIGH RANGE STD SOLUTION B
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 ug/L	Calcium	500000 ug/L
Iron	500000 ug/L	Magnesium	500000 ug/L
Sodium	500000 ug/L	Uranium	15000 ug/L

Serial ID: UI100114-48B **Opened:** 22-JAN-10 **Amount :** 1000 mL
Name: Trace ICP ICSA **Received:** 18-JAN-10 **Catalog Number :** 160005-02
Type: Source Material **Expires:** 22-JAN-11 **Lot Number :** 1018466
Employee: Jerry Wigfall **Solvent :** 3% HCl + 1% HNO3
Supplier: o2si
Description: Trace ICP Interferent Check Standard A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 UG/L	Calcium	500000 UG/L

Analyte	Concentration	Analyte	Concentration
Iron	200000 UG/L	Magnesium	500000 UG/L

Serial ID: UI100114-49.3 **Opened:** 25-JAN-10 **Amount :** 100 ml
Name: Trace ICP ICSAB **Received:** 18-JAN-10 **Catalog Number :** 160066-04
Type: Source Material **Expires:** 26-JAN-10 **Lot Number :** 1018458
Employee: Helen Camello **Solvent :** 3% HCl + 1% HNO3
Supplier: o2si
Description: Trace ICP Inteferent Check Standard AB
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 ug/L	Antimony	500 ug/L
Arsenic	500 ug/L	Barium	500 ug/L
Beryllium	250 ug/L	Boron	500 ug/L
Cadmium	500 ug/L	Calcium	500000 ug/L
Chromium	500 ug/L	Cobalt	500 ug/L
Copper	500 ug/L	Iron	200000 ug/L
Lead	500 ug/L	Magnesium	500000 ug/L
Manganese	500 ug/L	Molybdenum	500 ug/L
Nickel	500 ug/L	Phosphorous	2500 ug/L
Potassium	5000 ug/L	Selenium	2500 ug/L
Silica	10696.5 ug/L	Silicon	5000 ug/L
Silver	250 ug/L	Sodium	5000 ug/L
Strontium	500 ug/L	Sulfur	2500 ug/L
Thallium	500 ug/L	Tin	500 ug/L
Titanium	500 ug/L	Uranium	500 ug/L
Vanadium	500 ug/L	Zinc	500 ug/L

Serial ID: UMS090303-01 **Opened:** 03-MAR-09 **Amount :** 250 mL
Name: ICPMSCalSPIKEB **Received:** 03-MAR-09 **Catalog Number :** ZGEL-100-250
Type: Source Material **Expires:** 28-FEB-10 **Lot Number :** 14-81JB
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution B
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	10 mg/L	Barium	10 mg/L
Beryllium	10 mg/L	Boron	20 mg/L
Cadmium	10 mg/L	Chromium	10 mg/L
Cobalt	10 mg/L	Copper	10 mg/L
Lead	10 mg/L	Lithium	10 mg/L
Manganese	10 mg/L	Nickel	10 mg/L
Selenium	10 mg/L	Silver	10 mg/L
Strontium	10 mg/L	Thallium	10 mg/L

Analyte	Concentration	Analyte	Concentration
Thorium	10 mg/L	Uranium	10 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

Serial ID: UMS090303-02 **Opened:** 03-MAR-09 **Catalog Number :** ZGEL-102-250
Name: ICPMSCalSPIKEA **Received:** 03-MAR-09 **Lot Number :** 14-83JB
Type: Source Material **Expires:** 28-FEB-10
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Phosphorous	1000 mg/L	Potassium	1000 mg/L
Sodium	1000 mg/L		

Serial ID: UMS090303-03 **Opened:** 03-MAR-09 **Amount :** 250 ml
Name: ICPMSCalSPIKEC **Received:** 03-MAR-09 **Catalog Number :** ZGEL-101-250
Type: Source Material **Expires:** 28-FEB-10 **Lot Number :** 15-199JB
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution C
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	10 mg/L	Molybdenum	10 mg/L
Tin	10 mg/L	Titanium	10 mg/L
Zirconium	10 mg/L		

Serial ID: IHG100120-01 **Opened:** 20-JAN-10 **Instrument Id :** Mercury
Name: MHGINTER1 **Received:** 20-JAN-10 **Pipet Id :** Minou1
Type: Intermediate **Expires:** 21-JAN-10 **Solvent :** 1mL HNO3 + Typel H2O
Employee: Tara Griffin
Supplier: GEL
Description: Mercury Intermediate 1st Source 200 ug/L
Comments: Prepare fresh daily

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Standard Logbook

Serial ID: IHG100120-02 **Opened:** 20-JAN-10 **Pipet Id :** Minou1
Name: MHGINTER2 **Received:** 20-JAN-10 **Solvent :** 2% HNO3-1257474
Type: Intermediate **Expires:** 21-JAN-10
Employee: Tara Griffin
Supplier: GEL
Description: Mercury Intermediate 2nd Source 200 ug/L
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167641-02	Mercury	999.7 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: WHG100120-07 **Opened:** 20-JAN-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS0.2CRA **Received:** 20-JAN-10 **Solvent :** 2% HNO3-1257474
Type: Working **Expires:** 27-JAN-10
Employee: Tara Griffin
Supplier: GEL
Description: Mercury Working Standard 1st Source CAL S 0.2/CRA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100120-01	Mercury	200 ug/L	30 uL	30 mL	.2 ug/L

Serial ID: WHG100120-08 **Opened:** 20-JAN-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS0.5 **Received:** 20-JAN-10 **Solvent :** 2% HNO3-1257474
Type: Working **Expires:** 27-JAN-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working Standard 1st Source CAL S 0.5
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100120-01	Mercury	200 ug/L	75 uL	30 mL	.5 ug/L

Serial ID: WHG100120-09 **Opened:** 20-JAN-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS2.0 **Received:** 20-JAN-10 **Solvent :** 2% HNO3-1257474
Type: Working **Expires:** 27-JAN-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working 1st Source CAL S 2.0
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100120-01	Mercury	200 ug/L	300 uL	30 mL	2 ug/L

Standard Logbook

Serial ID: WHG100120-10 **Opened:** 20-JAN-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS5.0CCV **Received:** 20-JAN-10 **Solvent :** 2% HNO3-1257474
Type: Working **Expires:** 27-JAN-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working 1st Source CAL S 5.0/CCV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100120-01	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

Serial ID: WHG100120-11 **Opened:** 20-JAN-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS10.0 **Received:** 20-JAN-10 **Solvent :** 2% HNO3-1257474
Type: Working **Expires:** 27-JAN-10
Employee: Tara Griffin
Supplier: GEL
Description: Mercury Working 1st Source CAL S 10.0
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100120-01	Mercury	200 ug/L	1.5 mL	30 mL	10 ug/L

Serial ID: WHG100120-12 **Opened:** 20-JAN-10 **Pipet Id :** Hg1289245
Name: MHGWORKS5.0ICV **Received:** 20-JAN-10 **Solvent :** 2% HNO3-1257474
Type: Working **Expires:** 27-JAN-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working 2nd Source S 5.0/ICV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100120-02	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

Serial ID: WHG100120-14 **Opened:** 20-JAN-10 **Pipet Id :** Hg1289245
Name: MHGSOILMSSPIKE **Received:** 20-JAN-10 **Solvent :** 2% HNO3-1257474
Type: Working **Expires:** 27-JAN-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury soil working intermediate standard for MS
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Standard Logbook

Serial ID: WI100125-42 **Opened:** 25-JAN-10 **Balance Id :** 216
Name: TRACE ICP 0.1 PPM STD. **Received:** 02-NOV-09 **Pipet Id :** 1099667
Type: Working **Expires:** 26-JAN-10 **Solvent :** 3%HCL and 1%HNO3 -1259494
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP 0.1 PPM CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI100125-44	Aluminum	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100125-44	Antimony	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Arsenic	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Barium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Beryllium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Boron	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Cadmium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Calcium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100125-44	Chromium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Cobalt	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Copper	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Iron	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100125-44	Lead	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Magnesium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100125-44	Manganese	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Molybdenum	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Nickel	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Phosphorous	5000 ug/L	10 mL	100 mL	500 ug/L
WI100125-44	Potassium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100125-44	Selenium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Silica	10698 ug/L	10 mL	100 mL	1069 ug/L
WI100125-44	Silicon	5000 ug/L	10 mL	100 mL	500 ug/L
WI100125-44	Silver	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Sodium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100125-44	Strontium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Sulfur	2000 ug/L	10 mL	100 mL	200 ug/L
WI100125-44	Thallium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Tin	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Titanium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Uranium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Vanadium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100125-44	Zinc	1000 ug/L	10 mL	100 mL	100 ug/L

Standard Logbook

Serial ID: WI100125-43 **Opened:** 25-JAN-10 **Balance Id :** 216
Name: TRACE ICP 0.5/CCV STD. **Received:** 02-NOV-09 **Pipet Id :** 1099667
Type: Working **Expires:** 26-JAN-10 **Solvent :** 3%HCL and 1%HNO3 -1259494
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP 0.5/CCV CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090828-42	Sodium	1000 ug/mL	5 mL	1000 mL	5000 UG/L
UI091015-42	Silica	2139 mg/L	2.5 mL	1000 mL	5348.25 UG/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI091102-40	Aluminum	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Barium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Beryllium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Boron	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Chromium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Copper	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Iron	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Lead	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Manganese	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Nickel	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Selenium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Strontium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Thallium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Uranium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Zinc	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Antimony	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Silver	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	1000 mL	1000 UG/L
UI091102-41	Tin	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-41	Titanium	200 mg/L	2.5 mL	1000 mL	500 UG/L

Standard Logbook

Serial ID: WI100125-44 **Opened:** 25-JAN-10 **Balance Id :** 216
Name: TRACE ICP SCAL 1.0 **Received:** 02-NOV-09 **Pipet Id :** 1099667
Type: Working **Expires:** 26-JAN-10 **Solvent :** 3%HCL and 1 %HNO3-1259494
Employee: Helen Camello
Supplier: o2si
Description: Trace ICP Calibration Standard 1.0ppm
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091015-42	Silica	2139 mg/L	2.5 mL	500 mL	10698 ug/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Aluminum	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Barium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Beryllium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Boron	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Chromium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Copper	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Iron	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Lead	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Manganese	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Nickel	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Selenium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Strontium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Thallium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Uranium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Zinc	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Antimony	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Silver	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	500 mL	2000 ug/L
UI091102-41	Tin	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Titanium	200 mg/L	2.5 mL	500 mL	1000 ug/L

Standard Logbook

Serial ID: WI100125-45 **Opened:** 25-JAN-10 **Balance Id :** 216
Name: TRACE ICP S-10 STD **Received:** 22-APR-09 **Pipet Id :** 1099667
Type: Working **Expires:** 26-JAN-10 **Solvent :** 3%HCL and 1%HNO3 -1259494
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP S-10 CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090422-40	Aluminum	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Calcium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Iron	2000 mg/L	5 mL	500 mL	20000 UG/L
UI090422-40	Magnesium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090828-42	Sodium	1000 ug/mL	10 mL	500 mL	20000 UG/L

Serial ID: WI100125-46 **Opened:** 25-JAN-10 **Balance Id :** 216
Name: ICP TRACE ICV **Received:** 25-SEP-09 **Pipet Id :** 1099667
Type: Working **Expires:** 26-JAN-10 **Solvent :** 3%HCL AND 1%HNO3-1259494
Employee: Helen Camello
Supplier: GEL
Description: Initial Calibration Verification ICP Trace Metals
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090925-40	Aluminum	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Arsenic	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Barium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Boron	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cadmium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Calcium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Chromium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cobalt	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Copper	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Iron	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Lead	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Phosphorous	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Potassium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Selenium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Sodium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Strontium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Antimony	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Beryllium	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Magnesium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-41	Manganese	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Molybdenum	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Nickel	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Silver	50 mg/L	2.5 mL	500 mL	250 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090925-41	Sulfur	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-41	Thallium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Tin	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Titanium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Uranium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Vanadium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Zinc	100 mg/L	2.5 mL	500 mL	500 ug/L
UI091102-42	Silica	2139 mg/L	2.5 mL	500 mL	10695 ug/L
UI091102-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L

Serial ID: WI100125-47 **Opened:** 25-JAN-10 **Balance Id :** 216
Name: PQL Working Standard **Received:** 30-JUN-09 **Pipet Id :** 1099667
Type: Working **Expires:** 26-JAN-10 **Solvent :** 3%HCL &1%HNO3-1259494
Employee: Helen Camello
Supplier: 02si
Description: PQL Working Standard
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-40	Aluminum	100 mg/L	2 mL	1000 mL	200 ug/L
UI090701-40	Antimony	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Arsenic	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Barium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Beryllium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Boron	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Cadmium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Calcium	100 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Chromium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Cobalt	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Copper	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Iron	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Lead	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Magnesium	150 mg/L	2 mL	1000 mL	300 ug/L
UI090701-40	Manganese	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Molybdenum	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Nickel	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Phosphorous	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Potassium	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Selenium	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Silicon	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Silver	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sodium	150 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Strontium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sulfur	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Thallium	10 mg/L	2 mL	1000 mL	20 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-40	Tin	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Titanium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Uranium	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Vanadium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Zinc	5 mg/L	2 mL	1000 mL	10 ug/L

Serial ID: WMS100114-04B **Opened:** 14-JAN-10 **Amount :** 50 mL
Name: ICPMS Cal Standard 100 **Received:** 14-JAN-10 **Balance Id :** 40245216
Type: Working **Expires:** 15-JAN-10 **Pipet Id :** 1758088
Employee: Rose Jenkins **Solvent :** 2%HNO3/1%HCl- 1238829
Supplier: GEL
Description: ICPMS Calibration Standard (100 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5	50 mL	100 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS090303-03	Tin	10 mg/L	.5	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5	50 mL	100 ug/l

Serial ID: WMS100115-04 **Opened:** 15-JAN-10 **Amount :** 50 mL
Name: ICPMS Cal Standard 100 **Received:** 15-JAN-10 **Balance Id :** 4025216
Type: Working **Expires:** 16-JAN-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl-1253206
Supplier: GEL
Description: ICPMS Calibration Standard (100 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

Serial ID: WMS100115-04A **Opened:** 15-JAN-10 **Balance Id :** 4025216
Name: ICPMS Cal Standard 10 **Received:** 15-JAN-10 **Pipet Id :** 3541598
Type: Working **Expires:** 16-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1253206
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS Calibration Standard (10 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100114-04B	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100114-04B	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100114-04B	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100114-04B	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100114-04B	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100114-04B	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100114-04B	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100114-04B	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100114-04B	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100114-04B	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100114-04B	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

Standard Logbook

Serial ID: WMS100115-05
Name: ICPMS ICV
Type: Working
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICV
Comments: None

Opened: 15-JAN-10
Received: 15-JAN-10
Expires: 16-JAN-10

Balance Id : 40245216
Pipet Id : 3541598
Solvent : 2%HNO3/1%HCl - 1253206

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

Standard Logbook

Serial ID: WMS100115-06
Name: ICPMS CRDL
Type: Working
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS CRDL
Comments: None

Opened: 15-JAN-10
Received: 15-JAN-10
Expires: 16-JAN-10

Balance Id : 40245216
Pipet Id : 3820544
Solvent : 2%HNO3/1%HCl - 1253206

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

Standard Logbook

Serial ID: WMS100115-07 **Opened:** 15-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSA **Received:** 15-JAN-10 **Lot Number :** 1010773
Type: Working **Expires:** 16-JAN-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl - 1253206
Supplier: GEL
Description: ICPMS ICSA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Serial ID: WMS100115-08 **Opened:** 15-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSAB **Received:** 15-JAN-10 **Pipet Id :** 1758088
Type: Working **Expires:** 16-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1253206
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICSAB
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L

Serial ID: WMS100115-70 **Opened:** 15-JAN-10 **Balance Id :** 40245216
Name: ICPMS LINEAR RANGE ST **Received:** 15-JAN-10 **Pipet Id :** 1758088
Type: Working **Expires:** 16-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1253206
Employee: Paul Boyd
Supplier: 02SI
Description: ICPMS LINEAR RANGE STANDARD
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-60	Aluminum	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Arsenic	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Barium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Beryllium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cadmium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Calcium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Chromium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cobalt	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Copper	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Iron	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Lead	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Lithium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Magnesium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Manganese	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Nickel	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Phosphorous	2500 mg/L	.5 mL	50 mL	25000 ug/L
UI091212-60	Potassium	5000 mg/L	.5 mL	50 mL	50000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-60	Selenium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Sodium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Strontium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Thallium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Thorium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Uranium	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Vanadium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Zinc	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-61	Antimony	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Molybdenum	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Silver	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Tin	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Tungsten	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Zirconium	50 mg/L	.5 mL	50 mL	500 ug/L

Serial ID: 1156689-A **Opened:** 20-JUL-09 **Lot Number :** 41226920
Name: B-KMnO4(VWR)-MER **Received:** 20-JUL-09
Type: Reagent/Solvent **Expires:** 20-JUL-10
Employee: Tara Griffin **Verified:** 07-AUG-07
Supplier: VWR
Description: Potassium Permanganate
Comments: None

Serial ID: 1203655-02 **Opened:** 15-OCT-09 **Lot Number :** ZU74081198 mL
Name: B-H2O2 **Received:** 15-OCT-09
Type: Reagent/Solvent **Expires:** 15-OCT-10
Employee: Francena Armstrong
Supplier: EM SCIENCE
Description: Hydrogen Peroxide 30%
Comments: None

Serial ID: 1228372-A **Opened:** 12-NOV-09 **Lot Number :** 49215936
Name: B-NH2OH.HCl-MER **Received:** 12-NOV-09
Type: Reagent/Solvent **Expires:** 12-NOV-10
Employee: Tara Griffin
Supplier: Fisher Scientific
Description: Hydroxlyamine Hydrochloride
Comments: None

Standard Logbook

Serial ID: 1236355-A **Opened:** 01-DEC-09 **Lot Number :** 200930201
Name: B-HCl-MER **Received:** 01-DEC-09
Type: Reagent/Solvent **Expires:** 01-DEC-10
Employee: Tara Griffin
Supplier: Aristar
Description: Hydrochloric Acid Conc.
Comments: None

Serial ID: 1238345 **Opened:** 04-DEC-09 **Lot Number :** H20053 L
Name: I-HNO3 **Received:** 04-DEC-09
Type: Reagent/Solvent **Expires:** 04-DEC-10
Employee: Francena Armstrong
Supplier: BAKER
Description: Nitric Acid CONC.
Comments: None

Serial ID: 1244970 **Opened:** 18-DEC-09 **Lot Number :** H41032
Name: I-HCL **Received:** 18-DEC-09 **Preservative_Id :** 5 none
Type: Reagent/Solvent **Expires:** 18-DEC-10
Employee: Francena Armstrong
Supplier: J.T. BAKER
Description: HYDROCHLORIC ACID
Comments: None

Serial ID: 1252836 **Opened:** 08-JAN-10 **Lot Number :** H20053 L
Name: I-HNO3 **Received:** 08-JAN-10
Type: Reagent/Solvent **Expires:** 08-JAN-11
Employee: Francena Armstrong
Supplier: BAKER
Description: Nitric Acid CONC.
Comments: None

Serial ID: 1252838 **Opened:** 08-JAN-10 **Lot Number :** H41032
Name: I-HCL **Received:** 08-JAN-10 **Preservative_Id :** 5 none
Type: Reagent/Solvent **Expires:** 08-JAN-11
Employee: Francena Armstrong
Supplier: J.T. BAKER
Description: HYDROCHLORIC ACID
Comments: None

Standard Logbook

Serial ID: 1253206 **Opened:** 11-JAN-10 **Solvent :** Type I Water
Name: B-2%HNO3/1%HCl-ICPMS **Received:** 11-JAN-10
Type: Reagent/Solvent **Expires:** 18-JAN-10
Employee: Paul Boyd
Supplier: GEL
Description: 2%HNO3/1%HCl Solution (Type I Water)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1238345	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1244970	I-HCL	36.5-38.0	90 mL	9 l	N/A

Serial ID: 1255532-C **Opened:** 15-JAN-10 **Balance Id :** BAL-002
Name: B-NaCl,NH2OH.HCl-MER **Received:** 15-JAN-10
Type: Reagent/Solvent **Expires:** 15-JUL-10
Employee: Tara Griffin
Supplier: GEL
Description: Hg reducing agent
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1228372-A	B-NH2OH.HCl-MER	N/A	120 g	1000 mL	N/A

Serial ID: 1255535-C **Opened:** 15-JAN-10 **Balance Id :** BAL-002
Name: B-KMnO4-MER **Received:** 15-JAN-10
Type: Reagent/Solvent **Expires:** 15-JUL-10
Employee: Tara Griffin
Supplier: GEL
Description: 5% KMnO4 solution
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1156689-A	B-KMnO4(VWR)-MER	Crystals	50 g	1000 mL	3%

Serial ID: 1257474-1 **Opened:** 20-JAN-10 **Instrument Id :** MERCURY
Name: B-HNO3-MER **Received:** 20-JAN-10 **Lot Number :** H20053
Type: Reagent/Solvent **Expires:** 20-JAN-11
Employee: Tara Griffin
Supplier: Mallinckrodt Chemicals
Description: NITRIC ACID
Comments: None

Standard Logbook

Serial ID:	1259494	**Opened:**	25-JAN-10	**Amount :**	20 L
Name:	B-ICP-RINSE SOLN	**Received:**	28-DEC-10	**Lot Number :**	H04040+G34050
Type:	Reagent/Solvent	**Expires:**	31-JAN-10	**Solvent :**	3%HCL+1%HNO3

Employee: Helen Camello

Supplier: GEL

Description: 3%HCL+1%HNO3 RINSE SOLN.

Comments: None

General Chemistry Analysis

Case Narrative

General Chemistry Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1126

Method/Analysis Information

Product:	**Cyanide, Total**		
Analytical Batch:	940215 and 940229	**Method:**	SW846 9012A
Prep Batch :	940213 and 940226	**Method:**	SW846 9010B Prep

Sample Analysis
The following samples were analyzed using the analytical protocol as established in SW846 9012A:

Sample ID	Client ID
244137001	RE12-10-7859
244137002	RE12-10-7851
244137003	RE12-10-7852
244137004	RE12-10-7850
244137005	RE12-10-7853
244137006	RE12-10-7848
244137007	RE12-10-7849
1202011987	Method Blank (MB)
1202011988	244207004(RE16-10-438) Sample Duplicate (DUP)
1202011989	244218001(RE16-10-359) Sample Duplicate (DUP)
1202011990	244207004(RE16-10-438) Matrix Spike (MS)
1202011991	244218001(RE16-10-359) Matrix Spike (MS)
1202011992	244207004(RE16-10-438) Matrix Spike Duplicate (MSD)
1202011993	244218001(RE16-10-359) Matrix Spike Duplicate (MSD)
1202011994	Laboratory Control Sample (LCS)
1202012020	Method Blank (MB)
1202012021	244137005(RE12-10-7853) Sample Duplicate (DUP)
1202012022	244137006(RE12-10-7848) Sample Duplicate (DUP)
1202012023	244137005(RE12-10-7853) Matrix Spike (MS)
1202012024	244137006(RE12-10-7848) Matrix Spike (MS)
1202012025	244137005(RE12-10-7853) Matrix Spike Duplicate (MSD)
1202012026	244137006(RE12-10-7848) Matrix Spike Duplicate (MSD)
1202012027	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-095 REV# 12.

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

Calibration Information
The Flow Injection analysis was performed on a Lachat QuickChem FIA+ 8000 Series.

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

Continuing Calibration Blanks
All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

Calibration Verification Information (CCV)
All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

Y Intercept Rule
The absolute value of the intercept is less than 3 times the MDL.

Quality Control (QC) Information

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

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Quality Control (QC) Designation
The following samples were selected for QC analysis: 244207004 (RE16-10-438), 244218001 (RE16-10-359)- Batch 940215, 244137005 (RE12-10-7853) and 244137006 (RE12-10-7848)- Batch 940229.

Matrix Spike (MS)/Post Spike (PS) Recovery Statement
The MS/PS recoveries for this sample set were within the required acceptance limits.

Matrix Spike Duplicate (MSD) Recovery Statement
The MSD recoveries for this sample set were within the required acceptance limits.

MS/MSD Relative Percent Difference (RPD) Statement
The RPDs between the spike and spike duplicate met the acceptance limits.

Duplicate Relative Percent Difference (RPD) Statement
The values for the sample and duplicate are less than the Practical Quantitation Limit (PQL); therefore, the RPD is not applicable. 1202011988 (RE16-10-438), 1202011989 (RE16-10-359)- Batch 940215, 1202012022 (RE12-10-7848) and 244137006 (RE12-10-7848)- Batch 940229.

Technical Information

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

Holding Times
All samples in this SDG met the specified holding time.

Sample Preservation/Integrity
All the samples from this sample group met the preservation and integrity requirements of the method.

Sample Dilutions
The following samples in this sample group were diluted due to high concentration: 1202011994 (LCS)- Batch 940215 and 1202012027 (LCS)- Batch 940229.

Sample Re-analysis
The samples in this SDG did not require re-analysis.

Miscellaneous Information

Data Exception (DER) Documentation
A DER was not required for this SDG.

Additional Comments
Additional comments were not required for this SDG.

Electronic Packaging Comment
This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:
Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Certification Statement

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

Review Validation:

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

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

Reviewer: Tom Lewis, Jr. **Date:** 02Feb10

Sample Data Summary

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report
for

LANL010 Los Alamos National Laboratory (72733-001-09)

Client SDG: 10-1126 GEL Work Order: 244137

The Qualifiers in this report are defined as follows:

* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.

** Indicates the analyte is a surrogate compound.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by _____

GEL LABORATORIES LLC

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Certificate of Analysis

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

Report Date: January 22, 2010

Client SDG: 10-1126

Client Sample ID:	RE12-10-7850	Project:	LANL01004
Sample ID:	244137004	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10 12:00		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	21.1%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	84.5	311	ug/kg	1	AXC2 01/12/10	1126	940215	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/11/10	1539	940213

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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

Report Date: January 22, 2010

Client SDG: 10-1126

Client Sample ID:	RE12-10-7853	Project:	LANL01004
Sample ID:	244137005	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10 12:00		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	7.24%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	J	76.5	73.3	270	ug/kg	1	AXC2 01/13/10	1134	940229	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/12/10	1551	940226

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 22, 2010

Client SDG: 10-1126

Client Sample ID:	RE12-10-7848	Project:	LANL01004
Sample ID:	244137006	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10 12:00		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	16.1%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	77.9	286	ug/kg	1	AXC2 01/13/10	1138	940229	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/12/10	1551	940226

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 22, 2010

Client SDG: 10-1126

Client Sample ID:	RE12-10-7849	Project:	LANL01004
Sample ID:	244137007	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10 12:00		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	11%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	70.8	260	ug/kg	1	AXC2 01/13/10	1141	940229	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/12/10	1551	940226

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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Contact: Ms. Joylene Valdez
Project: **LANL ER Project**

Report Date: January 22, 2010

Client SDG: 10-1126

Client Sample ID:	RE12-10-7859	Project:	LANL01004
Sample ID:	244137001	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10 12:00		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	6.91%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	63.0	232	ug/kg	1	AXC2 01/12/10	1123	940215	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/11/10	1539	940213

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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

Report Date: January 22, 2010

Client SDG: 10-1126

Client Sample ID:	RE12-10-7851	Project:	LANL01004
Sample ID:	244137002	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10 12:00		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	8.99%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	71.8	264	ug/kg	1	AXC2 01/12/10	1124	940215	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/11/10	1539	940213

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

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

Report Date: January 22, 2010

Client SDG: 10-1126

Client Sample ID:	RE12-10-7852	Project:	LANL01004
Sample ID:	244137003	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10 12:00		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	14%		

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Flow Injection Analysis										
SW9012A Cyanide, Total Federal "Dry Weight Corrected"										
Cyanide, Total	U	ND	73.2	269	ug/kg	1	AXC2 01/12/10	1125	940215	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/11/10	1539	940213

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

Quality Control Summary

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: January 22, 2010
Page 1 of 2

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

Contact: Ms. Joylene Valdez

Workorder: 244137

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Flow Injection Analysis										
Batch 940215										
QC1202011988 244207004 DUP										
Cyanide, Total	U	ND	U	ND	ug/kg	N/A			AXC2	01/12/10 11:27
QC1202011989 244218001 DUP										
Cyanide, Total	J	169	J	264	ug/kg	44.0 ^		(+/-369)		01/12/10 11:35
QC1202011994 LCS										
Cyanide, Total	67900			75300	ug/kg		111	(46%-145%)		01/12/10 11:22
QC1202011987 MB										
Cyanide, Total			U	250	ug/kg					01/12/10 11:21
QC1202011990 244207004 MS										
Cyanide, Total	6220 U	ND		5360	ug/kg		86.2	(50%-130%)		01/12/10 11:28
QC1202011991 244218001 MS										
Cyanide, Total	7230 J	169		6520	ug/kg		87.8	(50%-130%)		01/12/10 11:35
QC1202011992 244207004 MSD										
Cyanide, Total	6340 U	ND		5280	ug/kg	1.60	83.2	(0%-30%)		01/12/10 11:29
QC1202011993 244218001 MSD										
Cyanide, Total	7380 J	169		6950	ug/kg	6.43	91.9	(0%-30%)		01/12/10 11:36
Batch 940229										
QC1202012021 244137005 DUP										
Cyanide, Total	J	76.5	U	ND	ug/kg	200 ^			AXC2	01/13/10 11:35
QC1202012022 244137006 DUP										
Cyanide, Total	U	ND	U	ND	ug/kg	N/A				01/13/10 11:39
QC1202012027 LCS										
Cyanide, Total	67900			75500	ug/kg		111	(46%-145%)		01/13/10 11:30
QC1202012020 MB										
Cyanide, Total			U	250	ug/kg					01/13/10 11:29
QC1202012023 244137005 MS										
Cyanide, Total	4990 J	76.5		4990	ug/kg		98.5	(50%-130%)		01/13/10 11:36
QC1202012024 244137006 MS										
Cyanide, Total	5320 U	ND		5370	ug/kg		101	(50%-130%)		01/13/10 11:39
QC1202012025 244137005 MSD										
Cyanide, Total	5280 J	76.5		5440	ug/kg	8.67	102	(0%-30%)		01/13/10 11:37
QC1202012026 244137006 MSD										
Cyanide, Total	5420 U	ND		5630	ug/kg	4.73	104	(0%-30%)		01/13/10 11:40

Notes:
RER is calculated at the 95% confidence level (2-sigma).
The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product

QC Summary

Workorder: 244137

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

B	For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
E	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
E	Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E	Organics--Concentration of the target analyte exceeds the instrument calibration range
F	Estimated Value
H	Analytical holding time was exceeded
J	Value is estimated
M	M if above MDC and less than LLD
M	Matrix Related Failure
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	RPD or %Recovery limits do not apply.
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI	Gamma Spectroscopy--Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Instrument QC Data Summary

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 22-JAN-2010 12:19

GEL Laboratories LLC

Contract: LANL01004

SDG #: 10-1126

Flow Injection Analysis

Method: SW846 9012A Concentration Units:ug/L

Instrument: Lachat QuickChem FIA+ 8000 Series

Parmname: Cyanide, Total

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	**12-JAN-2010 11:16:16**	**OM_1-12-2010_11-08-12**	**145**	**150**	**97**	**(90%-110%)**	**Yes**
CCV	12-JAN-2010 11:30:33	OM_1-12-2010_11-08-12	98.8	100	99	(90%-110%)	Yes
CCV	12-JAN-2010 11:42:58	OM_1-12-2010_11-08-12	96.9	100	97	(90%-110%)	Yes
ICV	**13-JAN-2010 10:51:54**	**OM_1-13-2010_10-41-26**	**149**	**150**	**99**	**(90%-110%)**	**Yes**
CCV	13-JAN-2010 11:18:35	OM_1-13-2010_10-41-26	102	100	102	(90%-110%)	Yes
CCV	13-JAN-2010 11:30:57	OM_1-13-2010_10-41-26	103	100	103	(90%-110%)	Yes
CCV	13-JAN-2010 11:43:28	OM_1-13-2010_10-41-26	104	100	104	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	**12-JAN-2010 11:18:06**	**OM_1-12-2010_11-08-12**	**-1.77**	**5**	**Yes**
CCB	12-JAN-2010 11:32:23	OM_1-12-2010_11-08-12	1.8	5	Yes
CCB	12-JAN-2010 11:44:47	OM_1-12-2010_11-08-12	1.24	5	Yes
ICB	**13-JAN-2010 10:53:43**	**OM_1-13-2010_10-41-26**	**-1.32**	**5**	**Yes**
CCB	13-JAN-2010 11:20:25	OM_1-13-2010_10-41-26	-1.57	5	Yes
CCB	13-JAN-2010 11:32:47	OM_1-13-2010_10-41-26	-1.27	5	Yes
CCB	13-JAN-2010 11:45:19	OM_1-13-2010_10-41-26	-1.21	5	Yes

Cyanide, Total

Prep LogBook

Analyst: AXS5 Verified by:_____

Batch: 940213

Lab SOP: GL-GC-E-067 REV# 13

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202011994	URF1200957-01	.25	g
MS	1202011990	URF1184831-02	.025	mL
MS	1202011991	URF1184831-02	.025	mL
MSD	1202011992	URF1184831-02	.025	mL
MSD	1202011993	URF1184831-02	.025	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202011987		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.5 g	25 mL	50	SOIL
LCS	1202011994		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.25 g	25 mL	100	SOIL
SAMPLE	244137001		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.58 g	25 mL	43.10345	SOIL
SAMPLE	244137002		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	244137003		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	244137004		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244207004		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.56 g	25 mL	44.64286	SOIL
DUP	1202011988	244207004	SW846 9010B Prep	11-JAN-2010 15:39	>12	0.51 g	25 mL	49.01961	SOIL
MS	1202011990	244207004	SW846 9010B Prep	11-JAN-2010 15:39	>12	0.52 g	25 mL	48.07692	SOIL
MSD	1202011992	244207004	SW846 9010B Prep	11-JAN-2010 15:39	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244218001		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.52 g	25 mL	48.07692	SOIL
DUP	1202011989	244218001	SW846 9010B Prep	11-JAN-2010 15:39	>12	0.5 g	25 mL	50	SOIL
MS	1202011991	244218001	SW846 9010B Prep	11-JAN-2010 15:39	>12	0.51 g	25 mL	49.01961	SOIL
MSD	1202011993	244218001	SW846 9010B Prep	11-JAN-2010 15:39	>12	0.5 g	25 mL	50	SOIL
SAMPLE	244218002		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	244218003		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.55 g	25 mL	45.45455	SOIL
SAMPLE	244218004		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	244218005		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	244224001		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.55 g	25 mL	45.45455	SOIL
SAMPLE	244224002		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.58 g	25 mL	43.10345	SOIL
SAMPLE	244224003		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	244224004		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.5 g	25 mL	50	SOIL
SAMPLE	244224005		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244224006		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.5 g	25 mL	50	SOIL
SAMPLE	244224007		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.53 g	25 mL	47.16981	SOIL
SAMPLE	244224008		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.58 g	25 mL	43.10345	SOIL
SAMPLE	244224009		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.55 g	25 mL	45.45455	SOIL
SAMPLE	244224010		SW846 9010B Prep	11-JAN-2010 15:39	>12	0.55 g	25 mL	45.45455	SOIL

Prep LogBook

Reagent/Solvent Lot ID	Amount	Description
091211-C	25 mL	0.25N Sodium Hydroxide Solution
WCN100111-07	.0375 mL	150 ppb CN Distilled ICV Standard
1176724-C	1.25 mL	0.8N H3NO3S
1238146-C	2.5 mL	50% H2SO4 CN Prep
1176778-C	1 mL	51% MgCl2 Soln
1238142-C	1.25 mL	Bismuth Nitrate Solution

Comments.

Prep LogBook

Analyst: AXS5 Verified by:_____

Batch: 940226

Lab SOP: GL-GC-E-067 REV# 13

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202012027	URF1200957-01	.25	g
MS	1202012023	URF1184831-02	.025	mL
MS	1202012024	URF1184831-02	.025	mL
MSD	1202012025	URF1184831-02	.025	mL
MSD	1202012026	URF1184831-02	.025	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202012020		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.5 g	25 mL	50	SOIL
LCS	1202012027		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.25 g	25 mL	100	SOIL
SAMPLE	244137005		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.5 g	25 mL	50	SOIL
DUP	1202012021	244137005	SW846 9010B Prep	12-JAN-2010 15:51	>12	0.53 g	25 mL	47.16981	SOIL
MS	1202012023	244137005	SW846 9010B Prep	12-JAN-2010 15:51	>12	0.54 g	25 mL	46.2963	SOIL
MSD	1202012025	244137005	SW846 9010B Prep	12-JAN-2010 15:51	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244137006		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.52 g	25 mL	48.07692	SOIL
DUP	1202012022	244137006	SW846 9010B Prep	12-JAN-2010 15:51	>12	0.56 g	25 mL	44.64286	SOIL
MS	1202012024	244137006	SW846 9010B Prep	12-JAN-2010 15:51	>12	0.56 g	25 mL	44.64286	SOIL
MSD	1202012026	244137006	SW846 9010B Prep	12-JAN-2010 15:51	>12	0.55 g	25 mL	45.45455	SOIL
SAMPLE	244137007		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	244144001		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	244144002		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.55 g	25 mL	45.45455	SOIL
SAMPLE	244144003		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.56 g	25 mL	44.64286	SOIL
SAMPLE	244144004		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.5 g	25 mL	50	SOIL
SAMPLE	244144005		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244144006		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.53 g	25 mL	47.16981	SOIL
SAMPLE	244144007		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244144008		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.57 g	25 mL	43.85965	SOIL
SAMPLE	244144009		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244144010		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.55 g	25 mL	45.45455	SOIL
SAMPLE	244144011		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	244144012		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.55 g	25 mL	45.45455	SOIL
SAMPLE	244144013		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244144014		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244144015		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244144016		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	244144017		SW846 9010B Prep	12-JAN-2010 15:51	>12	0.56 g	25 mL	44.64286	SOIL

Prep LogBook

Reagent/Solvent Lot ID	Amount	Description
091211-C	25 mL	0.25N Sodium Hydroxide Solution
WCN100112-07	.0375 mL	150 ppb CN Distilled ICV Standard
1176724-C	1.25 mL	0.8N H3NO3S
1238146-C	2.5 mL	50% H2SO4 CN Prep
1176778-C	1 mL	51% MgCl2 Soln
1238142-C	1.25 mL	Bismuth Nitrate Solution

Comments:

This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axc2	1/12/2010 11:09:07	OM_1-12-2010_11-08-12
150 ppb		1	axc2	1/12/2010 11:10:00	OM_1-12-2010_11-08-12
100 ppb		1	axc2	1/12/2010 11:10:52	OM_1-12-2010_11-08-12
50 ppb		1	axc2	1/12/2010 11:11:45	OM_1-12-2010_11-08-12
10 ppb		1	axc2	1/12/2010 11:12:38	OM_1-12-2010_11-08-12
CRDL 5.0 ppb		1	axc2	1/12/2010 11:13:32	OM_1-12-2010_11-08-12
ICAL-00		1	axc2	1/12/2010 11:14:26	OM_1-12-2010_11-08-12
ICV		1	axc2	1/12/2010 11:16:16	OM_1-12-2010_11-08-12
ICB		1	axc2	1/12/2010 11:18:06	OM_1-12-2010_11-08-12
CRDL		1	axc2	1/12/2010 11:19:56	OM_1-12-2010_11-08-12
1202011987	940215	1	axc2	1/12/2010 11:21:45	OM_1-12-2010_11-08-12
1202011994	940215	25	axc2	1/12/2010 11:22:38	OM_1-12-2010_11-08-12
244137001	940215	1	axc2	1/12/2010 11:23:31	OM_1-12-2010_11-08-12
244137002	940215	1	axc2	1/12/2010 11:24:25	OM_1-12-2010_11-08-12
244137003	940215	1	axc2	1/12/2010 11:25:17	OM_1-12-2010_11-08-12
244137004	940215	1	axc2	1/12/2010 11:26:10	OM_1-12-2010_11-08-12
244207004	940215	1	axc2	1/12/2010 11:27:03	OM_1-12-2010_11-08-12
1202011988	940215	1	axc2	1/12/2010 11:27:55	OM_1-12-2010_11-08-12
1202011990	940215	1	axc2	1/12/2010 11:28:48	OM_1-12-2010_11-08-12
1202011992	940215	1	axc2	1/12/2010 11:29:40	OM_1-12-2010_11-08-12
CCV		1	axc2	1/12/2010 11:30:33	OM_1-12-2010_11-08-12
CCB		1	axc2	1/12/2010 11:32:23	OM_1-12-2010_11-08-12
244218001	940215	1	axc2	1/12/2010 11:34:11	OM_1-12-2010_11-08-12
1202011989	940215	1	axc2	1/12/2010 11:35:02	OM_1-12-2010_11-08-12
1202011991	940215	1	axc2	1/12/2010 11:35:54	OM_1-12-2010_11-08-12
1202011993	940215	1	axc2	1/12/2010 11:36:46	OM_1-12-2010_11-08-12
244218002	940215	1	axc2	1/12/2010 11:37:38	OM_1-12-2010_11-08-12
244218003	940215	1	axc2	1/12/2010 11:38:32	OM_1-12-2010_11-08-12
244218004	940215	1	axc2	1/12/2010 11:39:25	OM_1-12-2010_11-08-12
244218005*	940215	1	axc2	1/12/2010 11:40:19	OM_1-12-2010_11-08-12
244224001	940215	1	axc2	1/12/2010 11:41:12	OM_1-12-2010_11-08-12
244224002	940215	1	axc2	1/12/2010 11:42:05	OM_1-12-2010_11-08-12
CCV		1	axc2	1/12/2010 11:42:58	OM_1-12-2010_11-08-12
CCB		1	axc2	1/12/2010 11:44:47	OM_1-12-2010_11-08-12
244224003	940215	1	axc2	1/12/2010 11:46:36	OM_1-12-2010_11-08-12
244224004	940215	1	axc2	1/12/2010 11:47:29	OM_1-12-2010_11-08-12
244224005	940215	1	axc2	1/12/2010 11:48:22	OM_1-12-2010_11-08-12
244224006	940215	1	axc2	1/12/2010 11:49:14	OM_1-12-2010_11-08-12
244224007	940215	1	axc2	1/12/2010 11:50:07	OM_1-12-2010_11-08-12
244224008	940215	1	axc2	1/12/2010 11:50:59	OM_1-12-2010_11-08-12
244224009	940215	1	axc2	1/12/2010 11:51:51	OM_1-12-2010_11-08-12
244224010	940215	1	axc2	1/12/2010 11:52:44	OM_1-12-2010_11-08-12
1202010616	939574	1	axc2	1/12/2010 11:53:35	OM_1-12-2010_11-08-12
1202010626	939574	1	axc2	1/12/2010 11:54:27	OM_1-12-2010_11-08-12
CCV		1	axc2	1/12/2010 11:55:19	OM_1-12-2010_11-08-12
CCB		1	axc2	1/12/2010 11:57:09	OM_1-12-2010_11-08-12
244017002	939574	1	axc2	1/12/2010 11:58:59	OM_1-12-2010_11-08-12
244032002	939574	1	axc2	1/12/2010 11:59:53	OM_1-12-2010_11-08-12
1202010619	939574	1	axc2	1/12/2010 12:00:46	OM_1-12-2010_11-08-12
1202010622	939574	1	axc2	1/12/2010 12:01:40	OM_1-12-2010_11-08-12
1202010625	939574	1	axc2	1/12/2010 12:02:33	OM_1-12-2010_11-08-12
244038001	939574	1	axc2	1/12/2010 12:03:27	OM_1-12-2010_11-08-12
1202010618	939574	1	axc2	1/12/2010 12:04:19	OM_1-12-2010_11-08-12
1202010621	939574	1	axc2	1/12/2010 12:05:12	OM_1-12-2010_11-08-12
1202010624	939574	1	axc2	1/12/2010 12:06:05	OM_1-12-2010_11-08-12
244038002	939574	1	axc2	1/12/2010 12:06:58	OM_1-12-2010_11-08-12
CCV		1	axc2	1/12/2010 12:07:50	OM_1-12-2010_11-08-12
CCB		1	axc2	1/12/2010 12:09:40	OM_1-12-2010_11-08-12

244038003	939574	1	axc2	1/12/2010 12:11:28	OM_1-12-2010_11-08-12
244038004	939574	1	axc2	1/12/2010 12:12:21	OM_1-12-2010_11-08-12
244041001	939574	1	axc2	1/12/2010 12:13:13	OM_1-12-2010_11-08-12
1202010617	939574	1	axc2	1/12/2010 12:14:05	OM_1-12-2010_11-08-12
1202010620	939574	1	axc2	1/12/2010 12:14:57	OM_1-12-2010_11-08-12
1202010623	939574	1	axc2	1/12/2010 12:15:52	OM_1-12-2010_11-08-12
244069002	939574	1	axc2	1/12/2010 12:16:45	OM_1-12-2010_11-08-12
244080002	939574	1	axc2	1/12/2010 12:17:39	OM_1-12-2010_11-08-12
244129001	939574	1	axc2	1/12/2010 12:18:33	OM_1-12-2010_11-08-12
244129002	939574	1	axc2	1/12/2010 12:19:26	OM_1-12-2010_11-08-12
CCV		1	axc2	1/12/2010 12:20:19	OM_1-12-2010_11-08-12
CCB		1	axc2	1/12/2010 12:22:09	OM_1-12-2010_11-08-12
244129003*	939574	1	axc2	1/12/2010 12:23:58	OM_1-12-2010_11-08-12
244141001*	939574	1	axc2	1/12/2010 12:24:51	OM_1-12-2010_11-08-12
244141002*	939574	1	axc2	1/12/2010 12:25:44	OM_1-12-2010_11-08-12
244145001*	939574	1	axc2	1/12/2010 12:26:37	OM_1-12-2010_11-08-12
244208001*	939574	1	axc2	1/12/2010 12:27:30	OM_1-12-2010_11-08-12
244208002*	939574	1	axc2	1/12/2010 12:28:23	OM_1-12-2010_11-08-12
244213001*	939574	1	axc2	1/12/2010 12:29:15	OM_1-12-2010_11-08-12
244217001*	939574	1	axc2	1/12/2010 12:30:07	OM_1-12-2010_11-08-12
244217002*	939574	1	axc2	1/12/2010 12:30:59	OM_1-12-2010_11-08-12
CCV		1	axc2	1/12/2010 12:31:52	OM_1-12-2010_11-08-12

Author: axc2 Date : 1/12/2010

Original Run Filename: OM_1-12-2010_11-08-12.OMN created 1/12/2010 11:08:12
Original Run Author's Signature: [axc2]
Current Run Filename: OM_1-12-2010_11-08-12.OMN last modified 1/12/2010 12:32:57
Current Run Author's Signature: [axc2]
Description: GL-GC-E-095 EPA 335.1, 335.3, 335.4, 9012A, CLP335.2-M
Liquid LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1 TCYANIDE Conc. (ug/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WCN100112-01	1	S1	200	7.94	1/12/2010@11:09:07			200 ppb
WCN100112-02	1	S2	150	6.02	1/12/2010@11:10:00			150 ppb
WCN100112-03	1	S3	100	3.87	1/12/2010@11:10:52			100 ppb
WCN100112-04	1	S4	50.0	2.13	1/12/2010@11:11:45			50 ppb
WCN100112-05	1	S5	10.0	0.488	1/12/2010@11:12:38			10 ppb
WCN100112-06	1	S6	5.00	0.309	1/12/2010@11:13:32			CRDL 5.0 ppb
WCN100112-08	1	S7	0.00	0.00873	1/12/2010@11:14:26			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
		Result:	0.99970 > 0.99500					
		Message	Pass					
		Action	Continue					
WCN100112-07	1	S8	145	5.76	1/12/2010@11:16:16			ICV
		Known Conc:	150					
DQM Test: > + Percent Relative Difference								
		Result:	-3.6 < 10.0					
		Message	ICV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-3.6 < 10.0					
		Message	ICV Passed					
		Action	Continue					
		Calibration:	Table/Fig. 1					
WCN100112-08	1	S7	-1.77	0.00574	1/12/2010@11:18:06			ICB/CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.77 < 5.01					
		Message	ICB/CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.77 > -5.01					
		Message	ICB/CCB Passed					
		Action	Continue					
WCN100112-06	1	S6	5.80	0.303	1/12/2010@11:19:56			CRDL
		Known Conc:	5.00					
DQM Test: > + Concentration Limit								
		Result:	5.80 < 7.50					
		Message	CRDL Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	5.80 > 2.50					
		Message	Pass					
		Action	None					
1202011987|940215|MB	1	1	-1.57	0.0133	1/12/2010@11:21:45			
1202011994||LCS	1	2	30.1	1.26	1/12/2010@11:22:38		25.00	
244137001	1	3	1.04	0.116	1/12/2010@11:23:31			
244137002	1	4	-0.267	0.0647	1/12/2010@11:24:25			
244137003	1	5	0.553	0.0969	1/12/2010@11:25:17			
244137004	1	6	0.0801	0.0783	1/12/2010@11:26:10			
244207004	1	7	0.151	0.0811	1/12/2010@11:27:03			
1202011988||DUP	1	8	-0.229	0.0662	1/12/2010@11:27:55			
1202011990||MS	1	9	86.3	3.47	1/12/2010@11:28:48			
1202011992||MSD	1	10	83.3	3.35	1/12/2010@11:29:40			
WCN100112-03	1	S3	98.8	3,96	1/12/2010@11:30:33			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	-1.2 < 10.0					

		Message	CCV Passed					
		Action	Continue					
			DQM Test: < - Percent Relative Difference					
		Result:	-1.2 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100112-08	1	S7	1.80	0.146	1/12/2010@11:32:23			CCB
		Known Conc:	0.00					
			DQM Test: > + Concentration Limit					
		Result:	1.80 < 5.00					
		Message	CCB Passed					
		Action	Continue					
			DQM Test: < - Concentration Limit					
		Result:	1.80 > -5.00					
		Message	CCB Passed					
		Action	Continue					
244218001	1	11	2.38	0.169	1/12/2010@11:34:11			
1202011989||DUP	1	12	3.58	0.216	1/12/2010@11:35:02			
1202011991||MS	1	13	90.1	3.62	1/12/2010@11:35:54			
1202011993||MSD	1	14	94.2	3.78	1/12/2010@11:36:46			
244218002	1	15	7.26	0.361	1/12/2010@11:37:38			
244218003	1	16	6.17	0.318	1/12/2010@11:38:32			
244218004	1	17	3.93	0.230	1/12/2010@11:39:25			
244218005	1	18	7.79	0.381	1/12/2010@11:40:19			
244224001	1	19	1.11	0.119	1/12/2010@11:41:12			
244224002	1	20	0.132	0.0804	1/12/2010@11:42:05			
WCN100112-03	1	S3	96.9	3.88	1/12/2010@11:42:58			CCV
		Known Conc:	100					
			DQM Test: > + Percent Relative Difference					
		Result:	-3.1 < 10.0					
		Message	CCV Passed					
		Action	Continue					
			DQM Test: < - Percent Relative Difference					
		Result:	-3.1 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100112-08	1	S7	1.24	0.124	1/12/2010@11:44:47			CCB
		Known Conc:	0.00					
			DQM Test: > + Concentration Limit					
		Result:	1.24 < 5.00					
		Message	CCB Passed					
		Action	Continue					
			DQM Test: < - Concentration Limit					
		Result:	1.24 > -5.00					
		Message	CCB Passed					
		Action	Continue					
244224003	1	21	6.68	0.338	1/12/2010@11:46:36			
244224004	1	22	0.274	0.0860	1/12/2010@11:47:29			
244224005	1	23	6.44	0.328	1/12/2010@11:48:22			
244224006	1	24	2.57	0.176	1/12/2010@11:49:14			
244224007	1	25	6.77	0.341	1/12/2010@11:50:07			
244224008	1	26	0.952	0.113	1/12/2010@11:50:59			
244224009	1	27	5.13	0.277	1/12/2010@11:51:51			
244224010	1	28	1.33	0.127	1/12/2010@11:52:44			
1202010616|939574|MB	1	29	-1.88	0.00114	1/12/2010@11:53:35			
1202010626||LCS	1	30	48.8	1.99	1/12/2010@11:54:27			
WCN100112-03	1	S3	97.9	3.92	1/12/2010@11:55:19			CCV
		Known Conc:	100					
			DQM Test: > + Percent Relative Difference					
		Result:	-2.1 < 10.0					
		Message	CCV Passed					
		Action	Continue					
			DQM Test: < - Percent Relative Difference					
		Result:	-2.1 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100112-08	1	S7	1.11	0.119	1/12/2010@11:57:09			CCB
		Known Conc:	0.00					

DQM Test: > + Concentration Limit								
		Result:	1.11 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	1.11 > -5.00					
		Message	CCB Passed					
		Action	Continue					
244017002	1	31	91.7	3.68	1/12/2010@11:58:59			
244032002	1	32	2.39	0.169	1/12/2010@11:59:53			
1202010619||DUP	1	33	-0.641	0.0500	1/12/2010@12:00:46			
1202010622||MS	1	34	96.7	3.88	1/12/2010@12:01:40			
1202010625||MSD	1	35	106	4.23	1/12/2010@12:02:33			
244038001	1	36	1.96	0.152	1/12/2010@12:03:27			
1202010618||DUP	1	37	-0.657	0.0494	1/12/2010@12:04:19			
1202010621||MS	1	38	101	4.04	1/12/2010@12:05:12			
1202010624||MSD	1	39	105	4.21	1/12/2010@12:06:05			
244038002	1	40	2.36	0.168	1/12/2010@12:06:58			
WCN100112-03	1	S3	97.1	3.89	1/12/2010@12:07:50			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	-2.9 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-2.9 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100112-08	1	S7	1.77	0.145	1/12/2010@12:09:40			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	1.77 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	1.77 > -5.00					
		Message	CCB Passed					
		Action	Continue					
244038003	1	41	-1.09	0.0323	1/12/2010@12:11:28			
244038004	1	42	-1.38	0.0208	1/12/2010@12:12:21			
244041001	1	43	-0.838	0.0423	1/12/2010@12:13:13			
1202010617||DUP	1	44	-1.41	0.0196	1/12/2010@12:14:05			
1202010620||MS	1	45	33.0	1.37	1/12/2010@12:14:57			
1202010623||MSD	1	46	34.1	1.42	1/12/2010@12:15:52			
244069002	1	47	15.1	0.669	1/12/2010@12:16:45			
244080002	1	48	53.7	2.19	1/12/2010@12:17:39			
244129001	1	49	1.22	0.123	1/12/2010@12:18:33			
244129002	1	50	-1.56	0.0139	1/12/2010@12:19:26			
WCN100112-03	1	S3	96.9	3.89	1/12/2010@12:20:19			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	-3.1 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-3.1 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100112-08	1	S7	1.19	0.122	1/12/2010@12:22:09			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	1.19 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	1.19 > -5.00					
		Message	CCB Passed					
		Action	Continue					

244129003	1	51	-1.28	0.0250	1/12/2010@12:23:58			
244141001	1	52	-1.79	0.00481	1/12/2010@12:24:51			
244141002	1	53	-1.59	0.0126	1/12/2010@12:25:44			
244145001	1	54	-1.29	0.0245	1/12/2010@12:26:37			
244208001	1	55	-2.04	-0.00515	1/12/2010@12:27:30			
244208002	1	56	-1.71	0.00813	1/12/2010@12:28:23			
244213001	1	57	-1.90	3.21e-4	1/12/2010@12:29:15			
244217001	1	58	-2.17	-0.0101	1/12/2010@12:30:07			
244217002	1	59	-1.27	0.0253	1/12/2010@12:30:59			
WCN100112-03	1	S3	17.8	0.775	1/12/2010@12:31:52			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	-82.2 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-82.2 < 10.0					
		Message	CCV Failed					
		Action	Stop Run					

Analyte Properties Table for OM_1-12-2010_11-08-12.OMN

Property	Channel 1
	TCYANIDE
Concentration Units	ug/L
Callibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39

Author: axc2 Date : 1/12/2010

Channel 1: Current View

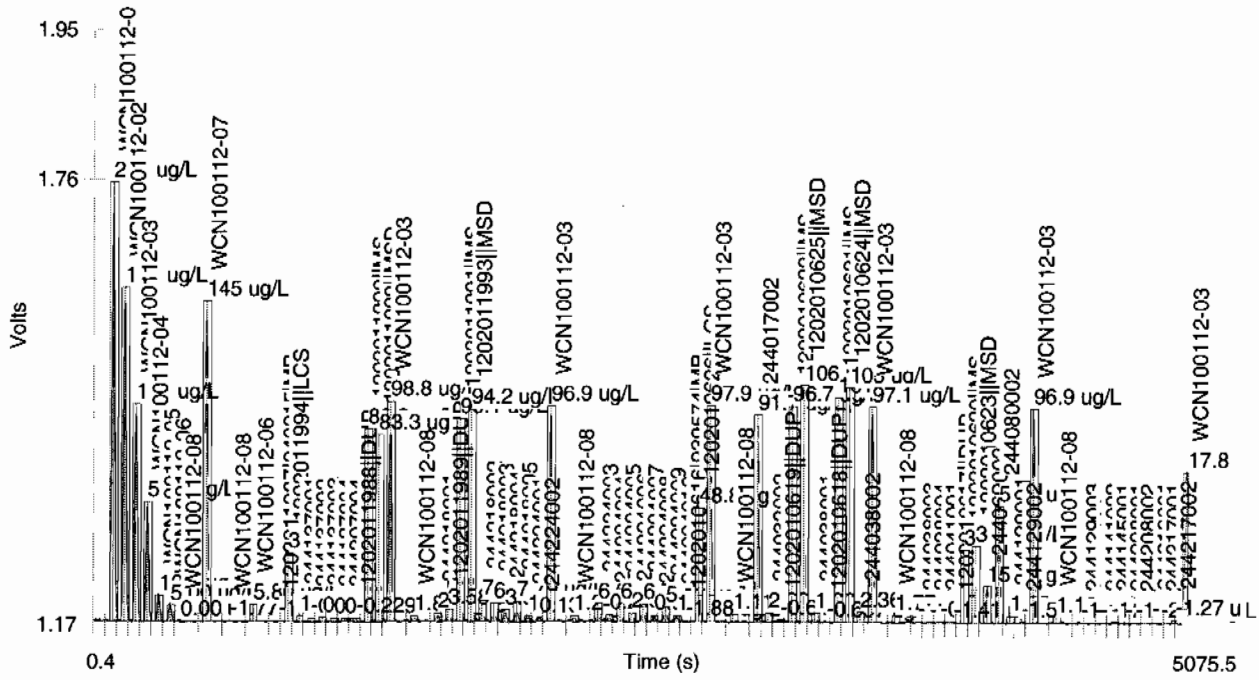
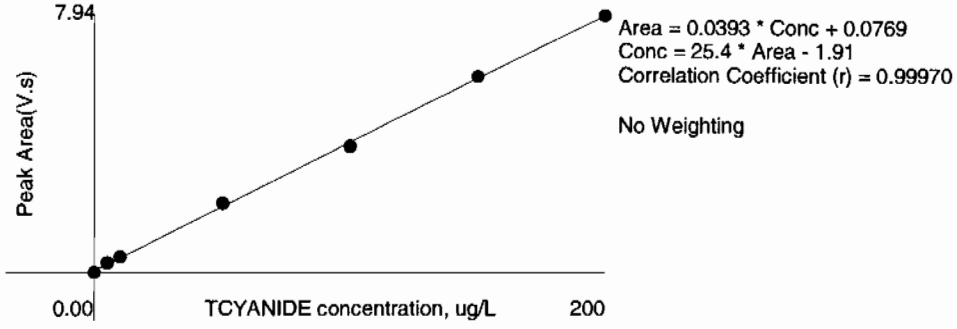


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	7.94	0.578	-0.0	1/12/2010	11:10:10
2	150	1	6.02	0.438	-0.8	1/12/2010	11:11:02
3	100	1	3.87	0.285	3.3	1/12/2010	11:11:55
4	50.0	1	2.13	0.156	-4.6	1/12/2010	11:12:48
5	10.0	1	0.488	0.0340	-3.9	1/12/2010	11:13:41
6	5.00	1	0.309	0.0212	-12.9	1/12/2010	11:14:35
7	0.00	1	0.00873	7.24e-4		1/12/2010	11:15:29

Figure 1: TCYANIDE



This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axc2	1/13/2010 10:44:45	OM_1-13-2010_10-41-26
150 ppb		1	axc2	1/13/2010 10:45:37	OM_1-13-2010_10-41-26
100 ppb		1	axc2	1/13/2010 10:46:29	OM_1-13-2010_10-41-26
50 ppb		1	axc2	1/13/2010 10:47:22	OM_1-13-2010_10-41-26
10 ppb		1	axc2	1/13/2010 10:48:16	OM_1-13-2010_10-41-26
CRDL 5.0 ppb		1	axc2	1/13/2010 10:49:09	OM_1-13-2010_10-41-26
ICAL-00		1	axc2	1/13/2010 10:50:03	OM_1-13-2010_10-41-26
ICV		1	axc2	1/13/2010 10:51:54	OM_1-13-2010_10-41-26
ICB		1	axc2	1/13/2010 10:53:43	OM_1-13-2010_10-41-26
CRDL		1	axc2	1/13/2010 10:55:33	OM_1-13-2010_10-41-26
1202012035	940232	1	axc2	1/13/2010 10:57:23	OM_1-13-2010_10-41-26
1202012042	940232	25	axc2	1/13/2010 10:58:16	OM_1-13-2010_10-41-26
244144018	940232	1	axc2	1/13/2010 10:59:09	OM_1-13-2010_10-41-26
1202012036	940232	1	axc2	1/13/2010 11:00:02	OM_1-13-2010_10-41-26
1202012038	940232	1	axc2	1/13/2010 11:00:55	OM_1-13-2010_10-41-26
1202012040	940232	1	axc2	1/13/2010 11:01:48	OM_1-13-2010_10-41-26
244207001	940232	1	axc2	1/13/2010 11:02:40	OM_1-13-2010_10-41-26
1202012037	940232	1	axc2	1/13/2010 11:03:33	OM_1-13-2010_10-41-26
1202012039	940232	1	axc2	1/13/2010 11:04:26	OM_1-13-2010_10-41-26
1202012041	940232	1	axc2	1/13/2010 11:05:18	OM_1-13-2010_10-41-26
CCV		1	axc2	1/13/2010 11:06:10	OM_1-13-2010_10-41-26
CCB		1	axc2	1/13/2010 11:08:00	OM_1-13-2010_10-41-26
244207002	940232	1	axc2	1/13/2010 11:09:48	OM_1-13-2010_10-41-26
244207003	940232	1	axc2	1/13/2010 11:10:40	OM_1-13-2010_10-41-26
244207005	940232	1	axc2	1/13/2010 11:11:32	OM_1-13-2010_10-41-26
244207006	940232	1	axc2	1/13/2010 11:12:24	OM_1-13-2010_10-41-26
244214001	940232	1	axc2	1/13/2010 11:13:16	OM_1-13-2010_10-41-26
244214002	940232	1	axc2	1/13/2010 11:14:09	OM_1-13-2010_10-41-26
244214003	940232	1	axc2	1/13/2010 11:15:03	OM_1-13-2010_10-41-26
244214004	940232	1	axc2	1/13/2010 11:15:56	OM_1-13-2010_10-41-26
244214005	940232	1	axc2	1/13/2010 11:16:49	OM_1-13-2010_10-41-26
244214006	940232	1	axc2	1/13/2010 11:17:42	OM_1-13-2010_10-41-26
CCV		1	axc2	1/13/2010 11:18:35	OM_1-13-2010_10-41-26
CCB		1	axc2	1/13/2010 11:20:25	OM_1-13-2010_10-41-26
244224011	940232	1	axc2	1/13/2010 11:22:14	OM_1-13-2010_10-41-26
244224012	940232	1	axc2	1/13/2010 11:23:07	OM_1-13-2010_10-41-26
244224013	940232	1	axc2	1/13/2010 11:23:59	OM_1-13-2010_10-41-26
244224014	940232	1	axc2	1/13/2010 11:24:52	OM_1-13-2010_10-41-26
244224015	940232	1	axc2	1/13/2010 11:25:45	OM_1-13-2010_10-41-26
244224016	940232	1	axc2	1/13/2010 11:26:37	OM_1-13-2010_10-41-26
244224017	940232	1	axc2	1/13/2010 11:27:29	OM_1-13-2010_10-41-26
244224018	940232	1	axc2	1/13/2010 11:28:21	OM_1-13-2010_10-41-26
1202012020	940229	1	axc2	1/13/2010 11:29:13	OM_1-13-2010_10-41-26
1202012027	940229	25	axc2	1/13/2010 11:30:05	OM_1-13-2010_10-41-26
CCV		1	axc2	1/13/2010 11:30:57	OM_1-13-2010_10-41-26
CCB		1	axc2	1/13/2010 11:32:47	OM_1-13-2010_10-41-26
244137005	940229	1	axc2	1/13/2010 11:34:38	OM_1-13-2010_10-41-26
1202012021	940229	1	axc2	1/13/2010 11:35:31	OM_1-13-2010_10-41-26
1202012023	940229	1	axc2	1/13/2010 11:36:25	OM_1-13-2010_10-41-26
1202012025	940229	1	axc2	1/13/2010 11:37:18	OM_1-13-2010_10-41-26
244137006	940229	1	axc2	1/13/2010 11:38:11	OM_1-13-2010_10-41-26
1202012022	940229	1	axc2	1/13/2010 11:39:04	OM_1-13-2010_10-41-26
1202012024	940229	1	axc2	1/13/2010 11:39:58	OM_1-13-2010_10-41-26
1202012026	940229	1	axc2	1/13/2010 11:40:51	OM_1-13-2010_10-41-26
244137007	940229	1	axc2	1/13/2010 11:41:43	OM_1-13-2010_10-41-26
244144001	940229	1	axc2	1/13/2010 11:42:36	OM_1-13-2010_10-41-26
CCV		1	axc2	1/13/2010 11:43:28	OM_1-13-2010_10-41-26
CCB		1	axc2	1/13/2010 11:45:19	OM_1-13-2010_10-41-26

244144002	940229	1	axc2	1/13/2010	11:47:07	OM_1-13-2010_10-41-26
244144003	940229	1	axc2	1/13/2010	11:47:59	OM_1-13-2010_10-41-26
244144004	940229	1	axc2	1/13/2010	11:48:51	OM_1-13-2010_10-41-26
244144005	940229	1	axc2	1/13/2010	11:49:44	OM_1-13-2010_10-41-26
244144006	940229	1	axc2	1/13/2010	11:50:35	OM_1-13-2010_10-41-26
244144007	940229	1	axc2	1/13/2010	11:51:30	OM_1-13-2010_10-41-26
244144008	940229	1	axc2	1/13/2010	11:52:24	OM_1-13-2010_10-41-26
244144009*	940229	1	axc2	1/13/2010	11:53:18	OM_1-13-2010_10-41-26
244144010	940229	1	axc2	1/13/2010	11:54:12	OM_1-13-2010_10-41-26
244144011	940229	1	axc2	1/13/2010	11:55:05	OM_1-13-2010_10-41-26
CCV		1	axc2	1/13/2010	11:55:57	OM_1-13-2010_10-41-26
CCB		1	axc2	1/13/2010	11:57:47	OM_1-13-2010_10-41-26
244144012	940229	1	axc2	1/13/2010	11:59:36	OM_1-13-2010_10-41-26
244144013	940229	1	axc2	1/13/2010	12:00:30	OM_1-13-2010_10-41-26
244144014	940229	1	axc2	1/13/2010	12:01:23	OM_1-13-2010_10-41-26
244144015	940229	1	axc2	1/13/2010	12:02:16	OM_1-13-2010_10-41-26
244144016	940229	1	axc2	1/13/2010	12:03:08	OM_1-13-2010_10-41-26
244144017	940229	1	axc2	1/13/2010	12:04:01	OM_1-13-2010_10-41-26
1202013057	940624	1	axc2	1/13/2010	12:04:54	OM_1-13-2010_10-41-26
1202013058	940624	25	axc2	1/13/2010	12:05:46	OM_1-13-2010_10-41-26
1202013059	940624	25	axc2	1/13/2010	12:06:38	OM_1-13-2010_10-41-26
244272001	940624	1	axc2	1/13/2010	12:07:30	OM_1-13-2010_10-41-26
CCV		1	axc2	1/13/2010	12:08:23	OM_1-13-2010_10-41-26
CCB		1	axc2	1/13/2010	12:10:13	OM_1-13-2010_10-41-26
244272002	940624	1	axc2	1/13/2010	12:12:03	OM_1-13-2010_10-41-26
244272003	940624	1	axc2	1/13/2010	12:12:57	OM_1-13-2010_10-41-26
244272004	940624	1	axc2	1/13/2010	12:13:52	OM_1-13-2010_10-41-26
244272005	940624	1	axc2	1/13/2010	12:14:45	OM_1-13-2010_10-41-26
1202013050	940621	1	axc2	1/13/2010	12:15:39	OM_1-13-2010_10-41-26
1202013051	940621	1	axc2	1/13/2010	12:16:32	OM_1-13-2010_10-41-26
1202013052	940621	1	axc2	1/13/2010	12:17:25	OM_1-13-2010_10-41-26
244272001	940621	1	axc2	1/13/2010	12:18:19	OM_1-13-2010_10-41-26
244272002	940621	1	axc2	1/13/2010	12:19:12	OM_1-13-2010_10-41-26
244272003	940621	1	axc2	1/13/2010	12:20:05	OM_1-13-2010_10-41-26
CCV		1	axc2	1/13/2010	12:20:57	OM_1-13-2010_10-41-26
CCB		1	axc2	1/13/2010	12:22:47	OM_1-13-2010_10-41-26
244272004	940621	1	axc2	1/13/2010	12:24:36	OM_1-13-2010_10-41-26
244272005	940621	1	axc2	1/13/2010	12:25:29	OM_1-13-2010_10-41-26
CCV		1	axc2	1/13/2010	12:26:21	OM_1-13-2010_10-41-26
CCB		1	axc2	1/13/2010	12:28:11	OM_1-13-2010_10-41-26

Author: axc2 Date : 1/13/2010

Original Run Filename: OM_1-13-2010_10-41-26.OMN created 1/13/2010 10:41:26
Original Run Author's Signature: [axc2]
Current Run Filename: OM_1-13-2010_10-41-26.OMN last modified 1/13/2010 12:29:15
Current Run Author's Signature: [axc2]
Description: GL-GC-E-095 EPA 335.1, 335.3, 335.4, 9012A, CLP335.2-M
Liquid LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1 TCYANIDE Conc. (ug/L)	Area (Vs)	Detection Time	ADF	MDF	Description
WCN100113-01	1	S1	200	7.60	1/13/2010@10:44:45			200 ppb
WCN100113-02	1	S2	150	5.78	1/13/2010@10:45:37			150 ppb
WCN100113-03	1	S3	100	3.73	1/13/2010@10:46:29			100 ppb
WCN100113-04	1	S4	50.0	2.06	1/13/2010@10:47:22			50 ppb
WCN100113-05	1	S5	10.0	0.490	1/13/2010@10:48:16			10 ppb
WCN100113-06	1	S6	5.00	0.309	1/13/2010@10:49:09			CRDL 5.0 ppb
WCN100113-08	1	S7	0.00	0.0320	1/13/2010@10:50:03			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
		Result:	0.99973 > 0.99500					
		Message	Pass					
		Action	Continue					
WCN100113-07	1	S8	149	5.68	1/13/2010@10:51:54			ICV
		Known Conc:	150					
DQM Test: > + Percent Relative Difference								
		Result:	-0.8 < 10.0					
		Message	ICV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	-0.8 < 10.0					
		Message	ICV Passed					
		Action	Continue					
		Calibration:	Table/Fig. 1					
WCN100113-08	1	S7	-1.32	0.0435	1/13/2010@10:53:43			ICB/CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.32 < 5.01					
		Message	ICB/CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.32 > -5.01					
		Message	ICB/CCB Passed					
		Action	Continue					
WCN100113-06	1	S6	6.37	0.332	1/13/2010@10:55:33			CRDL
		Known Conc:	5.00					
DQM Test: > + Concentration Limit								
		Result:	6.37 < 7.50					
		Message	CRDL Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	6.37 > 2.50					
		Message	Pass					
		Action	None					
1202012035|940232|MB	1	1	-1.87	0.0229	1/13/2010@10:57:23			
1202012042||LCS	1	2	26.2	1.08	1/13/2010@10:58:16		25.00	
244144018	1	3	-0.743	0.0651	1/13/2010@10:59:09			
1202012036||DUP	1	4	-0.792	0.0633	1/13/2010@11:00:02			
1202012038||MS	1	5	96.6	3.72	1/13/2010@11:00:55			
1202012040||MSD	1	6	95.0	3.66	1/13/2010@11:01:48			
244207001	1	7	7.80	0.386	1/13/2010@11:02:40			
1202012037||DUP	1	8	9.25	0.440	1/13/2010@11:03:33			
1202012039||MS	1	9	89.3	3.45	1/13/2010@11:04:26			
1202012041||MSD	1	10	91.1	3.52	1/13/2010@11:05:18			
WCN100113-03	1	S3	102	3.93	1/13/2010@11:06:10			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	2.0 < 10.0					

		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	2.0 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100113-08	1	S7	-1.55	0.0350	1/13/2010@11:08:00			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.55 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.55 > -5.00					
		Message	CCB Passed					
		Action	Continue					
244207002	1	11	4.20	0.251	1/13/2010@11:09:48			
244207003	1	12	0.714	0.120	1/13/2010@11:10:40			
244207005	1	13	0.784	0.122	1/13/2010@11:11:32			
244207006	1	14	0.512	0.112	1/13/2010@11:12:24			
244214001	1	15	-1.73	0.0281	1/13/2010@11:13:16			
244214002	1	16	-1.05	0.0535	1/13/2010@11:14:09			
244214003	1	17	-1.67	0.0302	1/13/2010@11:15:03			
244214004	1	18	-1.71	0.0287	1/13/2010@11:15:56			
244214005	1	19	-0.355	0.0797	1/13/2010@11:16:49			
244214006	1	20	-1.88	0.0223	1/13/2010@11:17:42			
WCN100113-03	1	S3	102	3.94	1/13/2010@11:18:35			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	2.4 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	2.4 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100113-08	1	S7	-1.57	0.0339	1/13/2010@11:20:25			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.57 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.57 > -5.00					
		Message	CCB Passed					
		Action	Continue					
244224011	1	21	3.40	0.221	1/13/2010@11:22:14			
244224012	1	22	-1.57	0.0339	1/13/2010@11:23:07			
244224013	1	23	0.416	0.109	1/13/2010@11:23:59			
244224014	1	24	-1.67	0.0302	1/13/2010@11:24:52			
244224015	1	25	-0.456	0.0759	1/13/2010@11:25:45			
244224016	1	26	-1.37	0.0417	1/13/2010@11:26:37			
244224017	1	27	-0.586	0.0710	1/13/2010@11:27:29			
244224018	1	28	2.70	0.194	1/13/2010@11:28:21			
1202012020|940229|MB	1	29	-1.47	0.0378	1/13/2010@11:29:13			
1202012027|LCS	1	30	30.2	1.23	1/13/2010@11:30:05		25.00	
WCN100113-03	1	S3	103	3.95	1/13/2010@11:30:57			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	2.7 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	2.7 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100113-08	1	S7	-1.27	0.0452	1/13/2010@11:32:47			CCB
		Known Conc:	0.00					

DQM Test: > + Concentration Limit								
		Result:	-1.27 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.27 > -5.00					
		Message	CCB Passed					
		Action	Continue					
244137005	1	31	1.42	0.147	1/13/2010@11:34:38			
1202012021||DUP	1	32	1.26	0.141	1/13/2010@11:35:31			
1202012023||MS	1	33	100	3.86	1/13/2010@11:36:25			
1202012025||MSD	1	34	103	3.97	1/13/2010@11:37:18			
244137006	1	35	0.307	0.105	1/13/2010@11:38:11			
1202012022||DUP	1	36	-0.421	0.0772	1/13/2010@11:39:04			
1202012024||MS	1	37	101	3.87	1/13/2010@11:39:58			
1202012026||MSD	1	38	104	3.99	1/13/2010@11:40:51			
244137007	1	39	-0.733	0.0655	1/13/2010@11:41:43			
244144001	1	40	0.0245	0.0940	1/13/2010@11:42:36			
WCN100113-03	1	S3	104	3.98	1/13/2010@11:43:28			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	3.5 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	3.5 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100113-08	1	S7	-1.21	0.0476	1/13/2010@11:45:19			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.21 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.21 > -5.00					
		Message	CCB Passed					
		Action	Continue					
244144002	1	41	-1.29	0.0445	1/13/2010@11:47:07			
244144003	1	42	1.09	0.134	1/13/2010@11:47:59			
244144004	1	43	-0.669	0.0679	1/13/2010@11:48:51			
244144005	1	44	1.34	0.143	1/13/2010@11:49:44			
244144006	1	45	1.23	0.139	1/13/2010@11:50:35			
244144007	1	46	-0.0212	0.0922	1/13/2010@11:51:30			
244144008	1	47	-0.108	0.0890	1/13/2010@11:52:24			
244144009	1	48	6.47	0.336	1/13/2010@11:53:18			
244144010	1	49	0.0423	0.0946	1/13/2010@11:54:12			
244144011	1	50	-0.717	0.0661	1/13/2010@11:55:05			
WCN100113-03	1	S3	103	3.97	1/13/2010@11:55:57			CCV
		Known Conc:	100					
DQM Test: > + Percent Relative Difference								
		Result:	3.2 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	3.2 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100113-08	1	S7	-1.62	0.0322	1/13/2010@11:57:47			CCB
		Known Conc:	0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.62 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.62 > -5.00					
		Message	CCB Passed					
		Action	Continue					

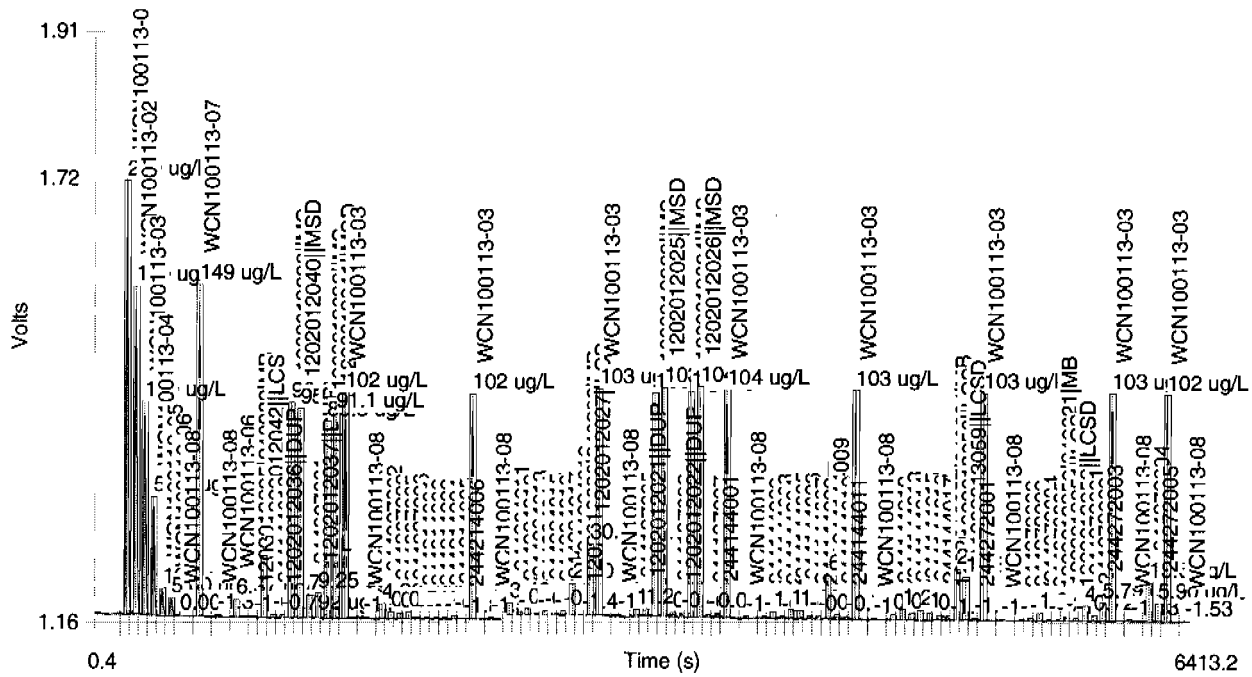
244144012	1	51	0.402	0.108	1/13/2010@11:59:36			
244144013	1	52	1.49	0.149	1/13/2010@12:00:30			
244144014	1	53	0.704	0.119	1/13/2010@12:01:23			
244144015	1	54	2.12	0.172	1/13/2010@12:02:16			
244144016	1	55	1.37	0.145	1/13/2010@12:03:08			
244144017	1	56	0.338	0.106	1/13/2010@12:04:01			
1202013057|940624|MB	1	57	-1.86	0.0233	1/13/2010@12:04:54			
1202013058||LCS	1	58	21.5	0.901	1/13/2010@12:05:46		25.00	
1202013059||LCSD	1	59	17.3	0.742	1/13/2010@12:06:38		25.00	
244272001	1	60	-1.18	0.0487	1/13/2010@12:07:30			
WCN100113-03	1	S3	103	3.96	1/13/2010@12:08:23			CCV
	Known Conc:		100					
DQM Test: > + Percent Relative Difference								
		Result:	3.1 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	3.1 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100113-08	1	S7	-1.59	0.0332	1/13/2010@12:10:13			CCB
	Known Conc:		0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.59 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.59 > -5.00					
		Message	CCB Passed					
		Action	Continue					
244272002	1	61	-1.85	0.0235	1/13/2010@12:12:03			
244272003	1	62	-1.31	0.0437	1/13/2010@12:12:57			
244272004	1	63	1.34	0.143	1/13/2010@12:13:52			
244272005	1	64	-1.59	0.0334	1/13/2010@12:14:45			
1202013050|940621|MB	1	65	-1.84	0.0239	1/13/2010@12:15:39			
1202013051||LCS	1	66	-2.98	-0.0188	1/13/2010@12:16:32			
1202013052||LCSD	1	67	-1.30	0.0440	1/13/2010@12:17:25			
244272001	1	68	4.77	0.272	1/13/2010@12:18:19			
244272002	1	69	0.727	0.120	1/13/2010@12:19:12			
244272003	1	70	5.79	0.311	1/13/2010@12:20:05			
WCN100113-03	1	S3	103	3.96	1/13/2010@12:20:57			CCV
	Known Conc:		100					
DQM Test: > + Percent Relative Difference								
		Result:	2.9 < 10.0					
		Message	CCV Passed					
		Action	Continue					
DQM Test: < - Percent Relative Difference								
		Result:	2.9 < 10.0					
		Message	CCV Passed					
		Action	Continue					
WCN100113-08	1	S7	-1.13	0.0506	1/13/2010@12:22:47			CCB
	Known Conc:		0.00					
DQM Test: > + Concentration Limit								
		Result:	-1.13 < 5.00					
		Message	CCB Passed					
		Action	Continue					
DQM Test: < - Concentration Limit								
		Result:	-1.13 > -5.00					
		Message	CCB Passed					
		Action	Continue					
244272004	1	71	15.6	0.680	1/13/2010@12:24:36			
244272005	1	72	5.90	0.315	1/13/2010@12:25:29			
WCN100113-03	1	S3	102	3.94	1/13/2010@12:26:21			CCV
	Known Conc:		100					
DQM Test: > + Percent Relative Difference								
		Result:	2.3 < 10.0					
		Message	CCV Passed					
		Action	Continue					

DQM Test: < - Percent Relative Difference								
Result:			2.3 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100113-08	1	S7	-1.53	0.0355	1/13/2010@12:28:11			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-1.53 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-1.53 > -5.00					
Message			CCB Passed					
Action			Continue					

Analyte Properties Table for OM_1-13-2010_10-41-26.OMN

Property	Channel 1 TCYANIDE
Concentration Units	ug/L
Callibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39

Channel 1: Current View

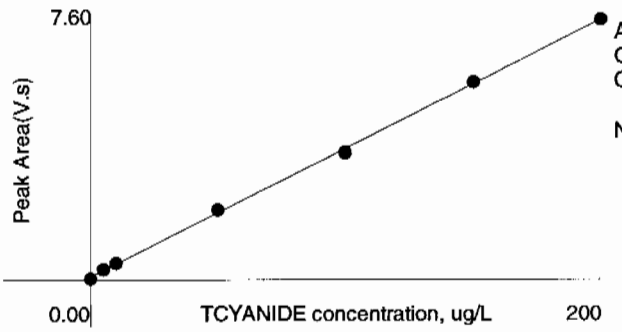


Author: axc2 Date : 1/13/2010

Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	7.60	0.546	0.0	1/13/2010	10:45:48
2	150	1	5.78	0.415	-0.9	1/13/2010	10:46:40
3	100	1	3.73	0.269	3.0	1/13/2010	10:47:32
4	50.0	1	2.06	0.148	-4.2	1/13/2010	10:48:25
5	10.0	1	0.490	0.0337	-4.3	1/13/2010	10:49:18
6	5.00	1	0.309	0.0212	-9.6	1/13/2010	10:50:12
7	0.00	1	0.0320	7.42e-4		1/13/2010	10:51:06

Figure 1: TCYANIDE



Area = 0.0375 * Conc + 0.0945
Conc = 26.6 * Area - 2.48
Correlation Coefficient (r) = 0.99973

No Weighting

RADIOLOGICAL ANALYSIS

Radiochemistry Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1126

Method/Analysis Information

Procedure:	**Dry Weight-Percent Moisture**
Analytical Method:	Dry Soil Prep
Analytical Batch Number:	940002

Sample ID	Client ID
244137001	RE12-10-7859
244137002	RE12-10-7851
244137003	RE12-10-7852
244137004	RE12-10-7850
244137005	RE12-10-7853
244137006	RE12-10-7848
244137007	RE12-10-7849
1202011557	244137001(RE12-10-7859) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-020 REV# 9.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Designated QC
The following sample was used for QC: 244137001 (RE12-10-7859). The QC was from LANL work

order 244137.

QC Information
All of the QC samples met the required acceptance limits.

CSU
Not Applicable. The blank result is less than 1.65 times the CSU.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

Data Exception (DER) Documentation
Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Additional Comments
Additional comments were not required for this sample set.

Blank Decision Level
Not Applicable. The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	**AM241**
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	940222
Prep Batch Number:	940002

Sample ID	Client ID
244137001	RE12-10-7859
244137002	RE12-10-7851
244137003	RE12-10-7852
244137004	RE12-10-7850
244137005	RE12-10-7853
244137006	RE12-10-7848
244137007	RE12-10-7849
1202012011	Method Blank (MB)
1202012012	244125002(RE12-10-7697) Sample Duplicate (DUP)
1202012013	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
Aliquot for sample 1202012011 (MB) was changed to 1.0 per client request.

Designated QC
The following sample was used for QC: 244125002 (RE12-10-7697). The QC was from LANL work order 244125.

QC Information
All of the QC samples met the required acceptance limits.

CSU
The blank result is less than 1.65 times the CSU.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

Data Exception (DER) Documentation
Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Manual Integration
No manual integrations were performed on data in this batch.

Additional Comments
The MDCs are calculated using a blank population.

Blank Decision Level
The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	**ISOPU**
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	940223
Prep Batch Number:	940002

Sample ID	Client ID
244137001	RE12-10-7859
244137002	RE12-10-7851
244137003	RE12-10-7852
244137004	RE12-10-7850
244137005	RE12-10-7853
244137006	RE12-10-7848
244137007	RE12-10-7849
1202012014	Method Blank (MB)
1202012015	244125002(RE12-10-7697) Sample Duplicate (DUP)
1202012016	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
Aliquot for sample 1202012014 (MB) was changed to 1.0 per client request.

Designated QC
The following sample was used for QC: 244125002 (RE12-10-7697). The QC was from LANL work order 244125.

QC Information
All of the QC samples met the required acceptance limits.

CSU
The blank result is less than 1.65 times the CSU.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

Data Exception (DER) Documentation
Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments
The MDCs are calculated using a blank population.

Blank Decision Level
The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	**ISOU**
Analytical Method:	DOE EML HASL-300, U-02-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	940225
Prep Batch Number:	940002

Sample ID	Client ID
244137001	RE12-10-7859
244137002	RE12-10-7851
244137003	RE12-10-7852
244137004	RE12-10-7850
244137005	RE12-10-7853
244137006	RE12-10-7848
244137007	RE12-10-7849
1202012017	Method Blank (MB)
1202012018	244125002(RE12-10-7697) Sample Duplicate (DUP)
1202012019	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 18.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met. Calibrations are performed monthly

using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
Aliquot for sample 1202012017 (MB) was changed to 1.0 per client request.

Designated QC
The following sample was used for QC: 244125002 (RE12-10-7697). The QC was from LANL work order 244125.

QC Information
All of the QC samples met the required acceptance limits.

CSU
The blank, 1202012017 (MB), result for U-238 is greater than 1.65 times the CSU but less than the MDC.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

Data Exception (DER) Documentation
Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Manual Integration
No manual integrations were performed on data in this batch.

Additional Comments
The MDCs are calculated using a blank population.

Blank Decision Level
The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	**GAMMA SPEC**
Analytical Method:	DOE HASL 300, 4.5.2.3/Ga-01-R
Prep Method:	Dry Soil Prep
Analytical Batch Number:	940263
Prep Batch Number:	940002

Sample ID	Client ID
244137001	RE12-10-7859
244137002	RE12-10-7851
244137003	RE12-10-7852
244137004	RE12-10-7850
244137005	RE12-10-7853
244137006	RE12-10-7848
244137007	RE12-10-7849
1202012144	Method Blank (MB)
1202012145	244125001(RE12-10-7698) Sample Duplicate (DUP)
1202012146	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 18.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met. The initial Calibrations were performed in January 2009, February 2009, March 2009, April 2009, May 2009, June 2009, August 2009, October 2009, November 2009 and January 2010.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 244125001 (RE12-10-7698). The QC was from LANL work order 244125.

QC Information
All of the QC samples met the required acceptance limits.

CSU
The blank, 1202012144 (MB), result for Sr-85 is greater than 1.65 times the CSU but less than the MDC.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

Data Exception (DER) Documentation
Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Additional Comments
Additional comments were not required for this sample set.

Blank Decision Level
The blank, 1202012144 (MB), result for Sr-85 is greater than the decision level but less than the MDC.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to high counting uncertainty.	Thorium-234	244137003	RE12-10-7852
			244137006	RE12-10-7848

UI	Data rejected due to interference.	Bismuth-211	244137001	RE12-10-7859
			244137002	RE12-10-7851
			244137003	RE12-10-7852
			244137004	RE12-10-7850
			244137005	RE12-10-7853
			244137006	RE12-10-7848
			244137007	RE12-10-7849
			1202012145	RE12-10-7698(244125001DUP)
		Cadmium-109	244137001	RE12-10-7859
			244137002	RE12-10-7851
			244137003	RE12-10-7852
			244137005	RE12-10-7853
			244137006	RE12-10-7848
			244137007	RE12-10-7849
			1202012145	RE12-10-7698(244125001DUP)
		Radium-224	244137001	RE12-10-7859
			244137002	RE12-10-7851
			244137003	RE12-10-7852
			244137004	RE12-10-7850
			244137005	RE12-10-7853
			244137006	RE12-10-7848
			244137007	RE12-10-7849
			1202012145	RE12-10-7698(244125001DUP)
UI	Data rejected due to low abundance.	Cadmium-109	244137004	RE12-10-7850
		Cesium-134	244137003	RE12-10-7852
			244137005	RE12-10-7853
			244137006	RE12-10-7848
			244137007	RE12-10-7849

	1202012145	RE12-10-7698(244125001DUP)
Strontium-85	244137002	RE12-10-7851
	1202012145	RE12-10-7698(244125001DUP)

Certification Statement

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

Review Validation:

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

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

Reviewer/Date: 1/21/10

SAMPLE DATA SUMMARY

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report
for

LANL010 Los Alamos National Laboratory (72733-001-09)

Client SDG: 10-1126 GEL Work Order: 244137

The Qualifiers in this report are defined as follows:

* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.

** Indicates the analyte is a surrogate compound.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by _____ 1/21/10

GEL LABORATORIES LLC

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Certificate of Analysis

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7859
Sample ID: 244137001
Matrix: R
Collect Date: 04-JAN-10
Receive Date: 08-JAN-10
Collector: Client
Moisture: 6.91%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	-0.00303	0.021	+/-0.00248	0.050	pCi/g		JXD2	01/16/10	1130	940222	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	0.00427	0.0235	+/-0.00588	0.050	pCi/g		JXD2	01/16/10	1129	940223	3
Plutonium-239/240	U	0.00142	0.0269	+/-0.00247	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.11	0.104	+/-0.0997	0.100	pCi/g		JXD2	01/19/10	0935	940225	4
Uranium-235/236		0.121	0.0647	+/-0.0239	0.100	pCi/g						
Uranium-238		1.26	0.0604	+/-0.110	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	0.191	0.348	+/-0.109	0.200	pCi/g		MXR1	01/20/10	1331	940263	5
Bismuth-211	UI	4.17	0.334	+/-0.287		pCi/g						
Bismuth-214		1.25	0.125	+/-0.0999	0.200	pCi/g						
Cadmium-109	UI	2.83	1.44	+/-0.594		pCi/g						
Cerium-139	U	-0.00985	0.0576	+/-0.0175	0.050	pCi/g						
Cesium-134	U	0.0162	0.0922	+/-0.0267	0.100	pCi/g						
Cesium-137	U	-0.0329	0.0714	+/-0.0233	0.100	pCi/g						
Cobalt-60	U	0.00468	0.0802	+/-0.0244	0.100	pCi/g						
Europium-152	U	-0.0608	0.174	+/-0.0708	0.200	pCi/g						
Lanthanum-140	U	-0.0574	0.135	+/-0.0458		pCi/g						
Lead-212		1.49	0.108	+/-0.0797	0.100	pCi/g						
Lead-214		1.45	0.116	+/-0.107	0.100	pCi/g						
Mercury-203	U	0.00775	0.0808	+/-0.0233	0.100	pCi/g						
Potassium-40		18.5	0.583	+/-1.08	1.00	pCi/g						
Radium-223	U	-0.812	1.26	+/-0.397		pCi/g						
Radium-224	UI	4.42	1.23	+/-0.705		pCi/g						
Radium-226		1.25	0.125	+/-0.0999		pCi/g						
Radium-228		1.50	0.202	+/-0.175	0.500	pCi/g						
Ruthenium-106	U	0.0171	0.557	+/-0.169	0.800	pCi/g						

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Certificate of Analysis

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7859
Sample ID: 244137001
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Sodium-22	U	-0.0161	0.0806	+/-0.0257	0.080	pCi/g						
Strontium-85	U	0.0366	0.0694	+/-0.0196		pCi/g						
Thallium-208		0.471	0.0685	+/-0.049	0.080	pCi/g						
Thorium-227	U	-0.251	0.697	+/-0.222		pCi/g						
Thorium-231	U	-0.812	1.26	+/-0.397		pCi/g						
Thorium-234	U	2.74	2.95	+/-1.10	2.00	pCi/g						
Tin-113	U	-0.0187	0.0811	+/-0.0247	0.100	pCi/g						
Uranium-235	U	-0.112	0.390	+/-0.121	0.500	pCi/g						
Yttrium-88	U	0.00611	0.0575	+/-0.0168	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	76.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	65.2	(50%-105%)

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

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

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Certificate of Analysis

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7859
Sample ID: 244137001

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

E Organics--Concentration of the target analyte exceeds the instrument calibration range
F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

GEL LABORATORIES LLC

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Certificate of Analysis

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

Report Date: January 21, 2010

Client Sample ID:	RE12-10-7851	Project:	LANL01004
Sample ID:	244137002	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	8.99%		

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.00192	0.0211	+/-0.00234	0.050	pCi/g		JXD2	01/16/10	1130	940222	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	0.00429	0.0236	+/-0.00248	0.050	pCi/g		JXD2	01/16/10	1129	940223	3
Plutonium-239/240	U	0.00286	0.027	+/-0.00404	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.31	0.0907	+/-0.110	0.100	pCi/g		JXD2	01/19/10	0935	940225	4
Uranium-235/236		0.0904	0.0563	+/-0.0198	0.100	pCi/g						
Uranium-238		1.14	0.0526	+/-0.098	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	0.0473	0.298	+/-0.0856	0.200	pCi/g		MXR1	01/20/10	1343	940263	5
Bismuth-211	UI	3.82	0.356	+/-0.334		pCi/g						
Bismuth-214		1.17	0.115	+/-0.102	0.200	pCi/g						
Cadmium-109	UI	3.11	1.38	+/-0.543		pCi/g						
Cerium-139	U	0.00862	0.0552	+/-0.0156	0.050	pCi/g						
Cesium-134	U	0.0773	0.103	+/-0.028	0.100	pCi/g						
Cesium-137	U	-0.00656	0.0681	+/-0.0204	0.100	pCi/g						
Cobalt-60	U	0.0292	0.0668	+/-0.018	0.100	pCi/g						
Europium-152	U	0.0643	0.183	+/-0.0636	0.200	pCi/g						
Lanthanum-140	U	-0.0799	0.144	+/-0.0508		pCi/g						
Lead-212		1.73	0.111	+/-0.107	0.100	pCi/g						
Lead-214		1.33	0.124	+/-0.121	0.100	pCi/g						
Mercury-203	U	0.0621	0.0787	+/-0.0217	0.100	pCi/g						
Potassium-40		19.4	0.588	+/-1.15	1.00	pCi/g						
Radium-223	U	0.00726	1.23	+/-0.364		pCi/g						
Radium-224	UI	4.15	1.19	+/-0.737		pCi/g						
Radium-226		1.17	0.115	+/-0.102		pCi/g						
Radium-228		1.35	0.244	+/-0.178	0.500	pCi/g						
Ruthenium-106	U	0.165	0.601	+/-0.170	0.800	pCi/g						
Sodium-22	U	-0.00853	0.0783	+/-0.0238	0.080	pCi/g						

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Certificate of Analysis

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7851
Sample ID: 244137002
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	UI	0.0884	0.0808	+/-0.0245		pCi/g						
Thallium-208		0.588	0.063	+/-0.0549	0.080	pCi/g						
Thorium-227	U	-0.166	0.682	+/-0.204		pCi/g						
Thorium-231	U	0.00726	1.23	+/-0.364		pCi/g						
Thorium-234	U	-0.868	2.52	+/-0.760	2.00	pCi/g						
Tin-113	U	0.027	0.085	+/-0.0247	0.100	pCi/g						
Uranium-235	U	0.127	0.393	+/-0.113	0.500	pCi/g						
Yttrium-88	U	-0.00939	0.0478	+/-0.016	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	84.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	79.1	(50%-105%)

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

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

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Certificate of Analysis

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7851
Sample ID: 244137002

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID: RE12-10-7852
Sample ID: 244137003
Matrix: R
Collect Date: 04-JAN-10
Receive Date: 08-JAN-10
Collector: Client
Moisture: 14%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.00281	0.0195	+/-0.00612	0.050	pCi/g		JXD2	01/16/10	1130	940222	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	-3.24E-10	0.0225	+/-0.00272	0.050	pCi/g		JXD2	01/16/10	1129	940223	3
Plutonium-239/240	U	0.0231	0.0257	+/-0.00635	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.47	0.106	+/-0.125	0.100	pCi/g		JXD2	01/19/10	0935	940225	4
Uranium-235/236		0.123	0.0659	+/-0.0251	0.100	pCi/g						
Uranium-238		1.55	0.0616	+/-0.131	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	0.0763	0.176	+/-0.0546	0.200	pCi/g		MXR1	01/20/10	1343	940263	5
Bismuth-211	UI	4.17	0.263	+/-0.357		pCi/g						
Bismuth-214		1.32	0.0877	+/-0.104	0.200	pCi/g						
Cadmium-109	UI	3.16	0.962	+/-0.420		pCi/g						
Cerium-139	U	-0.0147	0.0407	+/-0.0121	0.050	pCi/g						
Cesium-134	UI	0.121	0.0817	+/-0.0344	0.100	pCi/g						
Cesium-137		0.124	0.0576	+/-0.0278	0.100	pCi/g						
Cobalt-60	U	0.0243	0.0622	+/-0.0177	0.100	pCi/g						
Europium-152	U	-0.0733	0.128	+/-0.0423	0.200	pCi/g						
Lanthanum-140	U	-0.00203	0.123	+/-0.037		pCi/g						
Lead-212		1.65	0.0819	+/-0.127	0.100	pCi/g						
Lead-214		1.45	0.0916	+/-0.130	0.100	pCi/g						
Mercury-203	U	0.00942	0.0577	+/-0.017	0.100	pCi/g						
Potassium-40		20.7	0.418	+/-1.14	1.00	pCi/g						
Radium-223	U	-0.432	0.898	+/-0.330		pCi/g						
Radium-224	UI	4.94	0.932	+/-0.561		pCi/g						
Radium-226		1.32	0.0877	+/-0.104		pCi/g						
Radium-228		1.60	0.191	+/-0.155	0.500	pCi/g						
Ruthenium-106	U	0.055	0.416	+/-0.122	0.800	pCi/g						
Sodium-22	U	0.00113	0.0628	+/-0.0192	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID: RE12-10-7852
Sample ID: 244137003

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0136	0.054	+/-0.0175		pCi/g						
Thallium-208		0.536	0.047	+/-0.0481	0.080	pCi/g						
Thorium-227	U	-0.176	0.515	+/-0.160		pCi/g						
Thorium-231	U	-0.432	0.898	+/-0.330		pCi/g						
Thorium-234	UI	1.58	1.45	+/-0.638	2.00	pCi/g						
Tin-113	U	-0.0142	0.0643	+/-0.019	0.100	pCi/g						
Uranium-235	U	0.123	0.315	+/-0.0898	0.500	pCi/g						
Yttrium-88	U	0.0031	0.0439	+/-0.013	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	91.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	81.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	64.7	(50%-105%)

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

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Report Date: January 21, 2010

Client Sample ID: RE12-10-7852
Sample ID: 244137003
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID: RE12-10-7850
Sample ID: 244137004
Matrix: R
Collect Date: 04-JAN-10
Receive Date: 08-JAN-10
Collector: Client
Moisture: 21.1%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.000657	0.0209	+/-0.00196	0.050	pCi/g		JXD2	01/16/10	1130	940222	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	-0.0118	0.0217	+/-0.00657	0.050	pCi/g		JXD2	01/16/10	1129	940223	3
Plutonium-239/240	U	0.0105	0.0248	+/-0.00495	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.63	0.0922	+/-0.133	0.100	pCi/g		JXD2	01/19/10	0935	940225	4
Uranium-235/236		0.154	0.0572	+/-0.0266	0.100	pCi/g						
Uranium-238		1.78	0.0535	+/-0.144	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	-0.439	0.512	+/-0.159	0.200	pCi/g		MXR1	01/20/10	1344	940263	5
Bismuth-211	UI	3.85	0.401	+/-0.335		pCi/g						
Bismuth-214		1.18	0.127	+/-0.110	0.200	pCi/g						
Cadmium-109	UI	3.37	2.23	+/-0.704		pCi/g						
Cerium-139	U	-0.0107	0.0621	+/-0.019	0.050	pCi/g						
Cesium-134	U	0.0789	0.101	+/-0.0271	0.100	pCi/g						
Cesium-137		0.158	0.0779	+/-0.0276	0.100	pCi/g						
Cobalt-60	U	-0.00487	0.0676	+/-0.0213	0.100	pCi/g						
Europium-152	U	-0.168	0.194	+/-0.0781	0.200	pCi/g						
Lanthanum-140	U	-0.0321	0.168	+/-0.0556		pCi/g						
Lead-212		1.69	0.113	+/-0.0975	0.100	pCi/g						
Lead-214		1.34	0.140	+/-0.122	0.100	pCi/g						
Mercury-203	U	0.0395	0.0842	+/-0.0269	0.100	pCi/g						
Potassium-40		19.7	0.669	+/-1.11	1.00	pCi/g						
Radium-223	U	-0.253	1.36	+/-0.473		pCi/g						
Radium-224	UI	5.64	1.28	+/-0.895		pCi/g						
Radium-226		1.18	0.127	+/-0.110		pCi/g						
Radium-228		1.64	0.199	+/-0.179	0.500	pCi/g						
Ruthenium-106	U	0.103	0.636	+/-0.191	0.800	pCi/g						
Sodium-22	U	-0.0272	0.0706	+/-0.0236	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID: RE12-10-7850
Sample ID: 244137004

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0687	0.078	+/-0.024		pCi/g						
Thallium-208		0.543	0.0668	+/-0.0505	0.080	pCi/g						
Thorium-227	U	0.380	0.869	+/-0.247		pCi/g						
Thorium-231	U	-0.253	1.36	+/-0.473		pCi/g						
Thorium-234	U	1.21	4.16	+/-1.20	2.00	pCi/g						
Tin-113	U	-0.00559	0.0934	+/-0.028	0.100	pCi/g						
Uranium-235	U	0.278	0.471	+/-0.140	0.500	pCi/g						
Yttrium-88	U	0.00302	0.0676	+/-0.0204	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	85.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	77.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	73.7	(50%-105%)

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

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

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Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID: RE12-10-7850
Sample ID: 244137004

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID:	RE12-10-7853	Project:	LANL01004
Sample ID:	244137005	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	7.24%		

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	-0.00319	0.024	+/-0.002	0.050	pCi/g		JXD2	01/16/10	1130	940222	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	-0.00587	0.0243	+/-0.00689	0.050	pCi/g		JXD2	01/16/10	1129	940223	3
Plutonium-239/240	U	0.00147	0.0277	+/-0.00328	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.11	0.0921	+/-0.096	0.100	pCi/g		JXD2	01/19/10	0935	940225	4
Uranium-235/236		0.106	0.0572	+/-0.0217	0.100	pCi/g						
Uranium-238		1.11	0.0534	+/-0.0958	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	0.046	0.103	+/-0.0311	0.200	pCi/g		MXR1	01/20/10	1344	940263	5
Bismuth-211	UI	3.85	0.346	+/-0.297		pCi/g						
Bismuth-214		1.52	0.120	+/-0.129	0.200	pCi/g						
Cadmium-109	UI	2.67	0.947	+/-0.679		pCi/g						
Cerium-139	U	-0.0185	0.0469	+/-0.0145	0.050	pCi/g						
Cesium-134	UI	0.123	0.104	+/-0.0326	0.100	pCi/g						
Cesium-137	U	-0.0416	0.076	+/-0.0258	0.100	pCi/g						
Cobalt-60	U	0.00563	0.0869	+/-0.0256	0.100	pCi/g						
Europium-152	U	-0.0342	0.159	+/-0.0494	0.200	pCi/g						
Lanthanum-140	U	-0.0401	0.184	+/-0.0593		pCi/g						
Lead-212		1.57	0.0994	+/-0.100	0.100	pCi/g						
Lead-214		1.34	0.121	+/-0.109	0.100	pCi/g						
Mercury-203	U	0.049	0.0783	+/-0.0237	0.100	pCi/g						
Potassium-40		19.6	0.426	+/-1.24	1.00	pCi/g						
Radium-223	U	-0.559	1.11	+/-0.344		pCi/g						
Radium-224	UI	4.88	1.13	+/-0.690		pCi/g						
Radium-226		1.52	0.120	+/-0.129		pCi/g						
Radium-228		1.28	0.273	+/-0.198	0.500	pCi/g						
Ruthenium-106	U	0.469	0.684	+/-0.188	0.800	pCi/g						
Sodium-22	U	0.0417	0.0952	+/-0.0268	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID: RE12-10-7853
Sample ID: 244137005

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0485	0.0738	+/-0.0227		pCi/g						
Thallium-208		0.493	0.0723	+/-0.0526	0.080	pCi/g						
Thorium-227	U	-0.364	0.632	+/-0.210		pCi/g						
Thorium-231	U	-0.559	1.11	+/-0.344		pCi/g						
Thorium-234		1.66	0.990	+/-0.558	2.00	pCi/g						
Tin-113	U	-0.0167	0.0841	+/-0.0255	0.100	pCi/g						
Uranium-235	U	0.208	0.380	+/-0.110	0.500	pCi/g						
Yttrium-88	U	-0.00764	0.0659	+/-0.0213	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	78.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	74.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	75.8	(50%-105%)

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

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

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Certificate of Analysis

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7853
Sample ID: 244137005

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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

Report Date: January 21, 2010

Client Sample ID: RE12-10-7848
Sample ID: 244137006
Matrix: R
Collect Date: 04-JAN-10
Receive Date: 08-JAN-10
Collector: Client
Moisture: 16.1%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	0.00333	0.0219	+/-0.00331	0.050	pCi/g		JXD2	01/16/10	1130	940222	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	0.00262	0.0216	+/-0.00693	0.050	pCi/g		JXD2	01/16/10	1129	940223	3
Plutonium-239/240	U	0.00393	0.0247	+/-0.00472	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.34	0.101	+/-0.115	0.100	pCi/g		JXD2	01/19/10	0935	940225	4
Uranium-235/236		0.105	0.0627	+/-0.0218	0.100	pCi/g						
Uranium-238		1.42	0.0586	+/-0.121	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	0.112	0.197	+/-0.0619	0.200	pCi/g		MXR1	01/20/10	1345	940263	5
Bismuth-211	UI	4.53	0.325	+/-0.311		pCi/g						
Bismuth-214		1.38	0.111	+/-0.112	0.200	pCi/g						
Cadmium-109	UI	4.01	1.06	+/-0.524		pCi/g						
Cerium-139	U	0.00306	0.0486	+/-0.0149	0.050	pCi/g						
Cesium-134	UI	0.131	0.0875	+/-0.036	0.100	pCi/g						
Cesium-137		0.142	0.0583	+/-0.0344	0.100	pCi/g						
Cobalt-60	U	0.0215	0.0585	+/-0.0167	0.100	pCi/g						
Europium-152	U	-0.0831	0.143	+/-0.0495	0.200	pCi/g						
Lanthanum-140	U	-0.0256	0.126	+/-0.0402		pCi/g						
Lead-212		1.67	0.0904	+/-0.105	0.100	pCi/g						
Lead-214		1.58	0.111	+/-0.116	0.100	pCi/g						
Mercury-203	U	-0.0137	0.0659	+/-0.0198	0.100	pCi/g						
Potassium-40		24.6	0.517	+/-1.34	1.00	pCi/g						
Radium-223	U	-0.46	1.01	+/-0.317		pCi/g						
Radium-224	UI	5.43	1.03	+/-0.611		pCi/g						
Radium-226		1.38	0.111	+/-0.112		pCi/g						
Radium-228		1.53	0.194	+/-0.183	0.500	pCi/g						
Ruthenium-106	U	-0.268	0.476	+/-0.161	0.800	pCi/g						
Sodium-22	U	-0.00994	0.0612	+/-0.0196	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID: RE12-10-7848
Sample ID: 244137006

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.063	0.0659	+/-0.0202		pCi/g						
Thallium-208		0.533	0.0549	+/-0.0526	0.080	pCi/g						
Thorium-227	U	0.115	0.629	+/-0.182		pCi/g						
Thorium-231	U	-0.46	1.01	+/-0.317		pCi/g						
Thorium-234	UJ	1.71	1.67	+/-0.730	2.00	pCi/g						
Tin-113	U	-0.0216	0.0689	+/-0.0215	0.100	pCi/g						
Uranium-235	U	0.0083	0.343	+/-0.106	0.500	pCi/g						
Yttrium-88	U	-0.000189	0.0585	+/-0.0179	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	93.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	85.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	69.2	(50%-105%)

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID: RE12-10-7848
Sample ID: 244137006

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID:	RE12-10-7849	Project:	LANL01004
Sample ID:	244137007	Client ID:	LANL010
Matrix:	R		
Collect Date:	04-JAN-10		
Receive Date:	08-JAN-10		
Collector:	Client		
Moisture:	11%		

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
"As Received"												
Rad Alpha Spec Analysis												
AM241 "Dry Weight Corrected"												
Americium-241	U	-0.00182	0.022	+/-0.00277	0.050	pCi/g		JXD2	01/16/10	1130	940222	2
ISOPU "Dry Weight Corrected"												
Plutonium-238	U	0.0014	0.0231	+/-0.0014	0.050	pCi/g		JXD2	01/16/10	1129	940223	3
Plutonium-239/240	U	-0.0056	0.0265	+/-0.00396	0.050	pCi/g						
ISOU "Dry Weight Corrected"												
Uranium-233/234		1.06	0.0883	+/-0.0917	0.100	pCi/g		JXD2	01/19/10	0935	940225	4
Uranium-235/236		0.0669	0.0548	+/-0.016	0.100	pCi/g						
Uranium-238		1.04	0.0512	+/-0.0903	0.100	pCi/g						
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Americium-241	U	-0.00728	0.0748	+/-0.0245	0.200	pCi/g		MXR1	01/20/10	1345	940263	5
Bismuth-211	UI	4.32	0.266	+/-0.316		pCi/g						
Bismuth-214		1.31	0.110	+/-0.112	0.200	pCi/g						
Cadmium-109	UI	3.53	0.708	+/-0.361		pCi/g						
Cerium-139	U	0.0268	0.0429	+/-0.012	0.050	pCi/g						
Cesium-134	UI	0.0951	0.0861	+/-0.0287	0.100	pCi/g						
Cesium-137	U	-0.0199	0.0771	+/-0.0225	0.100	pCi/g						
Cobalt-60	U	-0.00717	0.0675	+/-0.021	0.100	pCi/g						
Europium-152	U	0.0349	0.154	+/-0.0453	0.200	pCi/g						
Lanthanum-140	U	-0.0523	0.159	+/-0.0512		pCi/g						
Lead-212		1.65	0.0946	+/-0.112	0.100	pCi/g						
Lead-214		1.50	0.0927	+/-0.117	0.100	pCi/g						
Mercury-203	U	0.0122	0.0618	+/-0.0209	0.100	pCi/g						
Potassium-40		20.6	0.411	+/-1.16	1.00	pCi/g						
Radium-223	U	0.0292	0.998	+/-0.327		pCi/g						
Radium-224	UI	3.58	1.23	+/-0.465		pCi/g						
Radium-226		1.31	0.110	+/-0.112		pCi/g						
Radium-228		1.73	0.196	+/-0.178	0.500	pCi/g						
Ruthenium-106	U	0.0237	0.546	+/-0.159	0.800	pCi/g						
Sodium-22	U	-0.0236	0.0684	+/-0.0221	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: January 21, 2010

Client Sample ID: RE12-10-7849
Sample ID: 244137007

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Strontium-85	U	0.0684	0.0689	+/-0.021		pCi/g						
Thallium-208		0.585	0.0581	+/-0.0514	0.080	pCi/g						
Thorium-227	U	0.0102	0.542	+/-0.165		pCi/g						
Thorium-231	U	0.0292	0.998	+/-0.327		pCi/g						
Thorium-234		1.21	0.724	+/-0.354	2.00	pCi/g						
Tin-113	U	-0.00803	0.0698	+/-0.0209	0.100	pCi/g						
Uranium-235	U	0.0862	0.291	+/-0.0846	0.500	pCi/g						
Yttrium-88	U	0.000316	0.0668	+/-0.0203	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	76.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	78.3	(50%-105%)

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

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> Result is greater than value reported
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B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
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C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E Organics--Concentration of the target analyte exceeds the instrument calibration range

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Report Date: January 21, 2010

Client Sample ID: RE12-10-7849
Sample ID: 244137007

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

QUALITY CONTROL DATA

GEL LABORATORIES LLC

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QC Summary

Report Date: January 21, 2010

Client : Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico

Contact: Ms. Joylene Valdez

Workorder: 244137

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 940222										
QC1202012012 244125002 DUP										
Americium-241	U	0.00513	U	-0.000531	pCi/g	0.385		(0-1)	JXD2	01/16/1011:30
	TPU:	+/-0.00551		+/-0.00183						
	Yield:	83.0		85.5						
QC1202012013 LCS										
Americium-241	33.2			33.5	pCi/g		101	(75%-125%)		
	TPU:			+/-2.41						
	Yield:			92.8						
QC1202012011 MB										
Americium-241			U	-0.00569	pCi/g					01/16/1011:30
	TPU:			+/-0.00773						
	Yield:			87.9						
Batch 940223										
QC1202012015 244125002 DUP										
Plutonium-238	U	0.00	U	0.00	pCi/g	0.00		(0-1)	JXD2	01/16/1011:29
	TPU:	+/-0.00722		+/-0.00132						
	Yield:	80.9		90.2						
Plutonium-239/240	U	0.00142	U	0.0066	pCi/g	0.306		(0-1)		
	TPU:	+/-0.00549		+/-0.00297						
	Yield:	80.9		90.2						
QC1202012016 LCS										
Plutonium-238				8.00	pCi/g			(75%-125%)		
	TPU:			+/-0.618						
	Yield:			81.4						
Plutonium-239/240	41.8			38.1	pCi/g		91.3	(75%-125%)		
	TPU:			+/-2.48						
	Yield:			81.4						
QC1202012014 MB										
Plutonium-238			U	0.0017	pCi/g					
	TPU:			+/-0.0045						
	Yield:			83.7						
Plutonium-239/240			U	0.0051	pCi/g					
	TPU:			+/-0.00511						
	Yield:			83.7						
Batch 940225										
QC1202012018 244125002 DUP										
Uranium-233/234		1.20		1.14	pCi/g	0.152		(0-1)	JXD2	01/19/1009:35
	TPU:	+/-0.117		+/-0.100						
	Yield:	71.9		68.0						
Uranium-235/236	U	0.0793		0.089	pCi/g	0.114		(0-1)		
	TPU:	+/-0.0227		+/-0.020						
	Yield:	71.9		68.0						
Uranium-238		1.32		1.24	pCi/g	0.171		(0-1)		
	TPU:	+/-0.125		+/-0.108						

QC Summary

Workorder: 244137

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 940225										
	Yield:	71.9		68.0						
QC1202012019 LCS										
Uranium-233/234				5.86	pCi/g			(75%-125%)		01/19/1009:35
	TPU:			+/-0.534						
	Yield:			81.1						
Uranium-235/236				0.496	pCi/g			(75%-125%)		
	TPU:			+/-0.103						
	Yield:			81.1						
Uranium-238	5.75			5.47	pCi/g		95.2	(75%-125%)		
	TPU:			+/-0.504						
	Yield:			81.1						
QC1202012017 MB										
Uranium-233/234			U	0.00958	pCi/g					01/19/1009:35
	TPU:			+/-0.00602						
	Yield:			90.9						
Uranium-235/236			U	0.00479	pCi/g					
	TPU:			+/-0.00424						
	Yield:			90.9						
Uranium-238			U	0.00646	pCi/g					
	TPU:			+/-0.0039						
	Yield:			90.9						
Rad Gamma Spec										
Batch 940263										
QC1202012145 244125001 DUP										
Americium-241	U	-0.0581	U	-0.0135	pCi/g	0.149		(0-1)	MXR1	01/20/1015:47
	TPU:	+/-0.0689		+/-0.0808						
Bismuth-211	UI	3.83	UI	3.78	pCi/g	0.0497		(0-1)		
	TPU:	+/-0.260		+/-0.233						
Bismuth-214		1.29		1.03	pCi/g	0.763		(0-1)		
	TPU:	+/-0.0919		+/-0.0819						
Cadmium-109	UI	3.44	UI	2.68	pCi/g	0.373		(0-1)		
	TPU:	+/-0.460		+/-0.551						
Cerium-139	U	-0.00618	U	0.0018	pCi/g	0.150		(0-1)		
	TPU:	+/-0.0147		+/-0.0119						
Cesium-134	UI	0.109	UI	0.0785	pCi/g	0.277		(0-1)		
	TPU:	+/-0.0309		+/-0.0239						
Cesium-137	U	0.00968	U	-0.00478	pCi/g	0.213		(0-1)		
	TPU:	+/-0.0192		+/-0.0147						
Cobalt-60	U	-0.00739	U	-0.00565	pCi/g	0.0264		(0-1)		
	TPU:	+/-0.0185		+/-0.0143						
Europium-152	U	-0.0195	U	-0.0962	pCi/g	0.351		(0-1)		
	TPU:	+/-0.0595		+/-0.0496						
Lanthanum-140	U	-0.0833	U	0.0277	pCi/g	0.667		(0-1)		
	TPU:	+/-0.0486		+/-0.0347						
Lead-212		1.68		1.62	pCi/g	0.167		(0-1)		
	TPU:	+/-0.0815		+/-0.0743						
Lead-214		1.33		1.32	pCi/g	0.0432		(0-1)		
	TPU:	+/-0.097		+/-0.0881						
Mercury-203	U	0.0316	U	0.0225	pCi/g	0.118		(0-1)		
	TPU:	+/-0.0221		+/-0.0164						

QC Summary

Workorder: 244137

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 940263										
Potassium-40		19.4		21.1	pCi/g	0.438		(0-1)		
	TPU:	+/-0.984		+/-1.00						
Radium-223	U	-0.41	U	0.236	pCi/g	0.504		(0-1)		
	TPU:	+/-0.334		+/-0.306						
Radium-224	UI	4.44	UI	4.77	pCi/g	0.133		(0-1)		
	TPU:	+/-0.687		+/-0.555						
Radium-226		1.29		1.03	pCi/g	0.763		(0-1)		
	TPU:	+/-0.0919		+/-0.0819						
Radium-228		1.60		1.77	pCi/g	0.260		(0-1)		
	TPU:	+/-0.176		+/-0.156						
Ruthenium-106	U	0.105	U	0.273	pCi/g	0.310		(0-1)		
	TPU:	+/-0.149		+/-0.122						
Sodium-22	U	0.0319	U	0.0101	pCi/g	0.290		(0-1)		
	TPU:	+/-0.0205		+/-0.0171						
Strontium-85	U	0.0678	UI	0.0968	pCi/g	0.388		(0-1)		
	TPU:	+/-0.0208		+/-0.0166						
Thallium-208		0.579		0.474	pCi/g	0.662		(0-1)		
	TPU:	+/-0.0446		+/-0.0346						
Thorium-227	U	0.125	U	-0.112	pCi/g	0.357		(0-1)		
	TPU:	+/-0.178		+/-0.154						
Thorium-231	U	-0.41	U	0.236	pCi/g	0.504		(0-1)		
	TPU:	+/-0.334		+/-0.306						
Thorium-234		2.69	U	0.958	pCi/g	0.540		(0-1)		
	TPU:	+/-0.907		+/-0.701						
Tin-113	U	-0.0228	U	-0.00968	pCi/g	0.166		(0-1)		
	TPU:	+/-0.0219		+/-0.0175						
Uranium-235	U	0.345	U	0.0566	pCi/g	0.714		(0-1)		
	TPU:	+/-0.110		+/-0.092						
Yttrium-88	U	0.00595	U	-0.0146	pCi/g	0.354		(0-1)		
	TPU:	+/-0.0168		+/-0.0123						
QC1202012146 LCS										
Americium-241	15.9			13.0	pCi/g		81.5	(75%-125%)		01/20/1014:47
	TPU:			+/-0.686						
Bismuth-211				1.60	pCi/g					
	TPU:			+/-0.371						
Bismuth-214				0.508	pCi/g					
	TPU:			+/-0.119						
Cadmium-109				34.9	pCi/g					
	TPU:			+/-1.79						
Cerium-139			U	-0.0146	pCi/g					
	TPU:			+/-0.0234						
Cesium-134			U	0.077	pCi/g					
	TPU:			+/-0.0517						
Cesium-137	5.57			5.42	pCi/g		97.3	(75%-125%)		
	TPU:			+/-0.269						
Cobalt-60	6.46			6.02	pCi/g		93.2	(75%-125%)		
	TPU:			+/-0.240						
Europium-152			U	0.144	pCi/g					
	TPU:			+/-0.0984						
Lanthanum-140			U	-0.052	pCi/g					
	TPU:			+/-0.0459						

QC Summary

Workorder: 244137

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 940263										
Lead-212				0.961	pCi/g					
	TPU:			+/-0.129						
Lead-214				0.555	pCi/g					
	TPU:			+/-0.130						
Mercury-203			U	-0.00809	pCi/g					
	TPU:			+/-0.0316						
Potassium-40			U	0.910	pCi/g					
	TPU:			+/-0.339						
Radium-223			U	-0.35	pCi/g					
	TPU:			+/-0.639						
Radium-224				4.38	pCi/g					
	TPU:			+/-0.716						
Radium-226				0.508	pCi/g					
	TPU:			+/-0.119						
Radium-228				0.907	pCi/g					
	TPU:			+/-0.216						
Ruthenium-106			U	0.0898	pCi/g					
	TPU:			+/-0.346						
Sodium-22			U	0.0101	pCi/g					
	TPU:			+/-0.0368						
Strontium-85			U	0.0685	pCi/g					
	TPU:			+/-0.0396						
Thallium-208				0.355	pCi/g					
	TPU:			+/-0.0839						
Thorium-227			U	-0.0146	pCi/g					
	TPU:			+/-0.343						
Thorium-231			U	-0.35	pCi/g					
	TPU:			+/-0.639						
Thorium-234			U	-0.418	pCi/g					
	TPU:			+/-0.548						
Tin-113			U	-0.0554	pCi/g					
	TPU:			+/-0.0473						
Uranium-235			U	-0.128	pCi/g					
	TPU:			+/-0.161						
Yttrium-88			U	-0.0414	pCi/g					
	TPU:			+/-0.0259						
QC1202012144 MB										
Americium-241			U	0.0145	pCi/g					01/20/1014:09
	TPU:			+/-0.0475						
Bismuth-211			U	-0.028	pCi/g					
	TPU:			+/-0.0552						
Bismuth-214			U	-0.00724	pCi/g					
	TPU:			+/-0.0209						
Cadmium-109			U	0.0282	pCi/g					
	TPU:			+/-0.152						
Cerium-139			U	-0.00626	pCi/g					
	TPU:			+/-0.00699						
Cesium-134			U	0.0092	pCi/g					
	TPU:			+/-0.0116						
Cesium-137			U	-0.00349	pCi/g					
	TPU:			+/-0.0115						

QC Summary

Workorder: 244137

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 940263										
Cobalt-60			U	0.00771	pCi/g					
	TPU:			+/-0.0102						
Europium-152			U	-0.00462	pCi/g					
	TPU:			+/-0.0247						
Lanthanum-140			U	-0.0279	pCi/g					
	TPU:			+/-0.0175						
Lead-212			U	0.0114	pCi/g					
	TPU:			+/-0.0191						
Lead-214			U	0.00516	pCi/g					
	TPU:			+/-0.0188						
Mercury-203			U	-0.00578	pCi/g					
	TPU:			+/-0.0083						
Potassium-40			U	-0.145	pCi/g					
	TPU:			+/-0.121						
Radium-223			U	0.0475	pCi/g					
	TPU:			+/-0.177						
Radium-224			U	-0.0766	pCi/g					
	TPU:			+/-0.179						
Radium-226			U	-0.00724	pCi/g					
	TPU:			+/-0.0209						
Radium-228			U	0.00714	pCi/g					
	TPU:			+/-0.0373						
Ruthenium-106			U	-0.0833	pCi/g					
	TPU:			+/-0.0744						
Sodium-22			U	-0.005	pCi/g					
	TPU:			+/-0.0093						
Strontium-85			U	0.0289	pCi/g					
	TPU:			+/-0.00968						
Thallium-208			U	-0.0155	pCi/g					
	TPU:			+/-0.0116						
Thorium-227			U	-0.174	pCi/g					
	TPU:			+/-0.093						
Thorium-231			U	0.0475	pCi/g					
	TPU:			+/-0.177						
Thorium-234			U	-0.259	pCi/g					
	TPU:			+/-0.374						
Tin-113			U	-0.0105	pCi/g					
	TPU:			+/-0.0113						
Uranium-235			U	0.0348	pCi/g					
	TPU:			+/-0.0495						
Yttrium-88			U	-0.00527	pCi/g					
	TPU:			+/-0.0106						

Notes:
The Qualifiers in this report are defined as follows:

** Analyte is a surrogate compound
< Result is less than value reported
> Result is greater than value reported

QC Summary

Workorder: 244137

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time

A	The TIC is a suspected aldol-condensation product
B	For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
E	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
E	Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E	Organics--Concentration of the target analyte exceeds the instrument calibration range
F	Estimated Value
H	Analytical holding time was exceeded
J	Value is estimated
M	M if above MDC and less than LLD
M	Matrix Related Failure
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	RPD or %Recovery limits do not apply.
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI	Gamma Spectroscopy--Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
** Indicates analyte is a surrogate compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

RAW DATA

Radiochemistry Batch Checklist, Rev10

Batch# 940222 Product: Am Date: 1/18/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 mg for GAB.			N/A
Samples have been blank corrected (if required)	✓		
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits. Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%. Or meets the client's required RER acceptance criteria.	✓		
Tracer yield is 15-125% . Carrier yield 25-125%. Or meets the client's contract acceptance criteria.	✓		
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms. All line outs initialed and dated. No transcription errors are apparent.	✓		
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: Jack M. 1/18/10

Secondary Review Performed By: [signature] 1/19/10

1/25 2/5

LANL

PJ

Am/Cm Que Sheet

11-JAN-10

Batch #: 940222 | Analyst: JXD2 | First Client Due Date: 05-FEB-10 | Internal Due Date25-JAN-10 | Comments:

Tracer(s): Am243/Cm244 | Tracer Code: 445-96-2-85 | Expiration Date: 05/11/10 | Vol: 0.1

LCS Isotope(s): Am241/Cm244 | LCS Code(s): — | Expiration Date: — | Vol(s): —

Spike Isotope(s): Am241/Cm244 | Spike Code(s): — | Expiration Date: — | Vol(s): —

Prep Date: 01/11/10 | Initials: JXD | Pipet ID: 2971058 | Balance ID: 50410272 | Witness: JAKB 1/13/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g/l/l)	Am/Cm Det #
244125001-1	RE12-10-7698	SAMPLE		.05 pCi/g	SOIL	LANL010	05-JAN-10	1	1	1.253	77
244125002-1	RE12-10-7697	SAMPLE		.05 pCi/g	SOIL	LANL010	05-JAN-10	2	2	1.259	78
244125003-1	RE12-10-7704	SAMPLE		.05 pCi/g	SOIL	LANL010	05-JAN-10	3	3	1.266	79
244125004-1	RE12-10-7703	SAMPLE		.05 pCi/g	SOIL	LANL010	05-JAN-10	4	4	1.281	80
244137001-1	RE12-10-7859	SAMPLE		.05 pCi/g	SOIL	LANL010	04-JAN-10	5	5	1.272	81
244137002-1	RE12-10-7851	SAMPLE		.05 pCi/g	SOIL	LANL010	04-JAN-10	6	6	1.262	82
244137003-1	RE12-10-7852	SAMPLE		.05 pCi/g	SOIL	LANL010	04-JAN-10	7	7	1.284	83
244137004-1	RE12-10-7850	SAMPLE		.05 pCi/g	SOIL	LANL010	04-JAN-10	8	8	1.263	84
244137005-1	RE12-10-7853	SAMPLE		.05 pCi/g	SOIL	LANL010	04-JAN-10	9	9	1.282	85
244137006-1	RE12-10-7848	SAMPLE		.05 pCi/g	SOIL	LANL010	04-JAN-10	10	10	1.254	86
244137007-1	RE12-10-7849	SAMPLE		.05 pCi/g	SOIL	LANL010	04-JAN-10	11	11	1.251	87
1202012011-1	MB for batch 940222	MB		.05 pCi/g	SOIL	QC ACCOUNT		12	12	1.00	88
1202012012-1	RE12-10-7697(244125002DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	05-JAN-10	13	13	1.250	~~89~~ 90
1202012013-1	LCS for batch 940222	LCS		.05 pCi/g	SOIL	QC ACCOUNT		14	14	0.102	~~90~~ 89

* SRM: 0244-B exp. 04/30/20 0.102g

SM 1/18/10

Choose SOP Used: GL-RAD-A-011 / GL-RAD-A-036

Solid Sample Dissolution by: LEACH or DIGESTION (Circle One)

Data Reviewed By: JaLMC 1/18/10

GEL Laboratories LLC, Radiochemistry Division

Blank Correction Report

Batch ID 940222

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202012012	DUP	Americium-241	1.25 g	-0.000531	0.00183	0.022	-.004552	pCi/g	NO
1202012013	LCS	Americium-241	0.102 g	33.5	2.41	0.275	-.05578431	pCi/g	NO
1202012011	MB	Americium-241	1.00 g	-0.00569	0.00773	0.0289	-.00569	pCi/g	NO
244125001	RE12-10-7698	Americium-241	1.25 g	-0.00182	0.0044	0.0211	-.004552	pCi/g	NO
244125002	RE12-10-7697	Americium-241	1.26 g	0.00513	0.00551	0.0236	-.00451587	pCi/g	NO
244125003	RE12-10-7704	Americium-241	1.27 g	0.00211	0.00166	0.0222	-.00448031	pCi/g	NO
244125004	RE12-10-7703	Americium-241	1.28 g	0.00799	0.00316	0.0208	-.00444531	pCi/g	NO
244137001	RE12-10-7859	Americium-241	1.27 g	-0.00303	0.00248	0.021	-.00448031	pCi/g	NO
244137002	RE12-10-7851	Americium-241	1.26 g	0.00192	0.00234	0.0211	-.00451587	pCi/g	NO
244137003	RE12-10-7852	Americium-241	1.28 g	0.00281	0.00612	0.0195	-.00444531	pCi/g	NO
244137004	RE12-10-7850	Americium-241	1.26 g	0.000657	0.00196	0.0209	-.00451587	pCi/g	NO
244137005	RE12-10-7853	Americium-241	1.28 g	-0.00319	0.002	0.024	-.00444531	pCi/g	NO
244137006	RE12-10-7848	Americium-241	1.25 g	0.00333	0.00331	0.0219	-.004552	pCi/g	NO
244137007	RE12-10-7849	Americium-241	1.25 g	-0.00182	0.00277	0.022	-.004552	pCi/g	NO

Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940222
SAMPLE DATE : 5-JAN-2010 00:00:00.

SAMPLE ID : S0244125002_AM
SAMPLE QTY: 1.259 G

DETECTOR NUMBER :67577
AVERAGE %EFFICIENCY :31.0633
% YIELD : 82.965

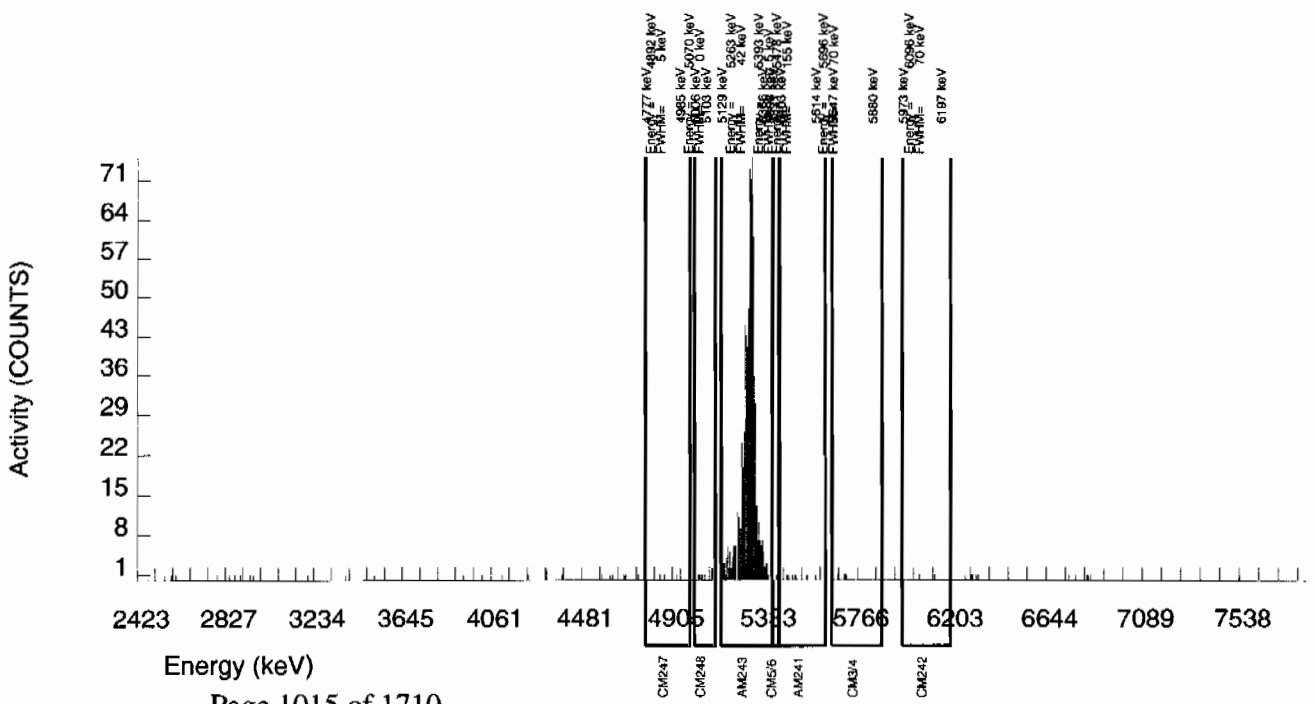
COUNT DATE:16-JAN-2010 11:30:05
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	LIB FILE : ENV_ALPHA_AM.N
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG FILE : B078.CNF;1006
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91659 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.41975 dpm	EFF FILE : W078.CNF;251
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	5.000	1.000	4.000	5.2338	100.0000	1.39E-03	4.17E-03	1.69E-02	3.76E-02	4.17E-03
CM-5/6	5386.000	1.000	1.000	0.000	19.8463	86.09000	1.61E-03	1.62E-03	7.45E-02	1.53E-01	1.61E-03
AM-241	5479.150	11.000	3.695	6.000	3.0704	99.94000	5.13E-03	5.51E-03	9.92E-03	2.36E-02	5.50E-03
CM-242	6102.000	2.000	1.000	1.000	4.3186	100.0000	1.46E-03	2.53E-03	1.39E-02	3.17E-02	2.53E-03
AM243	5270.000	752.000	750.000	2.000	1.4142	99.78000	1.04E+00	7.46E-02	4.58E-03	1.29E-02	3.82E-02
CM-247	4946.000	7.000	5.000	2.000	15.3366	79.30000	8.75E-03	5.28E-03	6.25E-02	1.30E-01	5.25E-03
CM-248	5078.600	12.000	11.000	1.000	22.1555	91.00000	1.68E-02	5.60E-03	7.86E-02	1.61E-01	5.50E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940222
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137001_AM
SAMPLE QTY: 1.272 G

DETECTOR NUMBER :79996
AVERAGE %EFFICIENCY :31.8577
% YIELD : 89.849

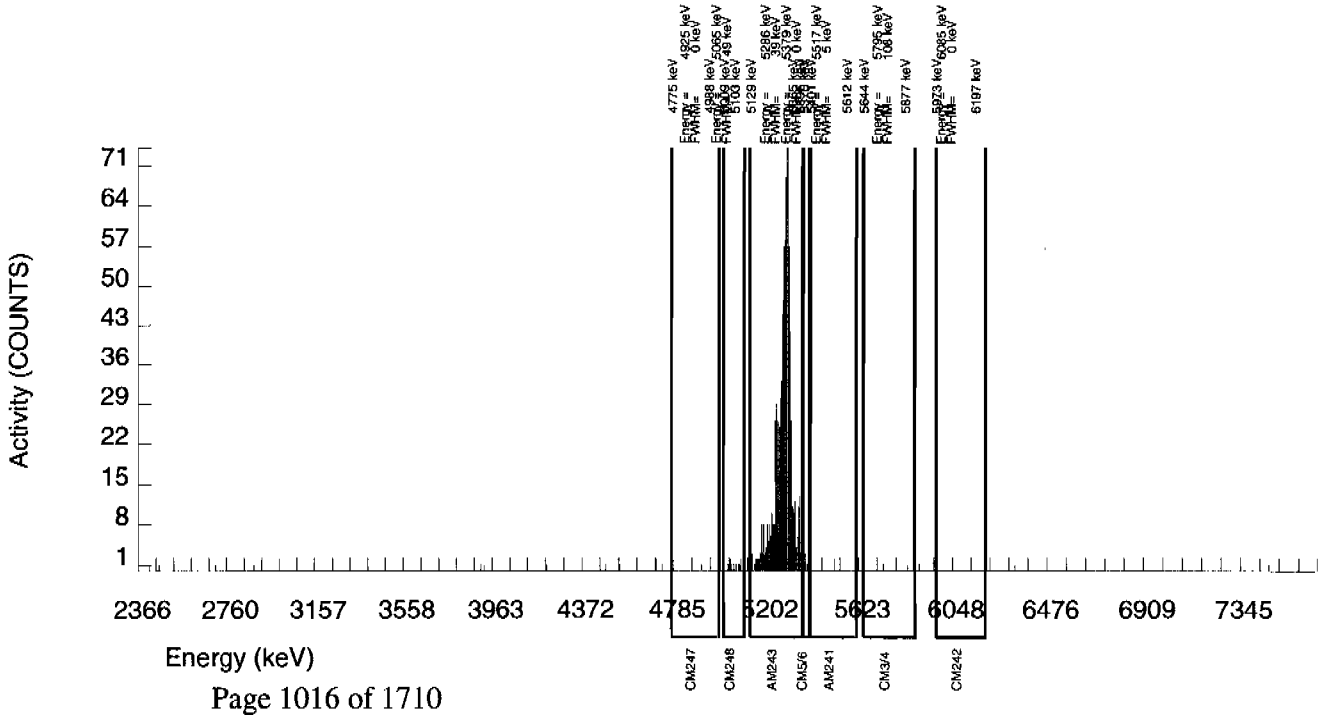
COUNT DATE:16-JAN-2010 11:30:05
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	LIB FILE : ENV_ALPHA_AM.N
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG FILE : B081.CNF;1016
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91659 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.62053 dpm	EFF FILE : W081.CNF;272
			CAL DATE : 12-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	2.000	0.000	2.000	5.2338	100.0000	-2.95E-10	2.48E-03	1.51E-02	3.35E-02	2.48E-03
CM-5/6	5386.000	18.000	18.000	0.000	19.8463	86.09000	2.59E-02	6.29E-03	6.63E-02	1.37E-01	6.10E-03
AM-241	5479.150	2.000	-2.450	3.000	3.0704	99.94000	-3.03E-03	2.48E-03	8.84E-03	2.10E-02	2.48E-03
CM-242	6102.000	0.000	0.000	0.000	4.3186	100.0000	0.00E+00	1.31E-03	1.24E-02	2.82E-02	1.31E-03
AM243	5270.000	833.000	833.000	0.000	0.0000	99.78000	1.03E+00	7.18E-02	0.00E+00	3.36E-03	3.58E-02
CM-247	4946.000	3.000	2.000	1.000	15.3366	79.30000	3.12E-03	3.13E-03	5.57E-02	1.16E-01	3.12E-03
CM-248	5078.600	12.000	11.000	1.000	22.1555	91.00000	1.50E-02	4.98E-03	7.01E-02	1.44E-01	4.90E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940222
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137002_AM
SAMPLE QTY: 1.262 G

DETECTOR NUMBER :79997
AVERAGE %EFFICIENCY :32.2248
% YIELD : 89.145

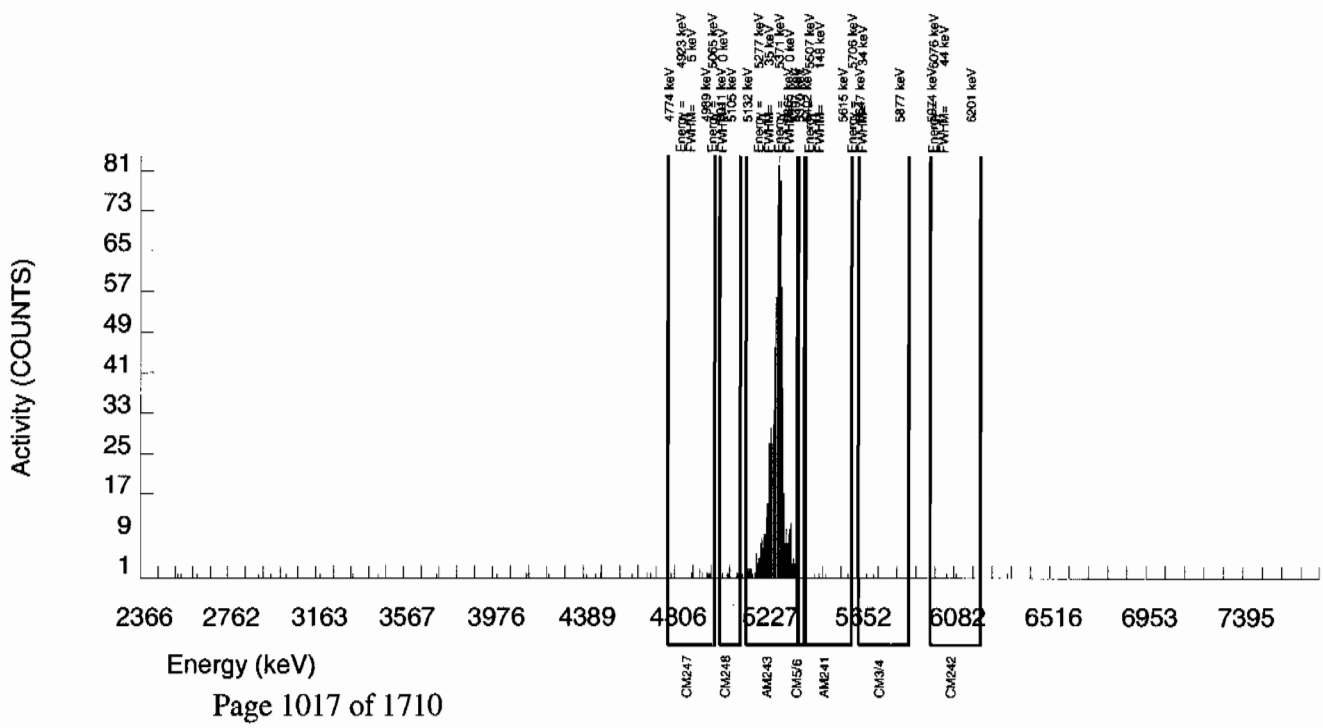
COUNT DATE:16-JAN-2010 11:30:05
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	LIB FILE : ENV_ALPHA_AM.N
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG FILE : B082.CNF;1006
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91659 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.60000 dpm	EFF FILE : W082.CNF;255
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	2.000	1.000	1.000	5.2338	100.0000	1.24E-03	2.16E-03	1.51E-02	3.36E-02	2.15E-03
CM-5/6	5386.000	4.000	4.000	0.000	19.8463	86.09000	5.77E-03	2.91E-03	6.66E-02	1.37E-01	2.89E-03
AM-241	5479.150	4.000	1.545	1.000	3.0704	99.94000	1.92E-03	2.34E-03	8.88E-03	2.11E-02	2.34E-03
CM-242	6102.000	2.000	2.000	0.000	4.3186	100.0000	2.62E-03	1.86E-03	1.25E-02	2.83E-02	1.86E-03
AM243	5270.000	839.000	836.000	3.000	1.7321	99.78000	1.04E+00	7.24E-02	5.02E-03	1.34E-02	3.61E-02
CM-247	4946.000	10.000	9.000	1.000	15.3366	79.30000	1.41E-02	5.27E-03	5.59E-02	1.16E-01	5.20E-03
CM-248	5078.600	8.000	6.000	2.000	22.1555	91.00000	8.19E-03	4.35E-03	7.04E-02	1.44E-01	4.32E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940222
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137003_AM
SAMPLE QTY: 1.284 G

DETECTOR NUMBER :64278
AVERAGE %EFFICIENCY :33.3652
% YIELD : 91.763

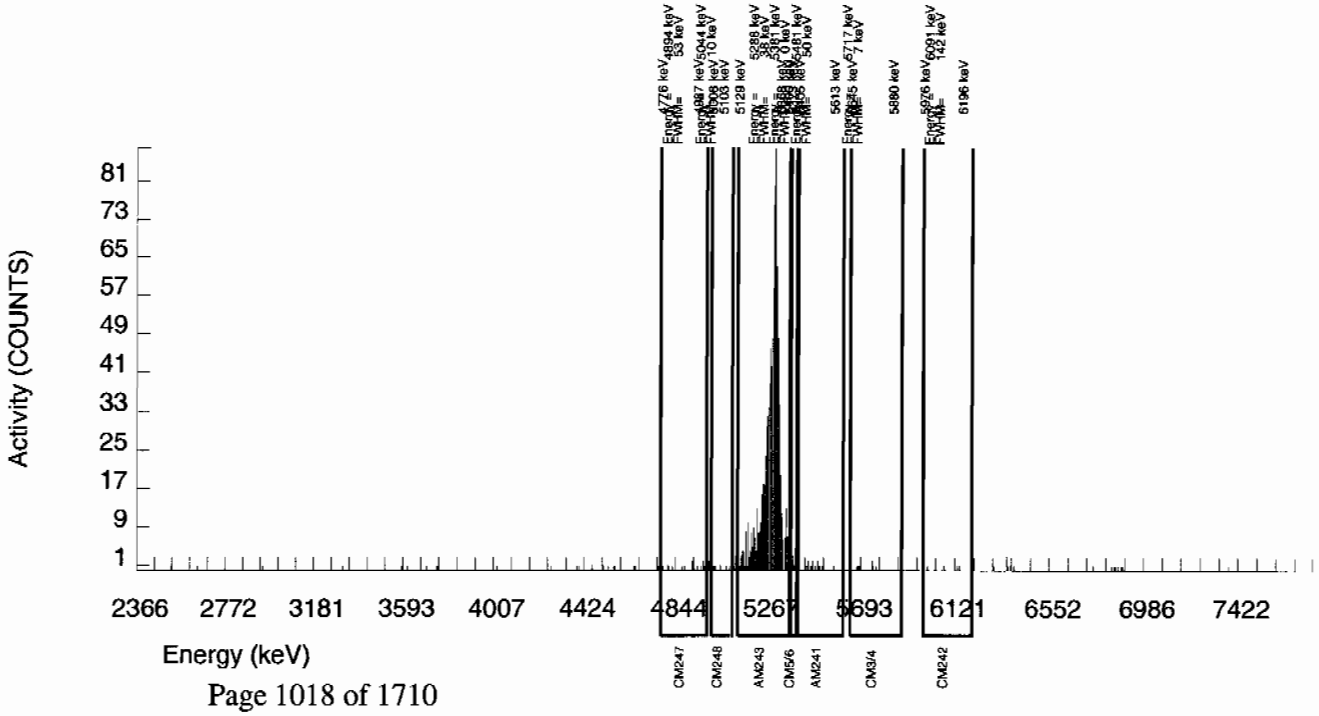
COUNT DATE:16-JAN-2010 11:30:10
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	LIB FILE : ENV_ALPHA_AM.N
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG FILE : B083.CNF;1011
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91659 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.67634 dpm	EFF FILE : W083.CNF;290
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	8.000	-1.000	9.000	5.2338	100.0000	-1.15E-03	4.73E-03	1.40E-02	3.10E-02	4.73E-03
CM-5/6	5386.000	26.000	25.000	1.000	19.8463	86.09000	3.33E-02	7.20E-03	6.15E-02	1.27E-01	6.92E-03
AM-241	5479.150	17.000	2.449	13.000	3.0704	99.94000	2.81E-03	6.12E-03	8.19E-03	1.95E-02	6.12E-03
CM-242	6102.000	4.000	4.000	0.000	4.3186	100.0000	4.84E-03	2.44E-03	1.15E-02	2.61E-02	2.42E-03
AM243	5270.000	896.000	891.000	5.000	2.2361	99.78000	1.02E+00	7.01E-02	5.97E-03	1.51E-02	3.45E-02
CM-247	4946.000	14.000	9.000	5.000	15.3366	79.30000	1.30E-02	6.35E-03	5.16E-02	1.07E-01	6.30E-03
CM-248	5078.600	11.000	9.000	2.000	22.1555	91.00000	1.13E-02	4.59E-03	6.49E-02	1.33E-01	4.54E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940222
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137004_AM
SAMPLE QTY: 1.263 G

DETECTOR NUMBER :78265
AVERAGE %EFFICIENCY :33.8353
% YIELD : 85.613

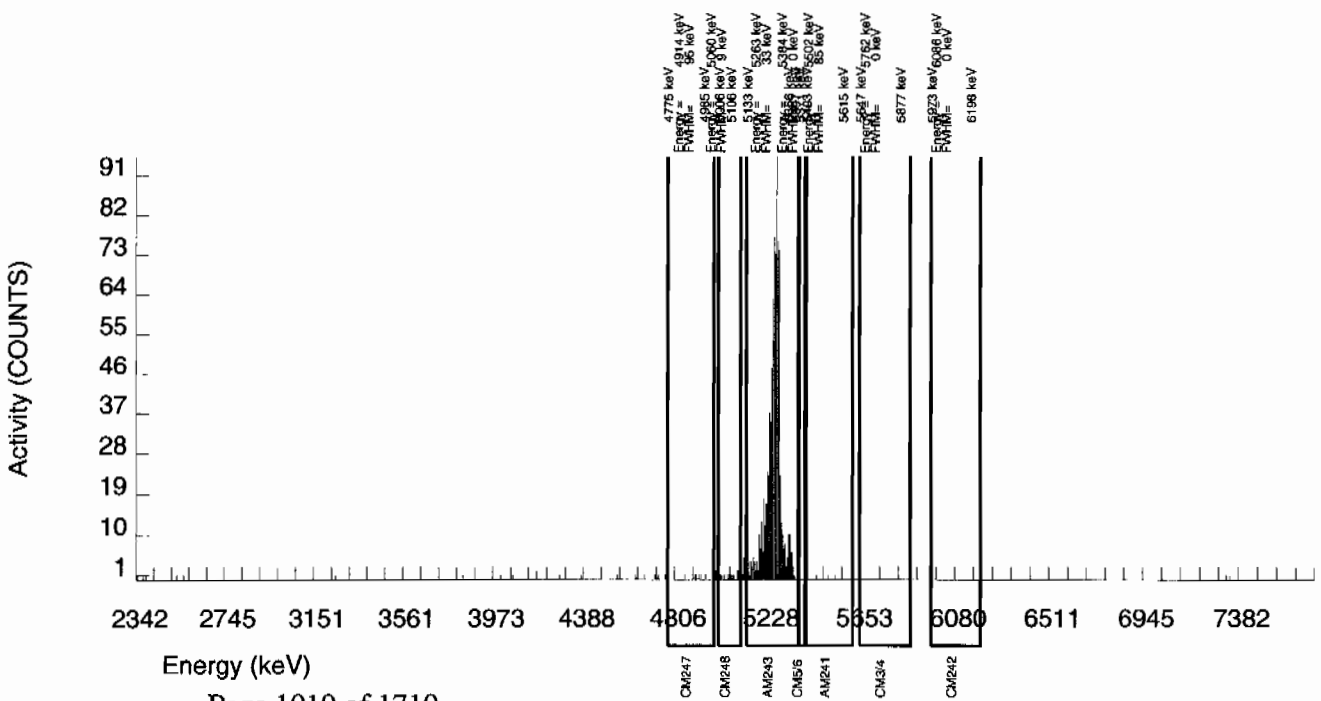
COUNT DATE:16-JAN-2010 11:30:10
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	LIB FILE : ENV_ALPHA_AM.N
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG FILE : B084.CNF;1011
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91659 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.49698 dpm	EFF FILE : W084.CNF;293
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	0.000	-1.000	1.000	5.2338	100.0000	-1.23E-03	1.75E-03	1.50E-02	3.33E-02	1.74E-03
CM-5/6	5386.000	0.000	0.000	0.000	19.8463	86.09000	0.00E+00	1.43E-03	6.60E-02	1.36E-01	1.43E-03
AM-241	5479.150	3.000	0.533	1.000	3.0704	99.94000	6.57E-04	1.96E-03	8.80E-03	2.09E-02	1.96E-03
CM-242	6102.000	0.000	0.000	0.000	4.3186	100.0000	0.00E+00	1.30E-03	1.24E-02	2.81E-02	1.30E-03
AM243	5270.000	843.000	843.000	0.000	0.0000	99.78000	1.04E+00	7.21E-02	0.00E+00	3.34E-03	3.58E-02
CM-247	4946.000	6.000	2.000	4.000	15.3366	79.30000	3.11E-03	4.91E-03	5.54E-02	1.15E-01	4.91E-03
CM-248	5078.600	15.000	13.000	2.000	22.1555	91.00000	1.76E-02	5.68E-03	6.97E-02	1.43E-01	5.58E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940222
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137005_AM
SAMPLE QTY: 1.282 G

DETECTOR NUMBER :78776
AVERAGE %EFFICIENCY :31.6195
% YIELD : 78.789

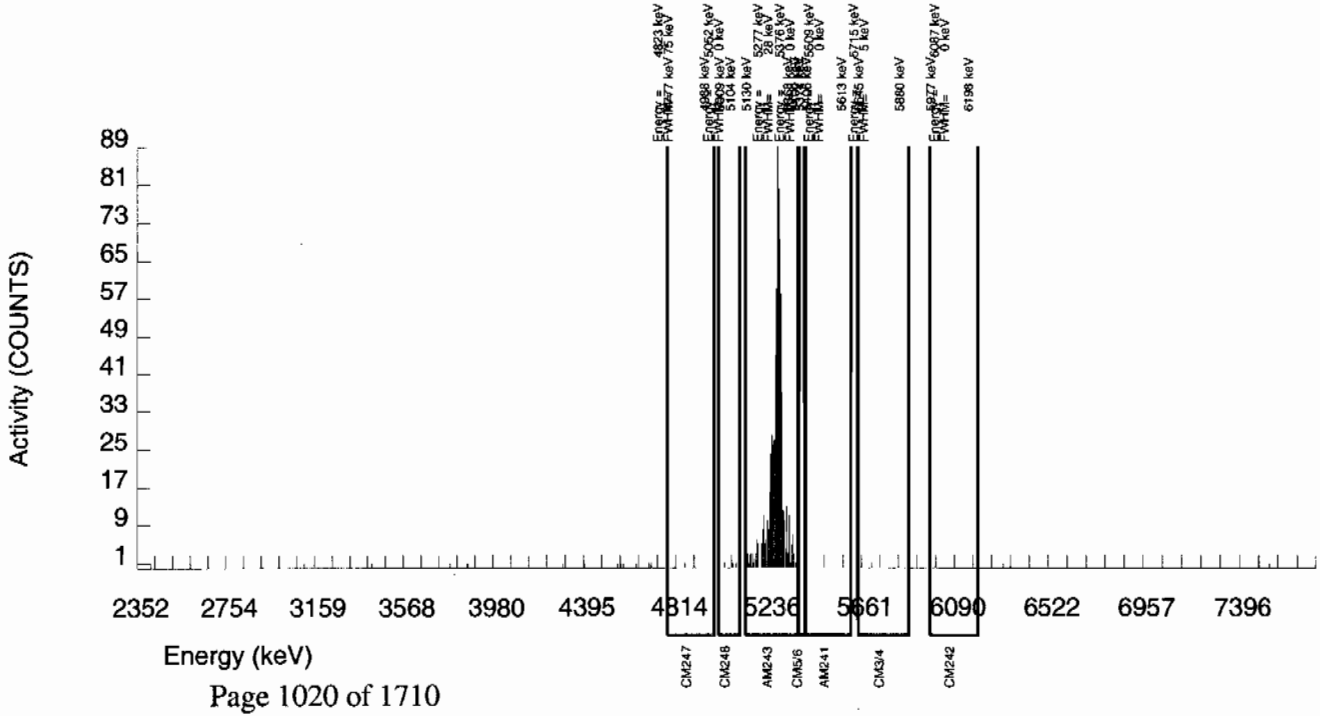
COUNT DATE:16-JAN-2010 11:30:10
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	LIB FILE : ENV_ALPHA_AM.N
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG FILE : B085.CNF;1012
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91659 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.29795 dpm	EFF FILE : W085.CNF;300
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	1.000	1.000	0.000	5.2338	100.0000	1.41E-03	1.41E-03	1.72E-02	3.82E-02	1.41E-03
CM-5/6	5386.000	2.000	2.000	0.000	19.8463	86.09000	3.28E-03	2.33E-03	7.56E-02	1.56E-01	2.32E-03
AM-241	5479.150	0.000	-2.262	1.000	3.0704	99.94000	-3.19E-03	2.00E-03	1.01E-02	2.40E-02	2.00E-03
CM-242	6102.000	0.000	-1.000	1.000	4.3186	100.0000	-1.49E-03	2.11E-03	1.42E-02	3.22E-02	2.11E-03
AM243	5270.000	726.000	725.000	1.000	1.0000	99.78000	1.02E+00	7.38E-02	3.29E-03	1.04E-02	3.81E-02
CM-247	4946.000	3.000	2.000	1.000	15.3366	79.30000	3.56E-03	3.56E-03	6.35E-02	1.32E-01	3.56E-03
CM-248	5078.600	6.000	5.000	1.000	22.1555	91.00000	7.75E-03	4.13E-03	7.99E-02	1.64E-01	4.10E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

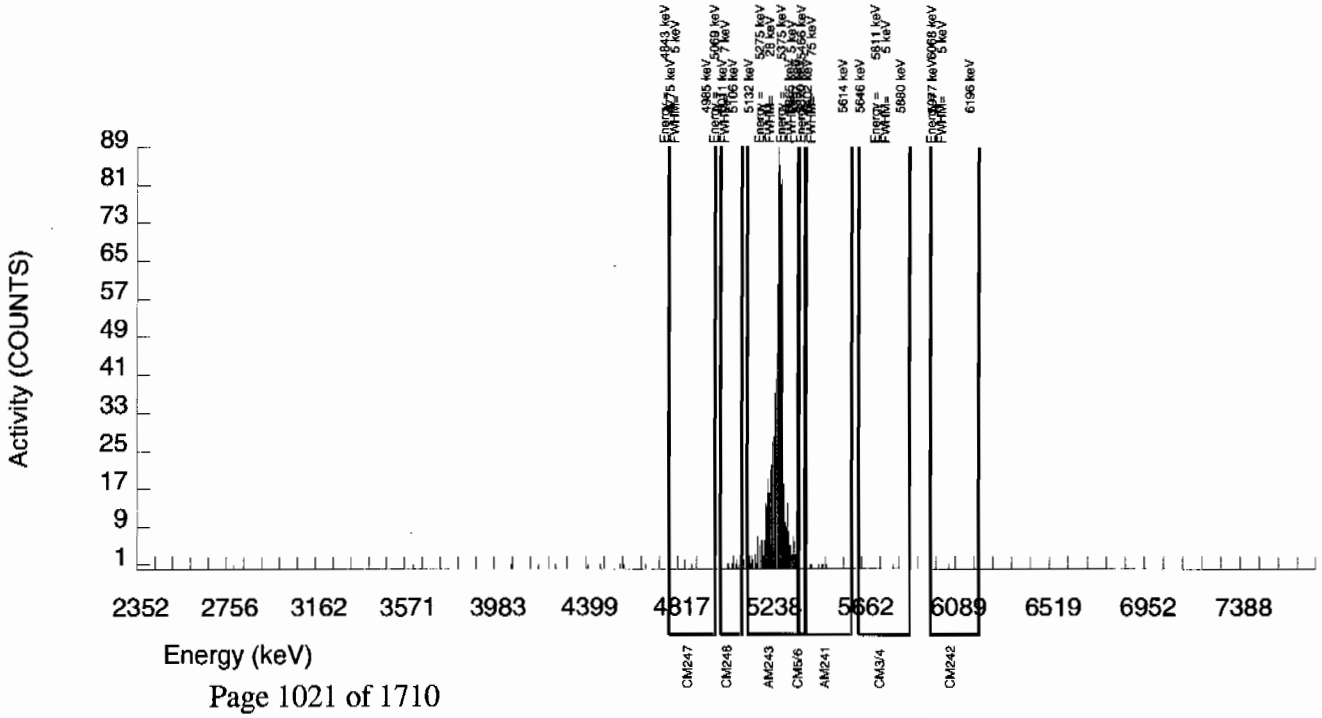
BATCH NUMBER: 940222 SAMPLE DATE : 4-JAN-2010 00:00:00.	SAMPLE ID : S0244137006_AM SAMPLE QTY: 1.254 G
DETECTOR NUMBER :78198 AVERAGE %EFFICIENCY :29.7986 % YIELD : 93.636	COUNT DATE:16-JAN-2010 11:30:10 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	LIB FILE : ENV_ALPHA_AM.N
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG FILE : B086.CNF;1013
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91659 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.73098 dpm	EFF FILE : W086.CNF;281
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	1.000	1.000	0.000	5.2338	100.0000	1.29E-03	1.29E-03	1.57E-02	3.48E-02	1.29E-03
CM-5/6	5386.000	1.000	1.000	0.000	19.8463	86.09000	1.50E-03	1.50E-03	6.90E-02	1.42E-01	1.50E-03
AM-241	5479.150	6.000	2.587	2.000	3.0704	99.94000	3.33E-03	3.31E-03	9.20E-03	2.19E-02	3.31E-03
CM-242	6102.000	1.000	1.000	0.000	4.3186	100.0000	1.36E-03	1.36E-03	1.29E-02	2.94E-02	1.36E-03
AM243	5270.000	813.000	812.000	1.000	1.0000	99.78000	1.05E+00	7.33E-02	3.00E-03	9.50E-03	3.68E-02
CM-247	4946.000	4.000	2.000	2.000	15.3366	79.30000	3.25E-03	3.98E-03	5.79E-02	1.20E-01	3.98E-03
CM-248	5078.600	9.000	7.000	2.000	22.1555	91.00000	9.90E-03	4.73E-03	7.29E-02	1.50E-01	4.69E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940222
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137007_AM
SAMPLE QTY: 1.251 G

DETECTOR NUMBER :78199
AVERAGE %EFFICIENCY :31.4743
% YIELD : 88.542

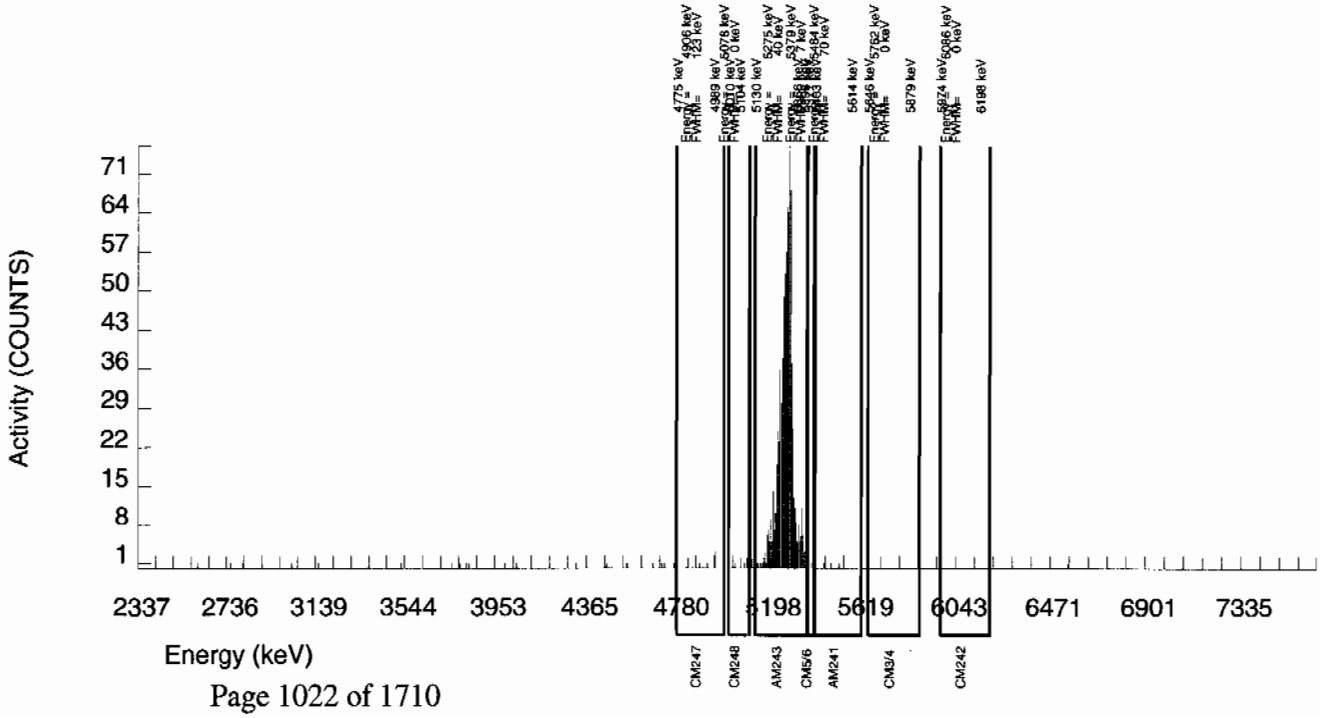
COUNT DATE:16-JAN-2010 11:30:10
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	LIB FILE : ENV_ALPHA_AM.N
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG FILE : B087.CNF;1020
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91659 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.58239 dpm	EFF FILE : W087.CNF;274
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	0.000	0.000	0.000	5.2338	100.0000	0.00E+00	1.30E-03	1.57E-02	3.50E-02	1.29E-03
CM-5/6	5386.000	4.000	3.000	1.000	19.8463	86.09000	4.50E-03	3.37E-03	6.93E-02	1.43E-01	3.36E-03
AM-241	5479.150	3.000	-1.411	3.000	3.0704	99.94000	-1.82E-03	2.77E-03	9.23E-03	2.20E-02	2.77E-03
CM-242	6102.000	0.000	0.000	0.000	4.3186	100.0000	0.00E+00	1.37E-03	1.30E-02	2.95E-02	1.36E-03
AM243	5270.000	814.000	811.000	3.000	1.7321	99.78000	1.05E+00	7.36E-02	5.22E-03	1.39E-02	3.70E-02
CM-247	4946.000	7.000	4.000	3.000	15.3366	79.30000	6.52E-03	5.17E-03	5.81E-02	1.21E-01	5.15E-03
CM-248	5078.600	9.000	4.000	5.000	22.1555	91.00000	5.68E-03	5.32E-03	7.32E-02	1.50E-01	5.31E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940222
SAMPLE DATE : 13-JAN-2010 00:00:00

SAMPLE ID : S1202012011_AM
SAMPLE QTY: 1.000 G

DETECTOR NUMBER :33452
AVERAGE %EFFICIENCY :30.1337
% YIELD : 87.919

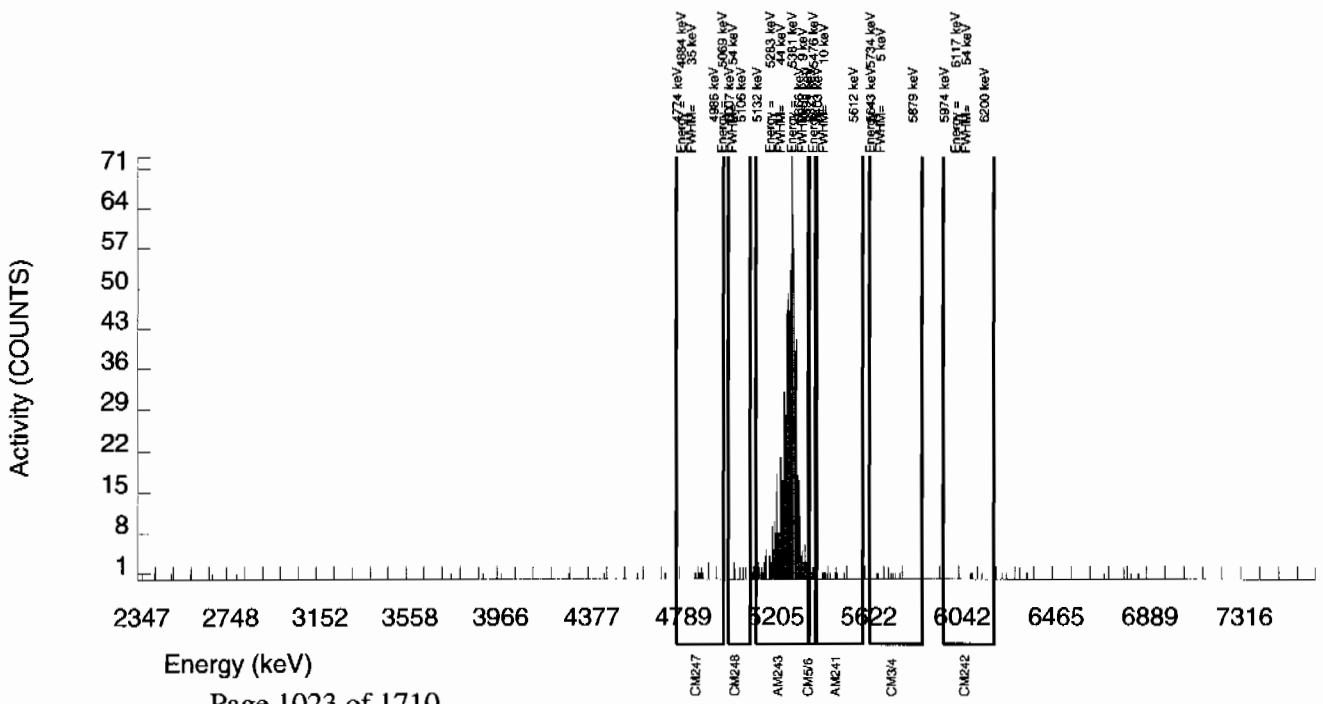
COUNT DATE:16-JAN-2010 11:30:10
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	LIB FILE : ENV_ALPHA_AM.N
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG FILE : B088.CNF;1008
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91658 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.56424 dpm	EFF FILE : W088.CNF;284
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	8.000	0.000	8.000	5.2338	100.0000	-1.62E-09	6.80E-03	2.07E-02	4.60E-02	6.80E-03
CM-5/6	5386.000	15.000	14.000	1.000	19.8463	86.09000	2.76E-02	8.08E-03	9.12E-02	1.88E-01	7.90E-03
AM-241	5479.150	10.000	-3.342	12.000	3.0704	99.94000	-5.69E-03	7.73E-03	1.22E-02	2.89E-02	7.73E-03
CM-242	6102.000	4.000	4.000	0.000	4.3186	100.0000	6.91E-03	3.48E-03	1.71E-02	3.88E-02	3.46E-03
AM243	5270.000	776.000	771.000	5.000	2.2361	99.78000	1.31E+00	9.35E-02	8.86E-03	2.23E-02	4.76E-02
CM-247	4946.000	13.000	10.000	3.000	15.3366	79.30000	2.14E-02	8.68E-03	7.65E-02	1.59E-01	8.58E-03
CM-248	5078.600	10.000	9.000	1.000	22.1555	91.00000	1.68E-02	6.28E-03	9.63E-02	1.98E-01	6.20E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940222
SAMPLE DATE : 5-JAN-2010 00:00:00.

SAMPLE ID : S1202012012_AM
SAMPLE QTY: 1.250 G

DETECTOR NUMBER :78263
AVERAGE %EFFICIENCY :32.5470
% YIELD : 85.518

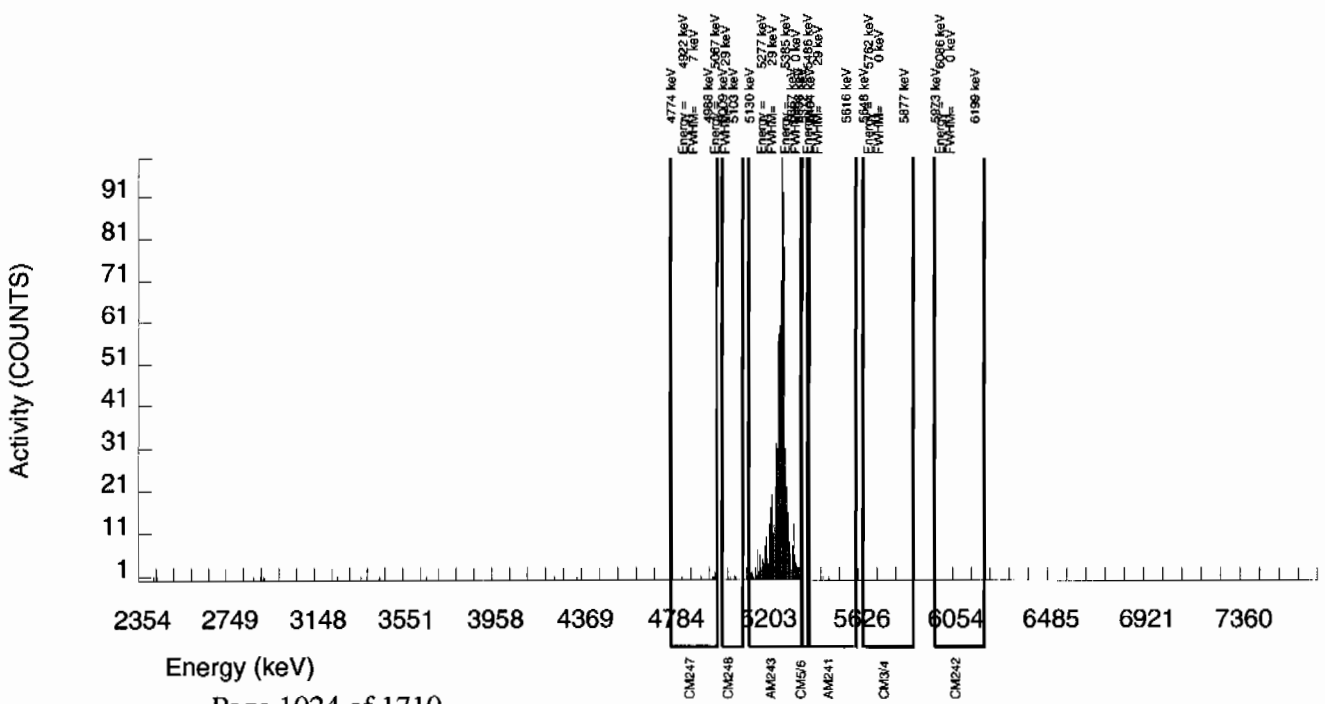
COUNT DATE:16-JAN-2010 11:30:14
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	LIB FILE : ENV_ALPHA_AM.N
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG FILE : B090.CNF;715
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91659 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.49420 dpm	EFF FILE : W090.CNF;199
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	0.000	-1.000	1.000	5.2338	100.0000	-1.30E-03	1.84E-03	1.58E-02	3.50E-02	1.83E-03
CM-5/6	5386.000	3.000	3.000	0.000	19.8463	86.09000	4.51E-03	2.62E-03	6.94E-02	1.43E-01	2.60E-03
AM-241	5479.150	2.000	-0.410	1.000	3.0704	99.94000	-5.31E-04	1.83E-03	9.25E-03	2.20E-02	1.83E-03
CM-242	6102.000	0.000	-1.000	1.000	4.3186	100.0000	-1.36E-03	1.93E-03	1.30E-02	2.95E-02	1.93E-03
AM243	5270.000	811.000	810.000	1.000	1.0000	99.78000	1.05E+00	7.51E-02	3.02E-03	9.55E-03	3.70E-02
CM-247	4946.000	7.000	7.000	0.000	15.3366	79.30000	1.14E-02	4.38E-03	5.83E-02	1.21E-01	4.32E-03
CM-248	5078.600	3.000	3.000	0.000	22.1555	91.00000	4.27E-03	2.48E-03	7.33E-02	1.51E-01	2.46E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940222
SAMPLE DATE : 13-JAN-2010 00:00:00

SAMPLE ID : S1202012013_AM
SAMPLE QTY: 0.102 G

DETECTOR NUMBER :78262
AVERAGE %EFFICIENCY :29.3898
% YIELD : 92.834

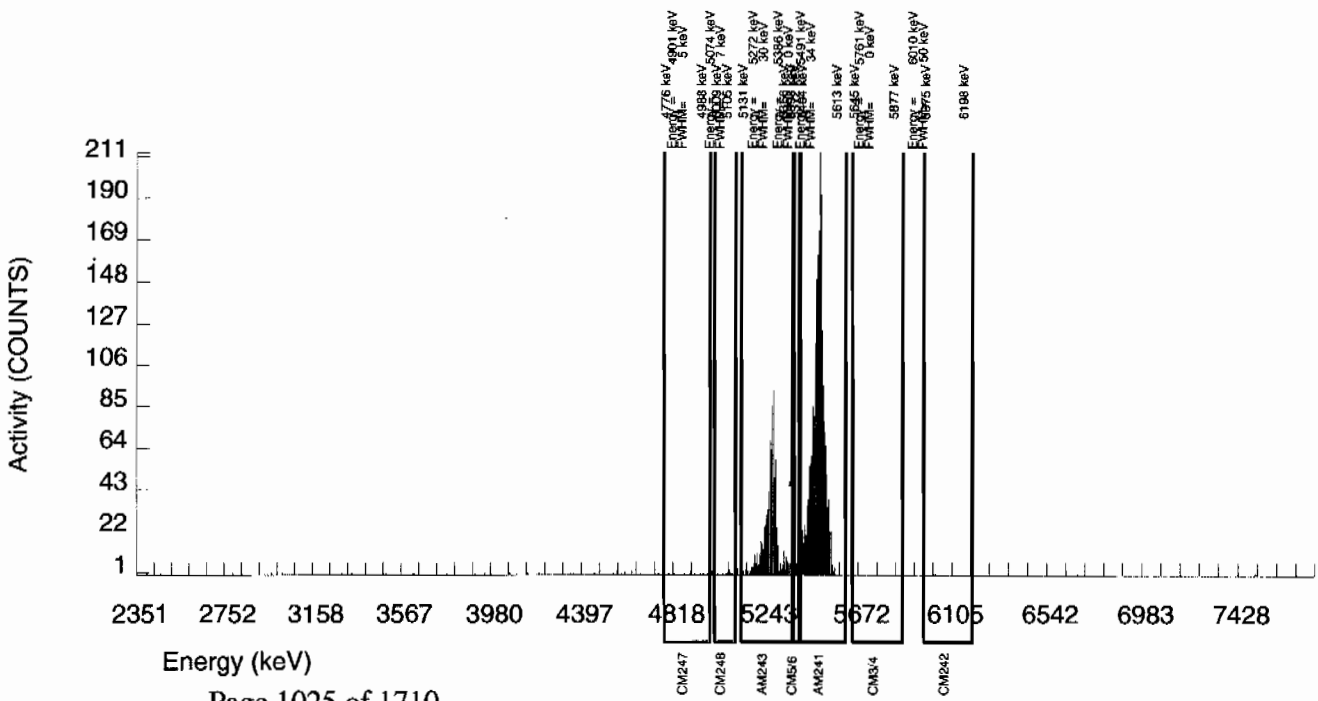
COUNT DATE:16-JAN-2010 11:30:14
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 445-96-2-SS	LIB FILE : ENV_ALPHA_AM.N
ISOTOPE : AM-241	ISOTOPE : AM-241	ISOTOPE : AM243	BKG FILE : B089.CNF;705
PCI/G : 3.316E+01	PCI/G : 3.316E+01	NOMINAL : 2.91658 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.70758 dpm	EFF FILE : W089.CNF;193
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	0.000	0.000	0.000	5.2338	100.0000	0.00E+00	1.62E-02	1.97E-01	4.38E-01	1.62E-02
CM-5/6	5386.000	46.000	45.000	1.000	19.8463	86.09000	8.46E-01	1.41E-01	8.68E-01	1.79E+00	1.29E-01
AM-241	5479.150	2069.000	2066.618	1.000	3.0704	99.94000	3.35E+01	2.41E+00	1.16E-01	2.75E-01	7.37E-01
CM-242	6102.000	2.000	1.000	1.000	4.3186	100.0000	1.65E-02	2.85E-02	1.63E-01	3.69E-01	2.85E-02
AM243	5270.000	795.000	794.000	1.000	1.0000	99.78000	1.29E+01	9.94E-01	3.77E-02	1.19E-01	4.58E-01
CM-247	4946.000	11.000	11.000	0.000	15.3366	79.30000	2.25E-01	6.94E-02	7.28E-01	1.51E+00	6.77E-02
CM-248	5078.600	13.000	13.000	0.000	22.1555	91.00000	2.31E-01	6.61E-02	9.17E-01	1.88E+00	6.41E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of AM243 calculated as sqrt(BKG AREA)
NOTE: Corrections made to AM-241 net area due to tracer impurity



Radiochemistry Batch Checklist, Rev10

Batch# 940223 Product: Pu Date: 1/18/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 mg for GAB.			N/A
Samples have been blank corrected (if required)	✓		
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits. Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%. Or meets the client's required RER acceptance criteria.	✓		
Tracer yield is 15-125% . Carrier yield 25-125%. Or meets the client's contract acceptance criteria.	✓		
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms. All line outs initialed and dated. No transcription errors are apparent.	✓		
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: Denise Green 1/18/10

Secondary Review Performed By: Jack Mc[illegible] 1/18/10

2/5

LANL

P ✓

Plutonium Que Sheet

11-JAN-10

Batch #: 940223 **Analyst:** JXD2 **First Client Due Date:** 05-FEB-10 **Internal Due Date:** 25-JAN-10

Tracer Isotope(s): Pu-242/Pu-238 **Tracer Code:** 1374-A **Expiration Date:** 12/18/10 **Vol:** 0.1

LCS Isotope(s): Pu-239/Pu-238 **LCS Code:** — **Expiration Date:** — **Vol:** —

Spike Isotope(s): Pu-239/Pu-238 **Spike Code:** — **Expiration Date:** — **Vol:** —

Prep Date: 01/13/10 **Initials:** JXD **Pipet ID:** 2971058 **Balance ID:** 50410272 **Witness:** [illegible] 1/13/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/ Dry Aliquot (g/l / l)	Pu Det #
244125001-1	RE12-10-7698	SAMPLE		.05 pCi/g	SOIL	LANL010	05-JAN-10	1	1	1.253	47
244125002-1	RE12-10-7697	SAMPLE		.05 pCi/g	SOIL	LANL010	05-JAN-10	2	2	1.259	48
244125003-1	RE12-10-7704	SAMPLE		.05 pCi/g	SOIL	LANL010	05-JAN-10	3	3	1.266	65
244125004-1	RE12-10-7703	SAMPLE		.05 pCi/g	SOIL	LANL010	05-JAN-10	4	4	1.281	66
244137001-1	RE12-10-7859	SAMPLE		.05 pCi/g	SOIL	LANL010	04-JAN-10	5	5	1.272	67
244137002-1	RE12-10-7851	SAMPLE		.05 pCi/g	SOIL	LANL010	04-JAN-10	6	6	1.262	68
244137003-1	RE12-10-7852	SAMPLE		.05 pCi/g	SOIL	LANL010	04-JAN-10	7	7	1.284	69
244137004-1	RE12-10-7850	SAMPLE		.05 pCi/g	SOIL	LANL010	04-JAN-10	8	8	1.263	70
244137005-1	RE12-10-7853	SAMPLE		.05 pCi/g	SOIL	LANL010	04-JAN-10	9	9	1.282	71
244137006-1	RE12-10-7848	SAMPLE		.05 pCi/g	SOIL	LANL010	04-JAN-10	10	10	1.254	72
244137007-1	RE12-10-7849	SAMPLE		.05 pCi/g	SOIL	LANL010	04-JAN-10	11	11	1.251	73
1202012014-1	MB for batch 940223	MB		.05 pCi/g	SOIL	QC ACCOUNT		12	12	1	74
1202012015-1	RE12-10-7697(244125002DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	05-JAN-10	13	13	1.250	75
1202012016-1	LCS for batch 940223	LCS		.05 pCi/g	SOIL	QC ACCOUNT		14	14	0.102	76

* SRM: 0244-B exp 04/30/20 0.102 g

Choose SOP Used: GL-RAD-A-011, GL-RAD-A-036, GL-RAD-A-045, GL-RAD-A-043

Solid Sample Dissolution by: LEACH or DIGESTION (Circle One)

Data Reviewed By: [illegible] 1/18/10

GEL Laboratories LLC, , Radiochemistry Division

SDM 1/18/10

Blank Correction Report

Batch ID 940223

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202012015	DUP	Plutonium-238	1.25 g	0.00	0.00132	0.0218	.00136	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0066	0.00297	0.025	.00408	pCi/g	YES
1202012016	LCS	Plutonium-238	0.102 g	8.00	0.618	0.291	.016666667	pCi/g	NO
		Plutonium-239/240	0.102 g	38.1	2.48	0.332	.05	pCi/g	NO
1202012014	MB	Plutonium-238	1.00 g	0.0017	0.0045	0.0281	.0017	pCi/g	YES
		Plutonium-239/240	1.00 g	0.0051	0.00511	0.0321	.0051	pCi/g	YES
244125001	RE12-10-7698	Plutonium-238	1.25 g	0.00	0.0052	0.0202	.00136	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00368	0.00325	0.0232	.00408	pCi/g	YES
244125002	RE12-10-7697	Plutonium-238	1.26 g	0.00	0.00722	0.0234	.001349206	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00142	0.00549	0.0268	.004047619	pCi/g	YES
244125003	RE12-10-7704	Plutonium-238	1.27 g	0.0167	0.00686	0.0229	.001338583	pCi/g	NO
		Plutonium-239/240	1.27 g	-0.00139	0.00368	0.0263	.004015748	pCi/g	YES
244125004	RE12-10-7703	Plutonium-238	1.28 g	0.00565	0.00774	0.0233	.001328125	pCi/g	YES
		Plutonium-239/240	1.28 g	0.0113	0.0045	0.0267	.003984375	pCi/g	YES
244137001	RE12-10-7859	Plutonium-238	1.27 g	0.00427	0.00588	0.0235	.001338583	pCi/g	YES
		Plutonium-239/240	1.27 g	0.00142	0.00247	0.0269	.004015748	pCi/g	YES
244137002	RE12-10-7851	Plutonium-238	1.26 g	0.00429	0.00248	0.0236	.001349206	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00286	0.00404	0.027	.004047619	pCi/g	YES
244137003	RE12-10-7852	Plutonium-238	1.28 g	-3.24E-10	0.00272	0.0225	.001328125	pCi/g	YES
		Plutonium-239/240	1.28 g	0.0231	0.00635	0.0257	.003984375	pCi/g	NO
244137004	RE12-10-7850	Plutonium-238	1.26 g	-0.0118	0.00657	0.0217	.001349206	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0105	0.00495	0.0248	.004047619	pCi/g	YES
244137005	RE12-10-7853	Plutonium-238	1.28 g	-0.00587	0.00689	0.0243	.001328125	pCi/g	YES
		Plutonium-239/240	1.28 g	0.00147	0.00328	0.0277	.003984375	pCi/g	YES
244137006	RE12-10-7848	Plutonium-238	1.25 g	0.00262	0.00693	0.0216	.00136	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00393	0.00472	0.0247	.00408	pCi/g	YES
244137007	RE12-10-7849	Plutonium-238	1.25 g	0.0014	0.0014	0.0231	.00136	pCi/g	YES
		Plutonium-239/240	1.25 g	-0.0056	0.00396	0.0265	.00408	pCi/g	YES

JDM 1/18/10

Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

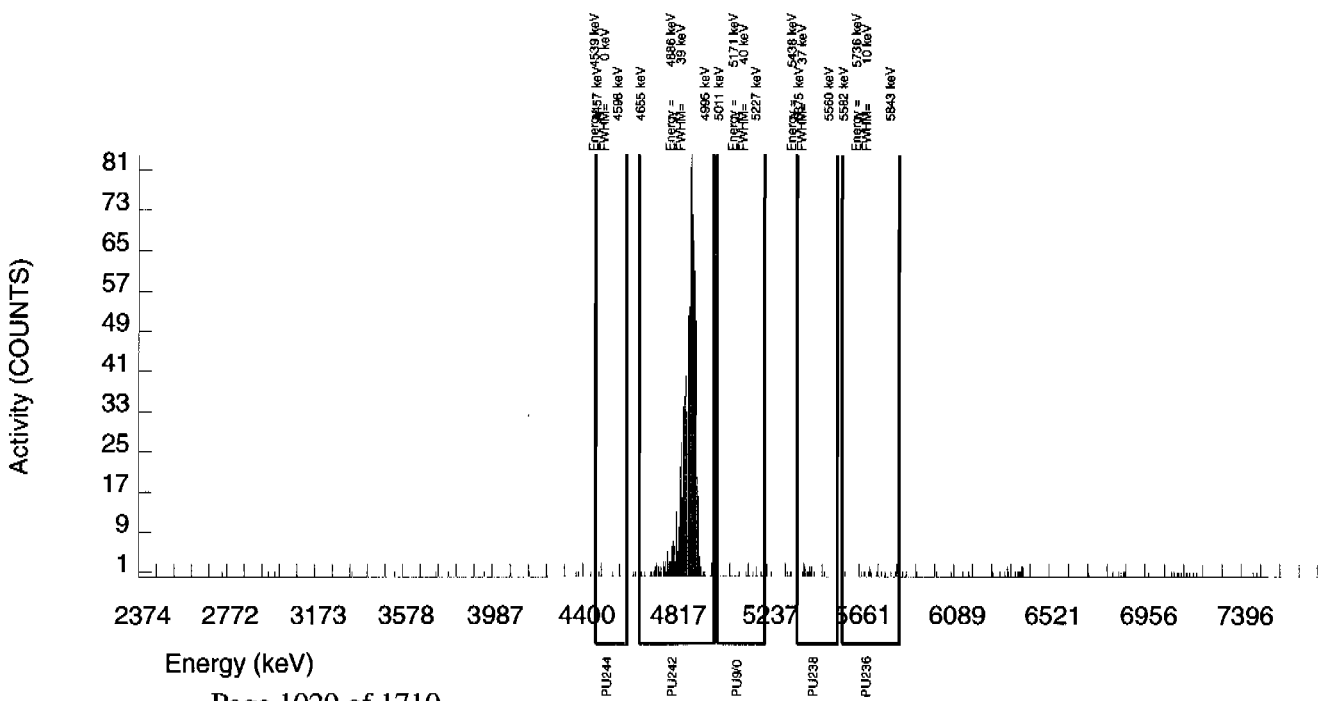
BATCH NUMBER: 940223 SAMPLE DATE : 5-JAN-2010 00:00:00.	SAMPLE ID : S0244125002_PU SAMPLE QTY: 1.259 G
DETECTOR NUMBER :42483 AVERAGE %EFFICIENCY :31.2622 % YIELD : 80.880	COUNT DATE:16-JAN-2010 11:29:55 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 1374-A	LIB FILE : ENV_ALPHA_PU.N
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG FILE : B048.CNF;1102
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.73813 dpm	EFF FILE : W048.CNF;314
			CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	8.000	1.000	7.000	3.4797	99.90000	1.42E-03	5.49E-03	1.15E-02	2.68E-02	5.49E-03
PU-236	5749.000	14.000	-1.000	15.000	2.1286	100.0000	-1.43E-03	7.68E-03	7.01E-03	1.78E-02	7.68E-03
PU-238	5499.000	13.000	0.000	13.000	2.9680	99.90000	0.00E+00	7.22E-03	9.78E-03	2.34E-02	7.22E-03
PU242	4890.000	859.000	856.000	3.000	1.7321	100.0000	1.21E+00	7.60E-02	5.70E-03	1.52E-02	4.15E-02
PU-244	4589.000	3.000	2.000	1.000	5.2050	99.90000	2.83E-03	2.84E-03	1.72E-02	3.81E-02	2.83E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940223
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137001_PU
SAMPLE QTY: 1.272 G

DETECTOR NUMBER :46-089B4
AVERAGE %EFFICIENCY :32.5269
% YIELD : 76.554

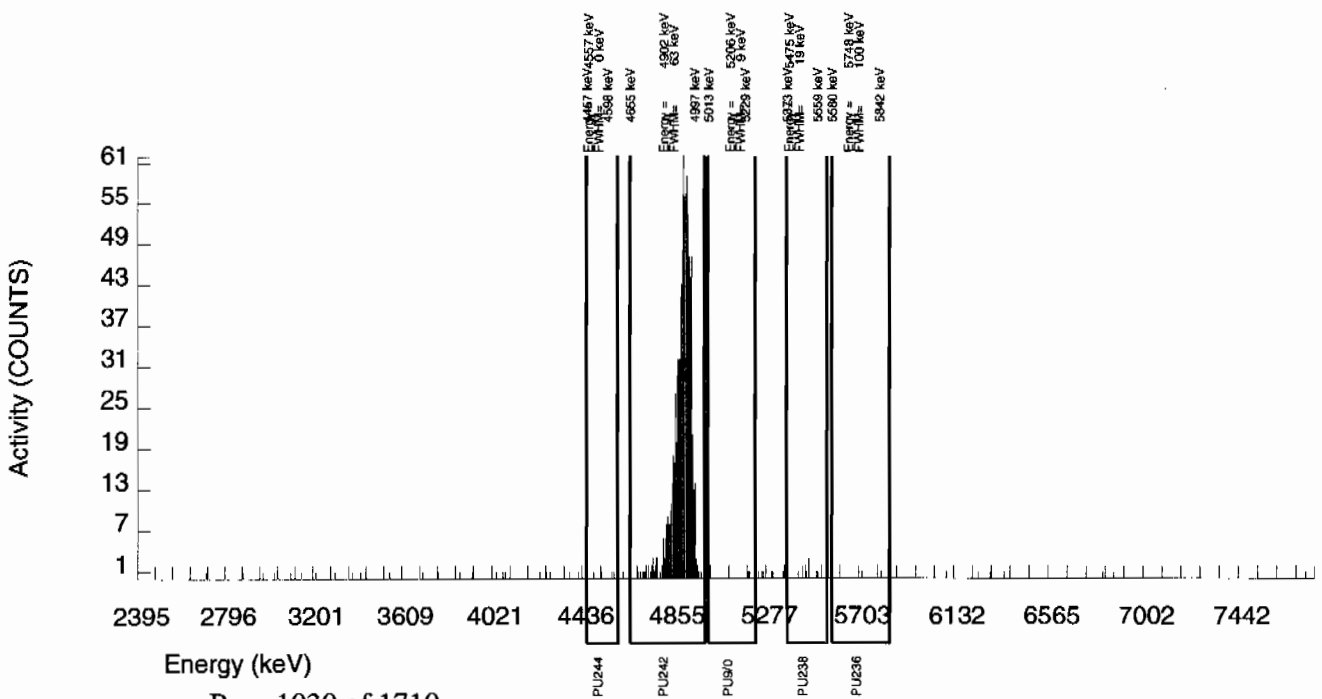
COUNT DATE:16-JAN-2010 11:29:57
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 1374-A	LIB FILE : ENV_ALPHA_PU.N
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG FILE : B067.CNF;1093
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.59170 dpm	EFF FILE : W067.CNF;287
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	2.000	1.000	1.000	3.4797	99.90000	1.42E-03	2.47E-03	1.15E-02	2.69E-02	2.47E-03
PU-236	5749.000	3.000	0.000	3.000	2.1286	100.0000	-6.84E-10	3.51E-03	7.04E-03	1.79E-02	3.51E-03
PU-238	5499.000	10.000	3.000	7.000	2.9680	99.90000	4.27E-03	5.88E-03	9.83E-03	2.35E-02	5.87E-03
PU242	4890.000	850.000	843.000	7.000	2.6458	100.0000	1.20E+00	7.57E-02	8.75E-03	2.14E-02	4.16E-02
PU-244	4589.000	5.000	5.000	0.000	5.2050	99.90000	7.12E-03	3.21E-03	1.72E-02	3.83E-02	3.18E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

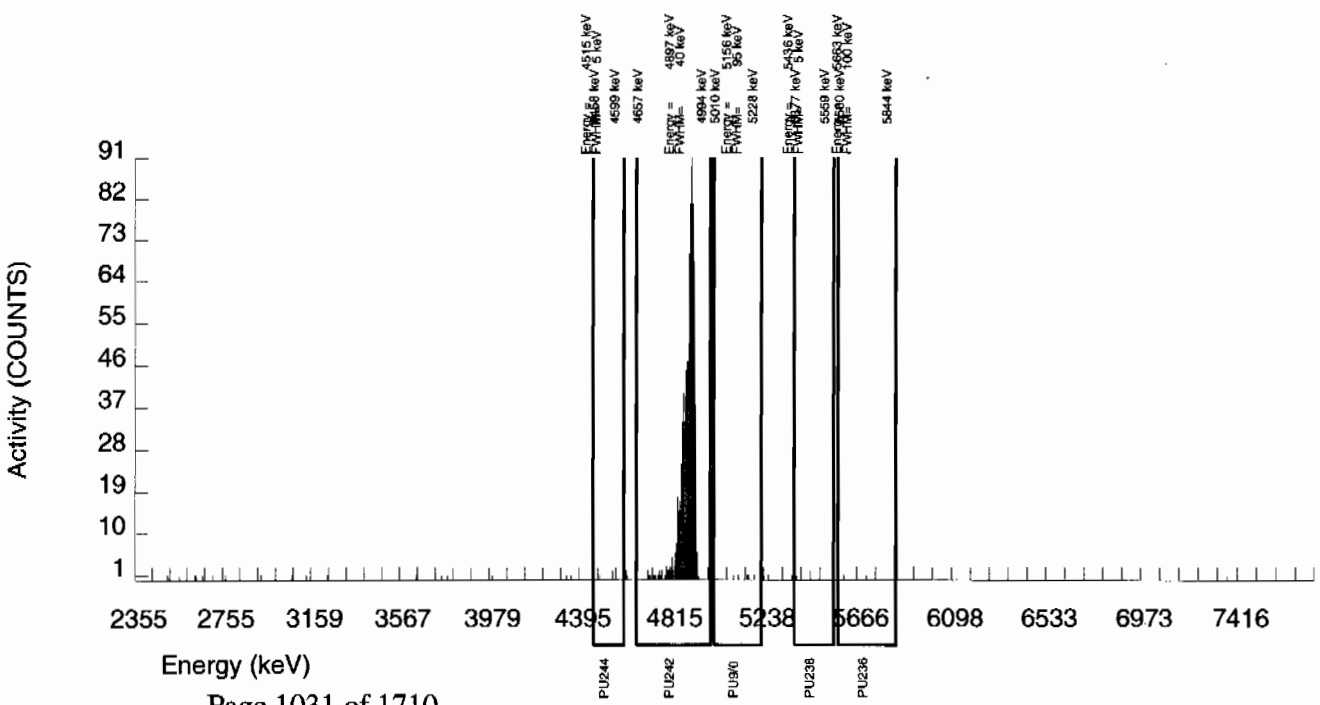
BATCH NUMBER: 940223 SAMPLE DATE : 4-JAN-2010 00:00:00.	SAMPLE ID : S0244137002_PU SAMPLE QTY: 1.262 G
DETECTOR NUMBER :78794 AVERAGE %EFFICIENCY :29.6665 % YIELD : 84.334	COUNT DATE:16-JAN-2010 11:29:57 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 1374-A	LIB FILE : ENV_ALPHA_PU.N
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG FILE : B068.CNF;1086
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.85507 dpm	EFF FILE : W068.CNF;278
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	5.000	2.000	3.000	3.4797	99.90000	2.86E-03	4.04E-03	1.16E-02	2.70E-02	4.04E-03
PU-236	5749.000	2.000	-5.000	7.000	2.1286	100.0000	-7.19E-03	4.32E-03	7.06E-03	1.80E-02	4.32E-03
PU-238	5499.000	3.000	3.000	0.000	2.9680	99.90000	4.29E-03	2.48E-03	9.86E-03	2.36E-02	2.47E-03
PU242	4890.000	849.000	847.000	2.000	1.4142	100.0000	1.21E+00	7.60E-02	4.69E-03	1.33E-02	4.16E-02
PU-244	4589.000	4.000	2.000	2.000	5.2050	99.90000	2.86E-03	3.50E-03	1.73E-02	3.85E-02	3.50E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940223
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137003_PU
SAMPLE QTY: 1.284 G

DETECTOR NUMBER :78795
AVERAGE %EFFICIENCY :31.8131
% YIELD : 81.151

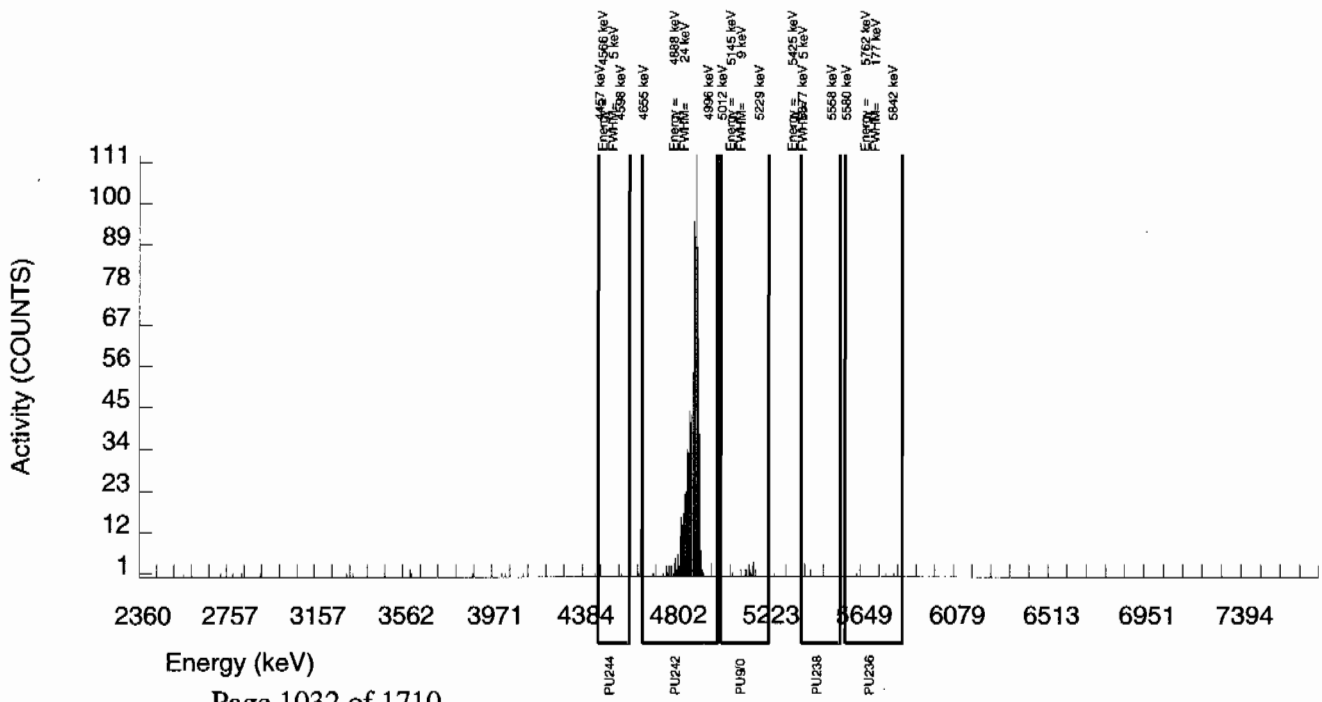
COUNT DATE:16-JAN-2010 11:29:57
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 1374-A	LIB FILE : ENV_ALPHA_PU.N
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG FILE : B069.CNF;1088
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.74730 dpm	EFF FILE : W069.CNF;285
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	19.000	17.000	2.000	3.4797	99.90000	2.31E-02	6.35E-03	1.10E-02	2.57E-02	6.23E-03
PU-236	5749.000	4.000	2.000	2.000	2.1286	100.0000	2.74E-03	3.36E-03	6.73E-03	1.71E-02	3.36E-03
PU-238	5499.000	2.000	0.000	2.000	2.9680	99.90000	-3.24E-10	2.72E-03	9.39E-03	2.25E-02	2.72E-03
PU242	4890.000	877.000	874.000	3.000	1.7321	100.0000	1.19E+00	7.40E-02	5.48E-03	1.46E-02	4.03E-02
PU-244	4589.000	1.000	-1.000	2.000	5.2050	99.90000	-1.36E-03	2.36E-03	1.65E-02	3.66E-02	2.36E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

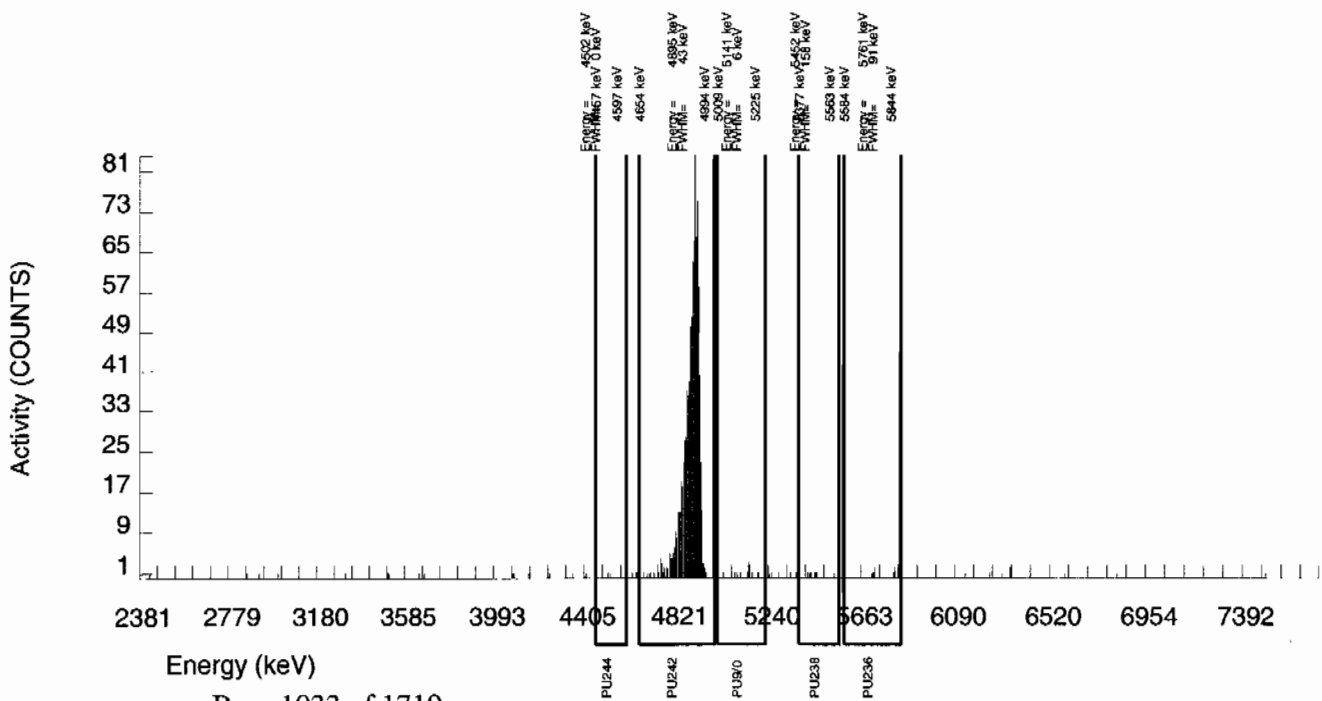
BATCH NUMBER: 940223 SAMPLE DATE : 4-JAN-2010 00:00:00.	SAMPLE ID : S0244137004_PU SAMPLE QTY: 1.263 G
DETECTOR NUMBER :46-089B2 AVERAGE %EFFICIENCY :34.9911 % YIELD : 77.663	COUNT DATE:16-JAN-2010 11:29:57 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 1374-A	LIB FILE : ENV_ALPHA_PU.N
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG FILE : B070.CNF;1098
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.62924 dpm	EFF FILE : W070.CNF;290
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	11.000	8.000	3.000	3.4797	99.90000	1.05E-02	4.95E-03	1.06E-02	2.48E-02	4.92E-03
PU-236	5749.000	9.000	1.000	8.000	2.1286	100.0000	1.32E-03	5.46E-03	6.50E-03	1.66E-02	5.46E-03
PU-238	5499.000	8.000	-9.000	17.000	2.9680	99.90000	-1.18E-02	6.57E-03	9.07E-03	2.17E-02	6.57E-03
PU242	4890.000	923.000	920.000	3.000	1.7321	100.0000	1.21E+00	7.41E-02	5.29E-03	1.41E-02	3.99E-02
PU-244	4589.000	3.000	2.000	1.000	5.2050	99.90000	2.63E-03	2.63E-03	1.59E-02	3.54E-02	2.63E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940223
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137005_PU
SAMPLE QTY: 1.282 G

DETECTOR NUMBER :64259
AVERAGE %EFFICIENCY :32.3636
% YIELD : 74.020

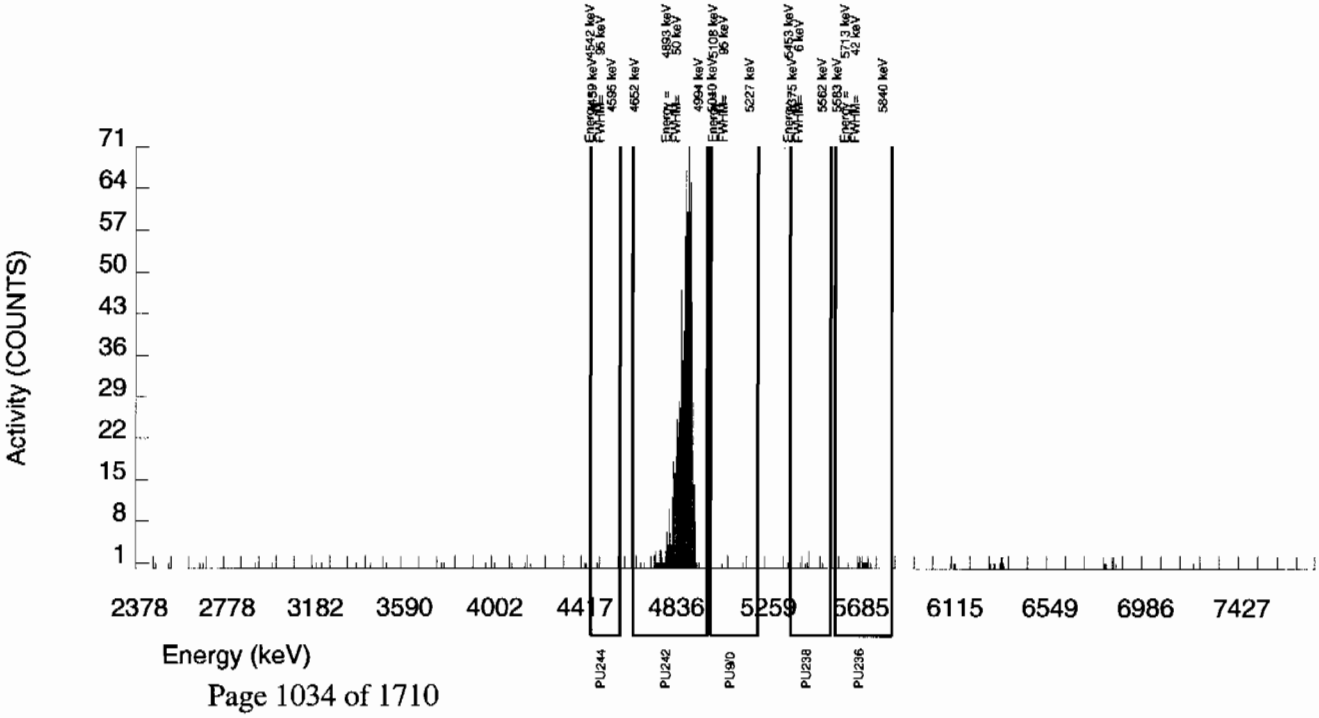
COUNT DATE:16-JAN-2010 11:29:58
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 1374-A	LIB FILE : ENV_ALPHA_PU.N
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG FILE : B071.CNF;1091
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.50590 dpm	EFF FILE : W071.CNF;284
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	3.000	1.000	2.000	3.4797	99.90000	1.47E-03	3.28E-03	1.19E-02	2.77E-02	3.28E-03
PU-236	5749.000	14.000	9.000	5.000	2.1286	100.0000	1.33E-02	6.49E-03	7.26E-03	1.85E-02	6.45E-03
PU-238	5499.000	9.000	-4.000	13.000	2.9680	99.90000	-5.87E-03	6.89E-03	1.01E-02	2.43E-02	6.89E-03
PU242	4890.000	815.000	811.000	4.000	2.0000	100.0000	1.19E+00	7.59E-02	6.82E-03	1.76E-02	4.20E-02
PU-244	4589.000	2.000	1.000	1.000	5.2050	99.90000	1.47E-03	2.54E-03	1.78E-02	3.95E-02	2.54E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940223
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137006_PU
SAMPLE QTY: 1.254 G

DETECTOR NUMBER :45-149AA3
AVERAGE %EFFICIENCY :32.2361
% YIELD : 85.217

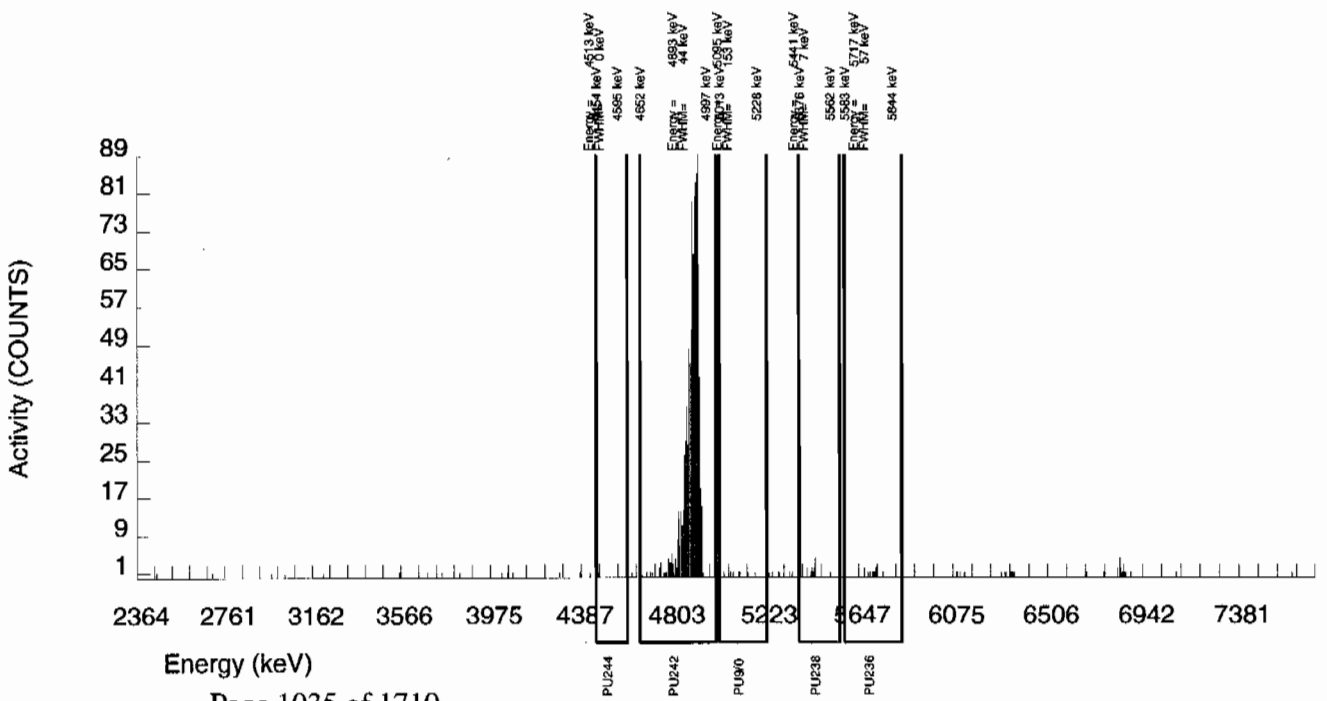
COUNT DATE:16-JAN-2010 11:29:58
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 1374-A	LIB FILE : ENV_ALPHA_PU.N
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG FILE : B072.CNF;1089
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.88496 dpm	EFF FILE : W072.CNF;275
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	8.000	3.000	5.000	3.4797	99.90000	3.93E-03	4.72E-03	1.06E-02	2.47E-02	4.72E-03
PU-236	5749.000	11.000	0.000	11.000	2.1286	100.0000	0.00E+00	6.19E-03	6.48E-03	1.65E-02	6.19E-03
PU-238	5499.000	15.000	2.000	13.000	2.9680	99.90000	2.62E-03	6.93E-03	9.04E-03	2.16E-02	6.93E-03
PU242	4890.000	933.000	930.000	3.000	1.7321	100.0000	1.22E+00	7.44E-02	5.27E-03	1.41E-02	4.00E-02
PU-244	4589.000	3.000	3.000	0.000	5.2050	99.90000	3.93E-03	2.28E-03	1.58E-03	3.52E-02	2.27E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940223
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137007_PU
SAMPLE QTY: 1.251 G

DETECTOR NUMBER :78775
AVERAGE %EFFICIENCY :33.5654
% YIELD : 76.650

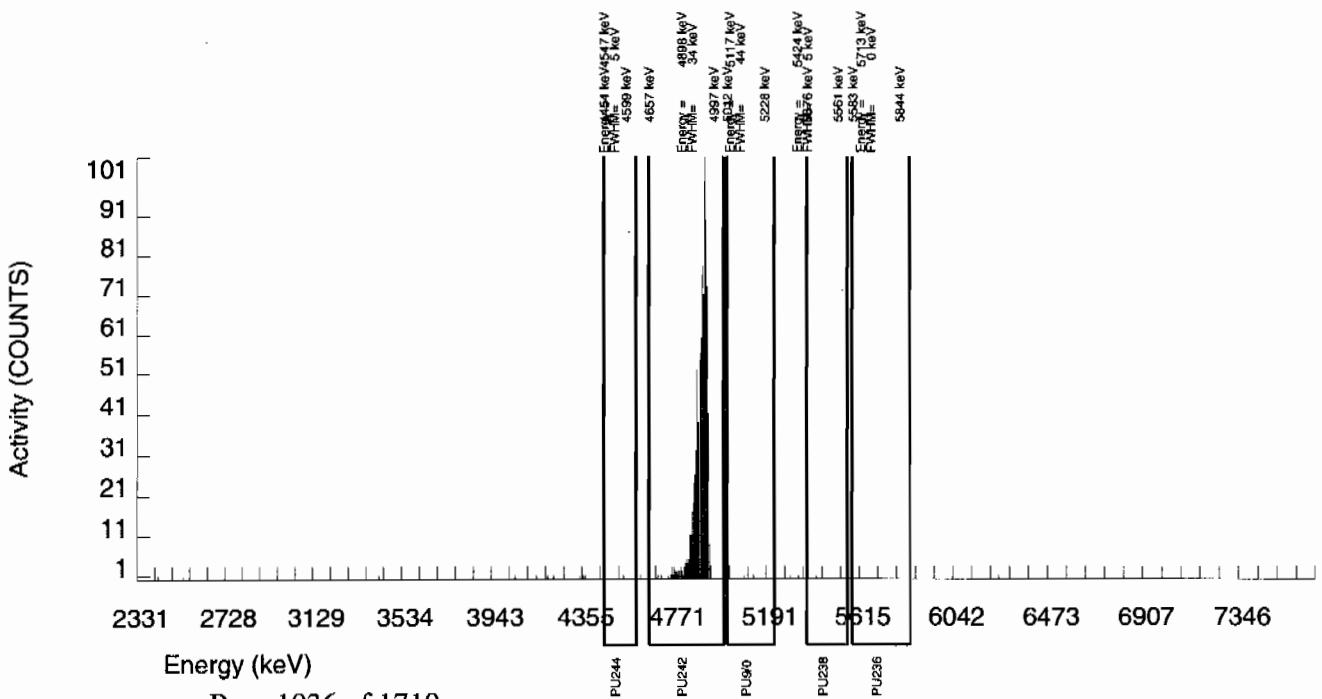
COUNT DATE:16-JAN-2010 11:29:58
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 1374-A	LIB FILE : ENV_ALPHA_PU.N
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG FILE : B073.CNF;1091
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.59494 dpm	EFF FILE : W073.CNF;283
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	2.000	-4.000	6.000	3.4797	99.90000	-5.60E-03	3.96E-03	1.13E-02	2.65E-02	3.96E-03
PU-236	5749.000	0.000	-1.000	1.000	2.1286	100.0000	-1.41E-03	2.00E-03	6.93E-03	1.77E-02	2.00E-03
PU-238	5499.000	1.000	1.000	0.000	2.9680	99.90000	1.40E-03	1.40E-03	9.67E-03	2.31E-02	1.40E-03
PU242	4890.000	873.000	871.000	2.000	1.4142	100.0000	1.22E+00	7.60E-02	4.60E-03	1.30E-02	4.14E-02
PU-244	4589.000	1.000	-2.000	3.000	5.2050	99.90000	-2.80E-03	2.80E-03	1.70E-02	3.77E-02	2.80E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

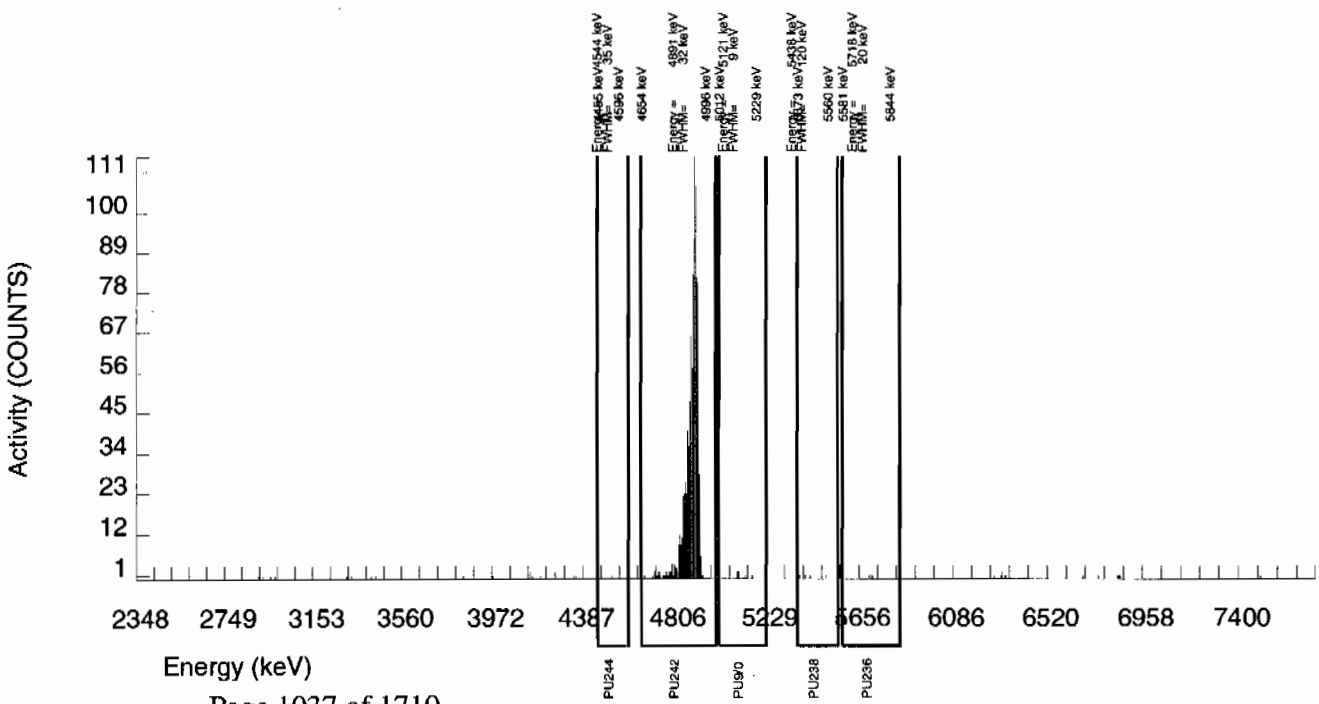
BATCH NUMBER: 940223 SAMPLE DATE : 13-JAN-2010 00:00:00	SAMPLE ID : S1202012014_PU SAMPLE QTY: 1.000 G
DETECTOR NUMBER :78266 AVERAGE %EFFICIENCY :31.6797 % YIELD : 83.730	COUNT DATE:16-JAN-2010 11:29:58 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	ID : 1374-A ISOTOPE : PU242 NOMINAL : 3.38543 dpm RESULTS : 2.83462 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B074.CNF;1113 BKG DATE : 10-JAN-2010 EFF FILE : W074.CNF;330 CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	6.000	3.000	3.000	3.4797	99.90000	5.10E-03	5.11E-03	1.38E-02	3.21E-02	5.10E-03
PU-236	5749.000	3.000	1.000	2.000	2.1286	100.0000	1.70E-03	3.81E-03	8.41E-03	2.14E-02	3.81E-03
PU-238	5499.000	4.000	1.000	3.000	2.9680	99.90000	1.70E-03	4.50E-03	1.17E-02	2.81E-02	4.50E-03
PU242	4890.000	900.000	898.000	2.000	1.4142	100.0000	1.52E+00	9.42E-02	5.59E-03	1.58E-02	5.10E-02
PU-244	4589.000	2.000	1.000	1.000	5.2050	99.90000	1.70E-03	2.95E-03	2.06E-02	4.58E-02	2.94E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

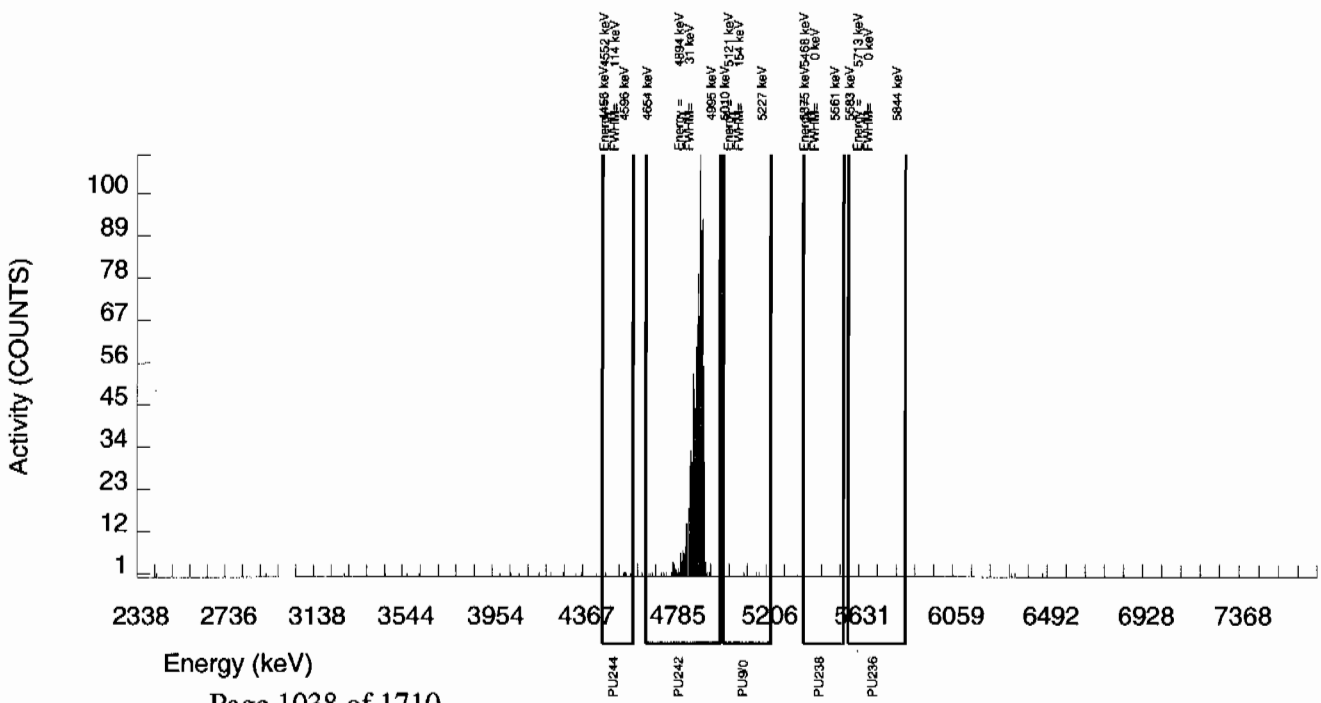
BATCH NUMBER: 940223 SAMPLE DATE : 5-JAN-2010 00:00:00.	SAMPLE ID : S1202012015_PU SAMPLE QTY: 1.250 G
DETECTOR NUMBER :80010 AVERAGE %EFFICIENCY :30.2754 % YIELD : 90.248	COUNT DATE:16-JAN-2010 11:29:58 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 1374-A	LIB FILE : ENV_ALPHA_PU.N
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG FILE : B075.CNF;1094
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 3.05528 dpm	EFF FILE : W075.CNF;288
			CAL DATE : 12-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	5.000	5.000	0.000	3.4797	99.90000	6.60E-03	2.97E-03	1.07E-02	2.50E-02	2.95E-03
PU-236	5749.000	0.000	0.000	0.000	2.1286	100.0000	0.00E+00	1.33E-03	6.53E-03	1.66E-02	1.33E-03
PU-238	5499.000	0.000	0.000	0.000	2.9680	99.90000	0.00E+00	1.32E-03	9.12E-03	2.18E-02	1.32E-03
PU242	4890.000	925.000	925.000	0.000	0.0000	100.0000	1.22E+00	7.46E-02	0.00E+00	3.57E-03	4.01E-02
PU-244	4589.000	5.000	5.000	0.000	5.2050	99.90000	6.60E-03	2.97E-03	1.60E-02	3.56E-02	2.95E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940223
SAMPLE DATE : 13-JAN-2010 00:00:00

SAMPLE ID : S1202012016_PU
SAMPLE QTY: 0.102 G

DETECTOR NUMBER :78779
AVERAGE %EFFICIENCY :30.8747
% YIELD : 81.417

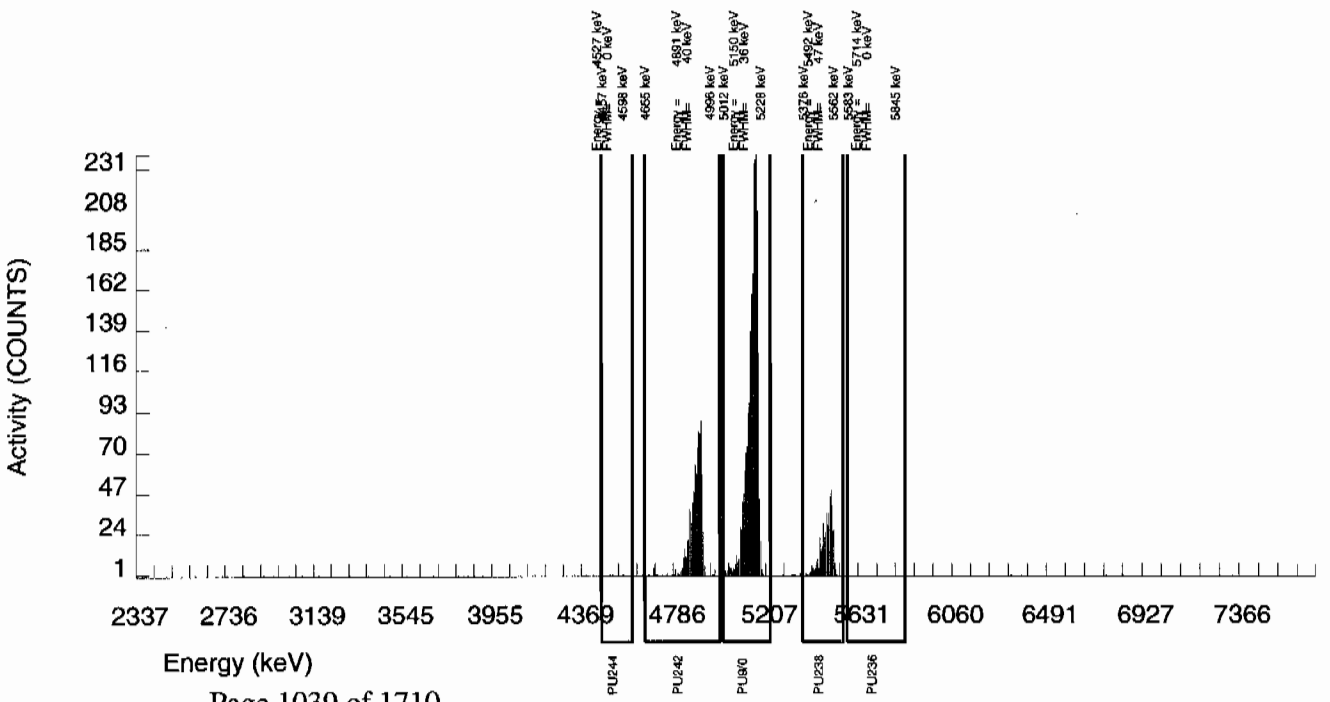
COUNT DATE:16-JAN-2010 11:29:58
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-B	ID : 0244-B	ID : 1374-A	LIB FILE : ENV_ALPHA_PU.N
ISOTOPE : PU-9/0	ISOTOPE : PU-9/0	ISOTOPE : PU242	BKG FILE : B076.CNF;1097
PCI/G : 4.178E+01	PCI/G : 4.178E+01	NOMINAL : 3.38543 dpm	BKG DATE : 10-JAN-2010
		RESULTS : 2.75630 dpm	EFF FILE : W076.CNF;293
			CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	2170.000	2169.000	1.000	3.4797	99.90000	3.81E+01	2.48E+00	1.42E-01	3.32E-01	8.19E-01
PU-236	5749.000	0.000	0.000	0.000	2.1286	100.0000	0.00E+00	1.76E-02	8.70E-02	2.22E-01	1.76E-02
PU-238	5499.000	455.000	455.000	0.000	2.9680	99.90000	8.00E+00	6.18E-01	1.21E-01	2.91E-01	3.75E-01
PU242	4890.000	859.000	851.000	8.000	2.8284	100.0000	1.50E+01	1.05E+00	1.16E-01	2.79E-01	5.17E-01
PU-244	4589.000	7.000	7.000	0.000	5.2050	99.90000	1.23E-01	4.71E-02	2.13E-01	4.74E-01	4.65E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Radiochemistry Batch Checklist, Rev10

Batch# 940225 Product: U Date: 1/20/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 mg for GAB.			N/A
Samples have been blank corrected (if required)	✓		
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits. Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%. Or meets the client's required RER acceptance criteria.	✓		
Tracer yield is 15-125% . Carrier yield 25-125%. Or meets the client's contract acceptance criteria.	✓		
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms. All line outs initialed and dated. No transcription errors are apparent.	✓		
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: Denise Green 1/20/10

Secondary Review Performed By: [signature] 1/20/10

2/5

LANL

PV

Uranium Que Sheet

11-JAN-10

Batch #: 940225 **Analyst:** JXD2 **First Client Due Date:** 05-FEB-10 **Internal Due Date** 25-JAN-10

Tracer Isotope: U-232/U-236 **Tracer Code:** 1283-H **Expiration Date:** 12/09/10 **Vol:** 0.1

LCS Isotope: U-238 **LCS Code:** — **Expiration Date:** — **Vol:** —

Spike Isotope: U-238 **Spike Code:** — **Expiration Date:** — **Vol:** —

Prep Date: 01/12/10 **Initials:** JXD **Pipet ID:** 2971058 **Balance ID:** 50410272 **Witness:** [illegible] 1/13/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g/l/f)	U Det #
244125001-1	RE12-10-7698	SAMPLE		.1 pCi/g	SOIL	LANL010	05-JAN-10	1	1	~~0.532~~ 0.532 [illegible]	159
244125002-1	RE12-10-7697	SAMPLE		.1 pCi/g	SOIL	LANL010	05-JAN-10	2	2	0.517	160
244125003-1	RE12-10-7704	SAMPLE		.1 pCi/g	SOIL	LANL010	05-JAN-10	3	3	0.546	162
244125004-1	RE12-10-7703	SAMPLE		.1 pCi/g	SOIL	LANL010	05-JAN-10	4	4	0.515	163
244137001-1	RE12-10-7859	SAMPLE		.1 pCi/g	SOIL	LANL010	04-JAN-10	5	5	0.545	~~164~~ 164
244137002-1	RE12-10-7851	SAMPLE		.1 pCi/g	SOIL	LANL010	04-JAN-10	6	6	0.512	165
244137003-1	RE12-10-7852	SAMPLE		.1 pCi/g	SOIL	LANL010	04-JAN-10	7	7	0.519	166
244137004-1	RE12-10-7850	SAMPLE		.1 pCi/g	SOIL	LANL010	04-JAN-10	8	8	0.532	167
244137005-1	RE12-10-7853	SAMPLE		.1 pCi/g	SOIL	LANL010	04-JAN-10	9	9	0.510	168
244137006-1	RE12-10-7848	SAMPLE		.1 pCi/g	SOIL	LANL010	04-JAN-10	10	10	0.529	169
244137007-1	RE12-10-7849	SAMPLE		.1 pCi/g	SOIL	LANL010	04-JAN-10	11	11	0.550	170
1202012017-1	MB for batch 940225	MB		.1 pCi/g	SOIL	QC ACCOUNT		12	12	1	171
1202012018-1	RE12-10-7697(244125002DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	05-JAN-10	13	13	0.527	172
1202012019-1	LCS for batch 940225	LCS		.1 pCi/g	SOIL	QC ACCOUNT		14	14	0.102	161

* SRM: 0244-A exp. 10/31/20 0.102g

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION
Circle One

Data Reviewed By: [illegible] 1/20/10

GEL Laboratories LLC, Radiochemistry Division

Blank Correction Report

Batch ID 940225

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202012018	DUP	Uranium-233/234	0.527 g	1.14	0.100	0.101	.018178368	pCi/g	NO
		Uranium-235/236	0.527 g	0.089	0.020	0.063	.009089184	pCi/g	NO
		Uranium-238	0.527 g	1.24	0.108	0.0588	.012258065	pCi/g	NO
1202012019	LCS	Uranium-233/234	0.102 g	5.86	0.534	0.461	.093921569	pCi/g	NO
		Uranium-235/236	0.102 g	0.496	0.103	0.286	.046960784	pCi/g	NO
		Uranium-238	0.102 g	5.47	0.504	0.267	.063333333	pCi/g	NO
1202012017	MB	Uranium-233/234	1.00 g	0.00958	0.00602	0.0401	.00958	pCi/g	YES
		Uranium-235/236	1.00 g	0.00479	0.00424	0.0249	.00479	pCi/g	YES
		Uranium-238	1.00 g	0.00646	0.0039	0.0232	.00646	pCi/g	YES
244125001	RE12-10-7698	Uranium-233/234	0.532 g	0.941	0.0899	0.117	.018007519	pCi/g	NO
		Uranium-235/236	0.532 g	0.0465	0.0165	0.0724	.009003759	pCi/g	NO
		Uranium-238	0.532 g	0.805	0.0796	0.0677	.012142857	pCi/g	NO
244125002	RE12-10-7697	Uranium-233/234	0.517 g	1.20	0.117	0.153	.018529981	pCi/g	NO
		Uranium-235/236	0.517 g	0.0793	0.0227	0.0949	.009264990	pCi/g	NO
		Uranium-238	0.517 g	1.32	0.125	0.0887	.012495164	pCi/g	NO
244125003	RE12-10-7704	Uranium-233/234	0.546 g	1.12	0.0945	0.0821	.017545788	pCi/g	NO
		Uranium-235/236	0.546 g	0.0852	0.0183	0.051	.008772894	pCi/g	NO
		Uranium-238	0.546 g	1.15	0.0969	0.0476	.011831502	pCi/g	NO
244125004	RE12-10-7703	Uranium-233/234	0.515 g	1.82	0.148	0.0976	.018601942	pCi/g	NO
		Uranium-235/236	0.515 g	0.132	0.0251	0.0606	.009300971	pCi/g	NO
		Uranium-238	0.515 g	2.02	0.162	0.0566	.012543689	pCi/g	NO
244137001	RE12-10-7859	Uranium-233/234	0.545 g	1.11	0.0997	0.104	.017577982	pCi/g	NO
		Uranium-235/236	0.545 g	0.121	0.0239	0.0647	.008788991	pCi/g	NO
		Uranium-238	0.545 g	1.26	0.110	0.0604	.011853211	pCi/g	NO
244137002	RE12-10-7851	Uranium-233/234	0.512 g	1.31	0.110	0.0907	.018710938	pCi/g	NO
		Uranium-235/236	0.512 g	0.0904	0.0198	0.0563	.009355469	pCi/g	NO
		Uranium-238	0.512 g	1.14	0.098	0.0526	.012617188	pCi/g	NO
244137003	RE12-10-7852	Uranium-233/234	0.519 g	1.47	0.125	0.106	.018458574	pCi/g	NO
		Uranium-235/236	0.519 g	0.123	0.0251	0.0659	.009229287	pCi/g	NO
		Uranium-238	0.519 g	1.55	0.131	0.0616	.012447013	pCi/g	NO
244137004	RE12-10-7850	Uranium-233/234	0.532 g	1.63	0.133	0.0922	.018007519	pCi/g	NO
		Uranium-235/236	0.532 g	0.154	0.0266	0.0572	.009003759	pCi/g	NO
		Uranium-238	0.532 g	1.78	0.144	0.0535	.012142857	pCi/g	NO
244137005	RE12-10-7853	Uranium-233/234	0.510 g	1.11	0.096	0.0921	.018784314	pCi/g	NO
		Uranium-235/236	0.510 g	0.106	0.0217	0.0572	.009392157	pCi/g	NO
		Uranium-238	0.510 g	1.11	0.0958	0.0534	.012666667	pCi/g	NO
244137006	RE12-10-7848	Uranium-233/234	0.529 g	1.34	0.115	0.101	.018109641	pCi/g	NO
		Uranium-235/236	0.529 g	0.105	0.0218	0.0627	.009054820	pCi/g	NO
		Uranium-238	0.529 g	1.42	0.121	0.0586	.012211720	pCi/g	NO
244137007	RE12-10-7849	Uranium-233/234	0.550 g	1.06	0.0917	0.0883	.017418182	pCi/g	NO
		Uranium-235/236	0.550 g	0.0669	0.016	0.0548	.008709091	pCi/g	NO

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
244137007	RE12-10-7849	Uranium-238	0.550 g	1.04	0.0903	0.0512	.011745455	pCi/g	NO

Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940225
SAMPLE DATE : 5-JAN-2010 00:00:00.

SAMPLE ID : S0244125002_UU
SAMPLE QTY: 0.517 G

DETECTOR NUMBER :79994
AVERAGE %EFFICIENCY :24.5767
% YIELD : 71.859

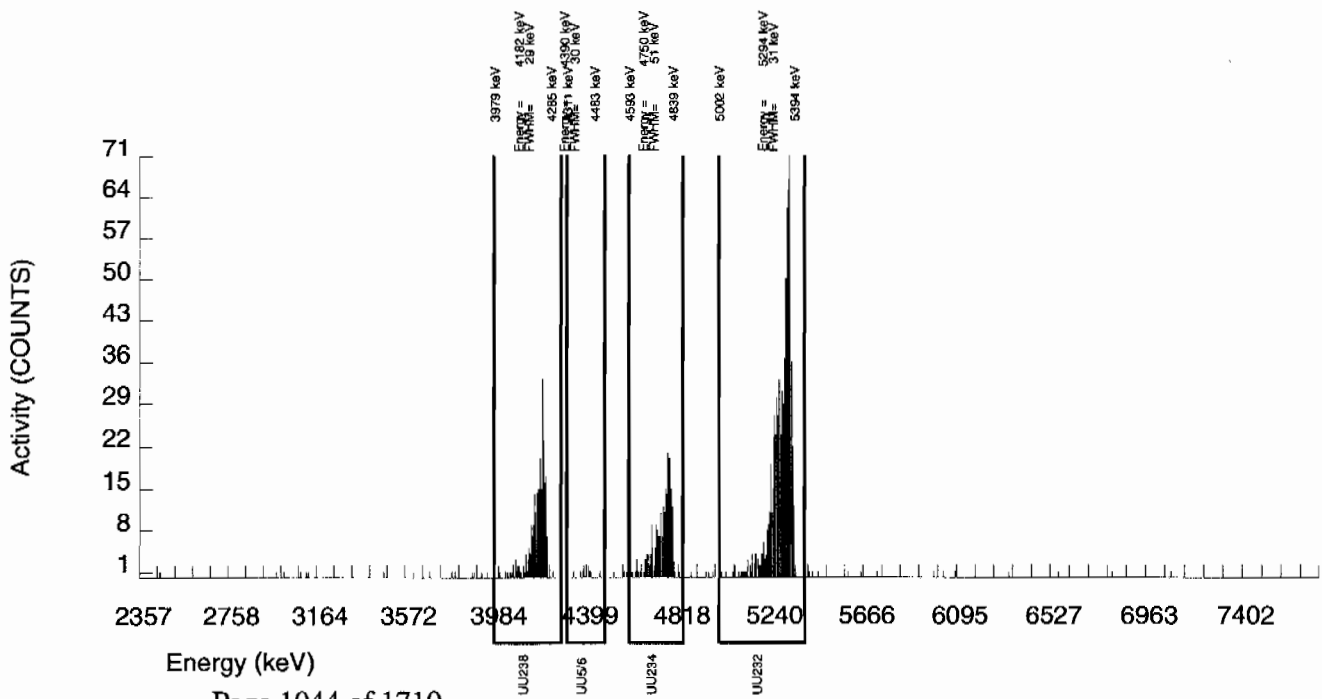
COUNT DATE:19-JAN-2010 10:47:52
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A	ID : 0244-A	ID : 1283-H	LIB FILE : ENV_ALPHA_UU.N
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG FILE : B160.CNF;367
PCI/G : 5.750E+00	PCI/G : 5.750E+00	NOMINAL : 4.50902 dpm	BKG DATE : 17-JAN-2010
		RESULTS : 3.24016 dpm	EFF FILE : W160.CNF;116
			CAL DATE : 18-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	246.000	244.195	1.000	6.0782	100.0000	1.20E+00	1.17E-01	6.98E-02	1.53E-01	7.74E-02
U232	5302.100	797.000	796.000	1.000	1.0000	100.0000	3.93E+00	3.19E-01	1.15E-02	3.63E-02	1.39E-01
U-235	4391.000	13.000	13.000	0.000	2.7628	80.90000	7.93E-02	2.27E-02	3.92E-02	9.49E-02	2.20E-02
U-238	4184.730	267.000	267.000	0.000	3.2810	100.0000	1.32E+00	1.25E-01	3.77E-02	8.87E-02	8.06E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

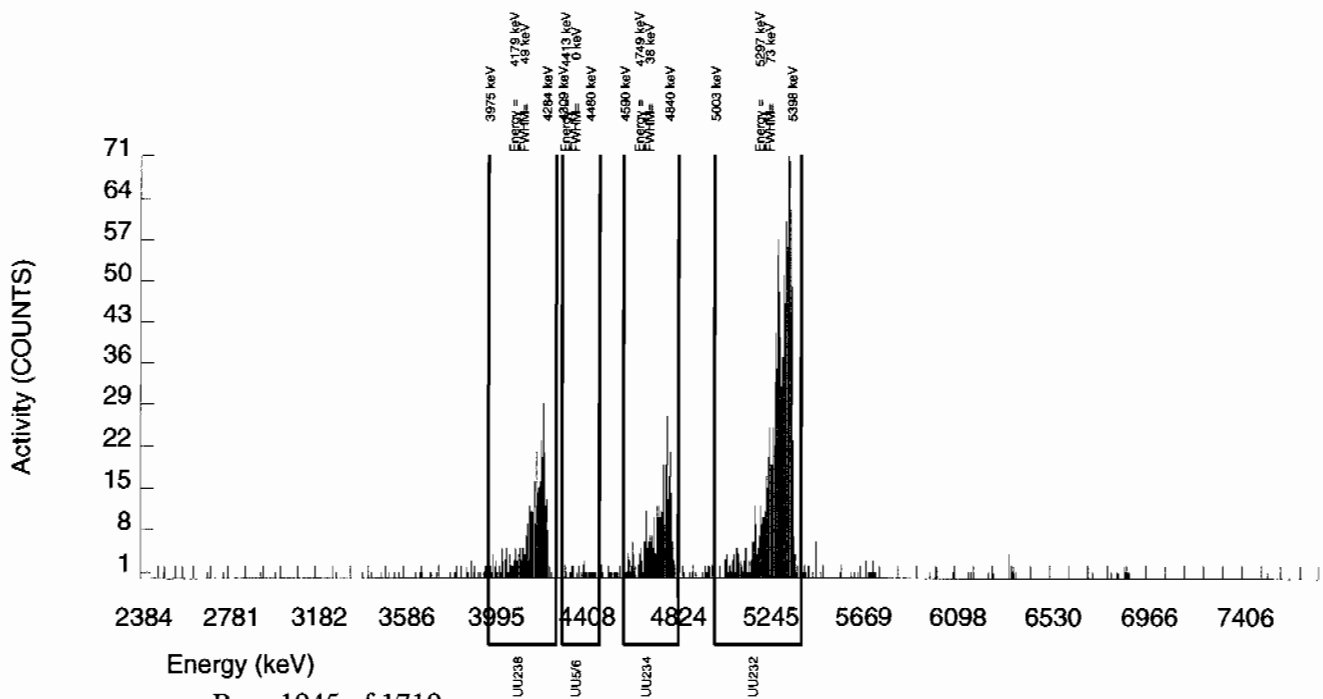
BATCH NUMBER: 940225 SAMPLE DATE : 4-JAN-2010 00:00:00.	SAMPLE ID : S0244137001_UU SAMPLE QTY: 0.545 G
DETECTOR NUMBER :70325 AVERAGE %EFFICIENCY :37.7257 % YIELD : 65.162	COUNT DATE:19-JAN-2010 09:35:14 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50915 dpm RESULTS : 2.93826 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B164.CNF;160 BKG DATE : 17-JAN-2010 EFF FILE : W164.CNF;52 CAL DATE : 21-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	334.000	330.880	2.000	6.0782	100.0000	1.11E+00	9.97E-02	4.75E-02	1.04E-01	6.15E-02
U232	5302.100	1125.000	1108.000	17.000	4.1231	100.0000	3.73E+00	2.86E-01	3.22E-02	7.36E-02	1.14E-01
U-235	4391.000	29.000	29.000	0.000	2.7628	80.90000	1.21E-01	2.39E-02	2.67E-02	6.47E-02	2.24E-02
U-238	4184.730	375.000	375.000	0.000	3.2810	100.0000	1.26E+00	1.10E-01	2.57E-02	6.04E-02	6.51E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

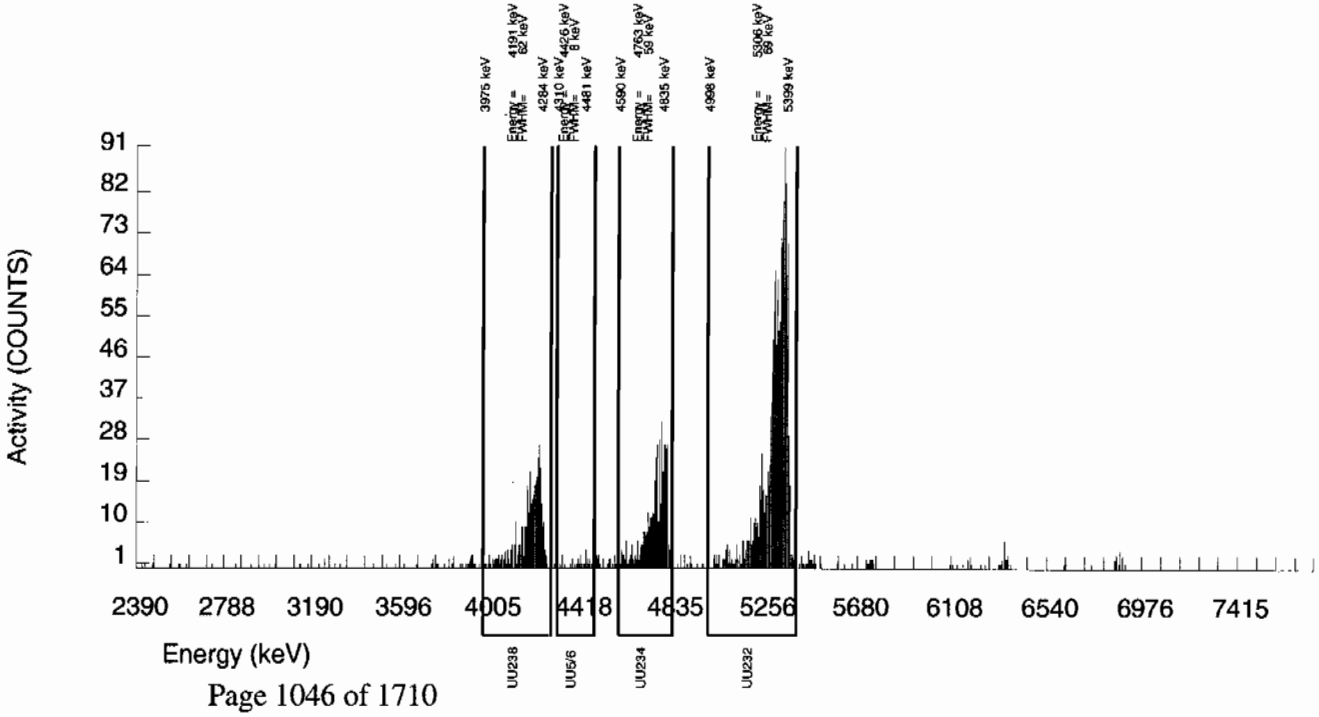
BATCH NUMBER: 940225 SAMPLE DATE : 4-JAN-2010 00:00:00.	SAMPLE ID : S0244137002_UU SAMPLE QTY: 0.512 G
DETECTOR NUMBER :72544 AVERAGE %EFFICIENCY :37.9939 % YIELD : 79.126	COUNT DATE:19-JAN-2010 09:35:17 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A	ID : 0244-A	ID : 1283-H	LIB FILE : ENV_ALPHA_UU.N
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG FILE : B165.CNF;160
PCI/G : 5.750E+00	PCI/G : 5.750E+00	NOMINAL : 4.50915 dpm	BKG DATE : 17-JAN-2010
		RESULTS : 3.56791 dpm	EFF FILE : W165.CNF;52
			CAL DATE : 21-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	451.000	448.630	1.000	6.0782	100.0000	1.31E+00	1.10E-01	4.14E-02	9.07E-02	6.21E-02
U232	5302.100	1363.000	1355.000	8.000	2.8284	100.0000	3.97E+00	2.95E-01	1.93E-02	4.64E-02	1.08E-01
U-235	4391.000	26.000	25.000	1.000	2.7628	80.90000	9.04E-02	1.98E-02	2.33E-02	5.63E-02	1.88E-02
U-238	4184.730	391.000	390.000	1.000	3.2810	100.0000	1.14E+00	9.80E-02	2.23E-02	5.26E-02	5.79E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940225
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137003_UU
SAMPLE QTY: 0.519 G

DETECTOR NUMBER :74545
AVERAGE %EFFICIENCY :39.1731
% YIELD : 64.680

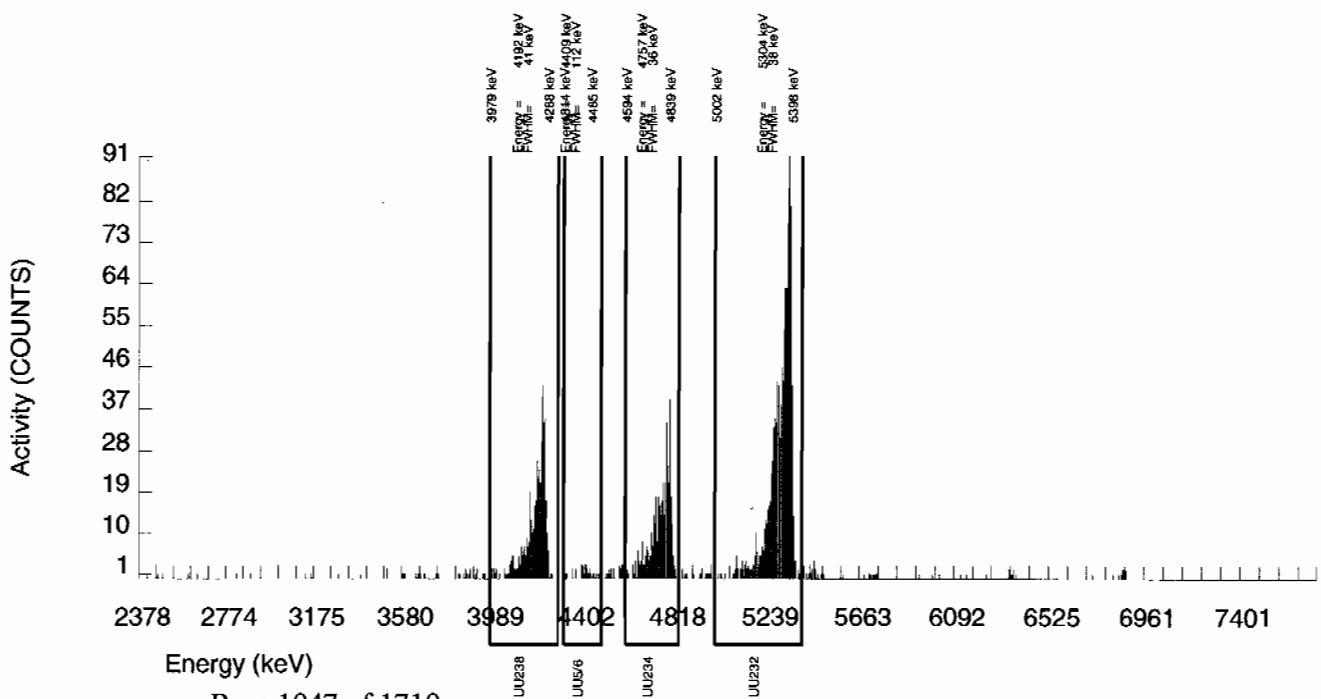
COUNT DATE:19-JAN-2010 09:35:20
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A	ID : 0244-A	ID : 1283-H	LIB FILE : ENV_ALPHA_UU.N
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG FILE : B166.CNF;161
PCI/G : 5.750E+00	PCI/G : 5.750E+00	NOMINAL : 4.50915 dpm	BKG DATE : 17-JAN-2010
		RESULTS : 2.91653 dpm	EFF FILE : W166.CNF;52
			CAL DATE : 21-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	429.000	427.845	0.000	6.0782	100.0000	1.47E+00	1.25E-01	4.84E-02	1.06E-01	7.09E-02
U232	5302.100	1154.000	1142.000	12.000	3.4641	100.0000	3.91E+00	2.99E-01	2.76E-02	6.45E-02	1.17E-01
U-235	4391.000	30.000	29.000	1.000	2.7628	80.90000	1.23E-01	2.51E-02	2.72E-02	6.59E-02	2.36E-02
U-238	4184.730	455.000	453.000	2.000	3.2810	100.0000	1.55E+00	1.31E-01	2.61E-02	6.16E-02	7.32E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

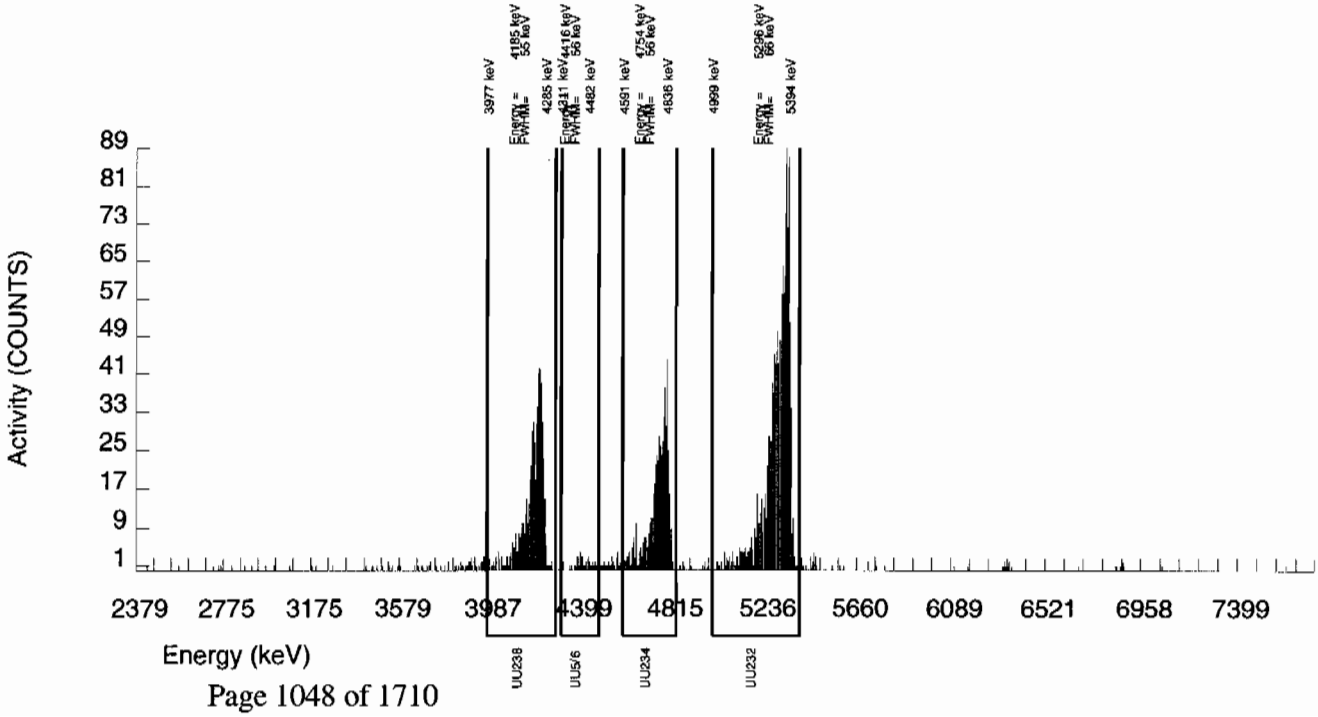
BATCH NUMBER: 940225 SAMPLE DATE : 4-JAN-2010 00:00:00.	SAMPLE ID : S0244137004_UU SAMPLE QTY: 0.532 G
DETECTOR NUMBER :72546 AVERAGE %EFFICIENCY :38.6386 % YIELD : 73.671	COUNT DATE:19-JAN-2010 09:35:22 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50915 dpm RESULTS : 3.32195 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B167.CNF;161 BKG DATE : 17-JAN-2010 EFF FILE : W167.CNF;52 CAL DATE : 21-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	550.000	547.703	1.000	6.0782	100.0000	1.63E+00	1.33E-01	4.21E-02	9.22E-02	6.97E-02
U232	5302.100	1290.000	1283.000	7.000	2.6458	100.0000	3.82E+00	2.86E-01	1.83E-02	4.47E-02	1.07E-01
U-235	4391.000	43.000	42.000	1.000	2.7628	80.90000	1.54E-01	2.66E-02	2.36E-02	5.72E-02	2.44E-02
U-238	4184.730	599.000	599.000	0.000	3.2810	100.0000	1.78E+00	1.44E-01	2.27E-02	5.35E-02	7.28E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940225
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137005_UU
SAMPLE QTY: 0.510 G

DETECTOR NUMBER :72547
AVERAGE %EFFICIENCY :39.2421
% YIELD : 75.761

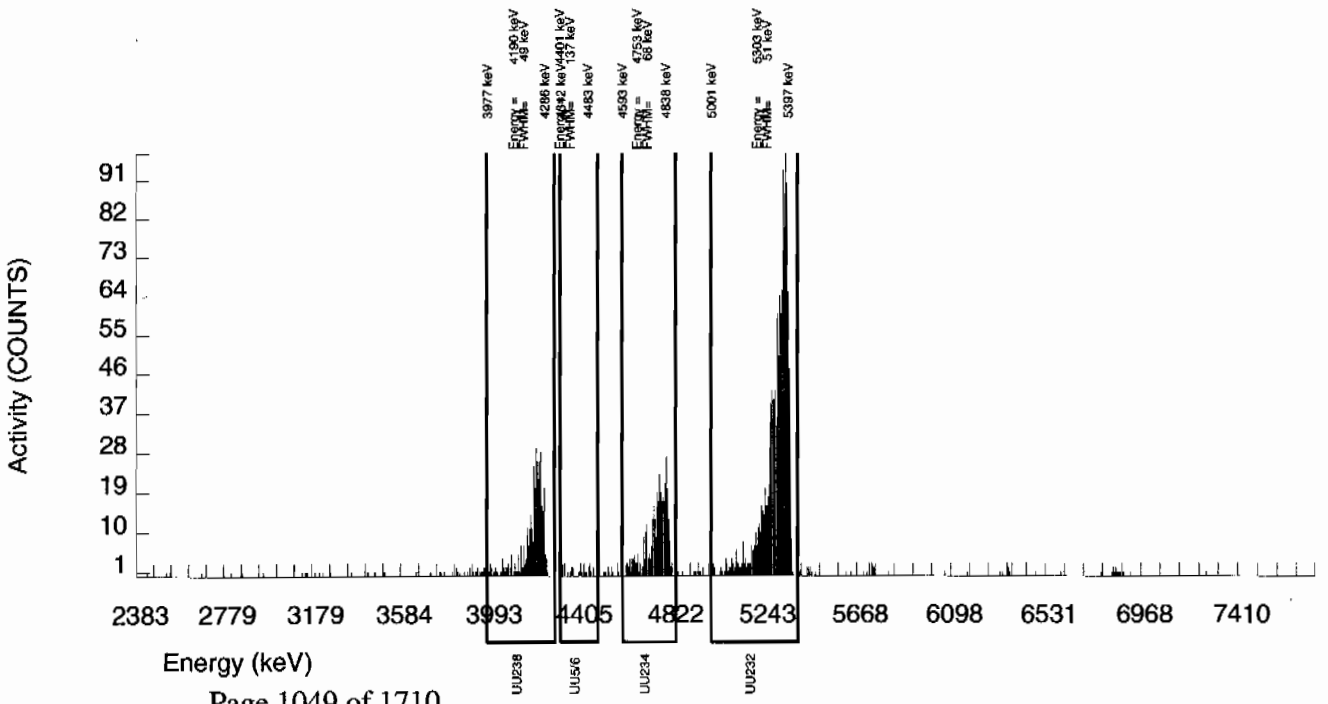
COUNT DATE:19-JAN-2010 09:35:24
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A	ID : 0244-A	ID : 1283-H	LIB FILE : ENV_ALPHA_UU.N
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG FILE : B168.CNF;161
PCI/G : 5.750E+00	PCI/G : 5.750E+00	NOMINAL : 4.50915 dpm	BKG DATE : 17-JAN-2010
		RESULTS : 3.41618 dpm	EFF FILE : W168.CNF;52
			CAL DATE : 21-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	376.000	373.645	1.000	6.0782	100.0000	1.11E+00	9.60E-02	4.20E-02	9.21E-02	5.76E-02
U232	5302.100	1344.000	1340.000	4.000	2.0000	100.0000	3.98E+00	2.97E-01	1.38E-02	3.57E-02	1.09E-01
U-235	4391.000	30.000	29.000	1.000	2.7628	80.90000	1.06E-01	2.17E-02	2.36E-02	5.72E-02	2.04E-02
U-238	4184.730	373.000	373.000	0.000	3.2810	100.0000	1.11E+00	9.58E-02	2.27E-02	5.34E-02	5.74E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940225
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137006_UU
SAMPLE QTY: 0.529 G

DETECTOR NUMBER :72548
AVERAGE %EFFICIENCY :37.7552
% YIELD : 69.225

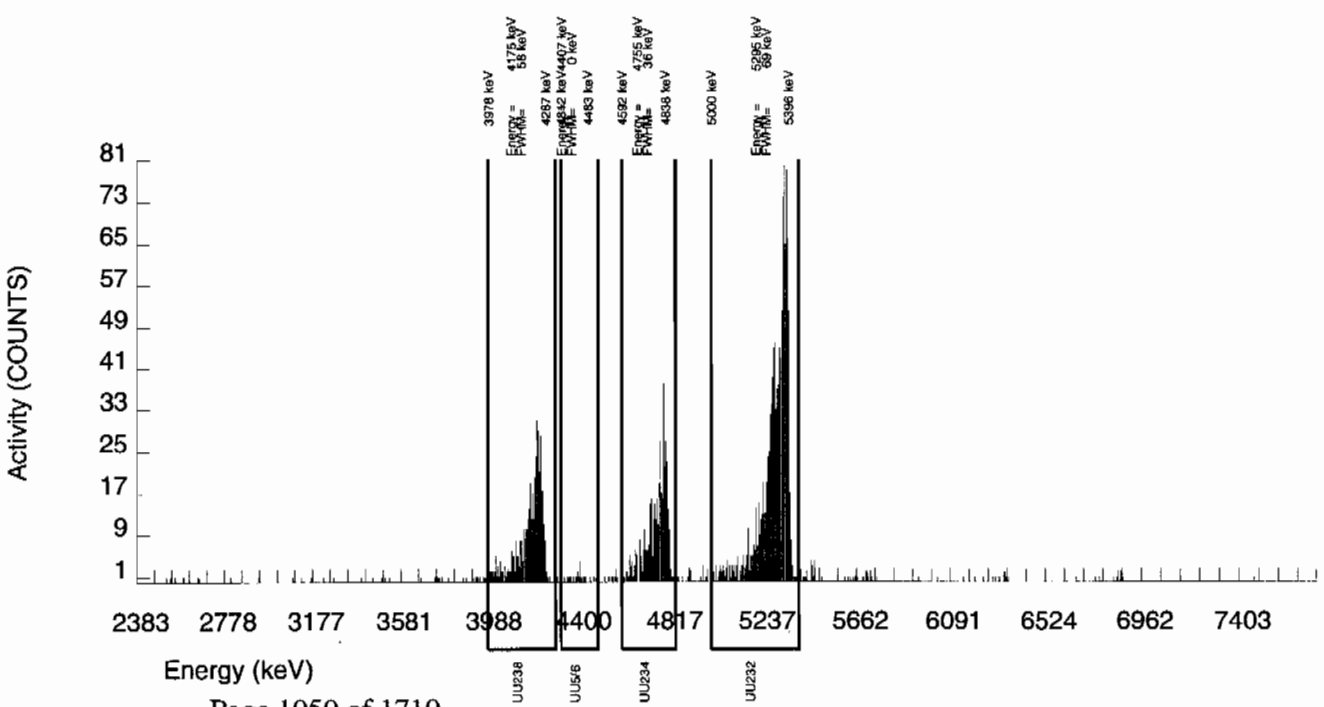
COUNT DATE:19-JAN-2010 09:35:27
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A	ID : 0244-A	ID : 1283-H	LIB FILE : ENV_ALPHA_UU.N
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG FILE : B169.CNF;163
PCI/G : 5.750E+00	PCI/G : 5.750E+00	NOMINAL : 4.50915 dpm	BKG DATE : 17-JAN-2010
		RESULTS : 3.12145 dpm	EFF FILE : W169.CNF;62
			CAL DATE : 21-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	413.000	410.809	1.000	6.0782	100.0000	1.34E+00	1.15E-01	4.61E-02	1.01E-01	6.62E-02
U232	5302.100	1187.000	1178.000	9.000	3.0000	100.0000	3.84E+00	2.92E-01	2.27E-02	5.43E-02	1.13E-01
U-235	4391.000	26.000	26.000	0.000	2.7628	80.90000	1.05E-01	2.18E-02	2.59E-02	6.27E-02	2.05E-02
U-238	4184.730	437.000	436.000	1.000	3.2810	100.0000	1.42E+00	1.21E-01	2.49E-02	5.86E-02	6.82E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940225
SAMPLE DATE : 4-JAN-2010 00:00:00.

SAMPLE ID : S0244137007_UU
SAMPLE QTY: 0.550 G

DETECTOR NUMBER :72549
AVERAGE %EFFICIENCY :36.7019
% YIELD : 78.284

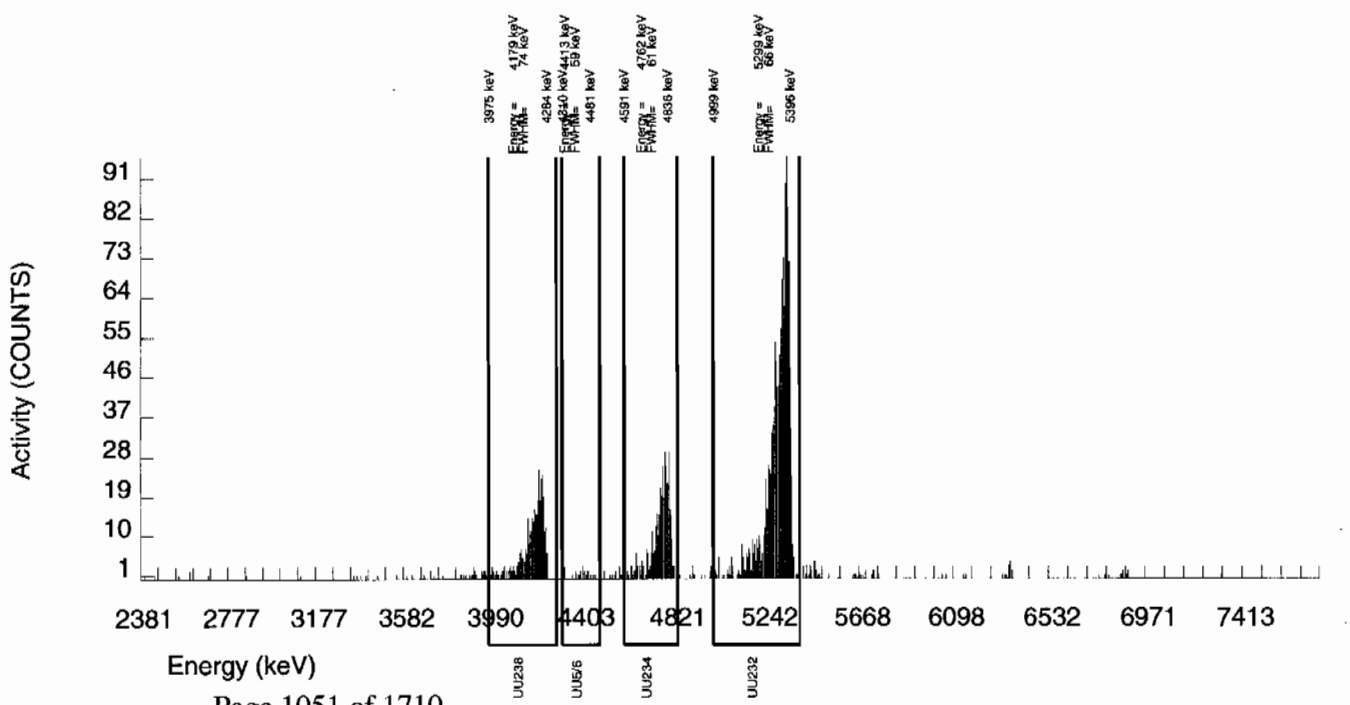
COUNT DATE:19-JAN-2010 09:35:29
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A	ID : 0244-A	ID : 1283-H	LIB FILE : ENV_ALPHA_UU.N
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG FILE : B170.CNF;161
PCI/G : 5.750E+00	PCI/G : 5.750E+00	NOMINAL : 4.50915 dpm	BKG DATE : 17-JAN-2010
		RESULTS : 3.52995 dpm	EFF FILE : W170.CNF;52
			CAL DATE : 21-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	373.000	370.690	1.000	6.0782	100.0000	1.06E+00	9.17E-02	4.03E-02	8.83E-02	5.50E-02
U232	5302.100	1308.000	1295.000	13.000	3.6056	100.0000	3.69E+00	2.77E-01	2.39E-02	5.55E-02	1.04E-01
U-235	4391.000	19.000	19.000	0.000	2.7628	80.90000	6.69E-02	1.60E-02	2.26E-02	5.48E-02	1.54E-02
U-238	4184.730	364.000	364.000	0.000	3.2810	100.0000	1.04E+00	9.03E-02	2.18E-02	5.12E-02	5.44E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940225
SAMPLE DATE : 13-JAN-2010 00:00:00

SAMPLE ID : S1202012017_UU
SAMPLE QTY: 1.000 G

DETECTOR NUMBER :78260
AVERAGE %EFFICIENCY :38.3524
% YIELD : 90.882

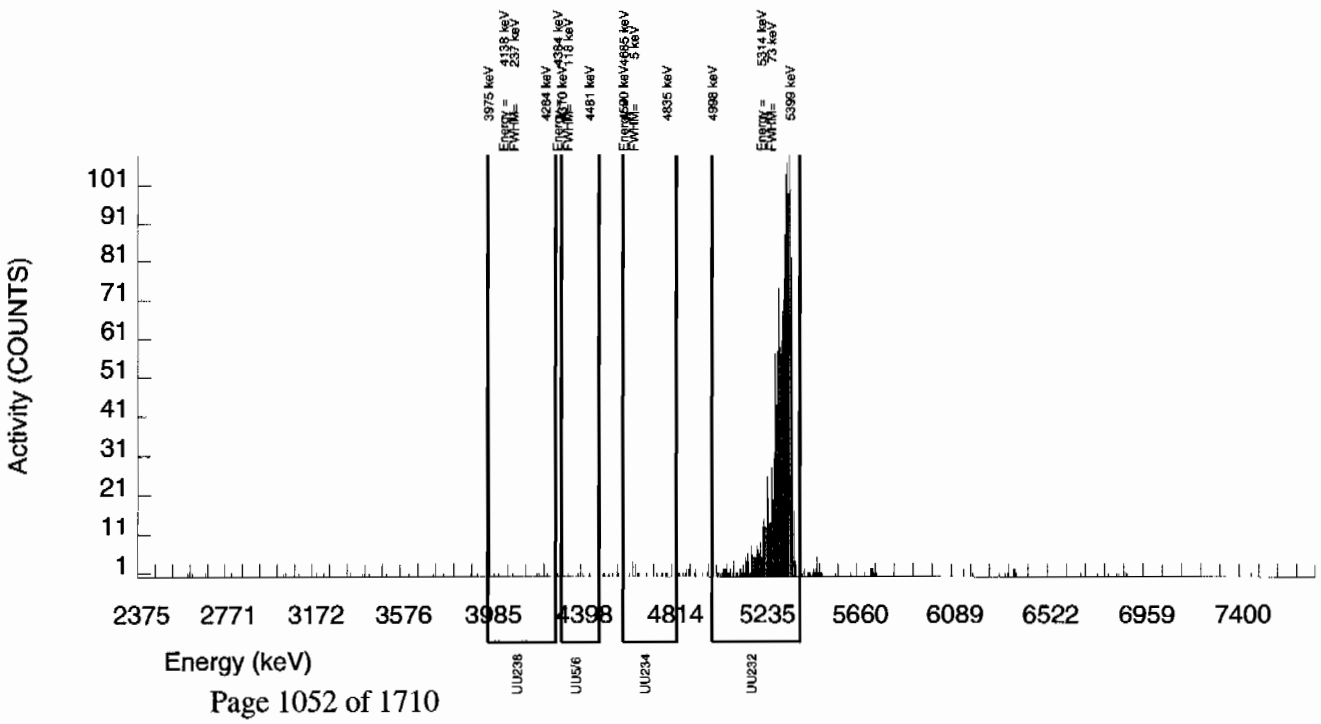
COUNT DATE:19-JAN-2010 09:35:32
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A	ID : 0244-A	ID : 1283-H	LIB FILE : ENV_ALPHA_UU.N
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG FILE : B171.CNF;167
PCI/G : 5.750E+00	PCI/G : 5.750E+00	NOMINAL : 4.50804 dpm	BKG DATE : 17-JAN-2010
		RESULTS : 4.09698 dpm	EFF FILE : W171.CNF;69
			CAL DATE : 21-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	16.000	7.411	7.000	6.0782	100.0000	9.58E-03	6.02E-03	1.83E-02	4.01E-02	5.98E-03
U232	5302.100	1580.000	1571.000	9.000	3.0000	100.0000	2.03E+00	1.48E-01	9.02E-03	2.15E-02	5.15E-02
U-235	4391.000	5.000	3.000	2.000	2.7628	80.90000	4.79E-03	4.24E-03	1.03E-02	2.49E-02	4.23E-03
U-238	4184.730	7.000	5.000	2.000	3.2810	100.0000	6.46E-03	3.90E-03	9.86E-03	2.32E-02	3.88E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

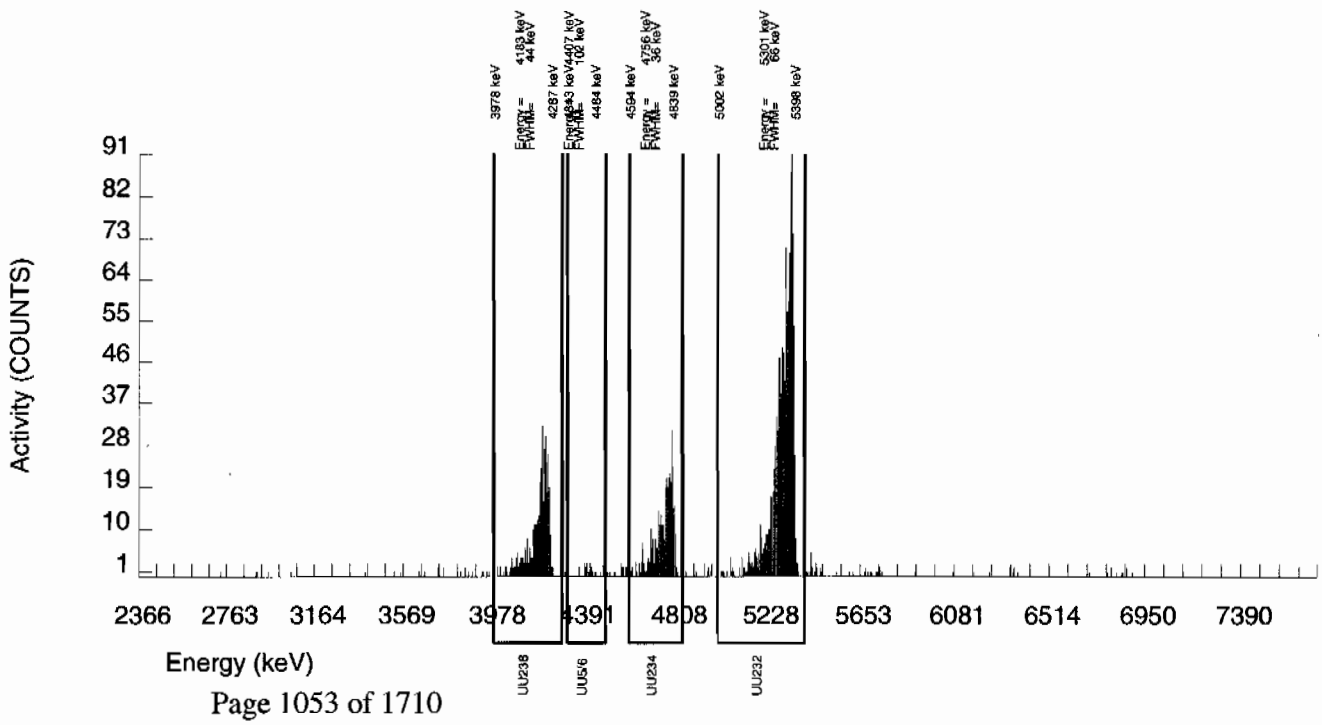
BATCH NUMBER: 940225 SAMPLE DATE : 5-JAN-2010 00:00:00.	SAMPLE ID : S1202012018_UU SAMPLE QTY: 0.527 G
DETECTOR NUMBER :78772 AVERAGE %EFFICIENCY :38.4140 % YIELD : 67.980	COUNT DATE:19-JAN-2010 09:35:34 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50902 dpm RESULTS : 3.06523 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B172.CNF;165 BKG DATE : 17-JAN-2010 EFF FILE : W172.CNF;62 CAL DATE : 21-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	349.000	347.810	0.000	6.0782	100.0000	1.14E+00	1.00E-01	4.63E-02	1.01E-01	6.10E-02
U232	5302.100	1180.000	1177.000	3.000	1.7321	100.0000	3.85E+00	2.92E-01	1.32E-02	3.52E-02	1.13E-01
U-235	4391.000	22.000	22.000	0.000	2.7628	80.90000	8.90E-02	2.00E-02	2.60E-02	6.30E-02	1.90E-02
U-238	4184.730	379.000	378.000	1.000	3.2810	100.0000	1.24E+00	1.08E-01	2.50E-02	5.88E-02	6.38E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 940225
SAMPLE DATE : 13-JAN-2010 00:00:00

SAMPLE ID : S1202012019_UU
SAMPLE QTY: 0.102 G

DETECTOR NUMBER :SAMPLE
AVERAGE %EFFICIENCY :36.6119
% YIELD : 81.082

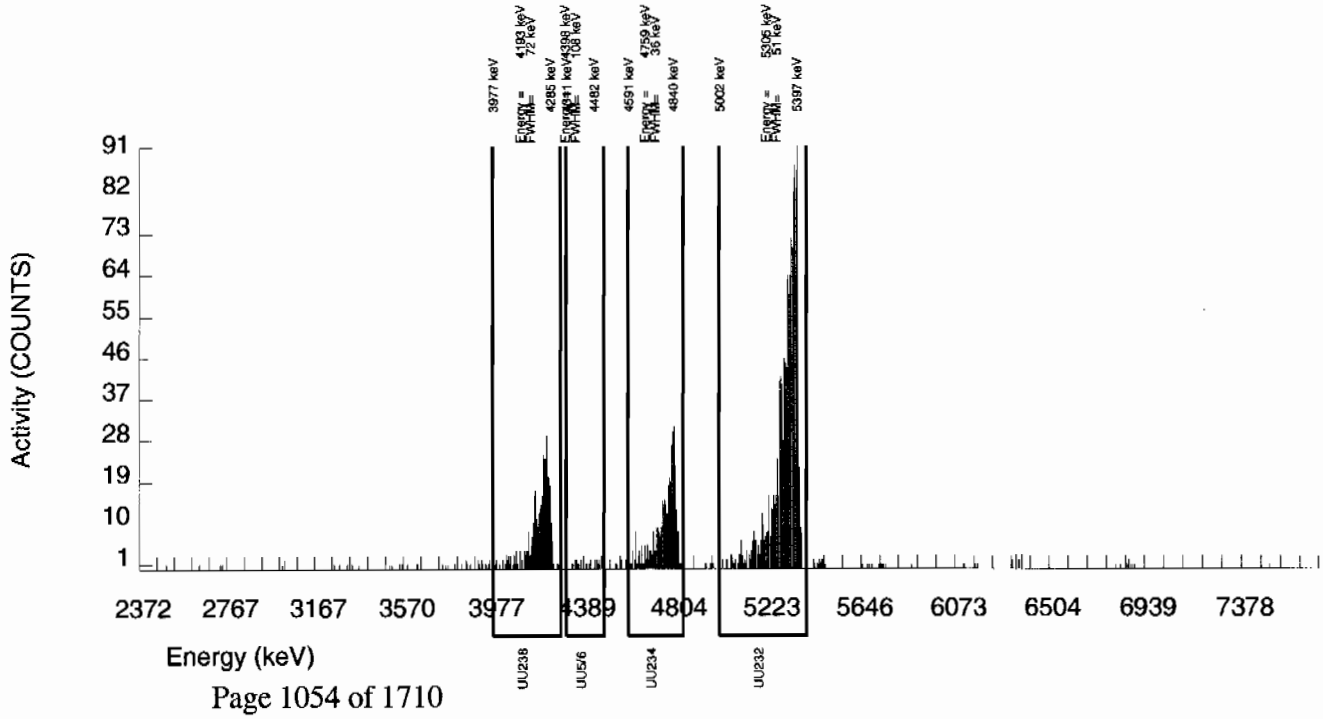
COUNT DATE:19-JAN-2010 09:35:07
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 0244-A	ID : 0244-A	ID : 1283-H	LIB FILE : ENV_ALPHA_UU.N
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG FILE : B161.CNF;162
PCI/G : 5.750E+00	PCI/G : 5.750E+00	NOMINAL : 4.50804 dpm	BKG DATE : 17-JAN-2010
		RESULTS : 3.65523 dpm	EFF FILE : W161.CNF;56
			CAL DATE : 23-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	395.000	393.647	0.000	6.0782	100.0000	5.86E+00	5.34E-01	2.10E-01	4.61E-01	2.95E-01
U232	5302.100	1342.000	1338.000	4.000	2.0000	100.0000	1.99E+01	1.61E+00	6.92E-02	1.79E-01	5.46E-01
U-235	4391.000	27.000	27.000	0.000	2.7628	80.90000	4.96E-01	1.03E-01	1.18E-01	2.86E-01	9.56E-02
U-238	4184.730	368.000	368.000	0.000	3.2810	100.0000	5.47E+00	5.04E-01	1.14E-01	2.67E-01	2.85E-01

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of U232 calculated as sqrt(BKG AREA)
NOTE: Corrections made to U-3/4 net area due to tracer impurity



Radiochemistry Batch Checklist, Rev10

Batch# 940263 Product: γS/LANL Date: 1/21/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 mg for GAB.			n/a
Samples have been blank corrected (if required)			n/a
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits. Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%. Or meets the client's required RER acceptance criteria.	✓		
Tracer yield is 15-125% . Carrier yield 25-125%. Or meets the client's contract acceptance criteria.			n/a
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			n/a
Smears Taken for Radioactive batches.			n/a
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms. All line outs initialed and dated. No transcription errors are apparent.	✓		
Aux data is correct.			n/a
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			n/a
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			n/a
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			n/a
Aliquot Correction completed if required.			n/a
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: M Stamps 1/21/10

Secondary Review Performed By: [illegible] 1/21/10

2/5/10

Gamma Spec Que Sheet 1.G.- 1/20/10

01/11/2010

Batch #:940263 Analyst: MXR1 First Client DueDate 02/05/2010 Internal Due Date: 01/25/2010

Gamma Spike Isotope: Mixed Gamma Spike Code: n/a Expiration Date: n/a Vol: n/a Nominal Concentration: n/a

Gamma LCS Isotope: Mixed Gamma LCS Code: 1032-A Expiration Date: 12/2/10 Vol: 1.0mL Nominal Concentration: Cs137-5.569 Co60-6.457

Initials: MS Prep Date: 1/12/10 Library: SOLID Witness: n/a Am241-15.91

Sample ID	Client Description / Container ID	Type	Hazard Code	Client	Matrix	Collect Date		Geometry	Wet/Dry Aliquot (1/g/F)	Detector	Sealing Date/Time (if Applicable)
244125001-1	RE12-10-7698	SAMPLE		LANL010	SOIL	05-JAN-10 12:00:00	RF	can	128.36	14	1/12/10
244125002-1	RE12-10-7697	SAMPLE		LANL010	SOIL	05-JAN-10 12:00:00	RF		120.00	16	
244125003-1	RE12-10-7704	SAMPLE		LANL010	SOIL	05-JAN-10 12:00:00	RF		123.80	18	
244125004-1	RE12-10-7703	SAMPLE		LANL010	SOIL	05-JAN-10 12:00:00	RF		127.18	22	1/13/10
244137001-1	RE12-10-7859	SAMPLE		LANL010	SOIL	04-JAN-10 12:00:00	RF		120.44	23	1/12/10
244137002-1	RE12-10-7851	SAMPLE		LANL010	SOIL	04-JAN-10 12:00:00	RF		137.43	1	
244137003-1	RE12-10-7852	SAMPLE		LANL010	SOIL	04-JAN-10 12:00:00	RF		134.09	11	
244137004-1	RE12-10-7850	SAMPLE		LANL010	SOIL	04-JAN-10 12:00:00	RF		123.28	15	
244137005-1	RE12-10-7853	SAMPLE		LANL010	SOIL	04-JAN-10 12:00:00	RF		126.32	17	
244137006-1	RE12-10-7848	SAMPLE		LANL010	SOIL	04-JAN-10 12:00:00	RF		119.52	20	
244137007-1	RE12-10-7849	SAMPLE		LANL010	SOIL	04-JAN-10 12:00:00	RF		127.96	25	
1202012144-1	MB	MB		QC ACCOUNT	SOIL	1/13/10	RF		134.09	4	1/13/10
1202012145-1	DUP RE12-10-7698(244125001)	DUP		QC ACCOUNT	SOIL	05-JAN-10 12:00:00	RF		128.36	18	1/12/10
1202012146-1	LCS	LCS		QC ACCOUNT	SOIL	1/13/10	RF		155.44	13	1/13/10

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: M. Stamps 1/21/10

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
940263	244125001	SAMPLE	20-JAN-10		Americium-241	-0.05805	0.201	0.200
940263	244125002	SAMPLE	20-JAN-10		Americium-241	0.07346	0.2251	0.200
940263	244125003	SAMPLE	20-JAN-10		Americium-241	0.08427	0.2992	0.200
					Thorium-234	0.2714	2.48	2.00
940263	244125004	SAMPLE	20-JAN-10		Americium-241	0.01608	0.2158	0.200
940263	244137001	SAMPLE	20-JAN-10		Americium-241	0.1911	0.3483	0.200
					Cerium-139	-0.00985	0.05763	0.050
					Sodium-22	-0.01607	0.08059	0.080
					Thorium-234	2.742	2.946	2.00
940263	244137002	SAMPLE	20-JAN-10		Americium-241	0.04732	0.2975	0.200
					Cerium-139	0.00862	0.05522	0.050
					Cesium-134	0.07728	0.1025	0.100
					Thorium-234	-0.868	2.52	2.00
940263	244137003	SAMPLE	20-JAN-10					
940263	244137004	SAMPLE	20-JAN-10		Americium-241	-0.4393	0.5123	0.200
					Cerium-139	-0.01072	0.06212	0.050
					Cesium-134	0.07887	0.1005	0.100
					Thorium-234	1.205	4.155	2.00
940263	244137005	SAMPLE	20-JAN-10		Sodium-22	0.04174	0.09516	0.080
940263	244137006	SAMPLE	20-JAN-10					
940263	244137007	SAMPLE	20-JAN-10					
940263	1202012144	MB	20-JAN-10					
940263	1202012145	DUP	20-JAN-10		Americium-241	-0.01353	0.2828	0.200
					Thorium-234	0.9575	2.469	2.00
940263	1202012146	LCS	20-JAN-10		Cerium-139	-0.01457	0.07841	0.050
					Cesium-134	0.07697	0.1855	0.100
					Europium-152	0.1444	0.3378	0.200
					Mercury-203	-0.00809	0.1094	0.100
					Potassium-40	0.9101	1.307	1.00
					Ruthenium-106	0.08981	1.178	0.800
					Sodium-22	0.01008	0.1258	0.080
					Tin-113	-0.05543	0.1534	0.100
					Uranium-235	-0.1277	0.5463	0.500

Gamma Review Report based on Result > MDA for Batch:940263

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244125001	05-JAN-10 12:00	20-JAN-10 13:29	15.1	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228 ✓ nr	1.598	0.1764	pCi/g	0.217	N	911.9	3	1.896	IDENTIFIED	9.348		
Americium-243 INT	0.3761	0.03658	pCi/g	0.08641	N	74.93	1	1.408	IDENTIFIED	8.969		
Annihilation Rad.	0.1274	0.03204	pCi/g	0.04342	N	511.1	1	2.114	IDENTIFIED	24.97		
Bismuth-211 INT	3.828	0.2602	pCi/g	0.317	Y	351.7	4	1.364	IDENTIFIED	6.015	✓ UI	
Bismuth-212 LA	1.358	0.2455	pCi/g	0.6752	N	0	9	0	FAIL_ABUND	0		
Bismuth-214 ✓	1.291	0.09188	pCi/g	0.1096	0.200	609.5	4	1.443	IDENTIFIED	5.914		
Cadmium-109 INT	3.438	0.4602	pCi/g	1.22	Y	87.25	3	1.562	IDENTIFIED	12.67	✓ UI	
Cerium-143	990.5	138.5	pCi/g	0	N	0	9	0	SHORT_HLIF	0		
Cesium-134 LA	0.1088	0.03086	pCi/g	0.08918	0.100	0	9	0	FAIL_ABUND	0	UI	Data rejected due to low abundance.
Gross Gamma	8.649	1.275	pCi/g	3.819	N		0					
Iodine-135 HE	1.22E+15	2.18E+15	pCi/g	0	N	0	9	0	SHORT_HLIF	0		
Lead-212 ✓	1.676	0.08145	pCi/g	0.08897	0.100	238.6	4	1.37	IDENTIFIED	3.217		
Lead-214 ✓	1.331	0.09695	pCi/g	0.1105	0.100	351.7	4	1.364	IDENTIFIED	6.015		
Lutetium-177 HE	2.886	0.6544	pCi/g	1.981	N	0	9	0	FAIL_ABUND	0		
Neptunium-237 INT	0.9924	0.1677	pCi/g	0.3885	N	87.25	3	1.562	IDENTIFIED	12.67		
Niobium-95m	0.6668	0.07979	pCi/g	0.2728	N	0	9	0	NOT_IDENTI	0		
Polonium-212 nr	1.676	0.08145	pCi/g	0.08897	N	238.6	4	1.37	IDENTIFIED	3.217		
Polonium-214 nr	1.331	0.09695	pCi/g	0.1105	N	351.7	4	1.364	IDENTIFIED	6.015		
Polonium-216 nr	1.676	0.08145	pCi/g	0.08897	N	238.6	4	1.37	IDENTIFIED	3.217		
Polonium-218 nr	1.331	0.09695	pCi/g	0.1105	N	351.7	4	1.364	IDENTIFIED	6.015		
Potassium-40 ✓	19.38	0.9844	pCi/g	0.4994	1.00	1462	1	1.872	IDENTIFIED	3.554		
Radium-224 INT	4.436	0.6867	pCi/g	1.012	Y	241.6	1	2.062	IDENTIFIED	15.21	✓ UI	
Radium-226 ✓	1.291	0.09188	pCi/g	0.1096	Y	609.5	4	1.443	IDENTIFIED	5.914		
Radium-228 ✓	1.598	0.1764	pCi/g	0.217	0.500	911.9	3	1.896	IDENTIFIED	9.348		
Thallium-200 HE	384.2	212.3	pCi/g	0	N	0	9	0	SHORT_HLIF	0		
Thallium-208 ✓	0.5792	0.04457	pCi/g	0.04928	0.080	583.3	1	1.813	IDENTIFIED	6.894		
Thorium-228 nr	1.702	0.08268	pCi/g	0.09031	N	238.6	4	1.37	IDENTIFIED	3.217		
Thorium-230 nr	1.291	0.09187	pCi/g	0.1096	N	609.5	4	1.443	IDENTIFIED	5.914		
Thorium-232 nr	1.598	0.1764	pCi/g	0.217	N	911.9	3	1.896	IDENTIFIED	9.348		
Thorium-234 ✓	2.693	0.9066	pCi/g	1.786	2.00	63.44	2	1.57	IDENTIFIED	32.54		
Tin-126 INT	0.3379	0.04524	pCi/g	0.1203	N	87.25	3	1.562	IDENTIFIED	12.67		
Titanium-44	0.3944	0.02867	pCi/g	0.08224	N	0	9	0	FAIL_ABUND	0		
Total Uranium	8.1724	2.70E-06	ug/g	2.6589	N		0					
Uranium-234 nr	1.291	0.09187	pCi/g	0.1096	N	609.5	4	1.443	IDENTIFIED	5.914		
Uranium-238 HE	2.693	0.9066	pCi/g	1.786	N	63.44	2	1.57	IDENTIFIED	32.54		
Zirconium-97	3.08E+06	9.18E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0		

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244125002	05-JAN-10 12:00	20-JAN-10 13:30	15.1	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228 ✓ nr	1.785	0.1943	pCi/g	0.184	N	911	3	1.142	IDENTIFIED	9.128		
Americium-243 INT	0.4663	0.03963	pCi/g	0.07878	N	74.77	1	1.007	IDENTIFIED	7.421		
Annihilation Rad.	0.1595	0.03628	pCi/g	0.04543	N	510.4	1	1.66	IDENTIFIED	22.24		
Barium-137m HE	0.1019	0.03167	pCi/g	0.05771	N	660.8	2	1.466	IDENTIFIED	30.75		

Bismuth-211 INT		4.191	0.3304	pCi/g	0.326	Y	351.8	4	1.071	IDENTIFIED	5.689	☑ UI	
Bismuth-212 ✓		1.2	0.2764	pCi/g	0.4137	N	727.4	1	1.55	IDENTIFIED	22.44	☐	
Bismuth-214 ✓		1.281	0.1143	pCi/g	0.09802	0.200	609.2	4	1.265	IDENTIFIED	7.181	☐	
Cadmium-109 INT		3.921	0.4903	pCi/g	1.092	Y	87.15	3	1.051	IDENTIFIED	11.56	☑ UI	
Cerium-143		529.2	102.8	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Cesium-134 LA		0.1199	0.03307	pCi/g	0.09116	0.100	0	8	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Cesium-137 ✓		0.1077	0.03347	pCi/g	0.061	0.100	660.8	2	1.466	IDENTIFIED	30.75	☐	
Gross Gamma		9.844	1.489	pCi/g	4.14	N		0				☐	
Iodine-123	HE	2.93E+06	2.38E+06	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Iodine-135	HE	3.71E+15	2.18E+15	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Lead-212 ✓		1.747	0.1179	pCi/g	0.08397	0.100	238.5	4	0.9786	IDENTIFIED	3.241	☐	
Lead-214 ✓		1.458	0.1211	pCi/g	0.1136	0.100	351.8	4	1.071	IDENTIFIED	5.689	☐	
Lutetium-177	HE	3.023	0.7265	pCi/g	2.054	N	0	8	0	FAIL_ABUND	0	☐	
Neptunium-237 INT		1.132	0.1835	pCi/g	0.3201	N	87.15	3	1.051	IDENTIFIED	11.56	☐	
Polonium-212 nv		1.747	0.1179	pCi/g	0.08397	N	238.5	4	0.9786	IDENTIFIED	3.241	☐	
Polonium-214 nv		1.458	0.1211	pCi/g	0.1136	N	351.8	4	1.071	IDENTIFIED	5.689	☐	
Polonium-216 nv		1.747	0.1179	pCi/g	0.08397	N	238.5	4	0.9786	IDENTIFIED	3.241	☐	
Polonium-218 nv		1.458	0.1211	pCi/g	0.1136	N	351.8	4	1.071	IDENTIFIED	5.689	☐	
Potassium-40 ✓		21.02	1.19	pCi/g	0.4588	1.00	1460	1	1.642	IDENTIFIED	3.567	☐	
Radium-224 INT		4.637	0.6515	pCi/g	0.9557	Y	241.4	1	1.578	IDENTIFIED	12.92	☑ UI	
Radium-226 ✓		1.281	0.1143	pCi/g	0.09802	Y	609.2	4	1.265	IDENTIFIED	7.181	☐	
Radium-228 ✓		1.785	0.1943	pCi/g	0.184	0.500	911	3	1.142	IDENTIFIED	9.128	☐	
Sodium-24	HE	5.73E+05	3.01E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Thallium-208 ✓		0.5938	0.05001	pCi/g	0.05498	0.080	583	1	1.216	IDENTIFIED	6.808	☐	
Thorium-228 nv		1.773	0.1196	pCi/g	0.08524	N	238.5	4	0.9786	IDENTIFIED	3.241	☐	
Thorium-230 nv		1.281	0.1143	pCi/g	0.09801	N	609.2	4	1.265	IDENTIFIED	7.181	☐	
Thorium-232 nv		1.785	0.1943	pCi/g	0.184	N	911	3	1.142	IDENTIFIED	9.128	☐	
Thorium-234 ✓		2.338	0.8658	pCi/g	1.889	2.00	62.99	2	0.719	IDENTIFIED	35.99	☐	
Tin-126 INT		0.3854	0.0482	pCi/g	0.1078	N	87.15	3	1.051	IDENTIFIED	11.56	☐	
Titanium-44		0.4436	0.02954	pCi/g	0.07435	N	0	8	0	FAIL_ABUND	0	☐	
Total Uranium		7.0287	2.58E-06	ug/g	2.8133	N		0				☐	
Uranium-234 nv		1.281	0.1143	pCi/g	0.09801	N	609.2	4	1.265	IDENTIFIED	7.181	☐	
Uranium-238	HE	2.338	0.8658	pCi/g	1.889	N	62.99	2	0.719	IDENTIFIED	35.99	☐	
Zirconium-97		2.79E+06	9.26E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244125003	05-JAN-10 12:00	20-JAN-10 13:30	15.1	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228 ✓ nv		1.81	0.1824	pCi/g	0.161	N	910.8	3	1.915	IDENTIFIED	7.591	☐	
Americium-243 INT		0.408	0.04178	pCi/g	0.08823	N	75.05	1	1.144	IDENTIFIED	9.348	☐	
Annihilation Rad.		0.1565	0.03079	pCi/g	0.03799	N	510.9	1	1.939	IDENTIFIED	19.4	☐	
Bismuth-211 INT		3.956	0.2255	pCi/g	0.2756	Y	352	4	1.466	IDENTIFIED	4.711	☑ UI	
Bismuth-212 ✓		0.8438	0.2242	pCi/g	0.354	N	726.7	1	1.368	IDENTIFIED	26.1	☐	
Bismuth-214 ✓		1.25	0.08428	pCi/g	0.09389	0.200	609.3	4	1.281	IDENTIFIED	5.053	☐	
Cadmium-109 INT		4.806	0.458	pCi/g	1.164	Y	87.47	3	1.35	IDENTIFIED	8.345	☑ UI	
Cerium-143		658.8	104.3	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Cesium-134 LA		0.126	0.02934	pCi/g	0.0733	0.100	0	9	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Gross Gamma		8.878	1.126	pCi/g	2.654	N		0				☐	
Iodine-135	HE	1.18E+15	1.95E+15	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Krypton-85	HE	18.24	3.434	pCi/g	11.66	N	0	9	0	NOT_IDENTI	0	☐	
Lead-212 ✓		1.744	0.0808	pCi/g	0.07661	0.100	238.8	4	1.264	IDENTIFIED	2.95	☐	

Lead-214 ✓		1.376	0.08628	pCi/g	0.09669	0.100	352	4	1.466	IDENTIFIED	4.711	☐	
Lutetium-177	HE	2.398	0.6025	pCi/g	1.676	N	0	9	0	FAIL_ABUND	0	☐	
Neptunium-237	INT	1.387	0.1949	pCi/g	0.3764	N	87.47	3	1.35	IDENTIFIED	8.345	☐	
Niobium-95	HE	0.06683	0.02555	pCi/g	0.05268	N	767.2	1	1.407	IDENTIFIED	37.96	☐	
Polonium-212	nr	1.744	0.0808	pCi/g	0.07661	N	238.8	4	1.264	IDENTIFIED	2.95	☐	
Polonium-214	nr	1.376	0.08628	pCi/g	0.09669	N	352	4	1.466	IDENTIFIED	4.711	☐	
Polonium-216	nr	1.744	0.0808	pCi/g	0.07661	N	238.8	4	1.264	IDENTIFIED	2.95	☐	
Polonium-218	nr	1.376	0.08628	pCi/g	0.09669	N	352	4	1.466	IDENTIFIED	4.711	☐	
Potassium-40 ✓		20.02	0.9896	pCi/g	0.4595	1.00	1460	1	2.179	IDENTIFIED	3.167	☐	
Radium-224	INT	4.862	0.6014	pCi/g	0.8706	Y	241.8	1	1.767	IDENTIFIED	12.05	☑ ui	
Radium-226 ✓		1.25	0.08428	pCi/g	0.09389	Y	609.3	4	1.281	IDENTIFIED	5.053	☐	
Radium-228 ✓		1.81	0.1824	pCi/g	0.161	0.500	910.8	3	1.915	IDENTIFIED	7.591	☐	
Strontium-85	LA	0.09349	0.0176	pCi/g	0.05973	Y	0	9	0	NOT_IDENTI	0	☑ UI	Data rejected due to low abundance.
Thallium-200	HE	193.2	171.9	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Thallium-208 ✓		0.4818	0.03817	pCi/g	0.04684	0.080	583.1	1	1.442	IDENTIFIED	6.885	☐	
Thorium-228	nr	1.771	0.08202	pCi/g	0.07777	N	238.8	4	1.264	IDENTIFIED	2.95	☐	
Thorium-230	nr	1.25	0.08428	pCi/g	0.09389	N	609.3	4	1.281	IDENTIFIED	5.053	☐	
Thorium-232	nr	1.81	0.1824	pCi/g	0.161	N	910.8	3	1.915	IDENTIFIED	7.591	☐	
Tin-126	INT	0.4725	0.04502	pCi/g	0.1152	N	87.47	3	1.35	IDENTIFIED	8.345	☐	
Titanium-44		0.4025	0.02954	pCi/g	0.08497	N	0	9	0	FAIL_ABUND	0	☐	
Uranium-234	nr	1.25	0.08428	pCi/g	0.09389	N	609.3	4	1.281	IDENTIFIED	5.053	☐	
Zirconium-97		3.78E+06	8.14E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244125004	05-JAN-10 12:00	20-JAN-10 13:31	15.1	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228 ✓	nr	1.862	0.1745	pCi/g	0.1912	N	911.5	3	1.91	IDENTIFIED	6.623	☐	
Americium-243	INT	0.3883	0.03728	pCi/g	0.08199	N	74.88	1	1.198	IDENTIFIED	8.688	☐	
Annihilation Rad.		0.1545	0.03035	pCi/g	0.03962	N	510.8	1	2.295	IDENTIFIED	19	☐	
Barium-137m	nr	0.09388	0.02013	pCi/g	0.05124	N	661.7	2	1.873	IDENTIFIED	20.78	☐	
Bismuth-211	INT	4.271	0.3147	pCi/g	0.2945	Y	352	4	1.451	IDENTIFIED	4.529	☑ ui	
Bismuth-212 ✓		1.171	0.229	pCi/g	0.4029	N	727.1	1	2.274	IDENTIFIED	18.62	☐	
Bismuth-214 ✓		1.156	0.09847	pCi/g	0.09935	0.200	609.4	4	1.83	IDENTIFIED	6.228	☐	
Cadmium-109	INT	3.348	0.5233	pCi/g	1.12	Y	87.3	3	1.288	IDENTIFIED	14.9	☑ ui	
Cerium-143		876.7	133.3	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Cesium-134	LA	0.08764	0.02473	pCi/g	0.08016	0.100	0	10	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Cesium-137 ✓		0.09924	0.02128	pCi/g	0.05417	0.100	661.7	2	1.873	IDENTIFIED	20.78	☐	
Gross Gamma		8.794	1.336	pCi/g	2.771	N		0				☐	
Iodine-123	HE	1.37E+06	2.44E+06	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Krypton-85		35.03	4.306	pCi/g	14.22	N	0	10	0	NOT_IDENTI	0	☐	
Lead-212 ✓		1.771	0.1281	pCi/g	0.08904	0.100	238.7	4	1.242	IDENTIFIED	2.948	☐	
Lead-214 ✓		1.486	0.1161	pCi/g	0.1026	0.100	352	4	1.451	IDENTIFIED	4.529	☐	
Lutetium-177	HE	2.255	0.5504	pCi/g	1.93	N	0	10	0	NOT_IDENTI	0	☐	
Neptunium-237	INT	0.9665	0.181	pCi/g	0.3279	N	87.3	3	1.288	IDENTIFIED	14.9	☐	
Niobium-97	HE	1186	46600	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Polonium-212	nr	1.771	0.1281	pCi/g	0.08904	N	238.7	4	1.242	IDENTIFIED	2.948	☐	
Polonium-214	nr	1.486	0.1161	pCi/g	0.1026	N	352	4	1.451	IDENTIFIED	4.529	☐	
Polonium-216	nr	1.771	0.1281	pCi/g	0.08904	N	238.7	4	1.242	IDENTIFIED	2.948	☐	
Polonium-218	nr	1.486	0.1161	pCi/g	0.1026	N	352	4	1.451	IDENTIFIED	4.529	☐	
Potassium-40 ✓		21.22	1.178	pCi/g	0.4634	1.00	1461	1	2.528	IDENTIFIED	3.135	☐	
Radium-224	INT	5.016	0.77	pCi/g	1.012	Y	241.7	1	2.074	IDENTIFIED	14.01	☑ ui	

Radium-226 ✓		1.156	0.09847	pCi/g	0.09935	Y	609.4	4	1.83	IDENTIFIED	6.228	☐	
Radium-228 ✓		1.862	0.1745	pCi/g	0.1912	0.500	911.5	3	1.91	IDENTIFIED	6.623	☐	
Sodium-24	HE	2.99E+05	3.40E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	
Strontium-85 LA		0.1795	0.02206	pCi/g	0.07287	Y	0	10	0	NOT_IDENTI	0	☑ UI	Data rejected due to low abundance.
Thallium-208 ✓		0.5165	0.04571	pCi/g	0.05416	0.080	583.3	1	1.717	IDENTIFIED	6.994	☐	
Thorium-228 nr		1.797	0.1301	pCi/g	0.09038	N	238.7	4	1.242	IDENTIFIED	2.948	☐	
Thorium-230 nr		1.156	0.09847	pCi/g	0.09935	N	609.4	4	1.83	IDENTIFIED	6.228	☐	
Thorium-232 nr		1.862	0.1745	pCi/g	0.1912	N	911.5	3	1.91	IDENTIFIED	6.623	☐	
Tin-126 INT		0.3291	0.05144	pCi/g	0.1105	N	87.3	3	1.288	IDENTIFIED	14.9	☐	
Titanium-44		0.3589	0.02599	pCi/g	0.0716	N	0	10	0	FAIL_ABUND	0	☐	
Total Uranium		4.5876	2.55E-06	ug/g	2.6315	N		0				☐	
Uranium-234 nr		1.156	0.09847	pCi/g	0.09935	N	609.4	4	1.83	IDENTIFIED	6.228	☐	
Zirconium-97		5.29E+06	9.22E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	☐	

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244137001	04-JAN-10 12:00	20-JAN-10 13:31	16.1	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228 ✓ nr		1.5	0.1748	pCi/g	0.2015	N	910.4	3	1.68	IDENTIFIED	10.12	☐	
Americium-243 INT		0.4668	0.05058	pCi/g	0.1138	N	74.76	1	1.389	IDENTIFIED	9.881	☐	
Annihilation Rad.	HE	0.1238	0.03994	pCi/g	0.05003	N	510.5	1	2.445	IDENTIFIED	32.12	☐	
Bismuth-211 INT		4.169	0.2869	pCi/g	0.3336	Y	351.4	4	1.232	IDENTIFIED	6.061	☑ ✓ UI	
Bismuth-212	HE	0.9208	0.2712	pCi/g	0.6971	N	0	9	0	FAIL_ABUND	0	☐	
Bismuth-214 ✓		1.25	0.09993	pCi/g	0.1246	0.200	608.5	4	1.526	IDENTIFIED	7.052	☐	
Cadmium-109 INT		2.833	0.5937	pCi/g	1.441	Y	86.75	3	1.294	IDENTIFIED	20.39	☐ ✓ UI	
Cerium-143		2289	302.7	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Gold-195	HE	0.5247	0.1364	pCi/g	0.4654	N	0	9	0	FAIL_ABUND	0	☐	
Gross Gamma		7.713	1.298	pCi/g	3.054	N		0				☐	
Iodine-135		2.22E+16	0	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Lead-212 ✓		1.492	0.07966	pCi/g	0.108	0.100	238.3	4	1.146	IDENTIFIED	3.948	☐	
Lead-214 ✓		1.45	0.1067	pCi/g	0.1163	0.100	351.4	4	1.232	IDENTIFIED	6.061	☐	
Lutetium-177	HE	2.781	0.8693	pCi/g	2.527	N	0	9	0	FAIL_ABUND	0	☐	
Neptunium-237 INT		0.8165	0.1907	pCi/g	0.4241	N	86.75	3	1.294	IDENTIFIED	20.39	☐	
Niobium-95m nr		0.5949	0.09853	pCi/g	0.32	N	0	9	0	NOT_IDENTI	0	☐	
Polonium-212 nr		1.492	0.07966	pCi/g	0.108	N	238.3	4	1.146	IDENTIFIED	3.948	☐	
Polonium-214 nr		1.45	0.1067	pCi/g	0.1163	N	351.4	4	1.232	IDENTIFIED	6.061	☐	
Polonium-216 nr		1.492	0.07966	pCi/g	0.108	N	238.3	4	1.146	IDENTIFIED	3.948	☐	
Polonium-218 nr		1.45	0.1067	pCi/g	0.1163	N	351.4	4	1.232	IDENTIFIED	6.061	☐	
Potassium-40 ✓		18.53	1.084	pCi/g	0.5832	1.00	1459	1	2.465	IDENTIFIED	4.496	☐	
Radium-224 INT		4.417	0.7053	pCi/g	1.229	Y	241.2	1	1.745	IDENTIFIED	15.72	☑ ✓ UI	
Radium-226 ✓		1.25	0.09993	pCi/g	0.1246	Y	608.5	4	1.526	IDENTIFIED	7.052	☐	
Radium-228 ✓		1.5	0.1748	pCi/g	0.2015	0.500	910.4	3	1.68	IDENTIFIED	10.12	☐	
Sodium-24	HE	7.65E+05	1.18E+06	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Thallium-208 ✓		0.4714	0.04898	pCi/g	0.06854	0.080	582.4	1	1.138	IDENTIFIED	9.87	☐	
Thorium-228 nr		1.516	0.08095	pCi/g	0.1098	N	238.3	4	1.146	IDENTIFIED	3.948	☐	
Thorium-230 nr		1.25	0.09993	pCi/g	0.1246	N	608.5	4	1.526	IDENTIFIED	7.052	☐	
Thorium-232 nr		1.5	0.1748	pCi/g	0.2015	N	910.4	3	1.68	IDENTIFIED	10.12	☐	
Tin-126 INT		0.278	0.05827	pCi/g	0.1423	N	86.75	3	1.294	IDENTIFIED	20.39	☐	
Titanium-44		0.4177	0.03471	pCi/g	0.1001	N	0	9	0	FAIL_ABUND	0	☐	
Total Uranium		8.1054	3.28E-06	ug/g	4.3859	N		0				☐	
Uranium-234 nr		1.25	0.09993	pCi/g	0.1246	N	608.5	4	1.526	IDENTIFIED	7.052	☐	
Zirconium-97		1.57E+07	3.09E+06	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244137002	04-JAN-10 12:00	20-JAN-10 13:43	16.1	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228 ✓ nv		1.349	0.1782	pCi/g	0.244	N	911.6	3	1.512	IDENTIFIED	11.88		
Americium-243 int		0.4404	0.04729	pCi/g	0.09662	N	74.92	1	1.298	IDENTIFIED	9.898		
Annihilation Rad.	HE	0.07958	0.03167	pCi/g	0.05723	N	511.4	1	1.79	IDENTIFIED	39.58		
Bismuth-211 int		3.817	0.3342	pCi/g	0.356	Y	352.2	4	1.403	IDENTIFIED	7.486	✓ UI	
Bismuth-212 LA		2.012	0.2556	pCi/g	0.7641	N	0	9	0	FAIL_ABUND	0		
Bismuth-214 ✓		1.174	0.102	pCi/g	0.1148	0.200	609.6	4	1.353	IDENTIFIED	7.153		
Cadmium-109 int		3.111	0.5428	pCi/g	1.378	Y	87.37	3	1.184	IDENTIFIED	16.8	✓ UI	
Cerium-143		547.2	147.8	pCi/g	0	N	0	9	0	SHORT_HLIF	0		
Gross Gamma		7.989	1.133	pCi/g	2.959	N		0					
Iodine-123	HE	1.26E+06	9.89E+06	pCi/g	0	N	0	9	0	SHORT_HLIF	0		
Krypton-85	HE	17.07	4.726	pCi/g	15.6	N	0	9	0	NOT_IDENTI	0		
Lead-212 ✓		1.73	0.1068	pCi/g	0.111	0.100	239.1	4	1.199	IDENTIFIED	3.535		
Lead-214 ✓		1.328	0.1213	pCi/g	0.1241	0.100	352.2	4	1.403	IDENTIFIED	7.486		
Lutetium-177	HE	3.189	0.8104	pCi/g	2.476	N	0	9	0	FAIL_ABUND	0		
Neptunium-237 int		0.8967	0.1818	pCi/g	0.4512	N	87.37	3	1.184	IDENTIFIED	16.8		
Polonium-212 nv		1.73	0.1068	pCi/g	0.111	N	239.1	4	1.199	IDENTIFIED	3.535		
Polonium-214 nv		1.328	0.1213	pCi/g	0.1241	N	352.2	4	1.403	IDENTIFIED	7.486		
Polonium-216 nv		1.73	0.1068	pCi/g	0.111	N	239.1	4	1.199	IDENTIFIED	3.535		
Polonium-218 nv		1.328	0.1213	pCi/g	0.1241	N	352.2	4	1.403	IDENTIFIED	7.486		
Potassium-40 ✓		19.38	1.149	pCi/g	0.5883	1.00	1461	1	1.905	IDENTIFIED	3.92		
Radium-224 int		4.153	0.7371	pCi/g	1.189	Y	241.9	1	1.684	IDENTIFIED	17.15	✓ UI	
Radium-226 ✓		1.174	0.102	pCi/g	0.1148	Y	609.6	4	1.353	IDENTIFIED	7.153		
Radium-228 ✓		1.349	0.1782	pCi/g	0.244	0.500	911.6	3	1.512	IDENTIFIED	11.88		
Sodium-24	HE	9.26E+05	1.18E+06	pCi/g	0	N	0	9	0	SHORT_HLIF	0		
Strontium-85 LA		0.08839	0.02447	pCi/g	0.08079	Y	0	9	0	NOT_IDENTI	0	UI	Data rejected due to low abundance.
Thallium-208 ✓		0.5878	0.05486	pCi/g	0.06301	0.080	583.5	1	1.671	IDENTIFIED	8.154		
Thorium-228 nv		1.758	0.1086	pCi/g	0.1128	N	239.1	4	1.199	IDENTIFIED	3.535		
Thorium-230 nv		1.174	0.102	pCi/g	0.1148	N	609.6	4	1.353	IDENTIFIED	7.153		
Thorium-232 nv		1.349	0.1782	pCi/g	0.244	N	911.6	3	1.512	IDENTIFIED	11.88		
Tin-126 int		0.3054	0.05328	pCi/g	0.1359	N	87.37	3	1.184	IDENTIFIED	16.8		
Titanium-44		0.3879	0.03107	pCi/g	0.08751	N	0	9	0	FAIL_ABUND	0		
Uranium-234 nv		1.174	0.102	pCi/g	0.1148	N	609.6	4	1.353	IDENTIFIED	7.153		
Zirconium-97	HE	2.80E+06	2.86E+06	pCi/g	0	N	0	9	0	SHORT_HLIF	0		

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244137003	04-JAN-10 12:00	20-JAN-10 13:43	16.1	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228 ✓ nv	1.6	0.155	pCi/g	0.1905	N	911.6	3	1.692	IDENTIFIED	7.541		
Americium-243 int	0.338	0.03041	pCi/g	0.0667	N	74.79	1	0.8461	IDENTIFIED	8.033		
Annihilation Rad.	0.1202	0.03203	pCi/g	0.0409	N	511.1	1	1.694	IDENTIFIED	26.12		
Barium-137m nv	0.1171	0.0263	pCi/g	0.05452	N	662.4	2	1.501	IDENTIFIED	21.95		
Bismuth-211 int	4.169	0.3566	pCi/g	0.2627	Y	351.9	4	1.116	IDENTIFIED	5.468	✓ UI	
Bismuth-212 LA	1.32	0.2873	pCi/g	0.6275	N	0	11	0	FAIL_ABUND	0		
Bismuth-214 ✓	1.318	0.1038	pCi/g	0.08765	0.200	609.5	4	1.256	IDENTIFIED	5.485		
Cadmium-109 int	3.163	0.4199	pCi/g	0.9616	Y	87.18	3	1.06	IDENTIFIED	12.42	✓ UI	

Cerium-143		395.4	112.4	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Cesium-134 LA		0.1206	0.0344	pCi/g	0.08172	0.100	0	11	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Cesium-137 ✓		0.1238	0.02781	pCi/g	0.05763	0.100	662.4	2	1.501	IDENTIFIED	21.95	☐	
Gross Gamma		8.848	1.222	pCi/g	3.066	N		0				☐	
Iodine-133	HE	4827	5423	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Lead-212 ✓		1.653	0.1271	pCi/g	0.08191	0.100	238.7	4	0.9457	IDENTIFIED	3.17	☐	
Lead-214 ✓		1.45	0.1297	pCi/g	0.09156	0.100	351.9	4	1.116	IDENTIFIED	5.468	☐	
Lutetium-177		3.519	0.7014	pCi/g	1.947	N	0	11	0	FAIL_ABUND	0	☐	
Neptunium-237 INT		0.9115	0.1533	pCi/g	0.2803	N	87.18	3	1.06	IDENTIFIED	12.42	☐	
Niobium-97	HE	36110	1.20E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Polonium-212 nr		1.653	0.1271	pCi/g	0.08191	N	238.7	4	0.9457	IDENTIFIED	3.17	☐	
Polonium-214 nr		1.45	0.1297	pCi/g	0.09156	N	351.9	4	1.116	IDENTIFIED	5.468	☐	
Polonium-216 nr		1.653	0.1271	pCi/g	0.08191	N	238.7	4	0.9457	IDENTIFIED	3.17	☐	
Polonium-218 nr		1.45	0.1297	pCi/g	0.09156	N	351.9	4	1.116	IDENTIFIED	5.468	☐	
Potassium-40 ✓		20.67	1.141	pCi/g	0.418	1.00	1462	1	1.859	IDENTIFIED	3.433	☐	
Radium-224 INT		4.943	0.5607	pCi/g	0.9323	Y	241.6	1	1.607	IDENTIFIED	9.143	☑ ul	
Radium-226 ✓		1.318	0.1038	pCi/g	0.08765	Y	609.5	4	1.256	IDENTIFIED	5.485	☐	
Radium-228 ✓		1.6	0.155	pCi/g	0.1905	0.500	911.6	3	1.692	IDENTIFIED	7.541	☐	
Sodium-24	HE	78030	8.63E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Technetium-99m		9.11E+16	0	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Thallium-200	HE	421.5	339.6	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Thallium-208 ✓		0.5361	0.04805	pCi/g	0.04699	0.080	583.5	1	1.234	IDENTIFIED	7.156	☐	
Thorium-228 nr		1.68	0.1291	pCi/g	0.08323	N	238.7	4	0.9457	IDENTIFIED	3.17	☐	
Thorium-230 nr		1.318	0.1038	pCi/g	0.08765	N	609.5	4	1.256	IDENTIFIED	5.485	☐	
Thorium-232 nr		1.6	0.155	pCi/g	0.1905	N	911.6	3	1.692	IDENTIFIED	7.541	☐	
Thorium-234 unc		1.575	0.6382	pCi/g	1.446	2.00	63.12	2	0.9543	IDENTIFIED	39.58	☑ ul	
Tin-126 INT		0.3104	0.04121	pCi/g	0.09469	N	87.18	3	1.06	IDENTIFIED	12.42	☐	
Titanium-44		0.3612	0.02442	pCi/g	0.05681	N	0	11	0	FAIL_ABUND	0	☐	
Total Uranium		4.7426	1.90E-06	ug/g	2.1532	N		0				☐	
Uranium-234 nr		1.318	0.1038	pCi/g	0.08765	N	609.5	4	1.256	IDENTIFIED	5.485	☐	
Uranium-238	HE	1.575	0.6382	pCi/g	1.446	N	63.12	2	0.9543	IDENTIFIED	39.58	☐	
Zirconium-97		5.50E+06	2.06E+06	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244137004	04-JAN-10 12:00	20-JAN-10 13:44	16.1	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228 ✓ nr		1.636	0.1789	pCi/g	0.1991	N	910.6	3	1.933	IDENTIFIED	9.416	☐	
Americium-243 INT		0.4455	0.07101	pCi/g	0.1331	N	74.2	1	1.719	IDENTIFIED	14.94	☐	
Annihilation Rad.	HE	0.121	0.04196	pCi/g	0.05696	N	510.1	1	1.901	IDENTIFIED	34.55	☐	
Barium-137m nr		0.1492	0.0261	pCi/g	0.07368	N	661	2	1.326	IDENTIFIED	17.31	☐	
Bismuth-211 INT		3.852	0.3352	pCi/g	0.4011	Y	351.2	4	1.633	IDENTIFIED	7.996	☑ ul	
Bismuth-212 LA		1.399	0.2582	pCi/g	0.7844	N	0	12	0	FAIL_ABUND	0	☐	
Bismuth-214 ✓		1.175	0.1097	pCi/g	0.1271	0.200	608.8	4	1.5	IDENTIFIED	8.566	☐	
Cadmium-109 LA		3.366	0.704	pCi/g	2.232	Y	0	12	0	NOT_IDENTI	0	☑ UI	Data rejected due to low abundance.
Cerium-143		2298	315.9	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Cesium-135 INT		0.5654	0.1051	pCi/g	0.3208	N	269.5	1	1.697	IDENTIFIED	18.1	☐	
Cesium-137 ✓		0.1578	0.02759	pCi/g	0.07789	0.100	661	2	1.326	IDENTIFIED	17.31	☐	
Gross Gamma		7.927	1.26	pCi/g	3.017	N		0				☐	
Iodine-133	HE	2713	8088	pCi/g	0	N	0	12	0	SHORT_HLIF	0	☐	
Lead-212 ✓		1.685	0.09751	pCi/g	0.1128	0.100	238	4	1.327	IDENTIFIED	4.044	☐	
Lead-214 ✓		1.34	0.1217	pCi/g	0.1398	0.100	351.2	4	1.633	IDENTIFIED	7.996	☐	

Lutetium-177	HE	3.124	0.8626	pCi/g	2.74	N	0	12	0	FAIL_ABUND	0		
Niobium-95m		1.869	0.1377	pCi/g	0.449	N	0	12	0	NOT_IDENTI	0		
Niobium-97	HE	2.70E+05	1.85E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0		
Polonium-212	nr	1.685	0.09751	pCi/g	0.1128	N	238	4	1.327	IDENTIFIED	4.044		
Polonium-214	nr	1.34	0.1217	pCi/g	0.1398	N	351.2	4	1.633	IDENTIFIED	7.996		
Polonium-216	nr	1.685	0.09751	pCi/g	0.1128	N	238	4	1.327	IDENTIFIED	4.044		
Polonium-218	nr	1.34	0.1217	pCi/g	0.1398	N	351.2	4	1.633	IDENTIFIED	7.996		
Potassium-40	✓	19.74	1.105	pCi/g	0.6694	1.00	1460	1	2.261	IDENTIFIED	4.093		
Radium-224	INT	5.64	0.8952	pCi/g	1.283	Y	241	1	1.944	IDENTIFIED	15.49	☑ UI	
Radium-226	✓	1.175	0.1097	pCi/g	0.1271	Y	608.8	4	1.5	IDENTIFIED	8.566		
Radium-228	✓	1.636	0.1789	pCi/g	0.1991	0.500	910.6	3	1.933	IDENTIFIED	9.416		
Rhenium-188	HE	0.4217	0.1111	pCi/g	0.3952	N	0	12	0	NOT_IDENTI	0		
Thallium-200	HE	552.1	515.3	pCi/g	0	N	0	12	0	SHORT_HLIF	0		
Thallium-208	✓	0.5433	0.05051	pCi/g	0.06681	0.080	582.5	1	1.432	IDENTIFIED	8.734		
Thorium-228	nr	1.712	0.09908	pCi/g	0.1146	N	238	4	1.327	IDENTIFIED	4.044		
Thorium-230	nr	1.175	0.1097	pCi/g	0.127	N	608.8	4	1.5	IDENTIFIED	8.566		
Thorium-232	nr	1.636	0.1789	pCi/g	0.1991	N	910.6	3	1.933	IDENTIFIED	9.416		
Tin-126	HE	0.2716	0.06998	pCi/g	0.2195	N	0	12	0	NOT_IDENTI	0		
Titanium-44		0.1983	0.03135	pCi/g	0.1001	N	0	12	0	NOT_IDENTI	0		
Uranium-234	nr	1.175	0.1097	pCi/g	0.127	N	608.8	4	1.5	IDENTIFIED	8.566		
Zirconium-97		2.89E+07	3.65E+06	pCi/g	0	N	0	12	0	SHORT_HLIF	0		

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244137005	04-JAN-10 12:00	20-JAN-10 13:44	16.1	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	✓ nr	1.275	0.1976	pCi/g	0.2728	N	910.4	3	1.407	IDENTIFIED	14.43		
Americium-243	INT	0.3392	0.03076	pCi/g	0.05988	N	74.85	1	0.9528	IDENTIFIED	7.641		
Annihilation Rad.	HE	0.1055	0.03786	pCi/g	0.05627	N	510.7	1	1.342	IDENTIFIED	35.62		
Bismuth-210	HE	1.046	0.3916	pCi/g	0.7673	N	46.68	3	0.9511	IDENTIFIED	37.06		
Bismuth-211	INT	3.846	0.2965	pCi/g	0.3462	Y	351.8	4	1.113	IDENTIFIED	6.141	☑ UI	
Bismuth-212	HE	1.379	0.3031	pCi/g	0.8087	N	0	8	0	FAIL_ABUND	0		
Bismuth-214	✓	1.522	0.1285	pCi/g	0.1202	0.200	608.7	4	1.539	IDENTIFIED	6.744		
Cadmium-109	INT	2.672	0.6787	pCi/g	0.9471	Y	86.72	3	0.904	IDENTIFIED	24.93	☑ UI	
Cerium-143		1075	194.4	pCi/g	0	N	0	8	0	SHORT_HLIF	0		
Cesium-134	LA	0.123	0.03259	pCi/g	0.1043	0.100	0	8	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Gross Gamma		8.211	1.273	pCi/g	3.42	N		0					
Iodine-123	HE	5.18E+06	9.67E+06	pCi/g	0	N	0	8	0	SHORT_HLIF	0		
Iodine-135		3.54E+16	0	pCi/g	0	N	0	8	0	SHORT_HLIF	0		
Lead-210	HE	1.046	0.3916	pCi/g	0.7673	N	46.68	3	0.9511	IDENTIFIED	37.06		
Lead-212	✓	1.569	0.1001	pCi/g	0.09939	0.100	238.6	4	1.008	IDENTIFIED	3.908		
Lead-214	✓	1.338	0.1089	pCi/g	0.1207	0.100	351.8	4	1.113	IDENTIFIED	6.141		
Lutetium-177	HE	3.793	0.8196	pCi/g	2.421	N	0	8	0	FAIL_ABUND	0		
Neptunium-237	INT	0.7701	0.2111	pCi/g	0.3104	N	86.72	3	0.904	IDENTIFIED	24.93		
Polonium-210	HE	1.046	0.3911	pCi/g	0.7673	N	46.68	3	0.9511	IDENTIFIED	37.06		
Polonium-212	nr	1.569	0.1001	pCi/g	0.09939	N	238.6	4	1.008	IDENTIFIED	3.908		
Polonium-214	nr	1.338	0.1089	pCi/g	0.1207	N	351.8	4	1.113	IDENTIFIED	6.141		
Polonium-216	nr	1.569	0.1001	pCi/g	0.09939	N	238.6	4	1.008	IDENTIFIED	3.908		
Polonium-218	nr	1.338	0.1089	pCi/g	0.1207	N	351.8	4	1.113	IDENTIFIED	6.141		
Potassium-40	✓	19.61	1.236	pCi/g	0.4259	1.00	1460	1	1.906	IDENTIFIED	4.471		
Radium-224	INT	4.884	0.6899	pCi/g	1.132	Y	241.5	1	1.749	IDENTIFIED	13.38	☑ UI	
Radium-226	✓	1.522	0.1285	pCi/g	0.1202	Y	608.7	4	1.539	IDENTIFIED	6.744		

Radium-228 ✓		1.275	0.1976	pCi/g	0.2728	0.500	910.4	3	1.407	IDENTIFIED	14.43	☐
Thallium-208 ✓		0.4933	0.05263	pCi/g	0.07234	0.080	582.9	1	1.315	IDENTIFIED	9.564	☐
Thorium-228 nv		1.594	0.1017	pCi/g	0.101	N	238.6	4	1.008	IDENTIFIED	3.908	☐
Thorium-230 nv		1.522	0.1285	pCi/g	0.1202	N	608.7	4	1.539	IDENTIFIED	6.744	☐
Thorium-232 nv		1.275	0.1976	pCi/g	0.2728	N	910.4	3	1.407	IDENTIFIED	14.43	☐
Thorium-234 ✓		1.655	0.5576	pCi/g	0.9895	2.00	63.35	2	0.9444	IDENTIFIED	32.38	☐
Tin-126 INT		0.2622	0.06661	pCi/g	0.09283	N	86.72	3	0.904	IDENTIFIED	24.93	☐
Titanium-44		0.369	0.02541	pCi/g	0.06461	N	0	8	0	FAIL_ABUND	0	☐
Total Uranium		5.0184	1.66E-06	ug/g	1.4754	N		0				☐
Uranium-234 nv		1.522	0.1285	pCi/g	0.1202	N	608.7	4	1.539	IDENTIFIED	6.744	☐
Uranium-238	HE	1.655	0.5576	pCi/g	0.9895	N	63.35	2	0.9444	IDENTIFIED	32.38	☐
Zirconium-97		7.47E+06	2.86E+06	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244137006	04-JAN-10 12:00	20-JAN-10 13:45	16.1	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228 ✓ INT		1.532	0.1827	pCi/g	0.1935	N	911.1	3	1.402	IDENTIFIED	10.23	☐	
Americium-243 INT		0.3486	0.0339	pCi/g	0.07823	N	74.9	1	1.007	IDENTIFIED	8.847	☐	
Annihilation Rad.	HE	0.09744	0.02786	pCi/g	0.04727	N	510.9	1	1.32	IDENTIFIED	28.21	☐	
Barium-137m nv		0.1342	0.03254	pCi/g	0.0551	N	661.6	2	1.517	IDENTIFIED	23.73	☐	
Bismuth-211 INT		4.534	0.3111	pCi/g	0.3254	Y	351.8	4	1.151	IDENTIFIED	4.919	☑ ✓ UI	
Bismuth-212	HE	1.192	0.2689	pCi/g	0.6848	N	0	7	0	FAIL_ABUND	0	☐	
Bismuth-214 ✓		1.375	0.112	pCi/g	0.1109	0.200	609.3	4	1.407	IDENTIFIED	5.947	☐	
Cadmium-109 INT		4.008	0.5243	pCi/g	1.057	Y	87.33	3	1.267	IDENTIFIED	12.21	☑ ✓ UI	
Cerium-143		1086	187.8	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Cesium-134 LA		0.1314	0.03604	pCi/g	0.08754	0.100	0	7	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Cesium-137 ✓		0.1418	0.0344	pCi/g	0.05825	0.100	661.6	2	1.517	IDENTIFIED	23.73	☐	
Gross Gamma		9.522	1.567	pCi/g	4.323	N		0				☐	
Lead-212 ✓		1.671	0.1048	pCi/g	0.09038	0.100	238.5	4	1.076	IDENTIFIED	3.32	☐	
Lead-214 ✓		1.577	0.1158	pCi/g	0.1109	0.100	351.8	4	1.151	IDENTIFIED	4.919	☐	
Lutetium-177		4.002	0.8817	pCi/g	2.222	N	0	7	0	FAIL_ABUND	0	☐	
Neptunium-237 INT		1.155	0.1924	pCi/g	0.3079	N	87.33	3	1.267	IDENTIFIED	12.21	☐	
Polonium-212 nv		1.671	0.1048	pCi/g	0.09038	N	238.5	4	1.076	IDENTIFIED	3.32	☐	
Polonium-214 nv		1.577	0.1158	pCi/g	0.1109	N	351.8	4	1.151	IDENTIFIED	4.919	☐	
Polonium-216 nv		1.671	0.1048	pCi/g	0.09038	N	238.5	4	1.076	IDENTIFIED	3.32	☐	
Polonium-218 nv		1.577	0.1158	pCi/g	0.1109	N	351.8	4	1.151	IDENTIFIED	4.919	☐	
Potassium-40 ✓		24.64	1.338	pCi/g	0.5167	1.00	1460	1	1.858	IDENTIFIED	3.233	☐	
Radium-224 INT		5.429	0.6108	pCi/g	1.028	Y	241.6	1	1.52	IDENTIFIED	10.16	☑ ✓ UI	
Radium-226 ✓		1.375	0.112	pCi/g	0.1109	Y	609.3	4	1.407	IDENTIFIED	5.947	☐	
Radium-228 ✓		1.532	0.1827	pCi/g	0.1935	0.500	911.1	3	1.402	IDENTIFIED	10.23	☐	
Thallium-200	HE	280.7	382.1	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐	
Thallium-208 ✓		0.5325	0.05256	pCi/g	0.05491	0.080	583.1	1	1.357	IDENTIFIED	8.426	☐	
Thorium-228 nv		1.698	0.1065	pCi/g	0.09184	N	238.5	4	1.076	IDENTIFIED	3.32	☐	
Thorium-230 nv		1.375	0.112	pCi/g	0.1109	N	609.3	4	1.407	IDENTIFIED	5.947	☐	
Thorium-232 nv		1.532	0.1827	pCi/g	0.1935	N	911.1	3	1.402	IDENTIFIED	10.23	☐	
Thorium-234 ↑ UNC		1.707	0.73	pCi/g	1.667	2.00	63.43	2	1.023	IDENTIFIED	41.89	☑ ✓ UI	
Tin-126 INT		0.3933	0.05146	pCi/g	0.1041	N	87.33	3	1.267	IDENTIFIED	12.21	☐	
Titanium-44		0.3818	0.02714	pCi/g	0.07535	N	0	7	0	FAIL_ABUND	0	☐	
Total Uranium		5.0807	2.17E-06	ug/g	2.4817	N		0				☐	
Uranium-234 nv		1.375	0.112	pCi/g	0.1109	N	609.3	4	1.407	IDENTIFIED	5.947	☐	
Uranium-238	HE	1.707	0.73	pCi/g	1.667	N	63.43	2	1.023	IDENTIFIED	41.89	☐	

Zirconium-97	HE	4.97E+05	2.36E+06	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244137007	04-JAN-10 12:00	20-JAN-10 13:45	16.1	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228 ✓ nr		1.732	0.1775	pCi/g	0.1958	N	911	3	1.258	IDENTIFIED	8.347	☐	
Americium-243 INT		0.3762	0.02708	pCi/g	0.04236	N	74.84	1	0.8623	IDENTIFIED	5.101	☐	
Annihilation Rad.	HE	0.108	0.03594	pCi/g	0.04465	N	510.6	1	1.311	IDENTIFIED	32.86	☐	
Bismuth-210	HE	0.7979	0.282	pCi/g	0.5671	N	46.46	3	0.9096	IDENTIFIED	34.97	☐	
Bismuth-211 INT		4.316	0.3164	pCi/g	0.2658	Y	351.9	4	1.148	IDENTIFIED	5.106	☑ UI	
Bismuth-212 ✓		1.216	0.2111	pCi/g	0.4585	N	727.2	1	1.614	IDENTIFIED	16.29	☐	
Bismuth-214 ✓		1.308	0.1121	pCi/g	0.1104	0.200	609.2	4	1.408	IDENTIFIED	6.089	☐	
Cadmium-109 INT		3.533	0.3607	pCi/g	0.7078	Y	87.23	3	1.06	IDENTIFIED	8.694	☑ UI	
Cerium-143		849.4	154.8	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Cesium-134 LA		0.09513	0.0287	pCi/g	0.08613	0.100	0	8	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Gross Gamma		8.762	1.258	pCi/g	3.649	N		0				☐	
Iodine-135		9.02E+15	0	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Lead-210	HE	0.7979	0.282	pCi/g	0.5671	N	46.46	3	0.9096	IDENTIFIED	34.97	☐	
Lead-212 ✓		1.652	0.1118	pCi/g	0.09462	0.100	238.6	4	0.963	IDENTIFIED	3.663	☐	
Lead-214 ✓		1.501	0.1168	pCi/g	0.09269	0.100	351.9	4	1.148	IDENTIFIED	5.106	☐	
Lutetium-177		3.692	0.7611	pCi/g	2.057	N	0	8	0	FAIL_ABUND	0	☐	
Neptunium-237 INT		1.018	0.1478	pCi/g	0.2226	N	87.23	3	1.06	IDENTIFIED	8.694	☐	
Polonium-210	HE	0.7979	0.2816	pCi/g	0.5671	N	46.46	3	0.9096	IDENTIFIED	34.97	☐	
Polonium-212 nr		1.652	0.1118	pCi/g	0.09462	N	238.6	4	0.963	IDENTIFIED	3.663	☐	
Polonium-214 nr		1.501	0.1168	pCi/g	0.09269	N	351.9	4	1.148	IDENTIFIED	5.106	☐	
Polonium-216 nr		1.652	0.1118	pCi/g	0.09462	N	238.6	4	0.963	IDENTIFIED	3.663	☐	
Polonium-218 nr		1.501	0.1168	pCi/g	0.09269	N	351.9	4	1.148	IDENTIFIED	5.106	☐	
Potassium-40 ✓		20.63	1.159	pCi/g	0.4106	1.00	1461	1	2.086	IDENTIFIED	3.664	☐	
Radium-224 INT		3.583	0.465	pCi/g	1.229	Y	241.9	1	1.513	IDENTIFIED	11.86	☑ UI	
Radium-226 ✓		1.308	0.1121	pCi/g	0.1104	Y	609.2	4	1.408	IDENTIFIED	6.089	☐	
Radium-228 ✓		1.732	0.1775	pCi/g	0.1958	0.500	911	3	1.258	IDENTIFIED	8.347	☐	
Technetium-99m		1.99E+16	0	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Thallium-200	HE	28.24	365.4	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	
Thallium-208 ✓		0.5846	0.05144	pCi/g	0.05811	0.080	583.1	1	1.429	IDENTIFIED	6.757	☐	
Thorium-228 nr		1.678	0.1136	pCi/g	0.09614	N	238.6	4	0.963	IDENTIFIED	3.663	☐	
Thorium-230 nr		1.308	0.1121	pCi/g	0.1104	N	609.2	4	1.408	IDENTIFIED	6.089	☐	
Thorium-232 nr		1.732	0.1775	pCi/g	0.1958	N	911	3	1.258	IDENTIFIED	8.347	☐	
Thorium-234 ✓		1.208	0.3541	pCi/g	0.724	2.00	63.36	2	0.8501	IDENTIFIED	27.8	☐	
Tin-126 INT		0.3468	0.03541	pCi/g	0.06933	N	87.23	3	1.06	IDENTIFIED	8.694	☐	
Titanium-44		0.4161	0.02599	pCi/g	0.04669	N	0	8	0	FAIL_ABUND	0	☐	
Total Uranium		3.6335	1.05E-06	ug/g	1.0797	N		0				☐	
Uranium-234 nr		1.308	0.1121	pCi/g	0.1104	N	609.2	4	1.408	IDENTIFIED	6.089	☐	
Uranium-238	HE	1.208	0.3541	pCi/g	0.724	N	63.36	2	0.8501	IDENTIFIED	27.8	☐	
Zirconium-97		5.41E+06	2.52E+06	pCi/g	0	N	0	8	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202012144		20-JAN-10 14:09	0	MB	LOAD	1		GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Annihilation Rad.	HE	0.02435	0.02141	pCi/g	0.02344	N	511.2	1	2.363	IDENTIFIED	87.9	☐	
Iodine-135	HE	1.01E+07	7.54E+06	pCi/g	0	N	0	3	0	SHORT_HLIF	0	☐	

Technetium-99m	HE	1.30E+07	7.86E+06	pCi/g	0	N	0	3	0	SHORT_HLIF	0	☐
Zirconium-97	HE	665	360.7	pCi/g	0	N	0	3	0	SHORT_HLIF	0	☐

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202012145	05-JAN-10 12:00	20-JAN-10 15:47	15.2	DUP	LOAD	1		LANL01004GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228 ✓ nv		1.771	0.1564	pCi/g	0.146	N	910.8	3	1.954	IDENTIFIED	5.839	☐	
Americium-243 int		0.3722	0.04049	pCi/g	0.0847	N	75.05	1	1.185	IDENTIFIED	10.04	☐	
Annihilation Rad.		0.1381	0.02853	pCi/g	0.03413	N	510.9	1	2.387	IDENTIFIED	20.39	☐	
Bismuth-211 int		3.779	0.2331	pCi/g	0.2513	Y	351.9	4	1.362	IDENTIFIED	5.267	☑ ui	
Bismuth-212 LA		1.005	0.2213	pCi/g	0.5414	N	0	9	0	FAIL_ABUND	0	☐	
Bismuth-214 ✓		1.026	0.08186	pCi/g	0.09712	0.200	609	4	1.625	IDENTIFIED	6.611	☐	
Cadmium-109 int		2.684	0.5509	pCi/g	1.145	Y	87.36	3	1.073	IDENTIFIED	20	☑ ui	
Cerium-143		648.4	100.6	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Cesium-134 LA		0.0785	0.02391	pCi/g	0.06643	0.100	0	9	0	FAIL_ABUND	0	☑ UI	Data rejected due to low abundance.
Europium-155	HE	0.1917	0.06064	pCi/g	0.149	N	105.9	1	1.143	IDENTIFIED	31.43	☐	
Gross Gamma		8.389	1.067	pCi/g	2.263	N		0				☐	
Krypton-85		18.87	3.23	pCi/g	11.19	N	0	9	0	NOT_IDENTI	0	☐	
Lead-212 ✓		1.624	0.07432	pCi/g	0.07136	0.100	238.8	4	1.25	IDENTIFIED	2.861	☐	
Lead-214 ✓		1.315	0.08805	pCi/g	0.08757	0.100	351.9	4	1.362	IDENTIFIED	5.267	☐	
Lutetium-177	HE	3.117	0.8032	pCi/g	1.744	N	0	9	0	FAIL_ABUND	0	☐	
Neptunium-237 int		0.7747	0.178	pCi/g	0.3907	N	87.36	3	1.073	IDENTIFIED	20	☐	
Polonium-212 nv		1.624	0.07432	pCi/g	0.07136	N	238.8	4	1.25	IDENTIFIED	2.861	☐	
Polonium-214 nv		1.315	0.08805	pCi/g	0.08757	N	351.9	4	1.362	IDENTIFIED	5.267	☐	
Polonium-216 nv		1.624	0.07432	pCi/g	0.07136	N	238.8	4	1.25	IDENTIFIED	2.861	☐	
Polonium-218 nv		1.315	0.08805	pCi/g	0.08757	N	351.9	4	1.362	IDENTIFIED	5.267	☐	
Potassium-40 ✓		21.12	1.001	pCi/g	0.378	1.00	1460	1	2.398	IDENTIFIED	2.84	☐	
Radium-224 int		4.767	0.5554	pCi/g	0.811	Y	241.8	1	1.767	IDENTIFIED	11.31	☑ ui	
Radium-226 ✓		1.026	0.08186	pCi/g	0.09712	Y	609	4	1.625	IDENTIFIED	6.611	☐	
Radium-228 ✓		1.771	0.1564	pCi/g	0.146	0.500	910.8	3	1.954	IDENTIFIED	5.839	☐	
Strontium-85 LA		0.09679	0.01657	pCi/g	0.0574	Y	0	9	0	NOT_IDENTI	0	☑ UI	Data rejected due to low abundance.
Thallium-200	HE	79.09	174.6	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	
Thallium-208 ✓		0.4744	0.03455	pCi/g	0.04409	0.080	583.1	1	1.287	IDENTIFIED	6.138	☐	
Thorium-228 nv		1.649	0.07545	pCi/g	0.07245	N	238.8	4	1.25	IDENTIFIED	2.861	☐	
Thorium-230 nv		1.026	0.08186	pCi/g	0.09712	N	609	4	1.625	IDENTIFIED	6.611	☐	
Thorium-232 nv		1.771	0.1564	pCi/g	0.146	N	910.8	3	1.954	IDENTIFIED	5.839	☐	
Tin-126 int		0.2638	0.05414	pCi/g	0.1348	N	87.36	3	1.073	IDENTIFIED	20	☐	
Titanium-44		0.402	0.03094	pCi/g	0.08033	N	0	9	0	FAIL_ABUND	0	☐	
Uranium-234 nv		1.026	0.08186	pCi/g	0.09712	N	609	4	1.625	IDENTIFIED	6.611	☐	
Zirconium-97		3.15E+06	8.72E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202012146		20-JAN-10 14:47	0	LCS	LOAD	1		GEL	N	RGSP

Name		Result	Uncert.	Units	MDA	RDL	Energy	***	FWHM	Comb Act Rpt	Err(%)	Qual	Qual Comment
Actinium-228	HE	0.9065	0.2164	pCi/g	0.7907	N	0	11	0	FAIL_ABUND	0	☐	
Americium-241 ✓		12.96	0.6859	pCi/g	0.2369	0.200	59.41	1	1.133	IDENTIFIED	1.49	☐ 81.5 %	
Americium-243		0.2208	0.0352	pCi/g	0.09863	N	74.7	1	1.024	IDENTIFIED	15.35	☐	
Barium-137m		5.126	0.2537	pCi/g	0.1245	N	661.3	2	1.647	IDENTIFIED	2.806	☐	
Bismuth-211		1.596	0.3712	pCi/g	0.6954	Y	351.8	4	1.554	IDENTIFIED	22.97	☐	
Bismuth-214		0.5079	0.1186	pCi/g	0.2603	0.200	608.9	4	1.487	IDENTIFIED	22.87	☐	

Cadmium-109		34.85	1.792	pCi/g	1.832	Y	87.85	3	1.171	IDENTIFIED	3.296	☐	
Cerium-143	HE	12.25	3.308	pCi/g	10.49	N	0	11	0	FAIL_ABUND	0	☐	
Cesium-137 ✓		5.418	0.2685	pCi/g	0.1316	0.100	661.3	2	1.647	IDENTIFIED	2.806	☐	97.3 d
Cobalt-57		0.1997	0.04163	pCi/g	0.06637	N	122.1	1	1.224	IDENTIFIED	19.87	☐	
Cobalt-60 ✓		6.019	0.2395	pCi/g	0.1023	0.100	1332	1	2.048	IDENTIFIED	2.784	☐	97.2 d
Gross Gamma		25.54	2.847	pCi/g	5.42	N		0				☐	
Iodine-123	HE	187.6	337.1	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Lead-212		0.9607	0.1292	pCi/g	0.1673	0.100	238.5	4	1.29	IDENTIFIED	12.66	☐	
Lead-214		0.5552	0.1299	pCi/g	0.2425	0.100	351.8	4	1.554	IDENTIFIED	22.97	☐	
Neptunium-237		10.17	1.173	pCi/g	0.5737	N	87.85	3	1.171	IDENTIFIED	3.296	☐	
Niobium-97		1291	125.9	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Polonium-212		0.9607	0.1292	pCi/g	0.1673	N	238.5	4	1.29	IDENTIFIED	12.66	☐	
Polonium-214		0.5552	0.1299	pCi/g	0.2425	N	351.8	4	1.554	IDENTIFIED	22.97	☐	
Polonium-216		0.9607	0.1292	pCi/g	0.1673	N	238.5	4	1.29	IDENTIFIED	12.66	☐	
Polonium-218		0.5552	0.1299	pCi/g	0.2425	N	351.8	4	1.554	IDENTIFIED	22.97	☐	
Radium-224		4.378	0.716	pCi/g	2.519	Y	0	11	0	NOT_IDENTI	0	☐	
Radium-226		0.5079	0.1186	pCi/g	0.2603	Y	608.9	4	1.487	IDENTIFIED	22.87	☐	
Radium-228		0.9065	0.2164	pCi/g	0.7907	0.500	0	11	0	FAIL_ABUND	0	☐	
Silver-110m		0.523	0.06559	pCi/g	0.2274	N	0	11	0	NOT_IDENTI	0	☐	
Sodium-24		281.4	137.5	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	
Thallium-208		0.3553	0.08391	pCi/g	0.1199	0.080	583.2	1	1.697	IDENTIFIED	23.25	☐	
Thorium-228		0.9681	0.1302	pCi/g	0.1686	N	238.5	4	1.29	IDENTIFIED	12.66	☐	
Thorium-230		0.5079	0.1186	pCi/g	0.2603	N	608.9	4	1.487	IDENTIFIED	22.87	☐	
Thorium-232	HE	0.9065	0.2164	pCi/g	0.7907	N	0	11	0	FAIL_ABUND	0	☐	
Tin-126		3.464	0.1781	pCi/g	0.1818	N	87.85	3	1.171	IDENTIFIED	3.296	☐	
Titanium-44		0.2163	0.0305	pCi/g	0.07392	N	0	11	0	FAIL_ABUND	0	☐	
Uranium-234		0.5079	0.1186	pCi/g	0.2603	N	608.9	4	1.487	IDENTIFIED	22.87	☐	
Zirconium-97	HE	530.2	1399	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐	

*** = Number of isotopes identified with a keyline at this energy.

GEL QUALS

Batch ID: 940263

Report run on: January 21, 2010 12:39 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
244125001-1 20-JAN-2010 13:29	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.828			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.438			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1088		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.436			
244125002-1 20-JAN-2010 13:30	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.191			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.921			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1199		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.637			
244125003-1 20-JAN-2010 13:30	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.956			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.806			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.126		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.862			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.09349			
244125004-1 20-JAN-2010 13:31	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.271			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.348			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.08764		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.016			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1795			
244137001-1 20-JAN-2010 13:31	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.169			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.833			

GEL QUALS

Batch ID: 940263

Report run on: January 21, 2010 12:39 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
244137001-1 20-JAN-2010 13:31	Radium-224	UI	UI	UI	Data rejected due to interference.		4.417			
244137002-1 20-JAN-2010 13:43	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.817			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.111			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.153			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08839			
244137003-1 20-JAN-2010 13:43	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.169			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.163			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1206		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.943			
	Thorium-234	UI	UI	UI	Data rejected due to high counting uncertainty.		1.575		2	2
244137004-1 20-JAN-2010 13:44	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.852			
	Cadmium-109	UI	UI	UI	Data rejected due to low abundance.		3.366			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.64			
244137005-1 20-JAN-2010 13:44	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.846			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.672			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.123		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.884			
244137006-1 20-JAN-2010 13:45	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.534			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.008			

GEL QUALS

Batch ID: 940263

Report run on: January 21, 2010 12:39 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
244137006-1 20-JAN-2010 13:45	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1314		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.429			
	Thorium-234	UI	UI	UI	Data rejected due to high counting uncertainty.		1.707		2	2
244137007-1 20-JAN-2010 13:45	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.316			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.533			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.09513		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.583			
1202012145-1 DUP 20-JAN-2010 15:47	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.779			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.684			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.0785		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.767			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.09679			

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:31:01.75

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244125001.CNF;1
Sample date       : 5-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:29:49
Sample ID         : G244125001           Sample quantity  : 1.28360E+02 GRAM
Detector name     : GAM14                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.39  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 940263               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.44*	163	645	1.57	126.43	121	12	2.26E-02	32.5	
2	3	74.93	517	547	1.41	149.40	145	15	7.18E-02	9.0	7.70E-01
3	3	77.23*	831	486	1.26	153.98	145	15	1.15E-01	6.2	
4	2	87.25	301	459	1.56	174.00	170	22	4.19E-02	12.7	2.16E+00
5	2	89.96	146	480	1.37	179.42	170	22	2.03E-02	27.9	
6	2	93.15*	202	538	1.67	185.80	170	22	2.81E-02	24.2	
7	0	129.01	82	331	1.07	257.45	254	8	1.14E-02	40.0	
8	0	185.90*	214	366	1.48	371.11	366	12	2.97E-02	19.8	
9	0	209.02*	139	249	1.17	417.32	413	9	1.93E-02	22.5	
10	3	238.56*	1423	198	1.37	476.34	468	20	1.98E-01	3.2	4.18E-01
11	3	241.58	331	228	2.06	482.39	468	20	4.59E-02	15.2	
12	0	270.39	137	216	1.53	539.94	534	12	1.90E-02	23.1	
13	0	278.07	33	170	1.26	555.30	549	8	4.62E-03	70.0	
14	0	295.14	414	231	1.26	589.42	584	12	5.75E-02	8.8	
15	0	299.81	71	128	1.03	598.75	596	7	9.83E-03	29.2	
16	0	338.58	337	147	1.77	676.22	671	14	4.68E-02	9.4	
17	0	351.69	708	247	1.36	702.43	696	14	9.83E-02	6.0	
18	0	463.04	63	79	1.50	924.99	921	9	8.74E-03	28.4	
19	0	511.12*	135	136	2.11	1021.10	1013	18	1.87E-02	25.0	
20	0	569.29*	220	121	2.90	1137.38	1128	21	3.06E-02	14.5	
21	0	583.30*	460	107	1.81	1165.39	1156	16	6.39E-02	6.9	
22	0	609.46*	543	98	1.44	1217.70	1210	15	7.54E-02	5.9	
23	0	727.80*	124	68	1.50	1454.30	1447	15	1.72E-02	17.6	
24	0	768.16	78	70	1.50	1535.01	1527	14	1.08E-02	25.5	
25	0	795.60	59	53	2.01	1589.88	1583	12	8.18E-03	28.1	
26	0	861.01	53	57	2.29	1720.68	1715	14	7.36E-03	33.0	
27	0	911.91*	279	83	1.90	1822.47	1814	15	3.87E-02	9.3	
28	0	935.43	70	36	1.01	1869.50	1861	18	9.72E-03	23.4	
29	5	965.49	27	52	1.99	1929.62	1926	17	3.78E-03	44.6	2.27E+00
30	5	969.55*	159	41	1.80	1937.74	1926	17	2.21E-02	11.7	
31	0	1121.59	74	104	1.98	2241.86	2233	16	1.03E-02	32.9	
32	0	1379.24	35	35	1.56	2757.37	2749	15	4.92E-03	41.0	
33	0	1461.54*	856	12	1.87	2922.06	2914	15	1.19E-01	3.6	
34	0	1588.21	23	15	1.64	3175.58	3167	15	3.22E-03	41.8	
35	0	1764.99*	97	0	1.40	3529.46	3523	14	1.34E-02	10.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JAN-2010 15:31:04

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244125001.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 5-JAN-2010 12:00:00 Acquisition date : 20-JAN-2010 13:29:49
Sample ID : G244125001 Sample quantity : 128.36 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA14 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.39 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.938E+01	1.969E+00	4.994E-01	3.626E-02	38.803
CD-109	+	88.03	*	3.438E+00	9.204E-01	1.168E+00	1.021E-01	2.943
SN-126	+	64.28		1.066E+00	7.103E-01	6.534E-01	9.311E-02	1.632
	+	86.94		1.405E+00	6.815E-01	5.362E-01	2.218E-01	2.620
	+	87.57	*	3.379E-01	9.048E-02	1.152E-01	1.002E-02	2.933
HG-203		70.83		7.431E-01	1.086E+00	1.584E+00	2.022E-01	0.469
		72.87		2.158E+00	7.289E-01	1.076E+00	1.336E-01	2.006
		82.60		3.489E-01	1.652E+00	1.708E+00	2.303E-01	0.204
	+	279.20	*	3.158E-02	4.426E-02	6.180E-02	3.823E-03	0.511
TL-208	+	277.35		2.867E-01	4.026E-01	5.643E-01	5.968E-02	0.508
	+	510.84		5.900E-01	3.007E-01	1.976E-01	2.015E-02	2.986
	+	583.14	*	5.792E-01	8.914E-02	4.856E-02	3.321E-03	11.927
	+	860.37		6.399E-01	4.269E-01	3.605E-01	3.392E-02	1.775
BI-211		72.87		1.086E+01	3.503E+00	5.412E+00	3.989E-01	2.006
	+	351.07	*	3.828E+00	5.204E-01	3.100E-01	1.964E-02	12.348
PB-212	+	74.81		2.320E+00	5.006E-01	5.081E-01	6.094E-02	4.565
	+	77.11		2.137E+00	3.107E-01	2.916E-01	2.246E-02	7.329
	+	87.30		1.563E+00	4.467E-01	5.339E-01	7.067E-02	2.927
	+	238.63	*	1.676E+00	1.629E-01	8.649E-02	6.299E-03	19.381
	+	300.09		1.286E+00	7.570E-01	1.156E+00	9.564E-02	1.112
PO-212	+	74.81		2.320E+00	5.006E-01	5.081E-01	6.094E-02	4.565
	+	77.11		2.137E+00	3.107E-01	2.916E-01	2.246E-02	7.329
	+	87.30		1.563E+00	4.467E-01	5.339E-01	7.067E-02	2.927
		115.19		1.325E+00	3.466E+00	5.668E+00	4.125E-01	0.234
	+	238.63	*	1.676E+00	1.629E-01	8.649E-02	6.299E-03	19.381
	+	300.09		1.286E+00	7.570E-01	1.156E+00	9.564E-02	1.112
BI-214	+	609.31	*	1.291E+00	1.838E-01	1.081E-01	8.557E-03	11.943
	+	1120.29		9.416E-01	6.263E-01	4.660E-01	4.317E-02	2.021
	+	1764.49		1.693E+00	3.753E-01	2.907E-01	1.743E-02	5.824
PB-214	+	74.81		3.997E+00	8.320E-01	8.755E-01	9.239E-02	4.565
	+	77.11		3.664E+00	6.014E-01	5.000E-01	5.416E-02	7.329
	+	87.30		2.678E+00	7.460E-01	9.146E-01	1.061E-01	2.927
	+	241.98		2.339E+00	7.361E-01	4.898E-01	3.935E-02	4.776
	+	295.21		1.319E+00	2.591E-01	2.176E-01	1.860E-02	6.062

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	351.92	*	1.331E+00	1.939E-01	1.081E-01	8.866E-03	12.323
PO-214	+	74.81		3.997E+00	8.320E-01	8.755E-01	9.239E-02	4.565
	+	77.11		3.664E+00	6.014E-01	5.000E-01	5.416E-02	7.329
	+	87.30		2.678E+00	7.460E-01	9.146E-01	1.061E-01	2.927
	+	241.98		2.339E+00	7.361E-01	4.898E-01	3.935E-02	4.776
	+	295.21		1.319E+00	2.591E-01	2.176E-01	1.860E-02	6.062
	+	351.92	*	1.331E+00	1.939E-01	1.081E-01	8.866E-03	12.323
PO-216	+	74.81		2.320E+00	5.006E-01	5.081E-01	6.094E-02	4.565
	+	77.11		2.137E+00	3.107E-01	2.916E-01	2.246E-02	7.329
	+	87.30		1.563E+00	4.467E-01	5.339E-01	7.067E-02	2.927
	+	238.63	*	1.676E+00	1.629E-01	8.649E-02	6.299E-03	19.381
	+	300.09		1.286E+00	7.570E-01	1.156E+00	9.564E-02	1.112
PO-218	+	74.81		3.997E+00	8.320E-01	8.755E-01	9.239E-02	4.565
	+	77.11		3.664E+00	6.014E-01	5.000E-01	5.416E-02	7.329
	+	87.30		2.678E+00	7.460E-01	9.146E-01	1.061E-01	2.927
	+	241.98		2.339E+00	7.361E-01	4.898E-01	3.935E-02	4.776
	+	295.21		1.319E+00	2.591E-01	2.176E-01	1.860E-02	6.062
	+	351.92	*	1.331E+00	1.939E-01	1.081E-01	8.866E-03	12.323
RA-224	+	240.98	*	4.436E+00	1.373E+00	9.837E-01	5.654E-02	4.509
RA-226	+	609.31	*	1.291E+00	1.838E-01	1.081E-01	8.557E-03	11.943
	+	1120.29		9.416E-01	6.263E-01	4.660E-01	4.317E-02	2.021
	+	1764.49		1.693E+00	3.753E-01	2.907E-01	1.743E-02	5.824
AC-228	+	338.32		2.009E+00	9.011E-01	3.433E-01	1.399E-01	5.851
	+	911.07	*	1.598E+00	3.528E-01	2.154E-01	2.530E-02	7.420
	+	969.11		1.609E+00	5.325E-01	3.643E-01	8.507E-02	4.416
RA-228	+	338.32		2.009E+00	9.011E-01	3.433E-01	1.399E-01	5.851
	+	911.07	*	1.598E+00	3.528E-01	2.154E-01	2.530E-02	7.420
	+	969.11		1.609E+00	5.325E-01	3.643E-01	8.507E-02	4.416
TH-228	+	74.81		2.355E+00	4.588E-01	5.158E-01	3.919E-02	4.565
	+	77.11		2.170E+00	3.154E-01	2.960E-01	2.280E-02	7.329
	+	87.30		1.587E+00	4.248E-01	5.420E-01	4.700E-02	2.927
	+	238.63	*	1.702E+00	1.654E-01	8.779E-02	6.395E-03	19.381
	+	300.09		1.305E+00	1.082E+00	1.174E+00	6.919E-01	1.112
TH-230	+	609.31	*	1.291E+00	1.837E-01	1.081E-01	8.557E-03	11.943
	+	1120.29		9.415E-01	6.263E-01	4.660E-01	4.317E-02	2.021
	+	1764.49		1.693E+00	3.753E-01	2.907E-01	1.743E-02	5.824
TH-232	+	338.32		2.009E+00	3.939E-01	3.433E-01	1.972E-02	5.851
	+	911.07	*	1.598E+00	3.528E-01	2.154E-01	2.530E-02	7.420
	+	969.11		1.609E+00	5.325E-01	3.643E-01	8.507E-02	4.416
TH-234	+	63.29	*	2.693E+00	1.813E+00	1.702E+00	2.925E-01	1.583
	+	92.38		1.493E+00	7.707E-01	7.647E-01	1.374E-01	1.952
U-234	+	609.31	*	1.291E+00	1.837E-01	1.081E-01	8.557E-03	11.943
	+	1120.29		9.415E-01	6.263E-01	4.660E-01	4.317E-02	2.021
	+	1764.49		1.693E+00	3.753E-01	2.907E-01	1.743E-02	5.824
NP-237	+	86.50	*	9.924E-01	3.354E-01	3.720E-01	8.315E-02	2.668
		95.87		4.767E-01	1.043E+00	1.498E+00	3.665E-01	0.318
U-238	+	63.29	*	2.693E+00	1.813E+00	1.702E+00	2.925E-01	1.583
	+	92.38		1.493E+00	7.333E-01	7.647E-01	6.397E-02	1.952
AM-243	+	74.67	*	3.761E-01	7.315E-02	8.257E-02	6.196E-03	4.555

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	86.72		3.721E+01	9.963E+00	1.423E+01	1.225E+00	2.616
		117.66		-1.197E+00	3.693E+00	5.870E+00	4.232E-01	-0.204
		142.18		1.616E+01	1.792E+01	2.969E+01	1.867E+00	0.544
ANH-511	+	511.00	*	1.274E-01	6.408E-02	4.270E-02	2.508E-03	2.985

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	1.323E-01	3.001E-01	5.067E-01	3.415E-02	0.261
NA-22		1274.54	*	3.187E-02	4.098E-02	7.270E-02	4.749E-03	0.438
NA-24		1368.53	*	-4.053E-01	4.098E-02	Half-Life too short		
AL-26		1129.67		7.903E-01	1.801E+00	2.893E+00	1.827E-01	0.273
		1808.65	*	-2.209E-03	2.461E-02	3.888E-02	2.254E-03	-0.057
TI-44		67.85		-3.919E-02	4.823E-02	6.565E-02	4.620E-03	-0.597
	+	78.38	*	3.944E-01	5.734E-02	7.864E-02	6.140E-03	5.016
SC-46		889.25	*	-2.424E-02	3.512E-02	5.473E-02	5.057E-03	-0.443
	+	1120.51		1.611E-01	1.066E-01	1.254E-01	8.119E-03	1.285
V-48		944.10		4.710E-02	8.798E-01	1.326E+00	1.185E-01	0.036
		983.50	*	2.225E-02	6.410E-02	1.103E-01	9.363E-03	0.202
		1312.09		-3.031E-02	7.472E-02	1.168E-01	8.070E-03	-0.260
CR-51		320.08	*	-1.875E-01	3.483E-01	5.614E-01	3.628E-02	-0.334
MN-52		744.21		-1.026E-01	2.482E-01	3.855E-01	2.721E-02	-0.266
		848.13		-3.898E+00	6.514E+00	1.035E+01	8.896E-01	-0.376
	+	935.52		7.830E-01	3.730E-01	4.530E-01	4.088E-02	1.729
		1246.25		-1.611E+00	6.894E+00	1.110E+01	6.919E-01	-0.145
		1333.61		1.061E-01	4.699E+00	7.737E+00	5.514E-01	0.014
		1434.06	*	-9.084E-02	2.044E-01	3.104E-01	2.175E-02	-0.293
MN-54		834.83	*	3.929E-02	3.740E-02	6.724E-02	5.640E-03	0.584
CO-56		846.75	*	-4.954E-03	3.731E-02	6.184E-02	5.301E-03	-0.080
		977.42		3.308E-01	2.877E+00	4.744E+00	4.063E-01	0.070
		1037.82		2.146E-01	2.986E-01	5.277E-01	4.372E-02	0.407
		1175.09		7.695E-01	1.958E+00	3.359E+00	1.856E-01	0.229
		1238.25		2.231E-01	9.251E-02	1.768E-01	1.149E-02	1.262
		1360.21		4.306E-01	8.196E-01	1.445E+00	1.027E-01	0.298
		1771.40		-1.683E-01	2.348E-01	2.392E-01	1.428E-02	-0.704
CO-57		122.06	*	-1.789E-02	2.454E-02	3.825E-02	2.721E-03	-0.468
		136.48		1.060E-03	2.017E-01	3.240E-01	2.378E-02	0.003
CO-58		810.76	*	-2.323E-02	4.008E-02	6.075E-02	4.888E-03	-0.382
FE-59		142.65		3.966E+00	2.760E+00	4.651E+00	2.916E-01	0.853
		192.34		-6.676E-01	1.085E+00	1.525E+00	1.781E-01	-0.438
		1099.22	*	3.397E-04	8.644E-02	1.433E-01	1.103E-02	0.002
		1291.56		-1.848E-02	1.089E-01	1.755E-01	1.429E-02	-0.105
CO-60		1173.22		-4.399E-03	3.919E-02	6.402E-02	3.526E-03	-0.069
		1332.49	*	-7.385E-03	3.690E-02	5.909E-02	4.211E-03	-0.125
ZN-65		1115.52	*	2.722E-02	9.874E-02	1.457E-01	9.576E-03	0.187
GE-68		1077.35	*	2.953E-01	1.199E+00	2.034E+00	1.462E-01	0.145
AS-73		53.44	*	3.400E-01	6.200E-01	1.032E+00	6.728E-02	0.329
AS-74		595.88	*	5.119E-03	8.701E-02	1.421E-01	8.499E-03	0.036

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		634.78		-1.850E-01	3.603E-01	5.600E-01	3.345E-02	-0.330
SE-75		66.05		-2.485E+00	4.803E+00	6.688E+00	6.082E-01	-0.372
		96.73		-7.241E-01	8.458E-01	1.134E+00	1.507E-01	-0.638
		121.11		-2.465E-02	1.307E-01	2.087E-01	2.112E-02	-0.118
		136.00		-8.692E-03	3.792E-02	6.030E-02	3.983E-03	-0.144
		198.60		1.723E+00	1.771E+00	3.021E+00	2.092E-01	0.570
		264.65	*	-2.596E-03	4.743E-02	6.774E-02	3.977E-03	-0.038
	+	279.53		8.444E-02	1.184E-01	1.826E-01	1.150E-02	0.462
		303.91		2.423E-01	2.203E+00	3.209E+00	3.067E-01	0.076
		400.65		1.063E-01	2.466E-01	4.167E-01	3.711E-02	0.255
BR-77	+	87.88		7.311E+02	1.957E+02	3.292E+02	2.876E+01	2.221
		200.40		-8.753E+01	1.584E+02	2.609E+02	1.451E+01	-0.335
	+	239.00		2.649E+02	2.284E+01	3.667E+01	2.105E+00	7.225
		249.79		-4.555E+01	6.002E+01	9.671E+01	5.586E+00	-0.471
		281.68		5.945E+01	9.329E+01	1.411E+02	8.230E+00	0.421
		297.23		3.663E+02	9.214E+01	1.244E+02	7.255E+00	2.945
		303.76		-8.877E+00	1.859E+02	2.676E+02	1.560E+01	-0.033
		439.47		-1.337E+02	1.308E+02	1.993E+02	1.127E+01	-0.671
		484.57		-1.459E+02	2.050E+02	3.175E+02	1.844E+01	-0.459
		520.65	*	6.152E+00	1.043E+01	1.730E+01	1.020E+00	0.356
		574.64		8.501E+01	2.763E+02	3.204E+02	1.913E+01	0.265
		578.91		4.310E+01	1.192E+02	1.388E+02	8.293E+00	0.310
		585.48		1.814E+03	2.725E+02	5.114E+02	3.057E+01	3.548
		755.35		1.009E+01	1.632E+02	2.642E+02	1.906E+01	0.038
		817.79		-3.311E+01	1.196E+02	1.959E+02	1.592E+01	-0.169
SR-82		698.33		2.348E+01	3.433E+01	5.830E+01	3.748E+00	0.403
		776.49	*	-1.987E-01	3.824E-01	5.856E-01	4.402E-02	-0.339
		1395.20		-5.112E+00	1.057E+01	1.615E+01	1.141E+00	-0.317
RB-83		520.41	*	4.017E-02	6.992E-02	1.159E-01	6.833E-03	0.347
		529.64		1.810E-02	9.702E-02	1.607E-01	9.501E-03	0.113
		552.65		-2.001E-01	1.925E-01	2.877E-01	1.711E-02	-0.696
RB-84		881.50	*	6.636E-02	6.660E-02	1.203E-01	1.097E-02	0.551
KR-85		513.99	*	1.323E+01	8.107E+00	1.303E+01	7.664E-01	1.015
SR-85		513.99	*	6.780E-02	4.154E-02	6.678E-02	3.928E-03	1.015
RB-86		1076.63	*	5.825E-02	7.664E-01	1.280E+00	9.219E-02	0.045
Y-88		898.02		-8.315E-03	3.597E-02	5.879E-02	5.538E-03	-0.141
		1836.01	*	5.953E-03	3.360E-02	5.612E-02	3.187E-03	0.106
ZR-88		392.90	*	3.044E-03	2.972E-02	4.934E-02	2.687E-03	0.062
Y-91		1204.90	*	1.368E-01	1.815E+01	2.997E+01	1.744E+00	0.005
NB-94		702.63	*	-4.392E-03	3.547E-02	5.672E-02	3.679E-03	-0.077
		871.10		-7.517E-03	3.211E-02	5.263E-02	4.712E-03	-0.143
NB-95		765.79	*	5.941E-02	4.870E-02	7.641E-02	5.627E-03	0.777
NB-95M		235.69	*	6.668E-01	1.596E-01	2.652E-01	1.982E-02	2.515
ZR-95		724.18		7.133E-02	1.021E-01	1.533E-01	1.181E-02	0.465
		756.15	*	-8.254E-03	7.154E-02	1.140E-01	9.402E-03	-0.072
NB-97		657.90	*	-2.066E-02	7.154E-02	Half-Life too short		
		1024.50		2.084E+00	7.154E-02	Half-Life too short		
ZR-97		254.15		4.293E+00	7.154E-02	Half-Life too short		
		355.39		2.661E+00	7.154E-02	Half-Life too short		

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		507.63	*	3.084E+00	7.154E-02	Half-Life too short		
		602.52		-2.674E+00	7.154E-02	Half-Life too short		
		1021.30		-6.888E+00	7.154E-02	Half-Life too short		
		1147.95		2.447E+00	7.154E-02	Half-Life too short		
		1362.66		-1.213E+00	7.154E-02	Half-Life too short		
		1750.46		-2.892E+00	7.154E-02	Half-Life too short		
MO-99		140.51		-2.710E+01	2.693E+01	3.964E+01	1.073E+01	-0.684
		181.06		4.647E+00	1.724E+01	2.570E+01	4.375E+00	0.181
		366.43		8.174E+01	7.996E+01	1.397E+02	7.838E+00	0.585
		739.58	*	2.779E+00	1.120E+01	1.843E+01	2.639E+00	0.151
		778.00		-3.914E+01	3.513E+01	5.062E+01	3.817E+00	-0.773
TC-99M		140.51	*	-3.434E+10	3.513E+01	Half-Life too short		
RH-101		127.23		3.755E-02	3.644E-02	5.383E-02	3.703E-03	0.698
		198.01	*	3.023E-02	3.237E-02	5.519E-02	3.062E-03	0.548
		325.23		-1.385E-01	2.279E-01	3.671E-01	2.124E-02	-0.377
RH-102		418.52		3.359E-01	2.761E-01	4.869E-01	2.710E-02	0.690
		475.06	*	-2.816E-02	2.830E-02	4.308E-02	2.490E-03	-0.654
		631.29		8.095E-03	5.359E-02	8.796E-02	5.255E-03	0.092
		697.49		4.314E-02	7.548E-02	1.273E-01	8.171E-03	0.339
	+	766.84		3.134E-01	1.613E-01	2.102E-01	1.551E-02	1.491
		1046.59		-4.605E-02	1.113E-01	1.776E-01	1.359E-02	-0.259
		1112.84		1.593E-01	2.346E-01	3.764E-01	2.487E-02	0.423
RU-103		497.08	*	-2.050E-03	3.775E-02	6.154E-02	7.794E-03	-0.033
	+	610.33		1.393E+01	2.714E+00	2.938E+00	4.551E-01	4.740
RH-106	+	511.85		6.365E-01	3.200E-01	4.133E-01	2.429E-02	1.540
		621.84	*	1.051E-01	2.982E-01	4.976E-01	5.885E-02	0.211
		1050.47		-2.635E-01	2.351E+00	3.775E+00	2.868E-01	-0.070
RU-106	+	511.85		6.365E-01	3.200E-01	4.133E-01	2.429E-02	1.540
		621.84	*	1.051E-01	2.981E-01	4.976E-01	2.975E-02	0.211
		1050.47		-2.635E-01	2.351E+00	3.775E+00	2.868E-01	-0.070
AG-108M		433.93	*	3.461E-02	3.213E-02	5.621E-02	3.453E-03	0.616
		614.37		6.721E-03	4.161E-02	5.938E-02	3.836E-03	0.113
		722.95		-9.203E-03	4.588E-02	6.218E-02	4.469E-03	-0.148
AG-110M		657.75	*	-7.820E-03	3.252E-02	5.157E-02	3.257E-03	-0.152
		677.61		-1.930E-01	2.888E-01	4.385E-01	2.845E-02	-0.440
		706.67		2.026E-02	2.215E-01	3.600E-01	2.466E-02	0.056
		763.93		5.438E-02	1.751E-01	2.523E-01	1.923E-02	0.216
		884.67		-9.948E-03	4.544E-02	7.451E-02	7.025E-03	-0.134
		937.48		5.991E-02	1.238E-01	1.888E-01	1.756E-02	0.317
		1384.27		-9.209E-02	1.841E-01	2.330E-01	1.718E-02	-0.395
IN-111		171.28		-1.032E+00	1.001E+00	1.523E+00	8.212E-02	-0.678
		245.39	*	8.232E-01	1.029E+00	1.578E+00	9.093E-02	0.522
IN-113M		391.69	*	-2.276E-02	4.388E-02	7.018E-02	4.107E-03	-0.324
SN-113		391.69	*	-2.276E-02	4.388E-02	7.018E-02	4.107E-03	-0.324
IN-114M		190.27	*	8.819E-02	1.925E-01	2.896E-01	1.594E-02	0.305
CD-115		260.90		-9.507E+01	1.203E+02	1.933E+02	1.122E+01	-0.492
		492.35		-6.559E-01	3.256E+01	5.323E+01	3.103E+00	-0.012
		527.90	*	1.527E+00	9.898E+00	1.635E+01	9.664E-01	0.093
SN-117M		156.02		1.890E+00	2.270E+00	3.751E+00	2.159E-01	0.504

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		158.56	*	-1.466E-02	5.572E-02	8.817E-02	4.987E-03	-0.166
SB-122		563.90	*	2.037E+00	2.234E+00	3.439E+00	2.050E-01	0.592
		692.80		-4.052E+01	4.127E+01	6.082E+01	3.864E+00	-0.666
I-123		159.00	*	-1.838E+00	4.127E+01	Half-Life too short		
		528.96		2.362E+02	4.127E+01	Half-Life too short		
TE-123M		159.00	*	-9.727E-03	2.866E-02	4.520E-02	2.585E-03	-0.215
I-124		602.71	*	-3.210E-01	7.488E-01	1.002E+00	5.992E-02	-0.320
		722.78		-1.008E+00	4.745E+00	6.421E+00	4.341E-01	-0.157
		1325.50		5.865E+00	3.150E+01	5.291E+01	3.731E+00	0.111
		1376.25		5.864E+01	3.815E+01	6.512E+01	4.615E+00	0.901
		1509.49		-1.585E+00	1.603E+01	2.580E+01	1.770E+00	-0.061
		1691.02		-8.383E-01	3.436E+00	5.292E+00	3.334E-01	-0.158
SB-124		602.71		-1.881E-02	4.389E-02	5.871E-02	3.513E-03	-0.320
		645.85		-2.203E-02	4.744E-01	7.657E-01	5.122E-02	-0.029
		709.31		1.170E+00	2.823E+00	4.704E+00	3.093E-01	0.249
		713.82		-1.230E+00	1.694E+00	2.534E+00	2.713E-01	-0.486
		722.78		-8.561E-02	4.032E-01	5.456E-01	3.817E-02	-0.157
	+	968.20		1.655E+01	4.139E+00	7.323E+00	6.350E-01	2.260
		1045.16		-1.571E+00	2.443E+00	3.811E+00	2.924E-01	-0.412
		1325.50		5.322E-01	2.858E+00	4.801E+00	3.386E-01	0.111
		1368.21		-5.902E-01	1.361E+00	2.067E+00	2.595E-01	-0.286
		1436.60		2.846E-01	3.237E+00	5.368E+00	3.760E-01	0.053
		1691.02	*	-1.680E-02	6.886E-02	1.061E-01	7.170E-03	-0.158
SB-125		427.89	*	-4.710E-02	8.732E-02	1.385E-01	8.119E-03	-0.340
	+	463.38		5.359E-01	3.064E-01	4.937E-01	3.314E-02	1.085
		600.56		1.073E-01	1.753E-01	2.904E-01	1.994E-02	0.370
		635.90		-1.193E-01	2.769E-01	4.334E-01	3.008E-02	-0.275
TE-125M		109.28	*	-7.586E-01	9.101E+00	1.464E+01	1.374E+00	-0.052
I-126		388.63		1.202E-01	1.991E-01	3.398E-01	1.856E-02	0.354
		666.33	*	7.495E-02	1.769E-01	2.957E-01	1.776E-02	0.253
		753.82		-4.169E-02	1.527E+00	2.452E+00	1.764E-01	-0.017
SB-126		223.80		-2.542E+00	3.860E+00	6.297E+00	3.576E-01	-0.404
	+	278.60		1.890E+00	2.649E+00	4.248E+00	2.477E-01	0.445
	+	296.50		1.309E+01	2.438E+00	3.570E+00	2.083E-01	3.667
		414.70		-1.373E-02	7.379E-02	1.202E-01	6.670E-03	-0.114
		415.30		-5.793E+00	6.237E+00	9.678E+00	5.373E-01	-0.599
		555.20		2.695E+00	3.814E+00	6.537E+00	3.890E-01	0.412
		573.80		4.277E-01	1.319E+00	1.689E+00	1.008E-01	0.253
		593.00		-2.113E-02	8.375E-01	1.359E+00	8.126E-02	-0.016
		656.30		-2.559E+00	3.219E+00	4.852E+00	2.888E-01	-0.527
		666.33		3.132E-02	7.390E-02	1.235E-01	7.420E-03	0.253
		675.00		6.942E-01	1.789E+00	2.993E+00	1.831E-01	0.232
		695.00		1.693E-02	7.443E-02	1.225E-01	7.818E-03	0.138
		697.00		1.150E-01	2.642E-01	4.413E-01	2.829E-02	0.260
		720.50	*	1.896E-02	1.600E-01	2.257E-01	1.519E-02	0.084
		856.80		-3.424E-01	4.873E-01	6.361E-01	5.552E-02	-0.538
		989.30		-6.473E-01	1.104E+00	1.707E+00	1.437E-01	-0.379
		1034.80		5.108E-01	8.322E+00	1.391E+01	1.088E+00	0.037
		1213.00		-3.873E+00	4.575E+00	6.963E+00	4.106E-01	-0.556

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SB-127		61.10		4.596E+01	5.150E+01	7.581E+01	7.377E+00	0.606
		252.40		-1.005E+00	4.013E+00	6.596E+00	2.740E+00	-0.152
		290.80		-1.538E+00	2.290E+01	3.299E+01	3.023E+00	-0.047
		411.60		1.193E+01	1.174E+01	2.029E+01	2.893E+00	0.588
		444.90		5.974E+00	8.967E+00	1.535E+01	1.643E+00	0.389
		473.00		8.954E-01	1.586E+00	2.694E+00	3.002E-01	0.332
		543.00		-2.822E+00	1.570E+01	2.527E+01	3.272E+00	-0.112
		603.60		-7.708E+00	1.279E+01	1.672E+01	1.813E+00	-0.461
		685.20	*	1.469E-01	1.286E+00	2.099E+00	2.035E-01	0.070
		698.50		1.037E+01	1.523E+01	2.575E+01	3.792E+00	0.403
		722.20		-9.084E+00	3.243E+01	4.349E+01	4.249E+00	-0.209
		783.80		3.758E+00	3.696E+00	6.390E+00	7.497E-01	0.588
XE-127		57.60		4.297E-01	5.384E+00	7.726E+00	5.088E-01	0.056
		145.22		7.747E-01	7.145E-01	1.190E+00	7.345E-02	0.651
		172.10		-1.153E-01	1.208E-01	1.845E-01	9.957E-03	-0.625
		202.84	*	5.227E-03	4.922E-02	7.582E-02	4.227E-03	0.069
		374.96		-1.652E-02	1.807E-01	2.896E-01	1.610E-02	-0.057
I-131		80.18		-2.612E+00	4.939E+00	6.845E+00	5.494E-01	-0.382
		284.30		-9.704E-01	1.416E+00	2.277E+00	1.475E-01	-0.426
		364.48	*	3.542E-02	1.081E-01	1.821E-01	1.150E-02	0.194
		636.97		-3.351E-01	1.543E+00	2.457E+00	1.633E-01	-0.136
		722.89		-1.574E+00	7.688E+00	1.041E+01	7.114E-01	-0.151
TE-132		49.72		-1.920E+01	1.358E+01	2.075E+01	1.910E+00	-0.926
		111.76		-1.236E+01	2.879E+01	4.563E+01	4.510E+00	-0.271
		116.30		1.205E+01	2.635E+01	4.319E+01	4.226E+00	0.279
		228.16	*	5.220E-01	6.805E-01	1.168E+00	1.672E-01	0.447
BA-133		53.15		1.387E+00	2.671E+00	4.442E+00	2.894E-01	0.312
		79.62		3.278E+00	1.540E+00	2.256E+00	3.347E-01	1.453
		81.00		-1.271E-01	1.157E-01	1.419E-01	2.210E-02	-0.895
		276.40		2.270E-01	4.079E-01	6.111E-01	7.931E-02	0.372
		302.84		4.521E-02	1.531E-01	2.258E-01	2.635E-02	0.200
		356.01	*	2.694E-02	4.559E-02	6.851E-02	7.874E-03	0.393
		383.85		-2.316E-04	2.872E-01	4.743E-01	5.082E-02	0.000
I-133	+	510.53		1.241E+00	2.872E-01	Half-Life too short		
		529.87	*	-1.571E-05	2.872E-01	Half-Life too short		
		706.58		1.479E-01	2.872E-01	Half-Life too short		
		856.28		-3.202E-01	2.872E-01	Half-Life too short		
		875.33		-2.023E-02	2.872E-01	Half-Life too short		
		1236.41		8.995E-01	2.872E-01	Half-Life too short		
		1298.22		4.169E-02	2.872E-01	Half-Life too short		
CS-134		475.35		-2.876E+00	1.894E+00	2.763E+00	1.597E-01	-1.041
		563.23		2.830E-01	3.970E-01	5.999E-01	3.647E-02	0.472
	+	569.32		1.502E+00	4.458E-01	5.127E-01	3.145E-02	2.930
		604.70		1.808E-03	3.533E-02	4.985E-02	2.998E-03	0.036
	+	795.84	*	1.088E-01	6.172E-02	8.832E-02	6.951E-03	1.231
		801.93		-1.169E-01	4.370E-01	6.137E-01	4.876E-02	-0.191
		1038.57		2.268E+00	3.713E+00	6.507E+00	5.055E-01	0.348
		1167.94		1.032E+00	2.138E+00	3.703E+00	2.077E-01	0.279
		1365.15		-4.653E-01	9.712E-01	1.466E+00	1.110E-01	-0.317

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135		268.24	*	2.172E-01	1.736E-01	2.705E-01	2.075E-02	0.803
I-135		288.45		-8.077E+09	1.736E-01	Half-Life too short		
		417.63		-1.390E+10	1.736E-01	Half-Life too short		
		546.56		-3.477E+09	1.736E-01	Half-Life too short		
		836.80		9.775E+09	1.736E-01	Half-Life too short		
		1038.76		8.840E+09	1.736E-01	Half-Life too short		
		1124.00		5.213E+10	1.736E-01	Half-Life too short		
		1131.51		-1.289E+09	1.736E-01	Half-Life too short		
		1260.41	*	1.223E+09	1.736E-01	Half-Life too short		
		1457.56		1.121E+11	1.736E-01	Half-Life too short		
		1678.03		1.688E+09	1.736E-01	Half-Life too short		
		1706.46		2.412E+09	1.736E-01	Half-Life too short		
		1791.20		-6.954E+09	1.736E-01	Half-Life too short		
CS-136		66.91		-6.495E-01	7.937E-01	1.083E+00	1.580E-01	-0.600
	+	86.29		4.397E+00	1.250E+00	1.964E+00	2.516E-01	2.239
		153.22		5.635E-02	6.560E-01	1.054E+00	7.669E-02	0.053
		163.89		-2.452E-01	1.037E+00	1.640E+00	1.143E-01	-0.150
		176.55		1.473E-01	3.711E-01	5.963E-01	3.688E-02	0.247
		273.65		-1.695E-01	7.077E-01	6.661E-01	4.420E-02	-0.255
		340.57		4.785E-01	1.512E-01	2.559E-01	1.562E-02	1.870
		818.51		-3.769E-02	6.798E-02	1.084E-01	8.834E-03	-0.348
		1048.07	*	5.303E-02	1.019E-01	1.773E-01	1.426E-02	0.299
		1235.34		-6.519E-02	6.085E-01	9.946E-01	1.012E-01	-0.066
BA-137M		661.65	*	9.156E-03	3.623E-02	5.978E-02	3.555E-03	0.153
CS-137		661.65	*	9.678E-03	3.830E-02	6.319E-02	3.773E-03	0.153
CE-139		165.85	*	-6.179E-03	2.939E-02	4.654E-02	2.499E-03	-0.133
BA-140		162.64		-2.792E-01	7.279E-01	1.144E+00	7.155E-02	-0.244
		304.84		-2.516E-01	1.377E+00	1.960E+00	5.351E-01	-0.128
		423.70		-1.389E+00	1.841E+00	2.793E+00	8.866E-01	-0.497
		537.32	*	1.613E-01	2.574E-01	4.301E-01	1.400E-01	0.375
LA-140		328.77		3.466E-01	3.057E-01	5.321E-01	3.446E-02	0.651
		432.53		1.554E+00	1.997E+00	3.440E+00	2.150E-01	0.452
		487.03		8.063E-02	1.201E-01	2.064E-01	1.358E-02	0.391
		751.79		-9.275E-02	1.765E+00	2.829E+00	2.334E-01	-0.033
		815.85		-9.308E-02	2.982E-01	4.870E-01	4.456E-02	-0.191
		867.82		1.581E-01	1.458E+00	2.136E+00	1.996E-01	0.074
		919.63		1.616E-01	2.782E+00	4.342E+00	4.823E-01	0.037
		925.24		-1.520E-01	1.063E+00	1.713E+00	1.651E-01	-0.089
		1596.49	*	-8.327E-02	9.713E-02	1.282E-01	8.500E-03	-0.649
CE-141		145.44	*	3.520E-02	6.534E-02	1.068E-01	6.818E-03	0.329
CE-143		57.37		1.919E-05	6.534E-02	Half-Life too short		
		231.56		-2.485E-03	6.534E-02	Half-Life too short		
		293.26	*	9.905E-04	6.534E-02	Half-Life too short		
	+	350.59		2.952E-02	6.534E-02	Half-Life too short		
		490.36		-1.031E-03	6.534E-02	Half-Life too short		
		664.57		5.699E-04	6.534E-02	Half-Life too short		
		721.93		-2.207E-04	6.534E-02	Half-Life too short		
CE-144		80.11		-1.047E+00	2.287E+00	3.181E+00	2.532E-01	-0.329
		133.54	*	3.035E-01	2.280E-01	3.375E-01	4.913E-02	0.899

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-144		476.78		-8.587E-03	6.436E-02	1.045E-01	7.243E-03	-0.082
		618.01		-9.042E-03	3.105E-02	4.922E-02	3.111E-03	-0.184
		696.49	*	3.338E-03	3.381E-02	5.505E-02	3.527E-03	0.061
		778.57		-2.207E+00	2.348E+00	3.442E+00	2.599E-01	-0.641
PR-144		696.49	*	2.262E-01	2.291E+00	3.730E+00	2.388E-01	0.061
		1489.15		-4.080E+00	1.030E+01	1.564E+01	1.080E+00	-0.261
PM-146		453.90	*	-8.462E-04	4.164E-02	6.828E-02	5.845E-03	-0.012
		633.02		-2.970E-01	1.379E+00	2.190E+00	8.071E-01	-0.136
		735.90		-5.435E-02	1.526E-01	2.213E-01	6.228E-02	-0.246
		747.13		-1.043E-02	9.437E-02	1.505E-01	1.981E-02	-0.069
ND-147	+	91.11		5.513E-01	3.114E-01	4.823E-01	4.433E-02	1.143
		319.41		-1.108E+00	3.122E+00	5.086E+00	2.952E-01	-0.218
		439.89		-5.019E+00	5.377E+00	8.252E+00	4.669E-01	-0.608
		531.02	*	-3.300E-01	5.262E-01	8.141E-01	1.105E-01	-0.405
PM-149		285.90	*	4.062E+00	8.524E+01	1.424E+02	2.020E+01	0.029
EU-152		121.78		-5.210E-02	7.102E-02	1.106E-01	9.567E-03	-0.471
		244.69		5.788E-01	3.362E-01	5.401E-01	3.111E-02	1.072
		344.27	*	-1.946E-02	1.190E-01	1.470E-01	9.507E-03	-0.132
		443.98		2.583E-01	8.857E-01	1.484E+00	8.417E-02	0.174
		778.89		-2.030E-01	2.671E-01	3.987E-01	3.012E-02	-0.509
		867.32		7.708E-02	8.572E-01	1.254E+00	1.115E-01	0.061
	+	964.01		3.173E-01	2.847E-01	5.475E-01	4.774E-02	0.580
		1085.78		-1.322E-02	3.806E-01	6.291E-01	4.439E-02	-0.021
		1112.02		2.632E-01	3.102E-01	5.217E-01	3.454E-02	0.505
		1407.95		7.898E-02	1.821E-01	3.139E-01	2.213E-02	0.252
GD-153		69.67		1.710E+00	1.985E+00	2.491E+00	1.781E-01	0.687
		83.37		7.145E+00	1.877E+01	2.286E+01	1.890E+00	0.313
		97.43	*	-2.472E-02	8.325E-02	1.157E-01	9.282E-03	-0.214
		103.18		-9.504E-02	1.030E-01	1.601E-01	1.236E-02	-0.593
EU-154		123.07		-2.948E-03	5.170E-02	8.007E-02	8.192E-03	-0.037
		247.94		-6.686E-02	3.588E-01	5.402E-01	5.144E-02	-0.124
		591.81		2.112E-01	5.278E-01	8.874E-01	8.769E-02	0.238
		723.30		-2.751E-02	1.926E-01	2.629E-01	2.075E-02	-0.105
		756.87		4.214E-01	7.708E-01	1.296E+00	1.429E-01	0.325
		873.19		1.419E-01	2.829E-01	4.931E-01	6.166E-02	0.288
		996.32		1.265E-02	3.179E-01	5.314E-01	9.367E-02	0.024
		1004.76		1.678E-02	1.966E-01	3.298E-01	3.744E-02	0.051
		1274.45	*	9.560E-02	1.154E-01	2.052E-01	2.012E-02	0.466
EU-155		48.70		2.273E-01	1.649E+00	2.695E+00	1.727E-01	0.084
		60.01		-1.119E+00	4.423E+00	6.196E+00	4.119E-01	-0.181
	+	86.54		4.070E-01	1.091E-01	1.807E-01	1.568E-02	2.253
		105.31	*	5.649E-02	1.042E-01	1.716E-01	1.328E-02	0.329
TB-160	+	86.79		1.087E+00	2.909E-01	4.800E-01	4.136E-02	2.264
		197.04		-8.206E-03	5.533E-01	9.130E-01	5.060E-02	-0.009
		215.65		-2.569E-02	7.418E-01	1.212E+00	6.838E-02	-0.021
	+	298.57		1.870E-01	1.095E-01	1.997E-01	1.165E-02	0.936
		879.36	*	1.647E-03	1.376E-01	2.305E-01	2.094E-02	0.007
		962.29		5.787E-01	5.489E-01	8.845E-01	7.729E-02	0.654
	+	966.15		2.178E-01	1.954E-01	4.249E-01	3.694E-02	0.513

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1177.93		2.404E-02	3.211E-01	5.380E-01	2.988E-02	0.045
		1271.85		3.777E-02	6.526E-01	1.081E+00	7.017E-02	0.035
HO-166M		80.57		-2.968E-01	2.910E-01	3.933E-01	3.147E-02	-0.755
	+	184.41		1.331E-01	5.316E-02	6.519E-02	3.565E-03	2.042
		280.46		2.177E-02	9.097E-02	1.340E-01	7.814E-03	0.162
		410.95		3.602E-01	2.339E-01	4.182E-01	2.314E-02	0.861
		711.68	*	-2.115E-02	6.368E-02	9.908E-02	6.547E-03	-0.213
		752.31		-3.880E-02	2.795E-01	4.447E-01	3.189E-02	-0.087
		810.29		-2.108E-02	6.192E-02	9.627E-02	7.718E-03	-0.219
TM-171		51.35		-1.375E+01	2.208E+01	3.527E+01	2.287E+00	-0.390
		52.39		1.949E+00	1.149E+01	1.889E+01	1.229E+00	0.103
		59.40		-5.601E+00	2.339E+01	3.277E+01	2.171E+00	-0.171
		66.72	*	-2.701E+01	2.884E+01	3.937E+01	2.745E+00	-0.686
LU-176	+	88.36		8.015E-01	2.146E-01	3.677E-01	3.204E-02	2.180
		201.83		1.008E-04	2.874E-02	4.712E-02	2.624E-03	0.002
		306.84	*	-2.104E-02	2.383E-02	3.777E-02	2.200E-03	-0.557
		401.10		2.920E+00	6.475E+00	1.096E+01	6.010E-01	0.266
LU-177		112.95		2.657E-01	1.568E+00	2.545E+00	1.869E-01	0.104
	+	208.36	*	2.886E+00	1.309E+00	1.922E+00	1.077E-01	1.501
LU-177M		52.97		7.119E-01	1.203E+00	2.005E+00	1.306E-01	0.355
		54.07		5.448E-01	6.421E-01	1.079E+00	7.041E-02	0.505
		61.30		1.801E+00	1.339E+00	2.021E+00	1.354E-01	0.891
		121.62		-1.482E-01	3.597E-01	5.689E-01	4.046E-02	-0.261
		147.16		-7.402E-01	6.829E-01	1.046E+00	6.376E-02	-0.708
		171.86		-5.323E-01	4.847E-01	7.348E-01	3.965E-02	-0.724
		218.09		2.284E-01	8.133E-01	1.380E+00	7.803E-02	0.165
		268.79		1.352E+00	9.013E-01	1.421E+00	8.266E-02	0.951
		319.02		-3.977E-02	2.390E-01	3.934E-01	2.283E-02	-0.101
		367.43		8.767E-01	8.653E-01	1.511E+00	8.469E-02	0.580
		413.65	*	-1.293E-01	1.739E-01	2.733E-01	1.516E-02	-0.473
HF-181		56.28		-5.854E-02	7.357E-01	1.198E+00	7.861E-02	-0.049
		57.53		4.621E-02	4.532E-01	6.509E-01	4.286E-02	0.071
		65.20		-5.904E-02	9.574E-01	1.362E+00	9.383E-02	-0.043
		133.02		6.710E-02	7.357E-02	1.082E-01	7.186E-03	0.620
		136.25		3.089E-02	4.405E-01	7.094E-01	4.623E-02	0.044
		345.85		1.745E-01	2.907E-01	3.068E-01	1.754E-02	0.569
		482.03	*	-2.521E-02	3.948E-02	6.163E-02	3.574E-03	-0.409
W-181		56.28		-2.322E-02	2.882E-01	4.692E-01	3.079E-02	-0.049
		57.53		1.823E-02	1.776E-01	2.552E-01	1.680E-02	0.071
		65.20	*	-2.296E-02	3.723E-01	5.296E-01	3.649E-02	-0.043
TA-182		67.75		-9.549E-02	1.150E-01	1.564E-01	1.100E-02	-0.611
		100.10		9.960E-02	1.722E-01	2.749E-01	2.163E-02	0.362
		152.43		-1.082E-02	3.394E-01	5.429E-01	3.200E-02	-0.020
		222.10		-5.111E-02	3.264E-01	5.443E-01	3.087E-02	-0.094
		1001.68		5.713E-01	1.808E+00	3.097E+00	2.560E-01	0.184
	+	1121.28		4.450E-01	2.945E-01	3.493E-01	2.257E-02	1.274
		1189.05		1.098E-01	2.822E-01	4.828E-01	2.734E-02	0.227
		1221.42	*	7.261E-02	1.916E-01	3.260E-01	1.950E-02	0.223
		1230.97		-7.603E-02	4.434E-01	7.196E-01	4.373E-02	-0.106

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183		57.98		-5.956E-03	1.761E-01	2.513E-01	1.657E-02	-0.024
		59.32		-2.142E-02	9.614E-02	1.348E-01	8.931E-03	-0.159
		67.20		-1.505E-01	2.033E-01	2.801E-01	1.961E-02	-0.537
		162.32	*	-2.821E-02	1.064E-01	1.681E-01	9.257E-03	-0.168
	+	208.81		2.608E+00	1.183E+00	1.744E+00	9.775E-02	1.496
		291.72		3.721E-01	1.033E+00	1.530E+00	8.929E-02	0.243
RE-184		57.98		-2.195E-02	6.491E-01	9.261E-01	6.106E-02	-0.024
		59.32		-7.888E-02	3.541E-01	4.966E-01	3.289E-02	-0.159
		67.20		-5.544E-01	7.490E-01	1.032E+00	7.226E-02	-0.537
		161.27		1.017E-01	3.456E-01	5.596E-01	3.106E-02	0.182
		216.55		-1.219E-01	2.598E-01	4.281E-01	2.417E-02	-0.285
		252.85	*	-3.554E-02	2.153E-01	3.572E-01	2.066E-02	-0.100
		318.01		1.244E-01	4.120E-01	6.955E-01	4.037E-02	0.179
		792.07		-1.811E-01	1.186E+00	1.610E+00	1.247E-01	-0.112
		903.28		1.287E-01	9.352E-01	1.428E+00	1.333E-01	0.090
		920.93		-2.817E-01	4.236E-01	6.622E-01	6.073E-02	-0.425
OS-185		59.72		-9.224E-02	2.622E-01	3.654E-01	2.425E-02	-0.252
		61.14		1.409E-01	1.479E-01	2.186E-01	1.464E-02	0.644
		69.30		5.997E-02	3.685E-01	4.428E-01	3.156E-02	0.135
		592.07		1.088E+00	2.172E+00	3.682E+00	2.202E-01	0.296
		646.12	*	-4.132E-03	4.104E-02	6.594E-02	3.932E-03	-0.063
		717.42		-9.123E-02	8.790E-01	1.405E+00	9.396E-02	-0.065
		874.81		-1.439E-01	5.633E-01	9.218E-01	8.306E-02	-0.156
		880.27		5.051E-01	7.572E-01	1.335E+00	1.215E-01	0.378
RE-188		155.03	*	8.082E-02	1.728E-01	2.817E-01	1.633E-02	0.287
		477.96		1.903E+00	2.850E+00	4.885E+00	2.828E-01	0.390
		633.10		-5.832E-01	2.778E+00	4.429E+00	2.646E-01	-0.132
W-188	+	63.58		1.082E+02	7.080E+01	7.840E+01	5.337E+00	1.380
		227.08		1.323E+01	1.248E+01	2.175E+01	1.239E+00	0.608
		290.67	*	-5.834E-01	8.003E+00	1.152E+01	6.724E-01	-0.051
IR-192	+	295.96		1.005E+00	1.875E-01	2.783E-01	1.649E-02	3.613
		308.46		3.300E-03	9.098E-02	1.516E-01	8.923E-03	0.022
		316.51	*	-5.013E-03	3.214E-02	5.295E-02	3.091E-03	-0.095
		468.07		1.542E-02	7.471E-02	1.081E-01	7.189E-03	0.143
		604.41		-7.399E-02	4.901E-01	6.759E-01	7.736E-02	-0.109
		612.46		3.368E+00	9.795E-01	1.691E+00	1.304E-01	1.992
AU-195		65.12		5.384E-03	1.728E-01	2.468E-01	1.699E-02	0.022
		66.83		-8.770E-02	9.542E-02	1.303E-01	9.097E-03	-0.673
	+	75.70		1.217E+00	2.367E-01	4.556E-01	3.456E-02	2.671
		98.88	*	2.012E-02	2.404E-01	3.411E-01	2.707E-02	0.059
	+	129.76		4.118E+00	3.309E+00	5.024E+00	3.404E-01	0.820
TL-200		367.94	*	3.842E-04	3.309E+00	Half-Life too short		
		579.30		2.090E-03	3.309E+00	Half-Life too short		
		828.27		-1.477E-03	3.309E+00	Half-Life too short		
		1205.75		1.267E-03	3.309E+00	Half-Life too short		
TL-201		68.90		-1.188E+00	5.924E+00	6.970E+00	4.950E-01	-0.170
		70.82		1.892E+00	2.754E+00	4.028E+00	2.910E-01	0.470
		80.30		-3.472E+00	5.327E+00	7.339E+00	5.855E-01	-0.473
		135.34		-1.879E+01	2.497E+01	3.883E+01	2.544E+00	-0.484

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		167.43	*	2.911E+00	6.784E+00	1.104E+01	5.929E-01	0.264
TL-202		68.90		-1.079E-01	5.378E-01	6.327E-01	4.493E-02	-0.170
		70.82		1.713E-01	2.494E-01	3.646E-01	2.635E-02	0.470
		80.30		-3.144E-01	4.824E-01	6.646E-01	5.302E-02	-0.473
		439.56	*	-6.402E-02	6.422E-02	9.810E-02	5.547E-03	-0.653
BI-207		72.80		5.879E-01	2.027E-01	3.124E-01	2.300E-02	1.882
	+	74.97		6.750E-01	1.313E-01	2.279E-01	1.715E-02	2.962
		84.90		3.550E-01	2.108E-01	3.152E-01	2.655E-02	1.126
	+	569.67		2.341E-01	6.940E-02	7.952E-02	4.745E-03	2.944
		1063.62	*	4.553E-03	5.290E-02	8.848E-02	6.548E-03	0.051
		1770.23		-2.062E-01	4.517E-01	5.226E-01	3.121E-02	-0.395
TL-207		81.07		-2.783E-01	2.527E-01	3.135E-01	2.523E-02	-0.888
		83.78		5.817E-02	1.453E-01	1.949E-01	1.619E-02	0.299
		94.90		8.566E-01	2.604E-01	4.086E-01	3.343E-02	2.097
		122.32		-5.748E-01	1.677E+00	2.659E+00	2.087E-01	-0.216
		144.24		1.180E+00	6.963E-01	1.179E+00	8.920E-02	1.001
		154.21		8.382E-02	3.983E-01	6.431E-01	4.524E-02	0.130
	+	269.46		5.769E-01	2.693E-01	3.358E-01	2.042E-02	1.718
		323.87	*	-4.101E-01	6.689E-01	1.071E+00	1.769E-01	-0.383
	+	338.28		8.387E+00	1.803E+00	2.353E+00	2.471E-01	3.565
		445.03		1.537E+00	2.119E+00	3.640E+00	3.712E-01	0.422
PO-209		260.50		-3.871E+00	9.041E+00	1.480E+01	8.588E-01	-0.262
		262.80		-8.851E+00	2.615E+01	4.107E+01	2.385E+00	-0.216
		896.60	*	1.357E+00	6.578E+00	1.121E+01	1.049E+00	0.121
BI-210		46.50	*	2.008E-01	2.248E+00	3.714E+00	2.754E-01	0.054
PB-210		46.50	*	2.008E-01	2.248E+00	3.714E+00	2.754E-01	0.054
PO-210		46.50	*	2.008E-01	2.248E+00	3.714E+00	2.330E-01	0.054
PB-211		404.84	*	-3.963E-01	9.604E-01	1.492E+00	9.297E-01	-0.266
		427.08		2.417E-01	1.863E+00	3.083E+00	1.905E+00	0.078
		831.96		-1.603E+00	1.570E+00	1.774E+00	1.111E+00	-0.904
BI-212	+	727.18	*	1.358E+00	4.911E-01	6.677E-01	5.680E-02	2.034
		785.46		2.411E+00	1.837E+00	3.246E+00	2.483E-01	0.743
		1620.62		1.295E+00	1.057E+00	2.071E+00	1.357E-01	0.625
PO-215		81.07		-2.783E-01	2.527E-01	3.135E-01	2.523E-02	-0.888
		83.78		5.817E-02	1.453E-01	1.949E-01	1.619E-02	0.299
		94.90		8.566E-01	2.604E-01	4.086E-01	3.343E-02	2.097
		122.32		-5.748E-01	1.677E+00	2.659E+00	2.087E-01	-0.216
		144.24		1.180E+00	6.963E-01	1.179E+00	8.920E-02	1.001
		154.21		8.382E-02	3.983E-01	6.431E-01	4.524E-02	0.130
	+	269.46		5.769E-01	2.693E-01	3.358E-01	2.042E-02	1.718
		323.87	*	-4.101E-01	6.689E-01	1.071E+00	1.769E-01	-0.383
	+	338.28		8.387E+00	1.803E+00	2.353E+00	2.471E-01	3.565
		445.03		1.537E+00	2.119E+00	3.640E+00	3.712E-01	0.422
RN-219	+	271.23		7.402E-01	3.479E-01	4.394E-01	3.568E-02	1.685
		401.81	*	4.567E-01	4.020E-01	6.984E-01	9.412E-02	0.654
RN-220		549.76	*	2.779E+00	2.381E+01	3.919E+01	2.330E+00	0.071
RA-223		81.07		-2.783E-01	2.527E-01	3.135E-01	2.523E-02	-0.888
		83.78		5.817E-02	1.453E-01	1.949E-01	1.619E-02	0.299
		94.90		8.566E-01	2.604E-01	4.086E-01	3.343E-02	2.097

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		122.32		-5.748E-01	1.677E+00	2.659E+00	2.087E-01	-0.216
		144.24		1.180E+00	6.963E-01	1.179E+00	8.920E-02	1.001
		154.21		8.382E-02	3.983E-01	6.431E-01	4.524E-02	0.130
	+	269.46		5.769E-01	2.693E-01	3.358E-01	2.042E-02	1.718
		323.87	*	-4.101E-01	6.689E-01	1.071E+00	1.769E-01	-0.383
	+	338.28		8.387E+00	1.803E+00	2.353E+00	2.471E-01	3.565
		445.03		1.537E+00	2.119E+00	3.640E+00	3.712E-01	0.422
AC-227		79.80		2.448E+00	1.886E+00	2.714E+00	5.763E-01	0.902
		236.00		2.262E+00	3.923E-01	5.863E-01	6.106E-02	3.858
		256.20	*	1.254E-01	3.562E-01	6.043E-01	8.434E-02	0.207
		286.10		1.548E-01	1.443E+00	2.418E+00	2.799E-01	0.064
	+	299.80		2.382E+00	1.442E+00	2.450E+00	3.992E-01	0.973
		304.40		1.004E+00	1.949E+00	2.912E+00	5.040E-01	0.345
		334.20		-2.449E+00	2.597E+00	3.413E+00	6.253E-01	-0.717
TH-227		79.80		2.448E+00	1.887E+00	2.714E+00	5.839E-01	0.902
	+	94.00		5.769E+00	3.059E+00	3.562E+00	7.706E-01	1.620
		236.00		2.262E+00	3.741E-01	5.863E-01	5.284E-02	3.858
		256.20	*	1.254E-01	3.564E-01	6.043E-01	1.021E-01	0.207
		286.10		1.548E-01	1.452E+00	2.418E+00	2.422E+00	0.064
	+	299.80		2.382E+00	1.442E+00	2.450E+00	3.992E-01	0.973
		304.40		1.004E+00	1.949E+00	2.912E+00	5.040E-01	0.345
		334.20		-2.449E+00	2.597E+00	3.413E+00	6.253E-01	-0.717
TH-229		85.43		6.392E-01	2.149E-01	3.292E-01	2.790E-02	1.942
	+	88.47		4.614E-01	1.235E-01	2.116E-01	1.841E-02	2.181
		100.00		1.021E-01	1.787E-01	2.852E-01	2.246E-02	0.358
		193.63	*	-4.247E-01	5.117E-01	8.008E-01	4.423E-02	-0.530
		210.97		1.617E+00	8.642E-01	1.376E+00	7.732E-02	1.175
PA-231		283.67	*	-9.507E-01	1.467E+00	2.357E+00	3.252E-01	-0.403
	+	301.29		9.530E-01	5.645E-01	9.935E-01	1.040E-01	0.959
TH-231		81.07		-2.783E-01	2.527E-01	3.135E-01	2.523E-02	-0.888
		83.78		5.817E-02	1.453E-01	1.949E-01	1.619E-02	0.299
		94.90		8.566E-01	2.604E-01	4.086E-01	3.343E-02	2.097
		122.32		-5.748E-01	1.677E+00	2.659E+00	2.087E-01	-0.216
		144.24		1.180E+00	6.963E-01	1.179E+00	8.920E-02	1.001
		154.21		8.382E-02	3.983E-01	6.431E-01	4.524E-02	0.130
	+	269.46		5.769E-01	2.693E-01	3.358E-01	2.042E-02	1.718
		323.87	*	-4.101E-01	6.689E-01	1.071E+00	1.769E-01	-0.383
	+	338.28		8.387E+00	1.803E+00	2.353E+00	2.471E-01	3.565
		445.03		1.537E+00	2.119E+00	3.640E+00	3.712E-01	0.422
U-231		84.21		5.233E+00	5.735E+00	8.391E+00	7.009E-01	0.624
	+	92.29		5.646E+00	2.773E+00	3.661E+00	3.065E-01	1.542
		95.87	*	5.354E-01	1.165E+00	1.683E+00	1.366E-01	0.318
		108.00		4.564E-01	1.983E+00	3.229E+00	2.426E-01	0.141
PA-233	+	75.28		1.970E+01	4.576E+00	7.038E+00	1.040E+00	2.799
	+	86.59		6.616E+00	2.441E+00	2.932E+00	7.861E-01	2.257
	+	300.12		6.642E-01	3.974E-01	6.861E-01	9.229E-02	0.968
		311.98	*	1.604E-02	6.005E-02	1.012E-01	6.249E-03	0.159
		340.50		2.467E+00	9.218E-01	1.263E+00	2.898E-01	1.954
		398.62		-1.879E+00	2.075E+00	3.137E+00	8.090E-01	-0.599

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.76		-1.862E+00	1.685E+00	2.513E+00	5.156E-01	-0.741
PA-234	+	63.00		3.140E+00	2.094E+00	2.280E+00	3.319E-01	1.377
		94.67		7.551E-01	2.014E-01	3.006E-01	3.642E-02	2.512
		98.44		5.268E-02	1.002E-01	1.393E-01	7.760E-02	0.378
		99.86		3.222E-01	4.496E-01	7.216E-01	5.688E-02	0.447
		111.00		2.912E-02	1.802E-01	2.924E-01	3.290E-02	0.100
		131.20		1.150E-01	1.253E-01	1.837E-01	1.234E-02	0.626
		152.70		-2.333E-02	3.265E-01	5.213E-01	8.258E-02	-0.045
	+	186.00		4.792E+00	2.393E+00	2.445E+00	7.457E-01	1.960
		226.40		2.833E-01	3.991E-01	6.854E-01	7.886E-02	0.413
		227.20		4.301E-01	4.210E-01	7.329E-01	4.174E-02	0.587
		248.90		-6.111E-01	7.851E-01	1.211E+00	2.601E-01	-0.505
	+	293.70		6.332E+00	1.514E+00	1.714E+00	2.759E-01	3.694
		369.80		-3.271E-01	8.150E-01	1.311E+00	2.722E-01	-0.250
	+	568.70		7.619E+00	2.259E+00	2.574E+00	1.536E-01	2.959
	+	569.50		2.078E+00	6.160E-01	7.075E-01	4.221E-02	2.937
		574.00		4.436E-01	1.890E+00	2.393E+00	1.429E-01	0.185
		699.00		2.218E-01	7.193E-01	1.188E+00	2.161E-01	0.187
		706.10		5.407E-01	1.132E+00	1.851E+00	8.188E-01	0.292
		733.00		-1.391E-02	3.798E-01	5.249E-01	1.133E-01	-0.026
		742.81		2.759E-01	1.372E+00	2.228E+00	1.494E+00	0.124
	+	796.30		2.114E+00	1.316E+00	1.697E+00	4.549E-01	1.245
		805.60		6.492E-01	1.036E+00	1.724E+00	5.252E-01	0.377
		819.60		-7.194E-01	1.149E+00	1.764E+00	6.691E-01	-0.408
		826.30		1.323E-01	7.363E-01	1.251E+00	5.590E-01	0.106
		831.60		-7.061E-01	6.583E-01	9.338E-01	2.779E-01	-0.756
		876.40		-8.148E-02	8.205E-01	1.355E+00	1.393E+00	-0.060
		880.51		1.827E-01	2.739E-01	4.830E-01	4.395E-02	0.378
		883.24		1.247E-01	2.865E-01	4.764E-01	3.206E-01	0.262
		899.00		-4.203E-01	7.437E-01	1.135E+00	4.979E-01	-0.370
		925.00		-1.933E-01	1.082E+00	1.776E+00	1.622E-01	-0.109
		926.50		2.351E-02	1.736E-01	2.730E-01	6.949E-02	0.086
		946.00	*	-3.934E-01	2.897E-01	4.023E-01	7.605E-02	-0.978
		949.00		6.264E-02	4.358E-01	7.360E-01	6.539E-02	0.085
		980.50		-3.723E-01	6.852E-01	1.080E+00	9.213E-02	-0.345
		1394.10		-3.959E-01	1.190E+00	1.817E+00	1.180E+00	-0.218
PA-234M		766.42		1.840E+01	1.635E+01	2.134E+01	1.079E+01	0.862
		1001.03	*	1.530E+00	4.127E+00	7.103E+00	6.867E-01	0.215
U-235	+	89.95		2.204E+00	1.403E+00	1.837E+00	5.667E-01	1.199
	+	93.35		1.795E+00	1.003E+00	1.122E+00	3.134E-01	1.599
		105.00		7.360E-01	1.049E+00	1.702E+00	5.033E-01	0.433
		143.76	*	3.448E-01	2.199E-01	3.617E-01	5.955E-02	0.953
		163.35		-2.741E-01	4.655E-01	7.211E-01	1.289E-01	-0.380
	+	185.71		1.775E-01	7.088E-02	9.054E-02	4.959E-03	1.960
		205.31		1.783E-01	5.506E-01	8.195E-01	1.468E-01	0.218
NP-236		94.67		5.743E-01	1.441E-01	2.282E-01	1.871E-02	2.517
		98.44		3.986E-02	7.248E-02	1.053E-01	8.386E-03	0.378
		111.00		2.203E-02	1.363E-01	2.211E-01	1.638E-02	0.100
		160.31	*	4.286E-03	7.848E-02	1.258E-01	7.031E-03	0.034

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		8.664E-02	1.572E-01	2.406E-01	1.900E-02	0.360
		117.00	*	4.701E-02	1.827E-01	2.974E-01	2.149E-02	0.158
	+	209.75		2.058E+00	9.336E-01	1.407E+00	7.893E-02	1.463
		228.18		1.723E-01	2.240E-01	3.864E-01	2.202E-02	0.446
	+	277.60		1.383E-01	1.938E-01	3.042E-01	1.773E-02	0.455
		334.30		-1.467E+00	1.448E+00	1.919E+00	1.105E-01	-0.764
AM-241		59.54	*	-5.805E-02	1.379E-01	1.914E-01	1.421E-02	-0.303
CM-243		99.55		8.915E-02	1.617E-01	2.476E-01	1.955E-02	0.360
		103.76	*	-1.066E-02	9.407E-02	1.513E-01	1.163E-02	-0.070
		117.00		4.836E-02	1.880E-01	3.059E-01	2.211E-02	0.158
	+	209.75		2.029E+00	9.203E-01	1.387E+00	7.781E-02	1.463
		228.18		1.741E-01	2.264E-01	3.905E-01	2.225E-02	0.446
	+	277.60		1.394E-01	1.954E-01	3.067E-01	1.788E-02	0.455
AM-246		798.80		-1.886E-02	1.487E-01	2.020E-01	1.584E-02	-0.093
		1036.00		-1.127E-02	2.870E-01	4.752E-01	3.709E-02	-0.024
		1062.04		2.134E-01	2.214E-01	3.982E-01	2.956E-02	0.536
		1078.86	*	2.188E-02	1.358E-01	2.287E-01	1.639E-02	0.096
CM-247	+	278.00		5.735E-01	8.037E-01	1.275E+00	7.430E-02	0.450
		287.40		-4.530E-01	1.213E+00	1.929E+00	1.126E-01	-0.235
		402.60	*	3.609E-02	3.552E-02	6.193E-02	3.402E-03	0.583
CF-249		252.85		-1.334E-01	8.079E-01	1.341E+00	7.755E-02	-0.100
		333.44		-2.270E-01	1.983E-01	2.610E-01	1.504E-02	-0.870
		387.95	*	1.251E-02	3.978E-02	6.683E-02	3.654E-03	0.187
CF-251		176.60	*	5.317E-02	1.284E-01	2.065E-01	1.120E-02	0.257
		227.00		4.079E-01	3.752E-01	6.545E-01	3.727E-02	0.623
		285.00		-6.465E-01	1.667E+00	2.725E+00	1.590E-01	-0.237

VAX/VMS Nuclide Identification Report Generated

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244125001      *
* Acquisition date : 20-JAN-2010 13:29:49 Detector SN#     :               *
* Detector ID        : GAM14               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000        *
* Elapsed real time:    0 02:00:01.39      Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date        :  5-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G244125001           Analyst initials: MXR1          *
* Batch Number       : 940263               Sample Quantity : 1.2836E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME :  6-MAR-2009 11:43:06 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.938E+01	1.929E+00	4.994E-01	0.000E+00
CD-109	3.438E+00	9.020E-01	1.220E+00	0.000E+00
SN-126	3.379E-01	8.867E-02	1.203E-01	0.000E+00
HG-203	3.158E-02	4.337E-02	6.342E-02	0.000E+00
TL-208	5.792E-01	8.736E-02	4.928E-02	0.000E+00
BI-211	3.828E+00	5.100E-01	3.170E-01	0.000E+00
PB-212	1.676E+00	1.596E-01	8.897E-02	0.000E+00
PO-212	1.676E+00	1.596E-01	8.897E-02	0.000E+00
BI-214	1.291E+00	1.801E-01	1.096E-01	0.000E+00
PB-214	1.331E+00	1.900E-01	1.105E-01	0.000E+00
PO-214	1.331E+00	1.900E-01	1.105E-01	0.000E+00
PO-216	1.676E+00	1.596E-01	8.897E-02	0.000E+00
PO-218	1.331E+00	1.900E-01	1.105E-01	0.000E+00
RA-224	4.436E+00	1.346E+00	1.012E+00	0.000E+00
RA-226	1.291E+00	1.801E-01	1.096E-01	0.000E+00
AC-228	1.598E+00	3.457E-01	2.170E-01	0.000E+00
RA-228	1.598E+00	3.457E-01	2.170E-01	0.000E+00
TH-228	1.702E+00	1.620E-01	9.031E-02	0.000E+00
TH-230	1.291E+00	1.801E-01	1.096E-01	0.000E+00
TH-232	1.598E+00	3.457E-01	2.170E-01	0.000E+00
TH-234	2.693E+00	1.777E+00	1.786E+00	0.000E+00
U-234	1.291E+00	1.801E-01	1.096E-01	0.000E+00
NP-237	9.924E-01	3.287E-01	3.885E-01	0.000E+00
U-238	2.693E+00	1.777E+00	1.786E+00	0.000E+00
AM-243	3.761E-01	7.169E-02	8.641E-02	0.000E+00
ANH-511	1.274E-01	6.280E-02	4.342E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)		
BE-7	1.323E-01	2.941E-01	5.158E-01	0.000E+00	NOT IDENT.

NA-22	3.187E-02	4.016E-02	7.287E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	5.581E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.209E-03	2.412E-02	3.875E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.619E-02	8.224E-02	0.000E+00	FAIL ABUN
SC-46	-2.424E-02	3.442E-02	5.517E-02	0.000E+00	FAIL ABUN
V-48	2.225E-02	6.281E-02	1.110E-01	0.000E+00	NOT IDENT.
CR-51	-1.875E-01	3.414E-01	5.749E-01	0.000E+00	NOT IDENT.
MN-52	-9.084E-02	2.003E-01	3.105E-01	0.000E+00	FAIL ABUN
MN-54	3.929E-02	3.665E-02	6.785E-02	0.000E+00	NOT IDENT.
CO-56	-4.954E-03	3.656E-02	6.239E-02	0.000E+00	NOT IDENT.
CO-57	-1.789E-02	2.405E-02	3.975E-02	0.000E+00	NOT IDENT.
CO-58	-2.323E-02	3.928E-02	6.132E-02	0.000E+00	NOT IDENT.
FE-59	3.397E-04	8.471E-02	1.440E-01	0.000E+00	NOT IDENT.
CO-60	-7.385E-03	3.616E-02	5.918E-02	0.000E+00	NOT IDENT.
ZN-65	2.722E-02	9.677E-02	1.463E-01	0.000E+00	NOT IDENT.
GE-68	2.953E-01	1.175E+00	2.044E+00	0.000E+00	NOT IDENT.
AS-73	3.400E-01	6.076E-01	1.085E+00	0.000E+00	NOT IDENT.
AS-74	5.119E-03	8.527E-02	1.441E-01	0.000E+00	NOT IDENT.
SE-75	-2.596E-03	4.648E-02	6.958E-02	0.000E+00	FAIL ABUN
BR-77	6.152E+00	1.022E+01	1.759E+01	0.000E+00	FAIL ABUN
SR-82	-1.987E-01	3.748E-01	5.915E-01	0.000E+00	NOT IDENT.
RB-83	4.017E-02	6.853E-02	1.178E-01	0.000E+00	NOT IDENT.
RB-84	6.636E-02	6.526E-02	1.213E-01	0.000E+00	NOT IDENT.
KR-85	1.323E+01	7.945E+00	1.325E+01	0.000E+00	NOT IDENT.
SR-85	6.780E-02	4.071E-02	6.789E-02	0.000E+00	NOT IDENT.
RB-86	5.825E-02	7.511E-01	1.287E+00	0.000E+00	NOT IDENT.
Y-88	5.953E-03	3.293E-02	5.593E-02	0.000E+00	NOT IDENT.
ZR-88	3.044E-03	2.913E-02	5.038E-02	0.000E+00	NOT IDENT.
Y-91	1.368E-01	1.779E+01	3.007E+01	0.000E+00	NOT IDENT.
NB-94	-4.392E-03	3.476E-02	5.739E-02	0.000E+00	NOT IDENT.
NB-95	5.941E-02	4.773E-02	7.721E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.564E-01	2.728E-01	0.000E+00	NOT IDENT.
ZR-95	-8.254E-03	7.010E-02	1.152E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	8.424E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.800E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.779E+00	1.098E+01	1.863E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.358E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.023E-02	3.172E-02	5.694E-02	0.000E+00	NOT IDENT.
RH-102	-2.816E-02	2.774E-02	4.385E-02	0.000E+00	FAIL ABUN
RU-103	-2.050E-03	3.699E-02	6.260E-02	0.000E+00	FAIL ABUN
RH-106	1.051E-01	2.923E-01	5.044E-01	0.000E+00	FAIL ABUN
RU-106	1.051E-01	2.921E-01	5.044E-01	0.000E+00	FAIL ABUN
AG-108M	3.461E-02	3.149E-02	5.730E-02	0.000E+00	NOT IDENT.
AG-110M	-7.820E-03	3.187E-02	5.223E-02	0.000E+00	NOT IDENT.
IN-111	8.232E-01	1.009E+00	1.623E+00	0.000E+00	NOT IDENT.
IN-113M	-2.276E-02	4.300E-02	7.165E-02	0.000E+00	NOT IDENT.
SN-113	-2.276E-02	4.300E-02	7.165E-02	0.000E+00	NOT IDENT.
IN-114M	8.819E-02	1.886E-01	2.989E-01	0.000E+00	NOT IDENT.
CD-115	1.527E+00	9.700E+00	1.662E+01	0.000E+00	NOT IDENT.
SN-117M	-1.466E-02	5.460E-02	9.126E-02	0.000E+00	NOT IDENT.
SB-122	2.037E+00	2.189E+00	3.491E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	5.308E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-9.727E-03	2.809E-02	4.678E-02	0.000E+00	NOT IDENT.
I-124	-3.210E-01	7.338E-01	1.016E+00	0.000E+00	NOT IDENT.
SB-124	-1.680E-02	6.748E-02	1.058E-01	0.000E+00	FAIL ABUN
SB-125	-4.710E-02	8.557E-02	1.412E-01	0.000E+00	FAIL ABUN
TE-125M	-7.586E-01	8.919E+00	1.523E+01	0.000E+00	NOT IDENT.
I-126	7.495E-02	1.733E-01	2.994E-01	0.000E+00	NOT IDENT.
SB-126	1.896E-02	1.568E-01	2.283E-01	0.000E+00	FAIL ABUN
SB-127	1.469E-01	1.260E+00	2.124E+00	0.000E+00	NOT IDENT.
XE-127	5.227E-03	4.824E-02	7.819E-02	0.000E+00	NOT IDENT.
I-131	3.542E-02	1.059E-01	1.862E-01	0.000E+00	NOT IDENT.
TE-132	5.220E-01	6.669E-01	1.202E+00	0.000E+00	NOT IDENT.
BA-133	2.694E-02	4.468E-02	7.004E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	5.201E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.048E-02	8.918E-02	0.000E+00	FAIL ABUN
CS-135	2.172E-01	1.702E-01	2.777E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	4.275E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.303E-02	9.988E-02	1.782E-01	0.000E+00	FAIL ABUN
BA-137M	9.156E-03	3.551E-02	6.054E-02	0.000E+00	NOT IDENT.
CS-137	9.678E-03	3.754E-02	6.400E-02	0.000E+00	NOT IDENT.
CE-139	-6.179E-03	2.880E-02	4.814E-02	0.000E+00	NOT IDENT.
BA-140	1.613E-01	2.523E-01	4.370E-01	0.000E+00	NOT IDENT.
LA-140	-8.327E-02	9.519E-02	1.281E-01	0.000E+00	NOT IDENT.
CE-141	3.520E-02	6.403E-02	1.107E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.715E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	3.035E-01	2.235E-01	3.502E-01	0.000E+00	NOT IDENT.
PM-144	3.338E-03	3.313E-02	5.570E-02	0.000E+00	NOT IDENT.

PR-144	2.262E-01	2.245E+00	3.775E+00	0.000E+00	NOT IDENT.
PM-146	-8.462E-04	4.080E-02	6.955E-02	0.000E+00	NOT IDENT.
ND-147	-3.300E-01	5.157E-01	8.273E-01	0.000E+00	FAIL ABUN
PM-149	4.062E+00	8.354E+01	1.461E+02	0.000E+00	NOT IDENT.
EU-152	-1.946E-02	1.166E-01	1.503E-01	0.000E+00	FAIL ABUN
GD-153	-2.472E-02	8.159E-02	1.207E-01	0.000E+00	NOT IDENT.
EU-154	9.560E-02	1.131E-01	2.057E-01	0.000E+00	NOT IDENT.
EU-155	5.649E-02	1.021E-01	1.787E-01	0.000E+00	FAIL ABUN
TB-160	1.647E-03	1.348E-01	2.324E-01	0.000E+00	FAIL ABUN
HO-166M	-2.115E-02	6.240E-02	1.002E-01	0.000E+00	FAIL ABUN
TM-171	-2.701E+01	2.827E+01	4.127E+01	0.000E+00	NOT IDENT.
LU-176	-2.104E-02	2.336E-02	3.871E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.283E+00	1.981E+00	0.000E+00	FAIL ABUN
LU-177M	-1.293E-01	1.704E-01	2.788E-01	0.000E+00	NOT IDENT.
HF-181	-2.521E-02	3.869E-02	6.272E-02	0.000E+00	NOT IDENT.
W-181	-2.296E-02	3.648E-01	5.554E-01	0.000E+00	NOT IDENT.
TA-182	7.261E-02	1.877E-01	3.270E-01	0.000E+00	FAIL ABUN
RE-183	-2.821E-02	1.042E-01	1.739E-01	0.000E+00	FAIL ABUN
RE-184	-3.554E-02	2.110E-01	3.671E-01	0.000E+00	NOT IDENT.
OS-185	-4.132E-03	4.022E-02	6.680E-02	0.000E+00	NOT IDENT.
RE-188	8.082E-02	1.693E-01	2.917E-01	0.000E+00	NOT IDENT.
W-188	-5.834E-01	7.843E+00	1.182E+01	0.000E+00	FAIL ABUN
IR-192	-5.013E-03	3.150E-02	5.424E-02	0.000E+00	FAIL ABUN
AU-195	2.012E-02	2.355E-01	3.555E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.160E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	2.911E+00	6.648E+00	1.141E+01	0.000E+00	NOT IDENT.
TL-202	-6.402E-02	6.294E-02	9.998E-02	0.000E+00	NOT IDENT.
BI-207	4.553E-03	5.184E-02	8.894E-02	0.000E+00	FAIL ABUN
TL-207	-4.101E-01	6.555E-01	1.097E+00	0.000E+00	FAIL ABUN
PO-209	1.357E+00	6.446E+00	1.130E+01	0.000E+00	NOT IDENT.
BI-210	2.008E-01	2.203E+00	3.914E+00	0.000E+00	NOT IDENT.
PB-210	2.008E-01	2.203E+00	3.914E+00	0.000E+00	NOT IDENT.
PO-210	2.008E-01	2.203E+00	3.914E+00	0.000E+00	NOT IDENT.
PB-211	-3.963E-01	9.412E-01	1.523E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.813E-01	6.752E-01	0.000E+00	FAIL ABUN
PO-215	-4.101E-01	6.555E-01	1.097E+00	0.000E+00	FAIL ABUN
RN-219	4.567E-01	3.940E-01	7.128E-01	0.000E+00	FAIL ABUN
RN-220	2.779E+00	2.334E+01	3.980E+01	0.000E+00	NOT IDENT.
RA-223	-4.101E-01	6.555E-01	1.097E+00	0.000E+00	FAIL ABUN
AC-227	1.254E-01	3.491E-01	6.210E-01	0.000E+00	FAIL ABUN
TH-227	1.254E-01	3.493E-01	6.210E-01	0.000E+00	FAIL ABUN
TH-229	-4.247E-01	5.015E-01	8.264E-01	0.000E+00	FAIL ABUN
PA-231	-9.507E-01	1.437E+00	2.419E+00	0.000E+00	FAIL ABUN
TH-231	-4.101E-01	6.555E-01	1.097E+00	0.000E+00	FAIL ABUN
U-231	5.354E-01	1.141E+00	1.755E+00	0.000E+00	FAIL ABUN
PA-233	1.604E-02	5.885E-02	1.037E-01	0.000E+00	FAIL ABUN
PA-234	-3.934E-01	2.839E-01	4.052E-01	0.000E+00	FAIL ABUN
PA-234M	1.530E+00	4.045E+00	7.147E+00	0.000E+00	NOT IDENT.
U-235	3.448E-01	2.155E-01	3.750E-01	0.000E+00	FAIL ABUN
NP-236	4.286E-03	7.691E-02	1.302E-01	0.000E+00	NOT IDENT.
NP-239	4.701E-02	1.790E-01	3.092E-01	0.000E+00	FAIL ABUN
AM-241	-5.805E-02	1.351E-01	2.010E-01	0.000E+00	NOT IDENT.
CM-243	-1.066E-02	9.219E-02	1.576E-01	0.000E+00	FAIL ABUN
AM-246	2.188E-02	1.331E-01	2.299E-01	0.000E+00	NOT IDENT.
CM-247	3.609E-02	3.481E-02	6.320E-02	0.000E+00	FAIL ABUN
CF-249	1.251E-02	3.899E-02	6.824E-02	0.000E+00	NOT IDENT.
CF-251	5.317E-02	1.259E-01	2.134E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:31:02.82

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244125001.CNF;1
Sample date       : 5-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:29:49
Sample ID         : G244125001           Sample quantity  : 1.28360E+02 GRAM
Detector name     : GAM14                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.39  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 940263               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	856	10.67*	1.211E+00	1.938E+01	1.938E+01	10.16
CD-109	88.03	301	3.72*	7.051E+00	3.361E+00	3.438E+00	26.77
SN-126	64.28	163	9.60	4.649E+00	1.066E+00	1.066E+00	66.62
	86.94	301	8.90	7.051E+00	1.405E+00	1.405E+00	48.51
	87.57	301	37.00*	7.051E+00	3.379E-01	3.379E-01	26.77
HG-203	70.83	------	4.75	5.642E+00	------ Line Not Found		------
	72.87	------	8.00	5.875E+00	------ Line Not Found		------
	82.60	------	3.55	6.755E+00	------ Line Not Found		------
	279.20	33	77.30*	4.992E+00	2.522E-02	3.158E-02	140.16
TL-208	277.35	33	6.80	4.992E+00	2.867E-01	2.867E-01	140.42
	510.84	135	21.60	3.087E+00	5.900E-01	5.900E-01	50.96
	583.14	460	84.20*	2.758E+00	5.792E-01	5.792E-01	15.39
	860.37	53	12.46	1.943E+00	6.399E-01	6.399E-01	66.70
BI-211	72.87	------	1.27	5.875E+00	------ Line Not Found		------
	351.07	708	12.94*	4.179E+00	3.828E+00	3.828E+00	13.59
PB-212	74.81	517	10.70	6.094E+00	2.320E+00	2.320E+00	21.58
	77.11	831	18.00	6.316E+00	2.137E+00	2.137E+00	14.54
	87.30	301	8.00	7.051E+00	1.563E+00	1.563E+00	28.58
	238.63	1423	44.60*	5.568E+00	1.676E+00	1.676E+00	9.72
	300.09	71	3.41	4.721E+00	1.286E+00	1.286E+00	58.89
PO-212	74.81	517	10.70	6.094E+00	2.320E+00	2.320E+00	21.58
	77.11	831	18.00	6.316E+00	2.137E+00	2.137E+00	14.54
	87.30	301	8.00	7.051E+00	1.563E+00	1.563E+00	28.58
	115.19	------	0.60	7.689E+00	------ Line Not Found		------
	238.63	1423	44.60*	5.568E+00	1.676E+00	1.676E+00	9.72
	300.09	71	3.41	4.721E+00	1.286E+00	1.286E+00	58.89
BI-214	609.31	543	46.30*	2.654E+00	1.291E+00	1.291E+00	14.23
	1120.29	74	15.10	1.522E+00	9.415E-01	9.416E-01	66.52
	1764.49	97	15.80	1.059E+00	1.693E+00	1.693E+00	22.17
PB-214	74.81	517	6.21	6.094E+00	3.997E+00	3.997E+00	20.82
	77.11	831	10.50	6.316E+00	3.664E+00	3.664E+00	16.41
	87.30	301	4.67	7.051E+00	2.678E+00	2.678E+00	27.86

Sample ID : G244125001 Acquisition date : 20-JAN-2010 13:29:49

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	241.98	331	7.49	5.520E+00	2.339E+00	2.339E+00	31.47
	295.21	414	19.20	4.777E+00	1.319E+00	1.319E+00	19.64
	351.92	708	37.20*	4.179E+00	1.331E+00	1.331E+00	14.56
PO-214	74.81	517	6.21	6.094E+00	3.997E+00	3.997E+00	20.82
	77.11	831	10.50	6.316E+00	3.664E+00	3.664E+00	16.41
	87.30	301	4.67	7.051E+00	2.678E+00	2.678E+00	27.86
	241.98	331	7.49	5.520E+00	2.339E+00	2.339E+00	31.47
	295.21	414	19.20	4.777E+00	1.319E+00	1.319E+00	19.64
	351.92	708	37.20*	4.179E+00	1.331E+00	1.331E+00	14.56
PO-216	74.81	517	10.70	6.094E+00	2.320E+00	2.320E+00	21.58
	77.11	831	18.00	6.316E+00	2.137E+00	2.137E+00	14.54
	87.30	301	8.00	7.051E+00	1.563E+00	1.563E+00	28.58
	238.63	1423	44.60*	5.568E+00	1.676E+00	1.676E+00	9.72
	300.09	71	3.41	4.721E+00	1.286E+00	1.286E+00	58.89
PO-218	74.81	517	6.21	6.094E+00	3.997E+00	3.997E+00	20.82
	77.11	831	10.50	6.316E+00	3.664E+00	3.664E+00	16.41
	87.30	301	4.67	7.051E+00	2.678E+00	2.678E+00	27.86
	241.98	331	7.49	5.520E+00	2.339E+00	2.339E+00	31.47
	295.21	414	19.20	4.777E+00	1.319E+00	1.319E+00	19.64
	351.92	708	37.20*	4.179E+00	1.331E+00	1.331E+00	14.56
RA-224	240.98	331	3.95*	5.520E+00	4.436E+00	4.436E+00	30.96
RA-226	609.31	543	46.30*	2.654E+00	1.291E+00	1.291E+00	14.23
	1120.29	74	15.10	1.522E+00	9.415E-01	9.416E-01	66.52
	1764.49	97	15.80	1.059E+00	1.693E+00	1.693E+00	22.17
AC-228	338.32	337	11.40	4.304E+00	2.009E+00	2.009E+00	44.87
	911.07	279	27.70*	1.843E+00	1.598E+00	1.598E+00	22.08
	969.11	159	16.60	1.741E+00	1.609E+00	1.609E+00	33.10
RA-228	338.32	337	11.40	4.304E+00	2.009E+00	2.009E+00	44.87
	911.07	279	27.70*	1.843E+00	1.598E+00	1.598E+00	22.08
	969.11	159	16.60	1.741E+00	1.609E+00	1.609E+00	33.10
TH-228	74.81	517	10.70	6.094E+00	2.320E+00	2.355E+00	19.48
	77.11	831	18.00	6.316E+00	2.137E+00	2.170E+00	14.54
	87.30	301	8.00	7.051E+00	1.563E+00	1.587E+00	26.77
	238.63	1423	44.60*	5.568E+00	1.676E+00	1.702E+00	9.72
	300.09	71	3.41	4.721E+00	1.286E+00	1.305E+00	82.90
TH-230	609.31	543	46.30*	2.654E+00	1.291E+00	1.291E+00	14.23
	1120.29	74	15.10	1.522E+00	9.415E-01	9.415E-01	66.52
	1764.49	97	15.80	1.059E+00	1.693E+00	1.693E+00	22.17
TH-232	338.32	337	11.40	4.304E+00	2.009E+00	2.009E+00	19.61
	911.07	279	27.70*	1.843E+00	1.598E+00	1.598E+00	22.08
	969.11	159	16.60	1.741E+00	1.609E+00	1.609E+00	33.10
TH-234	63.29	163	3.80*	4.649E+00	2.693E+00	2.693E+00	67.32
	92.38	202	5.41	7.329E+00	1.493E+00	1.493E+00	51.62
U-234	609.31	543	46.30*	2.654E+00	1.291E+00	1.291E+00	14.23
	1120.29	74	15.10	1.522E+00	9.415E-01	9.415E-01	66.52
	1764.49	97	15.80	1.059E+00	1.693E+00	1.693E+00	22.17
NP-237	86.50	301	12.60*	7.051E+00	9.924E-01	9.924E-01	33.80
	95.87	------	2.60	7.425E+00	------ Line Not Found		------
U-238	63.29	163	3.80*	4.649E+00	2.693E+00	2.693E+00	67.32

Sample ID : G244125001 Acquisition date : 20-JAN-2010 13:29:49

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	92.38	202	5.41	7.329E+00	1.493E+00	1.493E+00	49.12
AM-243	74.67	517	66.00*	6.094E+00	3.761E-01	3.761E-01	19.45
	86.72	301	0.34	7.051E+00	3.721E+01	3.721E+01	26.77
	117.66	------	0.55	7.685E+00	------ Line Not Found		------
	142.18	------	0.13	7.399E+00	------ Line Not Found		------
ANH-511	511.00	135	100.00*	3.087E+00	1.274E-01	1.274E-01	50.28

Flag: "*" = Keyline

Sample ID : G244125001 Acquisition date : 20-JAN-2010 13:29:49

Total number of lines in spectrum 35
Number of unidentified lines 2
Number of lines tentatively identified by NID 33 94.29%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.938E+01	1.938E+01	0.197E+01	10.16	
CD-109	464.00D	1.02	3.361E+00	3.438E+00	0.920E+00	26.77	
SN-126	1.00E+05Y	1.00	3.379E-01	3.379E-01	0.905E-01	26.77	
HG-203	46.60D	1.25	2.522E-02	3.158E-02	4.426E-02	140.16	
TL-208	1.41E+10Y	1.00	5.792E-01	5.792E-01	0.891E-01	15.39	
BI-211	7.04E+08Y	1.00	3.828E+00	3.828E+00	0.520E+00	13.59	
PB-212	1.41E+10Y	1.00	1.676E+00	1.676E+00	0.163E+00	9.72	
PO-212	1.41E+10Y	1.00	1.676E+00	1.676E+00	0.163E+00	9.72	
BI-214	1600.00Y	1.00	1.291E+00	1.291E+00	0.184E+00	14.23	
PB-214	1600.00Y	1.00	1.331E+00	1.331E+00	0.194E+00	14.56	
PO-214	1600.00Y	1.00	1.331E+00	1.331E+00	0.194E+00	14.56	
PO-216	1.41E+10Y	1.00	1.676E+00	1.676E+00	0.163E+00	9.72	
PO-218	1600.00Y	1.00	1.331E+00	1.331E+00	0.194E+00	14.56	
RA-224	1.41E+10Y	1.00	4.436E+00	4.436E+00	1.373E+00	30.96	
RA-226	1600.00Y	1.00	1.291E+00	1.291E+00	0.184E+00	14.23	
AC-228	1.41E+10Y	1.00	1.598E+00	1.598E+00	0.353E+00	22.08	
RA-228	1.41E+10Y	1.00	1.598E+00	1.598E+00	0.353E+00	22.08	
TH-228	1.91Y	1.02	1.676E+00	1.702E+00	0.165E+00	9.72	
TH-230	4.47E+09Y	1.00	1.291E+00	1.291E+00	0.184E+00	14.23	
TH-232	1.41E+10Y	1.00	1.598E+00	1.598E+00	0.353E+00	22.08	
TH-234	4.47E+09Y	1.00	2.693E+00	2.693E+00	1.813E+00	67.32	
U-234	4.47E+09Y	1.00	1.291E+00	1.291E+00	0.184E+00	14.23	
NP-237	2.14E+06Y	1.00	9.924E-01	9.924E-01	3.354E-01	33.80	
U-238	4.47E+09Y	1.00	2.693E+00	2.693E+00	1.813E+00	67.32	
AM-243	7380.00Y	1.00	3.761E-01	3.761E-01	0.732E-01	19.45	
ANH-511	1.00E+09Y	1.00	1.274E-01	1.274E-01	0.641E-01	50.28	
	Total Activity :		5.948E+01	5.959E+01			

Grand Total Activity : 5.948E+01 5.959E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G244125001 Acquisition date : 20-JAN-2010 13:29:49

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	89.96	146	480	1.37	179.42	170	22	2.03E-02	55.7	7.19E+00	T
0	129.01	82	331	1.07	257.45	254	8	1.14E-02	80.1	7.60E+00	T
0	185.90	214	366	1.48	371.11	366	12	2.97E-02	39.6	6.53E+00	T
0	209.02	139	249	1.17	417.32	413	9	1.93E-02	45.0	6.08E+00	T
0	270.39	137	216	1.53	539.94	534	12	1.90E-02	46.3	5.10E+00	T
0	463.04	63	79	1.50	924.99	921	9	8.74E-03	56.8	3.35E+00	T
0	569.29	220	121	2.90	1137.38	1128	21	3.06E-02	29.0	2.82E+00	T
0	727.80	124	68	1.50	1454.30	1447	15	1.72E-02	35.1	2.27E+00	T
0	768.16	78	70	1.50	1535.01	1527	14	1.08E-02	50.9	2.16E+00	T
0	795.60	59	53	2.01	1589.88	1583	12	8.18E-03	56.2	2.09E+00	T
0	935.43	70	36	1.01	1869.50	1861	18	9.72E-03	46.8	1.80E+00	T
5	965.49	27	52	1.99	1929.62	1926	17	3.78E-03	89.3	1.75E+00	T
0	1379.24	35	35	1.56	2757.37	2749	15	4.92E-03	82.0	1.27E+00	
0	1588.21	23	15	1.64	3175.58	3167	15	3.22E-03	83.7	1.14E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:31:09.22

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*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
*                                                                           *
*                                 DETECTOR DATA                             *
*                                                                           *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244125001.CNF;1 *
* Acquisition date  : 20-JAN-2010 13:29:49  Detector SN#     :              *
* Detector ID       : GAM14                 Sensitivity      : 5.00000     *
* Geometry          : CAN                   Energy tolerance: 1.50000      *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000     *
* Elapsed real time: 0 02:00:01.39          Half life ratio : 8.00000      *
*****************************************************************************
*                                                                           *
*                                 SAMPLE DATA                               *
*                                                                           *
* Sample date       : 5-JAN-2010 12:00:00.  Nuclide Library : SOLID        *
* Sample ID         : G244125001            Analyst initials: MXR1         *
* Batch Number      : 940263                Sample Quantity : 1.28360E+02 GRAM *
*****************************************************************************
*                                                                           *
*                                    QC DATA                                *
*                                                                           *
* CALIB. DATE/TIME : 6-MAR-2009 11:43:06.61MS Isotope      :                *
* MSD ID           :                      MSD Isotope     :                *
* LCS ID           : 1032-A               LCS Isotope     :                *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.938E+01	1.969E+00	4.994E-01	3.626E-02	38.803
CD-109	3.438E+00	9.204E-01	1.168E+00	1.021E-01	2.943
SN-126	3.379E-01	9.048E-02	1.152E-01	1.002E-02	2.933
HG-203	3.158E-02	4.426E-02	6.180E-02	3.823E-03	0.511
TL-208	5.792E-01	8.914E-02	4.856E-02	3.321E-03	11.927
BI-211	3.828E+00	5.204E-01	3.100E-01	1.964E-02	12.348
PB-212	1.676E+00	1.629E-01	8.649E-02	6.299E-03	19.381
PO-212	1.676E+00	1.629E-01	8.649E-02	6.299E-03	19.381
BI-214	1.291E+00	1.838E-01	1.081E-01	8.557E-03	11.943
PB-214	1.331E+00	1.939E-01	1.081E-01	8.866E-03	12.323
PO-214	1.331E+00	1.939E-01	1.081E-01	8.866E-03	12.323
PO-216	1.676E+00	1.629E-01	8.649E-02	6.299E-03	19.381
PO-218	1.331E+00	1.939E-01	1.081E-01	8.866E-03	12.323
RA-224	4.436E+00	1.373E+00	9.837E-01	5.654E-02	4.509
RA-226	1.291E+00	1.838E-01	1.081E-01	8.557E-03	11.943
AC-228	1.598E+00	3.528E-01	2.154E-01	2.530E-02	7.420
RA-228	1.598E+00	3.528E-01	2.154E-01	2.530E-02	7.420
TH-228	1.702E+00	1.654E-01	8.779E-02	6.395E-03	19.381

Sample ID : G244125001 Acquisition date : 20-JAN-2010 13:29:49

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.291E+00	1.837E-01	1.081E-01	8.557E-03	11.943
TH-232	1.598E+00	3.528E-01	2.154E-01	2.530E-02	7.420
TH-234	2.693E+00	1.813E+00	1.702E+00	2.925E-01	1.583
U-234	1.291E+00	1.837E-01	1.081E-01	8.557E-03	11.943
NP-237	9.924E-01	3.354E-01	3.720E-01	8.315E-02	2.668
U-238	2.693E+00	1.813E+00	1.702E+00	2.925E-01	1.583
AM-243	3.761E-01	7.315E-02	8.257E-02	6.196E-03	4.555
ANH-511	1.274E-01	6.408E-02	4.270E-02	2.508E-03	2.985

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.323E-01		3.001E-01	5.067E-01	3.415E-02	0.261
NA-22	3.187E-02		4.098E-02	7.270E-02	4.749E-03	0.438
NA-24	-4.053E-01		2.848E-01	Half-Life too short		
AL-26	-2.209E-03		2.461E-02	3.888E-02	2.254E-03	-0.057
TI-44	3.944E-01	+	5.734E-02	7.864E-02	6.140E-03	5.016
SC-46	-2.424E-02		3.512E-02	5.473E-02	5.057E-03	-0.443
V-48	2.225E-02		6.410E-02	1.103E-01	9.363E-03	0.202
CR-51	-1.875E-01		3.483E-01	5.614E-01	3.628E-02	-0.334
MN-52	-9.084E-02		2.044E-01	3.104E-01	2.175E-02	-0.293
MN-54	3.929E-02		3.740E-02	6.724E-02	5.640E-03	0.584
CO-56	-4.954E-03		3.731E-02	6.184E-02	5.301E-03	-0.080
CO-57	-1.789E-02		2.454E-02	3.825E-02	2.721E-03	-0.468
CO-58	-2.323E-02		4.008E-02	6.074E-02	4.888E-03	-0.382
FE-59	3.397E-04		8.644E-02	1.433E-01	1.103E-02	0.002
CO-60	-7.385E-03		3.690E-02	5.909E-02	4.211E-03	-0.125
ZN-65	2.722E-02		9.874E-02	1.457E-01	9.576E-03	0.187
GE-68	2.953E-01		1.199E+00	2.034E+00	1.462E-01	0.145
AS-73	3.400E-01		6.200E-01	1.032E+00	6.728E-02	0.329
AS-74	5.119E-03		8.701E-02	1.421E-01	8.499E-03	0.036
SE-75	-2.596E-03		4.743E-02	6.774E-02	3.977E-03	-0.038
BR-77	6.152E+00		1.043E+01	1.730E+01	1.020E+00	0.356
SR-82	-1.987E-01		3.824E-01	5.856E-01	4.402E-02	-0.339
RB-83	4.017E-02		6.992E-02	1.159E-01	6.833E-03	0.347
RB-84	6.636E-02		6.660E-02	1.203E-01	1.097E-02	0.551
KR-85	1.323E+01		8.107E+00	1.303E+01	7.664E-01	1.015
SR-85	6.780E-02		4.154E-02	6.678E-02	3.928E-03	1.015
RB-86	5.825E-02		7.664E-01	1.280E+00	9.219E-02	0.045
Y-88	5.953E-03		3.360E-02	5.612E-02	3.187E-03	0.106
ZR-88	3.044E-03		2.972E-02	4.934E-02	2.687E-03	0.062
Y-91	1.368E-01		1.815E+01	2.997E+01	1.744E+00	0.005
NB-94	-4.392E-03		3.547E-02	5.672E-02	3.679E-03	-0.077
NB-95	5.941E-02		4.870E-02	7.641E-02	5.627E-03	0.777
NB-95M	6.668E-01		1.596E-01	2.652E-01	1.982E-02	2.515
ZR-95	-8.254E-03		7.154E-02	1.140E-01	9.402E-03	-0.072
NB-97	-2.066E-02		4.298E-02	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97	3.084E+00		9.183E-01	Half-Life too short		
MO-99	2.779E+00		1.120E+01	1.843E+01	2.639E+00	0.151
TC-99M	-3.434E+10		1.713E+10	Half-Life too short		
RH-101	3.023E-02		3.237E-02	5.519E-02	3.062E-03	0.548
RH-102	-2.816E-02		2.830E-02	4.308E-02	2.490E-03	-0.654
RU-103	-2.050E-03		3.775E-02	6.154E-02	7.794E-03	-0.033
RH-106	1.051E-01		2.982E-01	4.976E-01	5.885E-02	0.211
RU-106	1.051E-01		2.981E-01	4.976E-01	2.975E-02	0.211
AG-108M	3.461E-02		3.213E-02	5.621E-02	3.453E-03	0.616
AG-110M	-7.820E-03		3.252E-02	5.157E-02	3.257E-03	-0.152
IN-111	8.232E-01		1.029E+00	1.578E+00	9.093E-02	0.522
IN-113M	-2.276E-02		4.388E-02	7.018E-02	4.107E-03	-0.324
SN-113	-2.276E-02		4.388E-02	7.018E-02	4.107E-03	-0.324
IN-114M	8.819E-02		1.925E-01	2.896E-01	1.594E-02	0.305
CD-115	1.527E+00		9.898E+00	1.635E+01	9.664E-01	0.093
SN-117M	-1.466E-02		5.572E-02	8.817E-02	4.987E-03	-0.166
SB-122	2.037E+00		2.234E+00	3.439E+00	2.050E-01	0.592
I-123	-1.838E+00		2.708E+00	Half-Life too short		
TE-123M	-9.727E-03		2.866E-02	4.520E-02	2.585E-03	-0.215
I-124	-3.210E-01		7.488E-01	1.002E+00	5.992E-02	-0.320
SB-124	-1.680E-02		6.886E-02	1.061E-01	7.170E-03	-0.158
SB-125	-4.710E-02		8.732E-02	1.385E-01	8.119E-03	-0.340
TE-125M	-7.586E-01		9.101E+00	1.464E+01	1.374E+00	-0.052
I-126	7.495E-02		1.769E-01	2.957E-01	1.776E-02	0.253
SB-126	1.896E-02		1.600E-01	2.257E-01	1.519E-02	0.084
SB-127	1.469E-01		1.286E+00	2.099E+00	2.035E-01	0.070
XE-127	5.227E-03		4.922E-02	7.582E-02	4.227E-03	0.069
I-131	3.542E-02		1.081E-01	1.821E-01	1.150E-02	0.194
TE-132	5.220E-01		6.805E-01	1.168E+00	1.672E-01	0.447
BA-133	2.694E-02		4.559E-02	6.851E-02	7.874E-03	0.393
I-133	-1.571E-05		2.653E-03	Half-Life too short		
CS-134	1.088E-01	+	6.172E-02	8.832E-02	6.951E-03	1.231
CS-135	2.172E-01		1.736E-01	2.705E-01	2.075E-02	0.803
I-135	1.223E+09		2.181E+09	Half-Life too short		
CS-136	5.303E-02		1.019E-01	1.773E-01	1.426E-02	0.299
BA-137M	9.156E-03		3.623E-02	5.978E-02	3.555E-03	0.153
CS-137	9.678E-03		3.830E-02	6.319E-02	3.773E-03	0.153
CE-139	-6.179E-03		2.939E-02	4.654E-02	2.499E-03	-0.133
BA-140	1.613E-01		2.574E-01	4.301E-01	1.400E-01	0.375
LA-140	-8.327E-02		9.713E-02	1.282E-01	8.500E-03	-0.649
CE-141	3.520E-02		6.534E-02	1.068E-01	6.818E-03	0.329
CE-143	9.905E-04		1.385E-04	Half-Life too short		
CE-144	3.035E-01		2.280E-01	3.375E-01	4.913E-02	0.899
PM-144	3.338E-03		3.381E-02	5.505E-02	3.527E-03	0.061
PR-144	2.262E-01		2.291E+00	3.730E+00	2.388E-01	0.061
PM-146	-8.462E-04		4.164E-02	6.828E-02	5.845E-03	-0.012
ND-147	-3.300E-01		5.262E-01	8.141E-01	1.105E-01	-0.405
PM-149	4.062E+00		8.524E+01	1.424E+02	2.020E+01	0.029

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-1.946E-02		1.190E-01	1.470E-01	9.507E-03	-0.132
GD-153	-2.472E-02		8.325E-02	1.157E-01	9.282E-03	-0.214
EU-154	9.560E-02		1.154E-01	2.052E-01	2.012E-02	0.466
EU-155	5.649E-02		1.042E-01	1.716E-01	1.328E-02	0.329
TB-160	1.647E-03		1.376E-01	2.305E-01	2.094E-02	0.007
HO-166M	-2.115E-02		6.368E-02	9.908E-02	6.547E-03	-0.213
TM-171	-2.701E+01		2.884E+01	3.937E+01	2.745E+00	-0.686
LU-176	-2.104E-02		2.383E-02	3.777E-02	2.200E-03	-0.557
LU-177	2.886E+00	+	1.309E+00	1.922E+00	1.077E-01	1.501
LU-177M	-1.293E-01		1.739E-01	2.733E-01	1.516E-02	-0.473
HF-181	-2.521E-02		3.948E-02	6.163E-02	3.574E-03	-0.409
W-181	-2.296E-02		3.723E-01	5.296E-01	3.649E-02	-0.043
TA-182	7.261E-02		1.916E-01	3.260E-01	1.950E-02	0.223
RE-183	-2.821E-02		1.064E-01	1.681E-01	9.257E-03	-0.168
RE-184	-3.554E-02		2.153E-01	3.572E-01	2.066E-02	-0.100
OS-185	-4.132E-03		4.104E-02	6.594E-02	3.932E-03	-0.063
RE-188	8.082E-02		1.728E-01	2.817E-01	1.633E-02	0.287
W-188	-5.834E-01		8.003E+00	1.152E+01	6.724E-01	-0.051
IR-192	-5.013E-03		3.214E-02	5.295E-02	3.091E-03	-0.095
AU-195	2.012E-02		2.404E-01	3.411E-01	2.707E-02	0.059
TL-200	3.842E-04		2.123E-04	Half-Life too short		
TL-201	2.911E+00		6.784E+00	1.104E+01	5.929E-01	0.264
TL-202	-6.402E-02		6.422E-02	9.810E-02	5.547E-03	-0.653
BI-207	4.553E-03		5.290E-02	8.848E-02	6.548E-03	0.051
TL-207	-4.101E-01		6.689E-01	1.071E+00	1.769E-01	-0.383
PO-209	1.357E+00		6.578E+00	1.121E+01	1.049E+00	0.121
BI-210	2.008E-01		2.248E+00	3.714E+00	2.754E-01	0.054
PB-210	2.008E-01		2.248E+00	3.714E+00	2.754E-01	0.054
PO-210	2.008E-01		2.248E+00	3.714E+00	2.330E-01	0.054
PB-211	-3.963E-01		9.604E-01	1.492E+00	9.297E-01	-0.266
BI-212	1.358E+00	+	4.911E-01	6.677E-01	5.680E-02	2.034
PO-215	-4.101E-01		6.689E-01	1.071E+00	1.769E-01	-0.383
RN-219	4.567E-01		4.020E-01	6.984E-01	9.412E-02	0.654
RN-220	2.779E+00		2.381E+01	3.919E+01	2.330E+00	0.071
RA-223	-4.101E-01		6.689E-01	1.071E+00	1.769E-01	-0.383
AC-227	1.254E-01		3.562E-01	6.043E-01	8.434E-02	0.207
TH-227	1.254E-01		3.564E-01	6.043E-01	1.021E-01	0.207
TH-229	-4.247E-01		5.117E-01	8.008E-01	4.423E-02	-0.530
PA-231	-9.507E-01		1.467E+00	2.357E+00	3.252E-01	-0.403
TH-231	-4.101E-01		6.689E-01	1.071E+00	1.769E-01	-0.383
U-231	5.354E-01		1.165E+00	1.683E+00	1.366E-01	0.318
PA-233	1.604E-02		6.005E-02	1.012E-01	6.249E-03	0.159
PA-234	-3.934E-01		2.897E-01	4.023E-01	7.605E-02	-0.978
PA-234M	1.530E+00		4.127E+00	7.103E+00	6.867E-01	0.215
U-235	3.448E-01		2.199E-01	3.617E-01	5.955E-02	0.953
NP-236	4.286E-03		7.848E-02	1.258E-01	7.031E-03	0.034
NP-239	4.701E-02		1.827E-01	2.974E-01	2.149E-02	0.158
AM-241	-5.805E-02		1.379E-01	1.914E-01	1.421E-02	-0.303

Sample ID : G244125001 Acquisition date : 20-JAN-2010 13:29:49

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.066E-02		9.407E-02	1.513E-01	1.163E-02	-0.070
AM-246	2.188E-02		1.358E-01	2.287E-01	1.639E-02	0.096
CM-247	3.609E-02		3.552E-02	6.193E-02	3.402E-03	0.583
CF-249	1.251E-02		3.978E-02	6.683E-02	3.654E-03	0.187
CF-251	5.317E-02		1.284E-01	2.065E-01	1.120E-02	0.257

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G244125001           *
* Acquisition date  : 20-JAN-2010 13:29:49 Detector SN#     :               *
* Detector ID       : GAM14                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.39      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date       :  5-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G244125001           Analyst initials: MXR1           *
* Batch Number      : 940263               Sample Quantity : 1.2836E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
*                                                                           *
* CALIB. DATE/TIME :  6-MAR-2009 11:43:06 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.938E+01	1.929E+00	2.499E-01	9.844E-01
CD-109	3.438E+00	9.020E-01	6.102E-01	4.602E-01
SN-126	3.379E-01	8.867E-02	6.018E-02	4.524E-02
HG-203	3.158E-02	4.337E-02	3.173E-02	2.213E-02
TL-208	5.792E-01	8.736E-02	2.465E-02	4.457E-02
BI-211	3.828E+00	5.100E-01	1.586E-01	2.602E-01
PB-212	1.676E+00	1.596E-01	4.451E-02	8.145E-02
PO-212	1.676E+00	1.596E-01	4.451E-02	8.145E-02
BI-214	1.291E+00	1.801E-01	5.484E-02	9.188E-02
PB-214	1.331E+00	1.900E-01	5.528E-02	9.695E-02
PO-214	1.331E+00	1.900E-01	5.528E-02	9.695E-02
PO-216	1.676E+00	1.596E-01	4.451E-02	8.145E-02
PO-218	1.331E+00	1.900E-01	5.528E-02	9.695E-02
RA-224	4.436E+00	1.346E+00	5.062E-01	6.867E-01
RA-226	1.291E+00	1.801E-01	5.484E-02	9.188E-02
AC-228	1.598E+00	3.457E-01	1.086E-01	1.764E-01
RA-228	1.598E+00	3.457E-01	1.086E-01	1.764E-01
TH-228	1.702E+00	1.620E-01	4.518E-02	8.268E-02
TH-230	1.291E+00	1.801E-01	5.484E-02	9.187E-02
TH-232	1.598E+00	3.457E-01	1.086E-01	1.764E-01
TH-234	2.693E+00	1.777E+00	8.933E-01	9.066E-01
U-234	1.291E+00	1.801E-01	5.484E-02	9.187E-02
NP-237	9.924E-01	3.287E-01	1.944E-01	1.677E-01
U-238	2.693E+00	1.777E+00	8.933E-01	9.066E-01
AM-243	3.761E-01	7.169E-02	4.323E-02	3.658E-02
ANH-511	1.274E-01	6.280E-02	2.172E-02	3.204E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.323E-01	2.941E-01	2.580E-01	1.500E-01 NOT IDENT.

NA-22	3.187E-02	4.016E-02	3.646E-02	2.049E-02	NOT IDENT.
NA-24	-4.053E+05	5.581E+05	0.000E+00	2.848E+05	SHORT HLIF
AL-26	-2.209E-03	2.412E-02	1.939E-02	1.231E-02	NOT IDENT.
TI-44	3.944E-01	5.619E-02	4.115E-02	2.867E-02	FAIL ABUN
SC-46	-2.424E-02	3.442E-02	2.760E-02	1.756E-02	FAIL ABUN
V-48	2.225E-02	6.281E-02	5.552E-02	3.205E-02	NOT IDENT.
CR-51	-1.875E-01	3.414E-01	2.876E-01	1.742E-01	NOT IDENT.
MN-52	-9.084E-02	2.003E-01	1.554E-01	1.022E-01	FAIL ABUN
MN-54	3.929E-02	3.665E-02	3.394E-02	1.870E-02	NOT IDENT.
CO-56	-4.954E-03	3.656E-02	3.121E-02	1.865E-02	NOT IDENT.
CO-57	-1.789E-02	2.405E-02	1.988E-02	1.227E-02	NOT IDENT.
CO-58	-2.323E-02	3.928E-02	3.068E-02	2.004E-02	NOT IDENT.
FE-59	3.397E-04	8.471E-02	7.204E-02	4.322E-02	NOT IDENT.
CO-60	-7.385E-03	3.616E-02	2.961E-02	1.845E-02	NOT IDENT.
ZN-65	2.722E-02	9.677E-02	7.321E-02	4.937E-02	NOT IDENT.
GE-68	2.953E-01	1.175E+00	1.023E+00	5.994E-01	NOT IDENT.
AS-73	3.400E-01	6.076E-01	5.430E-01	3.100E-01	NOT IDENT.
AS-74	5.119E-03	8.527E-02	7.211E-02	4.351E-02	NOT IDENT.
SE-75	-2.596E-03	4.648E-02	3.481E-02	2.371E-02	FAIL ABUN
BR-77	6.152E+00	1.022E+01	8.799E+00	5.213E+00	FAIL ABUN
SR-82	-1.987E-01	3.748E-01	2.959E-01	1.912E-01	NOT IDENT.
RB-83	4.017E-02	6.853E-02	5.895E-02	3.496E-02	NOT IDENT.
RB-84	6.636E-02	6.526E-02	6.070E-02	3.330E-02	NOT IDENT.
KR-85	1.323E+01	7.945E+00	6.628E+00	4.054E+00	NOT IDENT.
SR-85	6.780E-02	4.071E-02	3.397E-02	2.077E-02	NOT IDENT.
RB-86	5.825E-02	7.511E-01	6.438E-01	3.832E-01	NOT IDENT.
Y-88	5.953E-03	3.293E-02	2.798E-02	1.680E-02	NOT IDENT.
ZR-88	3.044E-03	2.913E-02	2.520E-02	1.486E-02	NOT IDENT.
Y-91	1.368E-01	1.779E+01	1.504E+01	9.075E+00	NOT IDENT.
NB-94	-4.392E-03	3.476E-02	2.871E-02	1.773E-02	NOT IDENT.
NB-95	5.941E-02	4.773E-02	3.863E-02	2.435E-02	NOT IDENT.
NB-95M	6.668E-01	1.564E-01	1.365E-01	7.979E-02	NOT IDENT.
ZR-95	-8.254E-03	7.010E-02	5.763E-02	3.577E-02	NOT IDENT.
NB-97	-2.066E+04	8.424E+04	0.000E+00	4.298E+04	SHORT HLIF
ZR-97	3.084E+06	1.800E+06	0.000E+00	9.183E+05	SHORT HLIF
MO-99	2.779E+00	1.098E+01	9.320E+00	5.600E+00	NOT IDENT.
TC-99M	-3.434E+16	3.358E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.023E-02	3.172E-02	2.849E-02	1.618E-02	NOT IDENT.
RH-102	-2.816E-02	2.774E-02	2.194E-02	1.415E-02	FAIL ABUN
RU-103	-2.050E-03	3.699E-02	3.132E-02	1.887E-02	FAIL ABUN
RH-106	1.051E-01	2.923E-01	2.523E-01	1.491E-01	FAIL ABUN
RU-106	1.051E-01	2.921E-01	2.523E-01	1.490E-01	FAIL ABUN
AG-108M	3.461E-02	3.149E-02	2.867E-02	1.606E-02	NOT IDENT.
AG-110M	-7.820E-03	3.187E-02	2.613E-02	1.626E-02	NOT IDENT.
IN-111	8.232E-01	1.009E+00	8.117E-01	5.146E-01	NOT IDENT.
IN-113M	-2.276E-02	4.300E-02	3.585E-02	2.194E-02	NOT IDENT.
SN-113	-2.276E-02	4.300E-02	3.585E-02	2.194E-02	NOT IDENT.
IN-114M	8.819E-02	1.886E-01	1.495E-01	9.625E-02	NOT IDENT.
CD-115	1.527E+00	9.700E+00	8.315E+00	4.949E+00	NOT IDENT.
SN-117M	-1.466E-02	5.460E-02	4.566E-02	2.786E-02	NOT IDENT.
SB-122	2.037E+00	2.189E+00	1.747E+00	1.117E+00	NOT IDENT.
I-123	-1.838E+06	5.308E+06	0.000E+00	2.708E+06	SHORT HLIF
TE-123M	-9.727E-03	2.809E-02	2.340E-02	1.433E-02	NOT IDENT.
I-124	-3.210E-01	7.338E-01	5.082E-01	3.744E-01	NOT IDENT.
SB-124	-1.680E-02	6.748E-02	5.294E-02	3.443E-02	FAIL ABUN
SB-125	-4.710E-02	8.557E-02	7.066E-02	4.366E-02	FAIL ABUN
TE-125M	-7.586E-01	8.919E+00	7.621E+00	4.550E+00	NOT IDENT.
I-126	7.495E-02	1.733E-01	1.498E-01	8.843E-02	NOT IDENT.
SB-126	1.896E-02	1.568E-01	1.142E-01	8.001E-02	FAIL ABUN
SB-127	1.469E-01	1.260E+00	1.063E+00	6.429E-01	NOT IDENT.
XE-127	5.227E-03	4.824E-02	3.912E-02	2.461E-02	NOT IDENT.
I-131	3.542E-02	1.059E-01	9.314E-02	5.403E-02	NOT IDENT.
TE-132	5.220E-01	6.669E-01	6.015E-01	3.402E-01	NOT IDENT.
BA-133	2.694E-02	4.468E-02	3.504E-02	2.280E-02	NOT IDENT.
I-133	-1.571E+01	5.201E+03	0.000E+00	2.653E+03	SHORT HLIF
CS-134	1.088E-01	6.048E-02	4.462E-02	3.086E-02	FAIL ABUN
CS-135	2.172E-01	1.702E-01	1.390E-01	8.682E-02	NOT IDENT.
I-135	1.223E+15	4.275E+15	0.000E+00	2.181E+15	SHORT HLIF
CS-136	5.303E-02	9.988E-02	8.918E-02	5.096E-02	FAIL ABUN
BA-137M	9.156E-03	3.551E-02	3.029E-02	1.812E-02	NOT IDENT.
CS-137	9.678E-03	3.754E-02	3.202E-02	1.915E-02	NOT IDENT.
CE-139	-6.179E-03	2.880E-02	2.408E-02	1.469E-02	NOT IDENT.
BA-140	1.613E-01	2.523E-01	2.186E-01	1.287E-01	NOT IDENT.
LA-140	-8.327E-02	9.519E-02	6.407E-02	4.857E-02	NOT IDENT.
CE-141	3.520E-02	6.403E-02	5.540E-02	3.267E-02	NOT IDENT.
CE-143	9.905E+02	2.715E+02	0.000E+00	1.385E+02	SHORT HLIF
CE-144	3.035E-01	2.235E-01	1.752E-01	1.140E-01	NOT IDENT.
PM-144	3.338E-03	3.313E-02	2.787E-02	1.691E-02	NOT IDENT.

PR-144	2.262E-01	2.245E+00	1.888E+00	1.146E+00	NOT IDENT.
PM-146	-8.462E-04	4.080E-02	3.480E-02	2.082E-02	NOT IDENT.
ND-147	-3.300E-01	5.157E-01	4.139E-01	2.631E-01	FAIL ABUN
PM-149	4.062E+00	8.354E+01	7.308E+01	4.262E+01	NOT IDENT.
EU-152	-1.946E-02	1.166E-01	7.521E-02	5.949E-02	FAIL ABUN
GD-153	-2.472E-02	8.159E-02	6.037E-02	4.163E-02	NOT IDENT.
EU-154	9.560E-02	1.131E-01	1.029E-01	5.769E-02	NOT IDENT.
EU-155	5.649E-02	1.021E-01	8.941E-02	5.212E-02	FAIL ABUN
TB-160	1.647E-03	1.348E-01	1.163E-01	6.879E-02	FAIL ABUN
HO-166M	-2.115E-02	6.240E-02	5.015E-02	3.184E-02	FAIL ABUN
TM-171	-2.701E+01	2.827E+01	2.065E+01	1.442E+01	NOT IDENT.
LU-176	-2.104E-02	2.336E-02	1.937E-02	1.192E-02	FAIL ABUN
LU-177	2.886E+00	1.283E+00	9.912E-01	6.544E-01	FAIL ABUN
LU-177M	-1.293E-01	1.704E-01	1.395E-01	8.694E-02	NOT IDENT.
HF-181	-2.521E-02	3.869E-02	3.138E-02	1.974E-02	NOT IDENT.
W-181	-2.296E-02	3.648E-01	2.778E-01	1.861E-01	NOT IDENT.
TA-182	7.261E-02	1.877E-01	1.636E-01	9.578E-02	FAIL ABUN
RE-183	-2.821E-02	1.042E-01	8.700E-02	5.318E-02	FAIL ABUN
RE-184	-3.554E-02	2.110E-01	1.837E-01	1.076E-01	NOT IDENT.
OS-185	-4.132E-03	4.022E-02	3.342E-02	2.052E-02	NOT IDENT.
RE-188	8.082E-02	1.693E-01	1.459E-01	8.640E-02	NOT IDENT.
W-188	-5.834E-01	7.843E+00	5.914E+00	4.002E+00	FAIL ABUN
IR-192	-5.013E-03	3.150E-02	2.714E-02	1.607E-02	FAIL ABUN
AU-195	2.012E-02	2.355E-01	1.779E-01	1.202E-01	FAIL ABUN
TL-200	3.842E+02	4.160E+02	0.000E+00	2.123E+02	SHORT HLIF
TL-201	2.911E+00	6.648E+00	5.711E+00	3.392E+00	NOT IDENT.
TL-202	-6.402E-02	6.294E-02	5.002E-02	3.211E-02	NOT IDENT.
BI-207	4.553E-03	5.184E-02	4.450E-02	2.645E-02	FAIL ABUN
TL-207	-4.101E-01	6.555E-01	5.487E-01	3.344E-01	FAIL ABUN
PO-209	1.357E+00	6.446E+00	5.653E+00	3.289E+00	NOT IDENT.
BI-210	2.008E-01	2.203E+00	1.958E+00	1.124E+00	NOT IDENT.
PB-210	2.008E-01	2.203E+00	1.958E+00	1.124E+00	NOT IDENT.
PO-210	2.008E-01	2.203E+00	1.958E+00	1.124E+00	NOT IDENT.
PB-211	-3.963E-01	9.412E-01	7.617E-01	4.802E-01	NOT IDENT.
BI-212	1.358E+00	4.813E-01	3.378E-01	2.455E-01	FAIL ABUN
PO-215	-4.101E-01	6.555E-01	5.487E-01	3.344E-01	FAIL ABUN
RN-219	4.567E-01	3.940E-01	3.566E-01	2.010E-01	FAIL ABUN
RN-220	2.779E+00	2.334E+01	1.991E+01	1.191E+01	NOT IDENT.
RA-223	-4.101E-01	6.555E-01	5.487E-01	3.344E-01	FAIL ABUN
AC-227	1.254E-01	3.491E-01	3.107E-01	1.781E-01	FAIL ABUN
TH-227	1.254E-01	3.493E-01	3.107E-01	1.782E-01	FAIL ABUN
TH-229	-4.247E-01	5.015E-01	4.135E-01	2.559E-01	FAIL ABUN
PA-231	-9.507E-01	1.437E+00	1.210E+00	7.333E-01	FAIL ABUN
TH-231	-4.101E-01	6.555E-01	5.487E-01	3.344E-01	FAIL ABUN
U-231	5.354E-01	1.141E+00	8.778E-01	5.823E-01	FAIL ABUN
PA-233	1.604E-02	5.885E-02	5.187E-02	3.003E-02	FAIL ABUN
PA-234	-3.934E-01	2.839E-01	2.027E-01	1.449E-01	FAIL ABUN
PA-234M	1.530E+00	4.045E+00	3.576E+00	2.064E+00	NOT IDENT.
U-235	3.448E-01	2.155E-01	1.876E-01	1.099E-01	FAIL ABUN
NP-236	4.286E-03	7.691E-02	6.514E-02	3.924E-02	NOT IDENT.
NP-239	4.701E-02	1.790E-01	1.547E-01	9.135E-02	FAIL ABUN
AM-241	-5.805E-02	1.351E-01	1.006E-01	6.893E-02	NOT IDENT.
CM-243	-1.066E-02	9.219E-02	7.883E-02	4.703E-02	FAIL ABUN
AM-246	2.188E-02	1.331E-01	1.150E-01	6.792E-02	NOT IDENT.
CM-247	3.609E-02	3.481E-02	3.162E-02	1.776E-02	FAIL ABUN
CF-249	1.251E-02	3.899E-02	3.414E-02	1.989E-02	NOT IDENT.
CF-251	5.317E-02	1.259E-01	1.068E-01	6.422E-02	NOT IDENT.

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*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                          CHARLESTON ,SC 29417                             *
*                   GAMMA SPECTROSCOPY BACKGROUND REPORT                    *
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ENERGY	MDA COUNTS
46.50	348.5131
46.50	348.5131
46.50	348.5131
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49.72	436.5235
51.35	420.9859
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52.97	392.0642
53.15	396.2379
53.44	395.3406
54.07	386.3911
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56.28	433.5507
57.37	0.0000
57.53	426.3106
57.53	426.3114
57.60	426.3422
57.98	426.5137
57.98	426.5137
59.32	418.8682
59.32	418.8682
59.40	418.9031
59.54	435.4590
59.72	435.5404
60.01	435.6709
61.10	427.9001
61.14	427.9175
61.30	427.9879
63.00	484.1795
63.29	484.3210
63.29	484.3210
63.58	484.4616
64.28	484.8013
65.12	572.2933
65.20	572.3391
65.20	572.3391
66.05	556.2142
66.72	588.1448
66.83	588.2096
66.91	581.6080
67.20	581.7725
67.20	581.7725
67.75	608.6917
67.85	608.7498
68.90	610.4763
68.90	610.4763
69.30	588.5014
69.67	535.9489
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70.82	567.1115
70.83	567.1156
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72.87	604.9647
72.87	604.9647
74.67	591.1136
74.81	591.1891
74.81	591.1891
74.81	591.1891
74.81	591.1891
74.81	591.1891
74.81	591.1891
74.81	591.1891
74.97	591.2753
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75.70	591.6676
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77.11	592.4219

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77.11	592.4219
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77.11	592.4219
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79.80	571.7703
79.80	571.7703
80.11	597.1580
80.18	597.1948
80.30	597.2576
80.30	597.2576
80.57	602.4468
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81.07	614.4962
81.07	614.4962
81.07	614.4962
81.07	614.4962
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83.78	540.0000
83.78	540.0000
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85.43	506.9623
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86.50	583.5331
86.54	583.5541
86.59	583.5773
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86.79	609.0513
86.94	609.1304
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87.30	490.8353
87.30	490.8353
87.30	490.8353
87.30	490.8353
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87.30	490.8353
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87.88	491.0742
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88.36	491.2707
88.47	491.3149
89.95	491.9167
91.11	492.3840
92.29	492.8566
92.38	492.8938
92.38	492.8938
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94.00	350.5822
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94.67	357.5806
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94.90	376.3799
94.90	376.3799
94.90	376.3799
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98.44	346.6921
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99.55	350.4106
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100.00	351.7546
100.10	351.7822
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103.76	384.7694
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105.31	362.6849
108.00	375.2405
109.28	385.2818

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111.00	370.6808
111.76	392.4486
112.95	364.7305
115.19	351.2659
116.30	338.5635
117.00	334.4030
117.00	334.4030
117.66	355.1302
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121.62	335.4840
121.78	350.7221
122.06	352.9619
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122.32	335.6454
122.32	335.6454
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144.24	331.6874
144.24	331.6874
144.24	331.6874
145.22	356.1472
145.44	378.2520
147.16	421.7091
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152.70	356.6783
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154.21	347.0242
154.21	347.0242
154.21	347.0242
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163.35	334.4124
163.89	318.9047
165.85	323.7321
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171.86	342.7629
172.10	342.8096
176.55	298.7406
176.60	298.7487
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184.41	281.2285
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198.01	286.2868
198.60	286.3743
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205.31	285.8383

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208.81	318.9375
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209.75	297.1437
210.97	289.7005
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216.55	307.3192
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223.80	289.0701
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227.08	254.4864
227.20	254.4998
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228.18	268.4575
228.18	268.4575
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236.00	274.6919
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238.63	249.3783
238.63	249.3783
238.63	249.3783
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241.98	221.2904
241.98	221.2904
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248.90	227.6792
249.79	225.4925
252.40	216.4267
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252.85	213.6714
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256.20	205.5793
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268.24	205.0953
268.79	214.5419
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269.46	209.9039
269.46	209.9039
269.46	209.9039
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273.65	216.5571
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277.60	190.1974
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284.30	209.9597
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293.70	202.5443
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295.21	215.3361

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297.23	185.4023
298.57	185.5047
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300.09	187.2030
300.09	187.2030
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304.40	160.5105
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323.87	209.4524
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334.30	199.3506
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338.28	153.5984
338.28	153.5984
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351.92	152.4310
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367.94	0.0000
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387.95	146.5100
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391.69	155.5583
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401.10	132.3479
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477.96	91.0767
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511.85	94.0277
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513.99	102.2662
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529.87	0.0000
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569.50	101.7683
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574.00	88.3743
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579.30	0.0000
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592.07	63.7239
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602.71	104.7534
603.60	104.7778
604.41	94.3198
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609.31	95.4878

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609.31	95.4878
610.33	96.2120
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614.37	84.0527
618.01	90.4407
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621.84	73.6863
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633.10	87.6161
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635.90	95.0713
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661.65	88.2341
664.57	0.0000
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696.49	82.5363
696.49	82.5363
697.00	79.3296
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722.78	79.0840
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722.95	79.0876
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727.18	70.1686
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739.58	68.2003
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752.31	79.2503
753.82	81.4490
755.35	73.8720
756.15	77.1449
756.87	67.3766
763.93	65.3057
765.79	68.9616
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778.57	86.2597
778.89	81.8994
783.80	66.6815
785.46	64.5183
792.07	82.1320

795.84	56.6252
796.30	62.1120
798.80	62.1452
801.93	72.1157
805.60	63.6995
810.29	76.9556
810.76	75.8629
815.85	64.2037
817.79	61.4780
818.51	65.1584
819.60	64.2550
826.30	54.2334
828.27	0.0000
831.60	82.8204
831.96	85.5887
834.83	65.3795
836.80	0.0000
846.75	64.6181
848.13	72.0237
856.28	0.0000
856.80	65.0149
860.37	41.2589
867.32	52.4407
867.82	54.0357
871.10	60.3001
873.19	52.9006
874.81	63.1302
875.33	0.0000
876.40	63.1510
879.36	63.1883
880.27	53.9054
880.51	53.9077
881.50	47.4109
883.24	53.9372
884.67	56.7432
889.25	58.6575
896.60	48.4866
898.02	51.2973
899.00	54.1060
903.28	46.2159
911.07	65.4555
911.07	65.4555
911.07	65.4555
919.63	53.7010
920.93	61.8334
925.00	54.3821
925.24	54.2140
926.50	51.2711
935.52	56.3708
937.48	54.7816
944.10	47.9941
946.00	68.7227
949.00	58.4000
962.29	51.8025
964.01	58.2966
966.15	74.5190
968.20	66.1747
969.11	59.9727
969.11	59.9727
969.11	59.9727
977.42	53.7196
980.50	57.7993
983.50	45.5068
989.30	47.4538
996.32	45.6152
1001.03	47.5566
1001.68	47.5622
1004.76	51.3962
1021.30	0.0000
1024.50	0.0000
1034.80	50.7183
1036.00	53.6006
1037.82	45.9590
1038.57	46.9224
1038.76	0.0000
1045.16	64.2356
1046.59	59.4570
1048.07	47.0022

1050.47	49.9010
1050.47	49.9010
1062.04	44.2331
1063.62	58.6743
1076.63	53.9880
1077.35	51.1022
1078.86	51.1152
1085.78	53.1089
1099.22	53.2320
1112.02	42.6787
1112.84	48.0196
1115.52	56.5686
1120.29	62.1641
1120.29	62.1641
1120.29	62.1641
1120.29	62.1641
1120.51	62.1667
1121.28	62.1745
1124.00	0.0000
1129.67	54.4801
1131.51	0.0000
1147.95	0.0000
1167.94	41.1216
1173.22	48.9970
1175.09	44.1119
1177.93	47.0742
1189.05	50.1077
1204.90	62.0566
1205.75	0.0000
1213.00	74.9578
1221.42	61.2331
1230.97	64.2938
1235.34	85.1252
1236.41	0.0000
1238.25	50.5040
1246.25	58.5006
1260.41	0.0000
1271.85	41.8120
1274.45	36.8494
1274.54	36.8494
1291.56	37.9443
1298.22	0.0000
1312.09	40.0667
1325.50	31.1148
1325.50	31.1148
1332.49	35.1666
1333.61	33.1638
1360.21	19.1701
1362.66	0.0000
1365.15	23.2227
1368.21	22.2229
1368.53	0.0000
1376.25	31.2074
1384.27	34.7154
1394.10	32.4479
1395.20	32.4531
1407.95	28.4489
1434.06	24.4766
1436.60	20.4045
1457.56	0.0000
1460.81	22.5219
1489.15	20.5558
1509.49	29.8897
1596.49	33.7882
1620.62	8.3695
1678.03	0.0000
1691.02	14.7799
1691.02	14.7799
1706.46	0.0000
1750.46	0.0000
1764.49	12.7856
1764.49	12.7856
1764.49	12.7856
1764.49	12.7856
1770.23	12.7944
1771.40	14.6244
1791.20	0.0000
1808.65	9.6412

1836.01	12.8970

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244125001

Total Uranium Activity	8.1724E+00	ug/g
Total Uranium Counting Unc.	5.2871E+00	ug/g
Total Uranium Tpu	2.6975E-06	ug/g
Total Uranium Mda	2.6589E+00	ug/g

```
*******************************************************************************
*                                                                             *
*                          GEL Laboratories LLC                          *
*                               2040 SAVAGE ROAD                              *
*                             CHARLESTON ,SC 29417                            *
*                              GROSS GAMMA REPORT                             *
*                                                                             *
*                                                                             *
*******************************************************************************
*                                                                             *
*   BATCH ID      : 940263                    SAMPLE ID  : G244125001         *
*   ANALYST       : MXR1                      DETECTOR   : GAM14              *
*   SAMPLE DATE   :  5-JAN-2010 12:00:00.00   COUNT TIME :    0 02:00:00.00   *
*   ANALYSIS DATE: 20-JAN-2010 13:29:49.67    SAMPLE ALQT:  128.360 GRAM      *
*                                                                             *
*******************************************************************************


        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 8.649E+00
        GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.275E+00
        GROSS GAMMA MDA     (pCi/GRAM  )  : 3.819E+00
        GROSS GAMMA DLC     (pCi/GRAM  )  : 1.859E+00
```

VAX/VMS Nuclide Identification Report Generated 21-JAN-2010 11:56:32.85

```
*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29414                         *
*************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137001.CNF;1
Sample date       : 4-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:31:45
Sample ID         : G244137001           Sample quantity  : 1.20440E+02 GRAM
Detector name     : GAM23                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.59  0.0%
Energy tolerance : 2.00000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 940263                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.92*	85	321	1.22	125.84	122	8	1.18E-02	39.1	
2	3	74.76	400	408	1.39	149.53	143	18	5.56E-02	9.9	7.94E+00
3	3	76.92*	561	351	1.11	153.83	143	18	7.79E-02	7.0	
4	2	83.96*	55	365	1.25	167.92	163	29	7.68E-03	57.1	2.98E+00
5	2	86.75	171	383	1.29	173.51	163	29	2.38E-02	20.4	
6	2	89.74*	133	308	1.16	179.49	163	29	1.85E-02	23.9	
7	2	92.68*	188	318	1.41	185.35	163	29	2.61E-02	19.8	
8	0	128.40	73	296	0.76	256.80	253	9	1.02E-02	43.7	
9	0	186.10*	150	411	1.42	372.19	367	13	2.08E-02	30.0	
10	0	208.95	95	237	0.96	417.90	414	9	1.31E-02	31.1	
11	3	238.31*	990	184	1.15	476.62	472	15	1.38E-01	3.9	1.46E+00
12	3	241.22	257	212	1.75	482.45	472	15	3.57E-02	15.7	
13	4	294.78	363	105	1.34	589.56	584	19	5.04E-02	7.2	1.76E+00
14	4	298.99	62	151	2.22	597.99	584	19	8.65E-03	40.5	
15	0	337.85	211	188	1.48	675.70	671	11	2.94E-02	14.3	
16	0	351.40*	596	150	1.23	702.80	696	14	8.28E-02	6.1	
17	0	462.44	71	73	0.89	924.87	920	10	9.89E-03	25.3	
18	0	510.49*	101	118	2.45	1020.97	1012	22	1.40E-02	32.1	
19	0	582.36*	290	116	1.14	1164.71	1158	14	4.03E-02	9.9	
20	0	608.53*	408	86	1.53	1217.07	1209	14	5.66E-02	7.1	
21	0	726.71	65	67	1.61	1453.42	1445	14	9.09E-03	29.2	
22	0	767.73	24	48	0.59	1535.45	1530	9	3.29E-03	57.2	
23	0	859.79	51	41	1.28	1719.58	1713	12	7.02E-03	29.2	
24	0	910.35	204	49	1.68	1820.71	1813	14	2.83E-02	10.1	
25	0	968.77	42	105	1.25	1937.54	1933	13	5.84E-03	53.5	
26	0	1119.24	79	36	2.75	2238.48	2232	14	1.10E-02	19.9	
27	0	1376.41	44	13	1.71	2752.81	2746	14	6.07E-03	23.5	
28	0	1459.26*	633	28	2.46	2918.52	2909	19	8.79E-02	4.5	
29	0	1762.89*	72	13	2.34	3525.78	3517	17	9.94E-03	16.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 21-JAN-2010 11:56:36

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137001.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 4-JAN-2010 12:00:00 Acquisition date : 20-JAN-2010 13:31:45
Sample ID : G244137001 Sample quantity : 120.44 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA23 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.59 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 2.00 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.853E+01	2.167E+00	5.846E-01	4.373E-02	31.692
NB-95	+	765.79	*	4.925E-02	5.646E-02	6.787E-02	4.561E-03	0.726
CD-109	+	88.03	*	2.833E+00	1.187E+00	1.397E+00	1.364E-01	2.028
SN-126	+	64.28		1.085E+00	8.653E-01	1.109E+00	1.688E-01	0.978
	+	86.94		1.156E+00	6.733E-01	5.783E-01	2.405E-01	1.999
	+	87.57	*	2.780E-01	1.165E-01	1.379E-01	1.342E-02	2.016
TL-208		277.35		6.433E-01	4.493E-01	7.638E-01	8.070E-02	0.842
	+	510.84		5.733E-01	3.729E-01	2.292E-01	2.328E-02	2.502
	+	583.14	*	4.714E-01	9.796E-02	6.794E-02	4.411E-03	6.938
	+	860.37		7.849E-01	4.642E-01	5.026E-01	4.543E-02	1.562
BI-211	+	72.87		2.426E+01	5.257E+00	6.034E+00	5.323E-01	4.020
	+	351.07	*	4.169E+00	5.738E-01	3.286E-01	2.141E-02	12.687
PB-212	+	74.81		2.879E+00	6.795E-01	6.767E-01	8.730E-02	4.254
	+	77.11		2.263E+00	3.762E-01	3.792E-01	3.412E-02	5.969
	+	87.30		1.286E+00	5.541E-01	6.402E-01	8.922E-02	2.009
	+	238.63	*	1.492E+00	1.593E-01	1.060E-01	7.618E-03	14.082
	+	300.09		1.458E+00	1.186E+00	1.218E+00	1.011E-01	1.197
PO-212	+	74.81		2.879E+00	6.795E-01	6.767E-01	8.730E-02	4.254
	+	77.11		2.263E+00	3.762E-01	3.792E-01	3.412E-02	5.969
	+	87.30		1.286E+00	5.541E-01	6.402E-01	8.922E-02	2.009
		115.19		2.774E+00	4.075E+00	6.889E+00	4.394E-01	0.403
	+	238.63	*	1.492E+00	1.593E-01	1.060E-01	7.618E-03	14.082
	+	300.09		1.458E+00	1.186E+00	1.218E+00	1.011E-01	1.197
BI-214	+	609.31	*	1.250E+00	1.999E-01	1.235E-01	9.288E-03	10.121
	+	1120.29		1.302E+00	5.322E-01	4.124E-01	3.832E-02	3.158
	+	1764.49		1.615E+00	5.491E-01	4.099E-01	2.549E-02	3.939
PB-214	+	74.81		4.961E+00	1.136E+00	1.166E+00	1.350E-01	4.254
	+	77.11		3.880E+00	7.094E-01	6.500E-01	7.664E-02	5.969
	+	87.30		2.203E+00	9.389E-01	1.097E+00	1.359E-01	2.009
	+	241.98		2.329E+00	7.553E-01	5.597E-01	4.451E-02	4.162
	+	295.21		1.491E+00	2.492E-01	2.329E-01	1.997E-02	6.403
	+	351.92	*	1.450E+00	2.135E-01	1.146E-01	9.562E-03	12.661
PO-214	+	74.81		4.961E+00	1.136E+00	1.166E+00	1.350E-01	4.254
	+	77.11		3.880E+00	7.094E-01	6.500E-01	7.664E-02	5.969

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	87.30		2.203E+00	9.389E-01	1.097E+00	1.359E-01	2.009
	+	241.98		2.329E+00	7.553E-01	5.597E-01	4.451E-02	4.162
	+	295.21		1.491E+00	2.492E-01	2.329E-01	1.997E-02	6.403
	+	351.92	*	1.450E+00	2.135E-01	1.146E-01	9.562E-03	12.661
PO-216	+	74.81		2.879E+00	6.795E-01	6.767E-01	8.730E-02	4.254
	+	77.11		2.263E+00	3.762E-01	3.792E-01	3.412E-02	5.969
	+	87.30		1.286E+00	5.541E-01	6.402E-01	8.922E-02	2.009
	+	238.63	*	1.492E+00	1.593E-01	1.060E-01	7.618E-03	14.082
	+	300.09		1.458E+00	1.186E+00	1.218E+00	1.011E-01	1.197
PO-218	+	74.81		4.961E+00	1.136E+00	1.166E+00	1.350E-01	4.254
	+	77.11		3.880E+00	7.094E-01	6.500E-01	7.664E-02	5.969
	+	87.30		2.203E+00	9.389E-01	1.097E+00	1.359E-01	2.009
	+	241.98		2.329E+00	7.553E-01	5.597E-01	4.451E-02	4.162
	+	295.21		1.491E+00	2.492E-01	2.329E-01	1.997E-02	6.403
	+	351.92	*	1.450E+00	2.135E-01	1.146E-01	9.562E-03	12.661
RA-224	+	240.98	*	4.417E+00	1.411E+00	1.206E+00	6.794E-02	3.662
RA-226	+	609.31	*	1.250E+00	1.999E-01	1.235E-01	9.288E-03	10.121
	+	1120.29		1.302E+00	5.322E-01	4.124E-01	3.832E-02	3.158
	+	1764.49		1.615E+00	5.491E-01	4.099E-01	2.549E-02	3.939
AC-228	+	338.32		1.628E+00	8.106E-01	4.063E-01	1.657E-01	4.006
	+	911.07	*	1.500E+00	3.496E-01	2.008E-01	2.317E-02	7.471
	+	969.11		5.480E-01	6.001E-01	6.046E-01	1.408E-01	0.906
RA-228	+	338.32		1.628E+00	8.106E-01	4.063E-01	1.657E-01	4.006
	+	911.07	*	1.500E+00	3.496E-01	2.008E-01	2.317E-02	7.471
	+	969.11		5.480E-01	6.001E-01	6.046E-01	1.408E-01	0.906
TH-228	+	74.81		2.926E+00	6.348E-01	6.877E-01	6.163E-02	4.254
	+	77.11		2.300E+00	3.822E-01	3.853E-01	3.467E-02	5.969
	+	87.30		1.307E+00	5.477E-01	6.505E-01	6.314E-02	2.009
	+	238.63	*	1.516E+00	1.619E-01	1.077E-01	7.741E-03	14.082
	+	300.09		1.481E+00	1.483E+00	1.238E+00	7.295E-01	1.197
TH-230	+	609.31	*	1.250E+00	1.999E-01	1.235E-01	9.288E-03	10.121
	+	1120.29		1.302E+00	5.322E-01	4.124E-01	3.832E-02	3.158
	+	1764.49		1.615E+00	5.491E-01	4.099E-01	2.549E-02	3.939
TH-232	+	338.32		1.628E+00	4.752E-01	4.063E-01	2.400E-02	4.006
	+	911.07	*	1.500E+00	3.496E-01	2.008E-01	2.317E-02	7.471
	+	969.11		5.480E-01	6.001E-01	6.046E-01	1.408E-01	0.906
TH-234	+	63.29	*	2.742E+00	2.202E+00	2.845E+00	5.127E-01	0.964
	+	92.38		1.942E+00	8.479E-01	8.922E-01	1.627E-01	2.176
U-234	+	609.31	*	1.250E+00	1.999E-01	1.235E-01	9.288E-03	10.121
	+	1120.29		1.302E+00	5.322E-01	4.124E-01	3.832E-02	3.158
	+	1764.49		1.615E+00	5.491E-01	4.099E-01	2.549E-02	3.939
NP-237	+	86.50	*	8.165E-01	3.814E-01	4.110E-01	9.360E-02	1.987
		95.87		-1.161E+00	1.273E+00	1.715E+00	4.211E-01	-0.677
U-238	+	63.29	*	2.742E+00	2.202E+00	2.845E+00	5.127E-01	0.964
	+	92.38		1.942E+00	7.897E-01	8.922E-01	7.972E-02	2.176
AM-243	+	74.67	*	4.668E-01	1.012E-01	1.101E-01	9.788E-03	4.238
	+	86.72		3.062E+01	1.283E+01	1.536E+01	1.484E+00	1.993
		117.66		-1.920E+00	4.333E+00	7.002E+00	4.336E-01	-0.274
		142.18		5.587E+00	2.015E+01	3.269E+01	1.780E+00	0.171

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	511.00	*	1.238E-01	7.988E-02	4.952E-02	2.876E-03	2.501

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	5.132E-01	3.674E-01	6.622E-01	4.500E-02	0.775
NA-22		1274.54	*	-1.607E-02	5.136E-02	8.064E-02	5.415E-03	-0.199
NA-24		1368.53	*	7.646E-01	5.136E-02	Half-Life too short		
AL-26		1129.67		1.955E+00	1.878E+00	3.404E+00	2.168E-01	0.574
		1808.65	*	-1.895E-03	2.972E-02	4.841E-02	2.910E-03	-0.039
TI-44		67.85		1.076E-02	6.675E-02	9.867E-02	8.593E-03	0.109
	+	78.38	*	4.177E-01	6.942E-02	9.695E-02	8.789E-03	4.308
SC-46		889.25	*	-3.722E-03	4.023E-02	6.636E-02	5.929E-03	-0.056
	+	1120.51		2.247E-01	9.061E-02	1.307E-01	8.517E-03	1.719
V-48		944.10		-3.085E-01	9.975E-01	1.601E+00	1.395E-01	-0.193
		983.50	*	-1.985E-02	7.493E-02	1.203E-01	1.000E-02	-0.165
		1312.09		4.599E-02	9.255E-02	1.614E-01	1.148E-02	0.285
CR-51		320.08	*	-1.458E-01	4.349E-01	7.157E-01	4.693E-02	-0.204
MN-52		744.21		1.962E-01	2.973E-01	5.088E-01	3.239E-02	0.386
		848.13		3.629E+00	8.683E+00	1.504E+01	1.228E+00	0.241
		935.52		6.195E-02	3.068E-01	5.199E-01	4.571E-02	0.119
		1246.25		-1.405E+00	9.824E+00	1.580E+01	1.011E+00	-0.089
		1333.61		-2.367E+00	7.235E+00	1.127E+01	8.275E-01	-0.210
		1434.06	*	-1.291E-01	3.049E-01	4.583E-01	3.316E-02	-0.282
MN-54		834.83	*	1.325E-03	4.177E-02	7.003E-02	5.545E-03	0.019
CO-56		846.75	*	1.540E-02	4.509E-02	7.762E-02	6.315E-03	0.198
		977.42		-2.290E-01	3.423E+00	5.210E+00	4.368E-01	-0.044
		1037.82		8.640E-02	3.565E-01	6.031E-01	4.944E-02	0.143
		1175.09		-1.468E+00	2.580E+00	3.969E+00	2.246E-01	-0.370
		1238.25		1.162E-01	1.029E-01	1.845E-01	1.227E-02	0.630
		1360.21		-2.364E-01	1.083E+00	1.697E+00	1.243E-01	-0.139
		1771.40		-2.464E-01	2.665E-01	3.530E-01	2.184E-02	-0.698
CO-57		122.06	*	1.241E-02	2.838E-02	4.751E-02	2.801E-03	0.261
		136.48		4.501E-02	2.370E-01	3.915E-01	2.546E-02	0.115
CO-58		810.76	*	-5.650E-03	4.064E-02	6.712E-02	5.043E-03	-0.084
FE-59		142.65		1.124E+00	3.134E+00	5.100E+00	2.773E-01	0.220
		192.34		-7.051E-01	1.245E+00	1.691E+00	1.956E-01	-0.417
		1099.22	*	-7.641E-02	1.039E-01	1.566E-01	1.207E-02	-0.488
		1291.56		7.547E-02	1.152E-01	2.051E-01	1.703E-02	0.368
CO-60		1173.22		2.229E-03	5.171E-02	8.510E-02	4.801E-03	0.026
		1332.49	*	4.681E-03	4.884E-02	8.030E-02	5.895E-03	0.058
ZN-65		1115.52	*	1.544E-01	1.257E-01	2.049E-01	1.353E-02	0.753
GE-68		1077.35	*	1.574E-01	1.472E+00	2.451E+00	1.754E-01	0.064
AS-73		53.44	*	-4.281E-01	1.214E+00	2.010E+00	1.774E-01	-0.213
AS-74		595.88	*	3.470E-03	1.081E-01	1.765E-01	9.735E-03	0.020
		634.78		-1.930E-01	4.319E-01	6.727E-01	3.561E-02	-0.287
SE-75		66.05		-2.169E+00	7.011E+00	1.013E+01	1.063E+00	-0.214
		96.73		-4.924E-01	1.015E+00	1.435E+00	1.924E-01	-0.343

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		121.11		-1.321E-01	1.575E-01	2.492E-01	2.325E-02	-0.530
		136.00		-4.117E-03	4.491E-02	7.332E-02	4.140E-03	-0.056
		198.60		3.316E-01	2.153E+00	3.468E+00	2.341E-01	0.096
		264.65	*	-6.880E-02	5.346E-02	7.882E-02	4.588E-03	-0.873
		279.53		-1.941E-02	1.235E-01	2.067E-01	1.300E-02	-0.094
		303.91		-1.878E+00	2.623E+00	3.610E+00	3.463E-01	-0.520
		400.65		1.798E-01	2.912E-01	5.015E-01	4.563E-02	0.358
BR-77	+	87.88		8.055E+02	3.376E+02	5.099E+02	4.976E+01	1.580
		200.40		1.260E+02	2.571E+02	4.201E+02	2.247E+01	0.300
	+	239.00		3.158E+02	3.061E+01	5.424E+01	3.049E+00	5.822
		249.79		-9.410E+01	1.002E+02	1.516E+02	8.618E+00	-0.621
		281.68		-1.232E+02	1.324E+02	2.122E+02	1.237E+01	-0.580
	+	297.23		1.310E+02	1.063E+02	1.691E+02	9.932E+00	0.775
		303.76		-2.098E+02	2.925E+02	4.031E+02	2.373E+01	-0.520
		439.47		-1.605E+02	2.119E+02	3.308E+02	1.935E+01	-0.485
		484.57		3.778E+01	3.273E+02	5.434E+02	3.177E+01	0.070
		520.65	*	1.008E+01	1.662E+01	2.624E+01	1.519E+00	0.384
		574.64		-1.127E+02	3.424E+02	5.095E+02	2.860E+01	-0.221
		578.91		1.881E+02	1.592E+02	2.511E+02	1.405E+01	0.749
		585.48		7.602E+02	3.247E+02	5.526E+02	3.076E+01	1.375
		755.35		1.447E+02	2.550E+02	4.313E+02	2.824E+01	0.335
		817.79		-1.311E+02	1.892E+02	2.945E+02	2.242E+01	-0.445
SR-82		698.33		2.259E+01	4.148E+01	6.999E+01	3.954E+00	0.323
		776.49	*	-4.987E-02	4.353E-01	7.236E-01	4.992E-02	-0.069
		1395.20		-3.307E+00	1.347E+01	2.102E+01	1.532E+00	-0.157
RB-83		520.41	*	5.095E-02	8.400E-02	1.326E-01	7.678E-03	0.384
		529.64		-3.111E-02	1.188E-01	1.905E-01	1.098E-02	-0.163
		552.65		-3.738E-02	2.381E-01	3.844E-01	2.190E-02	-0.097
RB-84		881.50	*	4.542E-02	7.319E-02	1.296E-01	1.139E-02	0.350
KR-85		513.99	*	7.069E+00	7.575E+00	1.326E+01	7.694E-01	0.533
SR-85		513.99	*	3.661E-02	3.923E-02	6.867E-02	3.985E-03	0.533
RB-86		1076.63	*	2.792E-01	9.626E-01	1.631E+00	1.169E-01	0.171
Y-88		898.02		-3.953E-04	4.698E-02	7.816E-02	7.147E-03	-0.005
		1836.01	*	6.107E-03	3.358E-02	5.783E-02	3.405E-03	0.106
ZR-88		392.90	*	1.275E-02	3.425E-02	5.827E-02	3.364E-03	0.219
Y-91		1204.90	*	1.610E+01	2.158E+01	3.782E+01	2.257E+00	0.426
NB-94		702.63	*	1.680E-02	3.906E-02	6.536E-02	3.735E-03	0.257
		871.10		1.221E-02	3.824E-02	6.518E-02	5.598E-03	0.187
NB-95M		235.69	*	5.949E-01	1.971E-01	3.138E-01	2.315E-02	1.896
ZR-95		724.18		2.095E-01	1.311E-01	2.141E-01	1.514E-02	0.978
		756.15	*	-2.817E-02	8.744E-02	1.362E-01	1.045E-02	-0.207
NB-97		657.90	*	-3.327E-02	8.744E-02	Half-Life too short		
		1024.50		-3.204E+01	8.744E-02	Half-Life too short		
ZR-97		254.15		4.331E+00	8.744E-02	Half-Life too short		
		355.39		-8.893E+00	8.744E-02	Half-Life too short		
		507.63	*	1.566E+01	8.744E-02	Half-Life too short		
		602.52		5.959E-01	8.744E-02	Half-Life too short		
		1021.30		-1.542E+01	8.744E-02	Half-Life too short		
		1147.95		-1.559E+00	8.744E-02	Half-Life too short		

---- Non-Identified Nuclides ----

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		1362.66		-6.174E+00	8.744E-02	Half-Life too short		
		1750.46		3.002E+01	8.744E-02	Half-Life too short		
MO-99		140.51		-3.103E+01	3.917E+01	5.927E+01	1.593E+01	-0.524
		181.06		-6.373E+00	2.786E+01	3.893E+01	6.598E+00	-0.164
		366.43		-2.460E+01	1.157E+02	1.903E+02	1.115E+01	-0.129
		739.58	*	-1.265E+01	1.664E+01	2.449E+01	3.427E+00	-0.517
		778.00		-9.036E+00	4.581E+01	7.550E+01	5.229E+00	-0.120
TC-99M		140.51	*	-4.863E+11	4.581E+01	Half-Life too short		
RH-101	+	127.23		5.373E-02	4.709E-02	6.222E-02	3.573E-03	0.864
		198.01	*	-1.294E-02	3.949E-02	6.224E-02	3.318E-03	-0.208
		325.23		-4.954E-02	2.617E-01	4.343E-01	2.566E-02	-0.114
RH-102		418.52		6.344E-02	3.328E-01	5.582E-01	3.253E-02	0.114
		475.06	*	-1.043E-02	3.306E-02	5.316E-02	3.112E-03	-0.196
		631.29		4.709E-03	6.357E-02	1.038E-01	5.520E-03	0.045
		697.49		5.578E-02	9.116E-02	1.546E-01	8.716E-03	0.361
	+	766.84		1.227E-01	1.407E-01	2.202E-01	1.484E-02	0.557
		1046.59		3.685E-02	1.172E-01	2.003E-01	1.517E-02	0.184
		1112.84		-1.672E-01	3.112E-01	4.033E-01	2.675E-02	-0.415
RU-103		497.08	*	-5.256E-03	4.842E-02	7.815E-02	9.894E-03	-0.067
	+	610.33		1.373E+01	2.856E+00	3.264E+00	4.989E-01	4.207
RH-106	+	511.85		6.197E-01	3.997E-01	4.438E-01	2.577E-02	1.396
		621.84	*	1.710E-02	3.385E-01	5.524E-01	6.370E-02	0.031
		1050.47		-1.969E+00	2.459E+00	3.669E+00	2.760E-01	-0.537
RU-106	+	511.85		6.197E-01	3.997E-01	4.438E-01	2.577E-02	1.396
		621.84	*	1.710E-02	3.385E-01	5.524E-01	2.968E-02	0.031
		1050.47		-1.969E+00	2.459E+00	3.669E+00	2.760E-01	-0.537
AG-108M		433.93	*	2.242E-02	3.667E-02	6.316E-02	4.004E-03	0.355
		614.37		-1.107E-02	5.109E-02	6.982E-02	4.148E-03	-0.159
		722.95		1.316E-02	5.388E-02	7.720E-02	5.019E-03	0.170
AG-110M		657.75	*	-1.080E-02	4.418E-02	6.982E-02	3.880E-03	-0.155
		677.61		-1.997E-01	3.085E-01	4.630E-01	2.650E-02	-0.431
		706.67		-8.266E-02	2.343E-01	3.650E-01	2.236E-02	-0.226
		763.93		8.996E-03	2.072E-01	2.882E-01	2.017E-02	0.031
		884.67		-2.331E-02	5.192E-02	8.230E-02	7.503E-03	-0.283
		937.48		-3.181E-02	1.198E-01	1.934E-01	1.756E-02	-0.164
		1384.27		-5.500E-02	1.954E-01	2.651E-01	2.011E-02	-0.207
IN-111		171.28		3.345E-01	1.424E+00	2.340E+00	1.200E-01	0.143
		245.39	*	1.326E+00	1.661E+00	2.465E+00	1.395E-01	0.538
IN-113M		391.69	*	-1.872E-02	4.939E-02	8.003E-02	4.931E-03	-0.234
SN-113		391.69	*	-1.872E-02	4.939E-02	8.003E-02	4.931E-03	-0.234
IN-114M		190.27	*	7.264E-02	2.278E-01	3.293E-01	1.736E-02	0.221
CD-115		260.90		9.834E+01	1.995E+02	3.280E+02	1.884E+01	0.300
		492.35		-8.812E+00	5.337E+01	8.661E+01	5.056E+00	-0.102
		527.90	*	1.024E+01	1.616E+01	2.780E+01	1.604E+00	0.368
SN-117M		156.02		1.679E-01	2.727E+00	4.460E+00	2.334E-01	0.038
		158.56	*	3.684E-03	6.571E-02	1.074E-01	5.581E-03	0.034
SB-122		563.90	*	-2.170E+00	3.083E+00	4.744E+00	2.683E-01	-0.457
		692.80		1.803E-02	6.209E+01	1.003E+02	5.579E+00	0.000
I-123		159.00	*	-1.401E+00	6.209E+01	Half-Life too short		

---- Non-Identified Nuclides ----

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		528.96		-6.190E+01	6.209E+01	Half-Life too short		
TE-123M		159.00	*	-2.098E-03	3.286E-02	5.342E-02	2.819E-03	-0.039
I-124		602.71	*	7.855E-02	1.040E+00	1.466E+00	8.034E-02	0.054
		722.78		1.105E+00	6.547E+00	9.292E+00	5.599E-01	0.119
		1325.50		-1.559E+01	4.893E+01	7.622E+01	5.536E+00	-0.205
	+	1376.25		1.161E+02	5.535E+01	9.215E+01	6.734E+00	1.260
		1509.49		2.322E+01	2.324E+01	4.254E+01	3.017E+00	0.546
		1691.02		4.123E-01	4.399E+00	7.458E+00	4.868E-01	0.055
SB-124		602.71		3.945E-03	5.223E-02	7.363E-02	4.037E-03	0.054
		645.85		-2.805E-01	4.899E-01	7.434E-01	4.487E-02	-0.377
		709.31		-2.215E+00	3.031E+00	4.518E+00	2.628E-01	-0.490
		713.82		8.022E-01	1.829E+00	3.068E+00	3.148E-01	0.261
		722.78		8.046E-02	4.766E-01	6.764E-01	4.254E-02	0.119
	+	968.20		5.703E+00	6.122E+00	7.754E+00	6.575E-01	0.735
		1045.16		2.067E-01	2.581E+00	4.299E+00	3.263E-01	0.048
		1325.50		-1.212E+00	3.804E+00	5.926E+00	4.304E-01	-0.205
		1368.21		-5.840E-02	2.117E+00	3.231E+00	4.097E-01	-0.018
		1436.60		1.213E+00	4.299E+00	7.258E+00	5.249E-01	0.167
		1691.02	*	7.080E-03	7.554E-02	1.281E-01	8.928E-03	0.055
SB-125		427.89	*	-8.871E-02	1.005E-01	1.554E-01	9.451E-03	-0.571
	+	463.38		7.854E-01	4.013E-01	6.096E-01	4.153E-02	1.288
		600.56		-1.169E-02	2.226E-01	3.263E-01	2.102E-02	-0.036
		635.90		6.549E-02	3.061E-01	5.061E-01	3.218E-02	0.129
TE-125M		109.28	*	-5.091E+00	1.055E+01	1.706E+01	1.522E+00	-0.298
I-126		388.63		-1.337E-01	2.453E-01	3.891E-01	2.250E-02	-0.344
		666.33	*	-1.774E-03	2.342E-01	3.788E-01	1.960E-02	-0.005
		753.82		1.423E+00	1.741E+00	3.014E+00	1.966E-01	0.472
SB-126		223.80		-3.595E+00	5.263E+00	8.189E+00	4.522E-01	-0.439
		278.60		2.936E+00	2.949E+00	5.195E+00	3.022E-01	0.565
	+	296.50		1.565E+01	2.426E+00	4.287E+00	2.517E-01	3.652
		414.70		-2.818E-02	8.913E-02	1.446E-01	8.417E-03	-0.195
		415.30		-3.342E+00	7.401E+00	1.189E+01	6.922E-01	-0.281
		555.20		-2.498E+00	4.887E+00	7.648E+00	4.350E-01	-0.327
		573.80		3.376E-01	1.309E+00	2.123E+00	1.192E-01	0.159
		593.00		5.263E-02	1.145E+00	1.871E+00	1.035E-01	0.028
		656.30		2.754E+00	4.395E+00	7.445E+00	3.832E-01	0.370
		666.33		-7.428E-04	9.809E-02	1.586E-01	8.209E-03	-0.005
		675.00		-2.218E+00	2.224E+00	3.215E+00	1.704E-01	-0.690
		695.00		-2.968E-02	9.750E-02	1.531E-01	8.574E-03	-0.194
		697.00		1.320E-01	3.303E-01	5.515E-01	3.104E-02	0.239
		720.50	*	-5.774E-02	1.992E-01	2.653E-01	1.589E-02	-0.218
		856.80		5.176E-01	6.515E-01	1.030E+00	8.573E-02	0.502
		989.30		-3.146E-01	1.362E+00	2.194E+00	1.812E-01	-0.143
		1034.80		6.410E+00	1.084E+01	1.857E+01	1.434E+00	0.345
		1213.00		-1.358E+00	5.445E+00	8.669E+00	5.245E-01	-0.157
SB-127	+	61.10		1.333E+02	1.054E+02	1.448E+02	1.664E+01	0.921
		252.40		4.381E+00	6.008E+00	9.572E+00	3.983E+00	0.458
		290.80		-5.634E+00	3.214E+01	4.558E+01	4.349E+00	-0.124
		411.60		1.923E+01	1.629E+01	2.862E+01	4.179E+00	0.672

---- Non-Identified Nuclides ----

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		444.90		3.096E+00	1.330E+01	2.233E+01	2.482E+00	0.139
		473.00		-1.021E+00	2.203E+00	3.496E+00	4.016E-01	-0.292
		543.00		1.232E+00	2.140E+01	3.518E+01	4.617E+00	0.035
		603.60		5.558E-01	1.774E+01	2.487E+01	2.709E+00	0.022
		685.20	*	2.194E-01	1.854E+00	3.027E+00	2.895E-01	0.072
		698.50		8.028E+00	2.169E+01	3.603E+01	5.275E+00	0.223
		722.20		9.715E+00	4.375E+01	6.258E+01	6.033E+00	0.155
		783.80		2.417E-01	4.767E+00	8.033E+00	9.355E-01	0.030
XE-127		57.60		3.808E+00	8.999E+00	1.429E+01	1.252E+00	0.266
		145.22		-4.099E-02	8.125E-01	1.299E+00	7.010E-02	-0.032
		172.10		-5.383E-02	1.376E-01	2.197E-01	1.128E-02	-0.245
		202.84	*	-3.772E-02	5.816E-02	8.761E-02	4.703E-03	-0.431
		374.96		-1.579E-01	2.196E-01	3.482E-01	2.031E-02	-0.454
I-131		80.18		-4.578E-01	9.328E+00	9.852E+00	9.092E-01	-0.046
		284.30		-6.347E-01	1.778E+00	2.940E+00	1.909E-01	-0.216
		364.48	*	-4.044E-02	1.315E-01	2.147E-01	1.405E-02	-0.188
		636.97		-3.778E-02	1.872E+00	3.032E+00	1.832E-01	-0.012
		722.89		2.139E+00	9.826E+00	1.403E+01	8.582E-01	0.152
TE-132		49.72		-1.754E+01	3.713E+01	6.119E+01	6.692E+00	-0.287
		111.76		-2.328E+00	4.083E+01	6.717E+01	6.493E+00	-0.035
		116.30		1.809E+01	3.833E+01	6.427E+01	6.055E+00	0.281
		228.16	*	2.141E-01	1.051E+00	1.706E+00	2.468E-01	0.125
BA-133		53.15		-1.206E+00	5.129E+00	8.534E+00	7.527E-01	-0.141
		79.62		3.477E-01	2.436E+00	2.614E+00	4.058E-01	0.133
		81.00		-7.823E-02	1.813E-01	1.845E-01	2.991E-02	-0.424
		276.40		6.290E-01	4.487E-01	7.577E-01	9.826E-02	0.830
		302.84		-1.773E-01	1.790E-01	2.392E-01	2.798E-02	-0.741
		356.01	*	-1.653E-02	5.085E-02	7.145E-02	8.290E-03	-0.231
		383.85		3.093E-01	3.523E-01	6.140E-01	6.676E-02	0.504
I-133	+	510.53		2.686E+00	3.523E-01	Half-Life too short		
		529.87	*	-9.791E-03	3.523E-01	Half-Life too short		
		706.58		-3.551E-01	3.523E-01	Half-Life too short		
		856.28		6.903E-01	3.523E-01	Half-Life too short		
		875.33		-3.706E-01	3.523E-01	Half-Life too short		
		1236.41		1.014E+00	3.523E-01	Half-Life too short		
		1298.22		-4.567E-02	3.523E-01	Half-Life too short		
CS-134		475.35		-9.515E-01	2.177E+00	3.468E+00	2.030E-01	-0.274
		563.23		-1.306E-02	4.041E-01	6.581E-01	3.806E-02	-0.020
		569.32		2.525E-01	2.268E-01	4.011E-01	2.331E-02	0.629
		604.70		2.616E-02	4.491E-02	6.680E-02	3.677E-03	0.392
		795.84	*	1.623E-02	5.341E-02	9.173E-02	6.699E-03	0.177
		801.93		3.466E-01	4.378E-01	7.826E-01	5.784E-02	0.443
		1038.57		6.810E-01	4.512E+00	7.562E+00	5.804E-01	0.090
		1167.94		2.284E+00	2.649E+00	4.733E+00	2.713E-01	0.483
		1365.15		-4.957E-01	1.322E+00	2.013E+00	1.566E-01	-0.246
CS-135		268.24	*	2.888E-01	1.921E-01	3.287E-01	2.511E-02	0.879
I-135		288.45		8.307E+10	1.921E-01	Half-Life too short		
		417.63		-1.099E+11	1.921E-01	Half-Life too short		
		546.56		-4.719E+09	1.921E-01	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		836.80		-2.251E+10	1.921E-01	Half-Life too short		
		1038.76		7.297E+10	1.921E-01	Half-Life too short		
		1124.00		-5.174E+11	1.921E-01	Half-Life too short		
		1131.51		3.999E+10	1.921E-01	Half-Life too short		
		1260.41	*	2.218E+10	1.921E-01	Half-Life too short		
	+	1457.56		9.201E+12	1.921E-01	Half-Life too short		
		1678.03		6.471E+10	1.921E-01	Half-Life too short		
		1706.46		2.123E+10	1.921E-01	Half-Life too short		
		1791.20		-9.076E+10	1.921E-01	Half-Life too short		
CS-136		66.91		-8.539E-02	1.182E+00	1.728E+00	2.675E-01	-0.049
	+	86.29		3.814E+00	1.639E+00	2.322E+00	3.145E-01	1.642
		153.22		2.624E-01	7.916E-01	1.310E+00	8.917E-02	0.200
		163.89		1.230E+00	1.286E+00	2.176E+00	1.463E-01	0.565
		176.55		1.435E-01	4.359E-01	7.185E-01	4.284E-02	0.200
		273.65		-1.359E+00	6.149E-01	8.537E-01	5.647E-02	-1.592
		340.57		2.565E-01	1.770E-01	2.831E-01	1.774E-02	0.906
		818.51		-1.999E-02	8.403E-02	1.374E-01	1.049E-02	-0.146
		1048.07	*	-3.628E-02	1.183E-01	1.883E-01	1.500E-02	-0.193
		1235.34		3.589E-01	7.032E-01	1.201E+00	1.234E-01	0.299
BA-137M		661.65	*	-3.107E-02	4.410E-02	6.709E-02	3.427E-03	-0.463
CS-137		661.65	*	-3.285E-02	4.662E-02	7.092E-02	3.643E-03	-0.463
CE-139		165.85	*	-9.853E-03	3.500E-02	5.628E-02	2.869E-03	-0.175
BA-140		162.64		-2.467E-01	9.212E-01	1.483E+00	8.817E-02	-0.166
		304.84		-3.250E-01	1.581E+00	2.382E+00	6.504E-01	-0.136
		423.70		5.071E-01	2.238E+00	3.755E+00	1.194E+00	0.135
		537.32	*	1.689E-01	2.873E-01	4.854E-01	1.578E-01	0.348
LA-140		328.77		5.737E-01	3.586E-01	6.456E-01	4.257E-02	0.889
		432.53		1.990E-01	2.417E+00	4.022E+00	2.593E-01	0.049
		487.03		-1.613E-02	1.541E-01	2.514E-01	1.661E-02	-0.064
		751.79		-4.298E-01	2.146E+00	3.382E+00	2.594E-01	-0.127
		815.85		-7.514E-02	3.402E-01	5.564E-01	4.835E-02	-0.135
		867.82		-9.573E-01	1.680E+00	2.609E+00	2.345E-01	-0.367
		919.63		-1.011E+00	3.205E+00	5.152E+00	5.615E-01	-0.196
		925.24		5.303E-01	1.314E+00	2.270E+00	2.136E-01	0.234
		1596.49	*	-5.738E-02	9.154E-02	1.350E-01	9.264E-03	-0.425
CE-141		145.44	*	-8.684E-05	7.356E-02	1.179E-01	6.647E-03	-0.001
CE-143		57.37		1.435E-03	7.356E-02	Half-Life too short		
		231.56		-2.895E-03	7.356E-02	Half-Life too short		
	+	293.26	*	2.289E-03	7.356E-02	Half-Life too short		
	+	350.59		5.327E-02	7.356E-02	Half-Life too short		
		490.36		-5.877E-04	7.356E-02	Half-Life too short		
		664.57		9.028E-04	7.356E-02	Half-Life too short		
		721.93		-2.206E-04	7.356E-02	Half-Life too short		
CE-144		80.11		-1.217E-01	3.970E+00	4.200E+00	3.850E-01	-0.029
		133.54	*	-2.340E-02	2.680E-01	3.832E-01	5.412E-02	-0.061
PM-144		476.78		7.567E-02	7.322E-02	1.295E-01	9.052E-03	0.584
		618.01		2.695E-02	3.513E-02	6.083E-02	3.510E-03	0.443
		696.49	*	3.745E-03	4.052E-02	6.592E-02	3.709E-03	0.057
		778.57		-7.270E-01	2.515E+00	4.111E+00	2.852E-01	-0.177

---- Non-Identified Nuclides ----

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PR-144		696.49	*	2.539E-01	2.747E+00	4.469E+00	2.512E-01	0.057
		1489.15		-1.065E+01	1.266E+01	1.684E+01	1.201E+00	-0.633
PM-146		453.90	*	-2.076E-03	5.185E-02	8.536E-02	7.393E-03	-0.024
		633.02		5.828E-01	1.619E+00	2.686E+00	9.871E-01	0.217
		735.90		-4.527E-02	1.648E-01	2.568E-01	7.184E-02	-0.176
		747.13		6.200E-03	1.078E-01	1.742E-01	2.231E-02	0.036
ND-147	+	91.11		7.581E-01	3.704E-01	6.549E-01	6.439E-02	1.158
		319.41		-6.450E-01	4.049E+00	6.732E+00	3.978E-01	-0.096
		439.89		-2.679E+00	6.818E+00	1.095E+01	6.409E-01	-0.245
		531.02	*	-3.138E-01	6.767E-01	1.064E+00	1.437E-01	-0.295
PM-149		285.90	*	1.516E+01	1.352E+02	2.291E+02	3.252E+01	0.066
EU-152		121.78		2.521E-02	8.171E-02	1.361E-01	1.046E-02	0.185
		244.69		2.045E-01	4.120E-01	5.981E-01	3.383E-02	0.342
		344.27	*	-6.080E-02	1.416E-01	1.714E-01	1.136E-02	-0.355
		443.98		4.860E-01	1.098E+00	1.869E+00	1.094E-01	0.260
		778.89		-1.105E-01	2.873E-01	4.653E-01	3.228E-02	-0.237
		867.32		-5.443E-01	9.732E-01	1.472E+00	1.253E-01	-0.370
		964.01		6.018E-01	3.965E-01	6.605E-01	5.629E-02	0.911
		1085.78		3.076E-01	4.272E-01	7.572E-01	5.328E-02	0.406
		1112.02		-1.986E-03	4.078E-01	5.751E-01	3.823E-02	-0.003
		1407.95		1.354E-01	2.187E-01	3.837E-01	2.790E-02	0.353
GD-153		69.67		-4.260E-01	2.358E+00	3.437E+00	3.003E-01	-0.124
	+	83.37		1.653E+01	1.895E+01	2.947E+01	2.767E+00	0.561
		97.43	*	1.431E-01	9.851E-02	1.536E-01	1.255E-02	0.931
		103.18		-1.230E-01	1.204E-01	1.901E-01	1.421E-02	-0.647
EU-154		123.07		6.255E-02	6.176E-02	9.848E-02	9.296E-03	0.635
		247.94		2.532E-02	4.132E-01	6.646E-01	6.291E-02	0.038
		591.81		-1.232E-02	7.150E-01	1.163E+00	1.119E-01	-0.011
		723.30		1.806E-01	2.223E-01	3.406E-01	2.477E-02	0.530
		756.87		7.045E-02	9.111E-01	1.474E+00	1.562E-01	0.048
		873.19		-2.518E-01	3.345E-01	5.080E-01	6.223E-02	-0.496
		996.32		1.411E-01	3.867E-01	6.637E-01	1.165E-01	0.213
		1004.76		-1.132E-02	2.191E-01	3.603E-01	4.053E-02	-0.031
		1274.45	*	-4.629E-02	1.433E-01	2.246E-01	2.230E-02	-0.206
EU-155		48.70		-2.767E-01	3.815E+00	6.403E+00	5.164E-01	-0.043
		60.01		4.356E+00	7.075E+00	1.078E+01	9.365E-01	0.404
	+	86.54		3.350E-01	1.405E-01	2.012E-01	1.955E-02	1.665
		105.31	*	1.528E-01	1.196E-01	2.067E-01	1.524E-02	0.739
TB-160	+	86.79		9.026E-01	3.783E-01	5.384E-01	5.202E-02	1.677
		197.04		9.274E-03	6.680E-01	1.069E+00	5.693E-02	0.009
		215.65		2.066E-02	8.377E-01	1.352E+00	7.387E-02	0.015
	+	298.57		2.140E-01	1.737E-01	2.250E-01	1.322E-02	0.952
		879.36	*	1.193E-01	1.443E-01	2.602E-01	2.276E-02	0.458
		962.29		4.834E-01	6.944E-01	1.103E+00	9.417E-02	0.438
		966.15		1.012E+00	3.678E-01	6.342E-01	5.390E-02	1.595
		1177.93		2.657E-01	3.909E-01	6.857E-01	3.901E-02	0.387
		1271.85		1.048E-01	7.969E-01	1.319E+00	8.805E-02	0.079
HO-166M		80.57		-9.036E-02	5.041E-01	5.263E-01	4.839E-02	-0.172
	+	184.41		1.183E-01	7.115E-02	7.750E-02	4.050E-03	1.526

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		280.46		-8.934E-02	9.540E-02	1.531E-01	8.915E-03	-0.584
		410.95		5.612E-01	2.763E-01	5.115E-01	2.974E-02	1.097
		711.68	*	-5.773E-03	6.521E-02	1.042E-01	6.098E-03	-0.055
		752.31		-7.372E-02	3.284E-01	5.163E-01	3.355E-02	-0.143
		810.29		-2.269E-02	6.094E-02	9.823E-02	7.348E-03	-0.231
TM-171		51.35		5.602E+00	4.545E+01	7.682E+01	6.677E+00	0.073
		52.39		6.777E-01	2.275E+01	3.829E+01	3.364E+00	0.018
		59.40		3.128E+01	3.751E+01	5.784E+01	5.025E+00	0.541
		66.72	*	-2.131E+00	4.094E+01	5.994E+01	5.213E+00	-0.036
LU-176	+	88.36		4.923E-01	2.399E-01	4.210E-01	4.081E-02	1.169
		201.83		3.570E-03	3.340E-02	5.425E-02	2.908E-03	0.066
		306.84	*	2.397E-02	2.771E-02	4.861E-02	2.864E-03	0.493
		401.10		6.995E+00	7.406E+00	1.302E+01	7.540E-01	0.537
LU-177		112.95		9.010E-01	2.038E+00	3.416E+00	2.240E-01	0.264
	+	208.36	*	2.781E+00	1.739E+00	2.474E+00	1.338E-01	1.124
LU-177M		52.97		-7.926E-01	2.333E+00	3.864E+00	3.406E-01	-0.205
		54.07		-3.089E-01	1.237E+00	2.057E+00	1.818E-01	-0.150
	+	61.30		2.940E+00	2.315E+00	3.245E+00	2.819E-01	0.906
		121.62		-1.667E-01	4.315E-01	6.982E-01	4.127E-02	-0.239
		147.16		7.071E-02	7.394E-01	1.213E+00	6.509E-02	0.058
		171.86		-1.170E-01	5.511E-01	8.873E-01	4.555E-02	-0.132
		218.09		1.317E-01	9.727E-01	1.578E+00	8.649E-02	0.083
		268.79		1.216E+00	1.002E+00	1.683E+00	9.724E-02	0.722
		319.02		-1.923E-02	2.966E-01	4.957E-01	2.927E-02	-0.039
		367.43		-4.733E-01	9.808E-01	1.583E+00	9.269E-02	-0.299
		413.65	*	-3.187E-01	2.078E-01	3.082E-01	1.793E-02	-1.034
HF-181		56.28		-4.202E-01	1.332E+00	2.207E+00	1.943E-01	-0.190
		57.53		2.886E-01	7.582E-01	1.202E+00	1.053E-01	0.240
		65.20		-3.612E-01	1.430E+00	2.074E+00	1.802E-01	-0.174
		133.02		2.640E-02	8.469E-02	1.240E-01	6.959E-03	0.213
		136.25		-2.896E-02	5.326E-01	8.709E-01	4.834E-02	-0.033
		345.85		-1.136E-01	2.398E-01	3.337E-01	1.968E-02	-0.340
		482.03	*	-2.408E-02	4.809E-02	7.605E-02	4.448E-03	-0.317
W-181		56.28		-1.624E-01	5.161E-01	8.551E-01	7.529E-02	-0.190
		57.53		1.120E-01	2.941E-01	4.662E-01	4.085E-02	0.240
		65.20	*	-1.390E-01	5.500E-01	7.980E-01	6.932E-02	-0.174
TA-182		67.75		2.895E-02	1.605E-01	2.375E-01	2.068E-02	0.122
		100.10		1.086E-01	2.030E-01	3.426E-01	2.681E-02	0.317
		152.43		1.573E-01	3.855E-01	6.399E-01	3.382E-02	0.246
		222.10		-1.937E-03	4.199E-01	6.758E-01	3.724E-02	-0.003
		1001.68		-9.377E-01	2.229E+00	3.447E+00	2.799E-01	-0.272
		1121.28		3.373E-01	1.929E-01	3.303E-01	2.148E-02	1.021
		1189.05		-7.873E-03	3.393E-01	5.541E-01	3.215E-02	-0.014
		1221.42	*	-2.276E-01	2.436E-01	3.616E-01	2.220E-02	-0.629
		1230.97		-6.367E-01	5.805E-01	8.451E-01	5.272E-02	-0.753
RE-183		57.98		1.338E-01	3.027E-01	4.580E-01	4.005E-02	0.292
		59.32		1.352E-01	1.561E-01	2.410E-01	2.094E-02	0.561
		67.20		-4.346E-02	2.934E-01	4.274E-01	3.719E-02	-0.102
		162.32	*	-2.065E-02	1.285E-01	2.079E-01	1.070E-02	-0.099

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	208.81		2.289E+00	1.431E+00	2.021E+00	1.094E-01	1.133
		291.72		1.522E-01	1.197E+00	1.772E+00	1.038E-01	0.086
RE-184		57.98		4.902E-01	1.109E+00	1.678E+00	1.468E-01	0.292
		59.32		4.950E-01	5.714E-01	8.823E-01	7.668E-02	0.561
		67.20		-1.592E-01	1.075E+00	1.566E+00	1.363E-01	-0.102
		161.27		-6.590E-02	4.105E-01	6.643E-01	3.427E-02	-0.099
		216.55		-6.038E-03	3.033E-01	4.883E-01	2.671E-02	-0.012
		252.85	*	1.361E-01	2.623E-01	4.324E-01	2.465E-02	0.315
		318.01		2.724E-02	5.242E-01	8.817E-01	5.206E-02	0.031
		792.07		1.325E+00	1.182E+00	2.146E+00	1.537E-01	0.618
		903.28		-2.292E-01	1.308E+00	1.828E+00	1.657E-01	-0.125
		920.93		2.065E-01	4.661E-01	8.109E-01	7.233E-02	0.255
OS-185		59.72		2.214E-01	4.247E-01	6.444E-01	5.597E-02	0.344
	+	61.14		3.225E-01	2.539E-01	3.514E-01	3.052E-02	0.918
		69.30		2.237E-01	4.148E-01	6.250E-01	5.457E-02	0.358
		592.07		6.486E-02	2.968E+00	4.843E+00	2.680E-01	0.013
		646.12	*	-2.744E-02	4.162E-02	6.249E-02	3.261E-03	-0.439
		717.42		1.791E-01	1.059E+00	1.687E+00	1.002E-01	0.106
		874.81		-3.592E-01	6.180E-01	9.653E-01	8.358E-02	-0.372
		880.27		5.359E-01	8.157E-01	1.448E+00	1.269E-01	0.370
RE-188		155.03	*	1.407E-01	1.985E-01	3.332E-01	1.748E-02	0.422
		477.96		4.780E+00	3.438E+00	6.212E+00	3.635E-01	0.769
		633.10		1.167E+00	3.272E+00	5.473E+00	2.903E-01	0.213
W-188	+	63.58		1.112E+02	8.760E+01	1.191E+02	1.034E+01	0.934
		227.08		5.432E+00	1.571E+01	2.568E+01	1.424E+00	0.211
		290.67	*	-2.082E+00	9.455E+00	1.336E+01	7.824E-01	-0.156
IR-192	+	295.96		1.147E+00	1.782E-01	3.232E-01	1.927E-02	3.549
		308.46		1.053E-01	1.081E-01	1.906E-01	1.136E-02	0.553
		316.51	*	2.754E-02	3.980E-02	6.918E-02	4.104E-03	0.398
		468.07		-1.233E-02	8.463E-02	1.190E-01	8.014E-03	-0.104
		604.41		2.113E-01	6.027E-01	8.752E-01	9.790E-02	0.241
		612.46		6.766E-01	8.347E-01	1.287E+00	9.388E-02	0.526
AU-195		65.12		-5.085E-02	2.550E-01	3.710E-01	3.223E-02	-0.137
		66.83		-7.548E-03	1.355E-01	1.983E-01	1.725E-02	-0.038
	+	75.70		1.516E+00	3.285E-01	5.865E-01	5.238E-02	2.585
		98.88	*	5.247E-01	2.729E-01	4.518E-01	3.604E-02	1.161
	+	129.76		4.750E+00	4.163E+00	5.564E+00	3.163E-01	0.854
TL-200		367.94	*	-4.772E-04	4.163E+00	Half-Life too short		
		579.30		1.862E-02	4.163E+00	Half-Life too short		
		828.27		-6.058E-03	4.163E+00	Half-Life too short		
		1205.75		1.520E-03	4.163E+00	Half-Life too short		
TL-201		68.90		5.811E+00	8.178E+00	1.242E+01	1.083E+00	0.468
		70.82		-4.676E-01	4.701E+00	6.875E+00	6.024E-01	-0.068
		80.30		-7.857E-01	1.161E+01	1.224E+01	1.123E+00	-0.064
		135.34		1.072E+01	3.544E+01	5.882E+01	3.275E+00	0.182
		167.43	*	-4.359E+00	1.000E+01	1.596E+01	8.144E-01	-0.273
TL-202		68.90		4.445E-01	6.255E-01	9.498E-01	8.285E-02	0.468
		70.82		-3.567E-02	3.586E-01	5.245E-01	4.596E-02	-0.068
		80.30		-5.996E-02	8.857E-01	9.339E-01	8.572E-02	-0.064

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		439.56	*	-6.115E-02	8.217E-02	1.284E-01	7.515E-03	-0.476
HG-203		70.83		-1.443E-01	1.494E+00	2.185E+00	2.992E-01	-0.066
	+	72.87		4.893E+00	1.168E+00	1.434E+00	1.912E-01	3.413
	+	82.60		1.243E+00	1.431E+00	2.270E+00	3.224E-01	0.547
		279.20	*	7.749E-03	4.669E-02	7.935E-02	4.902E-03	0.098
BI-207	+	72.80		1.414E+00	3.065E-01	4.092E-01	3.608E-02	3.457
	+	74.97		8.379E-01	1.816E-01	2.943E-01	2.619E-02	2.847
	+	84.90		2.132E-01	2.444E-01	3.953E-01	3.758E-02	0.539
		569.67		3.512E-02	3.566E-02	6.250E-02	3.521E-03	0.562
		1063.62	*	-2.381E-02	5.886E-02	9.272E-02	6.812E-03	-0.257
		1770.23		-1.474E+00	7.024E-01	7.151E-01	4.428E-02	-2.061
TL-207		81.07		-1.856E-01	3.989E-01	4.054E-01	3.741E-02	-0.458
	+	83.78		1.406E-01	1.611E-01	2.463E-01	2.320E-02	0.571
		94.90		2.398E-01	3.057E-01	4.610E-01	3.933E-02	0.520
		122.32		1.086E+00	2.032E+00	3.306E+00	2.237E-01	0.328
		144.24		-5.299E-02	7.963E-01	1.274E+00	8.821E-02	-0.042
		154.21		3.641E-01	4.567E-01	7.687E-01	5.053E-02	0.474
		269.46		3.655E-01	2.355E-01	4.007E-01	2.422E-02	0.912
		323.87	*	-8.115E-01	7.947E-01	1.241E+00	2.054E-01	-0.654
	+	338.28		6.796E+00	2.072E+00	2.901E+00	3.072E-01	2.343
		445.03		5.843E-01	2.612E+00	4.381E+00	4.513E-01	0.133
PO-209		260.50		5.406E+00	1.094E+01	1.799E+01	1.033E+00	0.301
		262.80		-6.408E+00	3.057E+01	4.827E+01	2.777E+00	-0.133
		896.60	*	-2.958E+00	8.266E+00	1.326E+01	1.204E+00	-0.223
BI-210		46.50	*	-2.384E+00	6.277E+00	1.006E+01	7.834E-01	-0.237
PB-210		46.50	*	-2.384E+00	6.277E+00	1.006E+01	7.834E-01	-0.237
PO-210		46.50	*	-2.384E+00	6.276E+00	1.006E+01	6.750E-01	-0.237
PB-211		404.84	*	-1.289E+00	1.333E+00	1.623E+00	1.012E+00	-0.795
		427.08		-2.158E+00	2.601E+00	3.434E+00	2.123E+00	-0.628
		831.96		1.046E+00	1.456E+00	2.332E+00	1.459E+00	0.449
BI-212	+	727.18	*	9.208E-01	5.424E-01	6.928E-01	5.499E-02	1.329
		785.46		1.521E+00	1.964E+00	3.500E+00	2.467E-01	0.435
		1620.62		-2.426E-01	1.489E+00	2.417E+00	1.639E-01	-0.100
PO-215		81.07		-1.856E-01	3.989E-01	4.054E-01	3.741E-02	-0.458
	+	83.78		1.406E-01	1.611E-01	2.463E-01	2.320E-02	0.571
		94.90		2.398E-01	3.057E-01	4.610E-01	3.933E-02	0.520
		122.32		1.086E+00	2.032E+00	3.306E+00	2.237E-01	0.328
		144.24		-5.299E-02	7.963E-01	1.274E+00	8.821E-02	-0.042
		154.21		3.641E-01	4.567E-01	7.687E-01	5.053E-02	0.474
		269.46		3.655E-01	2.355E-01	4.007E-01	2.422E-02	0.912
		323.87	*	-8.115E-01	7.947E-01	1.241E+00	2.054E-01	-0.654
	+	338.28		6.796E+00	2.072E+00	2.901E+00	3.072E-01	2.343
		445.03		5.843E-01	2.612E+00	4.381E+00	4.513E-01	0.133
RN-219		271.23		3.030E-01	3.018E-01	5.012E-01	4.058E-02	0.605
		401.81	*	3.485E-01	4.586E-01	7.942E-01	1.080E-01	0.439
RN-220		549.76	*	2.809E+01	3.134E+01	5.460E+01	3.116E+00	0.514
RA-223		81.07		-1.856E-01	3.989E-01	4.054E-01	3.741E-02	-0.458
	+	83.78		1.406E-01	1.611E-01	2.463E-01	2.320E-02	0.571
		94.90		2.398E-01	3.057E-01	4.610E-01	3.933E-02	0.520

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		122.32		1.086E+00	2.032E+00	3.306E+00	2.237E-01	0.328
		144.24		-5.299E-02	7.963E-01	1.274E+00	8.821E-02	-0.042
		154.21		3.641E-01	4.567E-01	7.687E-01	5.053E-02	0.474
		269.46		3.655E-01	2.355E-01	4.007E-01	2.422E-02	0.912
		323.87	*	-8.115E-01	7.947E-01	1.241E+00	2.054E-01	-0.654
	+	338.28		6.796E+00	2.072E+00	2.901E+00	3.072E-01	2.343
		445.03		5.843E-01	2.612E+00	4.381E+00	4.513E-01	0.133
AC-227		79.80		2.020E-01	3.080E+00	3.284E+00	7.134E-01	0.061
		236.00		2.429E+00	4.602E-01	6.971E-01	7.211E-02	3.485
		256.20	*	-2.510E-01	4.432E-01	6.840E-01	9.526E-02	-0.367
		286.10		-3.934E-01	1.718E+00	2.859E+00	3.311E-01	-0.138
	+	299.80		2.702E+00	2.231E+00	2.808E+00	4.581E-01	0.962
		304.40		-1.140E+00	2.359E+00	3.308E+00	5.732E-01	-0.345
		334.20		-1.915E+00	3.036E+00	4.169E+00	7.658E-01	-0.459
TH-227		79.80		2.020E-01	3.080E+00	3.284E+00	7.223E-01	0.061
	+	94.00		7.503E+00	3.401E+00	4.263E+00	9.292E-01	1.760
		236.00		2.429E+00	4.424E-01	6.971E-01	6.227E-02	3.485
		256.20	*	-2.510E-01	4.438E-01	6.840E-01	1.154E-01	-0.367
		286.10		-3.934E-01	1.762E+00	2.859E+00	2.864E+00	-0.138
	+	299.80		2.702E+00	2.231E+00	2.808E+00	4.581E-01	0.962
		304.40		-1.140E+00	2.359E+00	3.308E+00	5.732E-01	-0.345
		334.20		-1.915E+00	3.036E+00	4.169E+00	7.658E-01	-0.459
TH-229	+	85.43		6.235E-01	2.613E-01	4.023E-01	3.841E-02	1.550
	+	88.47		2.834E-01	1.381E-01	2.405E-01	2.326E-02	1.178
		100.00		1.253E-01	2.102E-01	3.554E-01	2.786E-02	0.353
		193.63	*	2.871E-01	5.778E-01	9.259E-01	4.905E-02	0.310
		210.97		1.265E+00	9.468E-01	1.448E+00	7.863E-02	0.873
PA-231		283.67	*	5.059E-02	1.664E+00	2.808E+00	3.874E-01	0.018
		301.29		7.755E-01	6.934E-01	1.092E+00	1.147E-01	0.710
TH-231		81.07		-1.856E-01	3.989E-01	4.054E-01	3.741E-02	-0.458
	+	83.78		1.406E-01	1.611E-01	2.463E-01	2.320E-02	0.571
		94.90		2.398E-01	3.057E-01	4.610E-01	3.933E-02	0.520
		122.32		1.086E+00	2.032E+00	3.306E+00	2.237E-01	0.328
		144.24		-5.299E-02	7.963E-01	1.274E+00	8.821E-02	-0.042
		154.21		3.641E-01	4.567E-01	7.687E-01	5.053E-02	0.474
		269.46		3.655E-01	2.355E-01	4.007E-01	2.422E-02	0.912
		323.87	*	-8.115E-01	7.947E-01	1.241E+00	2.054E-01	-0.654
	+	338.28		6.796E+00	2.072E+00	2.901E+00	3.072E-01	2.343
		445.03		5.843E-01	2.612E+00	4.381E+00	4.513E-01	0.133
U-231	+	84.21		7.076E+00	8.112E+00	1.230E+01	1.162E+00	0.575
	+	92.29		8.662E+00	3.523E+00	5.351E+00	4.790E-01	1.619
		95.87	*	-1.538E+00	1.648E+00	2.272E+00	1.906E-01	-0.677
		108.00		-1.332E+00	2.676E+00	4.325E+00	3.023E-01	-0.308
PA-233	+	75.28		2.445E+01	6.141E+00	9.216E+00	1.430E+00	2.653
	+	86.59		5.443E+00	2.668E+00	3.260E+00	8.856E-01	1.670
	+	300.12		7.532E-01	6.180E-01	7.846E-01	1.057E-01	0.960
		311.98	*	-1.595E-02	7.322E-02	1.215E-01	7.594E-03	-0.131
		340.50		1.395E+00	8.837E-01	1.340E+00	3.081E-01	1.041
		398.62		-1.859E+00	2.477E+00	3.840E+00	9.927E-01	-0.484

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		415.76		-1.728E+00	1.898E+00	2.894E+00	5.959E-01	-0.597
PA-234	+	63.00		3.196E+00	2.550E+00	3.550E+00	5.516E-01	0.900
	+	94.67		6.690E-01	2.786E-01	3.439E-01	4.252E-02	1.946
		98.44		2.076E-01	1.630E-01	1.833E-01	1.021E-01	1.132
		99.86		3.623E-01	5.342E-01	9.058E-01	7.116E-02	0.400
		111.00		-3.089E-02	2.070E-01	3.392E-01	3.669E-02	-0.091
		131.20		-2.210E-02	1.358E-01	1.935E-01	1.094E-02	-0.114
		152.70		1.390E-01	3.705E-01	6.132E-01	9.582E-02	0.227
	+	186.00		4.258E+00	2.862E+00	2.828E+00	8.611E-01	1.506
		226.40		3.395E-01	4.895E-01	8.109E-01	9.271E-02	0.419
		227.20		1.763E-01	5.255E-01	8.586E-01	4.761E-02	0.205
		248.90		-4.644E-01	9.332E-01	1.444E+00	3.098E-01	-0.322
	+	293.70		7.158E+00	1.544E+00	1.992E+00	3.208E-01	3.593
		369.80		3.554E-01	8.982E-01	1.531E+00	3.190E-01	0.232
		568.70		7.985E-01	1.188E+00	2.037E+00	1.148E-01	0.392
		569.50		3.116E-01	3.164E-01	5.546E-01	3.125E-02	0.562
		574.00		-3.293E-01	1.847E+00	2.888E+00	1.622E-01	-0.114
		699.00		4.493E-01	8.503E-01	1.427E+00	2.560E-01	0.315
		706.10		-1.789E-01	1.150E+00	1.823E+00	8.043E-01	-0.098
		733.00		3.847E-02	4.700E-01	6.908E-01	1.476E-01	0.056
		742.81		-6.151E-01	1.649E+00	2.471E+00	1.655E+00	-0.249
		796.30		-1.372E-01	1.049E+00	1.739E+00	4.632E-01	-0.079
		805.60		1.828E-01	1.082E+00	1.838E+00	5.573E-01	0.099
		819.60		-1.145E+00	1.414E+00	2.064E+00	7.804E-01	-0.555
		826.30		2.476E-01	9.203E-01	1.567E+00	6.984E-01	0.158
		831.60		4.230E-01	6.909E-01	1.200E+00	3.555E-01	0.353
		876.40		-8.820E-01	1.266E+00	1.313E+00	1.350E+00	-0.672
		880.51		2.034E-01	2.941E-01	5.235E-01	4.590E-02	0.388
		883.24		7.479E-02	2.967E-01	5.005E-01	3.366E-01	0.149
		899.00		-2.066E-01	9.442E-01	1.531E+00	6.708E-01	-0.135
		925.00		8.046E-01	1.286E+00	2.269E+00	2.015E-01	0.355
		926.50		-1.518E-02	1.952E-01	3.218E-01	8.163E-02	-0.047
		946.00	*	7.314E-02	3.259E-01	5.530E-01	1.040E-01	0.132
		949.00		4.833E-01	4.909E-01	8.902E-01	7.715E-02	0.543
		980.50		-1.379E-01	7.492E-01	1.215E+00	1.015E-01	-0.114
		1394.10		-4.001E-01	1.433E+00	2.186E+00	1.419E+00	-0.183
PA-234M	+	766.42		1.290E+01	1.614E+01	2.314E+01	1.167E+01	0.558
		1001.03	*	7.379E-01	5.003E+00	8.242E+00	7.864E-01	0.090
U-235	+	89.95		2.844E+00	1.622E+00	2.212E+00	6.875E-01	1.286
	+	93.35		2.334E+00	1.135E+00	1.396E+00	3.920E-01	1.672
		105.00		1.442E+00	1.248E+00	2.032E+00	5.992E-01	0.709
		143.76	*	-1.118E-01	2.427E-01	3.805E-01	6.153E-02	-0.294
		163.35		2.351E-01	5.418E-01	8.963E-01	1.593E-01	0.262
	+	185.71		1.577E-01	9.487E-02	1.041E-01	5.449E-03	1.516
		205.31		-1.016E-01	6.657E-01	9.292E-01	1.659E-01	-0.109
NP-236	+	94.67		5.074E-01	2.064E-01	2.610E-01	2.236E-02	1.944
		98.44		1.569E-01	8.776E-02	1.386E-01	1.114E-02	1.132
		111.00		-2.336E-02	1.565E-01	2.566E-01	1.724E-02	-0.091
		160.31	*	-6.464E-02	9.206E-02	1.454E-01	7.519E-03	-0.445

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		2.079E-01	1.848E-01	3.085E-01	2.435E-02	0.674
		117.00	*	2.773E-02	2.177E-01	3.604E-01	2.249E-02	0.077
	+	209.75		1.789E+00	1.118E+00	1.586E+00	8.599E-02	1.128
		228.18		5.506E-02	2.810E-01	4.560E-01	2.532E-02	0.121
		277.60		3.117E-01	2.145E-01	3.679E-01	2.139E-02	0.847
		334.30		-1.034E+00	1.712E+00	2.373E+00	1.402E-01	-0.436
AM-241		59.54	*	1.911E-01	2.177E-01	3.361E-01	3.127E-02	0.569
CM-243		99.55		2.140E-01	1.902E-01	3.174E-01	2.506E-02	0.674
		103.76	*	8.531E-02	1.072E-01	1.826E-01	1.353E-02	0.467
		117.00		2.853E-02	2.240E-01	3.708E-01	2.314E-02	0.077
	+	209.75		1.764E+00	1.102E+00	1.564E+00	8.477E-02	1.128
		228.18		5.564E-02	2.839E-01	4.608E-01	2.559E-02	0.121
		277.60		3.142E-01	2.163E-01	3.709E-01	2.156E-02	0.847
AM-246		798.80		-2.533E-01	1.655E-01	2.383E-01	1.735E-02	-1.063
		1036.00		1.726E-01	3.401E-01	5.781E-01	4.456E-02	0.299
		1062.04		3.792E-03	2.481E-01	4.096E-01	3.018E-02	0.009
		1078.86	*	1.915E-02	1.680E-01	2.798E-01	1.997E-02	0.068
CM-247		278.00		1.149E+00	8.401E-01	1.502E+00	8.735E-02	0.765
		287.40		4.035E-01	1.454E+00	2.353E+00	1.376E-01	0.171
		402.60	*	2.989E-02	4.139E-02	7.179E-02	4.161E-03	0.416
CF-249		252.85		5.088E-01	9.804E-01	1.616E+00	9.215E-02	0.315
		333.44		-1.058E-01	2.207E-01	3.090E-01	1.826E-02	-0.343
		387.95	*	-2.628E-02	4.688E-02	7.441E-02	4.305E-03	-0.353
CF-251		176.60	*	4.958E-02	1.431E-01	2.361E-01	1.220E-02	0.210
		227.00		1.475E-01	4.694E-01	7.663E-01	4.248E-02	0.192
		285.00		-1.099E+00	1.925E+00	3.145E+00	1.837E-01	-0.350

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137001      *
* Acquisition date : 20-JAN-2010 13:31:45 Detector SN#     :               *
* Detector ID        : GAM23               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 2.000         *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000        *
* Elapsed real time:    0 02:00:01.59      Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date        :  4-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G244137001           Analyst initials: MXR1          *
* Batch Number       : 940263               Sample Quantity : 1.2044E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
* Standard Weight  :    0.00000                                             *
* CALIB. DATE/TIME :  2-JUN-2009 11:17:00 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.853E+01	2.124E+00	5.832E-01	0.000E+00
NB-95	4.925E-02	5.533E-02	6.825E-02	0.000E+00
CD-109	2.833E+00	1.164E+00	1.441E+00	0.000E+00
SN-126	2.780E-01	1.142E-01	1.423E-01	0.000E+00
TL-208	4.714E-01	9.600E-02	6.854E-02	0.000E+00
BI-211	4.169E+00	5.623E-01	3.336E-01	0.000E+00
PB-212	1.492E+00	1.561E-01	1.080E-01	0.000E+00
PO-212	1.492E+00	1.561E-01	1.080E-01	0.000E+00
BI-214	1.250E+00	1.959E-01	1.246E-01	0.000E+00
PB-214	1.450E+00	2.092E-01	1.163E-01	0.000E+00
PO-214	1.450E+00	2.092E-01	1.163E-01	0.000E+00
PO-216	1.492E+00	1.561E-01	1.080E-01	0.000E+00
PO-218	1.450E+00	2.092E-01	1.163E-01	0.000E+00
RA-224	4.417E+00	1.382E+00	1.229E+00	0.000E+00
RA-226	1.250E+00	1.959E-01	1.246E-01	0.000E+00
AC-228	1.500E+00	3.426E-01	2.015E-01	0.000E+00
RA-228	1.500E+00	3.426E-01	2.015E-01	0.000E+00
TH-228	1.516E+00	1.587E-01	1.098E-01	0.000E+00
TH-230	1.250E+00	1.959E-01	1.246E-01	0.000E+00
TH-232	1.500E+00	3.426E-01	2.015E-01	0.000E+00
TH-234	2.742E+00	2.158E+00	2.946E+00	0.000E+00
U-234	1.250E+00	1.959E-01	1.246E-01	0.000E+00
NP-237	8.165E-01	3.738E-01	4.241E-01	0.000E+00
U-238	2.742E+00	2.158E+00	2.946E+00	0.000E+00
AM-243	4.668E-01	9.913E-02	1.138E-01	0.000E+00
ANH-511	1.238E-01	7.829E-02	5.003E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)		
BE-7	5.132E-01		3.600E-01	6.697E-01	0.000E+00	NOT IDENT.

NA-22	-1.607E-02	5.033E-02	8.059E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.305E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.895E-03	2.913E-02	4.817E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.803E-02	1.001E-01	0.000E+00	FAIL ABUN
SC-46	-3.722E-03	3.943E-02	6.661E-02	0.000E+00	FAIL ABUN
V-48	-1.985E-02	7.343E-02	1.206E-01	0.000E+00	NOT IDENT.
CR-51	-1.458E-01	4.262E-01	7.272E-01	0.000E+00	NOT IDENT.
MN-52	-1.291E-01	2.988E-01	4.574E-01	0.000E+00	NOT IDENT.
MN-54	1.325E-03	4.093E-02	7.035E-02	0.000E+00	NOT IDENT.
CO-56	1.540E-02	4.419E-02	7.796E-02	0.000E+00	NOT IDENT.
CO-57	1.241E-02	2.781E-02	4.883E-02	0.000E+00	NOT IDENT.
CO-58	-5.650E-03	3.983E-02	6.745E-02	0.000E+00	NOT IDENT.
FE-59	-7.641E-02	1.018E-01	1.568E-01	0.000E+00	NOT IDENT.
CO-60	4.681E-03	4.786E-02	8.020E-02	0.000E+00	NOT IDENT.
ZN-65	1.544E-01	1.232E-01	2.051E-01	0.000E+00	NOT IDENT.
GE-68	1.574E-01	1.442E+00	2.454E+00	0.000E+00	NOT IDENT.
AS-73	-4.281E-01	1.190E+00	2.085E+00	0.000E+00	NOT IDENT.
AS-74	3.470E-03	1.060E-01	1.780E-01	0.000E+00	NOT IDENT.
SE-75	-6.880E-02	5.239E-02	8.028E-02	0.000E+00	NOT IDENT.
BR-77	1.008E+01	1.629E+01	2.651E+01	0.000E+00	FAIL ABUN
SR-82	-4.987E-02	4.266E-01	7.275E-01	0.000E+00	NOT IDENT.
RB-83	5.095E-02	8.232E-02	1.340E-01	0.000E+00	NOT IDENT.
RB-84	4.542E-02	7.172E-02	1.301E-01	0.000E+00	NOT IDENT.
KR-85	7.069E+00	7.423E+00	1.340E+01	0.000E+00	NOT IDENT.
SR-85	3.661E-02	3.844E-02	6.938E-02	0.000E+00	NOT IDENT.
RB-86	2.792E-01	9.433E-01	1.634E+00	0.000E+00	NOT IDENT.
Y-88	6.107E-03	3.291E-02	5.754E-02	0.000E+00	NOT IDENT.
ZR-88	1.275E-02	3.356E-02	5.906E-02	0.000E+00	NOT IDENT.
Y-91	1.610E+01	2.114E+01	3.783E+01	0.000E+00	NOT IDENT.
NB-94	1.680E-02	3.828E-02	6.580E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.931E-01	3.200E-01	0.000E+00	NOT IDENT.
ZR-95	-2.817E-02	8.569E-02	1.369E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.000E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	6.050E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.265E+01	1.631E+01	2.463E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.050E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.294E-02	3.870E-02	6.361E-02	0.000E+00	FAIL ABUN
RH-102	-1.043E-02	3.240E-02	5.377E-02	0.000E+00	FAIL ABUN
RU-103	-5.256E-03	4.746E-02	7.900E-02	0.000E+00	FAIL ABUN
RH-106	1.710E-02	3.317E-01	5.569E-01	0.000E+00	FAIL ABUN
RU-106	1.710E-02	3.317E-01	5.569E-01	0.000E+00	FAIL ABUN
AG-108M	2.242E-02	3.594E-02	6.395E-02	0.000E+00	NOT IDENT.
AG-110M	-1.080E-02	4.329E-02	7.034E-02	0.000E+00	NOT IDENT.
IN-111	1.326E+00	1.628E+00	2.513E+00	0.000E+00	NOT IDENT.
IN-113M	-1.872E-02	4.840E-02	8.113E-02	0.000E+00	NOT IDENT.
SN-113	-1.872E-02	4.840E-02	8.113E-02	0.000E+00	NOT IDENT.
IN-114M	7.264E-02	2.232E-01	3.367E-01	0.000E+00	NOT IDENT.
CD-115	1.024E+01	1.584E+01	2.808E+01	0.000E+00	NOT IDENT.
SN-117M	3.684E-03	6.440E-02	1.100E-01	0.000E+00	NOT IDENT.
SB-122	-2.170E+00	3.022E+00	4.788E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.151E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.098E-03	3.220E-02	5.473E-02	0.000E+00	NOT IDENT.
I-124	7.855E-02	1.019E+00	1.478E+00	0.000E+00	FAIL ABUN
SB-124	7.080E-03	7.403E-02	1.275E-01	0.000E+00	FAIL ABUN
SB-125	-8.871E-02	9.847E-02	1.573E-01	0.000E+00	FAIL ABUN
TE-125M	-5.091E+00	1.034E+01	1.755E+01	0.000E+00	NOT IDENT.
I-126	-1.774E-03	2.295E-01	3.815E-01	0.000E+00	NOT IDENT.
SB-126	-5.774E-02	1.952E-01	2.669E-01	0.000E+00	FAIL ABUN
SB-127	2.194E-01	1.817E+00	3.048E+00	0.000E+00	FAIL ABUN
XE-127	-3.772E-02	5.700E-02	8.951E-02	0.000E+00	NOT IDENT.
I-131	-4.044E-02	1.288E-01	2.178E-01	0.000E+00	NOT IDENT.
TE-132	2.141E-01	1.030E+00	1.741E+00	0.000E+00	NOT IDENT.
BA-133	-1.653E-02	4.984E-02	7.252E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.452E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.623E-02	5.234E-02	9.220E-02	0.000E+00	NOT IDENT.
CS-135	2.888E-01	1.883E-01	3.347E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.086E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.628E-02	1.160E-01	1.886E-01	0.000E+00	FAIL ABUN
BA-137M	-3.107E-02	4.322E-02	6.758E-02	0.000E+00	NOT IDENT.
CS-137	-3.285E-02	4.568E-02	7.144E-02	0.000E+00	NOT IDENT.
CE-139	-9.853E-03	3.430E-02	5.763E-02	0.000E+00	NOT IDENT.
BA-140	1.689E-01	2.816E-01	4.902E-01	0.000E+00	NOT IDENT.
LA-140	-5.738E-02	8.971E-02	1.346E-01	0.000E+00	NOT IDENT.
CE-141	-8.684E-05	7.209E-02	1.209E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	5.933E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-2.340E-02	2.626E-01	3.934E-01	0.000E+00	NOT IDENT.
PM-144	3.745E-03	3.971E-02	6.637E-02	0.000E+00	NOT IDENT.
PR-144	2.539E-01	2.692E+00	4.499E+00	0.000E+00	NOT IDENT.

PM-146	-2.076E-03	5.081E-02	8.638E-02	0.000E+00	NOT IDENT.
ND-147	-3.138E-01	6.632E-01	1.075E+00	0.000E+00	FAIL ABUN
PM-149	1.516E+01	1.325E+02	2.331E+02	0.000E+00	NOT IDENT.
EU-152	-6.080E-02	1.388E-01	1.740E-01	0.000E+00	NOT IDENT.
GD-153	1.431E-01	9.654E-02	1.583E-01	0.000E+00	FAIL ABUN
EU-154	-4.629E-02	1.404E-01	2.244E-01	0.000E+00	NOT IDENT.
EU-155	1.528E-01	1.172E-01	2.128E-01	0.000E+00	FAIL ABUN
TB-160	1.193E-01	1.414E-01	2.612E-01	0.000E+00	FAIL ABUN
HO-166M	-5.773E-03	6.391E-02	1.049E-01	0.000E+00	FAIL ABUN
TM-171	-2.131E+00	4.012E+01	6.203E+01	0.000E+00	NOT IDENT.
LU-176	2.397E-02	2.715E-02	4.942E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.704E+00	2.527E+00	0.000E+00	FAIL ABUN
LU-177M	-3.187E-01	2.037E-01	3.122E-01	0.000E+00	FAIL ABUN
HF-181	-2.408E-02	4.713E-02	7.690E-02	0.000E+00	NOT IDENT.
W-181	-1.390E-01	5.390E-01	8.260E-01	0.000E+00	NOT IDENT.
TA-182	-2.276E-01	2.387E-01	3.616E-01	0.000E+00	NOT IDENT.
RE-183	-2.065E-02	1.259E-01	2.130E-01	0.000E+00	FAIL ABUN
RE-184	1.361E-01	2.570E-01	4.406E-01	0.000E+00	NOT IDENT.
OS-185	-2.744E-02	4.079E-02	6.297E-02	0.000E+00	FAIL ABUN
RE-188	1.407E-01	1.945E-01	3.414E-01	0.000E+00	NOT IDENT.
W-188	-2.082E+00	9.266E+00	1.359E+01	0.000E+00	FAIL ABUN
IR-192	2.754E-02	3.900E-02	7.031E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	2.674E-01	4.654E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	8.753E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-4.359E+00	9.800E+00	1.634E+01	0.000E+00	NOT IDENT.
TL-202	-6.115E-02	8.053E-02	1.300E-01	0.000E+00	NOT IDENT.
HG-203	7.749E-03	4.575E-02	8.076E-02	0.000E+00	FAIL ABUN
BI-207	-2.381E-02	5.768E-02	9.287E-02	0.000E+00	FAIL ABUN
TL-207	-8.115E-01	7.788E-01	1.260E+00	0.000E+00	FAIL ABUN
PO-209	-2.958E+00	8.100E+00	1.331E+01	0.000E+00	NOT IDENT.
BI-210	-2.384E+00	6.151E+00	1.045E+01	0.000E+00	NOT IDENT.
PB-210	-2.384E+00	6.151E+00	1.045E+01	0.000E+00	NOT IDENT.
PO-210	-2.384E+00	6.150E+00	1.045E+01	0.000E+00	NOT IDENT.
PB-211	-1.289E+00	1.306E+00	1.645E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.315E-01	6.971E-01	0.000E+00	FAIL ABUN
PO-215	-8.115E-01	7.788E-01	1.260E+00	0.000E+00	FAIL ABUN
RN-219	3.485E-01	4.494E-01	8.049E-01	0.000E+00	NOT IDENT.
RN-220	2.809E+01	3.071E+01	5.513E+01	0.000E+00	NOT IDENT.
RA-223	-8.115E-01	7.788E-01	1.260E+00	0.000E+00	FAIL ABUN
AC-227	-2.510E-01	4.343E-01	6.969E-01	0.000E+00	FAIL ABUN
TH-227	-2.510E-01	4.349E-01	6.969E-01	0.000E+00	FAIL ABUN
TH-229	2.871E-01	5.662E-01	9.465E-01	0.000E+00	FAIL ABUN
PA-231	5.059E-02	1.630E+00	2.858E+00	0.000E+00	NOT IDENT.
TH-231	-8.115E-01	7.788E-01	1.260E+00	0.000E+00	FAIL ABUN
U-231	-1.538E+00	1.615E+00	2.341E+00	0.000E+00	FAIL ABUN
PA-233	-1.595E-02	7.175E-02	1.235E-01	0.000E+00	FAIL ABUN
PA-234	7.314E-02	3.193E-01	5.547E-01	0.000E+00	FAIL ABUN
PA-234M	7.379E-01	4.903E+00	8.261E+00	0.000E+00	FAIL ABUN
U-235	-1.118E-01	2.378E-01	3.903E-01	0.000E+00	FAIL ABUN
NP-236	-6.464E-02	9.022E-02	1.489E-01	0.000E+00	FAIL ABUN
NP-239	2.773E-02	2.134E-01	3.705E-01	0.000E+00	FAIL ABUN
AM-241	1.911E-01	2.133E-01	3.483E-01	0.000E+00	NOT IDENT.
CM-243	8.531E-02	1.051E-01	1.880E-01	0.000E+00	FAIL ABUN
AM-246	1.915E-02	1.646E-01	2.802E-01	0.000E+00	NOT IDENT.
CM-247	2.989E-02	4.056E-02	7.275E-02	0.000E+00	NOT IDENT.
CF-249	-2.628E-02	4.595E-02	7.543E-02	0.000E+00	NOT IDENT.
CF-251	4.958E-02	1.403E-01	2.416E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 21-JAN-2010 11:56:33.92

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137001.CNF;1
Sample date       : 4-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:31:45
Sample ID         : G244137001           Sample quantity  : 1.20440E+02 GRAM
Detector name     : GAM23                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.59  0.0%
Energy tolerance : 2.00000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 940263                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	633	10.67*	9.975E-01	1.853E+01	1.853E+01	11.70
NB-95	765.79	24	99.81*	1.786E+00	4.137E-02	4.925E-02	114.64
CD-109	88.03	171	3.72*	5.191E+00	2.765E+00	2.833E+00	41.92
SN-126	64.28	85	9.60	2.539E+00	1.085E+00	1.085E+00	79.73
	86.94	171	8.90	5.191E+00	1.156E+00	1.156E+00	58.25
	87.57	171	37.00*	5.191E+00	2.780E-01	2.780E-01	41.92
TL-208	277.35	------	6.80	4.140E+00	------ Line Not Found		------
	510.84	101	21.60	2.546E+00	5.733E-01	5.733E-01	65.04
	583.14	290	84.20*	2.279E+00	4.714E-01	4.714E-01	20.78
	860.37	51	12.46	1.610E+00	7.849E-01	7.849E-01	59.14
BI-211	72.87	400	1.27	4.050E+00	2.426E+01	2.426E+01	21.67
	351.07	596	12.94*	3.442E+00	4.169E+00	4.169E+00	13.76
PB-212	74.81	400	10.70	4.050E+00	2.879E+00	2.879E+00	23.60
	77.11	561	18.00	4.289E+00	2.263E+00	2.263E+00	16.62
	87.30	171	8.00	5.191E+00	1.286E+00	1.286E+00	43.09
	238.63	990	44.60*	4.638E+00	1.492E+00	1.492E+00	10.68
	300.09	62	3.41	3.907E+00	1.458E+00	1.458E+00	81.36
PO-212	74.81	400	10.70	4.050E+00	2.879E+00	2.879E+00	23.60
	77.11	561	18.00	4.289E+00	2.263E+00	2.263E+00	16.62
	87.30	171	8.00	5.191E+00	1.286E+00	1.286E+00	43.09
	115.19	------	0.60	6.293E+00	------ Line Not Found		------
	238.63	990	44.60*	4.638E+00	1.492E+00	1.492E+00	10.68
	300.09	62	3.41	3.907E+00	1.458E+00	1.458E+00	81.36
BI-214	609.31	408	46.30*	2.194E+00	1.250E+00	1.250E+00	15.98
	1120.29	79	15.10	1.259E+00	1.302E+00	1.302E+00	40.86
	1764.49	72	15.80	8.744E-01	1.615E+00	1.615E+00	34.01
PB-214	74.81	400	6.21	4.050E+00	4.961E+00	4.961E+00	22.90
	77.11	561	10.50	4.289E+00	3.880E+00	3.880E+00	18.28
	87.30	171	4.67	5.191E+00	2.203E+00	2.203E+00	42.62
	241.98	257	7.49	4.597E+00	2.329E+00	2.329E+00	32.43
	295.21	363	19.20	3.950E+00	1.491E+00	1.491E+00	16.71
	351.92	596	37.20*	3.442E+00	1.450E+00	1.450E+00	14.72

Sample ID : G244137001 Acquisition date : 20-JAN-2010 13:31:45

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	74.81	400	6.21	4.050E+00	4.961E+00	4.961E+00	22.90
	77.11	561	10.50	4.289E+00	3.880E+00	3.880E+00	18.28
	87.30	171	4.67	5.191E+00	2.203E+00	2.203E+00	42.62
	241.98	257	7.49	4.597E+00	2.329E+00	2.329E+00	32.43
	295.21	363	19.20	3.950E+00	1.491E+00	1.491E+00	16.71
	351.92	596	37.20*	3.442E+00	1.450E+00	1.450E+00	14.72
PO-216	74.81	400	10.70	4.050E+00	2.879E+00	2.879E+00	23.60
	77.11	561	18.00	4.289E+00	2.263E+00	2.263E+00	16.62
	87.30	171	8.00	5.191E+00	1.286E+00	1.286E+00	43.09
	238.63	990	44.60*	4.638E+00	1.492E+00	1.492E+00	10.68
	300.09	62	3.41	3.907E+00	1.458E+00	1.458E+00	81.36
PO-218	74.81	400	6.21	4.050E+00	4.961E+00	4.961E+00	22.90
	77.11	561	10.50	4.289E+00	3.880E+00	3.880E+00	18.28
	87.30	171	4.67	5.191E+00	2.203E+00	2.203E+00	42.62
	241.98	257	7.49	4.597E+00	2.329E+00	2.329E+00	32.43
	295.21	363	19.20	3.950E+00	1.491E+00	1.491E+00	16.71
	351.92	596	37.20*	3.442E+00	1.450E+00	1.450E+00	14.72
RA-224	240.98	257	3.95*	4.597E+00	4.417E+00	4.417E+00	31.94
RA-226	609.31	408	46.30*	2.194E+00	1.250E+00	1.250E+00	15.98
	1120.29	79	15.10	1.259E+00	1.302E+00	1.302E+00	40.86
	1764.49	72	15.80	8.744E-01	1.615E+00	1.615E+00	34.01
AC-228	338.32	211	11.40	3.551E+00	1.628E+00	1.628E+00	49.81
	911.07	204	27.70*	1.527E+00	1.500E+00	1.500E+00	23.30
	969.11	42	16.60	1.441E+00	5.480E-01	5.480E-01	109.52
RA-228	338.32	211	11.40	3.551E+00	1.628E+00	1.628E+00	49.81
	911.07	204	27.70*	1.527E+00	1.500E+00	1.500E+00	23.30
	969.11	42	16.60	1.441E+00	5.480E-01	5.480E-01	109.52
TH-228	74.81	400	10.70	4.050E+00	2.879E+00	2.926E+00	21.70
	77.11	561	18.00	4.289E+00	2.263E+00	2.300E+00	16.62
	87.30	171	8.00	5.191E+00	1.286E+00	1.307E+00	41.92
	238.63	990	44.60*	4.638E+00	1.492E+00	1.516E+00	10.68
	300.09	62	3.41	3.907E+00	1.458E+00	1.481E+00	100.13
TH-230	609.31	408	46.30*	2.194E+00	1.250E+00	1.250E+00	15.98
	1120.29	79	15.10	1.259E+00	1.302E+00	1.302E+00	40.86
	1764.49	72	15.80	8.744E-01	1.615E+00	1.615E+00	34.01
TH-232	338.32	211	11.40	3.551E+00	1.628E+00	1.628E+00	29.20
	911.07	204	27.70*	1.527E+00	1.500E+00	1.500E+00	23.30
	969.11	42	16.60	1.441E+00	5.480E-01	5.480E-01	109.52
TH-234	63.29	85	3.80*	2.539E+00	2.742E+00	2.742E+00	80.31
	92.38	188	5.41	5.586E+00	1.942E+00	1.942E+00	43.67
U-234	609.31	408	46.30*	2.194E+00	1.250E+00	1.250E+00	15.98
	1120.29	79	15.10	1.259E+00	1.302E+00	1.302E+00	40.86
	1764.49	72	15.80	8.744E-01	1.615E+00	1.615E+00	34.01
NP-237	86.50	171	12.60*	5.191E+00	8.165E-01	8.165E-01	46.72
	95.87	------	2.60	5.757E+00	------ Line Not Found		------
U-238	63.29	85	3.80*	2.539E+00	2.742E+00	2.742E+00	80.31
	92.38	188	5.41	5.586E+00	1.942E+00	1.942E+00	40.67
AM-243	74.67	400	66.00*	4.050E+00	4.668E-01	4.668E-01	21.67
	86.72	171	0.34	5.191E+00	3.062E+01	3.062E+01	41.92

Sample ID : G244137001 Acquisition date : 20-JAN-2010 13:31:45

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	117.66	------	0.55	6.314E+00	------	Line Not Found	------
	142.18	------	0.13	6.209E+00	------	Line Not Found	------
ANH-511	511.00	101	100.00*	2.546E+00	1.238E-01	1.238E-01	64.51

Flag: "*" = Keyline

Sample ID : G244137001 Acquisition date : 20-JAN-2010 13:31:45

Total number of lines in spectrum 29
Number of unidentified lines 0
Number of lines tentatively identified by NID 29 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.853E+01	1.853E+01	0.217E+01	11.70	
NB-95	64.02D	1.19	4.137E-02	4.925E-02	5.646E-02	114.64	
CD-109	464.00D	1.02	2.765E+00	2.833E+00	1.187E+00	41.92	
SN-126	1.00E+05Y	1.00	2.780E-01	2.780E-01	1.165E-01	41.92	
TL-208	1.41E+10Y	1.00	4.714E-01	4.714E-01	0.980E-01	20.78	
BI-211	7.04E+08Y	1.00	4.169E+00	4.169E+00	0.574E+00	13.76	
PB-212	1.41E+10Y	1.00	1.492E+00	1.492E+00	0.159E+00	10.68	
PO-212	1.41E+10Y	1.00	1.492E+00	1.492E+00	0.159E+00	10.68	
BI-214	1600.00Y	1.00	1.250E+00	1.250E+00	0.200E+00	15.98	
PB-214	1600.00Y	1.00	1.450E+00	1.450E+00	0.213E+00	14.72	
PO-214	1600.00Y	1.00	1.450E+00	1.450E+00	0.213E+00	14.72	
PO-216	1.41E+10Y	1.00	1.492E+00	1.492E+00	0.159E+00	10.68	
PO-218	1600.00Y	1.00	1.450E+00	1.450E+00	0.213E+00	14.72	
RA-224	1.41E+10Y	1.00	4.417E+00	4.417E+00	1.411E+00	31.94	
RA-226	1600.00Y	1.00	1.250E+00	1.250E+00	0.200E+00	15.98	
AC-228	1.41E+10Y	1.00	1.500E+00	1.500E+00	0.350E+00	23.30	
RA-228	1.41E+10Y	1.00	1.500E+00	1.500E+00	0.350E+00	23.30	
TH-228	1.91Y	1.02	1.492E+00	1.516E+00	0.162E+00	10.68	
TH-230	4.47E+09Y	1.00	1.250E+00	1.250E+00	0.200E+00	15.98	
TH-232	1.41E+10Y	1.00	1.500E+00	1.500E+00	0.350E+00	23.30	
TH-234	4.47E+09Y	1.00	2.742E+00	2.742E+00	2.202E+00	80.31	
U-234	4.47E+09Y	1.00	1.250E+00	1.250E+00	0.200E+00	15.98	
NP-237	2.14E+06Y	1.00	8.165E-01	8.165E-01	3.814E-01	46.72	
U-238	4.47E+09Y	1.00	2.742E+00	2.742E+00	2.202E+00	80.31	
AM-243	7380.00Y	1.00	4.668E-01	4.668E-01	1.012E-01	21.67	
ANH-511	1.00E+09Y	1.00	1.238E-01	1.238E-01	0.799E-01	64.51	
	Total Activity :		5.738E+01	5.748E+01			

Grand Total Activity : 5.738E+01 5.748E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G244137001 Acquisition date : 20-JAN-2010 13:31:45

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	83.96	55	365	1.25	167.92	163	29	7.68E-03	****	4.97E+00	T
2	89.74	133	308	1.16	179.49	163	29	1.85E-02	47.8	5.40E+00	T
0	128.40	73	296	0.76	256.80	253	9	1.02E-02	87.4	6.33E+00	T
0	186.10	150	411	1.42	372.19	367	13	2.08E-02	59.9	5.48E+00	T
0	208.95	95	237	0.96	417.90	414	9	1.31E-02	62.3	5.09E+00	T
0	462.44	71	73	0.89	924.87	920	10	9.89E-03	50.6	2.76E+00	T
0	726.71	65	67	1.61	1453.42	1445	14	9.09E-03	58.4	1.88E+00	T
0	1376.41	44	13	1.71	2752.81	2746	14	6.07E-03	47.1	1.05E+00	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 21-JAN-2010 11:56:39.46

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*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
*                                                                           *
*                                DETECTOR DATA                              *
*                                                                           *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137001.CNF;1 *
* Acquisition date  : 20-JAN-2010 13:31:45  Detector SN#     :             *
* Detector ID       : GAM23                 Sensitivity      : 5.00000     *
* Geometry          : CAN                   Energy tolerance: 2.00000      *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000     *
* Elapsed real time: 0 02:00:01.59          Half life ratio : 8.00000      *
*****************************************************************************
*                                                                           *
*                                SAMPLE DATA                                *
*                                                                           *
* Sample date       : 4-JAN-2010 12:00:00.  Nuclide Library : SOLID        *
* Sample ID         : G244137001            Analyst initials: MXR1         *
* Batch Number      : 940263                Sample Quantity : 1.20440E+02 GRAM *
*****************************************************************************
*                                                                           *
*                                  QC DATA                                  *
*                                                                           *
* CALIB. DATE/TIME : 2-JUN-2009 11:17:00.62MS Isotope      :                *
* MSD ID           :                      MSD Isotope     :                *
* LCS ID           : 1032-A               LCS Isotope     :                *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.853E+01	2.167E+00	5.846E-01	4.373E-02	31.692
NB-95	4.925E-02	5.646E-02	6.787E-02	4.561E-03	0.726
CD-109	2.833E+00	1.187E+00	1.397E+00	1.364E-01	2.028
SN-126	2.780E-01	1.165E-01	1.379E-01	1.342E-02	2.016
TL-208	4.714E-01	9.796E-02	6.794E-02	4.411E-03	6.938
BI-211	4.169E+00	5.738E-01	3.286E-01	2.141E-02	12.687
PB-212	1.492E+00	1.593E-01	1.060E-01	7.618E-03	14.082
PO-212	1.492E+00	1.593E-01	1.060E-01	7.618E-03	14.082
BI-214	1.250E+00	1.999E-01	1.235E-01	9.288E-03	10.121
PB-214	1.450E+00	2.135E-01	1.146E-01	9.562E-03	12.661
PO-214	1.450E+00	2.135E-01	1.146E-01	9.562E-03	12.661
PO-216	1.492E+00	1.593E-01	1.060E-01	7.618E-03	14.082
PO-218	1.450E+00	2.135E-01	1.146E-01	9.562E-03	12.661
RA-224	4.417E+00	1.411E+00	1.206E+00	6.794E-02	3.662
RA-226	1.250E+00	1.999E-01	1.235E-01	9.288E-03	10.121
AC-228	1.500E+00	3.496E-01	2.008E-01	2.317E-02	7.471
RA-228	1.500E+00	3.496E-01	2.008E-01	2.317E-02	7.471
TH-228	1.516E+00	1.619E-01	1.077E-01	7.741E-03	14.082

Sample ID : G244137001 Acquisition date : 20-JAN-2010 13:31:45

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.250E+00	1.999E-01	1.235E-01	9.288E-03	10.121
TH-232	1.500E+00	3.496E-01	2.008E-01	2.317E-02	7.471
TH-234	2.742E+00	2.202E+00	2.845E+00	5.127E-01	0.964
U-234	1.250E+00	1.999E-01	1.235E-01	9.288E-03	10.121
NP-237	8.165E-01	3.814E-01	4.110E-01	9.360E-02	1.987
U-238	2.742E+00	2.202E+00	2.845E+00	5.127E-01	0.964
AM-243	4.668E-01	1.012E-01	1.101E-01	9.788E-03	4.238
ANH-511	1.238E-01	7.988E-02	4.952E-02	2.876E-03	2.501

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	5.132E-01		3.674E-01	6.622E-01	4.500E-02	0.775
NA-22	-1.607E-02		5.136E-02	8.064E-02	5.415E-03	-0.199
NA-24	7.646E-01		1.176E+00	Half-Life too short		
AL-26	-1.895E-03		2.972E-02	4.841E-02	2.910E-03	-0.039
TI-44	4.177E-01	+	6.942E-02	9.695E-02	8.789E-03	4.308
SC-46	-3.722E-03		4.023E-02	6.636E-02	5.929E-03	-0.056
V-48	-1.985E-02		7.493E-02	1.203E-01	1.000E-02	-0.165
CR-51	-1.458E-01		4.349E-01	7.157E-01	4.693E-02	-0.204
MN-52	-1.291E-01		3.049E-01	4.583E-01	3.316E-02	-0.282
MN-54	1.325E-03		4.177E-02	7.003E-02	5.545E-03	0.019
CO-56	1.540E-02		4.509E-02	7.762E-02	6.315E-03	0.198
CO-57	1.241E-02		2.838E-02	4.751E-02	2.801E-03	0.261
CO-58	-5.650E-03		4.064E-02	6.712E-02	5.043E-03	-0.084
FE-59	-7.641E-02		1.039E-01	1.566E-01	1.207E-02	-0.488
CO-60	4.681E-03		4.884E-02	8.030E-02	5.895E-03	0.058
ZN-65	1.544E-01		1.257E-01	2.049E-01	1.353E-02	0.753
GE-68	1.574E-01		1.472E+00	2.451E+00	1.754E-01	0.064
AS-73	-4.281E-01		1.214E+00	2.010E+00	1.774E-01	-0.213
AS-74	3.470E-03		1.081E-01	1.765E-01	9.735E-03	0.020
SE-75	-6.880E-02		5.346E-02	7.882E-02	4.588E-03	-0.873
BR-77	1.008E+01		1.662E+01	2.624E+01	1.519E+00	0.384
SR-82	-4.987E-02		4.353E-01	7.236E-01	4.992E-02	-0.069
RB-83	5.095E-02		8.400E-02	1.326E-01	7.678E-03	0.384
RB-84	4.542E-02		7.319E-02	1.296E-01	1.139E-02	0.350
KR-85	7.069E+00		7.575E+00	1.326E+01	7.694E-01	0.533
SR-85	3.661E-02		3.923E-02	6.867E-02	3.985E-03	0.533
RB-86	2.792E-01		9.626E-01	1.631E+00	1.169E-01	0.171
Y-88	6.107E-03		3.358E-02	5.783E-02	3.405E-03	0.106
ZR-88	1.275E-02		3.425E-02	5.827E-02	3.364E-03	0.219
Y-91	1.610E+01		2.158E+01	3.782E+01	2.257E+00	0.426
NB-94	1.680E-02		3.906E-02	6.536E-02	3.735E-03	0.257
NB-95M	5.949E-01		1.971E-01	3.138E-01	2.315E-02	1.896
ZR-95	-2.817E-02		8.744E-02	1.362E-01	1.045E-02	-0.207
NB-97	-3.327E-02		1.531E-01	Half-Life too short		
ZR-97	1.566E+01		3.087E+00	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	-1.265E+01		1.664E+01	2.449E+01	3.427E+00	-0.517
TC-99M	-4.863E+11		3.087E+11	Half-Life too short		
RH-101	-1.294E-02		3.949E-02	6.224E-02	3.318E-03	-0.208
RH-102	-1.043E-02		3.306E-02	5.316E-02	3.112E-03	-0.196
RU-103	-5.256E-03		4.842E-02	7.815E-02	9.894E-03	-0.067
RH-106	1.710E-02		3.385E-01	5.524E-01	6.370E-02	0.031
RU-106	1.710E-02		3.385E-01	5.524E-01	2.968E-02	0.031
AG-108M	2.242E-02		3.667E-02	6.316E-02	4.004E-03	0.355
AG-110M	-1.080E-02		4.418E-02	6.982E-02	3.880E-03	-0.155
IN-111	1.326E+00		1.661E+00	2.465E+00	1.395E-01	0.538
IN-113M	-1.872E-02		4.939E-02	8.003E-02	4.931E-03	-0.234
SN-113	-1.872E-02		4.939E-02	8.003E-02	4.931E-03	-0.234
IN-114M	7.264E-02		2.278E-01	3.293E-01	1.736E-02	0.221
CD-115	1.024E+01		1.616E+01	2.780E+01	1.604E+00	0.368
SN-117M	3.684E-03		6.571E-02	1.074E-01	5.581E-03	0.034
SB-122	-2.170E+00		3.083E+00	4.744E+00	2.683E-01	-0.457
I-123	-1.401E+00		1.098E+01	Half-Life too short		
TE-123M	-2.098E-03		3.286E-02	5.342E-02	2.819E-03	-0.039
I-124	7.855E-02		1.040E+00	1.466E+00	8.034E-02	0.054
SB-124	7.080E-03		7.554E-02	1.281E-01	8.928E-03	0.055
SB-125	-8.871E-02		1.005E-01	1.554E-01	9.451E-03	-0.571
TE-125M	-5.091E+00		1.055E+01	1.706E+01	1.522E+00	-0.298
I-126	-1.774E-03		2.342E-01	3.788E-01	1.960E-02	-0.005
SB-126	-5.774E-02		1.992E-01	2.653E-01	1.589E-02	-0.218
SB-127	2.194E-01		1.854E+00	3.027E+00	2.895E-01	0.072
XE-127	-3.772E-02		5.816E-02	8.761E-02	4.703E-03	-0.431
I-131	-4.044E-02		1.315E-01	2.147E-01	1.405E-02	-0.188
TE-132	2.141E-01		1.051E+00	1.706E+00	2.468E-01	0.125
BA-133	-1.653E-02		5.085E-02	7.145E-02	8.290E-03	-0.231
I-133	-9.791E-03		7.407E-03	Half-Life too short		
CS-134	1.623E-02		5.341E-02	9.173E-02	6.699E-03	0.177
CS-135	2.888E-01		1.921E-01	3.287E-01	2.511E-02	0.879
I-135	2.218E+10		3.105E+10	Half-Life too short		
CS-136	-3.628E-02		1.183E-01	1.883E-01	1.500E-02	-0.193
BA-137M	-3.107E-02		4.410E-02	6.709E-02	3.427E-03	-0.463
CS-137	-3.285E-02		4.662E-02	7.092E-02	3.643E-03	-0.463
CE-139	-9.853E-03		3.500E-02	5.628E-02	2.869E-03	-0.175
BA-140	1.689E-01		2.873E-01	4.854E-01	1.578E-01	0.348
LA-140	-5.738E-02		9.154E-02	1.350E-01	9.264E-03	-0.425
CE-141	-8.684E-05		7.356E-02	1.179E-01	6.647E-03	-0.001
CE-143	2.289E-03	+	3.027E-04	Half-Life too short		
CE-144	-2.340E-02		2.680E-01	3.832E-01	5.412E-02	-0.061
PM-144	3.745E-03		4.052E-02	6.592E-02	3.709E-03	0.057
PR-144	2.539E-01		2.747E+00	4.469E+00	2.512E-01	0.057
PM-146	-2.076E-03		5.185E-02	8.536E-02	7.393E-03	-0.024
ND-147	-3.138E-01		6.767E-01	1.064E+00	1.437E-01	-0.295
PM-149	1.516E+01		1.352E+02	2.291E+02	3.252E+01	0.066
EU-152	-6.080E-02		1.416E-01	1.714E-01	1.136E-02	-0.355

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	1.431E-01		9.851E-02	1.536E-01	1.255E-02	0.931
EU-154	-4.629E-02		1.433E-01	2.246E-01	2.230E-02	-0.206
EU-155	1.528E-01		1.196E-01	2.067E-01	1.524E-02	0.739
TB-160	1.193E-01		1.443E-01	2.602E-01	2.276E-02	0.458
HO-166M	-5.773E-03		6.521E-02	1.042E-01	6.098E-03	-0.055
TM-171	-2.131E+00		4.094E+01	5.994E+01	5.213E+00	-0.036
LU-176	2.397E-02		2.771E-02	4.861E-02	2.864E-03	0.493
LU-177	2.781E+00	+	1.739E+00	2.474E+00	1.338E-01	1.124
LU-177M	-3.187E-01		2.078E-01	3.082E-01	1.793E-02	-1.034
HF-181	-2.408E-02		4.809E-02	7.605E-02	4.448E-03	-0.317
W-181	-1.390E-01		5.500E-01	7.980E-01	6.932E-02	-0.174
TA-182	-2.276E-01		2.436E-01	3.616E-01	2.220E-02	-0.629
RE-183	-2.065E-02		1.285E-01	2.079E-01	1.070E-02	-0.099
RE-184	1.361E-01		2.623E-01	4.324E-01	2.465E-02	0.315
OS-185	-2.744E-02		4.162E-02	6.249E-02	3.261E-03	-0.439
RE-188	1.407E-01		1.985E-01	3.332E-01	1.748E-02	0.422
W-188	-2.082E+00		9.455E+00	1.336E+01	7.824E-01	-0.156
IR-192	2.754E-02		3.980E-02	6.918E-02	4.104E-03	0.398
AU-195	5.247E-01		2.729E-01	4.518E-01	3.604E-02	1.161
TL-200	-4.772E-04		4.466E-04	Half-Life too short		
TL-201	-4.359E+00		1.000E+01	1.596E+01	8.144E-01	-0.273
TL-202	-6.115E-02		8.217E-02	1.284E-01	7.515E-03	-0.476
HG-203	7.749E-03		4.669E-02	7.935E-02	4.902E-03	0.098
BI-207	-2.381E-02		5.886E-02	9.272E-02	6.812E-03	-0.257
TL-207	-8.115E-01		7.947E-01	1.241E+00	2.054E-01	-0.654
PO-209	-2.958E+00		8.266E+00	1.326E+01	1.204E+00	-0.223
BI-210	-2.384E+00		6.277E+00	1.006E+01	7.834E-01	-0.237
PB-210	-2.384E+00		6.277E+00	1.006E+01	7.834E-01	-0.237
PO-210	-2.384E+00		6.276E+00	1.006E+01	6.750E-01	-0.237
PB-211	-1.289E+00		1.333E+00	1.623E+00	1.012E+00	-0.795
BI-212	9.208E-01	+	5.424E-01	6.928E-01	5.499E-02	1.329
PO-215	-8.115E-01		7.947E-01	1.241E+00	2.054E-01	-0.654
RN-219	3.485E-01		4.586E-01	7.942E-01	1.080E-01	0.439
RN-220	2.809E+01		3.134E+01	5.460E+01	3.116E+00	0.514
RA-223	-8.115E-01		7.947E-01	1.241E+00	2.054E-01	-0.654
AC-227	-2.510E-01		4.432E-01	6.840E-01	9.526E-02	-0.367
TH-227	-2.510E-01		4.438E-01	6.840E-01	1.154E-01	-0.367
TH-229	2.871E-01		5.778E-01	9.259E-01	4.905E-02	0.310
PA-231	5.059E-02		1.664E+00	2.808E+00	3.874E-01	0.018
TH-231	-8.115E-01		7.947E-01	1.241E+00	2.054E-01	-0.654
U-231	-1.538E+00		1.648E+00	2.272E+00	1.906E-01	-0.677
PA-233	-1.595E-02		7.322E-02	1.215E-01	7.594E-03	-0.131
PA-234	7.314E-02		3.259E-01	5.530E-01	1.040E-01	0.132
PA-234M	7.379E-01		5.003E+00	8.242E+00	7.864E-01	0.090
U-235	-1.118E-01		2.427E-01	3.805E-01	6.153E-02	-0.294
NP-236	-6.464E-02		9.206E-02	1.454E-01	7.519E-03	-0.445
NP-239	2.773E-02		2.177E-01	3.604E-01	2.249E-02	0.077
AM-241	1.911E-01		2.177E-01	3.361E-01	3.127E-02	0.569

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	8.531E-02		1.072E-01	1.826E-01	1.353E-02	0.467
AM-246	1.915E-02		1.680E-01	2.798E-01	1.997E-02	0.068
CM-247	2.989E-02		4.139E-02	7.179E-02	4.161E-03	0.416
CF-249	-2.628E-02		4.688E-02	7.441E-02	4.305E-03	-0.353
CF-251	4.958E-02		1.431E-01	2.361E-01	1.220E-02	0.210

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G244137001           *
* Acquisition date  : 20-JAN-2010 13:31:45 Detector SN#     :               *
* Detector ID       : GAM23                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 2.000          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.59      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date       :  4-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G244137001           Analyst initials: MXR1           *
* Batch Number      : 940263               Sample Quantity : 1.2044E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
*                                                                           *
* CALIB. DATE/TIME :  2-JUN-2009 11:17:00 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.853E+01	2.124E+00	2.918E-01	1.084E+00
NB-95	4.925E-02	5.533E-02	3.414E-02	2.823E-02
CD-109	2.833E+00	1.164E+00	7.208E-01	5.937E-01
SN-126	2.780E-01	1.142E-01	7.118E-02	5.827E-02
TL-208	4.714E-01	9.600E-02	3.429E-02	4.898E-02
BI-211	4.169E+00	5.623E-01	1.669E-01	2.869E-01
PB-212	1.492E+00	1.561E-01	5.405E-02	7.966E-02
PO-212	1.492E+00	1.561E-01	5.405E-02	7.966E-02
BI-214	1.250E+00	1.959E-01	6.233E-02	9.993E-02
PB-214	1.450E+00	2.092E-01	5.817E-02	1.067E-01
PO-214	1.450E+00	2.092E-01	5.817E-02	1.067E-01
PO-216	1.492E+00	1.561E-01	5.405E-02	7.966E-02
PO-218	1.450E+00	2.092E-01	5.817E-02	1.067E-01
RA-224	4.417E+00	1.382E+00	6.151E-01	7.053E-01
RA-226	1.250E+00	1.959E-01	6.233E-02	9.993E-02
AC-228	1.500E+00	3.426E-01	1.008E-01	1.748E-01
RA-228	1.500E+00	3.426E-01	1.008E-01	1.748E-01
TH-228	1.516E+00	1.587E-01	5.492E-02	8.095E-02
TH-230	1.250E+00	1.959E-01	6.233E-02	9.993E-02
TH-232	1.500E+00	3.426E-01	1.008E-01	1.748E-01
TH-234	2.742E+00	2.158E+00	1.474E+00	1.101E+00
U-234	1.250E+00	1.959E-01	6.233E-02	9.993E-02
NP-237	8.165E-01	3.738E-01	2.122E-01	1.907E-01
U-238	2.742E+00	2.158E+00	1.474E+00	1.101E+00
AM-243	4.668E-01	9.913E-02	5.695E-02	5.058E-02
ANH-511	1.238E-01	7.829E-02	2.503E-02	3.994E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	5.132E-01	3.600E-01	3.351E-01	1.837E-01 NOT IDENT.

NA-22	-1.607E-02	5.033E-02	4.032E-02	2.568E-02	NOT IDENT.
NA-24	7.646E+05	2.305E+06	0.000E+00	1.176E+06	SHORT HLIF
AL-26	-1.895E-03	2.913E-02	2.410E-02	1.486E-02	NOT IDENT.
TI-44	4.177E-01	6.803E-02	5.010E-02	3.471E-02	FAIL ABUN
SC-46	-3.722E-03	3.943E-02	3.332E-02	2.012E-02	FAIL ABUN
V-48	-1.985E-02	7.343E-02	6.032E-02	3.746E-02	NOT IDENT.
CR-51	-1.458E-01	4.262E-01	3.638E-01	2.174E-01	NOT IDENT.
MN-52	-1.291E-01	2.988E-01	2.288E-01	1.525E-01	NOT IDENT.
MN-54	1.325E-03	4.093E-02	3.520E-02	2.088E-02	NOT IDENT.
CO-56	1.540E-02	4.419E-02	3.900E-02	2.254E-02	NOT IDENT.
CO-57	1.241E-02	2.781E-02	2.443E-02	1.419E-02	NOT IDENT.
CO-58	-5.650E-03	3.983E-02	3.375E-02	2.032E-02	NOT IDENT.
FE-59	-7.641E-02	1.018E-01	7.846E-02	5.193E-02	NOT IDENT.
CO-60	4.681E-03	4.786E-02	4.013E-02	2.442E-02	NOT IDENT.
ZN-65	1.544E-01	1.232E-01	1.026E-01	6.286E-02	NOT IDENT.
GE-68	1.574E-01	1.442E+00	1.228E+00	7.360E-01	NOT IDENT.
AS-73	-4.281E-01	1.190E+00	1.043E+00	6.071E-01	NOT IDENT.
AS-74	3.470E-03	1.060E-01	8.907E-02	5.406E-02	NOT IDENT.
SE-75	-6.880E-02	5.239E-02	4.016E-02	2.673E-02	NOT IDENT.
BR-77	1.008E+01	1.629E+01	1.326E+01	8.310E+00	FAIL ABUN
SR-82	-4.987E-02	4.266E-01	3.640E-01	2.177E-01	NOT IDENT.
RB-83	5.095E-02	8.232E-02	6.704E-02	4.200E-02	NOT IDENT.
RB-84	4.542E-02	7.172E-02	6.510E-02	3.659E-02	NOT IDENT.
KR-85	7.069E+00	7.423E+00	6.703E+00	3.787E+00	NOT IDENT.
SR-85	3.661E-02	3.844E-02	3.471E-02	1.961E-02	NOT IDENT.
RB-86	2.792E-01	9.433E-01	8.174E-01	4.813E-01	NOT IDENT.
Y-88	6.107E-03	3.291E-02	2.879E-02	1.679E-02	NOT IDENT.
ZR-88	1.275E-02	3.356E-02	2.955E-02	1.712E-02	NOT IDENT.
Y-91	1.610E+01	2.114E+01	1.892E+01	1.079E+01	NOT IDENT.
NB-94	1.680E-02	3.828E-02	3.292E-02	1.953E-02	NOT IDENT.
NB-95M	5.949E-01	1.931E-01	1.601E-01	9.853E-02	NOT IDENT.
ZR-95	-2.817E-02	8.569E-02	6.851E-02	4.372E-02	NOT IDENT.
NB-97	-3.327E+04	3.000E+05	0.000E+00	1.531E+05	SHORT HLIF
ZR-97	1.566E+07	6.050E+06	0.000E+00	3.087E+06	SHORT HLIF
MO-99	-1.265E+01	1.631E+01	1.232E+01	8.321E+00	NOT IDENT.
TC-99M	-4.863E+17	6.050E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.294E-02	3.870E-02	3.182E-02	1.975E-02	FAIL ABUN
RH-102	-1.043E-02	3.240E-02	2.690E-02	1.653E-02	FAIL ABUN
RU-103	-5.256E-03	4.746E-02	3.952E-02	2.421E-02	FAIL ABUN
RH-106	1.710E-02	3.317E-01	2.786E-01	1.692E-01	FAIL ABUN
RU-106	1.710E-02	3.317E-01	2.786E-01	1.692E-01	FAIL ABUN
AG-108M	2.242E-02	3.594E-02	3.199E-02	1.833E-02	NOT IDENT.
AG-110M	-1.080E-02	4.329E-02	3.519E-02	2.209E-02	NOT IDENT.
IN-111	1.326E+00	1.628E+00	1.257E+00	8.306E-01	NOT IDENT.
IN-113M	-1.872E-02	4.840E-02	4.059E-02	2.469E-02	NOT IDENT.
SN-113	-1.872E-02	4.840E-02	4.059E-02	2.469E-02	NOT IDENT.
IN-114M	7.264E-02	2.232E-01	1.685E-01	1.139E-01	NOT IDENT.
CD-115	1.024E+01	1.584E+01	1.405E+01	8.081E+00	NOT IDENT.
SN-117M	3.684E-03	6.440E-02	5.505E-02	3.286E-02	NOT IDENT.
SB-122	-2.170E+00	3.022E+00	2.395E+00	1.542E+00	NOT IDENT.
I-123	-1.401E+06	2.151E+07	0.000E+00	1.098E+07	SHORT HLIF
TE-123M	-2.098E-03	3.220E-02	2.738E-02	1.643E-02	NOT IDENT.
I-124	7.855E-02	1.019E+00	7.397E-01	5.200E-01	FAIL ABUN
SB-124	7.080E-03	7.403E-02	6.381E-02	3.777E-02	FAIL ABUN
SB-125	-8.871E-02	9.847E-02	7.871E-02	5.024E-02	FAIL ABUN
TE-125M	-5.091E+00	1.034E+01	8.780E+00	5.276E+00	NOT IDENT.
I-126	-1.774E-03	2.295E-01	1.909E-01	1.171E-01	NOT IDENT.
SB-126	-5.774E-02	1.952E-01	1.335E-01	9.958E-02	FAIL ABUN
SB-127	2.194E-01	1.817E+00	1.525E+00	9.268E-01	FAIL ABUN
XE-127	-3.772E-02	5.700E-02	4.478E-02	2.908E-02	NOT IDENT.
I-131	-4.044E-02	1.288E-01	1.090E-01	6.573E-02	NOT IDENT.
TE-132	2.141E-01	1.030E+00	8.710E-01	5.257E-01	NOT IDENT.
BA-133	-1.653E-02	4.984E-02	3.628E-02	2.543E-02	NOT IDENT.
I-133	-9.791E+03	1.452E+04	0.000E+00	7.407E+03	SHORT HLIF
CS-134	1.623E-02	5.234E-02	4.613E-02	2.670E-02	NOT IDENT.
CS-135	2.888E-01	1.883E-01	1.674E-01	9.605E-02	NOT IDENT.
I-135	2.218E+16	6.086E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.628E-02	1.160E-01	9.435E-02	5.917E-02	FAIL ABUN
BA-137M	-3.107E-02	4.322E-02	3.381E-02	2.205E-02	NOT IDENT.
CS-137	-3.285E-02	4.568E-02	3.574E-02	2.331E-02	NOT IDENT.
CE-139	-9.853E-03	3.430E-02	2.883E-02	1.750E-02	NOT IDENT.
BA-140	1.689E-01	2.816E-01	2.453E-01	1.437E-01	NOT IDENT.
LA-140	-5.738E-02	8.971E-02	6.733E-02	4.577E-02	NOT IDENT.
CE-141	-8.684E-05	7.209E-02	6.047E-02	3.678E-02	NOT IDENT.
CE-143	2.289E+03	5.933E+02	0.000E+00	3.027E+02	SHORT HLIF
CE-144	-2.340E-02	2.626E-01	1.968E-01	1.340E-01	NOT IDENT.
PM-144	3.745E-03	3.971E-02	3.320E-02	2.026E-02	NOT IDENT.
PR-144	2.539E-01	2.692E+00	2.251E+00	1.373E+00	NOT IDENT.

PM-146	-2.076E-03	5.081E-02	4.322E-02	2.592E-02	NOT IDENT.
ND-147	-3.138E-01	6.632E-01	5.378E-01	3.383E-01	FAIL ABUN
PM-149	1.516E+01	1.325E+02	1.166E+02	6.761E+01	NOT IDENT.
EU-152	-6.080E-02	1.388E-01	8.708E-02	7.082E-02	NOT IDENT.
GD-153	1.431E-01	9.654E-02	7.920E-02	4.925E-02	FAIL ABUN
EU-154	-4.629E-02	1.404E-01	1.123E-01	7.163E-02	NOT IDENT.
EU-155	1.528E-01	1.172E-01	1.064E-01	5.978E-02	FAIL ABUN
TB-160	1.193E-01	1.414E-01	1.307E-01	7.215E-02	FAIL ABUN
HO-166M	-5.773E-03	6.391E-02	5.246E-02	3.261E-02	FAIL ABUN
TM-171	-2.131E+00	4.012E+01	3.103E+01	2.047E+01	NOT IDENT.
LU-176	2.397E-02	2.715E-02	2.472E-02	1.385E-02	FAIL ABUN
LU-177	2.781E+00	1.704E+00	1.264E+00	8.693E-01	FAIL ABUN
LU-177M	-3.187E-01	2.037E-01	1.562E-01	1.039E-01	FAIL ABUN
HF-181	-2.408E-02	4.713E-02	3.847E-02	2.405E-02	NOT IDENT.
W-181	-1.390E-01	5.390E-01	4.132E-01	2.750E-01	NOT IDENT.
TA-182	-2.276E-01	2.387E-01	1.809E-01	1.218E-01	NOT IDENT.
RE-183	-2.065E-02	1.259E-01	1.066E-01	6.426E-02	FAIL ABUN
RE-184	1.361E-01	2.570E-01	2.204E-01	1.311E-01	NOT IDENT.
OS-185	-2.744E-02	4.079E-02	3.150E-02	2.081E-02	FAIL ABUN
RE-188	1.407E-01	1.945E-01	1.708E-01	9.924E-02	NOT IDENT.
W-188	-2.082E+00	9.266E+00	6.800E+00	4.727E+00	FAIL ABUN
IR-192	2.754E-02	3.900E-02	3.517E-02	1.990E-02	FAIL ABUN
AU-195	5.247E-01	2.674E-01	2.328E-01	1.364E-01	FAIL ABUN
TL-200	-4.772E+02	8.753E+02	0.000E+00	4.466E+02	SHORT HLIF
TL-201	-4.359E+00	9.800E+00	8.174E+00	5.000E+00	NOT IDENT.
TL-202	-6.115E-02	8.053E-02	6.505E-02	4.109E-02	NOT IDENT.
HG-203	7.749E-03	4.575E-02	4.041E-02	2.334E-02	FAIL ABUN
BI-207	-2.381E-02	5.768E-02	4.646E-02	2.943E-02	FAIL ABUN
TL-207	-8.115E-01	7.788E-01	6.306E-01	3.973E-01	FAIL ABUN
PO-209	-2.958E+00	8.100E+00	6.660E+00	4.133E+00	NOT IDENT.
BI-210	-2.384E+00	6.151E+00	5.230E+00	3.138E+00	NOT IDENT.
PB-210	-2.384E+00	6.151E+00	5.230E+00	3.138E+00	NOT IDENT.
PO-210	-2.384E+00	6.150E+00	5.230E+00	3.138E+00	NOT IDENT.
PB-211	-1.289E+00	1.306E+00	8.227E-01	6.663E-01	NOT IDENT.
BI-212	9.208E-01	5.315E-01	3.487E-01	2.712E-01	FAIL ABUN
PO-215	-8.115E-01	7.788E-01	6.306E-01	3.973E-01	FAIL ABUN
RN-219	3.485E-01	4.494E-01	4.027E-01	2.293E-01	NOT IDENT.
RN-220	2.809E+01	3.071E+01	2.758E+01	1.567E+01	NOT IDENT.
RA-223	-8.115E-01	7.788E-01	6.306E-01	3.973E-01	FAIL ABUN
AC-227	-2.510E-01	4.343E-01	3.486E-01	2.216E-01	FAIL ABUN
TH-227	-2.510E-01	4.349E-01	3.486E-01	2.219E-01	FAIL ABUN
TH-229	2.871E-01	5.662E-01	4.735E-01	2.889E-01	FAIL ABUN
PA-231	5.059E-02	1.630E+00	1.430E+00	8.318E-01	NOT IDENT.
TH-231	-8.115E-01	7.788E-01	6.306E-01	3.973E-01	FAIL ABUN
U-231	-1.538E+00	1.615E+00	1.171E+00	8.242E-01	FAIL ABUN
PA-233	-1.595E-02	7.175E-02	6.177E-02	3.661E-02	FAIL ABUN
PA-234	7.314E-02	3.193E-01	2.775E-01	1.629E-01	FAIL ABUN
PA-234M	7.379E-01	4.903E+00	4.133E+00	2.501E+00	FAIL ABUN
U-235	-1.118E-01	2.378E-01	1.953E-01	1.214E-01	FAIL ABUN
NP-236	-6.464E-02	9.022E-02	7.451E-02	4.603E-02	FAIL ABUN
NP-239	2.773E-02	2.134E-01	1.854E-01	1.089E-01	FAIL ABUN
AM-241	1.911E-01	2.133E-01	1.742E-01	1.088E-01	NOT IDENT.
CM-243	8.531E-02	1.051E-01	9.404E-02	5.361E-02	FAIL ABUN
AM-246	1.915E-02	1.646E-01	1.402E-01	8.398E-02	NOT IDENT.
CM-247	2.989E-02	4.056E-02	3.639E-02	2.069E-02	NOT IDENT.
CF-249	-2.628E-02	4.595E-02	3.774E-02	2.344E-02	NOT IDENT.
CF-251	4.958E-02	1.403E-01	1.209E-01	7.156E-02	NOT IDENT.

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*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                           CHARLESTON ,SC 29417                            *
*                   GAMMA SPECTROSCOPY BACKGROUND REPORT                    *
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ENERGY	MDA COUNTS
46.50	270.1253
46.50	270.1253
46.50	270.1253
48.70	253.9647
49.72	274.4133
51.35	250.5888
52.39	251.0357
52.97	263.1616
53.15	262.3277
53.44	276.1730
54.07	279.2114
56.28	290.3379
56.28	290.3391
57.37	0.0000
57.53	281.1082
57.53	281.1088
57.60	278.6843
57.98	274.1865
57.98	274.1865
59.32	254.0905
59.32	254.0905
59.40	254.1226
59.54	254.1787
59.72	276.4242
60.01	276.5504
61.10	302.2055
61.14	328.8910
61.30	328.9730
63.00	333.3634
63.29	373.0856
63.29	373.0856
63.58	391.0953
64.28	400.4412
65.12	394.9849
65.20	395.0318
65.20	395.0318
66.05	379.1148
66.72	377.9944
66.83	378.0577
66.91	379.5970
67.20	391.7191
67.20	391.7191
67.75	380.0636
67.85	380.1194
68.90	356.7196
68.90	356.7196
69.30	370.4231
69.67	411.1355
70.82	413.3124
70.82	413.3124
70.83	413.3191
72.80	409.9490
72.87	409.9889
72.87	409.9889
74.67	410.5111
74.81	410.5907
74.81	410.5907
74.81	410.5907
74.81	410.5907
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74.81	410.5907
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75.70	411.0915
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77.11	411.8807

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77.11	411.8807
77.11	411.8807
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79.80	426.0447
80.11	426.2207
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80.30	426.3267
80.30	426.3267
80.57	426.4788
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81.07	426.7590
81.07	426.7590
81.07	426.7590
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83.78	340.3161
83.78	340.3161
83.78	340.3161
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84.90	340.8050
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86.29	341.4066
86.50	341.4976
86.54	341.5139
86.59	341.5356
86.72	341.5927
86.79	341.6212
86.94	341.6863
87.30	341.8412
87.30	341.8412
87.30	341.8412
87.30	341.8412
87.30	341.8412
87.30	341.8412
87.30	341.8412
87.57	341.9566
87.88	342.0897
88.03	342.1535
88.36	342.2934
88.47	342.3409
89.95	342.9683
91.11	343.4572
92.29	343.9502
92.38	343.9882
92.38	343.9882
93.35	344.3915
94.00	317.5523
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94.67	337.9599
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94.90	364.4149
94.90	364.4149
94.90	364.4149
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95.87	369.4927
96.73	346.5578
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98.44	256.9353
98.88	253.1713
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99.55	285.1094
99.86	296.3520
100.00	296.3995
100.10	296.4355
103.18	333.6855
103.76	270.2567
105.00	263.7697
105.31	259.9374
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109.28	314.2809

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111.00	304.0123
111.76	306.2371
112.95	298.7155
115.19	290.5053
116.30	287.8671
117.00	297.0188
117.00	297.0188
117.66	307.1647
121.11	315.2454
121.62	300.4385
121.78	269.5396
122.06	269.6169
122.32	269.4026
122.32	269.4026
122.32	269.4026
122.32	269.4026
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144.24	301.9868
144.24	301.9868
144.24	301.9868
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147.16	293.5864
152.43	283.6711
152.70	285.7946
153.22	289.0116
154.21	279.9978
154.21	279.9978
154.21	279.9978
154.21	279.9978
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163.89	257.4349
165.85	296.3329
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171.86	267.5117
172.10	267.5645
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176.60	249.6629
181.06	269.5059
184.41	241.5080
185.71	254.6449
186.00	254.7037
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193.63	223.5521
197.04	254.7343
198.01	270.9195
198.60	256.0986
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201.83	258.8550
202.84	278.9286
205.31	248.7957

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208.81	213.9517
209.75	208.2863
209.75	208.2863
210.97	205.0237
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216.55	227.0311
218.09	220.7842
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227.20	238.5237
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228.18	250.6711
228.18	250.6711
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236.00	248.9316
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238.63	228.2950
238.63	228.2950
238.63	228.2950
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241.98	176.0010
241.98	176.0010
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248.90	187.8454
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252.85	162.8437
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256.20	193.1640
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260.90	162.5613
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268.79	180.1399
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269.46	174.6169
269.46	174.6169
269.46	174.6169
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277.60	160.8575
278.00	160.2217
278.60	170.1831
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284.30	167.1481
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285.90	158.2626
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286.10	170.9421
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293.70	169.5836
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295.21	148.2102

295.21	148.2102
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296.50	148.3216
297.23	148.3833
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299.80	121.5560
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300.09	124.6149
300.09	124.6149
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323.87	185.7115
323.87	185.7115
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338.28	128.4872
338.28	128.4872
338.28	128.4872
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338.32	128.4889
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351.92	102.2061
351.92	102.2061
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391.69	116.6610
392.90	105.2466
398.62	133.3531
400.65	105.6320
401.10	96.0498
401.81	98.9640
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439.56	108.4892
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513.99	75.6061
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569.50	70.0105
569.67	70.0138
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574.64	86.3876
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579.30	0.0000
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591.81	75.7660
592.07	76.8111
593.00	76.8364
595.88	74.8354
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602.71	76.4056
603.60	72.9565
604.41	72.9771
604.70	72.9839
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609.31	74.8423
609.31	74.8423
609.31	74.8423
610.33	76.6097
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614.37	80.2061
618.01	57.6117
621.84	59.7846
621.84	59.7846
631.29	69.4499
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633.10	65.2801
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646.12	53.9347
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661.65	90.3561
664.57	0.0000
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666.33	80.9133
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685.20	63.1989
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698.50	72.0741
699.00	67.7819
702.63	65.7046
706.10	63.6195
706.58	0.0000
706.67	67.9449
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717.42	60.1183
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721.93	0.0000
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722.78	61.4216
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722.95	61.4258
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724.18	57.8346
727.18	66.9330
733.00	59.0264
735.90	57.6802
739.58	64.2806
742.81	65.4346
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747.13	61.1529
751.79	65.6118
752.31	66.7158
753.82	48.1454
755.35	54.7351
756.15	70.0781
756.87	61.3320
763.93	56.7047
765.79	49.4154
766.42	71.3905
766.84	71.4000
776.49	60.5873
778.00	55.1038
778.57	59.7050
778.89	59.7103
783.80	60.7162
785.46	52.4622
792.07	56.2518

795.84	61.8515
796.30	68.3226
798.80	84.0795
801.93	47.1640
805.60	50.9157
810.29	50.0570
810.76	47.2823
815.85	44.5654
817.79	55.7373
818.51	51.1026
819.60	58.5536
826.30	49.3521
828.27	0.0000
831.60	46.6278
831.96	43.8349
834.83	58.8049
836.80	0.0000
846.75	50.5701
848.13	49.6530
856.28	0.0000
856.80	48.2948
860.37	48.3419
867.32	53.1148
867.82	53.4300
871.10	39.5938
873.19	49.9916
874.81	48.1269
875.33	0.0000
876.40	52.8669
879.36	33.0681
880.27	35.9118
880.51	35.9141
881.50	34.9781
883.24	37.8312
884.67	46.3612
889.25	40.7342
896.60	51.2545
898.02	49.3742
899.00	51.2864
903.28	52.1596
911.07	34.2993
911.07	34.2993
911.07	34.2993
919.63	47.7437
920.93	35.3424
925.00	38.2479
925.24	41.1191
926.50	46.8726
935.52	43.1461
937.48	47.0042
944.10	45.1622
946.00	41.3387
949.00	35.5976
962.29	53.5748
964.01	49.6655
966.15	74.5391
968.20	87.8349
969.11	99.4587
969.11	99.4587
969.11	99.4587
977.42	41.3420
980.50	38.7874
983.50	38.8167
989.30	38.8721
996.32	36.9919
1001.03	37.0344
1001.68	42.8882
1004.76	39.0186
1021.30	0.0000
1024.50	0.0000
1034.80	36.3541
1036.00	35.3804
1037.82	42.2791
1038.57	45.2363
1038.76	0.0000
1045.16	36.4430
1046.59	33.4992
1048.07	40.4094

1050.47	46.3498
1050.47	46.3498
1062.04	40.5429
1063.62	47.4824
1076.63	44.6484
1077.35	46.6405
1078.86	46.6558
1085.78	32.8107
1099.22	50.8630
1112.02	44.5805
1112.84	56.5944
1115.52	44.6150
1120.29	29.2033
1120.29	29.2033
1120.29	29.2033
1120.29	29.2033
1120.51	29.2045
1121.28	39.5184
1124.00	0.0000
1129.67	34.1411
1131.51	0.0000
1147.95	0.0000
1167.94	33.4163
1173.22	48.6621
1175.09	53.7526
1177.93	36.5332
1189.05	45.7764
1204.90	42.8682
1205.75	0.0000
1213.00	51.1210
1221.42	71.6976
1230.97	73.8926
1235.34	53.4155
1236.41	0.0000
1238.25	47.2803
1246.25	53.5361
1260.41	0.0000
1271.85	35.1884
1274.45	43.4902
1274.54	43.4919
1291.56	18.7031
1298.22	0.0000
1312.09	23.9967
1325.50	35.5675
1325.50	35.5675
1332.49	33.5221
1333.61	38.7675
1360.21	24.2241
1362.66	0.0000
1365.15	24.2466
1368.21	17.4050
1368.53	0.0000
1376.25	22.1860
1384.27	23.8074
1394.10	27.5615
1395.20	27.5679
1407.95	22.3193
1434.06	24.5648
1436.60	19.2334
1457.56	0.0000
1460.81	18.3998
1489.15	20.4983
1509.49	18.4070
1596.49	18.8456
1620.62	19.8691
1678.03	0.0000
1691.02	9.5728
1691.02	9.5728
1706.46	0.0000
1750.46	0.0000
1764.49	15.2562
1764.49	15.2562
1764.49	15.2562
1764.49	15.2562
1770.23	36.8417
1771.40	17.4545
1791.20	0.0000
1808.65	8.7784

1836.01 7.8359

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244137001

Total Uranium Activity	8.1054E+00	ug/g
Total Uranium Counting Unc.	6.4208E+00	ug/g
Total Uranium Tpu	3.2759E-06	ug/g
Total Uranium Mda	4.3859E+00	ug/g

```
*******************************************************************************
*                                                                             *
*                          GEL Laboratories LLC                           *
*                               2040 SAVAGE ROAD                              *
*                             CHARLESTON ,SC 29417                            *
*                              GROSS GAMMA REPORT                             *
*                                                                             *
*                                                                             *
*******************************************************************************
*                                                                             *
*   BATCH ID      : 940263                    SAMPLE ID  : G244137001         *
*   ANALYST       : MXR1                      DETECTOR   : GAM23              *
*   SAMPLE DATE   :  4-JAN-2010 12:00:00.00   COUNT TIME :    0 02:00:00.00   *
*   ANALYSIS DATE: 20-JAN-2010 13:31:45.75    SAMPLE ALQT:  120.440 GRAM      *
*                                                                             *
*******************************************************************************


        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 7.713E+00
        GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.298E+00
        GROSS GAMMA MDA     (pCi/GRAM  )  : 3.054E+00
        GROSS GAMMA DLC     (pCi/GRAM  )  : 1.476E+00
```

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:44:51.93

```
*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137002.CNF;1
Sample date       : 4-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:43:15
Sample ID         : G244137002           Sample quantity  : 1.33430E+02 GRAM
Detector name     : GAM01                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.12  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 940263                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	2	74.92	430	402	1.30	150.55	144	17	5.97E-02	9.9	1.29E+00
2	2	77.15	590	338	1.15	155.01	144	17	8.19E-02	6.8	
3	0	87.37	209	372	1.18	175.44	172	7	2.90E-02	16.8	
4	6	90.04	126	210	0.94	180.77	179	27	1.75E-02	18.1	9.76E-01
5	6	92.89*	276	469	1.73	186.48	179	27	3.83E-02	16.8	
6	0	186.23*	145	390	1.42	373.05	368	11	2.02E-02	28.7	
7	0	209.46	113	226	1.57	419.48	416	8	1.57E-02	25.0	
8	3	239.07*	1192	185	1.20	478.67	475	14	1.66E-01	3.5	1.21E+00
9	3	241.94	251	249	1.68	484.42	475	14	3.49E-02	17.2	
10	0	270.97	65	218	1.49	542.44	537	10	9.05E-03	44.1	
11	0	295.67*	386	178	1.40	591.81	586	11	5.36E-02	8.5	
12	0	301.07	145	161	1.37	602.61	597	13	2.01E-02	19.9	
13	0	338.53*	220	179	1.45	677.49	672	12	3.06E-02	14.1	
14	0	352.18*	566	241	1.40	704.76	697	16	7.87E-02	7.5	
15	0	463.80	54	126	1.34	927.86	922	11	7.53E-03	42.4	
16	0	511.41*	68	103	1.79	1023.03	1018	13	9.39E-03	39.6	
17	0	583.51*	377	102	1.67	1167.15	1159	17	5.23E-02	8.2	
18	0	609.62*	399	89	1.35	1219.33	1214	13	5.54E-02	7.2	
19	0	727.49	149	30	2.30	1454.92	1446	17	2.08E-02	11.7	
20	0	797.67	88	75	8.83	1595.18	1585	25	1.22E-02	28.6	
21	0	911.61*	192	65	1.51	1822.91	1814	15	2.66E-02	11.9	
22	0	970.17*	64	134	1.19	1939.95	1931	14	8.85E-03	42.1	
23	0	1120.69*	87	46	1.22	2240.78	2235	13	1.21E-02	19.6	
24	0	1461.08*	695	5	1.90	2921.05	2912	19	9.65E-02	3.9	
25	0	1508.63	28	10	0.93	3016.08	3008	14	3.86E-03	31.1	
26	0	1730.35	24	11	0.99	3459.16	3453	12	3.28E-03	35.7	
27	0	1765.17*	81	7	1.81	3528.73	3522	13	1.13E-02	13.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JAN-2010 15:44:54

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137002.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 4-JAN-2010 12:00:00
Sample ID : G244137002
Sample type : SOLID
Detector name : GAMMA1
Elapsed live time: 0 02:00:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 1.50 keV
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 75.00

Acquisition date : 20-JAN-2010 13:43:15
Sample quantity : 133.43 GRAM
Sample geometry :
Detector geometry: CAN
Elapsed real time: 0 02:00:01.12 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 0.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.938E+01	2.297E+00	5.872E-01	5.220E-02	33.001
CD-109	+	88.03	*	3.111E+00	1.086E+00	1.310E+00	1.239E-01	2.376
SN-126		64.28		-4.723E-01	5.795E-01	8.972E-01	1.320E-01	-0.526
	+	86.94		1.270E+00	6.782E-01	6.039E-01	2.507E-01	2.102
	+	87.57	*	3.054E-01	1.066E-01	1.292E-01	1.217E-02	2.363
TL-208		277.35		2.017E-01	3.891E-01	6.583E-01	8.366E-02	0.306
	+	510.84		3.684E-01	2.949E-01	2.771E-01	3.293E-02	1.330
	+	583.14	*	5.878E-01	1.097E-01	6.186E-02	5.618E-03	9.501
		860.37		1.138E-01	3.196E-01	5.406E-01	5.180E-02	0.210
BI-211		72.87		5.498E+00	3.688E+00	5.644E+00	4.629E-01	0.974
	+	351.07	*	3.817E+00	6.684E-01	3.465E-01	3.152E-02	11.017
PB-212	+	74.81		2.716E+00	6.363E-01	5.631E-01	7.047E-02	4.824
	+	77.11		2.102E+00	3.367E-01	3.177E-01	2.696E-02	6.615
	+	87.30		1.412E+00	5.126E-01	7.070E-01	9.698E-02	1.998
	+	238.63	*	1.730E+00	2.137E-01	1.073E-01	1.086E-02	16.124
	+	300.09		3.282E+00	1.354E+00	1.158E+00	1.252E-01	2.835
PO-212	+	74.81		2.716E+00	6.363E-01	5.631E-01	7.047E-02	4.824
	+	77.11		2.102E+00	3.367E-01	3.177E-01	2.696E-02	6.615
	+	87.30		1.412E+00	5.126E-01	7.070E-01	9.698E-02	1.998
		115.19		-6.215E-01	3.824E+00	6.032E+00	5.241E-01	-0.103
	+	238.63	*	1.730E+00	2.137E-01	1.073E-01	1.086E-02	16.124
	+	300.09		3.282E+00	1.354E+00	1.158E+00	1.252E-01	2.835
BI-214	+	609.31	*	1.174E+00	2.040E-01	1.128E-01	1.113E-02	10.404
	+	1120.29		1.363E+00	5.553E-01	4.606E-01	4.928E-02	2.960
	+	1764.49		1.755E+00	5.000E-01	2.038E-01	1.709E-02	8.609
PB-214	+	74.81		4.680E+00	1.063E+00	9.702E-01	1.081E-01	4.824
	+	77.11		3.603E+00	6.392E-01	5.447E-01	6.212E-02	6.615
	+	87.30		2.419E+00	8.646E-01	1.211E+00	1.471E-01	1.998
	+	241.98		2.190E+00	7.871E-01	6.085E-01	6.500E-02	3.600
	+	295.21		1.528E+00	3.109E-01	2.156E-01	2.381E-02	7.088
	+	351.92	*	1.328E+00	2.426E-01	1.208E-01	1.266E-02	10.993
PO-214	+	74.81		4.680E+00	1.063E+00	9.702E-01	1.081E-01	4.824
	+	77.11		3.603E+00	6.392E-01	5.447E-01	6.212E-02	6.615
	+	87.30		2.419E+00	8.646E-01	1.211E+00	1.471E-01	1.998

Sample ID : G244137002 Acquisition date : 20-JAN-2010 13:43:15

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	241.98		2.190E+00	7.871E-01	6.085E-01	6.500E-02	3.600
	+	295.21		1.528E+00	3.109E-01	2.156E-01	2.381E-02	7.088
	+	351.92	*	1.328E+00	2.426E-01	1.208E-01	1.266E-02	10.993
PO-216	+	74.81		2.716E+00	6.363E-01	5.631E-01	7.047E-02	4.824
	+	77.11		2.102E+00	3.367E-01	3.177E-01	2.696E-02	6.615
	+	87.30		1.412E+00	5.126E-01	7.070E-01	9.698E-02	1.998
	+	238.63	*	1.730E+00	2.137E-01	1.073E-01	1.086E-02	16.124
	+	300.09		3.282E+00	1.354E+00	1.158E+00	1.252E-01	2.835
PO-218	+	74.81		4.680E+00	1.063E+00	9.702E-01	1.081E-01	4.824
	+	77.11		3.603E+00	6.392E-01	5.447E-01	6.212E-02	6.615
	+	87.30		2.419E+00	8.646E-01	1.211E+00	1.471E-01	1.998
	+	241.98		2.190E+00	7.871E-01	6.085E-01	6.500E-02	3.600
	+	295.21		1.528E+00	3.109E-01	2.156E-01	2.381E-02	7.088
	+	351.92	*	1.328E+00	2.426E-01	1.208E-01	1.266E-02	10.993
RA-224	+	240.98	*	4.153E+00	1.474E+00	1.150E+00	1.045E-01	3.612
RA-226	+	609.31	*	1.174E+00	2.040E-01	1.128E-01	1.113E-02	10.404
	+	1120.29		1.363E+00	5.553E-01	4.606E-01	4.928E-02	2.960
	+	1764.49		1.755E+00	5.000E-01	2.038E-01	1.709E-02	8.609
AC-228	+	338.32		1.635E+00	8.175E-01	4.024E-01	1.662E-01	4.063
	+	911.07	*	1.349E+00	3.564E-01	2.415E-01	2.796E-02	5.584
	+	969.11		7.923E-01	6.920E-01	5.251E-01	1.232E-01	1.509
RA-228	+	338.32		1.635E+00	8.175E-01	4.024E-01	1.662E-01	4.063
	+	911.07	*	1.349E+00	3.564E-01	2.415E-01	2.796E-02	5.584
	+	969.11		7.923E-01	6.920E-01	5.251E-01	1.232E-01	1.509
TH-228	+	74.81		2.760E+00	5.937E-01	5.722E-01	4.806E-02	4.824
	+	77.11		2.136E+00	3.422E-01	3.229E-01	2.740E-02	6.615
	+	87.30		1.435E+00	5.008E-01	7.184E-01	6.746E-02	1.998
	+	238.63	*	1.758E+00	2.171E-01	1.090E-01	1.104E-02	16.124
	+	300.09		3.335E+00	2.383E+00	1.176E+00	6.982E-01	2.835
TH-230	+	609.31	*	1.174E+00	2.040E-01	1.128E-01	1.113E-02	10.404
	+	1120.29		1.363E+00	5.553E-01	4.606E-01	4.928E-02	2.960
	+	1764.49		1.755E+00	5.000E-01	2.038E-01	1.709E-02	8.609
TH-232	+	338.32		1.635E+00	4.829E-01	4.024E-01	3.542E-02	4.063
	+	911.07	*	1.349E+00	3.564E-01	2.415E-01	2.796E-02	5.584
	+	969.11		7.923E-01	6.920E-01	5.251E-01	1.232E-01	1.509
U-234	+	609.31	*	1.174E+00	2.040E-01	1.128E-01	1.113E-02	10.404
	+	1120.29		1.363E+00	5.553E-01	4.606E-01	4.928E-02	2.960
	+	1764.49		1.755E+00	5.000E-01	2.038E-01	1.709E-02	8.609
NP-237	+	86.50	*	8.967E-01	3.635E-01	4.288E-01	9.707E-02	2.091
		95.87		3.839E-01	1.065E+00	1.542E+00	3.817E-01	0.249
AM-243	+	74.67	*	4.404E-01	9.459E-02	9.160E-02	7.617E-03	4.808
	+	86.72		3.363E+01	1.173E+01	1.592E+01	1.486E+00	2.112
		117.66		-8.345E-01	4.085E+00	6.424E+00	5.600E-01	-0.130
		142.18		4.831E+00	1.793E+01	3.070E+01	2.625E+00	0.157
ANH-511	+	511.00	*	7.958E-02	6.335E-02	5.606E-02	4.751E-03	1.420

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-5.242E-02	3.333E-01	5.272E-01	4.796E-02	-0.099

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22		1274.54	*	-8.532E-03	4.763E-02	7.798E-02	6.549E-03	-0.109
NA-24		1368.53	*	9.259E-01	4.763E-02	Half-Life too short		
AL-26		1129.67		9.316E-01	1.800E+00	3.060E+00	2.556E-01	0.304
		1808.65	*	-2.540E-02	2.783E-02	3.271E-02	2.710E-03	-0.777
TI-44		67.85		2.261E-04	4.946E-02	8.003E-02	6.346E-03	0.003
	+	78.38	*	3.879E-01	6.214E-02	8.302E-02	7.125E-03	4.672
SC-46		889.25	*	1.575E-02	4.085E-02	6.949E-02	6.281E-03	0.227
	+	1120.51		2.352E-01	9.454E-02	1.443E-01	1.212E-02	1.630
V-48		944.10		2.199E-01	9.731E-01	1.624E+00	1.462E-01	0.135
		983.50	*	3.347E-02	7.586E-02	1.293E-01	1.154E-02	0.259
		1312.09		3.336E-02	8.787E-02	1.529E-01	1.296E-02	0.218
CR-51		320.08	*	1.423E-01	4.236E-01	7.072E-01	6.653E-02	0.201
MN-52		744.21		-2.663E-01	2.740E-01	4.073E-01	3.494E-02	-0.654
		848.13		2.426E+00	8.163E+00	1.377E+01	1.231E+00	0.176
		935.52		2.437E-01	3.090E-01	5.422E-01	4.890E-02	0.450
		1246.25		-3.666E+00	8.777E+00	1.406E+01	1.169E+00	-0.261
		1333.61		-5.580E-01	5.737E+00	9.266E+00	7.900E-01	-0.060
		1434.06	*	1.334E-01	2.939E-01	5.200E-01	4.489E-02	0.257
MN-54		834.83	*	-1.298E-02	3.986E-02	6.335E-02	5.639E-03	-0.205
CO-56		846.75	*	3.395E-02	4.155E-02	7.344E-02	6.562E-03	0.462
		977.42		-4.375E+00	3.089E+00	3.855E+00	3.447E-01	-1.135
		1037.82		-3.136E-01	3.274E-01	4.639E-01	4.277E-02	-0.676
		1175.09		9.518E-01	2.299E+00	4.012E+00	3.250E-01	0.237
		1238.25		1.135E-01	1.024E-01	1.853E-01	1.584E-02	0.613
		1360.21		2.581E-01	1.088E+00	1.863E+00	1.595E-01	0.139
		1771.40		-1.278E+00	4.240E-01	3.012E-01	2.522E-02	-4.242
CO-57		122.06	*	1.338E-02	2.710E-02	4.395E-02	3.869E-03	0.305
		136.48		-6.187E-02	2.086E-01	3.498E-01	3.232E-02	-0.177
CO-58		810.76	*	2.284E-02	4.149E-02	7.179E-02	6.351E-03	0.318
FE-59		142.65		4.194E-01	2.956E+00	4.901E+00	4.191E-01	0.086
		192.34		8.784E-01	1.077E+00	1.799E+00	2.430E-01	0.488
		1099.22	*	1.760E-02	9.936E-02	1.633E-01	1.505E-02	0.108
		1291.56		-9.114E-02	1.329E-01	2.032E-01	1.954E-02	-0.449
CO-60		1173.22		1.996E-02	4.531E-02	7.931E-02	6.419E-03	0.252
		1332.49	*	2.918E-02	3.603E-02	6.657E-02	5.674E-03	0.438
ZN-65		1115.52	*	-7.566E-02	1.049E-01	1.263E-01	1.066E-02	-0.599
GE-68		1077.35	*	-4.528E-02	1.371E+00	2.204E+00	1.898E-01	-0.021
AS-73		53.44	*	4.504E-01	9.487E-01	1.577E+00	1.277E-01	0.286
AS-74		595.88	*	2.917E-02	9.419E-02	1.617E-01	1.362E-02	0.180
		634.78		-1.382E-01	3.929E-01	6.362E-01	5.285E-02	-0.217
SE-75		66.05		-2.731E+00	5.267E+00	8.342E+00	8.180E-01	-0.327
		96.73		-1.908E-01	8.856E-01	1.229E+00	1.697E-01	-0.155
		121.11		1.834E-02	1.505E-01	2.401E-01	2.723E-02	0.076
		136.00		-8.547E-03	3.974E-02	6.689E-02	5.789E-03	-0.128
		198.60		-9.629E-02	1.981E+00	3.238E+00	3.150E-01	-0.030
		264.65	*	-1.013E-02	5.173E-02	7.822E-02	7.185E-03	-0.129
		279.53		1.345E-01	1.148E-01	2.000E-01	1.889E-02	0.673
		303.91		5.350E-01	2.480E+00	3.635E+00	4.295E-01	0.147
		400.65		-3.815E-02	2.739E-01	4.390E-01	4.704E-02	-0.087

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	87.88		8.868E+02	3.094E+02	4.711E+02	4.453E+01	1.882
		200.40		5.395E+00	2.404E+02	3.942E+02	3.477E+01	0.014
	+	239.00		3.671E+02	4.224E+01	5.447E+01	4.945E+00	6.739
		249.79		2.230E+00	8.834E+01	1.466E+02	1.337E+01	0.015
		281.68		-6.523E+01	1.255E+02	2.006E+02	1.834E+01	-0.325
		297.23		6.277E+02	1.308E+02	1.920E+02	1.747E+01	3.269
		303.76		6.856E+01	2.780E+02	4.086E+02	3.704E+01	0.168
		439.47		-1.398E+02	2.130E+02	3.255E+02	2.698E+01	-0.430
		484.57		-2.086E+01	3.402E+02	5.425E+02	4.574E+01	-0.038
		520.65	*	-3.883E+00	1.472E+01	2.293E+01	1.945E+00	-0.169
		574.64		1.125E+02	2.931E+02	4.942E+02	4.183E+01	0.228
		578.91		3.679E+01	1.309E+02	1.971E+02	1.667E+01	0.187
		585.48		2.332E+03	4.280E+02	7.676E+02	6.483E+01	3.039
		755.35		3.644E+02	2.420E+02	4.464E+02	3.850E+01	0.816
		817.79		3.338E+01	1.844E+02	3.085E+02	2.730E+01	0.108
SR-82		698.33		4.007E+00	3.984E+01	6.663E+01	5.580E+00	0.060
		776.49	*	-3.361E-01	3.924E-01	5.881E-01	5.120E-02	-0.572
		1395.20		2.807E+00	1.126E+01	1.936E+01	1.665E+00	0.145
RB-83		520.41	*	-1.675E-02	7.447E-02	1.164E-01	9.875E-03	-0.144
		529.64		-3.477E-02	1.122E-01	1.847E-01	1.568E-02	-0.188
		552.65		3.193E-02	2.069E-01	3.521E-01	2.988E-02	0.091
RB-84		881.50	*	1.300E-01	7.396E-02	1.408E-01	1.271E-02	0.923
KR-85		513.99	*	1.707E+01	9.451E+00	1.528E+01	1.296E+00	1.117
SR-85		513.99	*	8.839E-02	4.895E-02	7.915E-02	6.711E-03	1.117
RB-86		1076.63	*	4.961E-01	8.771E-01	1.503E+00	1.295E-01	0.330
Y-88		898.02		2.275E-02	4.745E-02	8.104E-02	7.373E-03	0.281
		1836.01	*	-9.386E-03	3.198E-02	4.793E-02	3.942E-03	-0.196
ZR-88		392.90	*	-1.568E-02	3.465E-02	5.438E-02	4.379E-03	-0.288
Y-91		1204.90	*	3.379E+00	1.991E+01	3.389E+01	2.777E+00	0.100
NB-94		702.63	*	2.724E-02	3.808E-02	6.650E-02	5.582E-03	0.410
		871.10		-3.427E-02	3.569E-02	5.185E-02	4.666E-03	-0.661
NB-95		765.79	*	-5.727E-02	4.806E-02	7.074E-02	6.130E-03	-0.810
NB-95M		235.69	*	3.849E-02	1.449E-01	2.153E-01	2.208E-02	0.179
ZR-95		724.18		7.630E-03	9.630E-02	1.399E-01	1.294E-02	0.055
		756.15	*	1.032E-01	7.775E-02	1.419E-01	1.348E-02	0.727
NB-97		657.90	*	-5.291E-02	7.775E-02	Half-Life too short		
		1024.50		-9.846E+00	7.775E-02	Half-Life too short		
ZR-97		254.15		1.028E+00	7.775E-02	Half-Life too short		
		355.39		2.256E+00	7.775E-02	Half-Life too short		
		507.63	*	2.797E+00	7.775E-02	Half-Life too short		
		602.52		3.067E+00	7.775E-02	Half-Life too short		
		1021.30		2.890E+00	7.775E-02	Half-Life too short		
		1147.95		4.302E+00	7.775E-02	Half-Life too short		
		1362.66		-7.677E+00	7.775E-02	Half-Life too short		
		1750.46		-5.648E+00	7.775E-02	Half-Life too short		
MO-99		140.51		-8.383E+00	3.510E+01	5.708E+01	1.580E+01	-0.147
		181.06		-1.102E+01	2.599E+01	3.743E+01	6.851E+00	-0.294
		366.43		-3.038E+01	1.223E+02	1.958E+02	1.656E+01	-0.155
		739.58	*	1.390E+01	1.462E+01	2.610E+01	3.954E+00	0.532

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		778.00		-2.110E+01	4.231E+01	6.605E+01	5.755E+00	-0.319
TC-99M		140.51	*	-1.340E+11	4.231E+01	Half-Life too short		
RH-101		127.23		1.679E-02	3.327E-02	5.390E-02	4.689E-03	0.312
		198.01	*	5.989E-03	3.637E-02	6.001E-02	5.281E-03	0.100
		325.23		-3.892E-01	2.546E-01	3.752E-01	3.348E-02	-1.037
RH-102		418.52		-4.572E-02	2.971E-01	4.742E-01	3.886E-02	-0.096
		475.06	*	-2.502E-02	3.001E-02	4.441E-02	3.735E-03	-0.563
		631.29		4.424E-03	5.640E-02	9.477E-02	7.885E-03	0.047
		697.49		-1.565E-02	8.893E-02	1.456E-01	1.219E-02	-0.107
		766.84		9.822E-02	1.211E-01	2.120E-01	1.838E-02	0.463
		1046.59		-5.246E-03	1.232E-01	1.981E-01	1.731E-02	-0.026
		1112.84		1.042E-01	2.258E-01	3.646E-01	3.078E-02	0.286
RU-103		497.08	*	1.829E-02	4.635E-02	7.643E-02	1.075E-02	0.239
	+	610.33		1.289E+01	2.822E+00	3.275E+00	5.426E-01	3.936
RH-106	+	511.85		3.982E-01	3.170E-01	4.590E-01	3.890E-02	0.868
		621.84	*	1.647E-01	3.412E-01	5.906E-01	7.789E-02	0.279
		1050.47		1.259E+00	2.407E+00	4.119E+00	3.592E-01	0.306
RU-106	+	511.85		3.982E-01	3.170E-01	4.590E-01	3.890E-02	0.868
		621.84	*	1.647E-01	3.408E-01	5.906E-01	4.934E-02	0.279
		1050.47		1.259E+00	2.407E+00	4.119E+00	3.592E-01	0.306
AG-108M		433.93	*	3.091E-03	3.689E-02	5.985E-02	5.161E-03	0.052
		614.37		1.777E-02	4.312E-02	6.571E-02	5.733E-03	0.270
		722.95		-3.448E-02	4.479E-02	5.688E-02	5.022E-03	-0.606
AG-110M		657.75	*	4.129E-03	3.805E-02	6.392E-02	5.420E-03	0.065
		677.61		-5.266E-03	3.502E-01	5.816E-01	4.958E-02	-0.009
		706.67		5.451E-02	2.362E-01	3.988E-01	3.452E-02	0.137
		763.93		-2.669E-01	1.804E-01	2.546E-01	2.266E-02	-1.048
		884.67		-4.360E-02	5.179E-02	7.633E-02	7.095E-03	-0.571
		937.48		-3.904E-02	1.193E-01	1.873E-01	1.745E-02	-0.208
		1384.27		-3.090E-02	1.707E-01	2.762E-01	2.440E-02	-0.112
IN-111		171.28		7.863E-01	1.321E+00	2.275E+00	1.947E-01	0.346
		245.39	*	-2.841E-01	1.564E+00	2.251E+00	2.049E-01	-0.126
IN-113M		391.69	*	2.700E-02	4.931E-02	8.284E-02	6.900E-03	0.326
SN-113		391.69	*	2.700E-02	4.931E-02	8.284E-02	6.900E-03	0.326
IN-114M		190.27	*	-6.016E-02	2.262E-01	3.290E-01	2.873E-02	-0.183
CD-115		260.90		7.523E+01	1.886E+02	3.182E+02	2.910E+01	0.236
		492.35		-4.211E+01	5.257E+01	7.800E+01	6.589E+00	-0.540
		527.90	*	1.037E+01	1.517E+01	2.680E+01	2.275E+00	0.387
SN-117M		156.02		7.366E-01	2.383E+00	4.075E+00	3.470E-01	0.181
		158.56	*	-7.838E-03	5.906E-02	9.919E-02	8.445E-03	-0.079
SB-122		563.90	*	1.030E+00	2.633E+00	4.555E+00	3.862E-01	0.226
		692.80		-1.850E+00	5.897E+01	9.766E+01	8.152E+00	-0.019
I-123		159.00	*	1.258E+00	5.897E+01	Half-Life too short		
		528.96		2.636E+02	5.897E+01	Half-Life too short		
TE-123M		159.00	*	1.864E-03	2.931E-02	4.960E-02	4.249E-03	0.038
I-124		602.71	*	1.232E-01	7.600E-01	1.221E+00	1.027E-01	0.101
		722.78		-4.072E+00	5.492E+00	7.014E+00	5.952E-01	-0.581
		1325.50		-1.812E+01	3.666E+01	5.638E+01	4.797E+00	-0.321
		1376.25		6.101E+01	4.355E+01	8.240E+01	7.071E+00	0.741

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	1509.49		4.215E+01	2.649E+01	4.219E+01	3.653E+00	0.999
		1691.02		-9.691E-01	4.920E+00	7.729E+00	6.585E-01	-0.125
SB-124		602.71		6.180E-03	3.812E-02	6.126E-02	5.152E-03	0.101
		645.85		-7.446E-03	5.183E-01	8.630E-01	7.595E-02	-0.009
		709.31		2.966E+00	3.152E+00	5.594E+00	4.713E-01	0.530
		713.82		-2.154E+00	1.800E+00	2.628E+00	3.132E-01	-0.819
		722.78		-2.961E-01	3.993E-01	5.100E-01	4.424E-02	-0.581
		968.20		1.327E+01	4.422E+00	8.177E+00	7.329E-01	1.622
		1045.16		-8.376E-01	2.702E+00	4.212E+00	3.681E-01	-0.199
		1325.50		-1.407E+00	2.847E+00	4.378E+00	3.725E-01	-0.321
		1368.21		1.026E+00	1.966E+00	3.476E+00	4.674E-01	0.295
		1436.60		3.939E+00	4.006E+00	7.529E+00	6.501E-01	0.523
		1691.02	*	-1.662E-02	8.438E-02	1.325E-01	1.175E-02	-0.125
SB-125		427.89	*	-6.027E-02	1.009E-01	1.552E-01	1.306E-02	-0.388
	+	463.38		5.755E-01	4.904E-01	6.062E-01	5.498E-02	0.949
		600.56		-2.261E-01	1.889E-01	2.609E-01	2.365E-02	-0.866
		635.90		1.192E-02	2.885E-01	4.831E-01	4.359E-02	0.025
TE-125M		109.28	*	-2.644E+00	1.029E+01	1.619E+01	1.678E+00	-0.163
I-126		388.63		5.099E-02	2.319E-01	3.818E-01	3.093E-02	0.134
		666.33	*	-2.369E-02	2.137E-01	3.525E-01	2.896E-02	-0.067
		753.82		9.482E-01	1.735E+00	2.995E+00	2.581E-01	0.317
SB-126		223.80		-1.678E+00	4.526E+00	7.406E+00	6.663E-01	-0.227
		278.60		3.776E+00	2.726E+00	4.787E+00	4.378E-01	0.789
	+	296.50		1.605E+01	3.107E+00	4.401E+00	4.004E-01	3.647
		414.70		-1.758E-02	8.649E-02	1.377E-01	1.126E-02	-0.128
		415.30		5.148E+00	6.820E+00	1.162E+01	9.507E-01	0.443
		555.20		-8.952E-01	4.173E+00	6.894E+00	5.850E-01	-0.130
		573.80		6.059E-01	1.146E+00	1.998E+00	1.692E-01	0.303
		593.00		-3.292E-01	1.016E+00	1.657E+00	1.397E-01	-0.199
		656.30		8.745E-01	3.840E+00	6.512E+00	5.350E-01	0.134
		666.33		-9.922E-03	8.949E-02	1.476E-01	1.213E-02	-0.067
		675.00		-3.845E-01	2.229E+00	3.651E+00	3.016E-01	-0.105
		695.00		2.920E-02	8.922E-02	1.519E-01	1.270E-02	0.192
		697.00		-1.229E-01	3.253E-01	5.237E-01	4.382E-02	-0.235
		720.50	*	-5.766E-03	1.672E-01	2.392E-01	2.028E-02	-0.024
		856.80		-7.016E-01	5.762E-01	8.272E-01	7.413E-02	-0.848
		989.30		1.098E+00	1.447E+00	2.532E+00	2.257E-01	0.433
		1034.80		-7.108E-01	9.641E+00	1.560E+01	1.369E+00	-0.046
		1213.00		1.376E+00	4.781E+00	8.236E+00	6.768E-01	0.167
SB-127		61.10		-1.563E+01	7.662E+01	1.233E+02	1.321E+01	-0.127
		252.40		-1.617E+00	5.435E+00	8.792E+00	3.712E+00	-0.184
		290.80		3.560E+00	2.848E+01	4.155E+01	4.915E+00	0.086
		411.60		7.898E+00	1.619E+01	2.698E+01	4.232E+00	0.293
		444.90		-1.101E+01	1.283E+01	1.912E+01	2.406E+00	-0.576
		473.00		5.807E-01	2.016E+00	3.313E+00	4.299E-01	0.175
		543.00		-1.490E+00	1.941E+01	3.248E+01	4.723E+00	-0.046
		603.60		7.009E+00	1.440E+01	2.216E+01	2.798E+00	0.316
		685.20	*	2.689E-02	1.738E+00	2.891E+00	3.307E-01	0.009
		698.50		8.129E+00	2.030E+01	3.466E+01	5.508E+00	0.235

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		722.20		-3.437E+01	3.961E+01	4.955E+01	5.622E+00	-0.694
		783.80		2.846E+00	4.347E+00	7.577E+00	9.663E-01	0.376
XE-127		57.60		-4.589E+00	6.915E+00	1.089E+01	8.365E-01	-0.421
		145.22		3.074E-02	7.531E-01	1.243E+00	1.061E-01	0.025
		172.10		2.000E-02	1.262E-01	2.138E-01	1.831E-02	0.094
		202.84	*	-6.756E-03	5.093E-02	8.469E-02	7.487E-03	-0.080
		374.96		-1.574E-01	2.208E-01	3.404E-01	2.835E-02	-0.463
I-131		80.18		-9.583E-02	5.623E+00	8.053E+00	7.076E-01	-0.012
		284.30		-9.627E-01	1.652E+00	2.623E+00	2.510E-01	-0.367
		364.48	*	3.114E-02	1.409E-01	2.326E-01	2.086E-02	0.134
		636.97		4.214E-01	1.756E+00	2.988E+00	2.631E-01	0.141
		722.89		-6.263E+00	8.192E+00	1.042E+01	8.906E-01	-0.601
TE-132		49.72		-1.480E+01	2.846E+01	4.524E+01	4.979E+00	-0.327
		111.76		1.273E+00	3.987E+01	6.272E+01	6.992E+00	0.020
		116.30		-1.230E+01	3.611E+01	5.641E+01	6.304E+00	-0.218
		228.16	*	-1.295E-01	8.998E-01	1.487E+00	2.397E-01	-0.087
BA-133		53.15		2.804E-01	4.107E+00	6.711E+00	5.453E-01	0.042
		79.62		5.867E-01	1.451E+00	2.122E+00	3.237E-01	0.277
		81.00		-1.446E-01	1.196E-01	1.575E-01	2.515E-02	-0.919
		276.40		6.517E-02	4.144E-01	6.398E-01	9.449E-02	0.102
		302.84		1.686E-01	1.702E-01	2.624E-01	3.564E-02	0.643
		356.01	*	-1.325E-02	5.199E-02	7.232E-02	9.538E-03	-0.183
		383.85		1.109E-01	3.145E-01	5.228E-01	6.435E-02	0.212
I-133	+	510.53		1.737E+00	3.145E-01	Half-Life too short		
		529.87	*	-4.750E-03	3.145E-01	Half-Life too short		
		706.58		1.862E-01	3.145E-01	Half-Life too short		
		856.28		-1.124E+00	3.145E-01	Half-Life too short		
		875.33		2.218E-02	3.145E-01	Half-Life too short		
		1236.41		1.193E+00	3.145E-01	Half-Life too short		
		1298.22		2.648E-01	3.145E-01	Half-Life too short		
CS-134		475.35		-1.506E+00	1.958E+00	2.917E+00	2.453E-01	-0.516
		563.23		2.191E-01	3.546E-01	6.237E-01	5.340E-02	0.351
		569.32		-1.111E-01	2.041E-01	3.278E-01	2.816E-02	-0.339
		604.70		6.606E-03	3.548E-02	5.282E-02	4.451E-03	0.125
		795.84	*	7.728E-02	5.593E-02	1.012E-01	8.945E-03	0.763
		801.93		-1.550E-01	4.185E-01	6.634E-01	5.867E-02	-0.234
		1038.57		-3.552E+00	4.135E+00	5.970E+00	5.232E-01	-0.595
		1167.94		1.613E+00	2.557E+00	4.549E+00	3.697E-01	0.355
		1365.15		-1.376E-01	1.366E+00	2.240E+00	2.007E-01	-0.061
CS-135		268.24	*	3.843E-02	1.892E-01	2.785E-01	2.904E-02	0.138
I-135		288.45		-4.477E+10	1.892E-01	Half-Life too short		
		417.63		-1.990E+11	1.892E-01	Half-Life too short		
		546.56		1.114E+11	1.892E-01	Half-Life too short		
		836.80		3.103E+10	1.892E-01	Half-Life too short		
		1038.76		-1.023E+11	1.892E-01	Half-Life too short		
		1124.00		5.428E+11	1.892E-01	Half-Life too short		
		1131.51		3.943E+08	1.892E-01	Half-Life too short		
		1260.41	*	-3.255E+10	1.892E-01	Half-Life too short		
		1457.56		2.278E+12	1.892E-01	Half-Life too short		

---- Non-Identified Nuclides ----

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		1678.03		0.000E+00	1.892E-01	Half-Life too short		
		1706.46		2.575E+10	1.892E-01	Half-Life too short		
		1791.20		-7.039E+10	1.892E-01	Half-Life too short		
CS-136		66.91		-2.560E-01	8.833E-01	1.412E+00	2.123E-01	-0.181
	+	86.29		4.191E+00	1.516E+00	2.190E+00	2.915E-01	1.913
		153.22		-2.406E-01	7.141E-01	1.191E+00	1.137E-01	-0.202
		163.89		-5.600E-01	1.210E+00	1.942E+00	1.857E-01	-0.288
		176.55		-1.887E-01	4.004E-01	6.594E-01	6.005E-02	-0.286
		273.65		-3.699E-01	5.774E-01	7.954E-01	7.706E-02	-0.465
		340.57		4.842E-01	1.866E-01	3.065E-01	2.767E-02	1.580
		818.51		4.285E-02	8.143E-02	1.407E-01	1.246E-02	0.305
		1048.07	*	3.930E-02	1.220E-01	2.043E-01	1.857E-02	0.192
		1235.34		-5.402E-01	6.992E-01	1.089E+00	1.264E-01	-0.496
BA-137M		661.65	*	-6.207E-03	3.860E-02	6.342E-02	5.195E-03	-0.098
CS-137		661.65	*	-6.562E-03	4.080E-02	6.704E-02	5.503E-03	-0.098
CE-139		165.85	*	8.622E-03	3.114E-02	5.305E-02	4.518E-03	0.163
BA-140		162.64		-1.965E-01	8.383E-01	1.359E+00	1.226E-01	-0.145
		304.84		-2.565E-02	1.544E+00	2.221E+00	6.254E-01	-0.012
		423.70		2.674E-01	2.051E+00	3.343E+00	1.080E+00	0.080
		537.32	*	-1.041E-01	2.672E-01	4.320E-01	1.430E-01	-0.241
LA-140		328.77		6.526E-01	3.455E-01	6.151E-01	5.759E-02	1.061
		432.53		-4.401E-01	2.500E+00	3.980E+00	3.462E-01	-0.111
		487.03		1.386E-01	1.588E-01	2.715E-01	2.438E-02	0.510
		751.79		-2.036E+00	2.059E+00	3.086E+00	2.942E-01	-0.660
		815.85		-5.453E-02	3.499E-01	5.659E-01	5.553E-02	-0.096
		867.82		-1.816E-01	1.520E+00	2.457E+00	2.316E-01	-0.074
		919.63		1.886E+00	3.301E+00	5.680E+00	6.242E-01	0.332
		925.24		-1.170E+00	1.326E+00	1.945E+00	1.858E-01	-0.602
		1596.49	*	-7.992E-02	1.015E-01	1.442E-01	1.244E-02	-0.554
CE-141		145.44	*	-5.835E-03	6.815E-02	1.118E-01	9.728E-03	-0.052
CE-143		57.37		-1.140E-03	6.815E-02	Half-Life too short		
		231.56		-9.367E-04	6.815E-02	Half-Life too short		
		293.26	*	5.472E-04	6.815E-02	Half-Life too short		
		350.59		3.697E-02	6.815E-02	Half-Life too short		
		490.36		-6.162E-03	6.815E-02	Half-Life too short		
		664.57		7.379E-04	6.815E-02	Half-Life too short		
		721.93		-2.015E-03	6.815E-02	Half-Life too short		
CE-144		80.11		-1.011E-01	2.388E+00	3.416E+00	2.979E-01	-0.030
		133.54	*	5.389E-02	2.197E-01	3.511E-01	5.465E-02	0.153
PM-144		476.78		-5.530E-04	6.738E-02	1.080E-01	9.977E-03	-0.005
		618.01		-2.457E-02	3.466E-02	5.276E-02	4.543E-03	-0.466
		696.49	*	-1.511E-02	3.945E-02	6.347E-02	5.312E-03	-0.238
		778.57		-1.613E+00	2.219E+00	3.365E+00	2.934E-01	-0.479
PR-144		696.49	*	-1.025E+00	2.674E+00	4.303E+00	3.600E-01	-0.238
		1489.15		-6.811E+00	1.330E+01	2.013E+01	1.742E+00	-0.338
PM-146		453.90	*	3.538E-02	4.638E-02	7.882E-02	8.279E-03	0.449
		633.02		1.248E-01	1.455E+00	2.445E+00	9.120E-01	0.051
		735.90		-1.495E-01	1.555E-01	2.137E-01	6.106E-02	-0.700
		747.13		2.435E-02	9.342E-02	1.581E-01	2.216E-02	0.154

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ND-147	+	91.11		6.526E-01	2.449E-01	5.964E-01	5.896E-02	1.094
		319.41		8.180E-03	3.866E+00	6.336E+00	5.685E-01	0.001
		439.89		-2.240E+00	6.829E+00	1.072E+01	8.892E-01	-0.209
		531.02	*	-3.852E-03	6.224E-01	1.049E+00	1.560E-01	-0.004
PM-149		285.90	*	-1.559E+01	1.223E+02	1.998E+02	3.165E+01	-0.078
EU-152		121.78		4.886E-02	7.895E-02	1.286E-01	1.296E-02	0.380
		244.69		1.975E-01	4.010E-01	6.034E-01	5.492E-02	0.327
		344.27	*	6.433E-02	1.272E-01	1.777E-01	1.643E-02	0.362
		443.98		-2.004E-02	1.023E+00	1.645E+00	1.367E-01	-0.012
		778.89		-1.605E-01	2.500E-01	3.826E-01	3.335E-02	-0.419
		867.32		3.333E-02	8.457E-01	1.391E+00	1.250E-01	0.024
		964.01		5.708E-01	3.998E-01	6.496E-01	5.828E-02	0.879
		1085.78		-7.165E-02	4.327E-01	6.844E-01	5.867E-02	-0.105
		1112.02		6.802E-02	3.037E-01	5.025E-01	4.244E-02	0.135
		1407.95		2.119E-01	2.118E-01	3.922E-01	3.378E-02	0.540
GD-153		69.67		4.014E-02	1.965E+00	2.834E+00	2.273E-01	0.014
		83.37		1.944E+01	1.716E+01	2.586E+01	2.328E+00	0.752
		97.43	*	-1.018E-03	9.233E-02	1.298E-01	1.153E-02	-0.008
		103.18		-2.376E-01	1.343E-01	1.679E-01	1.465E-02	-1.415
EU-154		123.07		2.332E-02	5.405E-02	8.738E-02	1.003E-02	0.267
		247.94		-7.360E-02	3.754E-01	6.159E-01	7.299E-02	-0.120
		591.81		-7.814E-02	6.749E-01	1.057E+00	1.219E-01	-0.074
		723.30		-9.771E-02	1.792E-01	2.358E-01	2.219E-02	-0.414
		756.87		4.172E-01	8.437E-01	1.451E+00	1.739E-01	0.288
		873.19		1.046E-01	2.934E-01	4.987E-01	6.242E-02	0.210
		996.32		-1.218E-01	3.949E-01	6.176E-01	1.105E-01	-0.197
		1004.76		-1.022E-01	2.446E-01	3.785E-01	4.477E-02	-0.270
		1274.45	*	-4.542E-02	1.352E-01	2.175E-01	2.422E-02	-0.209
EU-155		48.70		-9.820E-01	2.983E+00	4.794E+00	4.103E-01	-0.205
		60.01		5.998E-01	5.535E+00	9.025E+00	6.823E-01	0.066
	+	86.54		3.679E-01	1.285E-01	1.939E-01	1.822E-02	1.897
		105.31	*	4.276E-02	1.260E-01	1.941E-01	1.707E-02	0.220
TB-160	+	86.79		9.914E-01	3.459E-01	5.273E-01	4.924E-02	1.880
		197.04		4.220E-01	6.036E-01	1.038E+00	9.122E-02	0.407
		215.65		-5.605E-02	7.919E-01	1.317E+00	1.177E-01	-0.043
		298.57		2.619E-01	1.660E-01	2.101E-01	1.910E-02	1.247
		879.36	*	-1.782E-02	1.566E-01	2.531E-01	2.283E-02	-0.070
		962.29		5.313E-01	6.601E-01	1.024E+00	9.190E-02	0.519
		966.15		6.786E-01	3.194E-01	5.350E-01	4.797E-02	1.268
		1177.93		-2.642E-01	3.669E-01	5.684E-01	4.609E-02	-0.465
		1271.85		-3.661E-01	7.382E-01	1.161E+00	9.730E-02	-0.315
HO-166M		80.57		-2.921E-02	3.082E-01	4.395E-01	3.849E-02	-0.066
		184.41		7.084E-02	4.319E-02	6.831E-02	5.928E-03	1.037
		280.46		5.449E-03	8.962E-02	1.483E-01	1.356E-02	0.037
		410.95		2.118E-01	2.733E-01	4.640E-01	3.785E-02	0.457
		711.68	*	-7.151E-03	6.587E-02	1.082E-01	9.126E-03	-0.066
		752.31		-2.041E-01	3.142E-01	4.890E-01	4.211E-02	-0.417
		810.29		-3.069E-03	6.238E-02	1.021E-01	9.008E-03	-0.030
TM-171		51.35		-6.339E+00	3.567E+01	5.766E+01	4.799E+00	-0.110

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		52.39		-3.846E-01	1.835E+01	2.987E+01	2.452E+00	-0.013
		59.40		8.305E+00	2.944E+01	4.836E+01	3.645E+00	0.172
		66.72	*	-6.456E+00	3.040E+01	4.878E+01	3.842E+00	-0.132
LU-176	+	88.36		7.243E-01	2.527E-01	3.916E-01	3.693E-02	1.850
		201.83		-2.262E-02	3.058E-02	4.942E-02	4.365E-03	-0.458
		306.84	*	4.240E-03	2.945E-02	4.291E-02	3.884E-03	0.099
		401.10		-8.225E-02	7.107E+00	1.150E+01	9.316E-01	-0.007
LU-177		112.95		2.533E-01	1.946E+00	3.072E+00	2.664E-01	0.082
	+	208.36	*	3.189E+00	1.621E+00	2.388E+00	2.122E-01	1.335
LU-177M		52.97		8.649E-03	1.865E+00	3.039E+00	2.475E-01	0.003
		54.07		6.985E-01	9.645E-01	1.619E+00	1.299E-01	0.431
		61.30		-1.642E-01	1.677E+00	2.709E+00	2.067E-01	-0.061
		121.62		2.890E-01	4.054E-01	6.635E-01	5.828E-02	0.436
		147.16		-1.178E+00	6.829E-01	1.066E+00	9.091E-02	-1.106
		171.86		1.067E-01	5.027E-01	8.534E-01	7.309E-02	0.125
		218.09		5.658E-01	9.188E-01	1.571E+00	1.407E-01	0.360
		268.79		8.087E-01	9.915E-01	1.515E+00	1.386E-01	0.534
		319.02		-8.729E-02	2.859E-01	4.598E-01	4.125E-02	-0.190
		367.43		-4.586E-01	1.032E+00	1.629E+00	1.375E-01	-0.282
		413.65	*	-1.512E-01	2.009E-01	3.068E-01	2.507E-02	-0.493
HF-181		56.28		-4.832E-01	1.067E+00	1.699E+00	1.325E-01	-0.284
		57.53		-3.954E-01	5.805E-01	9.136E-01	7.021E-02	-0.433
		65.20		-1.675E+00	1.103E+00	1.658E+00	1.294E-01	-1.011
		133.02		1.140E-03	7.161E-02	1.133E-01	9.769E-03	0.010
		136.25		-6.163E-02	4.662E-01	7.874E-01	6.766E-02	-0.078
		345.85		4.229E-02	2.407E-01	3.493E-01	3.046E-02	0.121
		482.03	*	-8.818E-03	4.708E-02	7.428E-02	6.259E-03	-0.119
W-181		56.28		-1.873E-01	4.135E-01	6.582E-01	5.134E-02	-0.285
		57.53		-1.534E-01	2.251E-01	3.543E-01	2.723E-02	-0.433
		65.20	*	-6.445E-01	4.243E-01	6.377E-01	4.979E-02	-1.011
TA-182		67.75		-7.859E-03	1.190E-01	1.921E-01	1.522E-02	-0.041
		100.10		1.302E-02	2.086E-01	2.976E-01	2.616E-02	0.044
		152.43		1.280E-01	3.469E-01	5.947E-01	5.067E-02	0.215
		222.10		-6.949E-02	3.753E-01	6.200E-01	5.572E-02	-0.112
		1001.68		-3.313E-01	2.398E+00	3.853E+00	3.422E-01	-0.086
	+	1121.28		6.483E-01	2.605E-01	3.977E-01	3.340E-02	1.630
		1189.05		-1.359E-01	3.152E-01	5.054E-01	4.116E-02	-0.269
		1221.42	*	-7.070E-02	1.908E-01	3.071E-01	2.531E-02	-0.230
		1230.97		1.144E-01	5.063E-01	8.483E-01	7.015E-02	0.135
RE-183		57.98		-1.504E-01	2.248E-01	3.540E-01	2.707E-02	-0.425
		59.32		3.094E-02	1.221E-01	2.003E-01	1.511E-02	0.154
		67.20		3.462E-02	2.137E-01	3.479E-01	2.748E-02	0.099
		162.32	*	1.614E-03	1.143E-01	1.929E-01	1.642E-02	0.008
	+	208.81		2.622E+00	1.333E+00	1.973E+00	1.754E-01	1.329
		291.72		-2.621E-01	1.073E+00	1.517E+00	1.383E-01	-0.173
RE-184		57.98		-5.511E-01	8.236E-01	1.297E+00	9.920E-02	-0.425
		59.32		1.133E-01	4.470E-01	7.335E-01	5.533E-02	0.154
		67.20		1.268E-01	7.828E-01	1.275E+00	1.007E-01	0.099
		161.27		1.172E-02	3.666E-01	6.194E-01	5.273E-02	0.019

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		216.55		9.271E-02	2.860E-01	4.836E-01	4.327E-02	0.192
		252.85	*	-7.148E-02	2.450E-01	3.994E-01	3.646E-02	-0.179
		318.01		-3.416E-01	5.029E-01	7.890E-01	7.085E-02	-0.433
		792.07		7.988E-01	1.075E+00	1.693E+00	1.484E-01	0.472
		903.28		-6.470E-01	1.230E+00	1.691E+00	1.531E-01	-0.383
		920.93		6.369E-03	4.981E-01	8.135E-01	7.352E-02	0.008
OS-185		59.72		1.020E-01	3.267E-01	5.372E-01	4.052E-02	0.190
		61.14		-3.378E-02	1.849E-01	2.977E-01	2.269E-02	-0.113
		69.30		1.148E-01	3.512E-01	5.147E-01	4.119E-02	0.223
		592.07		6.724E-01	2.640E+00	4.405E+00	3.715E-01	0.153
		646.12	*	-1.109E-02	4.400E-02	7.172E-02	5.925E-03	-0.155
		717.42		6.336E-01	9.109E-01	1.601E+00	1.355E-01	0.396
		874.81		-1.824E-01	6.170E-01	9.770E-01	8.799E-02	-0.187
		880.27		5.064E-01	8.533E-01	1.477E+00	1.332E-01	0.343
RE-188		155.03	*	1.890E-02	1.762E-01	2.991E-01	2.547E-02	0.063
		477.96		-4.794E-01	3.233E+00	5.118E+00	4.307E-01	-0.094
		633.10		3.704E-01	2.956E+00	4.985E+00	4.145E-01	0.074
W-188		63.58		-4.848E+01	6.093E+01	9.494E+01	7.343E+00	-0.511
		227.08		7.431E+00	1.372E+01	2.337E+01	2.107E+00	0.318
		290.67	*	8.169E-01	8.370E+00	1.219E+01	1.111E+00	0.067
IR-192	+	295.96		1.176E+00	2.280E-01	3.247E-01	2.975E-02	3.621
		308.46		4.264E-02	1.042E-01	1.697E-01	1.541E-02	0.251
		316.51	*	-2.606E-02	3.788E-02	5.935E-02	5.347E-03	-0.439
		468.07		-4.499E-03	7.947E-02	1.106E-01	9.981E-03	-0.041
		604.41		-1.040E-01	5.040E-01	7.155E-01	9.214E-02	-0.145
		612.46		2.561E+00	9.937E-01	1.721E+00	1.669E-01	1.488
AU-195		65.12		-2.917E-01	1.965E-01	2.959E-01	2.309E-02	-0.986
		66.83		-3.146E-02	1.012E-01	1.618E-01	1.275E-02	-0.194
	+	75.70		1.430E+00	3.072E-01	5.001E-01	4.194E-02	2.860
		98.88	*	6.954E-02	2.698E-01	3.852E-01	3.401E-02	0.181
		129.76		2.802E+00	3.139E+00	5.150E+00	4.461E-01	0.544
TL-200		367.94	*	-4.716E-04	3.139E+00	Half-Life too short		
		579.30		2.338E-03	3.139E+00	Half-Life too short		
		828.27		-7.017E-03	3.139E+00	Half-Life too short		
		1205.75		5.454E-04	3.139E+00	Half-Life too short		
TL-201		68.90		2.673E+00	6.972E+00	1.025E+01	8.180E-01	0.261
		70.82		1.265E+00	3.938E+00	5.764E+00	4.659E-01	0.219
		80.30		-9.756E-01	7.079E+00	1.007E+01	8.799E-01	-0.097
		135.34		2.345E+00	3.372E+01	5.344E+01	4.596E+00	0.044
		167.43	*	-3.195E+00	9.110E+00	1.513E+01	1.290E+00	-0.211
TL-202		68.90		2.042E-01	5.326E-01	7.829E-01	6.248E-02	0.261
		70.82		9.638E-02	3.000E-01	4.391E-01	3.549E-02	0.219
		80.30		-7.434E-02	5.394E-01	7.675E-01	6.705E-02	-0.097
		439.56	*	-5.356E-02	8.241E-02	1.260E-01	1.045E-02	-0.425
HG-203		70.83		4.029E-01	1.250E+00	1.829E+00	2.427E-01	0.220
		72.87		1.109E+00	7.524E-01	1.139E+00	1.473E-01	0.974
		82.60		7.501E-01	1.314E+00	1.930E+00	2.691E-01	0.389
		279.20	*	6.210E-02	4.338E-02	7.632E-02	7.156E-03	0.814
BI-207		72.80		2.623E-01	2.131E-01	3.233E-01	2.651E-02	0.811

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	74.97		7.905E-01	1.698E-01	2.477E-01	2.065E-02	3.192
		84.90		2.179E-01	2.186E-01	3.271E-01	2.993E-02	0.666
		569.67		-9.378E-03	3.185E-02	5.225E-02	4.427E-03	-0.179
		1063.62	*	-3.549E-02	6.061E-02	9.145E-02	7.928E-03	-0.388
		1770.23		-1.798E-01	4.578E-01	5.329E-01	4.463E-02	-0.337
TL-207		81.07		-3.196E-01	2.604E-01	3.472E-01	3.056E-02	-0.920
		83.78		8.880E-02	1.485E-01	2.185E-01	1.976E-02	0.406
		94.90		5.747E-01	2.697E-01	4.206E-01	3.782E-02	1.366
		122.32		1.148E+00	1.852E+00	3.018E+00	2.840E-01	0.380
		144.24		4.103E-01	7.245E-01	1.218E+00	1.166E-01	0.337
		154.21		-2.577E-01	4.131E-01	6.802E-01	6.384E-02	-0.379
		269.46		3.467E-01	2.338E-01	3.696E-01	3.445E-02	0.938
		323.87	*	7.257E-03	7.283E-01	1.193E+00	2.131E-01	0.006
	+	338.28		6.827E+00	2.104E+00	2.693E+00	3.351E-01	2.535
		445.03		-2.218E+00	2.512E+00	3.736E+00	4.434E-01	-0.594
PO-209		260.50		4.777E+00	1.038E+01	1.756E+01	1.606E+00	0.272
		262.80		-5.737E+00	2.905E+01	4.754E+01	4.348E+00	-0.121
		896.60	*	5.226E+00	8.676E+00	1.496E+01	1.354E+00	0.349
BI-210		46.50	*	4.724E+00	4.398E+00	7.490E+00	7.071E-01	0.631
PB-210		46.50	*	4.724E+00	4.398E+00	7.490E+00	7.071E-01	0.631
PO-210		46.50	*	4.724E+00	4.394E+00	7.490E+00	6.421E-01	0.631
PB-211		404.84	*	-9.252E-02	1.005E+00	1.613E+00	1.010E+00	-0.057
		427.08		9.792E-01	2.257E+00	3.629E+00	2.253E+00	0.270
		831.96		-1.789E-01	1.290E+00	2.081E+00	1.305E+00	-0.086
BI-212	+	727.18	*	2.012E+00	5.112E-01	7.532E-01	7.464E-02	2.671
		785.46		1.425E+00	1.810E+00	3.190E+00	2.788E-01	0.447
		1620.62		6.791E-01	1.486E+00	2.607E+00	2.244E-01	0.260
PO-215		81.07		-3.196E-01	2.604E-01	3.472E-01	3.056E-02	-0.920
		83.78		8.880E-02	1.485E-01	2.185E-01	1.976E-02	0.406
		94.90		5.747E-01	2.697E-01	4.206E-01	3.782E-02	1.366
		122.32		1.148E+00	1.852E+00	3.018E+00	2.840E-01	0.380
		144.24		4.103E-01	7.245E-01	1.218E+00	1.166E-01	0.337
		154.21		-2.577E-01	4.131E-01	6.802E-01	6.384E-02	-0.379
		269.46		3.467E-01	2.338E-01	3.696E-01	3.445E-02	0.938
		323.87	*	7.257E-03	7.283E-01	1.193E+00	2.131E-01	0.006
	+	338.28		6.827E+00	2.104E+00	2.693E+00	3.351E-01	2.535
		445.03		-2.218E+00	2.512E+00	3.736E+00	4.434E-01	-0.594
RN-219	+	271.23		4.372E-01	3.888E-01	4.949E-01	5.325E-02	0.883
		401.81	*	-2.696E-01	4.505E-01	6.953E-01	1.025E-01	-0.388
RN-220		549.76	*	-2.891E+00	2.785E+01	4.649E+01	3.946E+00	-0.062
RA-223		81.07		-3.196E-01	2.604E-01	3.472E-01	3.056E-02	-0.920
		83.78		8.880E-02	1.485E-01	2.185E-01	1.976E-02	0.406
		94.90		5.747E-01	2.697E-01	4.206E-01	3.782E-02	1.366
		122.32		1.148E+00	1.852E+00	3.018E+00	2.840E-01	0.380
		144.24		4.103E-01	7.245E-01	1.218E+00	1.166E-01	0.337
		154.21		-2.577E-01	4.131E-01	6.802E-01	6.384E-02	-0.379
		269.46		3.467E-01	2.338E-01	3.696E-01	3.445E-02	0.938
		323.87	*	7.257E-03	7.283E-01	1.193E+00	2.131E-01	0.006
	+	338.28		6.827E+00	2.104E+00	2.693E+00	3.351E-01	2.535

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		445.03		-2.218E+00	2.512E+00	3.736E+00	4.434E-01	-0.594
AC-227		79.80		1.103E-01	1.853E+00	2.665E+00	5.739E-01	0.041
		236.00		2.573E-01	2.655E-01	4.087E-01	5.134E-02	0.629
		256.20	*	-1.658E-01	4.084E-01	6.605E-01	1.033E-01	-0.251
		286.10		-8.882E-02	1.514E+00	2.486E+00	3.366E-01	-0.036
	+	299.80		6.082E+00	2.651E+00	2.792E+00	4.949E-01	2.178
		304.40		-2.971E-01	2.235E+00	3.182E+00	5.934E-01	-0.093
		334.20		1.879E-01	2.713E+00	3.909E+00	7.627E-01	0.048
TH-227		79.80		1.103E-01	1.853E+00	2.665E+00	5.813E-01	0.041
	+	94.00		1.006E+01	4.033E+00	4.082E+00	8.959E-01	2.464
		236.00		2.573E-01	2.652E-01	4.087E-01	4.671E-02	0.629
		256.20	*	-1.658E-01	4.087E-01	6.605E-01	1.210E-01	-0.251
		286.10		-8.882E-02	1.517E+00	2.486E+00	2.496E+00	-0.036
	+	299.80		6.082E+00	2.651E+00	2.792E+00	4.949E-01	2.178
		304.40		-2.971E-01	2.235E+00	3.182E+00	5.934E-01	-0.093
		334.20		1.879E-01	2.713E+00	3.909E+00	7.627E-01	0.048
TH-229		85.43		2.827E-01	2.211E-01	3.338E-01	3.071E-02	0.847
	+	88.47		4.169E-01	1.455E-01	2.266E-01	2.135E-02	1.840
		100.00		2.291E-02	2.157E-01	3.084E-01	2.713E-02	0.074
		193.63	*	4.346E-02	5.490E-01	9.228E-01	8.085E-02	0.047
		210.97		8.690E-01	9.171E-01	1.417E+00	1.262E-01	0.613
PA-231		283.67	*	-4.278E-01	1.560E+00	2.527E+00	3.913E-01	-0.169
	+	301.29		2.433E+00	1.016E+00	1.174E+00	1.475E-01	2.073
TH-231		81.07		-3.196E-01	2.604E-01	3.472E-01	3.056E-02	-0.920
		83.78		8.880E-02	1.485E-01	2.185E-01	1.976E-02	0.406
		94.90		5.747E-01	2.697E-01	4.206E-01	3.782E-02	1.366
		122.32		1.148E+00	1.852E+00	3.018E+00	2.840E-01	0.380
		144.24		4.103E-01	7.245E-01	1.218E+00	1.166E-01	0.337
		154.21		-2.577E-01	4.131E-01	6.802E-01	6.384E-02	-0.379
		269.46		3.467E-01	2.338E-01	3.696E-01	3.445E-02	0.938
		323.87	*	7.257E-03	7.283E-01	1.193E+00	2.131E-01	0.006
	+	338.28		6.827E+00	2.104E+00	2.693E+00	3.351E-01	2.535
		445.03		-2.218E+00	2.512E+00	3.736E+00	4.434E-01	-0.594
U-231		84.21		5.401E+00	7.351E+00	1.089E+01	9.889E-01	0.496
	+	92.29		1.163E+01	4.041E+00	5.160E+00	4.715E-01	2.253
		95.87	*	5.093E-01	1.407E+00	2.046E+00	1.830E-01	0.249
		108.00		-1.888E+00	2.686E+00	4.140E+00	3.589E-01	-0.456
PA-233	+	75.28		2.307E+01	5.756E+00	7.510E+00	1.142E+00	3.072
	+	86.59		5.978E+00	2.580E+00	3.158E+00	8.544E-01	1.893
	+	300.12		1.696E+00	7.223E-01	7.868E-01	1.192E-01	2.155
		311.98	*	3.218E-02	6.846E-02	1.153E-01	1.068E-02	0.279
		340.50		2.439E+00	1.027E+00	1.443E+00	3.448E-01	1.690
		398.62		-4.878E-01	2.197E+00	3.495E+00	9.249E-01	-0.140
		415.76		3.720E-01	1.732E+00	2.842E+00	6.077E-01	0.131
PA-234		63.00		-9.168E-01	1.796E+00	2.828E+00	4.245E-01	-0.324
		94.67		5.640E-01	2.070E-01	3.178E-01	4.026E-02	1.775
		98.44		2.887E-02	1.103E-01	1.560E-01	8.706E-02	0.185
		99.86		8.862E-02	5.472E-01	7.852E-01	6.910E-02	0.113
		111.00		-5.839E-02	1.995E-01	3.131E-01	3.795E-02	-0.186

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		131.20		-1.035E-01	1.202E-01	1.822E-01	1.575E-02	-0.568
		152.70		7.144E-02	3.322E-01	5.659E-01	9.618E-02	0.126
	+	186.00		3.963E+00	2.590E+00	2.873E+00	8.975E-01	1.379
		226.40		1.587E-01	4.217E-01	7.133E-01	9.603E-02	0.223
		227.20		2.276E-01	4.578E-01	7.787E-01	7.022E-02	0.292
		248.90		-1.640E-01	8.550E-01	1.402E+00	3.170E-01	-0.117
		293.70		3.870E+00	1.148E+00	1.660E+00	2.913E-01	2.331
		369.80		1.892E-01	9.509E-01	1.565E+00	3.396E-01	0.121
		568.70		-3.891E-01	1.009E+00	1.642E+00	1.391E-01	-0.237
		569.50		-1.031E-01	2.810E-01	4.582E-01	3.882E-02	-0.225
		574.00		7.363E-01	1.563E+00	2.713E+00	2.297E-01	0.271
		699.00		2.104E-01	8.206E-01	1.387E+00	2.631E-01	0.152
		706.10		-4.939E-01	1.231E+00	1.944E+00	8.661E-01	-0.254
		733.00		7.379E-02	3.899E-01	5.750E-01	1.274E-01	0.128
		742.81		-5.475E-01	1.424E+00	2.186E+00	1.469E+00	-0.251
	+	796.30		3.893E+00	2.461E+00	1.967E+00	5.330E-01	1.980
		805.60		-7.234E-01	1.356E+00	1.741E+00	5.346E-01	-0.415
		819.60		4.596E-01	1.290E+00	2.177E+00	8.289E-01	0.211
		826.30		-1.740E-01	8.750E-01	1.403E+00	6.282E-01	-0.124
		831.60		-1.460E-01	6.676E-01	1.070E+00	3.202E-01	-0.136
		876.40		9.784E-02	8.786E-01	1.445E+00	1.486E+00	0.068
		880.51		2.764E-01	3.004E-01	5.351E-01	4.827E-02	0.517
		883.24		4.263E-02	3.031E-01	5.008E-01	3.369E-01	0.085
		899.00		-2.332E-01	9.720E-01	1.541E+00	6.752E-01	-0.151
		925.00		-1.218E+00	1.302E+00	1.896E+00	1.713E-01	-0.642
		926.50		-1.142E-01	1.916E-01	2.881E-01	7.325E-02	-0.396
		946.00	*	1.938E-01	3.283E-01	5.639E-01	1.068E-01	0.344
		949.00		3.830E-01	4.540E-01	8.047E-01	7.241E-02	0.476
		980.50		-1.755E-01	7.031E-01	1.106E+00	9.878E-02	-0.159
		1394.10		8.377E-01	1.229E+00	2.040E+00	1.328E+00	0.411
PA-234M		766.42		3.325E+00	1.248E+01	2.086E+01	1.058E+01	0.159
		1001.03	*	-1.954E+00	5.403E+00	8.478E+00	8.642E-01	-0.231
TH-234		63.29	*	-8.680E-01	1.520E+00	2.382E+00	4.187E-01	-0.364
	+	92.38		2.603E+00	9.947E-01	1.154E+00	2.115E-01	2.256
U-235	+	89.95		2.447E+00	1.167E+00	2.002E+00	6.217E-01	1.223
	+	93.35		3.129E+00	1.371E+00	1.369E+00	3.856E-01	2.286
		105.00		1.163E+00	1.317E+00	1.899E+00	5.671E-01	0.613
		143.76	*	1.274E-01	2.250E-01	3.769E-01	6.585E-02	0.338
		163.35		-2.631E-01	5.075E-01	8.094E-01	1.541E-01	-0.325
	+	185.71		1.468E-01	8.522E-02	1.062E-01	9.224E-03	1.383
		205.31		3.393E-01	6.259E-01	9.331E-01	1.791E-01	0.364
NP-236		94.67		4.304E-01	1.524E-01	2.413E-01	2.172E-02	1.784
		98.44		2.181E-02	8.253E-02	1.179E-01	1.043E-02	0.185
		111.00		-4.417E-02	1.509E-01	2.369E-01	2.052E-02	-0.186
		160.31	*	2.196E-02	8.182E-02	1.395E-01	1.188E-02	0.157
U-238		63.29	*	-8.680E-01	1.520E+00	2.382E+00	4.187E-01	-0.364
	+	92.38		2.603E+00	9.045E-01	1.154E+00	1.054E-01	2.256
NP-239		99.55		5.112E-02	1.835E-01	2.651E-01	2.335E-02	0.193
		117.00	*	2.195E-02	2.043E-01	3.261E-01	2.840E-02	0.067

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	209.75		2.049E+00	1.042E+00	1.528E+00	1.360E-01	1.341
		228.18		-3.690E-02	2.401E-01	3.966E-01	3.579E-02	-0.093
		277.60		9.343E-02	1.890E-01	3.197E-01	2.924E-02	0.292
		334.30		1.559E-01	1.540E+00	2.225E+00	1.967E-01	0.070
AM-241		59.54	*	4.732E-02	1.711E-01	2.810E-01	2.316E-02	0.168
CM-243		99.55		5.261E-02	1.888E-01	2.728E-01	2.403E-02	0.193
		103.76	*	-1.536E-02	1.166E-01	1.641E-01	1.429E-02	-0.094
		117.00		2.258E-02	2.102E-01	3.356E-01	2.922E-02	0.067
	+	209.75		2.020E+00	1.027E+00	1.507E+00	1.341E-01	1.341
		228.18		-3.729E-02	2.426E-01	4.008E-01	3.616E-02	-0.093
		277.60		9.420E-02	1.906E-01	3.223E-01	2.948E-02	0.292
AM-246	+	798.80		6.122E-01	3.538E-01	2.200E-01	1.933E-02	2.782
		1036.00		-1.525E-01	3.118E-01	4.740E-01	4.159E-02	-0.322
		1062.04		1.826E-01	2.548E-01	4.422E-01	3.836E-02	0.413
		1078.86	*	-7.989E-02	1.582E-01	2.402E-01	2.067E-02	-0.333
CM-247		278.00		5.453E-01	7.806E-01	1.333E+00	1.219E-01	0.409
		287.40		-6.042E-01	1.230E+00	1.963E+00	1.792E-01	-0.308
		402.60	*	6.584E-03	3.858E-02	6.324E-02	5.128E-03	0.104
CF-249		252.85		-2.672E-01	9.156E-01	1.493E+00	1.363E-01	-0.179
		333.44		-1.223E-01	2.172E-01	2.899E-01	2.566E-02	-0.422
		387.95	*	-6.739E-03	4.338E-02	6.961E-02	5.647E-03	-0.097
CF-251		176.60	*	-6.307E-02	1.312E-01	2.161E-01	1.860E-02	-0.292
		227.00		2.458E-01	4.063E-01	6.941E-01	6.258E-02	0.354
		285.00		-1.022E+00	1.747E+00	2.772E+00	2.532E-01	-0.369

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137002      *
* Acquisition date : 20-JAN-2010 13:43:15 Detector SN#     :               *
* Detector ID        : GAM01               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000        *
* Elapsed real time:    0 02:00:01.12      Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date        :  4-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G244137002           Analyst initials: MXR1          *
* Batch Number       : 940263               Sample Quantity : 1.3343E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME : 12-JAN-2010 15:15:52 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.938E+01	2.251E+00	5.883E-01	0.000E+00
CD-109	3.111E+00	1.064E+00	1.378E+00	0.000E+00
SN-126	3.054E-01	1.044E-01	1.359E-01	0.000E+00
TL-208	5.878E-01	1.075E-01	6.301E-02	0.000E+00
BI-211	3.817E+00	6.551E-01	3.560E-01	0.000E+00
PB-212	1.730E+00	2.094E-01	1.110E-01	0.000E+00
PO-212	1.730E+00	2.094E-01	1.110E-01	0.000E+00
BI-214	1.174E+00	1.999E-01	1.148E-01	0.000E+00
PB-214	1.328E+00	2.378E-01	1.241E-01	0.000E+00
PO-214	1.328E+00	2.378E-01	1.241E-01	0.000E+00
PO-216	1.730E+00	2.094E-01	1.110E-01	0.000E+00
PO-218	1.328E+00	2.378E-01	1.241E-01	0.000E+00
RA-224	4.153E+00	1.445E+00	1.189E+00	0.000E+00
RA-226	1.174E+00	1.999E-01	1.148E-01	0.000E+00
AC-228	1.349E+00	3.493E-01	2.440E-01	0.000E+00
RA-228	1.349E+00	3.493E-01	2.440E-01	0.000E+00
TH-228	1.758E+00	2.128E-01	1.128E-01	0.000E+00
TH-230	1.174E+00	1.999E-01	1.148E-01	0.000E+00
TH-232	1.349E+00	3.493E-01	2.440E-01	0.000E+00
U-234	1.174E+00	1.999E-01	1.148E-01	0.000E+00
NP-237	8.967E-01	3.562E-01	4.512E-01	0.000E+00
AM-243	4.404E-01	9.270E-02	9.662E-02	0.000E+00
ANH-511	7.958E-02	6.208E-02	5.723E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)		
BE-7	-5.242E-02	3.267E-01	5.388E-01	0.000E+00	NOT IDENT.
NA-22	-8.532E-03	4.668E-02	7.831E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.313E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.540E-02	2.728E-02	3.263E-02	0.000E+00	NOT IDENT.

TI-44	0.000E+00	6.090E-02	8.751E-02	0.000E+00	FAIL ABUN
SC-46	1.575E-02	4.003E-02	7.024E-02	0.000E+00	FAIL ABUN
V-48	3.347E-02	7.435E-02	1.304E-01	0.000E+00	NOT IDENT.
CR-51	1.423E-01	4.151E-01	7.279E-01	0.000E+00	NOT IDENT.
MN-52	1.334E-01	2.881E-01	5.211E-01	0.000E+00	NOT IDENT.
MN-54	-1.298E-02	3.906E-02	6.411E-02	0.000E+00	NOT IDENT.
CO-56	3.395E-02	4.072E-02	7.430E-02	0.000E+00	NOT IDENT.
CO-57	1.338E-02	2.656E-02	4.598E-02	0.000E+00	NOT IDENT.
CO-58	2.284E-02	4.066E-02	7.269E-02	0.000E+00	NOT IDENT.
FE-59	1.760E-02	9.737E-02	1.644E-01	0.000E+00	NOT IDENT.
CO-60	2.918E-02	3.531E-02	6.680E-02	0.000E+00	NOT IDENT.
ZN-65	-7.566E-02	1.028E-01	1.272E-01	0.000E+00	NOT IDENT.
GE-68	-4.528E-02	1.344E+00	2.220E+00	0.000E+00	NOT IDENT.
AS-73	4.504E-01	9.297E-01	1.673E+00	0.000E+00	NOT IDENT.
AS-74	2.917E-02	9.231E-02	1.646E-01	0.000E+00	NOT IDENT.
SE-75	-1.013E-02	5.069E-02	8.077E-02	0.000E+00	NOT IDENT.
BR-77	-3.883E+00	1.443E+01	2.340E+01	0.000E+00	FAIL ABUN
SR-82	-3.361E-01	3.845E-01	5.959E-01	0.000E+00	NOT IDENT.
RB-83	-1.675E-02	7.298E-02	1.188E-01	0.000E+00	NOT IDENT.
RB-84	1.300E-01	7.248E-02	1.424E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	9.262E+00	1.560E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.797E-02	8.079E-02	0.000E+00	NOT IDENT.
RB-86	4.961E-01	8.596E-01	1.514E+00	0.000E+00	NOT IDENT.
Y-88	-9.386E-03	3.134E-02	4.781E-02	0.000E+00	NOT IDENT.
ZR-88	-1.568E-02	3.396E-02	5.577E-02	0.000E+00	NOT IDENT.
Y-91	3.379E+00	1.951E+01	3.407E+01	0.000E+00	NOT IDENT.
NB-94	2.724E-02	3.732E-02	6.750E-02	0.000E+00	NOT IDENT.
NB-95	-5.727E-02	4.710E-02	7.169E-02	0.000E+00	NOT IDENT.
NB-95M	3.849E-02	1.420E-01	2.227E-01	0.000E+00	NOT IDENT.
ZR-95	1.032E-01	7.619E-02	1.439E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.692E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.603E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.390E+01	1.433E+01	2.647E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.501E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	5.989E-03	3.564E-02	6.227E-02	0.000E+00	NOT IDENT.
RH-102	-2.502E-02	2.941E-02	4.540E-02	0.000E+00	NOT IDENT.
RU-103	1.829E-02	4.543E-02	7.806E-02	0.000E+00	FAIL ABUN
RH-106	1.647E-01	3.344E-01	6.008E-01	0.000E+00	FAIL ABUN
RU-106	1.647E-01	3.340E-01	6.008E-01	0.000E+00	FAIL ABUN
AG-108M	3.091E-03	3.615E-02	6.127E-02	0.000E+00	NOT IDENT.
AG-110M	4.129E-03	3.729E-02	6.496E-02	0.000E+00	NOT IDENT.
IN-111	-2.841E-01	1.533E+00	2.327E+00	0.000E+00	NOT IDENT.
IN-113M	2.700E-02	4.832E-02	8.496E-02	0.000E+00	NOT IDENT.
SN-113	2.700E-02	4.832E-02	8.496E-02	0.000E+00	NOT IDENT.
IN-114M	-6.016E-02	2.217E-01	3.417E-01	0.000E+00	NOT IDENT.
CD-115	1.037E+01	1.486E+01	2.734E+01	0.000E+00	NOT IDENT.
SN-117M	-7.838E-03	5.788E-02	1.033E-01	0.000E+00	NOT IDENT.
SB-122	1.030E+00	2.580E+00	4.642E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.938E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.864E-03	2.872E-02	5.167E-02	0.000E+00	NOT IDENT.
I-124	1.232E-01	7.448E-01	1.243E+00	0.000E+00	FAIL ABUN
SB-124	-1.662E-02	8.269E-02	1.324E-01	0.000E+00	NOT IDENT.
SB-125	-6.027E-02	9.888E-02	1.589E-01	0.000E+00	FAIL ABUN
TE-125M	-2.644E+00	1.008E+01	1.697E+01	0.000E+00	NOT IDENT.
I-126	-2.369E-02	2.094E-01	3.582E-01	0.000E+00	NOT IDENT.
SB-126	-5.766E-03	1.639E-01	2.427E-01	0.000E+00	FAIL ABUN
SB-127	2.689E-02	1.703E+00	2.936E+00	0.000E+00	NOT IDENT.
XE-127	-6.756E-03	4.991E-02	8.785E-02	0.000E+00	NOT IDENT.
I-131	3.114E-02	1.381E-01	2.389E-01	0.000E+00	NOT IDENT.
TE-132	-1.295E-01	8.818E-01	1.539E+00	0.000E+00	NOT IDENT.
BA-133	-1.325E-02	5.095E-02	7.430E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.338E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	7.728E-02	5.481E-02	1.025E-01	0.000E+00	NOT IDENT.
CS-135	3.843E-02	1.855E-01	2.876E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.366E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.930E-02	1.196E-01	2.059E-01	0.000E+00	FAIL ABUN
BA-137M	-6.207E-03	3.782E-02	6.444E-02	0.000E+00	NOT IDENT.
CS-137	-6.562E-03	3.998E-02	6.812E-02	0.000E+00	NOT IDENT.
CE-139	8.622E-03	3.051E-02	5.522E-02	0.000E+00	NOT IDENT.
BA-140	-1.041E-01	2.618E-01	4.406E-01	0.000E+00	NOT IDENT.
LA-140	-7.992E-02	9.951E-02	1.442E-01	0.000E+00	NOT IDENT.
CE-141	-5.835E-03	6.679E-02	1.167E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.897E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	5.389E-02	2.153E-01	3.668E-01	0.000E+00	NOT IDENT.
PM-144	-1.511E-02	3.866E-02	6.444E-02	0.000E+00	NOT IDENT.
PR-144	-1.025E+00	2.621E+00	4.369E+00	0.000E+00	NOT IDENT.
PM-146	3.538E-02	4.545E-02	8.063E-02	0.000E+00	NOT IDENT.
ND-147	-3.852E-03	6.099E-01	1.070E+00	0.000E+00	FAIL ABUN

PM-149	-1.559E+01	1.198E+02	2.061E+02	0.000E+00	NOT IDENT.
EU-152	6.433E-02	1.247E-01	1.827E-01	0.000E+00	NOT IDENT.
GD-153	-1.018E-03	9.048E-02	1.363E-01	0.000E+00	NOT IDENT.
EU-154	-4.542E-02	1.325E-01	2.185E-01	0.000E+00	NOT IDENT.
EU-155	4.276E-02	1.234E-01	2.036E-01	0.000E+00	FAIL ABUN
TB-160	-1.782E-02	1.534E-01	2.559E-01	0.000E+00	FAIL ABUN
HO-166M	-7.151E-03	6.455E-02	1.098E-01	0.000E+00	NOT IDENT.
TM-171	-6.456E+00	2.979E+01	5.155E+01	0.000E+00	NOT IDENT.
LU-176	4.240E-03	2.886E-02	4.419E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.588E+00	2.476E+00	0.000E+00	FAIL ABUN
LU-177M	-1.512E-01	1.969E-01	3.144E-01	0.000E+00	NOT IDENT.
HF-181	-8.818E-03	4.614E-02	7.590E-02	0.000E+00	NOT IDENT.
W-181	-6.445E-01	4.158E-01	6.742E-01	0.000E+00	NOT IDENT.
TA-182	-7.070E-02	1.870E-01	3.086E-01	0.000E+00	FAIL ABUN
RE-183	1.614E-03	1.120E-01	2.008E-01	0.000E+00	FAIL ABUN
RE-184	-7.148E-02	2.401E-01	4.128E-01	0.000E+00	NOT IDENT.
OS-185	-1.109E-02	4.312E-02	7.291E-02	0.000E+00	NOT IDENT.
RE-188	1.890E-02	1.727E-01	3.116E-01	0.000E+00	NOT IDENT.
W-188	8.169E-01	8.203E+00	1.256E+01	0.000E+00	NOT IDENT.
IR-192	-2.606E-02	3.713E-02	6.110E-02	0.000E+00	FAIL ABUN
AU-195	6.954E-02	2.644E-01	4.044E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	9.418E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-3.195E+00	8.927E+00	1.574E+01	0.000E+00	NOT IDENT.
TL-202	-5.356E-02	8.077E-02	1.290E-01	0.000E+00	NOT IDENT.
HG-203	6.210E-02	4.252E-02	7.874E-02	0.000E+00	NOT IDENT.
BI-207	-3.549E-02	5.940E-02	9.214E-02	0.000E+00	FAIL ABUN
TL-207	7.257E-03	7.137E-01	1.228E+00	0.000E+00	FAIL ABUN
PO-209	5.226E+00	8.503E+00	1.512E+01	0.000E+00	NOT IDENT.
BI-210	4.724E+00	4.310E+00	7.963E+00	0.000E+00	NOT IDENT.
PB-210	4.724E+00	4.310E+00	7.963E+00	0.000E+00	NOT IDENT.
PO-210	4.724E+00	4.306E+00	7.963E+00	0.000E+00	NOT IDENT.
PB-211	-9.252E-02	9.850E-01	1.654E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.010E-01	7.641E-01	0.000E+00	FAIL ABUN
PO-215	7.257E-03	7.137E-01	1.228E+00	0.000E+00	FAIL ABUN
RN-219	-2.696E-01	4.415E-01	7.127E-01	0.000E+00	FAIL ABUN
RN-220	-2.891E+00	2.729E+01	4.740E+01	0.000E+00	NOT IDENT.
RA-223	7.257E-03	7.137E-01	1.228E+00	0.000E+00	FAIL ABUN
AC-227	-1.658E-01	4.002E-01	6.824E-01	0.000E+00	FAIL ABUN
TH-227	-1.658E-01	4.005E-01	6.824E-01	0.000E+00	FAIL ABUN
TH-229	4.346E-02	5.380E-01	9.580E-01	0.000E+00	FAIL ABUN
PA-231	-4.278E-01	1.529E+00	2.606E+00	0.000E+00	FAIL ABUN
TH-231	7.257E-03	7.137E-01	1.228E+00	0.000E+00	FAIL ABUN
U-231	5.093E-01	1.379E+00	2.149E+00	0.000E+00	FAIL ABUN
PA-233	3.218E-02	6.709E-02	1.188E-01	0.000E+00	FAIL ABUN
PA-234	1.938E-01	3.217E-01	5.693E-01	0.000E+00	FAIL ABUN
PA-234M	-1.954E+00	5.295E+00	8.552E+00	0.000E+00	NOT IDENT.
TH-234	-8.680E-01	1.490E+00	2.520E+00	0.000E+00	FAIL ABUN
U-235	1.274E-01	2.205E-01	3.933E-01	0.000E+00	FAIL ABUN
NP-236	2.196E-02	8.018E-02	1.453E-01	0.000E+00	NOT IDENT.
U-238	-8.680E-01	1.490E+00	2.520E+00	0.000E+00	FAIL ABUN
NP-239	2.195E-02	2.002E-01	3.415E-01	0.000E+00	FAIL ABUN
AM-241	4.732E-02	1.677E-01	2.975E-01	0.000E+00	NOT IDENT.
CM-243	-1.536E-02	1.142E-01	1.721E-01	0.000E+00	FAIL ABUN
AM-246	-7.989E-02	1.551E-01	2.420E-01	0.000E+00	FAIL ABUN
CM-247	6.584E-03	3.781E-02	6.482E-02	0.000E+00	NOT IDENT.
CF-249	-6.739E-03	4.251E-02	7.141E-02	0.000E+00	NOT IDENT.
CF-251	-6.307E-02	1.286E-01	2.247E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:44:52.91

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137002.CNF;1
Sample date       : 4-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:43:15
Sample ID         : G244137002           Sample quantity  : 1.33430E+02 GRAM
Detector name     : GAM01                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.12  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 940263               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	695	10.67*	9.455E-01	1.938E+01	1.938E+01	11.85
CD-109	88.03	209	3.72*	5.198E+00	3.037E+00	3.111E+00	34.89
SN-126	64.28	------	9.60	2.906E+00	------ Line Not Found		------
	86.94	209	8.90	5.198E+00	1.270E+00	1.270E+00	53.42
	87.57	209	37.00*	5.198E+00	3.054E-01	3.054E-01	34.89
TL-208	277.35	------	6.80	3.885E+00	------ Line Not Found		------
	510.84	68	21.60	2.391E+00	3.684E-01	3.684E-01	80.04
	583.14	377	84.20*	2.142E+00	5.878E-01	5.878E-01	18.67
	860.37	------	12.46	1.522E+00	------ Line Not Found		------
BI-211	72.87	------	1.27	3.944E+00	------ Line Not Found		------
	351.07	566	12.94*	3.226E+00	3.817E+00	3.817E+00	17.51
PB-212	74.81	430	10.70	4.161E+00	2.716E+00	2.716E+00	23.42
	77.11	590	18.00	4.384E+00	2.102E+00	2.102E+00	16.02
	87.30	209	8.00	5.198E+00	1.412E+00	1.412E+00	36.30
	238.63	1192	44.60*	4.344E+00	1.730E+00	1.730E+00	12.35
	300.09	145	3.41	3.647E+00	3.282E+00	3.282E+00	41.26
PO-212	74.81	430	10.70	4.161E+00	2.716E+00	2.716E+00	23.42
	77.11	590	18.00	4.384E+00	2.102E+00	2.102E+00	16.02
	87.30	209	8.00	5.198E+00	1.412E+00	1.412E+00	36.30
	115.19	------	0.60	6.043E+00	------ Line Not Found		------
	238.63	1192	44.60*	4.344E+00	1.730E+00	1.730E+00	12.35
	300.09	145	3.41	3.647E+00	3.282E+00	3.282E+00	41.26
BI-214	609.31	399	46.30*	2.064E+00	1.174E+00	1.174E+00	17.38
	1120.29	87	15.10	1.193E+00	1.363E+00	1.363E+00	40.73
	1764.49	81	15.80	8.255E-01	1.755E+00	1.755E+00	28.49
PB-214	74.81	430	6.21	4.161E+00	4.680E+00	4.680E+00	22.72
	77.11	590	10.50	4.384E+00	3.603E+00	3.603E+00	17.74
	87.30	209	4.67	5.198E+00	2.419E+00	2.419E+00	35.73
	241.98	251	7.49	4.306E+00	2.190E+00	2.190E+00	35.93
	295.21	386	19.20	3.698E+00	1.528E+00	1.528E+00	20.34
	351.92	566	37.20*	3.226E+00	1.328E+00	1.328E+00	18.27
PO-214	74.81	430	6.21	4.161E+00	4.680E+00	4.680E+00	22.72

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	590	10.50	4.384E+00	3.603E+00	3.603E+00	17.74
	87.30	209	4.67	5.198E+00	2.419E+00	2.419E+00	35.73
	241.98	251	7.49	4.306E+00	2.190E+00	2.190E+00	35.93
	295.21	386	19.20	3.698E+00	1.528E+00	1.528E+00	20.34
	351.92	566	37.20*	3.226E+00	1.328E+00	1.328E+00	18.27
PO-216	74.81	430	10.70	4.161E+00	2.716E+00	2.716E+00	23.42
	77.11	590	18.00	4.384E+00	2.102E+00	2.102E+00	16.02
	87.30	209	8.00	5.198E+00	1.412E+00	1.412E+00	36.30
	238.63	1192	44.60*	4.344E+00	1.730E+00	1.730E+00	12.35
	300.09	145	3.41	3.647E+00	3.282E+00	3.282E+00	41.26
PO-218	74.81	430	6.21	4.161E+00	4.680E+00	4.680E+00	22.72
	77.11	590	10.50	4.384E+00	3.603E+00	3.603E+00	17.74
	87.30	209	4.67	5.198E+00	2.419E+00	2.419E+00	35.73
	241.98	251	7.49	4.306E+00	2.190E+00	2.190E+00	35.93
	295.21	386	19.20	3.698E+00	1.528E+00	1.528E+00	20.34
	351.92	566	37.20*	3.226E+00	1.328E+00	1.328E+00	18.27
RA-224	240.98	251	3.95*	4.306E+00	4.153E+00	4.153E+00	35.49
RA-226	609.31	399	46.30*	2.064E+00	1.174E+00	1.174E+00	17.38
	1120.29	87	15.10	1.193E+00	1.363E+00	1.363E+00	40.73
	1764.49	81	15.80	8.255E-01	1.755E+00	1.755E+00	28.49
AC-228	338.32	220	11.40	3.328E+00	1.635E+00	1.635E+00	50.01
	911.07	192	27.70*	1.444E+00	1.349E+00	1.349E+00	26.43
	969.11	64	16.60	1.363E+00	7.923E-01	7.923E-01	87.34
RA-228	338.32	220	11.40	3.328E+00	1.635E+00	1.635E+00	50.01
	911.07	192	27.70*	1.444E+00	1.349E+00	1.349E+00	26.43
	969.11	64	16.60	1.363E+00	7.923E-01	7.923E-01	87.34
TH-228	74.81	430	10.70	4.161E+00	2.716E+00	2.760E+00	21.51
	77.11	590	18.00	4.384E+00	2.102E+00	2.136E+00	16.02
	87.30	209	8.00	5.198E+00	1.412E+00	1.435E+00	34.89
	238.63	1192	44.60*	4.344E+00	1.730E+00	1.758E+00	12.35
	300.09	145	3.41	3.647E+00	3.282E+00	3.335E+00	71.47
TH-230	609.31	399	46.30*	2.064E+00	1.174E+00	1.174E+00	17.38
	1120.29	87	15.10	1.193E+00	1.363E+00	1.363E+00	40.73
	1764.49	81	15.80	8.255E-01	1.755E+00	1.755E+00	28.49
TH-232	338.32	220	11.40	3.328E+00	1.635E+00	1.635E+00	29.54
	911.07	192	27.70*	1.444E+00	1.349E+00	1.349E+00	26.43
	969.11	64	16.60	1.363E+00	7.923E-01	7.923E-01	87.34
U-234	609.31	399	46.30*	2.064E+00	1.174E+00	1.174E+00	17.38
	1120.29	87	15.10	1.193E+00	1.363E+00	1.363E+00	40.73
	1764.49	81	15.80	8.255E-01	1.755E+00	1.755E+00	28.49
NP-237	86.50	209	12.60*	5.198E+00	8.967E-01	8.967E-01	40.54
	95.87	------	2.60	5.636E+00	------ Line Not Found		------
AM-243	74.67	430	66.00*	4.161E+00	4.404E-01	4.404E-01	21.48
	86.72	209	0.34	5.198E+00	3.363E+01	3.363E+01	34.89
	117.66	------	0.55	6.054E+00	------ Line Not Found		------
	142.18	------	0.13	5.887E+00	------ Line Not Found		------
ANH-511	511.00	68	100.00*	2.391E+00	7.958E-02	7.958E-02	79.60

Flag: "*" = Keyline

Sample ID : G244137002 Acquisition date : 20-JAN-2010 13:43:15

Total number of lines in spectrum 27
Number of unidentified lines 1
Number of lines tentatively identified by NID 26 96.30%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.938E+01	1.938E+01	0.230E+01	11.85	
CD-109	464.00D	1.02	3.037E+00	3.111E+00	1.086E+00	34.89	
SN-126	1.00E+05Y	1.00	3.054E-01	3.054E-01	1.066E-01	34.89	
TL-208	1.41E+10Y	1.00	5.878E-01	5.878E-01	1.097E-01	18.67	
BI-211	7.04E+08Y	1.00	3.817E+00	3.817E+00	0.668E+00	17.51	
PB-212	1.41E+10Y	1.00	1.730E+00	1.730E+00	0.214E+00	12.35	
PO-212	1.41E+10Y	1.00	1.730E+00	1.730E+00	0.214E+00	12.35	
BI-214	1600.00Y	1.00	1.174E+00	1.174E+00	0.204E+00	17.38	
PB-214	1600.00Y	1.00	1.328E+00	1.328E+00	0.243E+00	18.27	
PO-214	1600.00Y	1.00	1.328E+00	1.328E+00	0.243E+00	18.27	
PO-216	1.41E+10Y	1.00	1.730E+00	1.730E+00	0.214E+00	12.35	
PO-218	1600.00Y	1.00	1.328E+00	1.328E+00	0.243E+00	18.27	
RA-224	1.41E+10Y	1.00	4.153E+00	4.153E+00	1.474E+00	35.49	
RA-226	1600.00Y	1.00	1.174E+00	1.174E+00	0.204E+00	17.38	
AC-228	1.41E+10Y	1.00	1.349E+00	1.349E+00	0.356E+00	26.43	
RA-228	1.41E+10Y	1.00	1.349E+00	1.349E+00	0.356E+00	26.43	
TH-228	1.91Y	1.02	1.730E+00	1.758E+00	0.217E+00	12.35	
TH-230	4.47E+09Y	1.00	1.174E+00	1.174E+00	0.204E+00	17.38	
TH-232	1.41E+10Y	1.00	1.349E+00	1.349E+00	0.356E+00	26.43	
U-234	4.47E+09Y	1.00	1.174E+00	1.174E+00	0.204E+00	17.38	
NP-237	2.14E+06Y	1.00	8.967E-01	8.967E-01	3.635E-01	40.54	
AM-243	7380.00Y	1.00	4.404E-01	4.404E-01	0.946E-01	21.48	
ANH-511	1.00E+09Y	1.00	7.958E-02	7.958E-02	6.335E-02	79.60	
	Total Activity :		5.234E+01	5.244E+01			

Grand Total Activity : 5.234E+01 5.244E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G244137002 Acquisition date : 20-JAN-2010 13:43:15

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
6	90.04	126	210	0.94	180.77	179	27	1.75E-02	36.2	5.36E+00	T
6	92.89	276	469	1.73	186.48	179	27	3.83E-02	33.5	5.51E+00	T
0	186.23	145	390	1.42	373.05	368	11	2.02E-02	57.4	5.16E+00	T
0	209.46	113	226	1.57	419.48	416	8	1.57E-02	50.0	4.77E+00	T
0	270.97	65	218	1.49	542.44	537	10	9.05E-03	88.3	3.95E+00	T
0	463.80	54	126	1.34	927.86	922	11	7.53E-03	84.7	2.59E+00	T
0	727.49	149	30	2.30	1454.92	1446	17	2.08E-02	23.4	1.77E+00	T
0	797.67	88	75	8.83	1595.18	1585	25	1.22E-02	57.1	1.63E+00	T
0	1508.63	28	10	0.93	3016.08	3008	14	3.86E-03	62.3	9.22E-01	T
0	1730.35	24	11	0.99	3459.16	3453	12	3.28E-03	71.3	8.36E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:44:58.32

```
*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137002.CNF;1 *
* Acquisition date  : 20-JAN-2010 13:43:15  Detector SN#     :             *
* Detector ID       : GAM01                 Sensitivity      : 5.00000    *
* Geometry          : CAN                   Energy tolerance: 1.50000     *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000    *
* Elapsed real time: 0 02:00:01.12          Half life ratio : 8.00000     *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       : 4-JAN-2010 12:00:00.  Nuclide Library : SOLID       *
* Sample ID         : G244137002            Analyst initials: MXR1        *
* Batch Number      : 940263                Sample Quantity : 1.33430E+02 GRAM *
*****************************************************************************
*                                                                           *
*                                  QC DATA                                  *
*                                                                           *
* CALIB. DATE/TIME : 12-JAN-2010 15:15:52.7MS Isotope      :               *
* MSD ID           :                      MSD Isotope     :               *
* LCS ID           : 1032-A               LCS Isotope     :               *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.938E+01	2.297E+00	5.872E-01	5.220E-02	33.001
CD-109	3.111E+00	1.086E+00	1.310E+00	1.239E-01	2.376
SN-126	3.054E-01	1.066E-01	1.292E-01	1.217E-02	2.363
TL-208	5.878E-01	1.097E-01	6.186E-02	5.618E-03	9.501
BI-211	3.817E+00	6.684E-01	3.465E-01	3.152E-02	11.017
PB-212	1.730E+00	2.137E-01	1.073E-01	1.086E-02	16.124
PO-212	1.730E+00	2.137E-01	1.073E-01	1.086E-02	16.124
BI-214	1.174E+00	2.040E-01	1.128E-01	1.113E-02	10.404
PB-214	1.328E+00	2.426E-01	1.208E-01	1.266E-02	10.993
PO-214	1.328E+00	2.426E-01	1.208E-01	1.266E-02	10.993
PO-216	1.730E+00	2.137E-01	1.073E-01	1.086E-02	16.124
PO-218	1.328E+00	2.426E-01	1.208E-01	1.266E-02	10.993
RA-224	4.153E+00	1.474E+00	1.150E+00	1.045E-01	3.612
RA-226	1.174E+00	2.040E-01	1.128E-01	1.113E-02	10.404
AC-228	1.349E+00	3.564E-01	2.415E-01	2.796E-02	5.584
RA-228	1.349E+00	3.564E-01	2.415E-01	2.796E-02	5.584
TH-228	1.758E+00	2.171E-01	1.090E-01	1.104E-02	16.124
TH-230	1.174E+00	2.040E-01	1.128E-01	1.113E-02	10.404

Sample ID : G244137002 Acquisition date : 20-JAN-2010 13:43:15

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.349E+00	3.564E-01	2.415E-01	2.796E-02	5.584
U-234	1.174E+00	2.040E-01	1.128E-01	1.113E-02	10.404
NP-237	8.967E-01	3.635E-01	4.288E-01	9.707E-02	2.091
AM-243	4.404E-01	9.459E-02	9.160E-02	7.617E-03	4.808
ANH-511	7.958E-02	6.335E-02	5.606E-02	4.751E-03	1.420

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-5.242E-02		3.333E-01	5.272E-01	4.796E-02	-0.099
NA-22	-8.532E-03		4.763E-02	7.798E-02	6.549E-03	-0.109
NA-24	9.259E-01		1.180E+00	Half-Life too short		
AL-26	-2.540E-02		2.783E-02	3.271E-02	2.710E-03	-0.777
TI-44	3.879E-01	+	6.214E-02	8.302E-02	7.125E-03	4.672
SC-46	1.575E-02		4.085E-02	6.949E-02	6.281E-03	0.227
V-48	3.347E-02		7.586E-02	1.293E-01	1.154E-02	0.259
CR-51	1.423E-01		4.236E-01	7.072E-01	6.653E-02	0.201
MN-52	1.334E-01		2.939E-01	5.200E-01	4.489E-02	0.257
MN-54	-1.298E-02		3.986E-02	6.335E-02	5.639E-03	-0.205
CO-56	3.395E-02		4.155E-02	7.344E-02	6.562E-03	0.462
CO-57	1.338E-02		2.710E-02	4.395E-02	3.869E-03	0.305
CO-58	2.284E-02		4.149E-02	7.179E-02	6.351E-03	0.318
FE-59	1.760E-02		9.936E-02	1.633E-01	1.505E-02	0.108
CO-60	2.918E-02		3.603E-02	6.657E-02	5.674E-03	0.438
ZN-65	-7.566E-02		1.049E-01	1.263E-01	1.066E-02	-0.599
GE-68	-4.528E-02		1.371E+00	2.204E+00	1.898E-01	-0.021
AS-73	4.504E-01		9.487E-01	1.577E+00	1.277E-01	0.286
AS-74	2.917E-02		9.419E-02	1.617E-01	1.362E-02	0.180
SE-75	-1.013E-02		5.173E-02	7.822E-02	7.185E-03	-0.129
BR-77	-3.883E+00		1.472E+01	2.293E+01	1.945E+00	-0.169
SR-82	-3.361E-01		3.924E-01	5.881E-01	5.120E-02	-0.572
RB-83	-1.675E-02		7.447E-02	1.164E-01	9.875E-03	-0.144
RB-84	1.300E-01		7.396E-02	1.408E-01	1.271E-02	0.923
KR-85	1.707E+01		9.451E+00	1.528E+01	1.296E+00	1.117
SR-85	8.839E-02		4.895E-02	7.915E-02	6.711E-03	1.117
RB-86	4.961E-01		8.771E-01	1.503E+00	1.295E-01	0.330
Y-88	-9.386E-03		3.198E-02	4.793E-02	3.942E-03	-0.196
ZR-88	-1.568E-02		3.465E-02	5.438E-02	4.379E-03	-0.288
Y-91	3.379E+00		1.991E+01	3.389E+01	2.777E+00	0.100
NB-94	2.724E-02		3.808E-02	6.650E-02	5.582E-03	0.410
NB-95	-5.727E-02		4.806E-02	7.074E-02	6.130E-03	-0.810
NB-95M	3.849E-02		1.449E-01	2.153E-01	2.208E-02	0.179
ZR-95	1.032E-01		7.775E-02	1.419E-01	1.348E-02	0.727
NB-97	-5.291E-02		1.373E-01	Half-Life too short		
ZR-97	2.797E+00		2.859E+00	Half-Life too short		
MO-99	1.390E+01		1.462E+01	2.610E+01	3.954E+00	0.532
TC-99M	-1.340E+11		2.807E+11	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-101	5.989E-03		3.637E-02	6.001E-02	5.281E-03	0.100
RH-102	-2.502E-02		3.001E-02	4.441E-02	3.735E-03	-0.563
RU-103	1.829E-02		4.635E-02	7.643E-02	1.075E-02	0.239
RH-106	1.647E-01		3.412E-01	5.906E-01	7.789E-02	0.279
RU-106	1.647E-01		3.408E-01	5.906E-01	4.934E-02	0.279
AG-108M	3.091E-03		3.689E-02	5.985E-02	5.161E-03	0.052
AG-110M	4.129E-03		3.805E-02	6.392E-02	5.420E-03	0.065
IN-111	-2.841E-01		1.564E+00	2.251E+00	2.049E-01	-0.126
IN-113M	2.700E-02		4.931E-02	8.284E-02	6.900E-03	0.326
SN-113	2.700E-02		4.931E-02	8.284E-02	6.900E-03	0.326
IN-114M	-6.016E-02		2.262E-01	3.290E-01	2.873E-02	-0.183
CD-115	1.037E+01		1.517E+01	2.680E+01	2.275E+00	0.387
SN-117M	-7.838E-03		5.906E-02	9.919E-02	8.445E-03	-0.079
SB-122	1.030E+00		2.633E+00	4.555E+00	3.862E-01	0.226
I-123	1.258E+00		9.889E+00	Half-Life too short		
TE-123M	1.864E-03		2.931E-02	4.960E-02	4.249E-03	0.038
I-124	1.232E-01		7.600E-01	1.221E+00	1.027E-01	0.101
SB-124	-1.662E-02		8.438E-02	1.325E-01	1.175E-02	-0.125
SB-125	-6.027E-02		1.009E-01	1.552E-01	1.306E-02	-0.388
TE-125M	-2.644E+00		1.029E+01	1.619E+01	1.678E+00	-0.163
I-126	-2.369E-02		2.137E-01	3.525E-01	2.896E-02	-0.067
SB-126	-5.766E-03		1.672E-01	2.392E-01	2.028E-02	-0.024
SB-127	2.689E-02		1.738E+00	2.891E+00	3.307E-01	0.009
XE-127	-6.756E-03		5.093E-02	8.469E-02	7.487E-03	-0.080
I-131	3.114E-02		1.409E-01	2.326E-01	2.086E-02	0.134
TE-132	-1.295E-01		8.998E-01	1.487E+00	2.397E-01	-0.087
BA-133	-1.325E-02		5.199E-02	7.232E-02	9.538E-03	-0.183
I-133	-4.750E-03		6.826E-03	Half-Life too short		
CS-134	7.728E-02		5.593E-02	1.012E-01	8.945E-03	0.763
CS-135	3.843E-02		1.892E-01	2.785E-01	2.904E-02	0.138
I-135	-3.255E+10		3.248E+10	Half-Life too short		
CS-136	3.930E-02		1.220E-01	2.043E-01	1.857E-02	0.192
BA-137M	-6.207E-03		3.860E-02	6.342E-02	5.195E-03	-0.098
CS-137	-6.562E-03		4.080E-02	6.704E-02	5.503E-03	-0.098
CE-139	8.622E-03		3.114E-02	5.305E-02	4.518E-03	0.163
BA-140	-1.041E-01		2.672E-01	4.320E-01	1.430E-01	-0.241
LA-140	-7.992E-02		1.015E-01	1.442E-01	1.244E-02	-0.554
CE-141	-5.835E-03		6.815E-02	1.118E-01	9.728E-03	-0.052
CE-143	5.472E-04		1.478E-04	Half-Life too short		
CE-144	5.389E-02		2.197E-01	3.511E-01	5.465E-02	0.153
PM-144	-1.511E-02		3.945E-02	6.347E-02	5.312E-03	-0.238
PR-144	-1.025E+00		2.674E+00	4.303E+00	3.600E-01	-0.238
PM-146	3.538E-02		4.638E-02	7.882E-02	8.279E-03	0.449
ND-147	-3.852E-03		6.224E-01	1.049E+00	1.560E-01	-0.004
PM-149	-1.559E+01		1.223E+02	1.998E+02	3.165E+01	-0.078
EU-152	6.433E-02		1.272E-01	1.777E-01	1.643E-02	0.362
GD-153	-1.018E-03		9.233E-02	1.298E-01	1.153E-02	-0.008
EU-154	-4.542E-02		1.352E-01	2.175E-01	2.422E-02	-0.209

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	4.276E-02		1.260E-01	1.941E-01	1.707E-02	0.220
TB-160	-1.782E-02		1.566E-01	2.531E-01	2.283E-02	-0.070
HO-166M	-7.151E-03		6.587E-02	1.082E-01	9.126E-03	-0.066
TM-171	-6.456E+00		3.040E+01	4.878E+01	3.842E+00	-0.132
LU-176	4.240E-03		2.945E-02	4.291E-02	3.884E-03	0.099
LU-177	3.189E+00	+	1.621E+00	2.388E+00	2.122E-01	1.335
LU-177M	-1.512E-01		2.009E-01	3.068E-01	2.507E-02	-0.493
HF-181	-8.818E-03		4.708E-02	7.428E-02	6.259E-03	-0.119
W-181	-6.445E-01		4.243E-01	6.377E-01	4.979E-02	-1.011
TA-182	-7.070E-02		1.908E-01	3.071E-01	2.531E-02	-0.230
RE-183	1.614E-03		1.143E-01	1.929E-01	1.642E-02	0.008
RE-184	-7.148E-02		2.450E-01	3.994E-01	3.646E-02	-0.179
OS-185	-1.109E-02		4.400E-02	7.172E-02	5.925E-03	-0.155
RE-188	1.890E-02		1.762E-01	2.991E-01	2.547E-02	0.063
W-188	8.169E-01		8.370E+00	1.219E+01	1.111E+00	0.067
IR-192	-2.606E-02		3.788E-02	5.935E-02	5.347E-03	-0.439
AU-195	6.954E-02		2.698E-01	3.852E-01	3.401E-02	0.181
TL-200	-4.716E-04		4.805E-04	Half-Life too short		
TL-201	-3.195E+00		9.110E+00	1.513E+01	1.290E+00	-0.211
TL-202	-5.356E-02		8.241E-02	1.260E-01	1.045E-02	-0.425
HG-203	6.210E-02		4.338E-02	7.632E-02	7.156E-03	0.814
BI-207	-3.549E-02		6.061E-02	9.145E-02	7.928E-03	-0.388
TL-207	7.257E-03		7.283E-01	1.193E+00	2.131E-01	0.006
PO-209	5.226E+00		8.676E+00	1.496E+01	1.354E+00	0.349
BI-210	4.724E+00		4.398E+00	7.490E+00	7.071E-01	0.631
PB-210	4.724E+00		4.398E+00	7.490E+00	7.071E-01	0.631
PO-210	4.724E+00		4.394E+00	7.490E+00	6.421E-01	0.631
PB-211	-9.252E-02		1.005E+00	1.613E+00	1.010E+00	-0.057
BI-212	2.012E+00	+	5.112E-01	7.532E-01	7.464E-02	2.671
PO-215	7.257E-03		7.283E-01	1.193E+00	2.131E-01	0.006
RN-219	-2.696E-01		4.505E-01	6.953E-01	1.025E-01	-0.388
RN-220	-2.891E+00		2.785E+01	4.649E+01	3.946E+00	-0.062
RA-223	7.257E-03		7.283E-01	1.193E+00	2.131E-01	0.006
AC-227	-1.658E-01		4.084E-01	6.605E-01	1.033E-01	-0.251
TH-227	-1.658E-01		4.087E-01	6.605E-01	1.210E-01	-0.251
TH-229	4.346E-02		5.490E-01	9.228E-01	8.085E-02	0.047
PA-231	-4.278E-01		1.560E+00	2.527E+00	3.913E-01	-0.169
TH-231	7.257E-03		7.283E-01	1.193E+00	2.131E-01	0.006
U-231	5.093E-01		1.407E+00	2.046E+00	1.830E-01	0.249
PA-233	3.218E-02		6.846E-02	1.153E-01	1.068E-02	0.279
PA-234	1.938E-01		3.283E-01	5.639E-01	1.068E-01	0.344
PA-234M	-1.954E+00		5.403E+00	8.478E+00	8.642E-01	-0.231
TH-234	-8.680E-01		1.520E+00	2.382E+00	4.187E-01	-0.364
U-235	1.274E-01		2.250E-01	3.769E-01	6.585E-02	0.338
NP-236	2.196E-02		8.182E-02	1.395E-01	1.188E-02	0.157
U-238	-8.680E-01		1.520E+00	2.382E+00	4.187E-01	-0.364
NP-239	2.195E-02		2.043E-01	3.261E-01	2.840E-02	0.067
AM-241	4.732E-02		1.711E-01	2.810E-01	2.316E-02	0.168

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.536E-02		1.166E-01	1.641E-01	1.429E-02	-0.094
AM-246	-7.989E-02		1.582E-01	2.402E-01	2.067E-02	-0.333
CM-247	6.584E-03		3.858E-02	6.324E-02	5.128E-03	0.104
CF-249	-6.739E-03		4.338E-02	6.961E-02	5.647E-03	-0.097
CF-251	-6.307E-02		1.312E-01	2.161E-01	1.860E-02	-0.292

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration    : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G244137002            *
* Acquisition date : 20-JAN-2010 13:43:15 Detector SN#     :                *
* Detector ID      : GAM01                Sensitivity     : 5.000          *
* Geometry         : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.12     Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date      :  4-JAN-2010 12:00:00 Nuclide Library : SOLID           *
* Sample ID        : G244137002           Analyst initials: MXR1            *
* Batch Number     : 940263               Sample Quantity : 1.3343E+02 GRAM *
* Recovery         :    1.00000           Carrier Weight :    0.00000       *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
*                                                                           *
* CALIB. DATE/TIME : 12-JAN-2010 15:15:52 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.938E+01	2.251E+00	2.943E-01	1.149E+00
CD-109	3.111E+00	1.064E+00	6.893E-01	5.428E-01
SN-126	3.054E-01	1.044E-01	6.801E-02	5.328E-02
TL-208	5.878E-01	1.075E-01	3.152E-02	5.486E-02
BI-211	3.817E+00	6.551E-01	1.781E-01	3.342E-01
PB-212	1.730E+00	2.094E-01	5.553E-02	1.068E-01
PO-212	1.730E+00	2.094E-01	5.553E-02	1.068E-01
BI-214	1.174E+00	1.999E-01	5.745E-02	1.020E-01
PB-214	1.328E+00	2.378E-01	6.209E-02	1.213E-01
PO-214	1.328E+00	2.378E-01	6.209E-02	1.213E-01
PO-216	1.730E+00	2.094E-01	5.553E-02	1.068E-01
PO-218	1.328E+00	2.378E-01	6.209E-02	1.213E-01
RA-224	4.153E+00	1.445E+00	5.950E-01	7.371E-01
RA-226	1.174E+00	1.999E-01	5.745E-02	1.020E-01
AC-228	1.349E+00	3.493E-01	1.221E-01	1.782E-01
RA-228	1.349E+00	3.493E-01	1.221E-01	1.782E-01
TH-228	1.758E+00	2.128E-01	5.643E-02	1.086E-01
TH-230	1.174E+00	1.999E-01	5.744E-02	1.020E-01
TH-232	1.349E+00	3.493E-01	1.221E-01	1.782E-01
U-234	1.174E+00	1.999E-01	5.744E-02	1.020E-01
NP-237	8.967E-01	3.562E-01	2.257E-01	1.818E-01
AM-243	4.404E-01	9.270E-02	4.834E-02	4.729E-02
ANH-511	7.958E-02	6.208E-02	2.863E-02	3.167E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	-5.242E-02	3.267E-01	2.696E-01	1.667E-01	NOT IDENT.
NA-22	-8.532E-03	4.668E-02	3.918E-02	2.381E-02	NOT IDENT.
NA-24	9.259E+05	2.313E+06	0.000E+00	1.180E+06	SHORT HLIF
AL-26	-2.540E-02	2.728E-02	1.633E-02	1.392E-02	NOT IDENT.

TI-44	3.879E-01	6.090E-02	4.378E-02	3.107E-02	FAIL ABUN
SC-46	1.575E-02	4.003E-02	3.514E-02	2.043E-02	FAIL ABUN
V-48	3.347E-02	7.435E-02	6.525E-02	3.793E-02	NOT IDENT.
CR-51	1.423E-01	4.151E-01	3.642E-01	2.118E-01	NOT IDENT.
MN-52	1.334E-01	2.881E-01	2.607E-01	1.470E-01	NOT IDENT.
MN-54	-1.298E-02	3.906E-02	3.207E-02	1.993E-02	NOT IDENT.
CO-56	3.395E-02	4.072E-02	3.717E-02	2.078E-02	NOT IDENT.
CO-57	1.338E-02	2.656E-02	2.300E-02	1.355E-02	NOT IDENT.
CO-58	2.284E-02	4.066E-02	3.636E-02	2.075E-02	NOT IDENT.
FE-59	1.760E-02	9.737E-02	8.226E-02	4.968E-02	NOT IDENT.
CO-60	2.918E-02	3.531E-02	3.342E-02	1.802E-02	NOT IDENT.
ZN-65	-7.566E-02	1.028E-01	6.362E-02	5.243E-02	NOT IDENT.
GE-68	-4.528E-02	1.344E+00	1.111E+00	6.855E-01	NOT IDENT.
AS-73	4.504E-01	9.297E-01	8.370E-01	4.743E-01	NOT IDENT.
AS-74	2.917E-02	9.231E-02	8.235E-02	4.709E-02	NOT IDENT.
SE-75	-1.013E-02	5.069E-02	4.041E-02	2.586E-02	NOT IDENT.
BR-77	-3.883E+00	1.443E+01	1.171E+01	7.362E+00	FAIL ABUN
SR-82	-3.361E-01	3.845E-01	2.981E-01	1.962E-01	NOT IDENT.
RB-83	-1.675E-02	7.298E-02	5.943E-02	3.723E-02	NOT IDENT.
RB-84	1.300E-01	7.248E-02	7.122E-02	3.698E-02	NOT IDENT.
KR-85	1.707E+01	9.262E+00	7.804E+00	4.726E+00	NOT IDENT.
SR-85	8.839E-02	4.797E-02	4.042E-02	2.447E-02	NOT IDENT.
RB-86	4.961E-01	8.596E-01	7.576E-01	4.386E-01	NOT IDENT.
Y-88	-9.386E-03	3.134E-02	2.392E-02	1.599E-02	NOT IDENT.
ZR-88	-1.568E-02	3.396E-02	2.790E-02	1.733E-02	NOT IDENT.
Y-91	3.379E+00	1.951E+01	1.704E+01	9.954E+00	NOT IDENT.
NB-94	2.724E-02	3.732E-02	3.377E-02	1.904E-02	NOT IDENT.
NB-95	-5.727E-02	4.710E-02	3.587E-02	2.403E-02	NOT IDENT.
NB-95M	3.849E-02	1.420E-01	1.114E-01	7.246E-02	NOT IDENT.
ZR-95	1.032E-01	7.619E-02	7.197E-02	3.887E-02	NOT IDENT.
NB-97	-5.291E+04	2.692E+05	0.000E+00	1.373E+05	SHORT HLIF
ZR-97	2.797E+06	5.603E+06	0.000E+00	2.859E+06	SHORT HLIF
MO-99	1.390E+01	1.433E+01	1.324E+01	7.312E+00	NOT IDENT.
TC-99M	-1.340E+17	5.501E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	5.989E-03	3.564E-02	3.116E-02	1.819E-02	NOT IDENT.
RH-102	-2.502E-02	2.941E-02	2.271E-02	1.501E-02	NOT IDENT.
RU-103	1.829E-02	4.543E-02	3.905E-02	2.318E-02	FAIL ABUN
RH-106	1.647E-01	3.344E-01	3.006E-01	1.706E-01	FAIL ABUN
RU-106	1.647E-01	3.340E-01	3.006E-01	1.704E-01	FAIL ABUN
AG-108M	3.091E-03	3.615E-02	3.065E-02	1.845E-02	NOT IDENT.
AG-110M	4.129E-03	3.729E-02	3.250E-02	1.903E-02	NOT IDENT.
IN-111	-2.841E-01	1.533E+00	1.164E+00	7.822E-01	NOT IDENT.
IN-113M	2.700E-02	4.832E-02	4.251E-02	2.465E-02	NOT IDENT.
SN-113	2.700E-02	4.832E-02	4.251E-02	2.465E-02	NOT IDENT.
IN-114M	-6.016E-02	2.217E-01	1.709E-01	1.131E-01	NOT IDENT.
CD-115	1.037E+01	1.486E+01	1.368E+01	7.583E+00	NOT IDENT.
SN-117M	-7.838E-03	5.788E-02	5.169E-02	2.953E-02	NOT IDENT.
SB-122	1.030E+00	2.580E+00	2.322E+00	1.316E+00	NOT IDENT.
I-123	1.258E+06	1.938E+07	0.000E+00	9.889E+06	SHORT HLIF
TE-123M	1.864E-03	2.872E-02	2.585E-02	1.465E-02	NOT IDENT.
I-124	1.232E-01	7.448E-01	6.219E-01	3.800E-01	FAIL ABUN
SB-124	-1.662E-02	8.269E-02	6.625E-02	4.219E-02	NOT IDENT.
SB-125	-6.027E-02	9.888E-02	7.949E-02	5.045E-02	FAIL ABUN
TE-125M	-2.644E+00	1.008E+01	8.490E+00	5.144E+00	NOT IDENT.
I-126	-2.369E-02	2.094E-01	1.792E-01	1.068E-01	NOT IDENT.
SB-126	-5.766E-03	1.639E-01	1.214E-01	8.362E-02	FAIL ABUN
SB-127	2.689E-02	1.703E+00	1.469E+00	8.689E-01	NOT IDENT.
XE-127	-6.756E-03	4.991E-02	4.395E-02	2.546E-02	NOT IDENT.
I-131	3.114E-02	1.381E-01	1.195E-01	7.046E-02	NOT IDENT.
TE-132	-1.295E-01	8.818E-01	7.702E-01	4.499E-01	NOT IDENT.
BA-133	-1.325E-02	5.095E-02	3.717E-02	2.599E-02	NOT IDENT.
I-133	-4.750E+03	1.338E+04	0.000E+00	6.826E+03	SHORT HLIF
CS-134	7.728E-02	5.481E-02	5.129E-02	2.796E-02	NOT IDENT.
CS-135	3.843E-02	1.855E-01	1.439E-01	9.462E-02	NOT IDENT.
I-135	-3.255E+16	6.366E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.930E-02	1.196E-01	1.030E-01	6.101E-02	FAIL ABUN
BA-137M	-6.207E-03	3.782E-02	3.224E-02	1.930E-02	NOT IDENT.
CS-137	-6.562E-03	3.998E-02	3.408E-02	2.040E-02	NOT IDENT.
CE-139	8.622E-03	3.051E-02	2.763E-02	1.557E-02	NOT IDENT.
BA-140	-1.041E-01	2.618E-01	2.204E-01	1.336E-01	NOT IDENT.
LA-140	-7.992E-02	9.951E-02	7.215E-02	5.077E-02	NOT IDENT.
CE-141	-5.835E-03	6.679E-02	5.837E-02	3.407E-02	NOT IDENT.
CE-143	5.472E+02	2.897E+02	0.000E+00	1.478E+02	SHORT HLIF
CE-144	5.389E-02	2.153E-01	1.835E-01	1.099E-01	NOT IDENT.
PM-144	-1.511E-02	3.866E-02	3.224E-02	1.972E-02	NOT IDENT.
PR-144	-1.025E+00	2.621E+00	2.186E+00	1.337E+00	NOT IDENT.
PM-146	3.538E-02	4.545E-02	4.034E-02	2.319E-02	NOT IDENT.
ND-147	-3.852E-03	6.099E-01	5.352E-01	3.112E-01	FAIL ABUN

PM-149	-1.559E+01	1.198E+02	1.031E+02	6.114E+01	NOT IDENT.
EU-152	6.433E-02	1.247E-01	9.139E-02	6.360E-02	NOT IDENT.
GD-153	-1.018E-03	9.048E-02	6.820E-02	4.617E-02	NOT IDENT.
EU-154	-4.542E-02	1.325E-01	1.093E-01	6.761E-02	NOT IDENT.
EU-155	4.276E-02	1.234E-01	1.019E-01	6.298E-02	FAIL ABUN
TB-160	-1.782E-02	1.534E-01	1.280E-01	7.828E-02	FAIL ABUN
HO-166M	-7.151E-03	6.455E-02	5.492E-02	3.293E-02	NOT IDENT.
TM-171	-6.456E+00	2.979E+01	2.579E+01	1.520E+01	NOT IDENT.
LU-176	4.240E-03	2.886E-02	2.211E-02	1.473E-02	FAIL ABUN
LU-177	3.189E+00	1.588E+00	1.239E+00	8.104E-01	FAIL ABUN
LU-177M	-1.512E-01	1.969E-01	1.573E-01	1.004E-01	NOT IDENT.
HF-181	-8.818E-03	4.614E-02	3.797E-02	2.354E-02	NOT IDENT.
W-181	-6.445E-01	4.158E-01	3.373E-01	2.122E-01	NOT IDENT.
TA-182	-7.070E-02	1.870E-01	1.544E-01	9.539E-02	FAIL ABUN
RE-183	1.614E-03	1.120E-01	1.005E-01	5.714E-02	FAIL ABUN
RE-184	-7.148E-02	2.401E-01	2.065E-01	1.225E-01	NOT IDENT.
OS-185	-1.109E-02	4.312E-02	3.648E-02	2.200E-02	NOT IDENT.
RE-188	1.890E-02	1.727E-01	1.559E-01	8.812E-02	NOT IDENT.
W-188	8.169E-01	8.203E+00	6.285E+00	4.185E+00	NOT IDENT.
IR-192	-2.606E-02	3.713E-02	3.057E-02	1.894E-02	FAIL ABUN
AU-195	6.954E-02	2.644E-01	2.023E-01	1.349E-01	FAIL ABUN
TL-200	-4.716E+02	9.418E+02	0.000E+00	4.805E+02	SHORT HLIF
TL-201	-3.195E+00	8.927E+00	7.876E+00	4.555E+00	NOT IDENT.
TL-202	-5.356E-02	8.077E-02	6.452E-02	4.121E-02	NOT IDENT.
HG-203	6.210E-02	4.252E-02	3.939E-02	2.169E-02	NOT IDENT.
BI-207	-3.549E-02	5.940E-02	4.610E-02	3.031E-02	FAIL ABUN
TL-207	7.257E-03	7.137E-01	6.143E-01	3.642E-01	FAIL ABUN
PO-209	5.226E+00	8.503E+00	7.562E+00	4.338E+00	NOT IDENT.
BI-210	4.724E+00	4.310E+00	3.984E+00	2.199E+00	NOT IDENT.
PB-210	4.724E+00	4.310E+00	3.984E+00	2.199E+00	NOT IDENT.
PO-210	4.724E+00	4.306E+00	3.984E+00	2.197E+00	NOT IDENT.
PB-211	-9.252E-02	9.850E-01	8.274E-01	5.025E-01	NOT IDENT.
BI-212	2.012E+00	5.010E-01	3.823E-01	2.556E-01	FAIL ABUN
PO-215	7.257E-03	7.137E-01	6.143E-01	3.642E-01	FAIL ABUN
RN-219	-2.696E-01	4.415E-01	3.566E-01	2.253E-01	FAIL ABUN
RN-220	-2.891E+00	2.729E+01	2.371E+01	1.392E+01	NOT IDENT.
RA-223	7.257E-03	7.137E-01	6.143E-01	3.642E-01	FAIL ABUN
AC-227	-1.658E-01	4.002E-01	3.414E-01	2.042E-01	FAIL ABUN
TH-227	-1.658E-01	4.005E-01	3.414E-01	2.043E-01	FAIL ABUN
TH-229	4.346E-02	5.380E-01	4.793E-01	2.745E-01	FAIL ABUN
PA-231	-4.278E-01	1.529E+00	1.304E+00	7.800E-01	FAIL ABUN
TH-231	7.257E-03	7.137E-01	6.143E-01	3.642E-01	FAIL ABUN
U-231	5.093E-01	1.379E+00	1.075E+00	7.037E-01	FAIL ABUN
PA-233	3.218E-02	6.709E-02	5.942E-02	3.423E-02	FAIL ABUN
PA-234	1.938E-01	3.217E-01	2.848E-01	1.642E-01	FAIL ABUN
PA-234M	-1.954E+00	5.295E+00	4.278E+00	2.702E+00	NOT IDENT.
TH-234	-8.680E-01	1.490E+00	1.261E+00	7.600E-01	FAIL ABUN
U-235	1.274E-01	2.205E-01	1.968E-01	1.125E-01	FAIL ABUN
NP-236	2.196E-02	8.018E-02	7.270E-02	4.091E-02	NOT IDENT.
U-238	-8.680E-01	1.490E+00	1.261E+00	7.600E-01	FAIL ABUN
NP-239	2.195E-02	2.002E-01	1.708E-01	1.021E-01	FAIL ABUN
AM-241	4.732E-02	1.677E-01	1.488E-01	8.556E-02	NOT IDENT.
CM-243	-1.536E-02	1.142E-01	8.611E-02	5.828E-02	FAIL ABUN
AM-246	-7.989E-02	1.551E-01	1.211E-01	7.911E-02	FAIL ABUN
CM-247	6.584E-03	3.781E-02	3.243E-02	1.929E-02	NOT IDENT.
CF-249	-6.739E-03	4.251E-02	3.572E-02	2.169E-02	NOT IDENT.
CF-251	-6.307E-02	1.286E-01	1.124E-01	6.562E-02	NOT IDENT.

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*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                           CHARLESTON ,SC 29417                            *
*                   GAMMA SPECTROSCOPY BACKGROUND REPORT                    *
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ENERGY	MDA COUNTS
46.50	231.3400
46.50	231.3400
46.50	231.3400
48.70	263.2585
49.72	261.7482
51.35	249.1705
52.39	252.7941
52.97	248.9343
53.15	249.0216
53.44	236.7050
54.07	231.7977
56.28	272.4458
56.28	272.4472
57.37	0.0000
57.53	295.0606
57.53	295.0617
57.60	295.0990
57.98	299.4965
57.98	299.4965
59.32	292.8898
59.32	292.8898
59.40	292.9324
59.54	295.1080
59.72	295.2052
60.01	312.1787
61.10	345.4437
61.14	345.4683
61.30	345.5680
63.00	331.8207
63.29	331.9904
63.29	331.9904
63.58	341.6806
64.28	343.1587
65.12	361.6911
65.20	361.7414
65.20	361.7414
66.05	372.8947
66.72	359.4946
66.83	365.9462
66.91	365.9951
67.20	344.8861
67.20	344.8861
67.75	359.0584
67.85	355.9232
68.90	341.0727
68.90	341.0727
69.30	346.1072
69.67	360.7515
70.82	356.6173
70.82	356.6173
70.83	356.6224
72.80	369.0500
72.87	369.0920
72.87	369.0920
74.67	365.3085
74.81	365.3913
74.81	365.3913
74.81	365.3913
74.81	365.3913
74.81	365.3913
74.81	365.3913
74.81	365.3913
74.97	365.4827
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77.11	366.7155
77.11	366.7155

77.11	366.7155
77.11	366.7155
77.11	366.7155
77.11	366.7155
77.11	366.7155
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79.80	351.9476
79.80	351.9476
80.11	352.1140
80.18	352.1503
80.30	361.9983
80.30	361.9983
80.57	362.1473
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81.07	430.9880
81.07	430.9880
81.07	430.9880
81.07	430.9880
82.60	364.8922
83.37	345.6519
83.78	378.6460
83.78	378.6460
83.78	378.6460
83.78	378.6460
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84.90	356.2855
85.43	371.3520
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86.50	450.9256
86.54	450.9507
86.59	444.4004
86.72	444.4849
86.79	451.1137
86.94	451.2120
87.30	504.1721
87.30	504.1721
87.30	504.1721
87.30	504.1721
87.30	504.1721
87.30	504.1721
87.30	504.1721
87.57	362.6176
87.88	362.7788
88.03	362.8577
88.36	363.0289
88.47	363.0859
89.95	363.8530
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92.29	277.1060
92.38	277.1416
92.38	277.1416
93.35	277.5149
94.00	277.7634
94.67	278.0182
94.67	278.0195
94.90	278.1074
94.90	278.1074
94.90	278.1074
94.90	278.1074
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95.87	278.4756
96.73	278.8018
97.43	279.0642
98.44	279.4427
98.44	279.4439
98.88	279.6083
99.55	279.8580
99.55	279.8580
99.86	279.9727
100.00	280.0249
100.10	280.0631
103.18	360.3332
103.76	294.8879
105.00	273.4183
105.31	307.9712
108.00	336.5869
109.28	312.2393

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111.00	302.7068
111.76	291.6426
112.95	280.7055
115.19	289.4500
116.30	286.4156
117.00	275.2351
117.00	275.2351
117.66	281.1681
121.11	280.0227
121.62	251.4822
121.78	254.9751
122.06	255.0581
122.32	247.0912
122.32	247.0912
122.32	247.0912
122.32	247.0912
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127.23	256.5819
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135.34	268.2397
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136.25	275.8016
136.48	275.8701
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140.51	0.0000
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142.65	288.2780
143.76	270.0799
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144.24	267.5662
144.24	267.5662
144.24	267.5662
145.22	281.1007
145.44	281.1638
147.16	334.8105
152.43	270.7198
152.70	274.3571
153.22	292.3252
154.21	303.3235
154.21	303.3235
154.21	303.3235
154.21	303.3235
155.03	271.4296
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158.56	269.6925
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160.31	260.2836
161.27	265.9172
162.32	267.9868
162.64	268.0709
163.35	280.8576
163.89	281.0028
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171.86	250.4661
172.10	250.5230
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176.60	263.4166
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184.41	276.1158
185.71	260.9956
186.00	261.0628
190.27	277.5455
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193.63	261.8838
197.04	243.1604
198.01	251.7220
198.60	252.7775
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201.83	270.2400
202.84	256.4802
205.31	230.2800

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208.81	245.9419
209.75	232.6230
209.75	232.6230
210.97	234.3580
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216.55	226.3623
218.09	217.1973
222.10	232.0988
223.80	227.6642
226.40	203.4120
227.00	202.5557
227.08	205.4218
227.20	205.4416
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228.18	218.9222
228.18	218.9222
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236.00	202.2330
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238.63	253.2907
238.63	253.2907
238.63	253.2907
239.00	224.5702
240.98	224.9022
241.98	225.0700
241.98	225.0700
241.98	225.0700
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245.39	185.1387
247.94	178.7233
248.90	178.8475
249.79	162.5180
252.40	178.3328
252.85	179.3599
252.85	179.3599
254.15	0.0000
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256.20	187.5666
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260.90	168.6919
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268.24	175.6344
268.79	177.2715
269.46	166.3677
269.46	166.3677
269.46	166.3677
269.46	166.3677
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273.65	195.1789
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277.60	160.7839
278.00	154.9062
278.60	140.1648
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279.53	141.2391
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281.68	169.1396
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284.30	152.5901
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286.10	134.9167
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290.80	136.9260
291.72	146.5666
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293.70	151.5431
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295.21	137.3208

295.21	137.3208
295.96	137.3858
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297.23	107.9209
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299.80	108.0989
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300.09	121.7355
300.09	121.7355
300.09	121.7355
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301.29	121.8282
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303.91	138.0892
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304.40	146.1621
304.84	133.3492
306.84	133.5194
308.46	126.5238
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319.41	142.8761
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323.87	148.3459
323.87	148.3459
323.87	148.3459
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328.77	120.2507
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334.20	130.8672
334.30	130.8750
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338.28	136.3080
338.28	136.3080
338.28	136.3080
338.32	136.3100
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338.32	136.3100
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340.57	141.2113
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351.92	122.9294
351.92	122.9294
351.92	122.9294
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364.48	120.6852
366.43	130.1918
367.43	132.3485
367.94	0.0000
369.80	117.9141
374.96	126.6202
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387.95	114.8678
388.63	107.5314
391.69	105.5939
391.69	105.5939
392.90	123.6252
398.62	104.9216
400.65	107.1553
401.10	105.0591
401.81	118.8975
402.60	98.7685
404.84	109.5161
410.95	104.5287
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415.30	83.3820

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439.89	101.7281
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445.03	106.3232
445.03	106.3232
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475.35	85.8493
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477.96	80.4430
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511.85	105.1756
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513.99	82.4271
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520.65	77.5008
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529.87	0.0000
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546.56	0.0000
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555.20	70.2080
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569.50	79.7932
569.67	79.7974
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574.64	69.4406
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579.30	0.0000
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591.81	70.5610
592.07	63.7559
593.00	74.0645
595.88	62.0993
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602.52	0.0000
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602.71	59.2458
603.60	55.7798
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609.31	68.0169

609.31	68.0169
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609.31	68.0169
610.33	68.0436
612.46	68.4098
614.37	60.6804
618.01	78.9440
621.84	64.5991
621.84	64.5991
631.29	62.9515
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633.10	63.9343
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646.12	64.2464
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661.65	74.1152
664.57	0.0000
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666.33	79.0000
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685.20	65.1611
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695.00	67.3101
696.49	83.6993
696.49	83.6993
697.00	84.6764
697.49	83.7290
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698.50	72.2058
699.00	77.0332
702.63	68.4536
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706.58	0.0000
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713.82	78.3976
717.42	48.4534
720.50	51.7383
721.93	0.0000
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722.78	58.2510
722.78	58.2510
722.89	58.2524
722.95	58.2539
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724.18	46.9468
727.18	51.5314
733.00	42.2161
735.90	59.5938
739.58	40.0311
742.81	56.6902
744.21	63.5623
747.13	50.8993
751.79	78.4277
752.31	75.4999
753.82	58.8604
755.35	45.1487
756.15	45.1600
756.87	55.9730
763.93	83.6615
765.79	87.6528
766.42	67.9690
766.84	65.0219
776.49	59.2969
778.00	52.4048
778.57	53.4028
778.89	50.4409
783.80	46.5582
785.46	46.5835
792.07	39.7285

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796.30	57.6842
798.80	57.7295
801.93	57.7876
805.60	61.5116
810.29	51.9454
810.76	44.9594
815.85	49.0335
817.79	47.0597
818.51	43.0651
819.60	44.0806
826.30	52.2031
828.27	0.0000
831.60	56.3110
831.96	55.3115
834.83	60.3926
836.80	0.0000
846.75	40.4082
848.13	47.4991
856.28	0.0000
856.80	74.9810
860.37	53.7608
867.32	43.7076
867.82	46.7637
871.10	53.9316
873.19	36.6557
874.81	47.8790
875.33	0.0000
876.40	43.8251
879.36	52.0235
880.27	42.8541
880.51	37.7552
881.50	26.5383
883.24	43.9133
884.67	52.1044
889.25	39.8979
896.60	49.2105
898.02	48.2048
899.00	57.4520
903.28	57.2296
911.07	54.5631
911.07	54.5631
911.07	54.5631
919.63	44.3763
920.93	47.4892
925.00	56.8463
925.24	56.8503
926.50	51.7004
935.52	40.4292
937.48	49.7859
944.10	40.5263
946.00	40.5472
949.00	33.2977
962.29	48.7368
964.01	55.7253
966.15	66.2124
968.20	82.6376
969.11	82.6588
969.11	82.6588
969.11	82.6588
977.42	50.1037
980.50	36.7346
983.50	35.7141
989.30	36.8218
996.32	47.4313
1001.03	46.4353
1001.68	44.3328
1004.76	54.9326
1021.30	0.0000
1024.50	0.0000
1034.80	37.2661
1036.00	43.6686
1037.82	47.9509
1038.57	49.0277
1038.76	0.0000
1045.16	45.9080
1046.59	42.7207
1048.07	39.5311

1050.47	35.2800
1050.47	35.2800
1062.04	38.5998
1063.62	54.7055
1076.63	36.5915
1077.35	44.1331
1078.86	49.5331
1085.78	44.2251
1099.22	41.1265
1112.02	33.6565
1112.84	31.2207
1115.52	47.0869
1120.29	40.2520
1120.29	40.2520
1120.29	40.2520
1120.29	40.2520
1120.51	40.2556
1121.28	40.2628
1124.00	0.0000
1129.67	38.1633
1131.51	0.0000
1147.95	0.0000
1167.94	38.5154
1173.22	39.4814
1175.09	40.4175
1177.93	50.5554
1189.05	49.7659
1204.90	48.0983
1205.75	0.0000
1213.00	40.7756
1221.42	47.3518
1230.97	48.3861
1235.34	76.3779
1236.41	0.0000
1238.25	54.9908
1246.25	52.2881
1260.41	0.0000
1271.85	40.3790
1274.45	45.1016
1274.54	42.2827
1291.56	41.4989
1298.22	0.0000
1312.09	28.4204
1325.50	24.7019
1325.50	24.7019
1332.49	16.1755
1333.61	22.8418
1360.21	24.8849
1362.66	0.0000
1365.15	27.7846
1368.21	23.0088
1368.53	0.0000
1376.25	24.9685
1384.27	25.9717
1394.10	13.4941
1395.20	19.2814
1407.95	21.2651
1434.06	18.4635
1436.60	14.5837
1457.56	0.0000
1460.81	20.5155
1489.15	23.5781
1509.49	23.6709
1596.49	25.0661
1620.62	17.1211
1678.03	0.0000
1691.02	14.2791
1691.02	14.2791
1706.46	0.0000
1750.46	0.0000
1764.49	4.1320
1764.49	4.1320
1764.49	4.1320
1764.49	4.1320
1770.23	8.8630
1771.40	56.8821
1791.20	0.0000
1808.65	11.4485

1836.01 9.4094

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244137002

Total Uranium Activity	-2.5232E+00	ug/g
Total Uranium Counting Unc.	4.4329E+00	ug/g
Total Uranium Tpu	2.2617E-06	ug/g
Total Uranium Mda	3.7513E+00	ug/g

```
*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                           *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 940263                    SAMPLE ID  : G244137002       *
*   ANALYST       : MXR1                      DETECTOR   : GAM01            *
*   SAMPLE DATE   :  4-JAN-2010 12:00:00.00   COUNT TIME :    0 02:00:00.00 *
*   ANALYSIS DATE: 20-JAN-2010 13:43:15.20    SAMPLE ALQT:  133.430 GRAM    *
*                                                                           *
*****************************************************************************
```

```
GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 7.989E+00
GROSS GAMMA ERROR  (pCi/GRAM  )   : 1.133E+00
GROSS GAMMA MDA    (pCi/GRAM  )   : 2.959E+00
GROSS GAMMA DLC    (pCi/GRAM  )   : 1.431E+00
```

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:45:49.39

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137003.CNF;1
Sample date       : 4-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:43:42
Sample ID         : G244137003           Sample quantity  : 1.34090E+02 GRAM
Detector name     : GAM11                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.71  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 940263               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.12*	91	406	0.95	125.12	122	7	1.26E-02	39.6	
2	3	74.79*	461	398	0.85	148.48	144	14	6.41E-02	8.0	3.17E-01
3	3	77.10*	758	345	0.82	153.11	144	14	1.05E-01	5.3	
4	4	84.20*	84	371	1.08	167.32	164	25	1.17E-02	38.0	1.13E+00
5	4	87.18*	278	361	1.06	173.27	164	25	3.87E-02	12.4	
6	4	89.91	196	293	0.85	178.75	164	25	2.72E-02	14.8	
7	4	92.84*	278	397	1.20	184.61	164	25	3.86E-02	14.2	
8	0	129.05	81	305	0.78	257.09	254	7	1.12E-02	37.6	
9	0	185.83*	282	307	1.04	370.72	365	11	3.92E-02	13.9	
10	0	209.48	149	218	1.13	418.07	415	8	2.07E-02	19.0	
11	6	238.69*	1372	188	0.95	476.52	472	15	1.91E-01	3.2	1.93E+00
12	6	241.61*	360	210	1.61	482.37	472	15	5.00E-02	9.1	
13	0	270.49*	147	200	1.42	540.16	535	11	2.05E-02	20.9	
14	0	295.35*	460	197	1.07	589.93	585	11	6.39E-02	7.6	
15	0	300.56	110	190	1.27	600.35	596	11	1.53E-02	26.2	
16	0	328.32	73	192	1.40	655.90	651	11	1.01E-02	39.2	
17	0	338.47	267	178	1.03	676.22	672	9	3.71E-02	10.9	
18	0	351.91*	756	206	1.12	703.13	696	14	1.05E-01	5.5	
19	0	463.15	86	66	1.37	925.73	922	8	1.20E-02	19.5	
20	0	488.16	36	52	1.38	975.79	972	7	4.95E-03	38.3	
21	0	511.10*	127	137	1.69	1021.70	1015	16	1.76E-02	26.1	
22	0	583.52*	429	109	1.23	1166.62	1161	13	5.96E-02	7.2	
23	0	609.51*	560	82	1.26	1218.63	1213	13	7.78E-02	5.5	
24	0	662.45	90	78	1.50	1324.57	1316	12	1.25E-02	21.9	
25	0	728.12	124	102	1.52	1455.98	1448	17	1.72E-02	21.1	
26	0	769.81	33	84	1.16	1539.41	1532	11	4.59E-03	57.3	
27	0	795.44*	67	57	1.54	1590.68	1584	16	9.34E-03	28.1	
28	0	861.40	59	73	1.14	1722.66	1716	14	8.17E-03	33.5	
29	0	911.62*	290	44	1.69	1823.15	1818	12	4.03E-02	7.5	
30	1	965.18	43	37	1.73	1930.32	1922	24	6.01E-03	31.3	2.18E+00
31	1	969.47*	164	30	1.72	1938.90	1922	24	2.27E-02	10.5	
32	0	1121.04*	104	63	1.14	2242.16	2236	13	1.44E-02	18.7	
33	0	1238.81	57	60	1.30	2477.79	2470	16	7.97E-03	32.9	
34	0	1378.27	65	9	2.27	2756.78	2747	18	9.00E-03	16.5	
35	0	1461.53*	965	24	1.86	2923.34	2915	16	1.34E-01	3.4	
36	0	1550.09	12	3	1.61	3100.51	3097	7	1.67E-03	38.3	
37	0	1765.38*	100	14	1.93	3531.14	3523	14	1.39E-02	13.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JAN-2010 15:45:52

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137003.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 4-JAN-2010 12:00:00
Sample ID : G244137003
Sample type : SOLID
Detector name : GAMMA11
Elapsed live time: 0 02:00:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 1.50 keV
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 75.00

Acquisition date : 20-JAN-2010 13:43:42
Sample quantity : 134.09 GRAM
Sample geometry :
Detector geometry: CAN
Elapsed real time: 0 02:00:01.71 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 0.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.067E+01	2.282E+00	4.172E-01	3.607E-02	49.550
CD-109	+	88.03	*	3.163E+00	8.398E-01	9.131E-01	8.659E-02	3.464
SN-126	+	64.28		6.235E-01	5.017E-01	5.344E-01	7.752E-02	1.167
	+	86.94		1.290E+00	6.244E-01	3.755E-01	1.559E-01	3.437
	+	87.57	*	3.104E-01	8.243E-02	8.991E-02	8.481E-03	3.452
BA-137M	+	661.65	*	1.171E-01	5.261E-02	5.363E-02	5.074E-03	2.185
CS-137	+	661.65	*	1.238E-01	5.562E-02	5.669E-02	5.373E-03	2.185
TL-208		277.35		3.434E-01	3.316E-01	5.579E-01	9.891E-02	0.616
	+	510.84		5.563E-01	3.002E-01	1.854E-01	2.513E-02	3.001
	+	583.14	*	5.361E-01	9.610E-02	4.612E-02	4.981E-03	11.623
	+	860.37		6.867E-01	4.661E-01	3.583E-01	3.732E-02	1.917
BI-211		72.87		-8.928E-01	2.583E+00	3.673E+00	2.918E-01	-0.243
	+	351.07	*	4.169E+00	7.131E-01	2.555E-01	3.370E-02	16.318
PB-212	+	74.81		2.085E+00	4.227E-01	3.887E-01	4.808E-02	5.364
	+	77.11		1.957E+00	2.646E-01	2.228E-01	1.851E-02	8.784
	+	87.30		1.436E+00	4.074E-01	4.166E-01	5.718E-02	3.446
	+	238.63	*	1.653E+00	2.542E-01	7.912E-02	1.108E-02	20.894
	+	300.09		2.049E+00	1.122E+00	9.337E-01	1.497E-01	2.195
PO-212	+	74.81		2.085E+00	4.227E-01	3.887E-01	4.808E-02	5.364
	+	77.11		1.957E+00	2.646E-01	2.228E-01	1.851E-02	8.784
	+	87.30		1.436E+00	4.074E-01	4.166E-01	5.718E-02	3.446
		115.19		-2.981E-01	2.697E+00	4.573E+00	3.875E-01	-0.065
	+	238.63	*	1.653E+00	2.542E-01	7.912E-02	1.108E-02	20.894
	+	300.09		2.049E+00	1.122E+00	9.337E-01	1.497E-01	2.195
BI-214	+	609.31	*	1.318E+00	2.076E-01	8.609E-02	9.731E-03	15.309
	+	1120.29		1.255E+00	4.888E-01	3.730E-01	4.028E-02	3.364
	+	1764.49		1.652E+00	4.539E-01	3.048E-01	2.512E-02	5.418
PB-214	+	74.81		3.592E+00	6.991E-01	6.698E-01	7.354E-02	5.364
	+	77.11		3.355E+00	5.207E-01	3.819E-01	4.306E-02	8.784
	+	87.30		2.459E+00	6.800E-01	7.137E-01	8.677E-02	3.446
	+	241.98		2.607E+00	6.092E-01	4.767E-01	6.945E-02	5.469
	+	295.21		1.503E+00	3.346E-01	1.540E-01	2.511E-02	9.761
	+	351.92	*	1.450E+00	2.593E-01	8.906E-02	1.260E-02	16.283
PO-214	+	74.81		3.592E+00	6.991E-01	6.698E-01	7.354E-02	5.364

Sample ID : G244137003 Acquisition date : 20-JAN-2010 13:43:42

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.355E+00	5.207E-01	3.819E-01	4.306E-02	8.784
	+	87.30		2.459E+00	6.800E-01	7.137E-01	8.677E-02	3.446
	+	241.98		2.607E+00	6.092E-01	4.767E-01	6.945E-02	5.469
	+	295.21		1.503E+00	3.346E-01	1.540E-01	2.511E-02	9.761
	+	351.92	*	1.450E+00	2.593E-01	8.906E-02	1.260E-02	16.283
PO-216	+	74.81		2.085E+00	4.227E-01	3.887E-01	4.808E-02	5.364
	+	77.11		1.957E+00	2.646E-01	2.228E-01	1.851E-02	8.784
	+	87.30		1.436E+00	4.074E-01	4.166E-01	5.718E-02	3.446
	+	238.63	*	1.653E+00	2.542E-01	7.912E-02	1.108E-02	20.894
	+	300.09		2.049E+00	1.122E+00	9.337E-01	1.497E-01	2.195
PO-218	+	74.81		3.592E+00	6.991E-01	6.698E-01	7.354E-02	5.364
	+	77.11		3.355E+00	5.207E-01	3.819E-01	4.306E-02	8.784
	+	87.30		2.459E+00	6.800E-01	7.137E-01	8.677E-02	3.446
	+	241.98		2.607E+00	6.092E-01	4.767E-01	6.945E-02	5.469
	+	295.21		1.503E+00	3.346E-01	1.540E-01	2.511E-02	9.761
	+	351.92	*	1.450E+00	2.593E-01	8.906E-02	1.260E-02	16.283
RA-224	+	240.98	*	4.943E+00	1.121E+00	9.008E-01	1.206E-01	5.488
RA-226	+	609.31	*	1.318E+00	2.076E-01	8.609E-02	9.731E-03	15.309
	+	1120.29		1.255E+00	4.888E-01	3.730E-01	4.028E-02	3.364
	+	1764.49		1.652E+00	4.539E-01	3.048E-01	2.512E-02	5.418
AC-228	+	338.32		1.626E+00	7.774E-01	3.417E-01	1.454E-01	4.759
	+	911.07	*	1.600E+00	3.101E-01	1.885E-01	2.295E-02	8.486
	+	969.11		1.589E+00	5.034E-01	3.106E-01	7.362E-02	5.114
RA-228	+	338.32		1.626E+00	7.774E-01	3.417E-01	1.454E-01	4.759
	+	911.07	*	1.600E+00	3.101E-01	1.885E-01	2.295E-02	8.486
	+	969.11		1.589E+00	5.034E-01	3.106E-01	7.362E-02	5.114
TH-228	+	74.81		2.119E+00	3.820E-01	3.950E-01	3.232E-02	5.364
	+	77.11		1.989E+00	2.689E-01	2.264E-01	1.881E-02	8.784
	+	87.30		1.459E+00	3.874E-01	4.234E-01	3.980E-02	3.446
	+	238.63	*	1.680E+00	2.583E-01	8.040E-02	1.126E-02	20.894
	+	300.09		2.082E+00	1.666E+00	9.488E-01	5.742E-01	2.195
TH-230	+	609.31	*	1.318E+00	2.076E-01	8.609E-02	9.731E-03	15.309
	+	1120.29		1.255E+00	4.888E-01	3.730E-01	4.028E-02	3.364
	+	1764.49		1.652E+00	4.538E-01	3.048E-01	2.512E-02	5.418
TH-232	+	338.32		1.626E+00	4.169E-01	3.417E-01	4.607E-02	4.759
	+	911.07	*	1.600E+00	3.101E-01	1.885E-01	2.295E-02	8.486
	+	969.11		1.589E+00	5.034E-01	3.106E-01	7.362E-02	5.114
TH-234	+	63.29	*	1.575E+00	1.276E+00	1.365E+00	2.376E-01	1.154
	+	92.38		2.035E+00	6.887E-01	5.978E-01	1.097E-01	3.404
U-234	+	609.31	*	1.318E+00	2.076E-01	8.609E-02	9.731E-03	15.309
	+	1120.29		1.255E+00	4.888E-01	3.730E-01	4.028E-02	3.364
	+	1764.49		1.652E+00	4.538E-01	3.048E-01	2.512E-02	5.418
NP-237	+	86.50	*	9.115E-01	3.065E-01	2.661E-01	6.024E-02	3.425
		95.87		2.147E-01	7.878E-01	1.140E+00	2.822E-01	0.188
U-238	+	63.29	*	1.575E+00	1.276E+00	1.365E+00	2.376E-01	1.154
	+	92.38		2.035E+00	6.080E-01	5.978E-01	5.474E-02	3.404
AM-243	+	74.67	*	3.380E-01	6.082E-02	6.317E-02	5.112E-03	5.351
	+	86.72		3.418E+01	9.077E+00	9.963E+00	9.296E-01	3.431
		117.66		-1.784E+00	2.816E+00	4.655E+00	3.938E-01	-0.383

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		142.18		-6.272E+00	1.432E+01	2.367E+01	2.111E+00	-0.265
ANH-511	+	511.00	*	1.202E-01	6.407E-02	4.005E-02	4.283E-03	3.000

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-1.065E-01	2.811E-01	4.560E-01	5.161E-02	-0.234
NA-22		1274.54	*	1.129E-03	3.835E-02	6.256E-02	5.138E-03	0.018
NA-24		1368.53	*	7.803E-02	3.835E-02	Half-Life too short		
AL-26		1129.67		9.730E-01	1.347E+00	2.379E+00	2.009E-01	0.409
		1808.65	*	-3.057E-03	2.411E-02	3.861E-02	3.152E-03	-0.079
TI-44		67.85		-4.021E-03	3.201E-02	5.032E-02	3.813E-03	-0.080
	+	78.38	*	3.612E-01	4.883E-02	5.384E-02	4.539E-03	6.708
SC-46		889.25	*	-1.639E-02	3.169E-02	5.029E-02	4.954E-03	-0.326
	+	1120.51		2.165E-01	8.310E-02	1.227E-01	1.046E-02	1.764
V-48		944.10		5.535E-01	8.000E-01	1.419E+00	1.372E-01	0.390
		983.50	*	-2.168E-02	6.043E-02	9.667E-02	9.170E-03	-0.224
		1312.09		-1.243E-02	7.050E-02	1.117E-01	9.208E-03	-0.111
CR-51		320.08	*	-1.535E-01	3.187E-01	4.906E-01	7.120E-02	-0.313
MN-52		744.21		1.800E-01	2.425E-01	4.160E-01	4.042E-02	0.433
		848.13		2.534E+00	5.720E+00	1.005E+01	9.899E-01	0.252
		935.52		4.112E-01	2.586E-01	4.844E-01	4.703E-02	0.849
		1246.25		-4.334E+00	7.830E+00	1.002E+01	8.182E-01	-0.432
		1333.61		9.257E-01	5.114E+00	8.470E+00	7.000E-01	0.109
		1434.06	*	-1.174E-01	2.451E-01	3.649E-01	3.057E-02	-0.322
MN-54		834.83	*	1.312E-02	3.311E-02	5.753E-02	5.665E-03	0.228
CO-56		846.75	*	1.675E-02	3.006E-02	5.330E-02	5.251E-03	0.314
		977.42		1.005E+00	2.315E+00	3.942E+00	3.752E-01	0.255
		1037.82		1.190E-01	2.348E-01	4.107E-01	3.941E-02	0.290
		1175.09		2.647E-01	2.048E+00	3.397E+00	2.730E-01	0.078
	+	1238.25		1.968E-01	1.307E-01	1.551E-01	1.305E-02	1.269
		1360.21		3.548E-01	8.408E-01	1.440E+00	1.196E-01	0.246
		1771.40		-1.205E+00	3.826E-01	3.477E-01	2.861E-02	-3.465
CO-57		122.06	*	-3.809E-03	1.951E-02	3.287E-02	2.781E-03	-0.116
		136.48		8.748E-04	1.541E-01	2.603E-01	2.445E-02	0.003
CO-58		810.76	*	-1.243E-02	3.413E-02	5.199E-02	5.119E-03	-0.239
FE-59		142.65		-1.465E+00	2.324E+00	3.724E+00	3.326E-01	-0.393
		192.34		-2.954E-01	7.968E-01	1.294E+00	1.941E-01	-0.228
		1099.22	*	-8.331E-03	7.699E-02	1.254E-01	1.179E-02	-0.066
		1291.56		2.526E-02	1.018E-01	1.704E-01	1.608E-02	0.148
CO-60		1173.22		1.648E-02	3.992E-02	6.795E-02	5.459E-03	0.243
		1332.49	*	2.433E-02	3.531E-02	6.194E-02	5.118E-03	0.393
ZN-65		1115.52	*	-6.176E-04	9.200E-02	1.310E-01	1.124E-02	-0.005
GE-68		1077.35	*	2.458E-01	9.394E-01	1.597E+00	1.418E-01	0.154
AS-73		53.44	*	-7.863E-02	5.183E-01	8.225E-01	6.176E-02	-0.096
AS-74		595.88	*	1.739E-02	8.229E-02	1.373E-01	1.396E-02	0.127
		634.78		9.904E-02	3.081E-01	5.173E-01	5.060E-02	0.191
SE-75		66.05		-2.790E-01	3.603E+00	5.207E+00	4.948E-01	-0.054

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		-5.708E-01	6.807E-01	9.120E-01	1.260E-01	-0.626
		121.11		-7.784E-02	1.045E-01	1.714E-01	1.901E-02	-0.454
		136.00		2.507E-02	2.942E-02	5.139E-02	4.524E-03	0.488
		198.60		9.399E-02	1.432E+00	2.325E+00	2.780E-01	0.040
		264.65	*	-1.598E-02	3.589E-02	5.340E-02	7.849E-03	-0.299
		279.53		-5.710E-02	9.405E-02	1.455E-01	2.279E-02	-0.392
		303.91		1.711E+00	1.793E+00	2.761E+00	4.590E-01	0.620
		400.65		2.490E-01	2.148E-01	3.849E-01	4.924E-02	0.647
BR-77	+	87.88		9.015E+02	2.394E+02	3.465E+02	3.282E+01	2.602
		200.40		-9.440E+01	1.639E+02	2.618E+02	2.960E+01	-0.361
	+	239.00		3.508E+02	5.159E+01	4.788E+01	6.362E+00	7.326
		249.79		1.104E+01	7.075E+01	1.162E+02	1.611E+01	0.095
		281.68		-5.548E+01	9.914E+01	1.536E+02	2.369E+01	-0.361
		297.23		2.108E+02	9.105E+01	1.226E+02	1.839E+01	1.719
		303.76		1.887E+02	1.999E+02	3.085E+02	4.566E+01	0.612
		439.47		1.264E+01	1.586E+02	2.678E+02	2.888E+01	0.047
		484.57		-1.745E+02	2.825E+02	3.852E+02	4.147E+01	-0.453
		520.65	*	-3.028E+00	1.189E+01	1.933E+01	2.059E+00	-0.157
		574.64		3.494E+01	2.094E+02	3.498E+02	3.617E+01	0.100
		578.91		-6.239E+01	1.076E+02	1.442E+02	1.486E+01	-0.433
		585.48		1.528E+03	3.201E+02	5.586E+02	5.729E+01	2.735
		755.35		2.085E+00	1.967E+02	3.167E+02	3.085E+01	0.007
		817.79		-2.914E+01	1.471E+02	2.298E+02	2.260E+01	-0.127
SR-82		698.33		1.733E+01	3.012E+01	5.117E+01	4.907E+00	0.339
		776.49	*	-3.093E-01	3.462E-01	5.024E-01	4.914E-02	-0.616
		1395.20		2.273E+00	8.932E+00	1.498E+01	1.250E+00	0.152
RB-83		520.41	*	-3.634E-02	6.160E-02	9.735E-02	1.037E-02	-0.373
		529.64		3.956E-02	8.879E-02	1.521E-01	1.614E-02	0.260
		552.65		1.631E-01	1.585E-01	2.826E-01	2.964E-02	0.577
RB-84		881.50	*	1.562E-02	5.994E-02	1.030E-01	1.015E-02	0.152
KR-85		513.99	*	2.630E+00	6.747E+00	1.021E+01	1.091E+00	0.257
SR-85		513.99	*	1.362E-02	3.494E-02	5.290E-02	5.651E-03	0.257
RB-86		1076.63	*	4.723E-01	6.029E-01	1.082E+00	9.616E-02	0.436
Y-88		898.02		-2.062E-03	3.522E-02	5.871E-02	5.802E-03	-0.035
		1836.01	*	3.103E-03	2.603E-02	4.399E-02	3.571E-03	0.071
ZR-88		392.90	*	5.475E-03	2.545E-02	4.365E-02	4.655E-03	0.125
Y-91		1204.90	*	6.837E+00	1.650E+01	2.802E+01	2.269E+00	0.244
NB-94		702.63	*	2.191E-03	2.873E-02	4.682E-02	4.497E-03	0.047
		871.10		6.334E-03	2.648E-02	4.556E-02	4.490E-03	0.139
NB-95		765.79	*	1.215E-02	4.223E-02	6.136E-02	5.990E-03	0.198
NB-95M		235.69	*	1.018E-01	1.135E-01	1.744E-01	2.434E-02	0.584
ZR-95		724.18		5.683E-02	8.706E-02	1.329E-01	1.374E-02	0.428
		756.15	*	-3.978E-02	6.437E-02	9.706E-02	1.021E-02	-0.410
NB-97		657.90	*	3.611E-02	6.437E-02	Half-Life too short		
		1024.50		-1.192E+01	6.437E-02	Half-Life too short		
ZR-97		254.15		1.714E-01	6.437E-02	Half-Life too short		
		355.39		2.190E+00	6.437E-02	Half-Life too short		
		507.63	*	5.503E+00	6.437E-02	Half-Life too short		
		602.52		-6.309E+00	6.437E-02	Half-Life too short		

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		1021.30		9.832E+00	6.437E-02	Half-Life too short		
		1147.95		-4.712E+00	6.437E-02	Half-Life too short		
		1362.66		1.579E+01	6.437E-02	Half-Life too short		
		1750.46		-7.745E+00	6.437E-02	Half-Life too short		
MO-99		140.51		5.696E+00	2.663E+01	4.441E+01	1.233E+01	0.128
		181.06		-2.148E+00	1.949E+01	2.881E+01	5.528E+00	-0.075
		366.43		-5.404E+01	8.999E+01	1.350E+02	1.636E+01	-0.400
		739.58	*	-2.583E+00	1.288E+01	2.034E+01	3.220E+00	-0.127
		778.00		-2.041E+01	3.616E+01	5.440E+01	5.323E+00	-0.375
TC-99M		140.51	*	9.114E+10	3.616E+01	Half-Life too short		
RH-101		127.23		1.160E-03	2.649E-02	4.051E-02	3.460E-03	0.029
		198.01	*	-1.174E-03	2.625E-02	4.241E-02	4.747E-03	-0.028
		325.23		5.076E-02	2.087E-01	3.029E-01	4.251E-02	0.168
RH-102		418.52		-4.042E-02	2.387E-01	3.976E-01	4.275E-02	-0.102
		475.06	*	8.548E-03	2.440E-02	4.175E-02	4.501E-03	0.205
		631.29		-3.864E-03	4.448E-02	7.205E-02	7.075E-03	-0.054
		697.49		3.604E-02	6.612E-02	1.121E-01	1.074E-02	0.322
		766.84		5.719E-02	1.192E-01	1.759E-01	1.717E-02	0.325
		1046.59		1.317E-02	8.440E-02	1.422E-01	1.295E-02	0.093
		1112.84		2.492E-01	2.057E-01	3.671E-01	3.155E-02	0.679
RU-103		497.08	*	-1.416E-02	3.265E-02	5.227E-02	8.124E-03	-0.271
	+	610.33		1.447E+01	2.985E+00	2.974E+00	5.191E-01	4.867
RH-106	+	511.85		6.013E-01	3.206E-01	3.885E-01	4.153E-02	1.548
		621.84	*	5.497E-02	2.445E-01	4.083E-01	5.811E-02	0.135
		1050.47		-2.514E-05	1.938E+00	3.207E+00	2.911E-01	0.000
RU-106	+	511.85		6.013E-01	3.206E-01	3.885E-01	4.153E-02	1.548
		621.84	*	5.497E-02	2.444E-01	4.083E-01	4.050E-02	0.135
		1050.47		-2.514E-05	1.938E+00	3.207E+00	2.911E-01	0.000
AG-108M		433.93	*	-2.334E-02	2.640E-02	4.128E-02	4.564E-03	-0.565
		614.37		-9.030E-03	3.564E-02	4.948E-02	5.091E-03	-0.182
		722.95		6.214E-04	3.907E-02	5.524E-02	5.504E-03	0.011
AG-110M		657.75	*	6.229E-03	3.382E-02	4.927E-02	4.801E-03	0.126
		677.61		-5.179E-02	2.530E-01	4.026E-01	3.922E-02	-0.129
		706.67		-9.934E-02	1.862E-01	2.863E-01	2.815E-02	-0.347
		763.93		-8.743E-02	1.733E-01	2.269E-01	2.263E-02	-0.385
		884.67		1.696E-02	4.127E-02	7.187E-02	7.256E-03	0.236
		937.48		1.937E-02	1.041E-01	1.767E-01	1.764E-02	0.110
		1384.27		1.102E-01	1.360E-01	2.238E-01	1.921E-02	0.493
IN-111		171.28		2.120E-01	1.007E+00	1.694E+00	1.686E-01	0.125
		245.39	*	7.741E-01	1.155E+00	1.763E+00	2.402E-01	0.439
IN-113M		391.69	*	-1.419E-02	3.792E-02	6.265E-02	6.814E-03	-0.227
SN-113		391.69	*	-1.419E-02	3.792E-02	6.265E-02	6.814E-03	-0.227
IN-114M		190.27	*	1.575E-02	1.634E-01	2.439E-01	2.639E-02	0.065
CD-115		260.90		-1.820E+02	1.464E+02	2.148E+02	3.108E+01	-0.847
		492.35		2.599E+01	4.436E+01	6.899E+01	7.415E+00	0.377
		527.90	*	9.749E-01	1.251E+01	2.086E+01	2.216E+00	0.047
SN-117M		156.02		-1.148E+00	1.865E+00	3.034E+00	2.840E-01	-0.379
		158.56	*	2.310E-02	4.424E-02	7.574E-02	7.158E-03	0.305
SB-122		563.90	*	2.636E+00	2.321E+00	4.123E+00	4.295E-01	0.639

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		692.80		1.019E+01	5.065E+01	8.347E+01	7.990E+00	0.122
I-123		159.00	*	-1.663E+00	5.065E+01	Half-Life too short		
		528.96		8.600E+02	5.065E+01	Half-Life too short		
TE-123M		159.00	*	-2.463E-03	2.214E-02	3.687E-02	3.508E-03	-0.067
I-124		602.71	*	-2.680E-01	6.315E-01	9.570E-01	9.672E-02	-0.280
		722.78		1.400E-01	4.787E+00	6.779E+00	6.550E-01	0.021
		1325.50		2.994E-01	3.227E+01	5.235E+01	4.323E+00	0.006
		1376.25		4.882E+01	3.471E+01	6.451E+01	5.368E+00	0.757
		1509.49		2.228E+01	1.589E+01	3.113E+01	2.620E+00	0.716
		1691.02		-6.333E-01	3.188E+00	5.049E+00	4.210E-01	-0.125
SB-124		602.71		-1.344E-02	3.167E-02	4.800E-02	4.852E-03	-0.280
		645.85		1.816E-01	4.207E-01	7.123E-01	7.208E-02	0.255
		709.31		4.694E-01	2.561E+00	4.207E+00	4.049E-01	0.112
		713.82		2.122E-01	1.498E+00	2.452E+00	3.136E-01	0.087
		722.78		1.018E-02	3.480E-01	4.929E-01	4.844E-02	0.021
	+	968.20		1.653E+01	3.820E+00	6.697E+00	6.405E-01	2.469
		1045.16		1.204E-01	1.788E+00	2.984E+00	2.719E-01	0.040
		1325.50		2.325E-02	2.506E+00	4.065E+00	3.357E-01	0.006
		1368.21		-9.892E-03	1.383E+00	2.169E+00	2.881E-01	-0.005
		1436.60		2.752E-01	3.486E+00	5.671E+00	4.753E-01	0.049
		1691.02	*	-1.086E-02	5.467E-02	8.659E-02	7.525E-03	-0.125
SB-125		427.89	*	3.703E-03	7.800E-02	1.316E-01	1.435E-02	0.028
	+	463.38		7.404E-01	3.012E-01	4.888E-01	5.542E-02	1.515
		600.56		-6.776E-02	1.435E-01	2.252E-01	2.403E-02	-0.301
		635.90		1.497E-01	2.205E-01	3.814E-01	3.962E-02	0.393
TE-125M		109.28	*	5.398E+00	6.780E+00	1.191E+01	1.223E+00	0.453
I-126		388.63		-2.143E-02	1.794E-01	3.016E-01	3.272E-02	-0.071
		666.33	*	1.572E-02	1.836E-01	2.640E-01	2.503E-02	0.060
		753.82		2.047E+00	1.314E+00	2.400E+00	2.337E-01	0.853
SB-126		223.80		1.242E+00	3.394E+00	5.668E+00	7.079E-01	0.219
		278.60		2.350E+00	2.250E+00	3.805E+00	5.878E-01	0.618
	+	296.50		1.579E+01	3.372E+00	3.593E+00	5.398E-01	4.393
		414.70		1.571E-02	6.367E-02	1.091E-01	1.172E-02	0.144
		415.30		2.546E-01	5.230E+00	8.848E+00	9.504E-01	0.029
		555.20		-3.121E+00	3.393E+00	5.112E+00	5.354E-01	-0.611
		573.80		-6.734E-01	8.572E-01	1.304E+00	1.349E-01	-0.516
		593.00		-3.386E-01	8.095E-01	1.278E+00	1.303E-01	-0.265
		656.30		8.823E-01	3.355E+00	4.937E+00	4.705E-01	0.179
		666.33		6.584E-03	7.691E-02	1.106E-01	1.048E-02	0.060
		675.00		4.591E-01	1.709E+00	2.846E+00	2.707E-01	0.161
		695.00		-3.786E-02	8.066E-02	1.176E-01	1.126E-02	-0.322
		697.00		-1.729E-03	2.737E-01	4.161E-01	3.989E-02	-0.004
		720.50	*	-1.202E-02	1.320E-01	1.947E-01	1.880E-02	-0.062
		856.80		1.519E-01	4.607E-01	7.042E-01	6.940E-02	0.216
		989.30		9.173E-01	1.153E+00	2.057E+00	1.945E-01	0.446
		1034.80		-5.700E-01	7.637E+00	1.255E+01	1.152E+00	-0.045
		1213.00		-1.290E+00	4.027E+00	6.356E+00	5.154E-01	-0.203
SB-127		61.10		1.830E+01	4.896E+01	7.315E+01	7.618E+00	0.250
		252.40		-5.549E-01	4.028E+00	6.482E+00	2.822E+00	-0.086

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		290.80		-3.377E+00	2.155E+01	3.045E+01	5.162E+00	-0.111
		411.60		3.843E+00	1.228E+01	2.108E+01	3.619E+00	0.182
		444.90		6.120E-01	9.334E+00	1.574E+01	2.257E+00	0.039
		473.00		-2.176E-01	1.663E+00	2.751E+00	4.025E-01	-0.079
		543.00		-8.491E+00	1.502E+01	2.344E+01	3.711E+00	-0.362
		603.60		3.635E+00	1.158E+01	1.729E+01	2.387E+00	0.210
		685.20	*	-3.022E-01	1.401E+00	2.227E+00	2.754E-01	-0.136
		698.50		8.481E+00	1.552E+01	2.624E+01	4.346E+00	0.323
		722.20		1.627E+00	3.242E+01	4.606E+01	5.643E+00	0.035
		783.80		1.082E+00	3.813E+00	6.274E+00	8.470E-01	0.173
XE-127		57.60		-4.497E-01	4.044E+00	6.411E+00	4.614E-01	-0.070
		145.22		5.192E-01	5.846E-01	9.928E-01	8.943E-02	0.523
		172.10		9.633E-03	9.782E-02	1.638E-01	1.635E-02	0.059
		202.84	*	-2.011E-02	3.692E-02	5.906E-02	6.750E-03	-0.340
		374.96		8.288E-02	1.722E-01	2.818E-01	3.283E-02	0.294
I-131		80.18		-1.062E+00	4.419E+00	5.471E+00	4.743E-01	-0.194
		284.30		4.696E-01	1.372E+00	2.257E+00	3.525E-01	0.208
		364.48	*	1.787E-03	1.037E-01	1.644E-01	2.064E-02	0.011
		636.97		1.718E-01	1.413E+00	2.331E+00	2.375E-01	0.074
		722.89		1.474E-01	7.148E+00	1.011E+01	9.826E-01	0.015
TE-132		49.72		-1.653E+00	1.382E+01	2.204E+01	2.335E+00	-0.075
		111.76		-5.474E+00	2.750E+01	4.611E+01	5.083E+00	-0.119
		116.30		-1.173E+01	2.504E+01	4.173E+01	4.588E+00	-0.281
		228.16	*	-3.654E-01	6.783E-01	1.072E+00	1.976E-01	-0.341
BA-133		53.15		6.226E-01	2.174E+00	3.528E+00	2.659E-01	0.176
		79.62		-3.510E-01	9.992E-01	1.410E+00	2.142E-01	-0.249
		81.00		8.362E-03	8.546E-02	1.085E-01	1.726E-02	0.077
		276.40		3.248E-01	3.275E-01	5.490E-01	1.055E-01	0.592
		302.84		3.677E-02	1.270E-01	1.861E-01	3.341E-02	0.198
		356.01	*	5.852E-03	3.973E-02	5.682E-02	9.164E-03	0.103
		383.85		-1.230E-02	2.405E-01	4.063E-01	5.867E-02	-0.030
I-133	+	510.53		2.624E+00	2.405E-01	Half-Life too short		
		529.87	*	4.827E-03	2.405E-01	Half-Life too short		
		706.58		-4.321E-01	2.405E-01	Half-Life too short		
		856.28		4.737E-01	2.405E-01	Half-Life too short		
		875.33		-1.115E-01	2.405E-01	Half-Life too short		
		1236.41		1.153E+00	2.405E-01	Half-Life too short		
		1298.22		-1.778E-01	2.405E-01	Half-Life too short		
CS-134		475.35		3.650E-01	1.615E+00	2.740E+00	2.954E-01	0.133
		563.23		3.812E-01	3.148E-01	5.619E-01	5.895E-02	0.678
		569.32		-4.372E-02	1.690E-01	2.715E-01	2.845E-02	-0.161
		604.70		1.848E-02	2.785E-02	4.326E-02	4.372E-03	0.427
	+	795.84	*	1.206E-01	6.879E-02	8.065E-02	7.956E-03	1.495
		801.93		-2.334E-01	3.996E-01	5.241E-01	5.168E-02	-0.445
		1038.57		9.271E-01	2.955E+00	5.065E+00	4.638E-01	0.183
		1167.94		-9.156E-01	2.088E+00	3.261E+00	2.637E-01	-0.281
		1365.15		-1.218E+00	1.067E+00	1.401E+00	1.221E-01	-0.870
CS-135		268.24	*	2.288E-01	1.415E-01	2.240E-01	3.515E-02	1.021
I-135		288.45		9.684E+10	1.415E-01	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		417.63		3.859E+10	1.415E-01	Half-Life too short		
		546.56		-4.753E+10	1.415E-01	Half-Life too short		
		836.80		1.288E+11	1.415E-01	Half-Life too short		
		1038.76		4.390E+10	1.415E-01	Half-Life too short		
		1124.00		1.291E+11	1.415E-01	Half-Life too short		
		1131.51		1.190E+10	1.415E-01	Half-Life too short		
		1260.41	*	-3.701E+10	1.415E-01	Half-Life too short		
		1457.56		6.632E+11	1.415E-01	Half-Life too short		
		1678.03		-1.201E+11	1.415E-01	Half-Life too short		
		1706.46		1.250E+11	1.415E-01	Half-Life too short		
		1791.20		-1.036E+11	1.415E-01	Half-Life too short		
CS-136		66.91		2.467E-01	6.089E-01	9.014E-01	1.338E-01	0.274
	+	86.29		4.260E+00	1.202E+00	1.616E+00	2.149E-01	2.637
		153.22		3.571E-01	5.493E-01	9.449E-01	9.656E-02	0.378
		163.89		2.882E-01	8.858E-01	1.501E+00	1.588E-01	0.192
		176.55		-1.074E-03	3.094E-01	5.147E-01	5.461E-02	-0.002
		273.65		4.582E-02	4.259E-01	6.194E-01	9.603E-02	0.074
		340.57		1.907E-01	1.362E-01	2.109E-01	2.858E-02	0.904
		818.51		-6.014E-03	6.602E-02	1.044E-01	1.027E-02	-0.058
		1048.07	*	-1.074E-02	8.759E-02	1.429E-01	1.349E-02	-0.075
		1235.34		1.521E-01	5.814E-01	8.485E-01	9.766E-02	0.179
CE-139		165.85	*	-1.471E-02	2.409E-02	3.905E-02	3.795E-03	-0.377
BA-140		162.64		2.744E-01	6.118E-01	1.043E+00	1.048E-01	0.263
		304.84		-3.511E-01	1.204E+00	1.666E+00	5.078E-01	-0.211
		423.70		1.874E-01	1.694E+00	2.870E+00	9.487E-01	0.065
		537.32	*	1.800E-01	2.406E-01	4.081E-01	1.375E-01	0.441
LA-140	+	328.77		5.779E-01	4.601E-01	5.071E-01	7.198E-02	1.140
		432.53		-5.005E-01	1.729E+00	2.845E+00	3.162E-01	-0.176
	+	487.03		1.715E-01	1.327E-01	2.250E-01	2.518E-02	0.762
		751.79		-4.382E-01	1.635E+00	2.563E+00	2.706E-01	-0.171
		815.85		-8.269E-02	2.805E-01	4.328E-01	4.637E-02	-0.191
		867.82		-1.857E-01	1.249E+00	1.786E+00	1.832E-01	-0.104
		919.63		-2.641E+00	2.505E+00	3.713E+00	4.307E-01	-0.711
		925.24		7.849E-02	9.807E-01	1.653E+00	1.691E-01	0.047
		1596.49	*	-2.031E-03	7.396E-02	1.228E-01	1.032E-02	-0.017
CE-141		145.44	*	3.507E-02	5.221E-02	8.800E-02	8.065E-03	0.399
CE-143		57.37		-6.056E-04	5.221E-02	Half-Life too short		
		231.56		2.633E-03	5.221E-02	Half-Life too short		
		293.26	*	3.954E-04	5.221E-02	Half-Life too short		
	+	350.59		5.348E-02	5.221E-02	Half-Life too short		
		490.36		-4.205E-03	5.221E-02	Half-Life too short		
		664.57		2.695E-03	5.221E-02	Half-Life too short		
		721.93		-5.913E-05	5.221E-02	Half-Life too short		
CE-144		80.11		-4.755E-01	1.877E+00	2.321E+00	1.997E-01	-0.205
		133.54	*	-1.445E-02	1.597E-01	2.568E-01	4.007E-02	-0.056
PM-144		476.78		-3.582E-02	5.792E-02	9.206E-02	1.053E-02	-0.389
		618.01		8.764E-03	2.641E-02	4.444E-02	4.518E-03	0.197
		696.49	*	-5.852E-03	3.277E-02	4.887E-02	4.686E-03	-0.120
		778.57		-8.474E-01	1.858E+00	2.828E+00	2.768E-01	-0.300

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PR-144		696.49	*	-3.967E-01	2.222E+00	3.313E+00	3.176E-01	-0.120
		1489.15		-1.126E+00	1.052E+01	1.738E+01	1.462E+00	-0.065
PM-146		453.90	*	-1.610E-02	3.701E-02	6.001E-02	7.524E-03	-0.268
		633.02		-8.931E-02	1.160E+00	1.880E+00	7.079E-01	-0.048
		735.90		2.862E-02	1.335E-01	2.036E-01	5.894E-02	0.141
		747.13		1.892E-02	8.105E-02	1.333E-01	1.965E-02	0.142
ND-147	+	91.11		7.801E-01	2.442E-01	3.853E-01	3.818E-02	2.025
		319.41		-1.792E+00	2.942E+00	4.478E+00	6.385E-01	-0.400
		439.89		2.820E+00	5.202E+00	9.041E+00	9.753E-01	0.312
		531.02	*	-2.590E-02	5.052E-01	8.331E-01	1.348E-01	-0.031
PM-149		285.90	*	5.557E+01	1.047E+02	1.734E+02	3.477E+01	0.320
EU-152		121.78		-2.829E-02	5.654E-02	9.391E-02	9.187E-03	-0.301
		244.69		5.531E-02	2.899E-01	4.280E-01	5.817E-02	0.129
		344.27	*	-7.333E-02	8.451E-02	1.248E-01	1.692E-02	-0.588
		443.98		6.923E-02	7.703E-01	1.301E+00	1.404E-01	0.053
		778.89		-1.306E-01	2.159E-01	3.225E-01	3.155E-02	-0.405
		867.32		-9.141E-02	7.081E-01	1.016E+00	1.002E-01	-0.090
	+	964.01		4.838E-01	3.068E-01	5.094E-01	4.881E-02	0.950
		1085.78		-1.040E-01	3.237E-01	5.148E-01	4.538E-02	-0.202
		1112.02		2.785E-01	2.850E-01	5.097E-01	4.384E-02	0.546
		1407.95		9.944E-02	1.682E-01	2.919E-01	2.439E-02	0.341
GD-153		69.67		-6.036E-01	1.206E+00	1.861E+00	1.433E-01	-0.324
	+	83.37		1.699E+01	1.299E+01	1.822E+01	1.630E+00	0.933
		97.43	*	-6.870E-02	6.541E-02	9.553E-02	8.487E-03	-0.719
		103.18		-7.660E-02	7.566E-02	1.237E-01	1.073E-02	-0.619
EU-154		123.07		2.854E-02	4.037E-02	7.028E-02	7.906E-03	0.406
		247.94		-6.626E-02	2.947E-01	4.731E-01	7.433E-02	-0.140
		591.81		-1.800E-01	4.948E-01	7.845E-01	1.011E-01	-0.229
		723.30		3.771E-02	1.592E-01	2.317E-01	2.428E-02	0.163
		756.87		-3.496E-01	6.885E-01	1.050E+00	1.345E-01	-0.333
		873.19		-5.211E-02	2.372E-01	3.896E-01	5.120E-02	-0.134
		996.32		-6.361E-02	2.675E-01	4.319E-01	7.845E-02	-0.147
		1004.76		-8.097E-02	1.853E-01	2.940E-01	3.588E-02	-0.275
		1274.45	*	2.110E-03	1.069E-01	1.743E-01	1.917E-02	0.012
EU-155		48.70		-1.238E+00	1.524E+00	2.345E+00	1.896E-01	-0.528
		60.01		1.476E+00	3.563E+00	5.344E+00	3.813E-01	0.276
	+	86.54		3.740E-01	9.942E-02	1.478E-01	1.388E-02	2.530
		105.31	*	1.258E-02	7.785E-02	1.341E-01	1.170E-02	0.094
TB-160	+	86.79		1.008E+00	2.676E-01	4.036E-01	3.769E-02	2.497
		197.04		-3.044E-02	4.532E-01	7.316E-01	8.154E-02	-0.042
		215.65		2.911E-01	6.323E-01	1.061E+00	1.281E-01	0.274
		298.57		1.401E-01	1.332E-01	1.679E-01	2.512E-02	0.834
		879.36	*	5.644E-02	1.196E-01	2.093E-01	2.063E-02	0.270
		962.29		3.640E-01	4.984E-01	7.865E-01	7.544E-02	0.463
	+	966.15		3.352E-01	2.126E-01	3.856E-01	3.691E-02	0.869
		1177.93		1.149E-01	3.362E-01	5.678E-01	4.567E-02	0.202
		1271.85		1.531E-01	6.211E-01	1.038E+00	8.511E-02	0.148
HO-166M		80.57		-6.997E-03	2.379E-01	2.992E-01	2.587E-02	-0.023
	+	184.41		1.783E-01	5.317E-02	5.313E-02	5.602E-03	3.356

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		280.46		-8.593E-02	7.438E-02	1.095E-01	1.691E-02	-0.785
		410.95		1.980E-01	2.096E-01	3.718E-01	3.990E-02	0.532
		711.68	*	8.088E-03	5.627E-02	9.211E-02	8.871E-03	0.088
		752.31		-5.423E-02	2.474E-01	3.897E-01	3.794E-02	-0.139
		810.29		-2.000E-02	5.129E-02	7.795E-02	7.660E-03	-0.257
TM-171		51.35		-2.315E+01	1.822E+01	2.704E+01	2.091E+00	-0.856
		52.39		1.669E+00	9.252E+00	1.495E+01	1.139E+00	0.112
		59.40		9.778E+00	1.889E+01	2.851E+01	2.028E+00	0.343
		66.72	*	8.383E+00	2.102E+01	3.116E+01	2.338E+00	0.269
LU-176	+	88.36		7.362E-01	1.955E-01	2.666E-01	2.520E-02	2.762
		201.83		-1.849E-02	2.183E-02	3.424E-02	3.896E-03	-0.540
		306.84	*	-5.026E-03	2.046E-02	3.223E-02	4.737E-03	-0.156
		401.10		3.003E+00	5.637E+00	9.824E+00	1.051E+00	0.306
LU-177		112.95		2.993E-01	1.382E+00	2.355E+00	2.000E-01	0.127
	+	208.36	*	3.519E+00	1.403E+00	1.877E+00	2.196E-01	1.875
LU-177M		52.97		3.075E-01	9.878E-01	1.605E+00	1.213E-01	0.192
		54.07		2.057E-01	5.315E-01	8.658E-01	6.451E-02	0.238
		61.30		4.039E-01	1.070E+00	1.599E+00	1.151E-01	0.253
		121.62		-1.655E-01	2.901E-01	4.804E-01	4.059E-02	-0.345
		147.16		-7.910E-01	5.019E-01	7.746E-01	7.024E-02	-1.021
		171.86		3.379E-02	3.884E-01	6.499E-01	6.483E-02	0.052
		218.09		-1.016E-01	7.208E-01	1.175E+00	1.433E-01	-0.086
		268.79		1.661E+00	7.891E-01	1.256E+00	1.872E-01	1.323
		319.02		-1.154E-01	2.135E-01	3.269E-01	4.664E-02	-0.353
		367.43		1.670E-01	7.153E-01	1.154E+00	1.391E-01	0.145
		413.65	*	-1.564E-01	1.486E-01	2.314E-01	2.485E-02	-0.676
HF-181		56.28		3.432E-01	6.122E-01	1.003E+00	7.299E-02	0.342
		57.53		-3.478E-02	3.395E-01	5.383E-01	3.877E-02	-0.065
		65.20		-4.328E-01	6.997E-01	9.790E-01	7.257E-02	-0.442
		133.02		-1.539E-02	5.685E-02	8.511E-02	7.379E-03	-0.181
		136.25		1.576E-01	3.450E-01	5.938E-01	5.197E-02	0.265
		345.85		1.595E-02	1.772E-01	2.526E-01	3.320E-02	0.063
		482.03	*	1.193E-04	3.513E-02	5.861E-02	6.312E-03	0.002
W-181		56.28		1.326E-01	2.372E-01	3.885E-01	2.828E-02	0.341
		57.53		-1.345E-02	1.316E-01	2.088E-01	1.504E-02	-0.064
		65.20	*	-1.665E-01	2.692E-01	3.766E-01	2.792E-02	-0.442
TA-182		67.75		-6.370E-03	7.694E-02	1.212E-01	9.176E-03	-0.053
		100.10		1.268E-01	1.282E-01	2.274E-01	1.996E-02	0.557
		152.43		-2.455E-02	2.618E-01	4.376E-01	4.043E-02	-0.056
		222.10		-1.909E-01	2.899E-01	4.573E-01	5.672E-02	-0.417
		1001.68		-5.913E-01	1.737E+00	2.759E+00	2.590E-01	-0.214
	+	1121.28		5.966E-01	2.290E-01	3.377E-01	2.878E-02	1.767
		1189.05		-4.845E-02	2.723E-01	4.378E-01	3.531E-02	-0.111
		1221.42	*	1.615E-01	1.701E-01	3.013E-01	2.448E-02	0.536
		1230.97		1.982E-01	4.469E-01	6.960E-01	5.665E-02	0.285
RE-183		57.98		-3.184E-02	1.320E-01	2.079E-01	1.492E-02	-0.153
		59.32		3.764E-02	7.820E-02	1.178E-01	8.386E-03	0.319
		67.20		3.080E-02	1.404E-01	2.225E-01	1.676E-02	0.138
		162.32	*	2.132E-02	8.571E-02	1.449E-01	1.389E-02	0.147

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	208.81		2.894E+00	1.153E+00	1.564E+00	1.833E-01	1.851
		291.72		-2.711E-01	7.926E-01	1.098E+00	1.664E-01	-0.247
RE-184		57.98		-1.167E-01	4.838E-01	7.618E-01	5.468E-02	-0.153
		59.32		1.378E-01	2.863E-01	4.314E-01	3.070E-02	0.319
		67.20		1.128E-01	5.143E-01	8.149E-01	6.141E-02	0.138
		161.27		-1.689E-01	2.751E-01	4.461E-01	4.260E-02	-0.379
		216.55		6.135E-02	2.244E-01	3.735E-01	4.526E-02	0.164
		252.85	*	-4.481E-02	1.859E-01	2.975E-01	4.174E-02	-0.151
		318.01		-1.104E-01	3.844E-01	5.970E-01	8.541E-02	-0.185
		792.07		5.311E-01	8.306E-01	1.274E+00	1.249E-01	0.417
		903.28		-5.837E-02	8.704E-01	1.450E+00	1.425E-01	-0.040
		920.93		-1.564E-01	3.825E-01	6.136E-01	5.992E-02	-0.255
OS-185		59.72		1.282E-01	2.110E-01	3.198E-01	2.277E-02	0.401
		61.14		4.502E-02	1.181E-01	1.766E-01	1.270E-02	0.255
		69.30		-7.119E-02	2.108E-01	3.278E-01	2.516E-02	-0.217
		592.07		-2.660E-01	2.009E+00	3.257E+00	3.323E-01	-0.082
		646.12	*	1.208E-02	3.596E-02	6.038E-02	5.828E-03	0.200
		717.42		-4.687E-01	7.732E-01	1.173E+00	1.132E-01	-0.400
		874.81		-1.251E-01	4.811E-01	7.875E-01	7.760E-02	-0.159
		880.27		3.983E-02	6.733E-01	1.137E+00	1.120E-01	0.035
RE-188		155.03	*	4.680E-02	1.385E-01	2.355E-01	2.196E-02	0.199
		477.96		-1.322E+00	2.651E+00	4.256E+00	4.586E-01	-0.311
		633.10		-2.158E-01	2.362E+00	3.824E+00	3.748E-01	-0.056
W-188	+	63.58		6.391E+01	5.080E+01	6.336E+01	4.639E+00	1.009
		227.08		-1.052E+01	1.037E+01	1.588E+01	2.010E+00	-0.663
		290.67	*	-4.157E+00	6.634E+00	8.920E+00	1.355E+00	-0.466
IR-192	+	295.96		1.156E+00	2.473E-01	2.795E-01	4.213E-02	4.138
		308.46		3.564E-02	8.229E-02	1.355E-01	1.988E-02	0.263
		316.51	*	-1.096E-02	3.099E-02	4.797E-02	6.896E-03	-0.229
		468.07		6.222E-02	5.879E-02	9.899E-02	1.118E-02	0.629
		604.41		1.644E-01	3.880E-01	5.859E-01	8.225E-02	0.280
		612.46		8.869E-03	6.757E-01	9.709E-01	1.081E-01	0.009
AU-195		65.12		-8.875E-02	1.247E-01	1.735E-01	1.285E-02	-0.512
		66.83		2.808E-02	6.972E-02	1.033E-01	7.762E-03	0.272
	+	75.70		1.098E+00	1.975E-01	3.304E-01	2.704E-02	3.322
		98.88	*	9.943E-02	1.651E-01	2.894E-01	2.554E-02	0.344
	+	129.76		4.060E+00	3.076E+00	4.145E+00	3.563E-01	0.979
TL-200		367.94	*	4.215E-04	3.076E+00	Half-Life too short		
		579.30		-3.020E-03	3.076E+00	Half-Life too short		
		828.27		-1.533E-03	3.076E+00	Half-Life too short		
		1205.75		3.902E-03	3.076E+00	Half-Life too short		
TL-201		68.90		-3.226E+00	4.223E+00	6.436E+00	4.922E-01	-0.501
		70.82		2.057E+00	2.607E+00	3.934E+00	3.063E-01	0.523
		80.30		-1.202E+00	5.517E+00	6.841E+00	5.897E-01	-0.176
		135.34		1.339E+01	2.355E+01	4.071E+01	3.553E+00	0.329
		167.43	*	3.798E+00	6.934E+00	1.184E+01	1.159E+00	0.321
TL-202		68.90		-2.464E-01	3.226E-01	4.916E-01	3.759E-02	-0.501
		70.82		1.567E-01	1.985E-01	2.997E-01	2.333E-02	0.523
		80.30		-9.162E-02	4.204E-01	5.213E-01	4.494E-02	-0.176

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		439.56	*	8.201E-03	6.159E-02	1.044E-01	1.126E-02	0.079
HG-203		70.83		6.602E-01	8.300E-01	1.249E+00	1.635E-01	0.529
		72.87		-1.801E-01	5.214E-01	7.410E-01	9.464E-02	-0.243
		82.60		-8.691E-02	8.997E-01	1.286E+00	1.787E-01	-0.068
		279.20	*	9.417E-03	3.408E-02	5.593E-02	8.736E-03	0.168
BI-207		72.80		-6.509E-02	1.504E-01	2.130E-01	1.690E-02	-0.306
	+	74.97		6.068E-01	1.092E-01	1.777E-01	1.443E-02	3.415
	+	84.90		2.192E-01	1.676E-01	2.318E-01	2.114E-02	0.945
		569.67		1.993E-03	2.568E-02	4.241E-02	4.401E-03	0.047
		1063.62	*	1.308E-02	4.309E-02	7.344E-02	6.597E-03	0.178
		1770.23		2.778E-03	4.614E-01	6.560E-01	5.399E-02	0.004
TL-207		81.07		2.093E-02	1.887E-01	2.397E-01	2.085E-02	0.087
	+	83.78		1.445E-01	1.105E-01	1.566E-01	1.408E-02	0.923
		94.90		-1.118E-04	1.937E-01	2.764E-01	2.490E-02	0.000
		122.32		1.793E-01	1.350E+00	2.305E+00	2.097E-01	0.078
		144.24		9.054E-01	5.737E-01	9.916E-01	9.880E-02	0.913
		154.21		1.705E-01	3.113E-01	5.336E-01	5.389E-02	0.320
	+	269.46		6.370E-01	2.828E-01	3.179E-01	4.783E-02	2.004
		323.87	*	-4.316E-01	6.594E-01	8.721E-01	1.824E-01	-0.495
	+	338.28		6.790E+00	1.841E+00	2.387E+00	3.843E-01	2.845
		445.03		1.957E-01	1.837E+00	3.106E+00	4.261E-01	0.063
PO-209		260.50		1.750E-02	7.584E+00	1.231E+01	1.778E+00	0.001
		262.80		1.299E+01	1.989E+01	3.351E+01	4.884E+00	0.388
		896.60	*	-3.070E-01	6.357E+00	1.061E+01	1.045E+00	-0.029
BI-210		46.50	*	3.521E-01	2.194E+00	3.560E+00	3.314E-01	0.099
PB-210		46.50	*	3.521E-01	2.194E+00	3.560E+00	3.314E-01	0.099
PO-210		46.50	*	3.521E-01	2.194E+00	3.560E+00	3.001E-01	0.099
PB-211		404.84	*	3.596E-01	8.145E-01	1.359E+00	8.560E-01	0.265
		427.08		3.941E-01	1.713E+00	2.897E+00	1.810E+00	0.136
		831.96		2.726E-01	1.049E+00	1.697E+00	1.066E+00	0.161
BI-212	+	727.18	*	1.320E+00	5.746E-01	6.183E-01	6.757E-02	2.134
		785.46		2.148E+00	1.591E+00	2.838E+00	2.779E-01	0.757
		1620.62		3.892E-03	1.121E+00	1.868E+00	1.568E-01	0.002
PO-215		81.07		2.093E-02	1.887E-01	2.397E-01	2.085E-02	0.087
	+	83.78		1.445E-01	1.105E-01	1.566E-01	1.408E-02	0.923
		94.90		-1.118E-04	1.937E-01	2.764E-01	2.490E-02	0.000
		122.32		1.793E-01	1.350E+00	2.305E+00	2.097E-01	0.078
		144.24		9.054E-01	5.737E-01	9.916E-01	9.880E-02	0.913
		154.21		1.705E-01	3.113E-01	5.336E-01	5.389E-02	0.320
	+	269.46		6.370E-01	2.828E-01	3.179E-01	4.783E-02	2.004
		323.87	*	-4.316E-01	6.594E-01	8.721E-01	1.824E-01	-0.495
	+	338.28		6.790E+00	1.841E+00	2.387E+00	3.843E-01	2.845
		445.03		1.957E-01	1.837E+00	3.106E+00	4.261E-01	0.063
RN-219	+	271.23		8.173E-01	3.655E-01	3.988E-01	6.409E-02	2.049
		401.81	*	-7.306E-02	3.562E-01	5.941E-01	9.689E-02	-0.123
RN-220		549.76	*	3.808E+00	2.056E+01	3.449E+01	3.624E+00	0.110
RA-223		81.07		2.093E-02	1.887E-01	2.397E-01	2.085E-02	0.087
	+	83.78		1.445E-01	1.105E-01	1.566E-01	1.408E-02	0.923
		94.90		-1.118E-04	1.937E-01	2.764E-01	2.490E-02	0.000

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		122.32		1.793E-01	1.350E+00	2.305E+00	2.097E-01	0.078
		144.24		9.054E-01	5.737E-01	9.916E-01	9.880E-02	0.913
		154.21		1.705E-01	3.113E-01	5.336E-01	5.389E-02	0.320
	+	269.46		6.370E-01	2.828E-01	3.179E-01	4.783E-02	2.004
		323.87	*	-4.316E-01	6.594E-01	8.721E-01	1.824E-01	-0.495
	+	338.28		6.790E+00	1.841E+00	2.387E+00	3.843E-01	2.845
		445.03		1.957E-01	1.837E+00	3.106E+00	4.261E-01	0.063
AC-227		79.80		-4.373E-01	1.270E+00	1.790E+00	3.846E-01	-0.244
		236.00		1.245E-01	2.129E-01	3.213E-01	5.060E-02	0.387
		256.20	*	-1.761E-01	3.192E-01	4.986E-01	9.502E-02	-0.353
		286.10		7.037E-01	1.295E+00	2.149E+00	3.931E-01	0.327
	+	299.80		3.798E+00	2.146E+00	2.331E+00	4.969E-01	1.629
		304.40		9.133E-01	1.617E+00	2.416E+00	5.316E-01	0.378
		334.20		6.921E-01	2.419E+00	3.208E+00	7.095E-01	0.216
TH-227		79.80		-4.373E-01	1.270E+00	1.790E+00	3.895E-01	-0.244
	+	94.00		7.864E+00	2.827E+00	2.896E+00	6.357E-01	2.716
		236.00		1.245E-01	2.128E-01	3.213E-01	4.774E-02	0.387
		256.20	*	-1.761E-01	3.197E-01	4.986E-01	1.062E-01	-0.353
		286.10		7.037E-01	1.472E+00	2.149E+00	2.174E+00	0.327
	+	299.80		3.798E+00	2.146E+00	2.331E+00	4.969E-01	1.629
		304.40		9.133E-01	1.617E+00	2.416E+00	5.316E-01	0.378
		334.20		6.921E-01	2.419E+00	3.208E+00	7.095E-01	0.216
TH-229	+	85.43		2.163E-01	1.654E-01	2.259E-01	2.073E-02	0.958
	+	88.47		4.238E-01	1.125E-01	1.513E-01	1.429E-02	2.801
		100.00		9.955E-02	1.339E-01	2.358E-01	2.070E-02	0.422
		193.63	*	2.809E-01	4.052E-01	6.910E-01	7.587E-02	0.406
	+	210.97		2.245E+00	8.948E-01	1.069E+00	1.265E-01	2.100
PA-231		283.67	*	2.417E-01	1.288E+00	2.100E+00	4.162E-01	0.115
	+	301.29		1.519E+00	8.372E-01	9.257E-01	1.595E-01	1.641
TH-231		81.07		2.093E-02	1.887E-01	2.397E-01	2.085E-02	0.087
	+	83.78		1.445E-01	1.105E-01	1.566E-01	1.408E-02	0.923
		94.90		-1.118E-04	1.937E-01	2.764E-01	2.490E-02	0.000
		122.32		1.793E-01	1.350E+00	2.305E+00	2.097E-01	0.078
		144.24		9.054E-01	5.737E-01	9.916E-01	9.880E-02	0.913
		154.21		1.705E-01	3.113E-01	5.336E-01	5.389E-02	0.320
	+	269.46		6.370E-01	2.828E-01	3.179E-01	4.783E-02	2.004
		323.87	*	-4.316E-01	6.594E-01	8.721E-01	1.824E-01	-0.495
	+	338.28		6.790E+00	1.841E+00	2.387E+00	3.843E-01	2.845
		445.03		1.957E-01	1.837E+00	3.106E+00	4.261E-01	0.063
U-231	+	84.21		7.284E+00	5.570E+00	7.909E+00	7.149E-01	0.921
	+	92.29		9.092E+00	2.716E+00	3.824E+00	3.504E-01	2.378
		95.87	*	2.848E-01	1.043E+00	1.512E+00	1.355E-01	0.188
		108.00		-6.528E-01	1.787E+00	3.008E+00	2.576E-01	-0.217
PA-233	+	75.28		1.771E+01	3.899E+00	5.219E+00	7.873E-01	3.392
	+	86.59		6.077E+00	2.233E+00	2.418E+00	6.541E-01	2.513
	+	300.12		1.059E+00	5.903E-01	6.535E-01	1.256E-01	1.620
		311.98	*	-2.346E-02	5.643E-02	8.771E-02	1.287E-02	-0.267
		340.50		1.050E+00	6.820E-01	1.002E+00	2.599E-01	1.048
		398.62		8.230E-02	1.760E+00	2.985E+00	8.170E-01	0.028

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.76		-5.361E-01	1.357E+00	2.218E+00	4.986E-01	-0.242
PA-234	+	63.00		1.836E+00	1.478E+00	1.904E+00	2.818E-01	0.965
		94.67		8.381E-02	1.417E-01	2.085E-01	2.645E-02	0.402
		98.44		4.480E-02	7.036E-02	1.158E-01	6.466E-02	0.387
		99.86		2.586E-01	3.393E-01	5.977E-01	5.251E-02	0.433
		111.00		-1.526E-01	1.397E-01	2.235E-01	2.685E-02	-0.683
		131.20		6.381E-02	8.708E-02	1.378E-01	1.189E-02	0.463
		152.70		-6.659E-03	2.541E-01	4.259E-01	7.398E-02	-0.016
	+	186.00		6.420E+00	2.715E+00	2.340E+00	7.448E-01	2.743
		226.40		-1.344E-01	3.190E-01	5.091E-01	8.200E-02	-0.264
		227.20		-4.574E-01	3.535E-01	5.291E-01	6.702E-02	-0.865
		248.90		-1.871E-03	6.508E-01	1.059E+00	2.635E-01	-0.002
		293.70		3.710E+00	1.062E+00	1.346E+00	2.865E-01	2.757
		369.80		-2.732E-01	7.225E-01	1.103E+00	2.569E-01	-0.248
		568.70		-1.175E-01	8.582E-01	1.393E+00	1.447E-01	-0.084
		569.50		1.130E-02	2.273E-01	3.746E-01	3.887E-02	0.030
		574.00		-7.536E-01	1.153E+00	1.778E+00	1.839E-01	-0.424
		699.00		3.807E-01	5.973E-01	1.015E+00	1.984E-01	0.375
		706.10		-6.881E-02	9.057E-01	1.455E+00	6.516E-01	-0.047
		733.00		7.690E-02	3.376E-01	4.906E-01	1.110E-01	0.157
		742.81		2.246E-01	1.230E+00	2.000E+00	1.347E+00	0.112
	+	796.30		2.342E+00	1.464E+00	1.570E+00	4.311E-01	1.491
		805.60		2.309E-01	8.467E-01	1.388E+00	4.305E-01	0.166
		819.60		8.235E-01	1.038E+00	1.727E+00	6.616E-01	0.477
		826.30		2.204E-02	6.534E-01	1.047E+00	4.710E-01	0.021
		831.60		1.592E-01	5.397E-01	8.838E-01	2.671E-01	0.180
		876.40		-3.430E-01	7.821E-01	1.117E+00	1.149E+00	-0.307
		880.51		2.012E-02	2.423E-01	4.100E-01	4.039E-02	0.049
		883.24		-1.738E-01	2.744E-01	3.890E-01	2.622E-01	-0.447
		899.00		-2.934E-02	7.009E-01	1.170E+00	5.145E-01	-0.025
		925.00		3.944E-01	9.624E-01	1.673E+00	1.631E-01	0.236
		926.50		-4.661E-03	1.422E-01	2.370E-01	6.087E-02	-0.020
		946.00	*	-1.699E-01	2.674E-01	4.158E-01	8.012E-02	-0.409
		949.00		-1.269E-01	4.006E-01	6.486E-01	6.261E-02	-0.196
		980.50		-5.066E-02	5.761E-01	9.496E-01	9.022E-02	-0.053
		1394.10		-5.032E-02	9.196E-01	1.468E+00	9.553E-01	-0.034
PA-234M		766.42		8.921E-01	1.204E+01	1.702E+01	8.671E+00	0.052
		1001.03	*	5.407E-01	3.918E+00	6.535E+00	6.952E-01	0.083
U-235	+	89.95		2.925E+00	1.257E+00	1.501E+00	4.662E-01	1.949
	+	93.35		2.447E+00	9.798E-01	1.022E+00	2.879E-01	2.395
		105.00		7.064E-01	7.778E-01	1.330E+00	3.969E-01	0.531
		143.76	*	1.225E-01	1.795E-01	3.015E-01	5.331E-02	0.406
		163.35		2.322E-01	3.671E-01	6.266E-01	1.225E-01	0.371
	+	185.71		2.378E-01	7.090E-02	8.656E-02	9.179E-03	2.747
		205.31		6.294E-01	4.787E-01	7.390E-01	1.520E-01	0.852
NP-236		94.67		6.495E-02	1.074E-01	1.583E-01	1.428E-02	0.410
		98.44		3.385E-02	4.981E-02	8.756E-02	7.741E-03	0.387
		111.00		-1.154E-01	1.052E-01	1.691E-01	1.440E-02	-0.683
		160.31	*	-6.562E-02	6.149E-02	9.717E-02	9.244E-03	-0.675

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		9.112E-02	1.134E-01	2.001E-01	1.760E-02	0.455
		117.00	*	-1.171E-01	1.410E-01	2.309E-01	1.954E-02	-0.507
	+	209.75		2.261E+00	9.014E-01	1.258E+00	1.481E-01	1.797
		228.18		-6.654E-02	1.788E-01	2.863E-01	3.642E-02	-0.232
		277.60		1.214E-01	1.606E-01	2.687E-01	4.136E-02	0.452
		334.30		3.855E-01	1.368E+00	1.817E+00	2.481E-01	0.212
AM-241		59.54	*	7.631E-02	1.092E-01	1.664E-01	1.308E-02	0.459
CM-243		99.55		9.377E-02	1.167E-01	2.059E-01	1.811E-02	0.455
		103.76	*	-1.795E-02	6.772E-02	1.147E-01	9.929E-03	-0.157
		117.00		-1.205E-01	1.451E-01	2.376E-01	2.010E-02	-0.507
	+	209.75		2.229E+00	8.886E-01	1.240E+00	1.460E-01	1.797
		228.18		-6.724E-02	1.807E-01	2.893E-01	3.680E-02	-0.232
		277.60		1.224E-01	1.619E-01	2.709E-01	4.170E-02	0.452
AM-246		798.80		-2.211E-02	1.318E-01	1.793E-01	1.760E-02	-0.123
		1036.00		6.195E-03	2.445E-01	4.060E-01	3.725E-02	0.015
		1062.04		1.027E-02	1.785E-01	2.970E-01	2.671E-02	0.035
		1078.86	*	-2.314E-02	1.128E-01	1.844E-01	1.635E-02	-0.126
CM-247		278.00		7.751E-01	6.605E-01	1.120E+00	1.726E-01	0.692
		287.40		-2.504E-02	1.025E+00	1.649E+00	2.520E-01	-0.015
		402.60	*	-3.623E-02	3.240E-02	5.052E-02	5.407E-03	-0.717
CF-249		252.85		-1.675E-01	6.947E-01	1.112E+00	1.560E-01	-0.151
		333.44		-4.710E-02	2.163E-01	2.328E-01	3.188E-02	-0.202
		387.95	*	9.707E-03	3.371E-02	5.809E-02	6.325E-03	0.167
CF-251		176.60	*	4.036E-04	1.015E-01	1.689E-01	1.721E-02	0.002
		227.00		-3.005E-01	3.087E-01	4.742E-01	6.001E-02	-0.634
		285.00		5.550E-01	1.479E+00	2.437E+00	3.738E-01	0.228

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137003      *
* Acquisition date : 20-JAN-2010 13:43:42 Detector SN#     :               *
* Detector ID        : GAM11               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:     0 02:00:00.00     Abundance limit : 75.000        *
* Elapsed real time:     0 02:00:01.71     Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date        :  4-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G244137003           Analyst initials: MXR1          *
* Batch Number       : 940263               Sample Quantity : 1.3409E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME : 18-NOV-2009 15:33:22 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.067E+01	2.237E+00	4.180E-01	0.000E+00
CD-109	3.163E+00	8.230E-01	9.616E-01	0.000E+00
SN-126	3.104E-01	8.078E-02	9.469E-02	0.000E+00
BA-137M	1.171E-01	5.156E-02	5.452E-02	0.000E+00
CS-137	1.238E-01	5.450E-02	5.763E-02	0.000E+00
TL-208	5.361E-01	9.418E-02	4.699E-02	0.000E+00
BI-211	4.169E+00	6.988E-01	2.627E-01	0.000E+00
PB-212	1.653E+00	2.491E-01	8.191E-02	0.000E+00
PO-212	1.653E+00	2.491E-01	8.191E-02	0.000E+00
BI-214	1.318E+00	2.034E-01	8.765E-02	0.000E+00
PB-214	1.450E+00	2.542E-01	9.156E-02	0.000E+00
PO-214	1.450E+00	2.542E-01	9.156E-02	0.000E+00
PO-216	1.653E+00	2.491E-01	8.191E-02	0.000E+00
PO-218	1.450E+00	2.542E-01	9.156E-02	0.000E+00
RA-224	4.943E+00	1.099E+00	9.323E-01	0.000E+00
RA-226	1.318E+00	2.034E-01	8.765E-02	0.000E+00
AC-228	1.600E+00	3.039E-01	1.905E-01	0.000E+00
RA-228	1.600E+00	3.039E-01	1.905E-01	0.000E+00
TH-228	1.680E+00	2.531E-01	8.323E-02	0.000E+00
TH-230	1.318E+00	2.034E-01	8.765E-02	0.000E+00
TH-232	1.600E+00	3.039E-01	1.905E-01	0.000E+00
TH-234	1.575E+00	1.251E+00	1.446E+00	0.000E+00
U-234	1.318E+00	2.034E-01	8.765E-02	0.000E+00
NP-237	9.115E-01	3.004E-01	2.803E-01	0.000E+00
U-238	1.575E+00	1.251E+00	1.446E+00	0.000E+00
AM-243	3.380E-01	5.961E-02	6.670E-02	0.000E+00
ANH-511	1.202E-01	6.278E-02	4.090E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)

BE-7	-1.065E-01	2.755E-01	4.663E-01	0.000E+00	NOT IDENT.
NA-22	1.129E-03	3.758E-02	6.284E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.691E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-3.057E-03	2.363E-02	3.853E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.786E-02	5.681E-02	0.000E+00	FAIL ABUN
SC-46	-1.639E-02	3.105E-02	5.085E-02	0.000E+00	FAIL ABUN
V-48	-2.168E-02	5.922E-02	9.757E-02	0.000E+00	NOT IDENT.
CR-51	-1.535E-01	3.123E-01	5.053E-01	0.000E+00	NOT IDENT.
MN-52	-1.174E-01	2.402E-01	3.657E-01	0.000E+00	NOT IDENT.
MN-54	1.312E-02	3.245E-02	5.824E-02	0.000E+00	NOT IDENT.
CO-56	1.675E-02	2.946E-02	5.394E-02	0.000E+00	FAIL ABUN
CO-57	-3.809E-03	1.912E-02	3.442E-02	0.000E+00	NOT IDENT.
CO-58	-1.243E-02	3.344E-02	5.266E-02	0.000E+00	NOT IDENT.
FE-59	-8.331E-03	7.545E-02	1.263E-01	0.000E+00	NOT IDENT.
CO-60	2.433E-02	3.460E-02	6.216E-02	0.000E+00	NOT IDENT.
ZN-65	-6.176E-04	9.016E-02	1.320E-01	0.000E+00	NOT IDENT.
GE-68	2.458E-01	9.206E-01	1.609E+00	0.000E+00	NOT IDENT.
AS-73	-7.863E-02	5.079E-01	8.733E-01	0.000E+00	NOT IDENT.
AS-74	1.739E-02	8.065E-02	1.399E-01	0.000E+00	NOT IDENT.
SE-75	-1.598E-02	3.518E-02	5.518E-02	0.000E+00	NOT IDENT.
BR-77	-3.028E+00	1.166E+01	1.973E+01	0.000E+00	FAIL ABUN
SR-82	-3.093E-01	3.393E-01	5.092E-01	0.000E+00	NOT IDENT.
RB-83	-3.634E-02	6.037E-02	9.939E-02	0.000E+00	NOT IDENT.
RB-84	1.562E-02	5.874E-02	1.042E-01	0.000E+00	NOT IDENT.
KR-85	2.630E+00	6.612E+00	1.043E+01	0.000E+00	NOT IDENT.
SR-85	1.362E-02	3.424E-02	5.402E-02	0.000E+00	NOT IDENT.
RB-86	4.723E-01	5.908E-01	1.090E+00	0.000E+00	NOT IDENT.
Y-88	3.103E-03	2.551E-02	4.389E-02	0.000E+00	NOT IDENT.
ZR-88	5.475E-03	2.494E-02	4.479E-02	0.000E+00	NOT IDENT.
Y-91	6.837E+00	1.617E+01	2.818E+01	0.000E+00	NOT IDENT.
NB-94	2.191E-03	2.815E-02	4.755E-02	0.000E+00	NOT IDENT.
NB-95	1.215E-02	4.139E-02	6.222E-02	0.000E+00	NOT IDENT.
NB-95M	1.018E-01	1.112E-01	1.805E-01	0.000E+00	NOT IDENT.
ZR-95	-3.978E-02	6.308E-02	9.843E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.354E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.030E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-2.583E+00	1.262E+01	2.064E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	4.177E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.174E-03	2.573E-02	4.404E-02	0.000E+00	NOT IDENT.
RH-102	8.548E-03	2.391E-02	4.270E-02	0.000E+00	NOT IDENT.
RU-103	-1.416E-02	3.200E-02	5.342E-02	0.000E+00	FAIL ABUN
RH-106	5.497E-02	2.396E-01	4.155E-01	0.000E+00	FAIL ABUN
RU-106	5.497E-02	2.396E-01	4.155E-01	0.000E+00	FAIL ABUN
AG-108M	-2.334E-02	2.588E-02	4.228E-02	0.000E+00	NOT IDENT.
AG-110M	6.229E-03	3.314E-02	5.010E-02	0.000E+00	NOT IDENT.
IN-111	7.741E-01	1.132E+00	1.824E+00	0.000E+00	NOT IDENT.
IN-113M	-1.419E-02	3.716E-02	6.429E-02	0.000E+00	NOT IDENT.
SN-113	-1.419E-02	3.716E-02	6.429E-02	0.000E+00	NOT IDENT.
IN-114M	1.575E-02	1.601E-01	2.535E-01	0.000E+00	NOT IDENT.
CD-115	9.749E-01	1.226E+01	2.129E+01	0.000E+00	NOT IDENT.
SN-117M	2.310E-02	4.335E-02	7.896E-02	0.000E+00	NOT IDENT.
SB-122	2.636E+00	2.274E+00	4.204E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.465E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.463E-03	2.170E-02	3.844E-02	0.000E+00	NOT IDENT.
I-124	-2.680E-01	6.189E-01	9.745E-01	0.000E+00	NOT IDENT.
SB-124	-1.086E-02	5.358E-02	8.652E-02	0.000E+00	FAIL ABUN
SB-125	3.703E-03	7.644E-02	1.349E-01	0.000E+00	FAIL ABUN
TE-125M	5.398E+00	6.644E+00	1.250E+01	0.000E+00	NOT IDENT.
I-126	1.572E-02	1.800E-01	2.684E-01	0.000E+00	NOT IDENT.
SB-126	-1.202E-02	1.294E-01	1.976E-01	0.000E+00	FAIL ABUN
SB-127	-3.022E-01	1.373E+00	2.263E+00	0.000E+00	NOT IDENT.
XE-127	-2.011E-02	3.618E-02	6.131E-02	0.000E+00	NOT IDENT.
I-131	1.787E-03	1.016E-01	1.689E-01	0.000E+00	NOT IDENT.
TE-132	-3.654E-01	6.647E-01	1.110E+00	0.000E+00	NOT IDENT.
BA-133	5.852E-03	3.894E-02	5.841E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.063E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.742E-02	8.172E-02	0.000E+00	FAIL ABUN
CS-135	2.288E-01	1.387E-01	2.314E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	4.843E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.074E-02	8.584E-02	1.441E-01	0.000E+00	FAIL ABUN
CE-139	-1.471E-02	2.361E-02	4.068E-02	0.000E+00	NOT IDENT.
BA-140	1.800E-01	2.358E-01	4.164E-01	0.000E+00	NOT IDENT.
LA-140	-2.031E-03	7.249E-02	1.228E-01	0.000E+00	FAIL ABUN
CE-141	3.507E-02	5.116E-02	9.187E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.202E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.445E-02	1.565E-01	2.686E-01	0.000E+00	NOT IDENT.
PM-144	-5.852E-03	3.211E-02	4.964E-02	0.000E+00	NOT IDENT.
PR-144	-3.967E-01	2.177E+00	3.365E+00	0.000E+00	NOT IDENT.

PM-146	-1.610E-02	3.627E-02	6.142E-02	0.000E+00	NOT IDENT.
ND-147	-2.590E-02	4.951E-01	8.503E-01	0.000E+00	FAIL ABUN
PM-149	5.557E+01	1.026E+02	1.790E+02	0.000E+00	NOT IDENT.
EU-152	-7.333E-02	8.282E-02	1.283E-01	0.000E+00	FAIL ABUN
GD-153	-6.870E-02	6.410E-02	1.004E-01	0.000E+00	FAIL ABUN
EU-154	2.110E-03	1.048E-01	1.751E-01	0.000E+00	NOT IDENT.
EU-155	1.258E-02	7.630E-02	1.408E-01	0.000E+00	FAIL ABUN
TB-160	5.644E-02	1.172E-01	2.117E-01	0.000E+00	FAIL ABUN
HO-166M	8.088E-03	5.515E-02	9.352E-02	0.000E+00	FAIL ABUN
TM-171	8.383E+00	2.060E+01	3.296E+01	0.000E+00	NOT IDENT.
LU-176	-5.026E-03	2.005E-02	3.321E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.375E+00	1.947E+00	0.000E+00	FAIL ABUN
LU-177M	-1.564E-01	1.456E-01	2.372E-01	0.000E+00	NOT IDENT.
HF-181	1.193E-04	3.443E-02	5.992E-02	0.000E+00	NOT IDENT.
W-181	-1.665E-01	2.638E-01	3.986E-01	0.000E+00	NOT IDENT.
TA-182	1.615E-01	1.667E-01	3.029E-01	0.000E+00	FAIL ABUN
RE-183	2.132E-02	8.400E-02	1.510E-01	0.000E+00	FAIL ABUN
RE-184	-4.481E-02	1.821E-01	3.077E-01	0.000E+00	NOT IDENT.
OS-185	1.208E-02	3.524E-02	6.140E-02	0.000E+00	NOT IDENT.
RE-188	4.680E-02	1.357E-01	2.456E-01	0.000E+00	NOT IDENT.
W-188	-4.157E+00	6.501E+00	9.202E+00	0.000E+00	FAIL ABUN
IR-192	-1.096E-02	3.037E-02	4.942E-02	0.000E+00	FAIL ABUN
AU-195	9.943E-02	1.618E-01	3.042E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.656E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	3.798E+00	6.796E+00	1.234E+01	0.000E+00	NOT IDENT.
TL-202	8.201E-03	6.035E-02	1.069E-01	0.000E+00	NOT IDENT.
HG-203	9.417E-03	3.340E-02	5.774E-02	0.000E+00	NOT IDENT.
BI-207	1.308E-02	4.222E-02	7.402E-02	0.000E+00	FAIL ABUN
TL-207	-4.316E-01	6.463E-01	8.980E-01	0.000E+00	FAIL ABUN
PO-209	-3.070E-01	6.230E+00	1.073E+01	0.000E+00	NOT IDENT.
BI-210	3.521E-01	2.150E+00	3.789E+00	0.000E+00	NOT IDENT.
PB-210	3.521E-01	2.150E+00	3.789E+00	0.000E+00	NOT IDENT.
PO-210	3.521E-01	2.150E+00	3.789E+00	0.000E+00	NOT IDENT.
PB-211	3.596E-01	7.982E-01	1.394E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.631E-01	6.275E-01	0.000E+00	FAIL ABUN
PO-215	-4.316E-01	6.463E-01	8.980E-01	0.000E+00	FAIL ABUN
RN-219	-7.306E-02	3.491E-01	6.094E-01	0.000E+00	FAIL ABUN
RN-220	3.808E+00	2.015E+01	3.518E+01	0.000E+00	NOT IDENT.
RA-223	-4.316E-01	6.463E-01	8.980E-01	0.000E+00	FAIL ABUN
AC-227	-1.761E-01	3.129E-01	5.154E-01	0.000E+00	FAIL ABUN
TH-227	-1.761E-01	3.133E-01	5.154E-01	0.000E+00	FAIL ABUN
TH-229	2.809E-01	3.971E-01	7.179E-01	0.000E+00	FAIL ABUN
PA-231	2.417E-01	1.262E+00	2.168E+00	0.000E+00	FAIL ABUN
TH-231	-4.316E-01	6.463E-01	8.980E-01	0.000E+00	FAIL ABUN
U-231	2.848E-01	1.022E+00	1.590E+00	0.000E+00	FAIL ABUN
PA-233	-2.346E-02	5.530E-02	9.037E-02	0.000E+00	FAIL ABUN
PA-234	-1.699E-01	2.621E-01	4.200E-01	0.000E+00	FAIL ABUN
PA-234M	5.407E-01	3.840E+00	6.594E+00	0.000E+00	NOT IDENT.
U-235	1.225E-01	1.759E-01	3.149E-01	0.000E+00	FAIL ABUN
NP-236	-6.562E-02	6.026E-02	1.013E-01	0.000E+00	NOT IDENT.
NP-239	-1.171E-01	1.382E-01	2.420E-01	0.000E+00	FAIL ABUN
AM-241	7.631E-02	1.070E-01	1.764E-01	0.000E+00	NOT IDENT.
CM-243	-1.795E-02	6.637E-02	1.204E-01	0.000E+00	FAIL ABUN
AM-246	-2.314E-02	1.106E-01	1.858E-01	0.000E+00	NOT IDENT.
CM-247	-3.623E-02	3.175E-02	5.182E-02	0.000E+00	NOT IDENT.
CF-249	9.707E-03	3.304E-02	5.962E-02	0.000E+00	NOT IDENT.
CF-251	4.036E-04	9.947E-02	1.758E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:45:50.48

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137003.CNF;1
Sample date       : 4-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:43:42
Sample ID         : G244137003           Sample quantity  : 1.34090E+02 GRAM
Detector name     : GAM11                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.71  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 940263                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	965	10.67*	1.225E+00	2.067E+01	2.067E+01	11.04
CD-109	88.03	278	3.72*	6.788E+00	3.087E+00	3.163E+00	26.55
SN-126	64.28	91	9.60	4.256E+00	6.235E-01	6.235E-01	80.46
	86.94	278	8.90	6.788E+00	1.290E+00	1.290E+00	48.39
	87.57	278	37.00*	6.788E+00	3.104E-01	3.104E-01	26.55
BA-137M	661.65	90	89.98*	2.401E+00	1.170E-01	1.171E-01	44.91
CS-137	661.65	90	85.12*	2.401E+00	1.237E-01	1.238E-01	44.91
TL-208	277.35	------	6.80	4.676E+00	------ Line Not Found		------
	510.84	127	21.60	2.953E+00	5.563E-01	5.563E-01	53.96
	583.14	429	84.20*	2.660E+00	5.361E-01	5.361E-01	17.93
	860.37	59	12.46	1.925E+00	6.867E-01	6.867E-01	67.86
BI-211	72.87	------	1.27	5.576E+00	------ Line Not Found		------
	351.07	756	12.94*	3.921E+00	4.169E+00	4.169E+00	17.11
PB-212	74.81	461	10.70	5.787E+00	2.085E+00	2.085E+00	20.28
	77.11	758	18.00	6.021E+00	1.957E+00	1.957E+00	13.52
	87.30	278	8.00	6.788E+00	1.436E+00	1.436E+00	28.37
	238.63	1372	44.60*	5.209E+00	1.653E+00	1.653E+00	15.38
	300.09	110	3.41	4.408E+00	2.049E+00	2.049E+00	54.74
PO-212	74.81	461	10.70	5.787E+00	2.085E+00	2.085E+00	20.28
	77.11	758	18.00	6.021E+00	1.957E+00	1.957E+00	13.52
	87.30	278	8.00	6.788E+00	1.436E+00	1.436E+00	28.37
	115.19	------	0.60	7.407E+00	------ Line Not Found		------
	238.63	1372	44.60*	5.209E+00	1.653E+00	1.653E+00	15.38
	300.09	110	3.41	4.408E+00	2.049E+00	2.049E+00	54.74
BI-214	609.31	560	46.30*	2.569E+00	1.318E+00	1.318E+00	15.75
	1120.29	104	15.10	1.530E+00	1.255E+00	1.255E+00	38.96
	1764.49	100	15.80	1.071E+00	1.652E+00	1.652E+00	27.48
PB-214	74.81	461	6.21	5.787E+00	3.592E+00	3.592E+00	19.46
	77.11	758	10.50	6.021E+00	3.355E+00	3.355E+00	15.52
	87.30	278	4.67	6.788E+00	2.459E+00	2.459E+00	27.65
	241.98	360	7.49	5.164E+00	2.607E+00	2.607E+00	23.37
	295.21	460	19.20	4.466E+00	1.503E+00	1.503E+00	22.26

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	351.92	756	37.20*	3.921E+00	1.450E+00	1.450E+00	17.88
PO-214	74.81	461	6.21	5.787E+00	3.592E+00	3.592E+00	19.46
	77.11	758	10.50	6.021E+00	3.355E+00	3.355E+00	15.52
	87.30	278	4.67	6.788E+00	2.459E+00	2.459E+00	27.65
	241.98	360	7.49	5.164E+00	2.607E+00	2.607E+00	23.37
	295.21	460	19.20	4.466E+00	1.503E+00	1.503E+00	22.26
	351.92	756	37.20*	3.921E+00	1.450E+00	1.450E+00	17.88
PO-216	74.81	461	10.70	5.787E+00	2.085E+00	2.085E+00	20.28
	77.11	758	18.00	6.021E+00	1.957E+00	1.957E+00	13.52
	87.30	278	8.00	6.788E+00	1.436E+00	1.436E+00	28.37
	238.63	1372	44.60*	5.209E+00	1.653E+00	1.653E+00	15.38
	300.09	110	3.41	4.408E+00	2.049E+00	2.049E+00	54.74
PO-218	74.81	461	6.21	5.787E+00	3.592E+00	3.592E+00	19.46
	77.11	758	10.50	6.021E+00	3.355E+00	3.355E+00	15.52
	87.30	278	4.67	6.788E+00	2.459E+00	2.459E+00	27.65
	241.98	360	7.49	5.164E+00	2.607E+00	2.607E+00	23.37
	295.21	460	19.20	4.466E+00	1.503E+00	1.503E+00	22.26
	351.92	756	37.20*	3.921E+00	1.450E+00	1.450E+00	17.88
RA-224	240.98	360	3.95*	5.164E+00	4.943E+00	4.943E+00	22.69
RA-226	609.31	560	46.30*	2.569E+00	1.318E+00	1.318E+00	15.75
	1120.29	104	15.10	1.530E+00	1.255E+00	1.255E+00	38.96
	1764.49	100	15.80	1.071E+00	1.652E+00	1.652E+00	27.48
AC-228	338.32	267	11.40	4.037E+00	1.626E+00	1.626E+00	47.81
	911.07	290	27.70*	1.833E+00	1.600E+00	1.600E+00	19.38
	969.11	164	16.60	1.737E+00	1.589E+00	1.589E+00	31.69
RA-228	338.32	267	11.40	4.037E+00	1.626E+00	1.626E+00	47.81
	911.07	290	27.70*	1.833E+00	1.600E+00	1.600E+00	19.38
	969.11	164	16.60	1.737E+00	1.589E+00	1.589E+00	31.69
TH-228	74.81	461	10.70	5.787E+00	2.085E+00	2.119E+00	18.03
	77.11	758	18.00	6.021E+00	1.957E+00	1.989E+00	13.52
	87.30	278	8.00	6.788E+00	1.436E+00	1.459E+00	26.55
	238.63	1372	44.60*	5.209E+00	1.653E+00	1.680E+00	15.38
	300.09	110	3.41	4.408E+00	2.049E+00	2.082E+00	80.01
TH-230	609.31	560	46.30*	2.569E+00	1.318E+00	1.318E+00	15.75
	1120.29	104	15.10	1.530E+00	1.255E+00	1.255E+00	38.96
	1764.49	100	15.80	1.071E+00	1.652E+00	1.652E+00	27.48
TH-232	338.32	267	11.40	4.037E+00	1.626E+00	1.626E+00	25.64
	911.07	290	27.70*	1.833E+00	1.600E+00	1.600E+00	19.38
	969.11	164	16.60	1.737E+00	1.589E+00	1.589E+00	31.69
TH-234	63.29	91	3.80*	4.256E+00	1.575E+00	1.575E+00	81.04
	92.38	278	5.41	7.062E+00	2.035E+00	2.035E+00	33.84
U-234	609.31	560	46.30*	2.569E+00	1.318E+00	1.318E+00	15.75
	1120.29	104	15.10	1.530E+00	1.255E+00	1.255E+00	38.96
	1764.49	100	15.80	1.071E+00	1.652E+00	1.652E+00	27.48
NP-237	86.50	278	12.60*	6.788E+00	9.115E-01	9.115E-01	33.63
	95.87	------	2.60	7.169E+00	------ Line Not Found		------
U-238	63.29	91	3.80*	4.256E+00	1.575E+00	1.575E+00	81.04
	92.38	278	5.41	7.062E+00	2.035E+00	2.035E+00	29.87
AM-243	74.67	461	66.00*	5.787E+00	3.380E-01	3.380E-01	17.99

Sample ID : G244137003 Acquisition date : 20-JAN-2010 13:43:42

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	278	0.34	6.788E+00	3.418E+01	3.418E+01	26.55
	117.66	------	0.55	7.397E+00	------	Line Not Found	------
	142.18	------	0.13	7.065E+00	------	Line Not Found	------
ANH-511	511.00	127	100.00*	2.953E+00	1.202E-01	1.202E-01	53.31

Flag: "*" = Keyline

Sample ID : G244137003 Acquisition date : 20-JAN-2010 13:43:42

Total number of lines in spectrum 37
Number of unidentified lines 3
Number of lines tentatively identified by NID 34 91.89%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.067E+01	2.067E+01	0.228E+01	11.04	
CD-109	464.00D	1.02	3.087E+00	3.163E+00	0.840E+00	26.55	
SN-126	1.00E+05Y	1.00	3.104E-01	3.104E-01	0.824E-01	26.55	
BA-137M	30.17Y	1.00	1.170E-01	1.171E-01	0.526E-01	44.91	
CS-137	30.17Y	1.00	1.237E-01	1.238E-01	0.556E-01	44.91	
TL-208	1.41E+10Y	1.00	5.361E-01	5.361E-01	0.961E-01	17.93	
BI-211	7.04E+08Y	1.00	4.169E+00	4.169E+00	0.713E+00	17.11	
PB-212	1.41E+10Y	1.00	1.653E+00	1.653E+00	0.254E+00	15.38	
PO-212	1.41E+10Y	1.00	1.653E+00	1.653E+00	0.254E+00	15.38	
BI-214	1600.00Y	1.00	1.318E+00	1.318E+00	0.208E+00	15.75	
PB-214	1600.00Y	1.00	1.450E+00	1.450E+00	0.259E+00	17.88	
PO-214	1600.00Y	1.00	1.450E+00	1.450E+00	0.259E+00	17.88	
PO-216	1.41E+10Y	1.00	1.653E+00	1.653E+00	0.254E+00	15.38	
PO-218	1600.00Y	1.00	1.450E+00	1.450E+00	0.259E+00	17.88	
RA-224	1.41E+10Y	1.00	4.943E+00	4.943E+00	1.121E+00	22.69	
RA-226	1600.00Y	1.00	1.318E+00	1.318E+00	0.208E+00	15.75	
AC-228	1.41E+10Y	1.00	1.600E+00	1.600E+00	0.310E+00	19.38	
RA-228	1.41E+10Y	1.00	1.600E+00	1.600E+00	0.310E+00	19.38	
TH-228	1.91Y	1.02	1.653E+00	1.680E+00	0.258E+00	15.38	
TH-230	4.47E+09Y	1.00	1.318E+00	1.318E+00	0.208E+00	15.75	
TH-232	1.41E+10Y	1.00	1.600E+00	1.600E+00	0.310E+00	19.38	
TH-234	4.47E+09Y	1.00	1.575E+00	1.575E+00	1.276E+00	81.04	
U-234	4.47E+09Y	1.00	1.318E+00	1.318E+00	0.208E+00	15.75	
NP-237	2.14E+06Y	1.00	9.115E-01	9.115E-01	3.065E-01	33.63	
U-238	4.47E+09Y	1.00	1.575E+00	1.575E+00	1.276E+00	81.04	
AM-243	7380.00Y	1.00	3.380E-01	3.380E-01	0.608E-01	17.99	
ANH-511	1.00E+09Y	1.00	1.202E-01	1.202E-01	0.641E-01	53.31	
	Total Activity :		5.951E+01	5.961E+01			

Grand Total Activity : 5.951E+01 5.961E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G244137003 Acquisition date : 20-JAN-2010 13:43:42

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	84.20	84	371	1.08	167.32	164	25	1.17E-02	75.9	6.60E+00	T
4	89.91	196	293	0.85	178.75	164	25	2.72E-02	29.7	6.93E+00	T
0	129.05	81	305	0.78	257.09	254	7	1.12E-02	75.3	7.28E+00	T
0	185.83	282	307	1.04	370.72	365	11	3.92E-02	27.9	6.16E+00	T
0	209.48	149	218	1.13	418.07	415	8	2.07E-02	38.1	5.70E+00	T
0	270.49	147	200	1.42	540.16	535	11	2.05E-02	41.7	4.76E+00	T
0	328.32	73	192	1.40	655.90	651	11	1.01E-02	78.3	4.13E+00	T
0	463.15	86	66	1.37	925.73	922	8	1.20E-02	39.1	3.19E+00	T
0	488.16	36	52	1.38	975.79	972	7	4.95E-03	76.6	3.06E+00	T
0	728.12	124	102	1.52	1455.98	1448	17	1.72E-02	42.1	2.22E+00	T
0	769.81	33	84	1.16	1539.41	1532	11	4.59E-03	****	2.12E+00	
0	795.44	67	57	1.54	1590.68	1584	16	9.34E-03	56.2	2.06E+00	T
1	965.18	43	37	1.73	1930.32	1922	24	6.01E-03	62.7	1.74E+00	T
0	1238.81	57	60	1.30	2477.79	2470	16	7.97E-03	65.9	1.40E+00	T
0	1378.27	65	9	2.27	2756.78	2747	18	9.00E-03	33.0	1.28E+00	
0	1550.09	12	3	1.61	3100.51	3097	7	1.67E-03	76.6	1.17E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:45:57.06

```
*******************************************************************************
*                          GEL Laboratories LLC                               *
*                            2040 Savage Road                                 *
*                          Charleston, SC 29414                               *
*******************************************************************************
*                                                                             *
*                             DETECTOR DATA                                   *
*                                                                             *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137003.CNF;1   *
* Acquisition date  : 20-JAN-2010 13:43:42  Detector SN#     :                *
* Detector ID       : GAM11                 Sensitivity      : 5.00000        *
* Geometry          : CAN                   Energy tolerance: 1.50000         *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000        *
* Elapsed real time: 0 02:00:01.71          Half life ratio : 8.00000         *
*******************************************************************************
*                                                                             *
*                              SAMPLE DATA                                    *
*                                                                             *
* Sample date       : 4-JAN-2010 12:00:00.  Nuclide Library : SOLID           *
* Sample ID         : G244137003            Analyst initials: MXR1            *
* Batch Number      : 940263                Sample Quantity : 1.34090E+02 GRAM *
*******************************************************************************
*                                                                             *
*                                QC DATA                                      *
*                                                                             *
* CALIB. DATE/TIME : 18-NOV-2009 15:33:22.2MS Isotope       :                 *
* MSD ID            :                       MSD Isotope      :                 *
* LCS ID            : 1032-A                LCS Isotope      :                 *
*******************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.067E+01	2.282E+00	4.172E-01	3.607E-02	49.550
CD-109	3.163E+00	8.398E-01	9.131E-01	8.659E-02	3.464
SN-126	3.104E-01	8.243E-02	8.991E-02	8.481E-03	3.452
BA-137M	1.171E-01	5.261E-02	5.363E-02	5.074E-03	2.185
CS-137	1.238E-01	5.562E-02	5.669E-02	5.373E-03	2.185
TL-208	5.361E-01	9.610E-02	4.612E-02	4.981E-03	11.623
BI-211	4.169E+00	7.131E-01	2.555E-01	3.370E-02	16.318
PB-212	1.653E+00	2.542E-01	7.912E-02	1.108E-02	20.894
PO-212	1.653E+00	2.542E-01	7.912E-02	1.108E-02	20.894
BI-214	1.318E+00	2.076E-01	8.609E-02	9.731E-03	15.309
PB-214	1.450E+00	2.593E-01	8.906E-02	1.260E-02	16.283
PO-214	1.450E+00	2.593E-01	8.906E-02	1.260E-02	16.283
PO-216	1.653E+00	2.542E-01	7.912E-02	1.108E-02	20.894
PO-218	1.450E+00	2.593E-01	8.906E-02	1.260E-02	16.283
RA-224	4.943E+00	1.121E+00	9.008E-01	1.206E-01	5.488
RA-226	1.318E+00	2.076E-01	8.609E-02	9.731E-03	15.309
AC-228	1.600E+00	3.101E-01	1.885E-01	2.295E-02	8.486
RA-228	1.600E+00	3.101E-01	1.885E-01	2.295E-02	8.486

Sample ID : G244137003 Acquisition date : 20-JAN-2010 13:43:42

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.680E+00	2.583E-01	8.040E-02	1.126E-02	20.894
TH-230	1.318E+00	2.076E-01	8.609E-02	9.731E-03	15.309
TH-232	1.600E+00	3.101E-01	1.885E-01	2.295E-02	8.486
TH-234	1.575E+00	1.276E+00	1.365E+00	2.376E-01	1.154
U-234	1.318E+00	2.076E-01	8.609E-02	9.731E-03	15.309
NP-237	9.115E-01	3.065E-01	2.661E-01	6.024E-02	3.425
U-238	1.575E+00	1.276E+00	1.365E+00	2.376E-01	1.154
AM-243	3.380E-01	6.082E-02	6.317E-02	5.112E-03	5.351
ANH-511	1.202E-01	6.407E-02	4.005E-02	4.283E-03	3.000

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.065E-01		2.811E-01	4.560E-01	5.161E-02	-0.234
NA-22	1.129E-03		3.835E-02	6.256E-02	5.138E-03	0.018
NA-24	7.803E-02		8.628E-01	Half-Life too short		
AL-26	-3.057E-03		2.411E-02	3.861E-02	3.152E-03	-0.079
TI-44	3.612E-01	+	4.883E-02	5.384E-02	4.539E-03	6.708
SC-46	-1.639E-02		3.169E-02	5.029E-02	4.954E-03	-0.326
V-48	-2.168E-02		6.043E-02	9.667E-02	9.170E-03	-0.224
CR-51	-1.535E-01		3.187E-01	4.906E-01	7.120E-02	-0.313
MN-52	-1.174E-01		2.451E-01	3.649E-01	3.057E-02	-0.322
MN-54	1.312E-02		3.311E-02	5.753E-02	5.665E-03	0.228
CO-56	1.675E-02		3.006E-02	5.330E-02	5.251E-03	0.314
CO-57	-3.809E-03		1.951E-02	3.287E-02	2.781E-03	-0.116
CO-58	-1.243E-02		3.413E-02	5.199E-02	5.119E-03	-0.239
FE-59	-8.331E-03		7.699E-02	1.254E-01	1.179E-02	-0.066
CO-60	2.433E-02		3.531E-02	6.194E-02	5.118E-03	0.393
ZN-65	-6.176E-04		9.200E-02	1.310E-01	1.124E-02	-0.005
GE-68	2.458E-01		9.394E-01	1.597E+00	1.418E-01	0.154
AS-73	-7.863E-02		5.183E-01	8.225E-01	6.176E-02	-0.096
AS-74	1.739E-02		8.229E-02	1.373E-01	1.396E-02	0.127
SE-75	-1.598E-02		3.589E-02	5.340E-02	7.849E-03	-0.299
BR-77	-3.028E+00		1.189E+01	1.933E+01	2.059E+00	-0.157
SR-82	-3.093E-01		3.462E-01	5.024E-01	4.914E-02	-0.616
RB-83	-3.634E-02		6.160E-02	9.735E-02	1.037E-02	-0.373
RB-84	1.562E-02		5.994E-02	1.030E-01	1.015E-02	0.152
KR-85	2.630E+00		6.747E+00	1.021E+01	1.091E+00	0.257
SR-85	1.362E-02		3.494E-02	5.290E-02	5.651E-03	0.257
RB-86	4.723E-01		6.029E-01	1.082E+00	9.616E-02	0.436
Y-88	3.103E-03		2.603E-02	4.399E-02	3.571E-03	0.071
ZR-88	5.475E-03		2.545E-02	4.365E-02	4.655E-03	0.125
Y-91	6.837E+00		1.650E+01	2.802E+01	2.269E+00	0.244
NB-94	2.191E-03		2.873E-02	4.682E-02	4.497E-03	0.047
NB-95	1.215E-02		4.223E-02	6.136E-02	5.990E-03	0.198
NB-95M	1.018E-01		1.135E-01	1.744E-01	2.434E-02	0.584
ZR-95	-3.978E-02		6.437E-02	9.706E-02	1.021E-02	-0.410

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	3.611E-02		1.201E-01	Half-Life too short		
ZR-97	5.503E+00		2.056E+00	Half-Life too short		
MO-99	-2.583E+00		1.288E+01	2.034E+01	3.220E+00	-0.127
TC-99M	9.114E+10		2.131E+11	Half-Life too short		
RH-101	-1.174E-03		2.625E-02	4.241E-02	4.747E-03	-0.028
RH-102	8.548E-03		2.440E-02	4.175E-02	4.501E-03	0.205
RU-103	-1.416E-02		3.265E-02	5.227E-02	8.124E-03	-0.271
RH-106	5.497E-02		2.445E-01	4.083E-01	5.811E-02	0.135
RU-106	5.497E-02		2.444E-01	4.083E-01	4.050E-02	0.135
AG-108M	-2.334E-02		2.640E-02	4.128E-02	4.564E-03	-0.565
AG-110M	6.229E-03		3.382E-02	4.927E-02	4.801E-03	0.126
IN-111	7.741E-01		1.155E+00	1.763E+00	2.402E-01	0.439
IN-113M	-1.419E-02		3.792E-02	6.265E-02	6.814E-03	-0.227
SN-113	-1.419E-02		3.792E-02	6.265E-02	6.814E-03	-0.227
IN-114M	1.575E-02		1.634E-01	2.439E-01	2.639E-02	0.065
CD-115	9.749E-01		1.251E+01	2.086E+01	2.216E+00	0.047
SN-117M	2.310E-02		4.424E-02	7.574E-02	7.158E-03	0.305
SB-122	2.636E+00		2.321E+00	4.123E+00	4.295E-01	0.639
I-123	-1.663E+00		7.473E+00	Half-Life too short		
TE-123M	-2.463E-03		2.214E-02	3.687E-02	3.508E-03	-0.067
I-124	-2.680E-01		6.315E-01	9.570E-01	9.672E-02	-0.280
SB-124	-1.086E-02		5.467E-02	8.659E-02	7.525E-03	-0.125
SB-125	3.703E-03		7.800E-02	1.316E-01	1.435E-02	0.028
TE-125M	5.398E+00		6.780E+00	1.191E+01	1.223E+00	0.453
I-126	1.572E-02		1.836E-01	2.640E-01	2.503E-02	0.060
SB-126	-1.202E-02		1.320E-01	1.947E-01	1.880E-02	-0.062
SB-127	-3.022E-01		1.401E+00	2.227E+00	2.754E-01	-0.136
XE-127	-2.011E-02		3.692E-02	5.906E-02	6.750E-03	-0.340
I-131	1.787E-03		1.037E-01	1.644E-01	2.064E-02	0.011
TE-132	-3.654E-01		6.783E-01	1.072E+00	1.976E-01	-0.341
BA-133	5.852E-03		3.973E-02	5.682E-02	9.164E-03	0.103
I-133	4.827E-03		5.423E-03	Half-Life too short		
CS-134	1.206E-01	+	6.879E-02	8.065E-02	7.956E-03	1.495
CS-135	2.288E-01		1.415E-01	2.240E-01	3.515E-02	1.021
I-135	-3.701E+10		2.471E+10	Half-Life too short		
CS-136	-1.074E-02		8.759E-02	1.429E-01	1.349E-02	-0.075
CE-139	-1.471E-02		2.409E-02	3.905E-02	3.795E-03	-0.377
BA-140	1.800E-01		2.406E-01	4.081E-01	1.375E-01	0.441
LA-140	-2.031E-03		7.396E-02	1.228E-01	1.032E-02	-0.017
CE-141	3.507E-02		5.221E-02	8.800E-02	8.065E-03	0.399
CE-143	3.954E-04		1.124E-04	Half-Life too short		
CE-144	-1.445E-02		1.597E-01	2.568E-01	4.007E-02	-0.056
PM-144	-5.852E-03		3.277E-02	4.887E-02	4.686E-03	-0.120
PR-144	-3.967E-01		2.222E+00	3.313E+00	3.176E-01	-0.120
PM-146	-1.610E-02		3.701E-02	6.001E-02	7.524E-03	-0.268
ND-147	-2.590E-02		5.052E-01	8.331E-01	1.348E-01	-0.031
PM-149	5.557E+01		1.047E+02	1.734E+02	3.477E+01	0.320
EU-152	-7.333E-02		8.451E-02	1.248E-01	1.692E-02	-0.588

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-6.870E-02		6.541E-02	9.553E-02	8.487E-03	-0.719
EU-154	2.110E-03		1.069E-01	1.743E-01	1.917E-02	0.012
EU-155	1.258E-02		7.785E-02	1.341E-01	1.170E-02	0.094
TB-160	5.644E-02		1.196E-01	2.093E-01	2.063E-02	0.270
HO-166M	8.088E-03		5.627E-02	9.211E-02	8.871E-03	0.088
TM-171	8.383E+00		2.102E+01	3.116E+01	2.338E+00	0.269
LU-176	-5.026E-03		2.046E-02	3.223E-02	4.737E-03	-0.156
LU-177	3.519E+00	+	1.403E+00	1.877E+00	2.196E-01	1.875
LU-177M	-1.564E-01		1.486E-01	2.314E-01	2.485E-02	-0.676
HF-181	1.193E-04		3.513E-02	5.861E-02	6.312E-03	0.002
W-181	-1.665E-01		2.692E-01	3.766E-01	2.792E-02	-0.442
TA-182	1.615E-01		1.701E-01	3.013E-01	2.448E-02	0.536
RE-183	2.132E-02		8.571E-02	1.449E-01	1.389E-02	0.147
RE-184	-4.481E-02		1.859E-01	2.975E-01	4.174E-02	-0.151
OS-185	1.208E-02		3.596E-02	6.038E-02	5.828E-03	0.200
RE-188	4.680E-02		1.385E-01	2.355E-01	2.196E-02	0.199
W-188	-4.157E+00		6.634E+00	8.920E+00	1.355E+00	-0.466
IR-192	-1.096E-02		3.099E-02	4.797E-02	6.896E-03	-0.229
AU-195	9.943E-02		1.651E-01	2.894E-01	2.554E-02	0.344
TL-200	4.215E-04		3.396E-04	Half-Life too short		
TL-201	3.798E+00		6.934E+00	1.184E+01	1.159E+00	0.321
TL-202	8.201E-03		6.159E-02	1.044E-01	1.126E-02	0.079
HG-203	9.417E-03		3.408E-02	5.593E-02	8.736E-03	0.168
BI-207	1.308E-02		4.309E-02	7.344E-02	6.597E-03	0.178
TL-207	-4.316E-01		6.594E-01	8.721E-01	1.824E-01	-0.495
PO-209	-3.070E-01		6.357E+00	1.061E+01	1.045E+00	-0.029
BI-210	3.521E-01		2.194E+00	3.560E+00	3.314E-01	0.099
PB-210	3.521E-01		2.194E+00	3.560E+00	3.314E-01	0.099
PO-210	3.521E-01		2.194E+00	3.560E+00	3.001E-01	0.099
PB-211	3.596E-01		8.145E-01	1.359E+00	8.560E-01	0.265
BI-212	1.320E+00	+	5.746E-01	6.183E-01	6.757E-02	2.134
PO-215	-4.316E-01		6.594E-01	8.721E-01	1.824E-01	-0.495
RN-219	-7.306E-02		3.562E-01	5.941E-01	9.689E-02	-0.123
RN-220	3.808E+00		2.056E+01	3.449E+01	3.624E+00	0.110
RA-223	-4.316E-01		6.594E-01	8.721E-01	1.824E-01	-0.495
AC-227	-1.761E-01		3.192E-01	4.986E-01	9.502E-02	-0.353
TH-227	-1.761E-01		3.197E-01	4.986E-01	1.062E-01	-0.353
TH-229	2.809E-01		4.052E-01	6.910E-01	7.587E-02	0.406
PA-231	2.417E-01		1.288E+00	2.100E+00	4.162E-01	0.115
TH-231	-4.316E-01		6.594E-01	8.721E-01	1.824E-01	-0.495
U-231	2.848E-01		1.043E+00	1.512E+00	1.355E-01	0.188
PA-233	-2.346E-02		5.643E-02	8.771E-02	1.287E-02	-0.267
PA-234	-1.699E-01		2.674E-01	4.158E-01	8.012E-02	-0.409
PA-234M	5.407E-01		3.918E+00	6.535E+00	6.952E-01	0.083
U-235	1.225E-01		1.795E-01	3.015E-01	5.331E-02	0.406
NP-236	-6.562E-02		6.149E-02	9.717E-02	9.244E-03	-0.675
NP-239	-1.171E-01		1.410E-01	2.309E-01	1.954E-02	-0.507
AM-241	7.631E-02		1.092E-01	1.664E-01	1.308E-02	0.459

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.795E-02		6.772E-02	1.147E-01	9.929E-03	-0.157
AM-246	-2.314E-02		1.128E-01	1.844E-01	1.635E-02	-0.126
CM-247	-3.623E-02		3.240E-02	5.052E-02	5.407E-03	-0.717
CF-249	9.707E-03		3.371E-02	5.809E-02	6.325E-03	0.167
CF-251	4.036E-04		1.015E-01	1.689E-01	1.721E-02	0.002

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G244137003           *
* Acquisition date  : 20-JAN-2010 13:43:42 Detector SN#     :               *
* Detector ID       : GAM11                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit  : 75.000        *
* Elapsed real time:    0 02:00:01.71      Half life ratio  : 8.000         *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date       :  4-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G244137003           Analyst initials: MXR1           *
* Batch Number      : 940263               Sample Quantity : 1.3409E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
*                                                                           *
* CALIB. DATE/TIME : 18-NOV-2009 15:33:22 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.067E+01	2.237E+00	2.091E-01	1.141E+00
CD-109	3.163E+00	8.230E-01	4.811E-01	4.199E-01
SN-126	3.104E-01	8.078E-02	4.737E-02	4.121E-02
BA-137M	1.171E-01	5.156E-02	2.727E-02	2.630E-02
CS-137	1.238E-01	5.450E-02	2.883E-02	2.781E-02
TL-208	5.361E-01	9.418E-02	2.351E-02	4.805E-02
BI-211	4.169E+00	6.988E-01	1.314E-01	3.566E-01
PB-212	1.653E+00	2.491E-01	4.098E-02	1.271E-01
PO-212	1.653E+00	2.491E-01	4.098E-02	1.271E-01
BI-214	1.318E+00	2.034E-01	4.385E-02	1.038E-01
PB-214	1.450E+00	2.542E-01	4.581E-02	1.297E-01
PO-214	1.450E+00	2.542E-01	4.581E-02	1.297E-01
PO-216	1.653E+00	2.491E-01	4.098E-02	1.271E-01
PO-218	1.450E+00	2.542E-01	4.581E-02	1.297E-01
RA-224	4.943E+00	1.099E+00	4.664E-01	5.607E-01
RA-226	1.318E+00	2.034E-01	4.385E-02	1.038E-01
AC-228	1.600E+00	3.039E-01	9.533E-02	1.550E-01
RA-228	1.600E+00	3.039E-01	9.533E-02	1.550E-01
TH-228	1.680E+00	2.531E-01	4.164E-02	1.291E-01
TH-230	1.318E+00	2.034E-01	4.385E-02	1.038E-01
TH-232	1.600E+00	3.039E-01	9.533E-02	1.550E-01
TH-234	1.575E+00	1.251E+00	7.234E-01	6.382E-01
U-234	1.318E+00	2.034E-01	4.385E-02	1.038E-01
NP-237	9.115E-01	3.004E-01	1.402E-01	1.533E-01
U-238	1.575E+00	1.251E+00	7.234E-01	6.382E-01
AM-243	3.380E-01	5.961E-02	3.337E-02	3.041E-02
ANH-511	1.202E-01	6.278E-02	2.046E-02	3.203E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU

BE-7	-1.065E-01	2.755E-01	2.333E-01	1.406E-01	NOT IDENT.
NA-22	1.129E-03	3.758E-02	3.144E-02	1.917E-02	NOT IDENT.
NA-24	7.803E+04	1.691E+06	0.000E+00	8.628E+05	SHORT HLIF
AL-26	-3.057E-03	2.363E-02	1.928E-02	1.205E-02	NOT IDENT.
TI-44	3.612E-01	4.786E-02	2.842E-02	2.442E-02	FAIL ABUN
SC-46	-1.639E-02	3.105E-02	2.544E-02	1.584E-02	FAIL ABUN
V-48	-2.168E-02	5.922E-02	4.881E-02	3.021E-02	NOT IDENT.
CR-51	-1.535E-01	3.123E-01	2.528E-01	1.594E-01	NOT IDENT.
MN-52	-1.174E-01	2.402E-01	1.830E-01	1.226E-01	NOT IDENT.
MN-54	1.312E-02	3.245E-02	2.914E-02	1.655E-02	NOT IDENT.
CO-56	1.675E-02	2.946E-02	2.699E-02	1.503E-02	FAIL ABUN
CO-57	-3.809E-03	1.912E-02	1.722E-02	9.756E-03	NOT IDENT.
CO-58	-1.243E-02	3.344E-02	2.635E-02	1.706E-02	NOT IDENT.
FE-59	-8.331E-03	7.545E-02	6.320E-02	3.849E-02	NOT IDENT.
CO-60	2.433E-02	3.460E-02	3.110E-02	1.765E-02	NOT IDENT.
ZN-65	-6.176E-04	9.016E-02	6.601E-02	4.600E-02	NOT IDENT.
GE-68	2.458E-01	9.206E-01	8.051E-01	4.697E-01	NOT IDENT.
AS-73	-7.863E-02	5.079E-01	4.369E-01	2.592E-01	NOT IDENT.
AS-74	1.739E-02	8.065E-02	6.998E-02	4.115E-02	NOT IDENT.
SE-75	-1.598E-02	3.518E-02	2.760E-02	1.795E-02	NOT IDENT.
BR-77	-3.028E+00	1.166E+01	9.872E+00	5.947E+00	FAIL ABUN
SR-82	-3.093E-01	3.393E-01	2.548E-01	1.731E-01	NOT IDENT.
RB-83	-3.634E-02	6.037E-02	4.972E-02	3.080E-02	NOT IDENT.
RB-84	1.562E-02	5.874E-02	5.214E-02	2.997E-02	NOT IDENT.
KR-85	2.630E+00	6.612E+00	5.219E+00	3.373E+00	NOT IDENT.
SR-85	1.362E-02	3.424E-02	2.703E-02	1.747E-02	NOT IDENT.
RB-86	4.723E-01	5.908E-01	5.455E-01	3.014E-01	NOT IDENT.
Y-88	3.103E-03	2.551E-02	2.196E-02	1.302E-02	NOT IDENT.
ZR-88	5.475E-03	2.494E-02	2.241E-02	1.272E-02	NOT IDENT.
Y-91	6.837E+00	1.617E+01	1.410E+01	8.251E+00	NOT IDENT.
NB-94	2.191E-03	2.815E-02	2.379E-02	1.436E-02	NOT IDENT.
NB-95	1.215E-02	4.139E-02	3.113E-02	2.112E-02	NOT IDENT.
NB-95M	1.018E-01	1.112E-01	9.032E-02	5.675E-02	NOT IDENT.
ZR-95	-3.978E-02	6.308E-02	4.925E-02	3.219E-02	NOT IDENT.
NB-97	3.611E+04	2.354E+05	0.000E+00	1.201E+05	SHORT HLIF
ZR-97	5.503E+06	4.030E+06	0.000E+00	2.056E+06	SHORT HLIF
MO-99	-2.583E+00	1.262E+01	1.033E+01	6.441E+00	NOT IDENT.
TC-99M	9.114E+16	4.177E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.174E-03	2.573E-02	2.204E-02	1.313E-02	NOT IDENT.
RH-102	8.548E-03	2.391E-02	2.136E-02	1.220E-02	NOT IDENT.
RU-103	-1.416E-02	3.200E-02	2.672E-02	1.633E-02	FAIL ABUN
RH-106	5.497E-02	2.396E-01	2.079E-01	1.223E-01	FAIL ABUN
RU-106	5.497E-02	2.396E-01	2.079E-01	1.222E-01	FAIL ABUN
AG-108M	-2.334E-02	2.588E-02	2.115E-02	1.320E-02	NOT IDENT.
AG-110M	6.229E-03	3.314E-02	2.506E-02	1.691E-02	NOT IDENT.
IN-111	7.741E-01	1.132E+00	9.124E-01	5.774E-01	NOT IDENT.
IN-113M	-1.419E-02	3.716E-02	3.216E-02	1.896E-02	NOT IDENT.
SN-113	-1.419E-02	3.716E-02	3.216E-02	1.896E-02	NOT IDENT.
IN-114M	1.575E-02	1.601E-01	1.268E-01	8.168E-02	NOT IDENT.
CD-115	9.749E-01	1.226E+01	1.065E+01	6.257E+00	NOT IDENT.
SN-117M	2.310E-02	4.335E-02	3.950E-02	2.212E-02	NOT IDENT.
SB-122	2.636E+00	2.274E+00	2.103E+00	1.160E+00	NOT IDENT.
I-123	-1.663E+06	1.465E+07	0.000E+00	7.473E+06	SHORT HLIF
TE-123M	-2.463E-03	2.170E-02	1.923E-02	1.107E-02	NOT IDENT.
I-124	-2.680E-01	6.189E-01	4.876E-01	3.157E-01	NOT IDENT.
SB-124	-1.086E-02	5.358E-02	4.329E-02	2.734E-02	FAIL ABUN
SB-125	3.703E-03	7.644E-02	6.748E-02	3.900E-02	FAIL ABUN
TE-125M	5.398E+00	6.644E+00	6.253E+00	3.390E+00	NOT IDENT.
I-126	1.572E-02	1.800E-01	1.343E-01	9.182E-02	NOT IDENT.
SB-126	-1.202E-02	1.294E-01	9.887E-02	6.601E-02	FAIL ABUN
SB-127	-3.022E-01	1.373E+00	1.132E+00	7.007E-01	NOT IDENT.
XE-127	-2.011E-02	3.618E-02	3.067E-02	1.846E-02	NOT IDENT.
I-131	1.787E-03	1.016E-01	8.450E-02	5.184E-02	NOT IDENT.
TE-132	-3.654E-01	6.647E-01	5.555E-01	3.391E-01	NOT IDENT.
BA-133	5.852E-03	3.894E-02	2.922E-02	1.987E-02	NOT IDENT.
I-133	4.827E+03	1.063E+04	0.000E+00	5.423E+03	SHORT HLIF
CS-134	1.206E-01	6.742E-02	4.088E-02	3.440E-02	FAIL ABUN
CS-135	2.288E-01	1.387E-01	1.158E-01	7.077E-02	NOT IDENT.
I-135	-3.701E+16	4.843E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.074E-02	8.584E-02	7.208E-02	4.380E-02	FAIL ABUN
CE-139	-1.471E-02	2.361E-02	2.035E-02	1.205E-02	NOT IDENT.
BA-140	1.800E-01	2.358E-01	2.083E-01	1.203E-01	NOT IDENT.
LA-140	-2.031E-03	7.249E-02	6.144E-02	3.698E-02	FAIL ABUN
CE-141	3.507E-02	5.116E-02	4.596E-02	2.610E-02	NOT IDENT.
CE-143	3.954E+02	2.202E+02	0.000E+00	1.124E+02	SHORT HLIF
CE-144	-1.445E-02	1.565E-01	1.344E-01	7.984E-02	NOT IDENT.
PM-144	-5.852E-03	3.211E-02	2.483E-02	1.638E-02	NOT IDENT.
PR-144	-3.967E-01	2.177E+00	1.684E+00	1.111E+00	NOT IDENT.

PM-146	-1.610E-02	3.627E-02	3.073E-02	1.850E-02	NOT IDENT.
ND-147	-2.590E-02	4.951E-01	4.254E-01	2.526E-01	FAIL ABUN
PM-149	5.557E+01	1.026E+02	8.953E+01	5.233E+01	NOT IDENT.
EU-152	-7.333E-02	8.282E-02	6.421E-02	4.226E-02	FAIL ABUN
GD-153	-6.870E-02	6.410E-02	5.024E-02	3.270E-02	FAIL ABUN
EU-154	2.110E-03	1.048E-01	8.759E-02	5.347E-02	NOT IDENT.
EU-155	1.258E-02	7.630E-02	7.042E-02	3.893E-02	FAIL ABUN
TB-160	5.644E-02	1.172E-01	1.059E-01	5.982E-02	FAIL ABUN
HO-166M	8.088E-03	5.515E-02	4.679E-02	2.814E-02	FAIL ABUN
TM-171	8.383E+00	2.060E+01	1.649E+01	1.051E+01	NOT IDENT.
LU-176	-5.026E-03	2.005E-02	1.662E-02	1.023E-02	FAIL ABUN
LU-177	3.519E+00	1.375E+00	9.742E-01	7.014E-01	FAIL ABUN
LU-177M	-1.564E-01	1.456E-01	1.187E-01	7.429E-02	NOT IDENT.
HF-181	1.193E-04	3.443E-02	2.998E-02	1.756E-02	NOT IDENT.
W-181	-1.665E-01	2.638E-01	1.994E-01	1.346E-01	NOT IDENT.
TA-182	1.615E-01	1.667E-01	1.516E-01	8.503E-02	FAIL ABUN
RE-183	2.132E-02	8.400E-02	7.556E-02	4.286E-02	FAIL ABUN
RE-184	-4.481E-02	1.821E-01	1.539E-01	9.293E-02	NOT IDENT.
OS-185	1.208E-02	3.524E-02	3.072E-02	1.798E-02	NOT IDENT.
RE-188	4.680E-02	1.357E-01	1.229E-01	6.926E-02	NOT IDENT.
W-188	-4.157E+00	6.501E+00	4.604E+00	3.317E+00	FAIL ABUN
IR-192	-1.096E-02	3.037E-02	2.472E-02	1.550E-02	FAIL ABUN
AU-195	9.943E-02	1.618E-01	1.522E-01	8.256E-02	FAIL ABUN
TL-200	4.215E+02	6.656E+02	0.000E+00	3.396E+02	SHORT HLIF
TL-201	3.798E+00	6.796E+00	6.171E+00	3.467E+00	NOT IDENT.
TL-202	8.201E-03	6.035E-02	5.346E-02	3.079E-02	NOT IDENT.
HG-203	9.417E-03	3.340E-02	2.889E-02	1.704E-02	NOT IDENT.
BI-207	1.308E-02	4.222E-02	3.703E-02	2.154E-02	FAIL ABUN
TL-207	-4.316E-01	6.463E-01	4.493E-01	3.297E-01	FAIL ABUN
PO-209	-3.070E-01	6.230E+00	5.367E+00	3.178E+00	NOT IDENT.
BI-210	3.521E-01	2.150E+00	1.896E+00	1.097E+00	NOT IDENT.
PB-210	3.521E-01	2.150E+00	1.896E+00	1.097E+00	NOT IDENT.
PO-210	3.521E-01	2.150E+00	1.896E+00	1.097E+00	NOT IDENT.
PB-211	3.596E-01	7.982E-01	6.974E-01	4.073E-01	NOT IDENT.
BI-212	1.320E+00	5.631E-01	3.139E-01	2.873E-01	FAIL ABUN
PO-215	-4.316E-01	6.463E-01	4.493E-01	3.297E-01	FAIL ABUN
RN-219	-7.306E-02	3.491E-01	3.049E-01	1.781E-01	FAIL ABUN
RN-220	3.808E+00	2.015E+01	1.760E+01	1.028E+01	NOT IDENT.
RA-223	-4.316E-01	6.463E-01	4.493E-01	3.297E-01	FAIL ABUN
AC-227	-1.761E-01	3.129E-01	2.579E-01	1.596E-01	FAIL ABUN
TH-227	-1.761E-01	3.133E-01	2.579E-01	1.598E-01	FAIL ABUN
TH-229	2.809E-01	3.971E-01	3.592E-01	2.026E-01	FAIL ABUN
PA-231	2.417E-01	1.262E+00	1.085E+00	6.439E-01	FAIL ABUN
TH-231	-4.316E-01	6.463E-01	4.493E-01	3.297E-01	FAIL ABUN
U-231	2.848E-01	1.022E+00	7.955E-01	5.215E-01	FAIL ABUN
PA-233	-2.346E-02	5.530E-02	4.521E-02	2.822E-02	FAIL ABUN
PA-234	-1.699E-01	2.621E-01	2.101E-01	1.337E-01	FAIL ABUN
PA-234M	5.407E-01	3.840E+00	3.299E+00	1.959E+00	NOT IDENT.
U-235	1.225E-01	1.759E-01	1.575E-01	8.976E-02	FAIL ABUN
NP-236	-6.562E-02	6.026E-02	5.067E-02	3.075E-02	NOT IDENT.
NP-239	-1.171E-01	1.382E-01	1.211E-01	7.050E-02	FAIL ABUN
AM-241	7.631E-02	1.070E-01	8.824E-02	5.461E-02	NOT IDENT.
CM-243	-1.795E-02	6.637E-02	6.024E-02	3.386E-02	FAIL ABUN
AM-246	-2.314E-02	1.106E-01	9.294E-02	5.642E-02	NOT IDENT.
CM-247	-3.623E-02	3.175E-02	2.593E-02	1.620E-02	NOT IDENT.
CF-249	9.707E-03	3.304E-02	2.983E-02	1.686E-02	NOT IDENT.
CF-251	4.036E-04	9.947E-02	8.794E-02	5.075E-02	NOT IDENT.

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*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                          CHARLESTON ,SC 29417                             *
*                   GAMMA SPECTROSCOPY BACKGROUND REPORT                    *
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ENERGY	MDA COUNTS
46.50	239.2461
46.50	239.2461
46.50	239.2461
48.70	270.6848
49.72	216.6456
51.35	238.8463
52.39	203.0526
52.97	213.4438
53.15	213.5691
53.44	231.5839
54.07	219.7831
56.28	229.1911
56.28	229.1934
57.37	0.0000
57.53	259.4089
57.53	259.4107
57.60	259.4651
57.98	265.4158
57.98	265.4158
59.32	255.5372
59.32	255.5372
59.40	255.5991
59.54	249.6543
59.72	257.3588
60.01	268.1895
61.10	278.1822
61.14	278.2148
61.30	278.3460
63.00	291.1983
63.29	291.4425
63.29	291.4425
63.58	291.6866
64.28	305.3144
65.12	304.5068
65.20	301.4992
65.20	301.4992
66.05	299.1386
66.72	285.7936
66.83	285.8839
66.91	285.9460
67.20	299.3262
67.20	299.3262
67.75	314.8862
67.85	314.9730
68.90	349.6834
68.90	349.6834
69.30	334.8939
69.67	358.5945
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70.82	318.6940
70.83	318.7023
72.80	400.4634
72.87	400.5360
72.87	400.5360
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74.81	342.1754
74.81	342.1754
74.81	342.1754
74.81	342.1754
74.81	342.1754
74.81	342.1754
74.97	342.3166
75.28	342.5900
75.70	342.9582
77.11	344.1863
77.11	344.1863

77.11	344.1863
77.11	344.1863
77.11	344.1863
77.11	344.1863
77.11	344.1863
78.38	297.8924
79.62	316.3863
79.80	316.5273
79.80	316.5273
80.11	314.3692
80.18	314.4232
80.30	314.5151
80.30	314.5151
80.57	305.1132
81.00	298.2198
81.07	298.2709
81.07	298.2709
81.07	298.2709
81.07	298.2709
82.60	305.8141
83.37	314.4391
83.78	300.2217
83.78	300.2217
83.78	300.2217
83.78	300.2217
84.21	300.5282
84.90	301.0201
85.43	301.3948
86.29	302.0021
86.50	302.1497
86.54	302.1781
86.59	302.2141
86.72	302.3049
86.79	302.3522
86.94	302.4581
87.30	302.7117
87.30	302.7117
87.30	302.7117
87.30	302.7117
87.30	302.7117
87.30	302.7117
87.30	302.7117
87.57	302.8990
87.88	303.1166
88.03	303.2206
88.36	303.4515
88.47	303.5272
89.95	304.5527
91.11	305.3492
92.29	306.1553
92.38	306.2158
92.38	306.2158
93.35	306.8743
94.00	266.0077
94.67	287.9061
94.67	287.9096
94.90	288.0530
94.90	288.0530
94.90	288.0530
94.90	288.0530
95.87	252.1644
95.87	252.1644
96.73	290.8620
97.43	303.3644
98.44	238.5428
98.44	238.5443
98.88	247.1153
99.55	234.9242
99.55	234.9242
99.86	235.0785
100.00	235.1471
100.10	222.6435
103.18	261.1336
103.76	231.9277
105.00	210.5307
105.31	236.8909
108.00	261.1393
109.28	216.6043

111.00	264.3980
111.00	264.3980
111.76	248.5078
112.95	245.6445
115.19	250.1480
116.30	242.8950
117.00	246.6773
117.00	246.6773
117.66	240.9169
121.11	249.4368
121.62	247.9236
121.78	247.9959
122.06	241.1336
122.32	235.1287
122.32	235.1287
122.32	235.1287
122.32	235.1287
123.07	226.6961
127.23	232.7980
129.76	256.4202
131.20	211.7760
133.02	241.8351
133.54	222.5260
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136.00	198.7463
136.25	205.9949
136.48	212.3463
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140.51	0.0000
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142.65	281.5052
143.76	250.2738
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144.24	216.8904
144.24	216.8904
144.24	216.8904
145.22	227.2314
145.44	223.6732
147.16	259.8468
152.43	228.9086
152.70	233.6033
153.22	223.6671
154.21	220.3184
154.21	220.3184
154.21	220.3184
154.21	220.3184
155.03	232.5958
156.02	241.2678
158.56	200.4390
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159.00	217.2850
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161.27	224.5450
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162.64	203.5279
163.35	199.0678
163.89	213.2560
165.85	239.1948
167.43	207.7765
171.28	206.0914
171.86	212.8830
172.10	212.9562
176.55	212.3835
176.60	212.3994
181.06	224.2476
184.41	206.0129
185.71	206.3743
186.00	206.4526
190.27	203.7430
192.34	225.6987
193.63	186.1232
197.04	191.8369
198.01	189.1343
198.60	184.3721
200.40	190.6925
201.83	195.9595
202.84	196.2085
205.31	176.5389

208.36	242.7242
208.81	232.4290
209.75	209.8238
209.75	209.8238
210.97	174.7823
215.65	191.2934
216.55	195.5098
218.09	201.8956
222.10	201.8412
223.80	165.8385
226.40	176.4798
227.00	189.7963
227.08	189.8134
227.20	199.9919
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228.18	173.7919
228.18	173.7919
231.56	0.0000
235.69	178.3489
236.00	195.3292
236.00	195.3292
238.63	199.5000
238.63	199.5000
238.63	199.5000
238.63	199.5000
239.00	199.5810
240.98	200.0171
241.98	200.2381
241.98	200.2381
241.98	200.2381
244.69	150.6226
245.39	132.0888
247.94	154.7885
248.90	142.4686
249.79	143.6447
252.40	136.7382
252.85	144.1136
252.85	144.1136
254.15	0.0000
256.20	162.4391
256.20	162.4391
260.50	133.6921
260.90	165.3400
262.80	106.5748
264.65	131.9373
268.24	111.4108
268.79	124.2125
269.46	149.7953
269.46	149.7953
269.46	149.7953
269.46	149.7953
271.23	150.0621
273.65	144.0225
276.40	147.6273
277.35	146.6941
277.60	156.3696
277.60	156.3696
278.00	142.5031
278.60	138.2986
279.20	138.3800
279.53	164.1780
280.46	172.9197
281.68	148.3938
283.67	134.6741
284.30	132.5994
285.00	131.6107
285.90	128.4857
286.10	127.4300
286.10	127.4300
287.40	134.0785
288.45	0.0000
290.67	133.4127
290.80	117.1582
291.72	117.2593
293.26	0.0000
293.70	106.0574
295.21	102.9402
295.21	102.9402

295.21	102.9402
295.96	103.0133
296.50	103.0652
297.23	124.4185
298.57	124.5739
299.80	116.5104
299.80	116.5104
300.09	116.5429
300.09	116.5429
300.09	116.5429
300.09	116.5429
300.12	116.5450
301.29	116.6707
302.84	113.5464
303.76	92.2322
303.91	92.2441
304.40	100.5268
304.40	100.5268
304.84	120.3515
306.84	123.3226
308.46	117.9913
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316.51	128.8456
318.01	116.7813
319.02	120.2256
319.41	124.7217
320.08	123.6804
323.87	142.5400
323.87	142.5400
323.87	142.5400
323.87	142.5400
325.23	119.2036
328.77	132.4811
333.44	138.6503
334.20	121.8208
334.20	121.8208
334.30	121.8318
338.28	146.0121
338.28	146.0121
338.28	146.0121
338.28	146.0121
338.32	146.0173
338.32	146.0173
338.32	146.0173
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340.57	125.8822
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345.85	100.8085
350.59	0.0000
351.07	99.5282
351.92	99.5972
351.92	99.5972
351.92	99.5972
355.39	0.0000
356.01	98.2071
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366.43	104.2419
367.43	82.3003
367.94	0.0000
369.80	103.3589
374.96	93.2829
383.85	100.3832
387.95	106.8794
388.63	110.4698
391.69	116.0402
391.69	116.0402
392.90	100.1854
398.62	106.8475
400.65	86.4972
401.10	99.9072
401.81	116.9177
402.60	133.0601
404.84	101.0769
410.95	97.0345
411.60	104.2719
413.65	118.8294
414.70	90.0909
415.30	90.1291

415.76	101.8804
417.63	0.0000
418.52	100.2753
423.70	97.9244
427.08	89.9771
427.89	97.3035
432.53	88.4953
433.93	97.7133
439.47	91.6718
439.56	91.6763
439.89	85.2789
443.98	82.7586
444.90	82.8108
445.03	82.8177
445.03	82.8177
445.03	82.8177
445.03	82.8177
453.90	98.1263
463.38	84.7710
468.07	69.7699
473.00	86.2416
475.06	79.7861
475.35	83.5556
476.78	96.7888
477.59	94.9587
477.96	94.0414
482.03	78.2570
484.57	86.1276
487.03	69.6143
490.36	0.0000
492.35	66.8110
497.08	76.1462
507.63	0.0000
510.53	0.0000
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511.00	82.5599
511.85	82.6032
511.85	82.6032
513.99	87.7106
513.99	87.7106
520.41	92.6836
520.65	84.0078
527.90	77.5830
528.96	0.0000
529.64	68.9243
529.87	0.0000
531.02	76.7531
537.32	67.2859
543.00	66.5308
546.56	0.0000
549.76	61.8791
552.65	52.1428
555.20	76.8503
563.23	64.3315
563.90	66.3355
568.70	66.5154
569.32	67.5310
569.50	59.5917
569.67	59.5972
573.80	71.6814
574.00	68.7010
574.64	57.7699
578.91	79.8706
579.30	0.0000
583.14	63.0442
585.48	57.7125
591.81	66.3565
592.07	62.3444
593.00	71.4290
595.88	72.5471
600.56	73.7396
602.52	0.0000
602.71	70.5015
602.71	70.5015
603.60	56.6580
604.41	56.6836
604.70	51.8328
609.31	61.9047

609.31	61.9047
609.31	61.9047
609.31	61.9047
610.33	61.9364
612.46	76.4416
614.37	70.0052
618.01	61.1664
621.84	52.0957
621.84	52.0957
631.29	60.5611
633.02	63.6972
633.10	63.6991
634.78	58.6125
635.90	51.4435
636.97	61.7651
645.85	55.8391
646.12	57.9141
656.30	59.8728
657.75	63.2437
657.90	0.0000
661.65	79.2076
661.65	79.2076
664.57	0.0000
666.33	65.1822
666.33	65.1822
675.00	54.5486
677.61	59.8684
685.20	66.4126
692.80	71.9429
695.00	78.3721
696.49	68.8879
696.49	68.8879
697.00	69.9659
697.49	61.4993
698.33	61.5241
698.50	61.5276
699.00	56.2365
702.63	65.8996
706.10	68.1348
706.58	0.0000
706.67	76.6714
709.31	70.3687
711.68	71.5146
713.82	67.3105
717.42	67.4239
720.50	55.7292
721.93	0.0000
722.20	56.6317
722.78	60.0793
722.78	60.0793
722.89	60.0828
722.95	60.0845
723.30	54.9422
724.18	53.2464
727.18	54.8241
733.00	48.2863
735.90	51.8042
739.58	61.6184
742.81	60.6262
744.21	55.2474
747.13	58.5731
751.79	67.3887
752.31	66.3185
753.82	39.1641
755.35	63.1401
756.15	69.6973
756.87	67.5400
763.93	76.9291
765.79	62.9930
766.42	77.0129
766.84	78.7764
776.49	69.2177
778.00	58.2696
778.57	53.8853
778.89	56.0925
783.80	59.5173
785.46	48.5292
792.07	37.1632

795.84	55.3909
796.30	55.4016
798.80	53.2412
801.93	55.0886
805.60	48.9441
810.29	52.3830
810.76	51.2783
815.85	49.1522
817.79	49.1912
818.51	49.2059
819.60	35.8027
826.30	42.6329
828.27	0.0000
831.60	50.5948
831.96	50.6030
834.83	62.1455
836.80	0.0000
846.75	38.0092
848.13	38.0307
856.28	0.0000
856.80	48.4596
860.37	43.6758
867.32	41.0581
867.82	41.0658
871.10	40.2048
873.19	46.6396
874.81	49.4134
875.33	0.0000
876.40	54.0233
879.36	45.8350
880.27	51.3529
880.51	51.3577
881.50	46.7903
883.24	59.6743
884.67	44.0918
889.25	49.6903
896.60	51.6770
898.02	50.7810
899.00	49.8762
903.28	55.5088
911.07	54.1264
911.07	54.1264
911.07	54.1264
919.63	59.5750
920.93	52.1527
925.00	41.0395
925.24	44.7750
926.50	44.7961
935.52	39.3268
937.48	59.0333
944.10	42.2688
946.00	59.2178
949.00	58.3415
962.29	48.8525
964.01	47.3059
966.15	47.3413
968.20	47.3767
969.11	47.3926
969.11	47.3926
969.11	47.3926
977.42	33.8012
980.50	40.9224
983.50	46.6828
989.30	40.0948
996.32	37.3233
1001.03	39.3013
1001.68	44.1043
1004.76	54.7094
1021.30	0.0000
1024.50	0.0000
1034.80	42.6680
1036.00	41.7150
1037.82	31.0625
1038.57	33.9832
1038.76	0.0000
1045.16	32.1138
1046.59	33.1019
1048.07	38.9629

1050.47	44.8433
1050.47	44.8433
1062.04	38.1659
1063.62	40.1432
1076.63	27.5324
1077.35	33.4405
1078.86	37.3933
1085.78	44.3804
1099.22	45.5643
1112.02	43.7615
1112.84	40.9003
1115.52	56.4232
1120.29	43.8775
1120.29	43.8775
1120.29	43.8775
1120.29	43.8775
1120.51	43.8797
1121.28	43.8904
1124.00	0.0000
1129.67	35.0051
1131.51	0.0000
1147.95	0.0000
1167.94	51.6151
1173.22	49.6699
1175.09	54.7699
1177.93	54.8174
1189.05	56.0205
1204.90	50.1460
1205.75	0.0000
1213.00	52.3173
1221.42	45.2482
1230.97	51.5625
1235.34	53.3494
1236.41	0.0000
1238.25	40.3044
1246.25	50.0656
1260.41	0.0000
1271.85	38.6079
1274.45	41.7695
1274.54	41.7695
1291.56	31.4780
1298.22	0.0000
1312.09	33.7687
1325.50	26.4795
1325.50	26.4795
1332.49	27.5907
1333.61	31.8457
1360.21	22.4520
1362.66	0.0000
1365.15	34.2578
1368.21	20.2382
1368.53	0.0000
1376.25	25.7695
1384.27	14.3464
1394.10	20.4964
1395.20	19.4238
1407.95	24.9013
1434.06	29.4297
1436.60	25.0855
1457.56	0.0000
1460.81	17.5586
1489.15	23.0245
1509.49	13.8843
1596.49	18.9006
1620.62	19.9567
1678.03	0.0000
1691.02	10.6204
1691.02	10.6204
1706.46	0.0000
1750.46	0.0000
1764.49	15.6966
1764.49	15.6966
1764.49	15.6966
1764.49	15.6966
1770.23	13.4710
1771.40	76.6353
1791.20	0.0000
1808.65	10.8926

1836.01 8.9626

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244137003

Total Uranium Activity	4.7426E+00	ug/g
Total Uranium Counting Unc.	3.7224E+00	ug/g
Total Uranium Tpu	1.8992E-06	ug/g
Total Uranium Mda	2.1532E+00	ug/g

```
*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                           *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 940263                    SAMPLE ID  : G244137003       *
*   ANALYST       : MXR1                      DETECTOR   : GAM11            *
*   SAMPLE DATE   :  4-JAN-2010 12:00:00.00   COUNT TIME :    0 02:00:00.00 *
*   ANALYSIS DATE: 20-JAN-2010 13:43:42.87    SAMPLE ALQT:  134.090 GRAM    *
*                                                                           *
*****************************************************************************


        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 8.848E+00
        GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.222E+00
        GROSS GAMMA MDA     (pCi/GRAM  )  : 3.066E+00
        GROSS GAMMA DLC     (pCi/GRAM  )  : 1.481E+00
```

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:46:47.82

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137004.CNF;1
Sample date       : 4-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:44:08
Sample ID         : G244137004           Sample quantity  : 1.23280E+02 GRAM
Detector name     : GAM15                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.19  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 940263               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	4	74.20	304	445	1.72	148.88	144	15	4.22E-02	14.9	1.41E+00
2	4	76.49*	438	352	1.36	153.46	144	15	6.08E-02	9.5	
3	0	92.62*	89	517	1.28	185.72	180	10	1.23E-02	52.8	
4	0	185.38*	210	341	1.57	371.15	365	12	2.92E-02	19.8	
5	0	208.71	99	212	1.13	417.79	415	8	1.37E-02	27.4	
6	3	238.00*	1042	176	1.33	476.34	468	21	1.45E-01	4.0	8.27E-01
7	3	240.99	306	264	1.94	482.31	468	21	4.25E-02	15.5	
8	1	269.50	115	115	1.70	539.31	535	27	1.60E-02	18.1	2.41E+00
9	1	277.00	77	124	1.70	554.31	535	27	1.07E-02	30.9	
10	4	294.57*	341	116	1.30	589.44	585	22	4.74E-02	7.9	1.05E+00
11	4	299.31	117	193	2.30	598.90	585	22	1.63E-02	27.5	
12	0	327.00	55	226	0.76	654.27	649	13	7.66E-03	57.6	
13	0	337.66	219	144	1.58	675.59	671	9	3.04E-02	12.0	
14	0	351.17*	525	221	1.63	702.60	694	17	7.29E-02	8.0	
15	0	510.07*	98	138	1.90	1020.28	1011	19	1.36E-02	34.5	
16	0	582.45*	335	92	1.43	1164.99	1157	16	4.65E-02	8.7	
17	0	608.77*	385	132	1.50	1217.61	1211	16	5.35E-02	8.6	
18	0	660.97	89	47	1.33	1321.98	1318	9	1.24E-02	17.3	
19	0	726.75*	101	51	1.78	1453.50	1447	13	1.41E-02	18.0	
20	0	859.68*	50	51	1.62	1719.28	1712	12	7.01E-03	32.1	
21	0	910.62*	228	47	1.93	1821.14	1814	14	3.17E-02	9.4	
22	0	969.05*	120	92	1.68	1937.98	1929	17	1.67E-02	22.2	
23	0	1119.75*	81	64	2.00	2239.31	2231	20	1.12E-02	27.3	
24	0	1460.07*	691	17	2.26	2919.86	2913	17	9.60E-02	4.1	
25	0	1586.76	26	7	2.36	3173.22	3167	14	3.59E-03	29.3	
26	0	1764.09*	35	16	0.83	3527.87	3521	13	4.92E-03	30.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JAN-2010 15:46:51

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137004.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 4-JAN-2010 12:00:00 Acquisition date : 20-JAN-2010 13:44:08
Sample ID : G244137004 Sample quantity : 123.28 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.19 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.974E+01	2.211E+00	6.704E-01	5.125E-02	29.444
CS-135	+	268.24	*	5.654E-01	2.102E-01	3.141E-01	2.685E-02	1.800
BA-137M	+	661.65	*	1.492E-01	5.220E-02	7.300E-02	3.673E-03	2.044
CS-137	+	661.65	*	1.578E-01	5.519E-02	7.717E-02	3.904E-03	2.044
TL-208	+	277.35		9.110E-01	5.727E-01	6.745E-01	7.558E-02	1.351
	+	510.84		5.603E-01	3.913E-01	2.603E-01	2.620E-02	2.153
	+	583.14	*	5.433E-01	1.010E-01	6.608E-02	4.207E-03	8.222
	+	860.37		7.645E-01	4.958E-01	5.876E-01	5.050E-02	1.301
BI-211	+	72.87		2.315E+01	7.380E+00	7.070E+00	7.883E-01	3.274
	+	351.07	*	3.852E+00	6.705E-01	3.941E-01	2.708E-02	9.775
PB-212	+	74.81		2.748E+00	9.129E-01	7.869E-01	1.143E-01	3.492
	+	77.11		2.170E+00	4.772E-01	4.147E-01	4.605E-02	5.232
		87.30		1.114E+00	6.532E-01	9.718E-01	1.482E-01	1.146
	+	238.63	*	1.685E+00	1.950E-01	1.103E-01	9.129E-03	15.279
	+	300.09		2.914E+00	1.621E+00	1.550E+00	1.391E-01	1.879
PO-212	+	74.81		2.748E+00	9.129E-01	7.869E-01	1.143E-01	3.492
	+	77.11		2.170E+00	4.772E-01	4.147E-01	4.605E-02	5.232
		87.30		1.114E+00	6.532E-01	9.718E-01	1.482E-01	1.146
		115.19		6.472E-01	4.477E+00	7.352E+00	5.625E-01	0.088
	+	238.63	*	1.685E+00	1.950E-01	1.103E-01	9.129E-03	15.279
	+	300.09		2.914E+00	1.621E+00	1.550E+00	1.391E-01	1.879
BI-214	+	609.31	*	1.175E+00	2.194E-01	1.257E-01	9.336E-03	9.344
	+	1120.29		1.289E+00	7.143E-01	5.106E-01	4.711E-02	2.525
	+	1764.49		7.741E-01	4.797E-01	2.995E-01	1.864E-02	2.585
PB-214	+	74.81		4.734E+00	1.550E+00	1.356E+00	1.811E-01	3.492
	+	77.11		3.720E+00	8.658E-01	7.109E-01	9.574E-02	5.232
		87.30		1.908E+00	1.112E+00	1.665E+00	2.308E-01	1.146
	+	241.98		2.974E+00	9.589E-01	6.672E-01	5.964E-02	4.458
	+	295.21		1.491E+00	2.731E-01	2.718E-01	2.514E-02	5.486
	+	351.92	*	1.340E+00	2.435E-01	1.374E-01	1.184E-02	9.756
PO-214	+	74.81		4.734E+00	1.550E+00	1.356E+00	1.811E-01	3.492
	+	77.11		3.720E+00	8.658E-01	7.109E-01	9.574E-02	5.232
		87.30		1.908E+00	1.112E+00	1.665E+00	2.308E-01	1.146
	+	241.98		2.974E+00	9.589E-01	6.672E-01	5.964E-02	4.458

Sample ID : G244137004 Acquisition date : 20-JAN-2010 13:44:08

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	295.21		1.491E+00	2.731E-01	2.718E-01	2.514E-02	5.486
	+	351.92	*	1.340E+00	2.435E-01	1.374E-01	1.184E-02	9.756
PO-216	+	74.81		2.748E+00	9.129E-01	7.869E-01	1.143E-01	3.492
	+	77.11		2.170E+00	4.772E-01	4.147E-01	4.605E-02	5.232
		87.30		1.114E+00	6.532E-01	9.718E-01	1.482E-01	1.146
	+	238.63	*	1.685E+00	1.950E-01	1.103E-01	9.129E-03	15.279
	+	300.09		2.914E+00	1.621E+00	1.550E+00	1.391E-01	1.879
PO-218	+	74.81		4.734E+00	1.550E+00	1.356E+00	1.811E-01	3.492
	+	77.11		3.720E+00	8.658E-01	7.109E-01	9.574E-02	5.232
		87.30		1.908E+00	1.112E+00	1.665E+00	2.308E-01	1.146
	+	241.98		2.974E+00	9.589E-01	6.672E-01	5.964E-02	4.458
	+	295.21		1.491E+00	2.731E-01	2.718E-01	2.514E-02	5.486
	+	351.92	*	1.340E+00	2.435E-01	1.374E-01	1.184E-02	9.756
RA-224	+	240.98	*	5.640E+00	1.790E+00	1.255E+00	8.734E-02	4.495
RA-226	+	609.31	*	1.175E+00	2.194E-01	1.257E-01	9.336E-03	9.344
	+	1120.29		1.289E+00	7.143E-01	5.106E-01	4.711E-02	2.525
	+	1764.49		7.741E-01	4.797E-01	2.995E-01	1.864E-02	2.585
AC-228	+	338.32		1.773E+00	8.397E-01	4.751E-01	1.941E-01	3.731
	+	911.07	*	1.636E+00	3.578E-01	1.982E-01	2.203E-02	8.256
	+	969.11		1.526E+00	7.630E-01	4.986E-01	1.153E-01	3.061
RA-228	+	338.32		1.773E+00	8.397E-01	4.751E-01	1.941E-01	3.731
	+	911.07	*	1.636E+00	3.578E-01	1.982E-01	2.203E-02	8.256
	+	969.11		1.526E+00	7.630E-01	4.986E-01	1.153E-01	3.061
TH-228	+	74.81		2.792E+00	8.907E-01	7.996E-01	8.930E-02	3.492
	+	77.11		2.205E+00	4.849E-01	4.214E-01	4.680E-02	5.232
		87.30		1.132E+00	6.541E-01	9.875E-01	1.138E-01	1.146
	+	238.63	*	1.712E+00	1.982E-01	1.121E-01	9.277E-03	15.279
	+	300.09		2.961E+00	2.387E+00	1.575E+00	9.302E-01	1.879
TH-230	+	609.31	*	1.175E+00	2.194E-01	1.257E-01	9.336E-03	9.344
	+	1120.29		1.289E+00	7.143E-01	5.106E-01	4.711E-02	2.525
	+	1764.49		7.740E-01	4.797E-01	2.995E-01	1.864E-02	2.585
TH-232	+	338.32		1.773E+00	4.398E-01	4.751E-01	3.058E-02	3.731
	+	911.07	*	1.636E+00	3.578E-01	1.982E-01	2.203E-02	8.256
	+	969.11		1.526E+00	7.630E-01	4.986E-01	1.153E-01	3.061
U-234	+	609.31	*	1.175E+00	2.194E-01	1.257E-01	9.336E-03	9.344
	+	1120.29		1.289E+00	7.143E-01	5.106E-01	4.711E-02	2.525
	+	1764.49		7.740E-01	4.797E-01	2.995E-01	1.864E-02	2.585
AM-243	+	74.67	*	4.455E-01	1.420E-01	1.282E-01	1.425E-02	3.474
		86.72		1.226E+01	1.535E+01	2.267E+01	2.602E+00	0.541
		117.66		8.710E-01	4.800E+00	7.889E+00	5.893E-01	0.110
		142.18		-2.994E+00	2.319E+01	3.684E+01	2.510E+00	-0.081
ANH-511	+	511.00	*	1.210E-01	8.391E-02	5.624E-02	3.176E-03	2.152

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	1.923E-02	3.947E-01	6.473E-01	4.313E-02	0.030
NA-22		1274.54	*	-2.719E-02	4.710E-02	7.053E-02	4.841E-03	-0.385

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-24		1368.53	*	-3.533E-01	4.710E-02	Half-Life too short		
AL-26		1129.67		6.380E-02	2.082E+00	3.048E+00	1.920E-01	0.021
		1808.65	*	-1.226E-02	2.843E-02	4.148E-02	2.482E-03	-0.296
TI-44		67.85		-1.055E-02	7.726E-02	1.229E-01	1.403E-02	-0.086
		78.38	*	1.983E-01	6.270E-02	9.645E-02	1.072E-02	2.056
SC-46		889.25	*	-2.186E-02	4.526E-02	7.130E-02	5.981E-03	-0.307
	+	1120.51		2.225E-01	1.224E-01	1.411E-01	9.061E-03	1.576
V-48		944.10		-3.111E-01	1.035E+00	1.653E+00	1.359E-01	-0.188
		983.50	*	4.015E-02	7.041E-02	1.235E-01	9.757E-03	0.325
		1312.09		-8.768E-02	8.600E-02	1.165E-01	8.505E-03	-0.753
CR-51		320.08	*	3.367E-01	5.097E-01	8.326E-01	6.005E-02	0.404
MN-52		744.21		5.880E-02	2.986E-01	5.073E-01	3.112E-02	0.116
		848.13		1.961E+00	8.925E+00	1.510E+01	1.164E+00	0.130
		935.52		3.556E-01	3.411E-01	6.124E-01	5.073E-02	0.581
		1246.25		-4.040E+00	1.064E+01	1.663E+01	1.084E+00	-0.243
		1333.61		-3.450E+00	6.168E+00	9.115E+00	6.879E-01	-0.379
		1434.06	*	6.873E-02	2.584E-01	4.495E-01	3.333E-02	0.153
MN-54		834.83	*	1.542E-02	4.287E-02	7.333E-02	5.496E-03	0.210
CO-56		846.75	*	2.000E-02	4.754E-02	8.170E-02	6.279E-03	0.245
		977.42		1.898E+00	2.681E+00	4.547E+00	3.616E-01	0.417
		1037.82		2.435E-01	3.221E-01	5.718E-01	4.525E-02	0.426
		1175.09		6.584E-01	2.684E+00	4.441E+00	2.538E-01	0.148
		1238.25		1.470E-01	1.147E-01	2.045E-01	1.382E-02	0.719
		1360.21		-2.874E-01	1.165E+00	1.811E+00	1.362E-01	-0.159
		1771.40		-4.583E-01	2.907E-01	3.163E-01	1.957E-02	-1.449
CO-57		122.06	*	-1.023E-02	3.191E-02	5.129E-02	3.688E-03	-0.200
		136.48		-4.418E-02	2.583E-01	4.164E-01	3.196E-02	-0.106
CO-58		810.76	*	-3.292E-02	4.524E-02	7.012E-02	5.009E-03	-0.469
FE-59		142.65		6.342E-01	3.590E+00	5.770E+00	3.929E-01	0.110
		192.34		5.303E-01	1.289E+00	2.071E+00	2.553E-01	0.256
		1099.22	*	-4.680E-02	1.061E-01	1.651E-01	1.250E-02	-0.283
		1291.56		2.186E-02	1.418E-01	2.336E-01	1.971E-02	0.094
CO-60		1173.22		-1.372E-02	5.434E-02	8.559E-02	4.875E-03	-0.160
		1332.49	*	-4.872E-03	4.259E-02	6.761E-02	5.103E-03	-0.072
ZN-65		1115.52	*	1.479E-02	1.189E-01	1.693E-01	1.100E-02	0.087
GE-68		1077.35	*	9.749E-01	1.452E+00	2.533E+00	1.760E-01	0.385
AS-73		53.44	*	1.235E+00	2.133E+00	3.623E+00	4.951E-01	0.341
AS-74		595.88	*	5.449E-02	1.203E-01	1.966E-01	1.057E-02	0.277
		634.78		-9.355E-02	4.230E-01	6.672E-01	3.460E-02	-0.140
SE-75		66.05		-6.906E+00	8.305E+00	1.312E+01	1.702E+00	-0.526
		96.73		1.102E-01	1.083E+00	1.566E+00	2.246E-01	0.070
		121.11		-8.999E-03	1.728E-01	2.810E-01	2.866E-02	-0.032
		136.00		-6.118E-03	4.867E-02	7.862E-02	5.475E-03	-0.078
		198.60		1.323E+00	2.411E+00	3.885E+00	3.101E-01	0.341
		264.65	*	6.025E-02	5.789E-02	9.070E-02	6.344E-03	0.664
		279.53		6.702E-03	1.453E-01	2.121E-01	1.548E-02	0.032
		303.91		9.210E-01	2.917E+00	4.327E+00	4.392E-01	0.213
		400.65		-1.390E-01	3.509E-01	5.466E-01	4.936E-02	-0.254
BR-77		87.88		8.207E+02	4.063E+02	6.154E+02	7.116E+01	1.334

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		200.40		-3.585E+01	2.814E+02	4.483E+02	3.063E+01	-0.080
	+	239.00		3.576E+02	3.815E+01	6.239E+01	4.341E+00	5.732
		249.79		-6.861E+01	1.073E+02	1.747E+02	1.216E+01	-0.393
		281.68		-1.914E+02	1.676E+02	2.219E+02	1.529E+01	-0.863
		297.23		2.980E+02	9.983E+01	1.833E+02	1.247E+01	1.626
		303.76		1.007E+02	3.263E+02	4.839E+02	3.271E+01	0.208
		439.47		2.870E+02	2.300E+02	4.075E+02	2.329E+01	0.704
		484.57		-1.943E+02	3.562E+02	5.570E+02	3.169E+01	-0.349
		520.65	*	-4.779E+00	1.620E+01	2.573E+01	1.448E+00	-0.186
		574.64		-4.677E+01	3.917E+02	5.397E+02	2.948E+01	-0.087
		578.91		6.615E+01	1.669E+02	2.427E+02	1.322E+01	0.273
		585.48		1.046E+03	3.353E+02	5.928E+02	3.213E+01	1.765
		755.35		-8.829E+01	2.422E+02	3.914E+02	2.463E+01	-0.226
		817.79		1.235E+02	2.002E+02	3.508E+02	2.535E+01	0.352
SR-82		698.33		4.411E+00	3.998E+01	6.760E+01	3.722E+00	0.065
		776.49	*	-6.338E-01	4.694E-01	6.892E-01	4.549E-02	-0.920
		1395.20		-2.417E+00	1.094E+01	1.767E+01	1.321E+00	-0.137
RB-83		520.41	*	-3.674E-02	8.172E-02	1.281E-01	7.209E-03	-0.287
		529.64		5.748E-02	1.292E-01	2.171E-01	1.217E-02	0.265
		552.65		-6.688E-02	2.391E-01	3.790E-01	2.099E-02	-0.176
RB-84		881.50	*	-8.874E-02	8.130E-02	1.191E-01	9.836E-03	-0.745
KR-85		513.99	*	1.327E+01	9.276E+00	1.488E+01	8.394E-01	0.892
SR-85		513.99	*	6.871E-02	4.804E-02	7.707E-02	4.347E-03	0.892
RB-86		1076.63	*	1.810E-01	1.003E+00	1.670E+00	1.162E-01	0.108
Y-88		898.02		-1.836E-02	4.715E-02	7.496E-02	6.431E-03	-0.245
		1836.01	*	3.017E-03	4.074E-02	6.788E-02	3.965E-03	0.044
ZR-88		392.90	*	-3.067E-02	3.916E-02	6.137E-02	3.481E-03	-0.500
Y-91		1204.90	*	8.819E+00	2.340E+01	3.933E+01	2.379E+00	0.224
NB-94		702.63	*	3.293E-02	3.959E-02	7.027E-02	3.909E-03	0.469
		871.10		1.096E-02	4.186E-02	7.094E-02	5.735E-03	0.154
NB-95		765.79	*	5.105E-02	5.358E-02	9.514E-02	6.131E-03	0.537
NB-95M		235.69	*	1.869E+00	2.755E-01	4.389E-01	3.709E-02	4.259
ZR-95		724.18		2.452E-01	1.362E-01	2.291E-01	1.582E-02	1.070
		756.15	*	5.351E-03	7.819E-02	1.313E-01	9.792E-03	0.041
NB-97		657.90	*	2.695E-01	7.819E-02	Half-Life too short		
		1024.50		-1.833E+00	7.819E-02	Half-Life too short		
ZR-97		254.15		1.316E+01	7.819E-02	Half-Life too short		
		355.39		1.151E+01	7.819E-02	Half-Life too short		
		507.63	*	2.892E+01	7.819E-02	Half-Life too short		
		602.52		-1.247E+00	7.819E-02	Half-Life too short		
		1021.30		1.185E+01	7.819E-02	Half-Life too short		
		1147.95		7.317E-01	7.819E-02	Half-Life too short		
		1362.66		-1.894E+01	7.819E-02	Half-Life too short		
		1750.46		1.066E+01	7.819E-02	Half-Life too short		
MO-99		140.51		-4.248E+01	4.352E+01	6.516E+01	1.772E+01	-0.652
		181.06		2.385E+00	3.049E+01	4.300E+01	7.515E+00	0.055
		366.43		3.130E+01	1.289E+02	2.165E+02	1.315E+01	0.145
		739.58	*	-1.193E+00	1.613E+01	2.679E+01	3.723E+00	-0.045
		778.00		-5.454E+01	5.119E+01	7.730E+01	5.120E+00	-0.706

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TC-99M		140.51	*	-6.802E+11	5.119E+01	Half-Life too short		
RH-101		127.23		4.012E-02	4.048E-02	6.832E-02	4.814E-03	0.587
		198.01	*	7.080E-03	4.468E-02	7.087E-02	4.835E-03	0.100
		325.23		7.114E-02	3.384E-01	4.961E-01	3.262E-02	0.143
RH-102		418.52		5.001E-02	3.560E-01	5.907E-01	3.370E-02	0.085
		475.06	*	2.875E-02	3.509E-02	6.063E-02	3.456E-03	0.474
		631.29		2.198E-02	6.387E-02	1.060E-01	5.516E-03	0.207
		697.49		-4.212E-02	8.693E-02	1.402E-01	7.703E-03	-0.300
		766.84		1.004E-01	1.385E-01	2.421E-01	1.564E-02	0.415
		1046.59		3.103E-02	1.262E-01	2.122E-01	1.547E-02	0.146
		1112.84		2.711E-01	2.663E-01	4.312E-01	2.811E-02	0.629
RU-103		497.08	*	4.724E-02	5.022E-02	8.693E-02	1.094E-02	0.543
		610.33		1.353E+01	2.608E+00	3.425E+00	5.220E-01	3.950
RH-106		511.85		1.292E+00	2.595E-01	5.027E-01	2.838E-02	2.571
		621.84	*	1.031E-01	3.817E-01	6.291E-01	7.221E-02	0.164
		1050.47		3.071E-01	2.564E+00	4.256E+00	3.085E-01	0.072
RU-106		511.85		1.292E+00	2.595E-01	5.027E-01	2.838E-02	2.571
		621.84	*	1.031E-01	3.815E-01	6.291E-01	3.306E-02	0.164
		1050.47		3.071E-01	2.564E+00	4.256E+00	3.085E-01	0.072
AG-108M		433.93	*	-4.350E-02	3.996E-02	6.040E-02	3.755E-03	-0.720
		614.37		1.215E-02	5.121E-02	7.324E-02	4.267E-03	0.166
		722.95		4.672E-02	5.010E-02	8.026E-02	5.077E-03	0.582
CD-109		88.03	*	3.366E+00	1.408E+00	2.154E+00	2.491E-01	1.562
AG-110M		657.75	*	3.185E-02	5.156E-02	7.635E-02	4.184E-03	0.417
		677.61		-9.548E-02	3.917E-01	6.153E-01	3.461E-02	-0.155
		706.67		-4.053E-02	2.508E-01	4.153E-01	2.481E-02	-0.098
		763.93		-1.429E-01	2.039E-01	3.218E-01	2.169E-02	-0.444
		884.67		3.900E-02	5.321E-02	9.428E-02	8.106E-03	0.414
		937.48		-1.784E-01	1.377E-01	1.975E-01	1.697E-02	-0.903
		1384.27		1.189E-01	1.696E-01	3.097E-01	2.407E-02	0.384
IN-111		171.28		4.693E-02	1.563E+00	2.523E+00	1.684E-01	0.019
		245.39	*	8.723E-01	1.753E+00	2.654E+00	1.848E-01	0.329
IN-113M		391.69	*	-5.594E-03	5.605E-02	9.188E-02	5.574E-03	-0.061
SN-113		391.69	*	-5.594E-03	5.605E-02	9.188E-02	5.574E-03	-0.061
IN-114M		190.27	*	5.897E-02	2.719E-01	3.859E-01	2.617E-02	0.153
CD-115		260.90		-1.338E+02	2.183E+02	3.551E+02	2.468E+01	-0.377
		492.35		-3.013E+01	6.089E+01	9.570E+01	5.435E+00	-0.315
		527.90	*	5.132E+00	1.855E+01	3.077E+01	1.726E+00	0.167
SN-117M		156.02		1.798E+00	3.034E+00	5.022E+00	3.366E-01	0.358
		158.56	*	-9.594E-02	7.419E-02	1.126E-01	7.528E-03	-0.852
SB-122		563.90	*	-2.686E+00	3.338E+00	5.068E+00	2.788E-01	-0.530
		692.80		1.060E+01	5.949E+01	1.013E+02	5.500E+00	0.105
I-123		159.00	*	-3.658E+01	5.949E+01	Half-Life too short		
		528.96		2.525E+02	5.949E+01	Half-Life too short		
TE-123M		159.00	*	-5.416E-02	3.710E-02	5.580E-02	3.767E-03	-0.971
I-124		602.71	*	-5.192E-01	1.052E+00	1.377E+00	7.364E-02	-0.377
		722.78		5.141E+00	6.082E+00	9.668E+00	5.641E-01	0.532
		1325.50		-4.806E+01	5.031E+01	7.075E+01	5.280E+00	-0.679
		1376.25		3.071E+01	4.147E+01	7.310E+01	5.485E+00	0.420

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		1509.49		1.504E+01	2.586E+01	4.436E+01	3.213E+00	0.339
		1691.02		-2.468E+00	5.352E+00	8.438E+00	5.554E-01	-0.292
SB-124		602.71		-2.604E-02	5.277E-02	6.908E-02	3.695E-03	-0.377
		645.85		-2.422E-01	5.996E-01	9.290E-01	5.531E-02	-0.261
		709.31		-1.743E-01	3.177E+00	5.301E+00	2.996E-01	-0.033
		713.82		1.114E-01	1.813E+00	3.052E+00	3.101E-01	0.036
		722.78		3.738E-01	4.422E-01	7.029E-01	4.293E-02	0.532
	+	968.20		1.589E+01	7.155E+00	8.338E+00	6.695E-01	1.905
		1045.16		-9.593E-01	2.813E+00	4.382E+00	3.201E-01	-0.219
		1325.50		-3.732E+00	3.907E+00	5.494E+00	4.100E-01	-0.679
		1368.21		-2.049E-01	2.174E+00	3.458E+00	4.424E-01	-0.059
		1436.60		-5.120E-01	3.546E+00	5.776E+00	4.280E-01	-0.089
		1691.02	*	-4.233E-02	9.179E-02	1.447E-01	1.016E-02	-0.292
SB-125		427.89	*	-4.555E-02	1.071E-01	1.705E-01	1.016E-02	-0.267
		463.38		6.784E-01	3.645E-01	6.586E-01	4.403E-02	1.030
		600.56		-1.948E-01	2.220E-01	3.072E-01	1.944E-02	-0.634
		635.90		-8.276E-02	3.097E-01	4.862E-01	3.049E-02	-0.170
TE-125M		109.28	*	-4.976E+00	1.173E+01	1.883E+01	1.872E+00	-0.264
I-126		388.63		4.633E-01	2.648E-01	4.798E-01	2.746E-02	0.966
		666.33	*	1.865E-01	2.543E-01	3.832E-01	1.950E-02	0.487
		753.82		-2.430E-02	1.617E+00	2.697E+00	1.691E-01	-0.009
SB-126		223.80		2.863E+00	5.648E+00	9.225E+00	6.391E-01	0.310
		278.60		4.744E+00	3.363E+00	5.375E+00	3.709E-01	0.883
		296.50		1.252E+01	2.446E+00	4.548E+00	3.097E-01	2.753
		414.70		-5.663E-02	9.747E-02	1.541E-01	8.788E-03	-0.367
		415.30		-3.694E+00	8.058E+00	1.285E+01	7.327E-01	-0.287
		555.20		-6.774E-01	5.029E+00	8.068E+00	4.462E-01	-0.084
		573.80		-8.498E-01	1.494E+00	2.159E+00	1.180E-01	-0.394
		593.00		-5.632E-02	1.197E+00	1.927E+00	1.038E-01	-0.029
		656.30		3.655E+00	4.661E+00	7.083E+00	3.586E-01	0.516
		666.33		7.809E-02	1.065E-01	1.605E-01	8.168E-03	0.487
		675.00		-1.615E+00	2.614E+00	3.964E+00	2.061E-01	-0.407
		695.00		-4.593E-02	9.371E-02	1.511E-01	8.254E-03	-0.304
		697.00		-2.585E-01	3.205E-01	5.026E-01	2.758E-02	-0.514
		720.50	*	-3.047E-02	1.972E-01	2.795E-01	1.622E-02	-0.109
		856.80		5.462E-01	6.785E-01	1.062E+00	8.333E-02	0.514
		989.30		-5.430E-01	1.379E+00	2.165E+00	1.699E-01	-0.251
		1034.80		-1.123E+00	9.918E+00	1.606E+01	1.191E+00	-0.070
		1213.00		-2.555E+00	6.395E+00	9.925E+00	6.093E-01	-0.257
SN-126		64.28		1.851E-01	8.727E-01	1.442E+00	2.472E-01	0.128
		86.94		5.559E-01	6.228E-01	8.618E-01	3.624E-01	0.645
		87.57	*	2.716E-01	1.400E-01	2.119E-01	2.445E-02	1.282
SB-127		61.10		8.570E+01	1.281E+02	2.170E+02	3.093E+01	0.395
		252.40		2.480E+00	6.543E+00	1.104E+01	4.616E+00	0.225
		290.80		7.146E+00	3.393E+01	5.007E+01	5.096E+00	0.143
		411.60		-1.075E+01	1.769E+01	2.786E+01	4.056E+00	-0.386
		444.90		-8.993E-01	1.455E+01	2.376E+01	2.624E+00	-0.038
		473.00		-1.540E+00	2.507E+00	3.910E+00	4.463E-01	-0.394
		543.00		2.918E+00	2.215E+01	3.636E+01	4.746E+00	0.080

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		603.60		-2.407E+00	1.743E+01	2.384E+01	2.581E+00	-0.101
		685.20	*	5.976E-01	1.940E+00	3.330E+00	3.163E-01	0.179
		698.50		8.192E+00	2.037E+01	3.515E+01	5.127E+00	0.233
		722.20		1.189E+01	4.263E+01	6.366E+01	6.064E+00	0.187
		783.80		6.674E+00	5.008E+00	9.118E+00	1.045E+00	0.732
XE-127		57.60		-3.313E+00	1.322E+01	2.173E+01	2.768E+00	-0.152
		145.22		2.127E-01	9.222E-01	1.508E+00	1.023E-01	0.141
		172.10		-2.941E-02	1.492E-01	2.382E-01	1.591E-02	-0.124
		202.84	*	-6.291E-02	6.345E-02	9.354E-02	6.404E-03	-0.673
		374.96		8.439E-02	2.498E-01	4.212E-01	2.504E-02	0.200
I-131		80.18		-1.303E+01	7.953E+00	1.034E+01	1.159E+00	-1.260
		284.30		2.467E+00	2.136E+00	3.484E+00	2.592E-01	0.708
		364.48	*	-7.884E-02	1.490E-01	2.381E-01	1.608E-02	-0.331
		636.97		-1.596E+00	1.891E+00	2.792E+00	1.662E-01	-0.572
		722.89		8.240E+00	9.134E+00	1.460E+01	8.653E-01	0.565
TE-132		49.72		-8.956E+01	7.400E+01	1.149E+02	1.745E+01	-0.780
		111.76		-4.007E+01	4.617E+01	7.179E+01	7.598E+00	-0.558
		116.30		2.386E+01	4.245E+01	7.076E+01	7.301E+00	0.337
		228.16	*	-1.525E-01	1.017E+00	1.702E+00	2.562E-01	-0.090
BA-133		53.15		5.986E+00	9.213E+00	1.569E+01	2.150E+00	0.382
		79.62		-2.465E+00	2.072E+00	2.756E+00	4.625E-01	-0.894
		81.00		-1.936E-01	1.551E-01	2.047E-01	3.562E-02	-0.946
	+	276.40		9.005E-01	5.701E-01	8.123E-01	1.096E-01	1.109
		302.84		-4.930E-03	1.993E-01	2.884E-01	3.509E-02	-0.017
		356.01	*	3.993E-02	5.872E-02	8.906E-02	1.049E-02	0.448
		383.85		-4.065E-01	3.606E-01	5.462E-01	5.939E-02	-0.744
I-133	+	510.53		2.644E+00	3.606E-01	Half-Life too short		
		529.87	*	2.713E-03	3.606E-01	Half-Life too short		
		706.58		-1.639E-01	3.606E-01	Half-Life too short		
		856.28		6.621E-01	3.606E-01	Half-Life too short		
		875.33		4.077E-02	3.606E-01	Half-Life too short		
		1236.41		1.286E+00	3.606E-01	Half-Life too short		
		1298.22		-4.989E-02	3.606E-01	Half-Life too short		
CS-134		475.35		2.253E+00	2.298E+00	4.010E+00	2.285E-01	0.562
		563.23		-2.964E-02	4.389E-01	7.075E-01	3.985E-02	-0.042
		569.32		1.359E-01	2.435E-01	4.108E-01	2.327E-02	0.331
		604.70		1.859E-02	4.502E-02	6.560E-02	3.524E-03	0.283
		795.84	*	7.887E-02	5.410E-02	9.982E-02	6.956E-03	0.790
		801.93		-2.091E-01	4.695E-01	7.523E-01	5.298E-02	-0.278
		1038.57		8.169E-01	4.043E+00	6.781E+00	5.001E-01	0.120
		1167.94		7.363E-01	2.804E+00	4.689E+00	2.706E-01	0.157
		1365.15		-2.852E-01	1.405E+00	2.195E+00	1.749E-01	-0.130
I-135		288.45		-5.328E+11	1.405E+00	Half-Life too short		
		417.63		2.238E+11	1.405E+00	Half-Life too short		
		546.56		-2.640E+10	1.405E+00	Half-Life too short		
		836.80		1.933E+11	1.405E+00	Half-Life too short		
		1038.76		2.843E+10	1.405E+00	Half-Life too short		
		1124.00		-6.861E+10	1.405E+00	Half-Life too short		
		1131.51		4.431E+09	1.405E+00	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1260.41	*	-1.919E+09	1.405E+00	Half-Life too short		
		1457.56		7.960E+12	1.405E+00	Half-Life too short		
		1678.03		6.258E+08	1.405E+00	Half-Life too short		
		1706.46		-9.425E+10	1.405E+00	Half-Life too short		
		1791.20		-5.672E+10	1.405E+00	Half-Life too short		
CS-136		66.91		-1.248E+00	1.399E+00	2.193E+00	3.772E-01	-0.569
		86.29		1.224E+00	1.827E+00	2.819E+00	4.199E-01	0.434
		153.22		1.238E-01	8.952E-01	1.456E+00	1.162E-01	0.085
		163.89		1.571E+00	1.421E+00	2.394E+00	1.905E-01	0.656
		176.55		5.418E-02	4.775E-01	7.728E-01	5.667E-02	0.070
		273.65		6.322E-01	5.383E-01	9.501E-01	7.236E-02	0.665
		340.57		3.008E-01	1.956E-01	3.107E-01	2.096E-02	0.968
		818.51		1.276E-02	9.005E-02	1.516E-01	1.099E-02	0.084
		1048.07	*	5.527E-02	1.246E-01	2.137E-01	1.647E-02	0.259
		1235.34		6.977E-01	7.755E-01	1.346E+00	1.392E-01	0.518
CE-139		165.85	*	-1.072E-02	3.794E-02	6.044E-02	4.020E-03	-0.177
BA-140		162.64		1.072E+00	9.977E-01	1.680E+00	1.227E-01	0.638
		304.84		4.768E-01	1.896E+00	2.793E+00	7.684E-01	0.171
		423.70		-7.057E-01	2.434E+00	3.905E+00	1.240E+00	-0.181
		537.32	*	-1.276E-01	3.294E-01	5.143E-01	1.671E-01	-0.248
LA-140		328.77		9.054E-01	4.536E-01	7.399E-01	5.302E-02	1.224
		432.53		-2.660E-01	2.560E+00	4.172E+00	2.640E-01	-0.064
		487.03		7.027E-02	1.718E-01	2.889E-01	1.868E-02	0.243
		751.79		-8.214E-01	1.923E+00	3.086E+00	2.303E-01	-0.266
		815.85		3.169E-01	3.867E-01	6.878E-01	5.751E-02	0.461
		867.82		9.766E-01	1.807E+00	3.130E+00	2.666E-01	0.312
		919.63		-2.984E-01	3.148E+00	5.031E+00	5.266E-01	-0.059
		925.24		1.243E-01	1.275E+00	2.126E+00	1.895E-01	0.058
		1596.49	*	-3.213E-02	1.112E-01	1.686E-01	1.175E-02	-0.191
CE-141		145.44	*	-3.654E-03	8.352E-02	1.351E-01	9.431E-03	-0.027
CE-143		57.37		-5.157E-04	8.352E-02	Half-Life too short		
		231.56		-1.364E-03	8.352E-02	Half-Life too short		
	+	293.26	*	2.298E-03	8.352E-02	Half-Life too short		
	+	350.59		4.943E-02	8.352E-02	Half-Life too short		
		490.36		-4.870E-04	8.352E-02	Half-Life too short		
		664.57		2.769E-03	8.352E-02	Half-Life too short		
		721.93		4.108E-04	8.352E-02	Half-Life too short		
CE-144		80.11		-5.598E+00	3.381E+00	4.390E+00	4.897E-01	-1.275
		133.54	*	-5.693E-02	2.525E-01	4.062E-01	5.969E-02	-0.140
PM-144		476.78		1.876E-02	8.160E-02	1.356E-01	9.297E-03	0.138
		618.01		-3.283E-02	3.965E-02	5.726E-02	3.238E-03	-0.573
		696.49	*	-4.995E-02	4.027E-02	6.079E-02	3.335E-03	-0.822
		778.57		-6.754E-01	2.656E+00	4.332E+00	2.874E-01	-0.156
PR-144		696.49	*	-3.387E+00	2.730E+00	4.122E+00	2.259E-01	-0.822
		1489.15		-1.016E+01	1.302E+01	1.882E+01	1.373E+00	-0.540
PM-146		453.90	*	7.694E-03	5.516E-02	9.121E-02	7.811E-03	0.084
		633.02		-2.056E-01	1.572E+00	2.499E+00	9.179E-01	-0.082
		735.90		-6.594E-02	1.578E-01	2.521E-01	7.041E-02	-0.262
		747.13		2.990E-02	9.901E-02	1.697E-01	2.152E-02	0.176

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ND-147		91.11		-6.535E-02	5.161E-01	7.573E-01	8.613E-02	-0.086
		319.41		3.652E+00	4.645E+00	7.849E+00	5.207E-01	0.465
		439.89		6.486E+00	7.603E+00	1.316E+01	7.527E-01	0.493
		531.02	*	-9.367E-02	7.475E-01	1.204E+00	1.617E-01	-0.078
PM-149		285.90	*	1.516E+02	1.537E+02	2.669E+02	3.909E+01	0.568
EU-152		121.78		-3.065E-02	9.271E-02	1.489E-01	1.299E-02	-0.206
		244.69		3.197E-01	4.388E-01	6.731E-01	4.686E-02	0.475
		344.27	*	-1.675E-01	1.562E-01	1.906E-01	1.343E-02	-0.879
		443.98		2.848E-01	1.179E+00	1.966E+00	1.123E-01	0.145
		778.89		-2.082E-02	2.999E-01	4.970E-01	3.299E-02	-0.042
		867.32		5.203E-01	1.048E+00	1.775E+00	1.424E-01	0.293
		964.01		7.802E-01	4.314E-01	7.208E-01	5.812E-02	1.082
		1085.78		-2.851E-02	4.066E-01	6.596E-01	4.518E-02	-0.043
		1112.02		2.374E-01	3.793E-01	5.834E-01	3.809E-02	0.407
		1407.95		2.389E-01	2.293E-01	4.263E-01	3.180E-02	0.560
GD-153		69.67		1.927E+00	2.872E+00	4.306E+00	4.860E-01	0.447
		83.37		-4.583E+01	2.233E+01	3.273E+01	3.693E+00	-1.400
		97.43	*	4.579E-03	1.128E-01	1.625E-01	1.559E-02	0.028
		103.18		5.907E-02	1.360E-01	2.264E-01	1.992E-02	0.261
EU-154		123.07		2.114E-02	6.515E-02	1.075E-01	1.107E-02	0.197
		247.94		-6.127E-01	4.749E-01	6.925E-01	7.125E-02	-0.885
		591.81		-6.566E-02	7.242E-01	1.162E+00	1.108E-01	-0.057
		723.30		2.278E-01	2.302E-01	3.673E-01	2.614E-02	0.620
		756.87		1.461E-01	8.508E-01	1.441E+00	1.505E-01	0.101
		873.19		-1.997E-02	3.554E-01	5.859E-01	6.970E-02	-0.034
		996.32		-1.472E-01	4.278E-01	6.779E-01	1.178E-01	-0.217
		1004.76		-3.789E-01	2.419E-01	3.213E-01	3.529E-02	-1.179
		1274.45	*	-7.729E-02	1.315E-01	1.963E-01	1.969E-02	-0.394
EU-155		48.70		-3.577E+00	7.990E+00	1.305E+01	1.680E+00	-0.274
		60.01		-8.516E+00	9.833E+00	1.568E+01	1.917E+00	-0.543
		86.54		1.119E-01	1.676E-01	2.466E-01	2.844E-02	0.454
		105.31	*	2.605E-04	1.393E-01	2.280E-01	1.974E-02	0.001
TB-160		86.79		3.840E-01	4.528E-01	6.698E-01	7.692E-02	0.573
		197.04		-3.853E-01	7.709E-01	1.186E+00	8.086E-02	-0.325
		215.65		-2.447E-01	9.743E-01	1.537E+00	1.061E-01	-0.159
	+	298.57		4.279E-01	2.368E-01	2.656E-01	1.805E-02	1.611
		879.36	*	7.884E-03	1.519E-01	2.529E-01	2.080E-02	0.031
		962.29		5.386E-01	8.335E-01	1.259E+00	1.017E-01	0.428
		966.15		1.221E+00	3.842E-01	6.666E-01	5.364E-02	1.831
		1177.93		-1.371E-02	4.291E-01	6.961E-01	4.001E-02	-0.020
		1271.85		-4.075E-01	6.804E-01	1.004E+00	6.843E-02	-0.406
HO-166M		80.57		-5.936E-01	4.251E-01	5.631E-01	6.290E-02	-1.054
	+	184.41		1.782E-01	7.153E-02	9.041E-02	6.100E-03	1.971
		280.46		-1.186E-01	1.177E-01	1.577E-01	1.087E-02	-0.752
		410.95		1.494E-01	3.030E-01	5.135E-01	2.926E-02	0.291
		711.68	*	-5.381E-02	6.845E-02	1.071E-01	6.087E-03	-0.502
		752.31		-9.704E-02	2.900E-01	4.695E-01	2.934E-02	-0.207
		810.29		-5.034E-02	6.679E-02	1.032E-01	7.336E-03	-0.488
TM-171		51.35		-7.773E+01	8.710E+01	1.385E+02	1.914E+01	-0.561

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		52.39		9.512E+00	4.201E+01	7.058E+01	9.737E+00	0.135
		59.40		-7.356E+01	5.500E+01	8.531E+01	1.050E+01	-0.862
		66.72	*	-4.642E+01	4.825E+01	7.586E+01	8.723E+00	-0.612
LU-176		88.36		6.180E-01	3.169E-01	4.835E-01	5.548E-02	1.278
		201.83		-1.452E-02	3.723E-02	5.854E-02	4.005E-03	-0.248
		306.84	*	2.003E-02	3.349E-02	5.282E-02	3.558E-03	0.379
		401.10		-4.337E+00	9.192E+00	1.426E+01	8.108E-01	-0.304
LU-177		112.95		6.440E-01	2.259E+00	3.701E+00	2.897E-01	0.174
	+	208.36	*	3.124E+00	1.725E+00	2.674E+00	1.837E-01	1.168
LU-177M		52.97		2.825E+00	4.214E+00	7.180E+00	9.860E-01	0.393
		54.07		1.489E+00	2.120E+00	3.612E+00	4.896E-01	0.412
		61.30		8.066E-01	2.870E+00	4.766E+00	5.753E-01	0.169
		121.62		-1.516E-01	4.776E-01	7.678E-01	5.532E-02	-0.197
		147.16		1.882E-01	8.410E-01	1.375E+00	9.300E-02	0.137
		171.86		-2.419E-01	5.988E-01	9.463E-01	6.319E-02	-0.256
		218.09		-1.749E+00	1.144E+00	1.678E+00	1.160E-01	-1.042
	+	268.79		2.853E+00	1.051E+00	1.796E+00	1.245E-01	1.589
		319.02		1.889E-01	3.352E-01	5.738E-01	3.807E-02	0.329
		367.43		4.396E-01	1.107E+00	1.875E+00	1.136E-01	0.234
		413.65	*	-1.325E-01	2.201E-01	3.479E-01	1.983E-02	-0.381
HF-181		56.28		-1.148E-01	2.153E+00	3.572E+00	4.665E-01	-0.032
		57.53		-5.051E-02	1.103E+00	1.830E+00	2.334E-01	-0.028
		65.20		-9.846E-01	1.650E+00	2.640E+00	3.072E-01	-0.373
		133.02		-4.458E-02	8.485E-02	1.348E-01	9.349E-03	-0.331
		136.25		-6.631E-02	5.727E-01	9.254E-01	6.372E-02	-0.072
		345.85		-1.897E-01	2.834E-01	3.850E-01	2.444E-02	-0.493
		482.03	*	-1.635E-02	4.952E-02	7.879E-02	4.486E-03	-0.208
W-181		56.28		-4.523E-02	8.342E-01	1.384E+00	1.807E-01	-0.033
		57.53		-1.952E-02	4.278E-01	7.096E-01	9.051E-02	-0.028
		65.20	*	-3.788E-01	6.348E-01	1.016E+00	1.182E-01	-0.373
TA-182		67.75		-3.552E-02	1.855E-01	2.946E-01	3.363E-02	-0.121
		100.10		6.715E-02	2.294E-01	3.803E-01	3.497E-02	0.177
		152.43		-3.792E-01	4.493E-01	7.006E-01	4.711E-02	-0.541
		222.10		3.631E-01	4.617E-01	7.633E-01	5.284E-02	0.476
		1001.68		8.432E-01	2.305E+00	3.960E+00	3.063E-01	0.213
		1121.28		5.040E-01	2.060E-01	3.830E-01	2.455E-02	1.316
		1189.05		-3.070E-02	3.382E-01	5.447E-01	3.198E-02	-0.056
		1221.42	*	-2.559E-02	2.268E-01	3.641E-01	2.270E-02	-0.070
		1230.97		-3.693E-01	5.803E-01	8.746E-01	5.548E-02	-0.422
RE-183		57.98		-1.467E-01	4.225E-01	6.916E-01	8.744E-02	-0.212
		59.32		-3.024E-01	2.289E-01	3.554E-01	4.381E-02	-0.851
		67.20		-1.590E-01	3.296E-01	5.353E-01	6.134E-02	-0.297
		162.32	*	9.280E-02	1.408E-01	2.335E-01	1.556E-02	0.398
	+	208.81		2.569E+00	1.419E+00	2.211E+00	1.520E-01	1.162
		291.72		2.116E+00	1.337E+00	2.142E+00	1.465E-01	0.988
RE-184		57.98		-5.377E-01	1.548E+00	2.534E+00	3.204E-01	-0.212
		59.32		-1.107E+00	8.382E-01	1.301E+00	1.604E-01	-0.851
		67.20		-5.825E-01	1.207E+00	1.961E+00	2.247E-01	-0.297
		161.27		-9.368E-02	4.539E-01	7.263E-01	4.845E-02	-0.129

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		216.55		-1.730E-01	3.499E-01	5.452E-01	3.765E-02	-0.317
		252.85	*	2.017E-01	2.933E-01	5.075E-01	3.533E-02	0.398
		318.01		-1.491E-01	5.893E-01	9.679E-01	6.431E-02	-0.154
		792.07		8.682E-01	1.128E+00	1.993E+00	1.362E-01	0.436
		903.28		1.098E+00	1.292E+00	2.044E+00	1.738E-01	0.537
		920.93		1.268E-01	4.865E-01	8.249E-01	6.918E-02	0.154
OS-185		59.72		-6.632E-01	5.976E-01	9.399E-01	1.152E-01	-0.706
		61.14		2.167E-01	3.087E-01	5.240E-01	6.336E-02	0.413
		69.30		2.665E-01	5.260E-01	7.831E-01	8.857E-02	0.340
		592.07		8.320E-02	3.004E+00	4.868E+00	2.625E-01	0.017
		646.12	*	-2.879E-02	5.015E-02	7.635E-02	3.911E-03	-0.377
		717.42		4.619E-01	9.951E-01	1.729E+00	9.962E-02	0.267
		874.81		2.615E-02	6.975E-01	1.159E+00	9.444E-02	0.023
		880.27		3.725E-02	8.448E-01	1.405E+00	1.157E-01	0.027
RE-188		155.03	*	4.217E-01	2.223E-01	3.842E-01	2.577E-02	1.098
		477.96		1.055E+00	3.736E+00	6.229E+00	3.549E-01	0.169
		633.10		-4.193E-01	3.203E+00	5.097E+00	2.648E-01	-0.082
W-188		63.58		3.853E+01	9.581E+01	1.596E+02	1.885E+01	0.241
		227.08		-3.101E+00	1.580E+01	2.641E+01	1.832E+00	-0.117
		290.67	*	2.000E+00	9.981E+00	1.472E+01	1.007E+00	0.136
IR-192	+	295.96		1.147E+00	1.978E-01	3.522E-01	2.426E-02	3.258
		308.46		-1.746E-02	1.213E-01	2.006E-01	1.360E-02	-0.087
		316.51	*	-1.054E-02	4.593E-02	7.555E-02	5.049E-03	-0.139
		468.07		-1.635E-02	8.580E-02	1.385E-01	9.151E-03	-0.118
		604.41		1.548E-02	5.979E-01	8.349E-01	9.285E-02	0.019
		612.46		1.364E+00	9.813E-01	1.559E+00	1.122E-01	0.875
AU-195		65.12		-1.659E-01	2.944E-01	4.718E-01	5.495E-02	-0.352
		66.83		-1.476E-01	1.596E-01	2.515E-01	2.889E-02	-0.587
	+	75.70		1.922E+00	4.227E-01	6.619E-01	7.349E-02	2.904
		98.88	*	9.350E-02	2.847E-01	4.728E-01	4.431E-02	0.198
		129.76		4.092E+00	3.589E+00	6.084E+00	4.254E-01	0.673
TL-200		367.94	*	5.521E-04	3.589E+00	Half-Life too short		
		579.30		1.590E-02	3.589E+00	Half-Life too short		
		828.27		-3.895E-03	3.589E+00	Half-Life too short		
		1205.75		2.973E-03	3.589E+00	Half-Life too short		
TL-201		68.90		9.045E+00	1.037E+01	1.568E+01	1.777E+00	0.577
		70.82		2.992E+00	5.748E+00	8.554E+00	9.605E-01	0.350
		80.30		-1.593E+01	9.907E+00	1.291E+01	1.441E+00	-1.234
		135.34		-6.694E+00	3.914E+01	6.310E+01	4.353E+00	-0.106
		167.43	*	-1.734E+00	1.064E+01	1.703E+01	1.133E+00	-0.102
TL-202		68.90		6.908E-01	7.920E-01	1.197E+00	1.357E-01	0.577
		70.82		2.279E-01	4.378E-01	6.516E-01	7.316E-02	0.350
		80.30		-1.214E+00	7.549E-01	9.840E-01	1.098E-01	-1.234
		439.56	*	1.104E-01	8.890E-02	1.575E-01	8.999E-03	0.701
HG-203		70.83		9.463E-01	1.825E+00	2.712E+00	4.174E-01	0.349
	+	72.87		4.670E+00	1.561E+00	1.819E+00	2.724E-01	2.568
		82.60		-3.179E+00	1.781E+00	2.503E+00	3.886E-01	-1.270
		279.20	*	3.948E-02	5.382E-02	8.252E-02	5.943E-03	0.478
BI-207	+	72.80		1.350E+00	4.304E-01	5.245E-01	5.850E-02	2.573

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	74.97		7.996E-01	2.549E-01	3.691E-01	4.100E-02	2.167
		84.90		4.057E-01	2.752E-01	4.677E-01	5.315E-02	0.867
		569.67		2.896E-02	3.764E-02	6.445E-02	3.532E-03	0.449
		1063.62	*	4.550E-02	5.849E-02	1.033E-01	7.339E-03	0.441
		1770.23		1.718E-01	4.256E-01	6.905E-01	4.276E-02	0.249
TL-207		81.07		-2.843E-01	3.290E-01	4.525E-01	5.061E-02	-0.628
		83.78		-3.821E-01	1.898E-01	2.791E-01	3.155E-02	-1.369
		94.90		5.905E-02	3.181E-01	4.624E-01	4.637E-02	0.128
		122.32		-7.266E-01	2.204E+00	3.540E+00	2.803E-01	-0.205
		144.24		6.297E-01	9.030E-01	1.479E+00	1.191E-01	0.426
		154.21		9.907E-01	5.101E-01	8.805E-01	6.855E-02	1.125
	+	269.46		6.651E-01	2.454E-01	4.229E-01	3.025E-02	1.573
		323.87	*	-2.525E-01	9.455E-01	1.336E+00	2.245E-01	-0.189
	+	338.28		7.402E+00	1.948E+00	3.071E+00	3.347E-01	2.410
		445.03		-2.015E-01	2.852E+00	4.655E+00	4.758E-01	-0.043
PO-209		260.50		-4.801E+00	1.192E+01	1.960E+01	1.363E+00	-0.245
		262.80		-6.507E+00	3.510E+01	5.503E+01	3.824E+00	-0.118
		896.60	*	3.658E-01	8.385E+00	1.393E+01	1.186E+00	0.026
BI-210		46.50	*	1.111E+01	1.398E+01	2.335E+01	2.425E+00	0.476
PB-210		46.50	*	1.111E+01	1.398E+01	2.335E+01	2.425E+00	0.476
PO-210		46.50	*	1.111E+01	1.397E+01	2.335E+01	2.243E+00	0.476
PB-211		404.84	*	-1.848E-01	1.253E+00	2.037E+00	1.270E+00	-0.091
		427.08		-5.303E-01	2.417E+00	3.874E+00	2.394E+00	-0.137
		831.96		7.829E-01	1.423E+00	2.335E+00	1.460E+00	0.335
BI-212	+	727.18	*	1.399E+00	5.165E-01	7.781E-01	6.058E-02	1.798
		785.46		1.453E+00	2.009E+00	3.540E+00	2.384E-01	0.410
		1620.62		9.342E-01	1.589E+00	2.848E+00	1.959E-01	0.328
PO-215		81.07		-2.843E-01	3.290E-01	4.525E-01	5.061E-02	-0.628
		83.78		-3.821E-01	1.898E-01	2.791E-01	3.155E-02	-1.369
		94.90		5.905E-02	3.181E-01	4.624E-01	4.637E-02	0.128
		122.32		-7.266E-01	2.204E+00	3.540E+00	2.803E-01	-0.205
		144.24		6.297E-01	9.030E-01	1.479E+00	1.191E-01	0.426
		154.21		9.907E-01	5.101E-01	8.805E-01	6.855E-02	1.125
	+	269.46		6.651E-01	2.454E-01	4.229E-01	3.025E-02	1.573
		323.87	*	-2.525E-01	9.455E-01	1.336E+00	2.245E-01	-0.189
	+	338.28		7.402E+00	1.948E+00	3.071E+00	3.347E-01	2.410
		445.03		-2.015E-01	2.852E+00	4.655E+00	4.758E-01	-0.043
RN-219		271.23		7.006E-01	2.988E-01	5.421E-01	4.849E-02	1.292
		401.81	*	9.341E-02	5.336E-01	8.881E-01	1.204E-01	0.105
RN-220		549.76	*	8.272E+00	3.069E+01	5.089E+01	2.823E+00	0.163
RA-223		81.07		-2.843E-01	3.290E-01	4.525E-01	5.061E-02	-0.628
		83.78		-3.821E-01	1.898E-01	2.791E-01	3.155E-02	-1.369
		94.90		5.905E-02	3.181E-01	4.624E-01	4.637E-02	0.128
		122.32		-7.266E-01	2.204E+00	3.540E+00	2.803E-01	-0.205
		144.24		6.297E-01	9.030E-01	1.479E+00	1.191E-01	0.426
		154.21		9.907E-01	5.101E-01	8.805E-01	6.855E-02	1.125
	+	269.46		6.651E-01	2.454E-01	4.229E-01	3.025E-02	1.573
		323.87	*	-2.525E-01	9.455E-01	1.336E+00	2.245E-01	-0.189
	+	338.28		7.402E+00	1.948E+00	3.071E+00	3.347E-01	2.410

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		445.03		-2.015E-01	2.852E+00	4.655E+00	4.758E-01	-0.043
AC-227		79.80		-3.467E+00	2.675E+00	3.443E+00	7.793E-01	-1.007
		236.00		4.828E+00	6.877E-01	9.115E-01	1.015E-01	5.297
		256.20	*	3.798E-01	4.926E-01	8.501E-01	1.231E-01	0.447
		286.10		1.531E+00	1.905E+00	3.296E+00	3.999E-01	0.464
	+	299.80		5.400E+00	3.099E+00	3.392E+00	5.651E-01	1.592
		304.40		1.077E+00	2.582E+00	3.851E+00	6.793E-01	0.280
		334.20		-9.170E-02	4.044E+00	4.576E+00	8.493E-01	-0.020
TH-227		79.80		-3.467E+00	2.678E+00	3.443E+00	7.883E-01	-1.007
	+	94.00		3.975E+00	4.294E+00	4.376E+00	9.823E-01	0.908
		236.00		4.828E+00	6.399E-01	9.115E-01	8.966E-02	5.297
		256.20	*	3.798E-01	4.939E-01	8.501E-01	1.473E-01	0.447
		286.10		1.531E+00	2.439E+00	3.296E+00	3.304E+00	0.464
	+	299.80		5.400E+00	3.099E+00	3.392E+00	5.651E-01	1.592
		304.40		1.077E+00	2.582E+00	3.851E+00	6.793E-01	0.280
		334.20		-9.170E-02	4.044E+00	4.576E+00	8.493E-01	-0.020
TH-229		85.43		4.426E-01	2.784E-01	4.682E-01	5.336E-02	0.945
		88.47		3.242E-01	1.805E-01	2.749E-01	3.146E-02	1.180
		100.00		8.356E-02	2.363E-01	3.926E-01	3.617E-02	0.213
		193.63	*	-2.175E-01	6.942E-01	1.081E+00	7.348E-02	-0.201
		210.97		1.301E+00	1.120E+00	1.670E+00	1.149E-01	0.779
PA-231		283.67	*	2.208E+00	2.098E+00	3.254E+00	4.642E-01	0.679
		301.29		7.225E-01	8.319E-01	1.272E+00	1.403E-01	0.568
TH-231		81.07		-2.843E-01	3.290E-01	4.525E-01	5.061E-02	-0.628
		83.78		-3.821E-01	1.898E-01	2.791E-01	3.155E-02	-1.369
		94.90		5.905E-02	3.181E-01	4.624E-01	4.637E-02	0.128
		122.32		-7.266E-01	2.204E+00	3.540E+00	2.803E-01	-0.205
		144.24		6.297E-01	9.030E-01	1.479E+00	1.191E-01	0.426
		154.21		9.907E-01	5.101E-01	8.805E-01	6.855E-02	1.125
	+	269.46		6.651E-01	2.454E-01	4.229E-01	3.025E-02	1.573
		323.87	*	-2.525E-01	9.455E-01	1.336E+00	2.245E-01	-0.189
	+	338.28		7.402E+00	1.948E+00	3.071E+00	3.347E-01	2.410
		445.03		-2.015E-01	2.852E+00	4.655E+00	4.758E-01	-0.043
U-231		84.21		-7.691E+00	9.188E+00	1.443E+01	1.635E+00	-0.533
	+	92.29		4.596E+00	4.879E+00	6.033E+00	6.358E-01	0.762
		95.87	*	-1.201E+00	1.764E+00	2.432E+00	2.397E-01	-0.494
		108.00		-1.090E-01	3.035E+00	4.957E+00	4.101E-01	-0.022
PA-233	+	75.28		2.333E+01	8.007E+00	1.085E+01	1.831E+00	2.150
		86.59		1.918E+00	2.768E+00	4.014E+00	1.119E+00	0.478
	+	300.12		1.505E+00	8.528E-01	9.384E-01	1.303E-01	1.604
		311.98	*	3.250E-02	7.970E-02	1.356E-01	9.505E-03	0.240
		340.50		1.561E+00	9.746E-01	1.460E+00	3.376E-01	1.069
		398.62		-1.843E+00	2.845E+00	4.292E+00	1.108E+00	-0.429
		415.76		-3.228E-01	2.011E+00	3.272E+00	6.726E-01	-0.099
PA-234		63.00		1.101E+00	2.826E+00	4.701E+00	8.236E-01	0.234
		94.67		1.335E-01	2.312E-01	3.422E-01	4.602E-02	0.390
		98.44		5.880E-03	1.199E-01	1.902E-01	1.064E-01	0.031
		99.86		9.824E-02	6.015E-01	9.924E-01	9.161E-02	0.099
		111.00		-6.916E-02	2.308E-01	3.723E-01	4.337E-02	-0.186

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		131.20		-8.998E-02	1.328E-01	2.096E-01	1.460E-02	-0.429
		152.70		-2.256E-01	4.274E-01	6.740E-01	1.090E-01	-0.335
	+	186.00		6.415E+00	3.215E+00	3.226E+00	9.921E-01	1.989
		226.40		-3.158E-01	5.017E-01	8.211E-01	9.992E-02	-0.385
		227.20		-1.038E-01	5.286E-01	8.838E-01	6.131E-02	-0.117
		248.90		-1.240E+00	1.030E+00	1.569E+00	3.426E-01	-0.790
	+	293.70		7.157E+00	1.634E+00	2.171E+00	3.578E-01	3.296
		369.80		4.477E-01	1.071E+00	1.809E+00	3.778E-01	0.247
		568.70		1.027E+00	1.201E+00	2.070E+00	1.135E-01	0.496
		569.50		1.620E-01	3.385E-01	5.678E-01	3.113E-02	0.285
		574.00		-6.422E-01	1.984E+00	2.934E+00	1.603E-01	-0.219
		699.00		5.446E-01	8.112E-01	1.419E+00	2.539E-01	0.384
		706.10		-2.370E-01	1.251E+00	2.059E+00	9.084E-01	-0.115
		733.00		1.713E-01	4.193E-01	6.369E-01	1.357E-01	0.269
		742.81		6.325E-01	1.548E+00	2.579E+00	1.727E+00	0.245
		796.30		7.145E-01	1.078E+00	1.861E+00	4.943E-01	0.384
		805.60		4.935E-02	1.129E+00	1.885E+00	5.702E-01	0.026
		819.60		-8.887E-01	1.501E+00	2.300E+00	8.679E-01	-0.386
		826.30		-3.656E-01	9.290E-01	1.463E+00	6.511E-01	-0.250
		831.60		-1.460E-02	7.043E-01	1.168E+00	3.448E-01	-0.013
		876.40		1.929E-01	9.730E-01	1.608E+00	1.653E+00	0.120
		880.51		-1.185E-01	3.054E-01	4.855E-01	4.000E-02	-0.244
		883.24		-2.153E-01	3.583E-01	5.076E-01	3.410E-01	-0.424
		899.00		-4.570E-01	1.000E+00	1.549E+00	6.769E-01	-0.295
		925.00		2.195E-01	1.268E+00	2.131E+00	1.781E-01	0.103
		926.50		-1.774E-01	1.963E-01	2.839E-01	7.149E-02	-0.625
		946.00	*	-3.589E-01	3.441E-01	4.938E-01	9.174E-02	-0.727
		949.00		3.642E-01	4.624E-01	8.234E-01	6.737E-02	0.442
		980.50		-5.051E-01	7.411E-01	1.119E+00	8.866E-02	-0.452
		1394.10		-4.189E-01	1.183E+00	1.815E+00	1.179E+00	-0.231
PA-234M		766.42		3.817E+00	1.460E+01	2.458E+01	1.239E+01	0.155
		1001.03	*	4.056E+00	5.270E+00	9.353E+00	8.620E-01	0.434
TH-234		63.29	*	1.205E+00	2.397E+00	3.993E+00	7.881E-01	0.302
	+	92.38		1.029E+00	1.104E+00	1.347E+00	2.567E-01	0.764
U-235		89.95		-2.748E+00	2.157E+00	2.687E+00	8.499E-01	-1.023
	+	93.35		1.237E+00	1.354E+00	1.542E+00	4.409E-01	0.802
		105.00		-8.572E-02	1.387E+00	2.265E+00	6.756E-01	-0.038
		143.76	*	2.778E-01	2.794E-01	4.575E-01	7.633E-02	0.607
		163.35		8.404E-01	6.082E-01	1.008E+00	1.843E-01	0.834
	+	185.71		2.376E-01	9.537E-02	1.208E-01	8.161E-03	1.967
		205.31		1.423E-01	7.374E-01	1.020E+00	1.872E-01	0.139
NP-236		94.67		1.028E-01	1.752E-01	2.597E-01	2.615E-02	0.396
		98.44		4.466E-03	9.059E-02	1.438E-01	1.358E-02	0.031
		111.00		-5.231E-02	1.745E-01	2.816E-01	2.251E-02	-0.186
		160.31	*	-5.250E-02	1.017E-01	1.604E-01	1.071E-02	-0.327
NP-237		86.50	*	2.607E-01	3.924E-01	6.008E-01	1.418E-01	0.434
		95.87		-9.049E-01	1.346E+00	1.833E+00	4.601E-01	-0.494
U-238		63.29	*	1.205E+00	2.397E+00	3.993E+00	7.881E-01	0.302
	+	92.38		1.029E+00	1.092E+00	1.347E+00	1.417E-01	0.764

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		2.057E-02	2.005E-01	3.300E-01	3.061E-02	0.062
		117.00	*	4.147E-02	2.368E-01	3.892E-01	2.926E-02	0.107
	+	209.75		2.007E+00	1.109E+00	1.759E+00	1.210E-01	1.141
		228.18		-4.097E-02	2.713E-01	4.543E-01	3.153E-02	-0.090
	+	277.60		4.394E-01	2.735E-01	3.799E-01	2.623E-02	1.157
		334.30		1.752E-01	2.300E+00	2.635E+00	1.708E-01	0.066
AM-241		59.54	*	-4.393E-01	3.184E-01	4.920E-01	6.261E-02	-0.893
CM-243		99.55		2.117E-02	2.063E-01	3.396E-01	3.150E-02	0.062
		103.76	*	2.801E-02	1.253E-01	2.070E-01	1.807E-02	0.135
		117.00		4.266E-02	2.436E-01	4.004E-01	3.010E-02	0.107
	+	209.75		1.979E+00	1.093E+00	1.734E+00	1.193E-01	1.141
		228.18		-4.140E-02	2.741E-01	4.591E-01	3.186E-02	-0.090
	+	277.60		4.430E-01	2.757E-01	3.830E-01	2.645E-02	1.157
AM-246		798.80		-2.158E-01	1.694E-01	2.504E-01	1.737E-02	-0.862
		1036.00		1.236E-01	3.117E-01	5.337E-01	3.950E-02	0.232
		1062.04		2.087E-01	2.733E-01	4.798E-01	3.418E-02	0.435
		1078.86	*	1.948E-01	1.622E-01	2.962E-01	2.053E-02	0.657
CM-247	+	278.00		1.822E+00	1.134E+00	1.580E+00	1.091E-01	1.153
		287.40		-4.029E-01	1.553E+00	2.491E+00	1.709E-01	-0.162
		402.60	*	3.369E-02	4.769E-02	8.177E-02	4.650E-03	0.412
CF-249		252.85		7.541E-01	1.096E+00	1.897E+00	1.320E-01	0.398
		333.44		-1.643E-01	3.789E-01	3.412E-01	2.215E-02	-0.482
		387.95	*	7.479E-02	4.837E-02	8.695E-02	4.985E-03	0.860
CF-251		176.60	*	1.542E-02	1.565E-01	2.531E-01	1.696E-02	0.061
		227.00		-9.215E-02	4.696E-01	7.851E-01	5.446E-02	-0.117
		285.00		2.772E+00	2.184E+00	3.788E+00	2.603E-01	0.732

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137004      *
* Acquisition date : 20-JAN-2010 13:44:08 Detector SN#     :               *
* Detector ID        : GAM15               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:     0 02:00:00.00     Abundance limit : 75.000        *
* Elapsed real time:     0 02:00:01.19     Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date        :  4-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G244137004           Analyst initials: MXR1          *
* Batch Number       : 940263               Sample Quantity : 1.2328E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
* Standard Weight  :    0.00000                                             *
* CALIB. DATE/TIME : 16-FEB-2009 10:54:12 MS Isotope      :                 *
* MSD DPM          :     0.000            MSD Isotope     :                 *
* LCS DPM          :     0.000            LCS Isotope     :                 *
* LCSD DPM         :     0.000            LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.974E+01	2.167E+00	6.694E-01	0.000E+00
CS-135	5.654E-01	2.060E-01	3.208E-01	0.000E+00
BA-137M	1.492E-01	5.116E-02	7.368E-02	0.000E+00
CS-137	1.578E-01	5.408E-02	7.789E-02	0.000E+00
TL-208	5.433E-01	9.900E-02	6.681E-02	0.000E+00
BI-211	3.852E+00	6.571E-01	4.011E-01	0.000E+00
PB-212	1.685E+00	1.911E-01	1.128E-01	0.000E+00
PO-212	1.685E+00	1.911E-01	1.128E-01	0.000E+00
BI-214	1.175E+00	2.150E-01	1.271E-01	0.000E+00
PB-214	1.340E+00	2.386E-01	1.398E-01	0.000E+00
PO-214	1.340E+00	2.386E-01	1.398E-01	0.000E+00
PO-216	1.685E+00	1.911E-01	1.128E-01	0.000E+00
PO-218	1.340E+00	2.386E-01	1.398E-01	0.000E+00
RA-224	5.640E+00	1.755E+00	1.283E+00	0.000E+00
RA-226	1.175E+00	2.150E-01	1.271E-01	0.000E+00
AC-228	1.636E+00	3.506E-01	1.991E-01	0.000E+00
RA-228	1.636E+00	3.506E-01	1.991E-01	0.000E+00
TH-228	1.712E+00	1.942E-01	1.146E-01	0.000E+00
TH-230	1.175E+00	2.150E-01	1.270E-01	0.000E+00
TH-232	1.636E+00	3.506E-01	1.991E-01	0.000E+00
U-234	1.175E+00	2.150E-01	1.270E-01	0.000E+00
AM-243	4.455E-01	1.392E-01	1.331E-01	0.000E+00
ANH-511	1.210E-01	8.223E-02	5.696E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)		
BE-7	1.923E-02	3.868E-01	6.561E-01	0.000E+00	NOT IDENT.
NA-22	-2.719E-02	4.616E-02	7.057E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.550E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.226E-02	2.786E-02	4.130E-02	0.000E+00	NOT IDENT.

TI-44	0.000E+00	6.144E-02	1.001E-01	0.000E+00	NOT IDENT.
SC-46	-2.186E-02	4.435E-02	7.168E-02	0.000E+00	FAIL ABUN
V-48	4.015E-02	6.900E-02	1.240E-01	0.000E+00	NOT IDENT.
CR-51	3.367E-01	4.995E-01	8.485E-01	0.000E+00	NOT IDENT.
MN-52	6.873E-02	2.532E-01	4.490E-01	0.000E+00	NOT IDENT.
MN-54	1.542E-02	4.201E-02	7.379E-02	0.000E+00	NOT IDENT.
CO-56	2.000E-02	4.659E-02	8.219E-02	0.000E+00	NOT IDENT.
CO-57	-1.023E-02	3.128E-02	5.292E-02	0.000E+00	NOT IDENT.
CO-58	-3.292E-02	4.433E-02	7.058E-02	0.000E+00	NOT IDENT.
FE-59	-4.680E-02	1.040E-01	1.655E-01	0.000E+00	NOT IDENT.
CO-60	-4.872E-03	4.173E-02	6.760E-02	0.000E+00	NOT IDENT.
ZN-65	1.479E-02	1.165E-01	1.697E-01	0.000E+00	NOT IDENT.
GE-68	9.749E-01	1.423E+00	2.540E+00	0.000E+00	NOT IDENT.
AS-73	1.235E+00	2.090E+00	3.777E+00	0.000E+00	NOT IDENT.
AS-74	5.449E-02	1.179E-01	1.987E-01	0.000E+00	NOT IDENT.
SE-75	6.025E-02	5.673E-02	9.265E-02	0.000E+00	NOT IDENT.
BR-77	-4.779E+00	1.587E+01	2.605E+01	0.000E+00	FAIL ABUN
SR-82	-6.338E-01	4.600E-01	6.941E-01	0.000E+00	NOT IDENT.
RB-83	-3.674E-02	8.008E-02	1.297E-01	0.000E+00	NOT IDENT.
RB-84	-8.874E-02	7.967E-02	1.198E-01	0.000E+00	NOT IDENT.
KR-85	1.327E+01	9.090E+00	1.507E+01	0.000E+00	NOT IDENT.
SR-85	6.871E-02	4.708E-02	7.804E-02	0.000E+00	NOT IDENT.
RB-86	1.810E-01	9.832E-01	1.675E+00	0.000E+00	NOT IDENT.
Y-88	3.017E-03	3.992E-02	6.757E-02	0.000E+00	NOT IDENT.
ZR-88	-3.067E-02	3.838E-02	6.237E-02	0.000E+00	NOT IDENT.
Y-91	8.819E+00	2.293E+01	3.938E+01	0.000E+00	NOT IDENT.
NB-94	3.293E-02	3.880E-02	7.087E-02	0.000E+00	NOT IDENT.
NB-95	5.105E-02	5.251E-02	9.584E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.699E-01	4.490E-01	0.000E+00	NOT IDENT.
ZR-95	5.351E-03	7.663E-02	1.323E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.626E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	7.157E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.193E+00	1.581E+01	2.700E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.888E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	7.080E-03	4.379E-02	7.267E-02	0.000E+00	NOT IDENT.
RH-102	2.875E-02	3.439E-02	6.146E-02	0.000E+00	NOT IDENT.
RU-103	4.724E-02	4.922E-02	8.807E-02	0.000E+00	NOT IDENT.
RH-106	1.031E-01	3.741E-01	6.355E-01	0.000E+00	NOT IDENT.
RU-106	1.031E-01	3.739E-01	6.355E-01	0.000E+00	NOT IDENT.
AG-108M	-4.350E-02	3.916E-02	6.130E-02	0.000E+00	NOT IDENT.
CD-109	0.000E+00	1.380E+00	2.232E+00	0.000E+00	NOT IDENT.
AG-110M	3.185E-02	5.053E-02	7.706E-02	0.000E+00	NOT IDENT.
IN-111	8.723E-01	1.718E+00	2.714E+00	0.000E+00	NOT IDENT.
IN-113M	-5.594E-03	5.492E-02	9.338E-02	0.000E+00	NOT IDENT.
SN-113	-5.594E-03	5.492E-02	9.338E-02	0.000E+00	NOT IDENT.
IN-114M	5.897E-02	2.665E-01	3.959E-01	0.000E+00	NOT IDENT.
CD-115	5.132E+00	1.818E+01	3.115E+01	0.000E+00	NOT IDENT.
SN-117M	-9.594E-02	7.270E-02	1.158E-01	0.000E+00	NOT IDENT.
SB-122	-2.686E+00	3.272E+00	5.126E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.455E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-5.416E-02	3.636E-02	5.738E-02	0.000E+00	NOT IDENT.
I-124	-5.192E-01	1.031E+00	1.392E+00	0.000E+00	NOT IDENT.
SB-124	-4.233E-02	8.995E-02	1.442E-01	0.000E+00	FAIL ABUN
SB-125	-4.555E-02	1.049E-01	1.731E-01	0.000E+00	NOT IDENT.
TE-125M	-4.976E+00	1.150E+01	1.946E+01	0.000E+00	NOT IDENT.
I-126	1.865E-01	2.492E-01	3.867E-01	0.000E+00	NOT IDENT.
SB-126	-3.047E-02	1.932E-01	2.817E-01	0.000E+00	NOT IDENT.
SN-126	0.000E+00	1.372E-01	2.195E-01	0.000E+00	NOT IDENT.
SB-127	5.976E-01	1.901E+00	3.359E+00	0.000E+00	NOT IDENT.
XE-127	-6.291E-02	6.219E-02	9.589E-02	0.000E+00	NOT IDENT.
I-131	-7.884E-02	1.461E-01	2.422E-01	0.000E+00	NOT IDENT.
TE-132	-1.525E-01	9.962E-01	1.742E+00	0.000E+00	NOT IDENT.
BA-133	3.993E-02	5.754E-02	9.063E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.585E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	7.887E-02	5.302E-02	1.005E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.016E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.527E-02	1.221E-01	2.143E-01	0.000E+00	NOT IDENT.
CE-139	-1.072E-02	3.719E-02	6.212E-02	0.000E+00	NOT IDENT.
BA-140	-1.276E-01	3.228E-01	5.205E-01	0.000E+00	NOT IDENT.
LA-140	-3.213E-02	1.090E-01	1.681E-01	0.000E+00	NOT IDENT.
CE-141	-3.654E-03	8.185E-02	1.391E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	6.193E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-5.693E-02	2.475E-01	4.186E-01	0.000E+00	NOT IDENT.
PM-144	-4.995E-02	3.946E-02	6.132E-02	0.000E+00	NOT IDENT.
PR-144	-3.387E+00	2.676E+00	4.157E+00	0.000E+00	NOT IDENT.
PM-146	7.694E-03	5.406E-02	9.252E-02	0.000E+00	NOT IDENT.
ND-147	-9.367E-02	7.326E-01	1.218E+00	0.000E+00	NOT IDENT.
PM-149	1.516E+02	1.507E+02	2.723E+02	0.000E+00	NOT IDENT.

EU-152	-1.675E-01	1.530E-01	1.940E-01	0.000E+00	NOT IDENT.
GD-153	4.579E-03	1.105E-01	1.682E-01	0.000E+00	NOT IDENT.
EU-154	-7.729E-02	1.288E-01	1.964E-01	0.000E+00	NOT IDENT.
EU-155	2.605E-04	1.365E-01	2.357E-01	0.000E+00	NOT IDENT.
TB-160	7.884E-03	1.489E-01	2.543E-01	0.000E+00	FAIL ABUN
HO-166M	-5.381E-02	6.708E-02	1.080E-01	0.000E+00	FAIL ABUN
TM-171	-4.642E+01	4.729E+01	7.887E+01	0.000E+00	NOT IDENT.
LU-176	2.003E-02	3.282E-02	5.386E-02	0.000E+00	NOT IDENT.
LU-177	0.000E+00	1.691E+00	2.740E+00	0.000E+00	FAIL ABUN
LU-177M	-1.325E-01	2.157E-01	3.533E-01	0.000E+00	FAIL ABUN
HF-181	-1.635E-02	4.853E-02	7.986E-02	0.000E+00	NOT IDENT.
W-181	-3.788E-01	6.221E-01	1.056E+00	0.000E+00	NOT IDENT.
TA-182	-2.559E-02	2.223E-01	3.645E-01	0.000E+00	NOT IDENT.
RE-183	9.280E-02	1.379E-01	2.400E-01	0.000E+00	FAIL ABUN
RE-184	2.017E-01	2.875E-01	5.187E-01	0.000E+00	NOT IDENT.
OS-185	-2.879E-02	4.914E-02	7.708E-02	0.000E+00	NOT IDENT.
RE-188	0.000E+00	2.178E-01	3.952E-01	0.000E+00	NOT IDENT.
W-188	2.000E+00	9.782E+00	1.502E+01	0.000E+00	NOT IDENT.
IR-192	-1.054E-02	4.501E-02	7.700E-02	0.000E+00	FAIL ABUN
AU-195	9.350E-02	2.790E-01	4.891E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.010E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.734E+00	1.043E+01	1.750E+01	0.000E+00	NOT IDENT.
TL-202	1.104E-01	8.712E-02	1.598E-01	0.000E+00	NOT IDENT.
HG-203	3.948E-02	5.274E-02	8.424E-02	0.000E+00	FAIL ABUN
BI-207	4.550E-02	5.732E-02	1.036E-01	0.000E+00	FAIL ABUN
TL-207	-2.525E-01	9.266E-01	1.361E+00	0.000E+00	FAIL ABUN
PO-209	3.658E-01	8.217E+00	1.400E+01	0.000E+00	NOT IDENT.
BI-210	1.111E+01	1.370E+01	2.438E+01	0.000E+00	NOT IDENT.
PB-210	1.111E+01	1.370E+01	2.438E+01	0.000E+00	NOT IDENT.
PO-210	1.111E+01	1.369E+01	2.438E+01	0.000E+00	NOT IDENT.
PB-211	-1.848E-01	1.228E+00	2.069E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.062E-01	7.844E-01	0.000E+00	FAIL ABUN
PO-215	-2.525E-01	9.266E-01	1.361E+00	0.000E+00	FAIL ABUN
RN-219	9.341E-02	5.229E-01	9.023E-01	0.000E+00	NOT IDENT.
RN-220	8.272E+00	3.008E+01	5.148E+01	0.000E+00	NOT IDENT.
RA-223	-2.525E-01	9.266E-01	1.361E+00	0.000E+00	FAIL ABUN
AC-227	3.798E-01	4.827E-01	8.688E-01	0.000E+00	FAIL ABUN
TH-227	3.798E-01	4.840E-01	8.688E-01	0.000E+00	FAIL ABUN
TH-229	-2.175E-01	6.804E-01	1.109E+00	0.000E+00	NOT IDENT.
PA-231	2.208E+00	2.056E+00	3.321E+00	0.000E+00	NOT IDENT.
TH-231	-2.525E-01	9.266E-01	1.361E+00	0.000E+00	FAIL ABUN
U-231	-1.201E+00	1.728E+00	2.517E+00	0.000E+00	FAIL ABUN
PA-233	3.250E-02	7.811E-02	1.382E-01	0.000E+00	FAIL ABUN
PA-234	-3.589E-01	3.373E-01	4.960E-01	0.000E+00	FAIL ABUN
PA-234M	4.056E+00	5.165E+00	9.388E+00	0.000E+00	NOT IDENT.
TH-234	1.205E+00	2.349E+00	4.155E+00	0.000E+00	FAIL ABUN
U-235	2.778E-01	2.738E-01	4.710E-01	0.000E+00	FAIL ABUN
NP-236	-5.250E-02	9.964E-02	1.650E-01	0.000E+00	NOT IDENT.
NP-237	2.607E-01	3.845E-01	6.226E-01	0.000E+00	NOT IDENT.
U-238	1.205E+00	2.349E+00	4.155E+00	0.000E+00	FAIL ABUN
NP-239	4.147E-02	2.321E-01	4.018E-01	0.000E+00	FAIL ABUN
AM-241	-4.393E-01	3.121E-01	5.123E-01	0.000E+00	NOT IDENT.
CM-243	2.801E-02	1.228E-01	2.140E-01	0.000E+00	FAIL ABUN
AM-246	1.948E-01	1.590E-01	2.970E-01	0.000E+00	NOT IDENT.
CM-247	3.369E-02	4.674E-02	8.307E-02	0.000E+00	FAIL ABUN
CF-249	7.479E-02	4.740E-02	8.838E-02	0.000E+00	NOT IDENT.
CF-251	1.542E-02	1.534E-01	2.599E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:46:49.05

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137004.CNF;1
Sample date       : 4-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:44:08
Sample ID         : G244137004           Sample quantity  : 1.23280E+02 GRAM
Detector name     : GAM15                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.19  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 940263               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	691	10.67*	9.991E-01	1.974E+01	1.974E+01	11.20
CS-135	268.24	115	16.00*	3.866E+00	5.654E-01	5.654E-01	37.19
BA-137M	661.65	89	89.98*	2.020E+00	1.491E-01	1.492E-01	34.98
CS-137	661.65	89	85.12*	2.020E+00	1.576E-01	1.578E-01	34.98
TL-208	277.35	77	6.80	3.792E+00	9.110E-01	9.110E-01	62.86
	510.84	98	21.60	2.463E+00	5.603E-01	5.603E-01	69.83
	583.14	335	84.20*	2.231E+00	5.433E-01	5.433E-01	18.59
	860.37	50	12.46	1.614E+00	7.645E-01	7.645E-01	64.86
BI-211	72.87	304	1.27	3.150E+00	2.315E+01	2.315E+01	31.88
	351.07	525	12.94*	3.207E+00	3.852E+00	3.852E+00	17.40
PB-212	74.81	304	10.70	3.150E+00	2.748E+00	2.748E+00	33.22
	77.11	438	18.00	3.412E+00	2.170E+00	2.170E+00	21.99
	87.30	------	8.00	4.461E+00	------ Line Not Found		------
	238.63	1042	44.60*	4.221E+00	1.685E+00	1.685E+00	11.57
	300.09	117	3.41	3.589E+00	2.914E+00	2.914E+00	55.65
PO-212	74.81	304	10.70	3.150E+00	2.748E+00	2.748E+00	33.22
	77.11	438	18.00	3.412E+00	2.170E+00	2.170E+00	21.99
	87.30	------	8.00	4.461E+00	------ Line Not Found		------
	115.19	------	0.60	5.666E+00	------ Line Not Found		------
	238.63	1042	44.60*	4.221E+00	1.685E+00	1.685E+00	11.57
	300.09	117	3.41	3.589E+00	2.914E+00	2.914E+00	55.65
BI-214	609.31	385	46.30*	2.156E+00	1.175E+00	1.175E+00	18.67
	1120.29	81	15.10	1.264E+00	1.289E+00	1.289E+00	55.40
	1764.49	35	15.80	8.816E-01	7.740E-01	7.741E-01	61.98
PB-214	74.81	304	6.21	3.150E+00	4.734E+00	4.734E+00	32.73
	77.11	438	10.50	3.412E+00	3.720E+00	3.720E+00	23.28
	87.30	------	4.67	4.461E+00	------ Line Not Found		------
	241.98	306	7.49	4.184E+00	2.974E+00	2.974E+00	32.24
	295.21	341	19.20	3.630E+00	1.491E+00	1.491E+00	18.31
	351.92	525	37.20*	3.207E+00	1.340E+00	1.340E+00	18.17
PO-214	74.81	304	6.21	3.150E+00	4.734E+00	4.734E+00	32.73
	77.11	438	10.50	3.412E+00	3.720E+00	3.720E+00	23.28

Sample ID : G244137004 Acquisition date : 20-JAN-2010 13:44:08

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	87.30	------	4.67	4.461E+00	------ Line Not Found		------
	241.98	306	7.49	4.184E+00	2.974E+00	2.974E+00	32.24
	295.21	341	19.20	3.630E+00	1.491E+00	1.491E+00	18.31
	351.92	525	37.20*	3.207E+00	1.340E+00	1.340E+00	18.17
PO-216	74.81	304	10.70	3.150E+00	2.748E+00	2.748E+00	33.22
	77.11	438	18.00	3.412E+00	2.170E+00	2.170E+00	21.99
	87.30	------	8.00	4.461E+00	------ Line Not Found		------
	238.63	1042	44.60*	4.221E+00	1.685E+00	1.685E+00	11.57
	300.09	117	3.41	3.589E+00	2.914E+00	2.914E+00	55.65
PO-218	74.81	304	6.21	3.150E+00	4.734E+00	4.734E+00	32.73
	77.11	438	10.50	3.412E+00	3.720E+00	3.720E+00	23.28
	87.30	------	4.67	4.461E+00	------ Line Not Found		------
	241.98	306	7.49	4.184E+00	2.974E+00	2.974E+00	32.24
	295.21	341	19.20	3.630E+00	1.491E+00	1.491E+00	18.31
	351.92	525	37.20*	3.207E+00	1.340E+00	1.340E+00	18.17
RA-224	240.98	306	3.95*	4.184E+00	5.640E+00	5.640E+00	31.75
RA-226	609.31	385	46.30*	2.156E+00	1.175E+00	1.175E+00	18.67
	1120.29	81	15.10	1.264E+00	1.289E+00	1.289E+00	55.40
	1764.49	35	15.80	8.816E-01	7.740E-01	7.741E-01	61.98
AC-228	338.32	219	11.40	3.297E+00	1.773E+00	1.773E+00	47.37
	911.07	228	27.70*	1.532E+00	1.636E+00	1.636E+00	21.87
	969.11	120	16.60	1.447E+00	1.526E+00	1.526E+00	49.99
RA-228	338.32	219	11.40	3.297E+00	1.773E+00	1.773E+00	47.37
	911.07	228	27.70*	1.532E+00	1.636E+00	1.636E+00	21.87
	969.11	120	16.60	1.447E+00	1.526E+00	1.526E+00	49.99
TH-228	74.81	304	10.70	3.150E+00	2.748E+00	2.792E+00	31.90
	77.11	438	18.00	3.412E+00	2.170E+00	2.205E+00	21.99
	87.30	------	8.00	4.461E+00	------ Line Not Found		------
	238.63	1042	44.60*	4.221E+00	1.685E+00	1.712E+00	11.57
	300.09	117	3.41	3.589E+00	2.914E+00	2.961E+00	80.63
TH-230	609.31	385	46.30*	2.156E+00	1.175E+00	1.175E+00	18.67
	1120.29	81	15.10	1.264E+00	1.289E+00	1.289E+00	55.40
	1764.49	35	15.80	8.816E-01	7.740E-01	7.740E-01	61.98
TH-232	338.32	219	11.40	3.297E+00	1.773E+00	1.773E+00	24.81
	911.07	228	27.70*	1.532E+00	1.636E+00	1.636E+00	21.87
	969.11	120	16.60	1.447E+00	1.526E+00	1.526E+00	49.99
U-234	609.31	385	46.30*	2.156E+00	1.175E+00	1.175E+00	18.67
	1120.29	81	15.10	1.264E+00	1.289E+00	1.289E+00	55.40
	1764.49	35	15.80	8.816E-01	7.740E-01	7.740E-01	61.98
AM-243	74.67	304	66.00*	3.150E+00	4.455E-01	4.455E-01	31.88
	86.72	------	0.34	4.414E+00	------ Line Not Found		------
	117.66	------	0.55	5.694E+00	------ Line Not Found		------
	142.18	------	0.13	5.637E+00	------ Line Not Found		------
ANH-511	511.00	98	100.00*	2.463E+00	1.210E-01	1.210E-01	69.33

Flag: "*" = Keyline

Sample ID : G244137004 Acquisition date : 20-JAN-2010 13:44:08

Total number of lines in spectrum 26
Number of unidentified lines 2
Number of lines tentatively identified by NID 24 92.31%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.974E+01	1.974E+01	0.221E+01	11.20	
CS-135	2.30E+06Y	1.00	5.654E-01	5.654E-01	2.102E-01	37.19	
BA-137M	30.17Y	1.00	1.491E-01	1.492E-01	0.522E-01	34.98	
CS-137	30.17Y	1.00	1.576E-01	1.578E-01	0.552E-01	34.98	
TL-208	1.41E+10Y	1.00	5.433E-01	5.433E-01	1.010E-01	18.59	
BI-211	7.04E+08Y	1.00	3.852E+00	3.852E+00	0.670E+00	17.40	
PB-212	1.41E+10Y	1.00	1.685E+00	1.685E+00	0.195E+00	11.57	
PO-212	1.41E+10Y	1.00	1.685E+00	1.685E+00	0.195E+00	11.57	
BI-214	1600.00Y	1.00	1.175E+00	1.175E+00	0.219E+00	18.67	
PB-214	1600.00Y	1.00	1.340E+00	1.340E+00	0.243E+00	18.17	
PO-214	1600.00Y	1.00	1.340E+00	1.340E+00	0.243E+00	18.17	
PO-216	1.41E+10Y	1.00	1.685E+00	1.685E+00	0.195E+00	11.57	
PO-218	1600.00Y	1.00	1.340E+00	1.340E+00	0.243E+00	18.17	
RA-224	1.41E+10Y	1.00	5.640E+00	5.640E+00	1.790E+00	31.75	
RA-226	1600.00Y	1.00	1.175E+00	1.175E+00	0.219E+00	18.67	
AC-228	1.41E+10Y	1.00	1.636E+00	1.636E+00	0.358E+00	21.87	
RA-228	1.41E+10Y	1.00	1.636E+00	1.636E+00	0.358E+00	21.87	
TH-228	1.91Y	1.02	1.685E+00	1.712E+00	0.198E+00	11.57	
TH-230	4.47E+09Y	1.00	1.175E+00	1.175E+00	0.219E+00	18.67	
TH-232	1.41E+10Y	1.00	1.636E+00	1.636E+00	0.358E+00	21.87	
U-234	4.47E+09Y	1.00	1.175E+00	1.175E+00	0.219E+00	18.67	
AM-243	7380.00Y	1.00	4.455E-01	4.455E-01	1.420E-01	31.88	
ANH-511	1.00E+09Y	1.00	1.210E-01	1.210E-01	0.839E-01	69.33	
	Total Activity :		5.158E+01	5.161E+01			

Grand Total Activity : 5.158E+01 5.161E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G244137004 Acquisition date : 20-JAN-2010 13:44:08

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	92.62	89	517	1.28	185.72	180	10	1.23E-02	****	4.85E+00	T
0	185.38	210	341	1.57	371.15	365	12	2.92E-02	39.6	4.98E+00	T
0	208.71	99	212	1.13	417.79	415	8	1.37E-02	54.8	4.62E+00	T
0	327.00	55	226	0.76	654.27	649	13	7.66E-03	****	3.37E+00	
0	726.75	101	51	1.78	1453.50	1447	13	1.41E-02	36.1	1.87E+00	T
0	1586.76	26	7	2.36	3173.22	3167	14	3.59E-03	58.6	9.39E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:46:54.44

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*******************************************************************************
*                              GEL Laboratories LLC                           *
*                                2040 Savage Road                             *
*                              Charleston, SC 29414                           *
*******************************************************************************
*                                                                             *
*                                 DETECTOR DATA                               *
*                                                                             *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137004.CNF;1   *
* Acquisition date  : 20-JAN-2010 13:44:08  Detector SN#     :                *
* Detector ID       : GAM15                 Sensitivity      : 5.00000       *
* Geometry          : CAN                   Energy tolerance: 1.50000        *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000       *
* Elapsed real time: 0 02:00:01.19          Half life ratio : 8.00000        *
*******************************************************************************
*                                                                             *
*                                 SAMPLE DATA                                 *
*                                                                             *
* Sample date       : 4-JAN-2010 12:00:00.  Nuclide Library : SOLID           *
* Sample ID         : G244137004            Analyst initials: MXR1            *
* Batch Number      : 940263                Sample Quantity : 1.23280E+02 GRAM *
*******************************************************************************
*                                                                             *
*                                    QC DATA                                  *
*                                                                             *
* CALIB. DATE/TIME : 16-FEB-2009 10:54:12.9MS Isotope      :                  *
* MSD ID           :                       MSD Isotope     :                  *
* LCS ID           : 1032-A                LCS Isotope     :                  *
*******************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.974E+01	2.211E+00	6.704E-01	5.125E-02	29.444
CS-135	5.654E-01	2.102E-01	3.141E-01	2.685E-02	1.800
BA-137M	1.492E-01	5.220E-02	7.300E-02	3.673E-03	2.044
CS-137	1.578E-01	5.519E-02	7.717E-02	3.904E-03	2.044
TL-208	5.433E-01	1.010E-01	6.608E-02	4.207E-03	8.222
BI-211	3.852E+00	6.705E-01	3.941E-01	2.708E-02	9.775
PB-212	1.685E+00	1.950E-01	1.103E-01	9.129E-03	15.279
PO-212	1.685E+00	1.950E-01	1.103E-01	9.129E-03	15.279
BI-214	1.175E+00	2.194E-01	1.257E-01	9.336E-03	9.344
PB-214	1.340E+00	2.435E-01	1.374E-01	1.184E-02	9.756
PO-214	1.340E+00	2.435E-01	1.374E-01	1.184E-02	9.756
PO-216	1.685E+00	1.950E-01	1.103E-01	9.129E-03	15.279
PO-218	1.340E+00	2.435E-01	1.374E-01	1.184E-02	9.756
RA-224	5.640E+00	1.790E+00	1.255E+00	8.734E-02	4.495
RA-226	1.175E+00	2.194E-01	1.257E-01	9.336E-03	9.344
AC-228	1.636E+00	3.578E-01	1.982E-01	2.203E-02	8.256
RA-228	1.636E+00	3.578E-01	1.982E-01	2.203E-02	8.256
TH-228	1.712E+00	1.982E-01	1.121E-01	9.277E-03	15.279

Sample ID : G244137004 Acquisition date : 20-JAN-2010 13:44:08

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.175E+00	2.194E-01	1.257E-01	9.336E-03	9.344
TH-232	1.636E+00	3.578E-01	1.982E-01	2.203E-02	8.256
U-234	1.175E+00	2.194E-01	1.257E-01	9.336E-03	9.344
AM-243	4.455E-01	1.420E-01	1.282E-01	1.425E-02	3.474
ANH-511	1.210E-01	8.391E-02	5.624E-02	3.176E-03	2.152

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.923E-02		3.947E-01	6.473E-01	4.313E-02	0.030
NA-22	-2.719E-02		4.710E-02	7.053E-02	4.841E-03	-0.385
NA-24	-3.533E-01		1.301E+00	Half-Life too short		
AL-26	-1.226E-02		2.843E-02	4.148E-02	2.482E-03	-0.296
TI-44	1.983E-01		6.270E-02	9.645E-02	1.072E-02	2.056
SC-46	-2.186E-02		4.526E-02	7.130E-02	5.981E-03	-0.307
V-48	4.015E-02		7.041E-02	1.235E-01	9.757E-03	0.325
CR-51	3.367E-01		5.097E-01	8.326E-01	6.005E-02	0.404
MN-52	6.873E-02		2.584E-01	4.495E-01	3.333E-02	0.153
MN-54	1.542E-02		4.287E-02	7.333E-02	5.496E-03	0.210
CO-56	2.000E-02		4.754E-02	8.170E-02	6.279E-03	0.245
CO-57	-1.023E-02		3.191E-02	5.129E-02	3.688E-03	-0.200
CO-58	-3.292E-02		4.524E-02	7.012E-02	5.009E-03	-0.469
FE-59	-4.680E-02		1.061E-01	1.651E-01	1.250E-02	-0.283
CO-60	-4.872E-03		4.259E-02	6.761E-02	5.103E-03	-0.072
ZN-65	1.479E-02		1.189E-01	1.693E-01	1.100E-02	0.087
GE-68	9.749E-01		1.452E+00	2.533E+00	1.760E-01	0.385
AS-73	1.235E+00		2.133E+00	3.623E+00	4.951E-01	0.341
AS-74	5.449E-02		1.203E-01	1.966E-01	1.057E-02	0.277
SE-75	6.025E-02		5.789E-02	9.070E-02	6.344E-03	0.664
BR-77	-4.779E+00		1.620E+01	2.573E+01	1.448E+00	-0.186
SR-82	-6.338E-01		4.694E-01	6.892E-01	4.549E-02	-0.920
RB-83	-3.674E-02		8.172E-02	1.281E-01	7.209E-03	-0.287
RB-84	-8.874E-02		8.130E-02	1.191E-01	9.836E-03	-0.745
KR-85	1.327E+01		9.276E+00	1.488E+01	8.394E-01	0.892
SR-85	6.871E-02		4.804E-02	7.707E-02	4.347E-03	0.892
RB-86	1.810E-01		1.003E+00	1.670E+00	1.162E-01	0.108
Y-88	3.017E-03		4.074E-02	6.788E-02	3.965E-03	0.044
ZR-88	-3.067E-02		3.916E-02	6.137E-02	3.481E-03	-0.500
Y-91	8.819E+00		2.340E+01	3.933E+01	2.379E+00	0.224
NB-94	3.293E-02		3.959E-02	7.027E-02	3.909E-03	0.469
NB-95	5.105E-02		5.358E-02	9.514E-02	6.131E-03	0.537
NB-95M	1.869E+00		2.755E-01	4.389E-01	3.709E-02	4.259
ZR-95	5.351E-03		7.819E-02	1.313E-01	9.792E-03	0.041
NB-97	2.695E-01		1.850E-01	Half-Life too short		
ZR-97	2.892E+01		3.652E+00	Half-Life too short		
MO-99	-1.193E+00		1.613E+01	2.679E+01	3.723E+00	-0.045
TC-99M	-6.802E+11		3.514E+11	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-101	7.080E-03		4.468E-02	7.087E-02	4.835E-03	0.100
RH-102	2.875E-02		3.509E-02	6.063E-02	3.456E-03	0.474
RU-103	4.724E-02		5.022E-02	8.693E-02	1.094E-02	0.543
RH-106	1.031E-01		3.817E-01	6.291E-01	7.221E-02	0.164
RU-106	1.031E-01		3.815E-01	6.291E-01	3.306E-02	0.164
AG-108M	-4.350E-02		3.996E-02	6.040E-02	3.755E-03	-0.720
CD-109	3.366E+00		1.408E+00	2.154E+00	2.491E-01	1.562
AG-110M	3.185E-02		5.156E-02	7.635E-02	4.184E-03	0.417
IN-111	8.723E-01		1.753E+00	2.654E+00	1.848E-01	0.329
IN-113M	-5.594E-03		5.605E-02	9.188E-02	5.574E-03	-0.061
SN-113	-5.594E-03		5.605E-02	9.188E-02	5.574E-03	-0.061
IN-114M	5.897E-02		2.719E-01	3.859E-01	2.617E-02	0.153
CD-115	5.132E+00		1.855E+01	3.077E+01	1.726E+00	0.167
SN-117M	-9.594E-02		7.419E-02	1.126E-01	7.528E-03	-0.852
SB-122	-2.686E+00		3.338E+00	5.068E+00	2.788E-01	-0.530
I-123	-3.658E+01		1.253E+01	Half-Life too short		
TE-123M	-5.416E-02		3.710E-02	5.580E-02	3.767E-03	-0.971
I-124	-5.192E-01		1.052E+00	1.377E+00	7.364E-02	-0.377
SB-124	-4.233E-02		9.179E-02	1.447E-01	1.016E-02	-0.292
SB-125	-4.555E-02		1.071E-01	1.705E-01	1.016E-02	-0.267
TE-125M	-4.976E+00		1.173E+01	1.883E+01	1.872E+00	-0.264
I-126	1.865E-01		2.543E-01	3.832E-01	1.950E-02	0.487
SB-126	-3.047E-02		1.972E-01	2.795E-01	1.622E-02	-0.109
SN-126	2.716E-01		1.400E-01	2.119E-01	2.445E-02	1.282
SB-127	5.976E-01		1.940E+00	3.330E+00	3.163E-01	0.179
XE-127	-6.291E-02		6.345E-02	9.354E-02	6.404E-03	-0.673
I-131	-7.884E-02		1.490E-01	2.381E-01	1.608E-02	-0.331
TE-132	-1.525E-01		1.017E+00	1.702E+00	2.562E-01	-0.090
BA-133	3.993E-02		5.872E-02	8.906E-02	1.049E-02	0.448
I-133	2.713E-03		8.088E-03	Half-Life too short		
CS-134	7.887E-02		5.410E-02	9.982E-02	6.956E-03	0.790
I-135	-1.919E+09		3.580E+10	Half-Life too short		
CS-136	5.527E-02		1.246E-01	2.137E-01	1.647E-02	0.259
CE-139	-1.072E-02		3.794E-02	6.044E-02	4.020E-03	-0.177
BA-140	-1.276E-01		3.294E-01	5.143E-01	1.671E-01	-0.248
LA-140	-3.213E-02		1.112E-01	1.686E-01	1.175E-02	-0.191
CE-141	-3.654E-03		8.352E-02	1.351E-01	9.431E-03	-0.027
CE-143	2.298E-03	+	3.159E-04	Half-Life too short		
CE-144	-5.693E-02		2.525E-01	4.062E-01	5.969E-02	-0.140
PM-144	-4.995E-02		4.027E-02	6.079E-02	3.335E-03	-0.822
PR-144	-3.387E+00		2.730E+00	4.122E+00	2.259E-01	-0.822
PM-146	7.694E-03		5.516E-02	9.121E-02	7.811E-03	0.084
ND-147	-9.367E-02		7.475E-01	1.204E+00	1.617E-01	-0.078
PM-149	1.516E+02		1.537E+02	2.669E+02	3.909E+01	0.568
EU-152	-1.675E-01		1.562E-01	1.906E-01	1.343E-02	-0.879
GD-153	4.579E-03		1.128E-01	1.625E-01	1.559E-02	0.028
EU-154	-7.729E-02		1.315E-01	1.963E-01	1.969E-02	-0.394
EU-155	2.605E-04		1.393E-01	2.280E-01	1.974E-02	0.001

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TB-160	7.884E-03		1.519E-01	2.529E-01	2.080E-02	0.031
HO-166M	-5.381E-02		6.845E-02	1.071E-01	6.087E-03	-0.502
TM-171	-4.642E+01		4.825E+01	7.586E+01	8.723E+00	-0.612
LU-176	2.003E-02		3.349E-02	5.282E-02	3.558E-03	0.379
LU-177	3.124E+00	+	1.725E+00	2.674E+00	1.837E-01	1.168
LU-177M	-1.325E-01		2.201E-01	3.479E-01	1.983E-02	-0.381
HF-181	-1.635E-02		4.952E-02	7.879E-02	4.486E-03	-0.208
W-181	-3.788E-01		6.348E-01	1.016E+00	1.182E-01	-0.373
TA-182	-2.559E-02		2.268E-01	3.641E-01	2.270E-02	-0.070
RE-183	9.280E-02		1.408E-01	2.335E-01	1.556E-02	0.398
RE-184	2.017E-01		2.933E-01	5.075E-01	3.533E-02	0.398
OS-185	-2.879E-02		5.015E-02	7.635E-02	3.911E-03	-0.377
RE-188	4.217E-01		2.223E-01	3.842E-01	2.577E-02	1.098
W-188	2.000E+00		9.981E+00	1.472E+01	1.007E+00	0.136
IR-192	-1.054E-02		4.593E-02	7.555E-02	5.049E-03	-0.139
AU-195	9.350E-02		2.847E-01	4.728E-01	4.431E-02	0.198
TL-200	5.521E-04		5.153E-04	Half-Life too short		
TL-201	-1.734E+00		1.064E+01	1.703E+01	1.133E+00	-0.102
TL-202	1.104E-01		8.890E-02	1.575E-01	8.999E-03	0.701
HG-203	3.948E-02		5.382E-02	8.252E-02	5.943E-03	0.478
BI-207	4.550E-02		5.849E-02	1.033E-01	7.339E-03	0.441
TL-207	-2.525E-01		9.455E-01	1.336E+00	2.245E-01	-0.189
PO-209	3.658E-01		8.385E+00	1.393E+01	1.186E+00	0.026
BI-210	1.111E+01		1.398E+01	2.335E+01	2.425E+00	0.476
PB-210	1.111E+01		1.398E+01	2.335E+01	2.425E+00	0.476
PO-210	1.111E+01		1.397E+01	2.335E+01	2.243E+00	0.476
PB-211	-1.848E-01		1.253E+00	2.037E+00	1.270E+00	-0.091
BI-212	1.399E+00	+	5.165E-01	7.781E-01	6.058E-02	1.798
PO-215	-2.525E-01		9.455E-01	1.336E+00	2.245E-01	-0.189
RN-219	9.341E-02		5.336E-01	8.881E-01	1.204E-01	0.105
RN-220	8.272E+00		3.069E+01	5.089E+01	2.823E+00	0.163
RA-223	-2.525E-01		9.455E-01	1.336E+00	2.245E-01	-0.189
AC-227	3.798E-01		4.926E-01	8.501E-01	1.231E-01	0.447
TH-227	3.798E-01		4.939E-01	8.501E-01	1.473E-01	0.447
TH-229	-2.175E-01		6.942E-01	1.081E+00	7.348E-02	-0.201
PA-231	2.208E+00		2.098E+00	3.254E+00	4.642E-01	0.679
TH-231	-2.525E-01		9.455E-01	1.336E+00	2.245E-01	-0.189
U-231	-1.201E+00		1.764E+00	2.432E+00	2.397E-01	-0.494
PA-233	3.250E-02		7.970E-02	1.356E-01	9.505E-03	0.240
PA-234	-3.589E-01		3.441E-01	4.938E-01	9.174E-02	-0.727
PA-234M	4.056E+00		5.270E+00	9.353E+00	8.620E-01	0.434
TH-234	1.205E+00		2.397E+00	3.993E+00	7.881E-01	0.302
U-235	2.778E-01		2.794E-01	4.575E-01	7.633E-02	0.607
NP-236	-5.250E-02		1.017E-01	1.604E-01	1.071E-02	-0.327
NP-237	2.607E-01		3.924E-01	6.008E-01	1.418E-01	0.434
U-238	1.205E+00		2.397E+00	3.993E+00	7.881E-01	0.302
NP-239	4.147E-02		2.368E-01	3.892E-01	2.926E-02	0.107
AM-241	-4.393E-01		3.184E-01	4.920E-01	6.261E-02	-0.893

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	2.801E-02		1.253E-01	2.070E-01	1.807E-02	0.135
AM-246	1.948E-01		1.622E-01	2.962E-01	2.053E-02	0.657
CM-247	3.369E-02		4.769E-02	8.177E-02	4.650E-03	0.412
CF-249	7.479E-02		4.837E-02	8.695E-02	4.985E-03	0.860
CF-251	1.542E-02		1.565E-01	2.531E-01	1.696E-02	0.061

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G244137004           *
* Acquisition date  : 20-JAN-2010 13:44:08 Detector SN#     :               *
* Detector ID       : GAM15                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.19      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                               SAMPLE DATA                                 *
*                                                                           *
* Sample date       :  4-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G244137004           Analyst initials: MXR1           *
* Batch Number      : 940263               Sample Quantity : 1.2328E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                 QC DATA                                   *
*                                                                           *
* CALIB. DATE/TIME : 16-FEB-2009 10:54:12 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.974E+01	2.167E+00	3.349E-01	1.105E+00
CS-135	5.654E-01	2.060E-01	1.605E-01	1.051E-01
BA-137M	1.492E-01	5.116E-02	3.686E-02	2.610E-02
CS-137	1.578E-01	5.408E-02	3.897E-02	2.759E-02
TL-208	5.433E-01	9.900E-02	3.342E-02	5.051E-02
BI-211	3.852E+00	6.571E-01	2.007E-01	3.352E-01
PB-212	1.685E+00	1.911E-01	5.644E-02	9.751E-02
PO-212	1.685E+00	1.911E-01	5.644E-02	9.751E-02
BI-214	1.175E+00	2.150E-01	6.356E-02	1.097E-01
PB-214	1.340E+00	2.386E-01	6.994E-02	1.217E-01
PO-214	1.340E+00	2.386E-01	6.994E-02	1.217E-01
PO-216	1.685E+00	1.911E-01	5.644E-02	9.751E-02
PO-218	1.340E+00	2.386E-01	6.994E-02	1.217E-01
RA-224	5.640E+00	1.755E+00	6.421E-01	8.952E-01
RA-226	1.175E+00	2.150E-01	6.356E-02	1.097E-01
AC-228	1.636E+00	3.506E-01	9.963E-02	1.789E-01
RA-228	1.636E+00	3.506E-01	9.963E-02	1.789E-01
TH-228	1.712E+00	1.942E-01	5.735E-02	9.908E-02
TH-230	1.175E+00	2.150E-01	6.356E-02	1.097E-01
TH-232	1.636E+00	3.506E-01	9.963E-02	1.789E-01
U-234	1.175E+00	2.150E-01	6.356E-02	1.097E-01
AM-243	4.455E-01	1.392E-01	6.660E-02	7.101E-02
ANH-511	1.210E-01	8.223E-02	2.850E-02	4.196E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	1.923E-02	3.868E-01	3.283E-01	1.973E-01	NOT IDENT.
NA-22	-2.719E-02	4.616E-02	3.530E-02	2.355E-02	NOT IDENT.
NA-24	-3.533E+05	2.550E+06	0.000E+00	1.301E+06	SHORT HLIF
AL-26	-1.226E-02	2.786E-02	2.066E-02	1.421E-02	NOT IDENT.

TI-44	1.983E-01	6.144E-02	5.007E-02	3.135E-02	NOT IDENT.
SC-46	-2.186E-02	4.435E-02	3.586E-02	2.263E-02	FAIL ABUN
V-48	4.015E-02	6.900E-02	6.204E-02	3.521E-02	NOT IDENT.
CR-51	3.367E-01	4.995E-01	4.245E-01	2.548E-01	NOT IDENT.
MN-52	6.873E-02	2.532E-01	2.246E-01	1.292E-01	NOT IDENT.
MN-54	1.542E-02	4.201E-02	3.691E-02	2.144E-02	NOT IDENT.
CO-56	2.000E-02	4.659E-02	4.112E-02	2.377E-02	NOT IDENT.
CO-57	-1.023E-02	3.128E-02	2.648E-02	1.596E-02	NOT IDENT.
CO-58	-3.292E-02	4.433E-02	3.531E-02	2.262E-02	NOT IDENT.
FE-59	-4.680E-02	1.040E-01	8.282E-02	5.304E-02	NOT IDENT.
CO-60	-4.872E-03	4.173E-02	3.382E-02	2.129E-02	NOT IDENT.
ZN-65	1.479E-02	1.165E-01	8.490E-02	5.943E-02	NOT IDENT.
GE-68	9.749E-01	1.423E+00	1.271E+00	7.262E-01	NOT IDENT.
AS-73	1.235E+00	2.090E+00	1.890E+00	1.066E+00	NOT IDENT.
AS-74	5.449E-02	1.179E-01	9.941E-02	6.016E-02	NOT IDENT.
SE-75	6.025E-02	5.673E-02	4.635E-02	2.894E-02	NOT IDENT.
BR-77	-4.779E+00	1.587E+01	1.303E+01	8.098E+00	FAIL ABUN
SR-82	-6.338E-01	4.600E-01	3.473E-01	2.347E-01	NOT IDENT.
RB-83	-3.674E-02	8.008E-02	6.490E-02	4.086E-02	NOT IDENT.
RB-84	-8.874E-02	7.967E-02	5.992E-02	4.065E-02	NOT IDENT.
KR-85	1.327E+01	9.090E+00	7.539E+00	4.638E+00	NOT IDENT.
SR-85	6.871E-02	4.708E-02	3.904E-02	2.402E-02	NOT IDENT.
RB-86	1.810E-01	9.832E-01	8.380E-01	5.016E-01	NOT IDENT.
Y-88	3.017E-03	3.992E-02	3.381E-02	2.037E-02	NOT IDENT.
ZR-88	-3.067E-02	3.838E-02	3.120E-02	1.958E-02	NOT IDENT.
Y-91	8.819E+00	2.293E+01	1.970E+01	1.170E+01	NOT IDENT.
NB-94	3.293E-02	3.880E-02	3.545E-02	1.980E-02	NOT IDENT.
NB-95	5.105E-02	5.251E-02	4.795E-02	2.679E-02	NOT IDENT.
NB-95M	1.869E+00	2.699E-01	2.247E-01	1.377E-01	NOT IDENT.
ZR-95	5.351E-03	7.663E-02	6.621E-02	3.909E-02	NOT IDENT.
NB-97	2.695E+05	3.626E+05	0.000E+00	1.850E+05	SHORT HLIF
ZR-97	2.892E+07	7.157E+06	0.000E+00	3.652E+06	SHORT HLIF
MO-99	-1.193E+00	1.581E+01	1.351E+01	8.064E+00	NOT IDENT.
TC-99M	-6.802E+17	6.888E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	7.080E-03	4.379E-02	3.636E-02	2.234E-02	NOT IDENT.
RH-102	2.875E-02	3.439E-02	3.075E-02	1.755E-02	NOT IDENT.
RU-103	4.724E-02	4.922E-02	4.406E-02	2.511E-02	NOT IDENT.
RH-106	1.031E-01	3.741E-01	3.179E-01	1.908E-01	NOT IDENT.
RU-106	1.031E-01	3.739E-01	3.179E-01	1.908E-01	NOT IDENT.
AG-108M	-4.350E-02	3.916E-02	3.067E-02	1.998E-02	NOT IDENT.
CD-109	3.366E+00	1.380E+00	1.117E+00	7.040E-01	NOT IDENT.
AG-110M	3.185E-02	5.053E-02	3.855E-02	2.578E-02	NOT IDENT.
IN-111	8.723E-01	1.718E+00	1.358E+00	8.764E-01	NOT IDENT.
IN-113M	-5.594E-03	5.492E-02	4.672E-02	2.802E-02	NOT IDENT.
SN-113	-5.594E-03	5.492E-02	4.672E-02	2.802E-02	NOT IDENT.
IN-114M	5.897E-02	2.665E-01	1.981E-01	1.359E-01	NOT IDENT.
CD-115	5.132E+00	1.818E+01	1.559E+01	9.276E+00	NOT IDENT.
SN-117M	-9.594E-02	7.270E-02	5.793E-02	3.709E-02	NOT IDENT.
SB-122	-2.686E+00	3.272E+00	2.565E+00	1.669E+00	NOT IDENT.
I-123	-3.658E+07	2.455E+07	0.000E+00	1.253E+07	SHORT HLIF
TE-123M	-5.416E-02	3.636E-02	2.871E-02	1.855E-02	NOT IDENT.
I-124	-5.192E-01	1.031E+00	6.964E-01	5.260E-01	NOT IDENT.
SB-124	-4.233E-02	8.995E-02	7.215E-02	4.589E-02	FAIL ABUN
SB-125	-4.555E-02	1.049E-01	8.660E-02	5.354E-02	NOT IDENT.
TE-125M	-4.976E+00	1.150E+01	9.735E+00	5.867E+00	NOT IDENT.
I-126	1.865E-01	2.492E-01	1.935E-01	1.272E-01	NOT IDENT.
SB-126	-3.047E-02	1.932E-01	1.410E-01	9.860E-02	NOT IDENT.
SN-126	2.716E-01	1.372E-01	1.098E-01	6.998E-02	NOT IDENT.
SB-127	5.976E-01	1.901E+00	1.680E+00	9.701E-01	NOT IDENT.
XE-127	-6.291E-02	6.219E-02	4.797E-02	3.173E-02	NOT IDENT.
I-131	-7.884E-02	1.461E-01	1.212E-01	7.452E-02	NOT IDENT.
TE-132	-1.525E-01	9.962E-01	8.717E-01	5.083E-01	NOT IDENT.
BA-133	3.993E-02	5.754E-02	4.534E-02	2.936E-02	FAIL ABUN
I-133	2.713E+03	1.585E+04	0.000E+00	8.088E+03	SHORT HLIF
CS-134	7.887E-02	5.302E-02	5.028E-02	2.705E-02	NOT IDENT.
I-135	-1.919E+15	7.016E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.527E-02	1.221E-01	1.072E-01	6.230E-02	NOT IDENT.
CE-139	-1.072E-02	3.719E-02	3.108E-02	1.897E-02	NOT IDENT.
BA-140	-1.276E-01	3.228E-01	2.604E-01	1.647E-01	NOT IDENT.
LA-140	-3.213E-02	1.090E-01	8.412E-02	5.560E-02	NOT IDENT.
CE-141	-3.654E-03	8.185E-02	6.959E-02	4.176E-02	NOT IDENT.
CE-143	2.298E+03	6.193E+02	0.000E+00	3.159E+02	SHORT HLIF
CE-144	-5.693E-02	2.475E-01	2.094E-01	1.263E-01	NOT IDENT.
PM-144	-4.995E-02	3.946E-02	3.068E-02	2.014E-02	NOT IDENT.
PR-144	-3.387E+00	2.676E+00	2.080E+00	1.365E+00	NOT IDENT.
PM-146	7.694E-03	5.406E-02	4.629E-02	2.758E-02	NOT IDENT.
ND-147	-9.367E-02	7.326E-01	6.095E-01	3.738E-01	NOT IDENT.
PM-149	1.516E+02	1.507E+02	1.362E+02	7.687E+01	NOT IDENT.

EU-152	-1.675E-01	1.530E-01	9.706E-02	7.808E-02	NOT IDENT.
GD-153	4.579E-03	1.105E-01	8.413E-02	5.638E-02	NOT IDENT.
EU-154	-7.729E-02	1.288E-01	9.827E-02	6.574E-02	NOT IDENT.
EU-155	2.605E-04	1.365E-01	1.179E-01	6.965E-02	NOT IDENT.
TB-160	7.884E-03	1.489E-01	1.272E-01	7.597E-02	FAIL ABUN
HO-166M	-5.381E-02	6.708E-02	5.402E-02	3.423E-02	FAIL ABUN
TM-171	-4.642E+01	4.729E+01	3.946E+01	2.413E+01	NOT IDENT.
LU-176	2.003E-02	3.282E-02	2.694E-02	1.675E-02	NOT IDENT.
LU-177	3.124E+00	1.691E+00	1.371E+00	8.626E-01	FAIL ABUN
LU-177M	-1.325E-01	2.157E-01	1.767E-01	1.100E-01	FAIL ABUN
HF-181	-1.635E-02	4.853E-02	3.995E-02	2.476E-02	NOT IDENT.
W-181	-3.788E-01	6.221E-01	5.284E-01	3.174E-01	NOT IDENT.
TA-182	-2.559E-02	2.223E-01	1.823E-01	1.134E-01	NOT IDENT.
RE-183	9.280E-02	1.379E-01	1.201E-01	7.038E-02	FAIL ABUN
RE-184	2.017E-01	2.875E-01	2.595E-01	1.467E-01	NOT IDENT.
OS-185	-2.879E-02	4.914E-02	3.856E-02	2.507E-02	NOT IDENT.
RE-188	4.217E-01	2.178E-01	1.977E-01	1.111E-01	NOT IDENT.
W-188	2.000E+00	9.782E+00	7.513E+00	4.991E+00	NOT IDENT.
IR-192	-1.054E-02	4.501E-02	3.852E-02	2.296E-02	FAIL ABUN
AU-195	9.350E-02	2.790E-01	2.447E-01	1.423E-01	FAIL ABUN
TL-200	5.521E+02	1.010E+03	0.000E+00	5.153E+02	SHORT HLIF
TL-201	-1.734E+00	1.043E+01	8.754E+00	5.319E+00	NOT IDENT.
TL-202	1.104E-01	8.712E-02	7.995E-02	4.445E-02	NOT IDENT.
HG-203	3.948E-02	5.274E-02	4.214E-02	2.691E-02	FAIL ABUN
BI-207	4.550E-02	5.732E-02	5.183E-02	2.925E-02	FAIL ABUN
TL-207	-2.525E-01	9.266E-01	6.809E-01	4.727E-01	FAIL ABUN
PO-209	3.658E-01	8.217E+00	7.005E+00	4.192E+00	NOT IDENT.
BI-210	1.111E+01	1.370E+01	1.220E+01	6.990E+00	NOT IDENT.
PB-210	1.111E+01	1.370E+01	1.220E+01	6.990E+00	NOT IDENT.
PO-210	1.111E+01	1.369E+01	1.220E+01	6.986E+00	NOT IDENT.
PB-211	-1.848E-01	1.228E+00	1.035E+00	6.264E-01	NOT IDENT.
BI-212	1.399E+00	5.062E-01	3.924E-01	2.582E-01	FAIL ABUN
PO-215	-2.525E-01	9.266E-01	6.809E-01	4.727E-01	FAIL ABUN
RN-219	9.341E-02	5.229E-01	4.514E-01	2.668E-01	NOT IDENT.
RN-220	8.272E+00	3.008E+01	2.576E+01	1.535E+01	NOT IDENT.
RA-223	-2.525E-01	9.266E-01	6.809E-01	4.727E-01	FAIL ABUN
AC-227	3.798E-01	4.827E-01	4.347E-01	2.463E-01	FAIL ABUN
TH-227	3.798E-01	4.840E-01	4.347E-01	2.470E-01	FAIL ABUN
TH-229	-2.175E-01	6.804E-01	5.546E-01	3.471E-01	NOT IDENT.
PA-231	2.208E+00	2.056E+00	1.661E+00	1.049E+00	NOT IDENT.
TH-231	-2.525E-01	9.266E-01	6.809E-01	4.727E-01	FAIL ABUN
U-231	-1.201E+00	1.728E+00	1.259E+00	8.818E-01	FAIL ABUN
PA-233	3.250E-02	7.811E-02	6.916E-02	3.985E-02	FAIL ABUN
PA-234	-3.589E-01	3.373E-01	2.482E-01	1.721E-01	FAIL ABUN
PA-234M	4.056E+00	5.165E+00	4.697E+00	2.635E+00	NOT IDENT.
TH-234	1.205E+00	2.349E+00	2.079E+00	1.198E+00	FAIL ABUN
U-235	2.778E-01	2.738E-01	2.357E-01	1.397E-01	FAIL ABUN
NP-236	-5.250E-02	9.964E-02	8.252E-02	5.084E-02	NOT IDENT.
NP-237	2.607E-01	3.845E-01	3.115E-01	1.962E-01	NOT IDENT.
U-238	1.205E+00	2.349E+00	2.079E+00	1.198E+00	FAIL ABUN
NP-239	4.147E-02	2.321E-01	2.010E-01	1.184E-01	FAIL ABUN
AM-241	-4.393E-01	3.121E-01	2.563E-01	1.592E-01	NOT IDENT.
CM-243	2.801E-02	1.228E-01	1.071E-01	6.265E-02	FAIL ABUN
AM-246	1.948E-01	1.590E-01	1.486E-01	8.110E-02	NOT IDENT.
CM-247	3.369E-02	4.674E-02	4.156E-02	2.385E-02	FAIL ABUN
CF-249	7.479E-02	4.740E-02	4.422E-02	2.419E-02	NOT IDENT.
CF-251	1.542E-02	1.534E-01	1.300E-01	7.825E-02	NOT IDENT.

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*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                          CHARLESTON ,SC 29417                             *
*                   GAMMA SPECTROSCOPY BACKGROUND REPORT                    *
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ENERGY	MDA COUNTS
46.50	251.8425
46.50	251.8425
46.50	251.8425
48.70	278.2792
49.72	292.9387
51.35	289.0050
52.39	261.9765
52.97	250.8249
53.15	252.7997
53.44	258.6238
54.07	256.0330
56.28	284.6366
56.28	284.6377
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57.53	289.9816
57.53	289.9828
57.60	299.5848
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57.98	302.6346
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59.32	357.0026
59.40	357.0466
59.54	359.0425
59.72	348.5787
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61.10	306.9674
61.14	306.9857
61.30	307.0593
63.00	319.4179
63.29	320.5194
63.29	320.5194
63.58	329.3490
64.28	336.4546
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65.20	364.0119
66.05	379.9668
66.72	391.0027
66.83	391.0658
66.91	391.1104
67.20	375.7374
67.20	375.7374
67.75	366.4520
67.85	366.5038
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68.90	323.8904
69.30	347.4425
69.67	336.7103
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70.82	354.4201
70.83	354.4257
72.80	360.0769
72.87	360.1106
72.87	360.1106
74.67	366.8694
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74.81	366.9379
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74.81	366.9379
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75.70	367.3716
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77.11	336.9560

77.11	336.9560
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77.11	336.9560
77.11	336.9560
77.11	336.9560
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80.30	436.3762
80.30	436.3762
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81.07	398.8211
81.07	398.8211
81.07	398.8211
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83.78	523.0557
83.78	523.0557
83.78	523.0557
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84.90	432.3450
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86.50	497.9248
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86.59	497.1833
86.72	497.2614
86.79	497.3033
86.94	497.3947
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87.30	462.5256
87.30	462.5256
87.30	462.5256
87.30	462.5256
87.30	462.5256
87.30	462.5256
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88.36	442.3581
88.47	442.4172
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92.38	409.1766
92.38	409.1766
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94.00	294.2006
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94.67	321.7798
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94.90	321.8652
94.90	321.8652
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98.44	309.3188
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99.55	315.4837
99.86	315.5932
100.00	307.5486
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103.76	316.9571
105.00	336.7136
105.31	325.6323
108.00	316.3704
109.28	318.8448

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111.00	316.3518
111.76	326.8502
112.95	294.4261
115.19	306.4178
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117.00	292.5624
117.00	292.5624
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121.62	307.3757
121.78	307.4244
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122.32	306.5519
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122.32	306.5519
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144.24	304.4575
144.24	304.4575
144.24	304.4575
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154.21	262.3284
154.21	262.3284
154.21	262.3284
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163.89	262.3160
165.85	295.0404
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171.28	260.6463
171.86	271.5879
172.10	261.8996
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176.60	258.4876
181.06	265.0537
184.41	266.6088
185.71	266.8731
186.00	260.8046
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198.60	257.2916
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202.84	282.4490
205.31	230.7976

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208.81	285.8741
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209.75	281.6119
210.97	247.7617
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216.55	266.1685
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227.08	240.5901
227.20	240.6080
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228.18	229.0434
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236.00	213.9081
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238.63	214.2726
238.63	214.2726
238.63	214.2726
239.00	214.3230
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241.98	216.8566
241.98	216.8566
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248.90	221.1603
249.79	211.2260
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252.85	191.4740
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256.20	198.2971
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268.79	188.0982
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269.46	149.9232
269.46	149.9232
269.46	149.9232
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273.65	150.2950
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277.60	150.6430
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279.53	166.0185
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281.68	198.8490
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284.30	145.3625
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285.90	156.0406
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286.10	160.7314
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293.26	0.0000
293.70	168.9346
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295.21	178.4706

295.21	178.4706
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297.23	178.6724
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299.80	178.9275
299.80	178.9275
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300.09	178.9576
300.09	178.9576
300.09	178.9576
300.12	178.9600
301.29	179.0759
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323.87	165.3713
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334.20	153.4746
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338.28	158.6030
338.28	158.6030
338.28	158.6030
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338.32	158.6071
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340.57	155.5805
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351.92	133.5662
351.92	133.5662
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367.94	0.0000
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391.69	132.1974
392.90	145.1033
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401.10	146.6414
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404.84	151.8533
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445.03	113.1375
445.03	113.1375
445.03	113.1375
445.03	113.1375
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475.35	83.8818
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477.96	93.1872
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513.99	77.9004
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529.87	0.0000
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546.56	0.0000
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563.90	107.9292
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569.50	86.9408
569.67	80.5849
573.80	104.8616
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574.64	90.2876
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579.30	0.0000
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591.81	78.0116
592.07	78.0170
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595.88	77.0502
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602.52	0.0000
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602.71	89.3901
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604.70	80.5060
609.31	78.4821

609.31	78.4821
609.31	78.4821
609.31	78.4821
610.33	78.5106
612.46	73.5434
614.37	75.3867
618.01	89.8560
621.84	73.4171
621.84	73.4171
631.29	67.1510
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633.10	68.2756
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646.12	76.1882
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661.65	87.5117
664.57	0.0000
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666.33	63.9060
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692.80	63.5223
695.00	81.9907
696.49	94.9322
696.49	94.9322
697.00	84.8069
697.49	81.1322
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702.63	70.1800
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711.68	78.7087
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717.42	59.3659
720.50	70.0329
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722.78	52.5604
722.89	52.5627
722.95	52.5638
723.30	63.7207
724.18	68.5178
727.18	59.0100
733.00	44.7344
735.90	60.6294
739.58	60.6968
742.81	55.1469
744.21	59.8451
747.13	55.2165
751.79	61.8522
752.31	59.9870
753.82	55.3257
755.35	65.6692
756.15	59.1163
756.87	59.1292
763.93	93.1086
765.79	76.2209
766.42	91.2927
766.84	85.6569
776.49	86.8396
778.00	80.2668
778.57	68.0010
778.89	63.2855
783.80	52.0235
785.46	57.7261
792.07	56.8860

795.84	51.2512
796.30	62.6484
798.80	87.3899
801.93	62.7478
805.60	59.0055
810.29	65.7530
810.76	66.7159
815.85	47.7214
817.79	49.6567
818.51	56.3520
819.60	67.8337
826.30	58.3876
828.27	0.0000
831.60	59.4305
831.96	50.8089
834.83	60.4429
836.80	0.0000
846.75	57.7502
848.13	56.8093
856.28	0.0000
856.80	54.5976
860.37	69.5537
867.32	58.0676
867.82	57.1082
871.10	58.1262
873.19	58.1580
874.81	56.2430
875.33	0.0000
876.40	50.4459
879.36	46.6016
880.27	46.6133
880.51	51.4721
881.50	63.1420
883.24	59.2836
884.67	38.8892
889.25	57.4299
896.60	50.7125
898.02	55.6084
899.00	60.5027
903.28	43.5422
911.07	35.2390
911.07	35.2390
911.07	35.2390
919.63	43.8774
920.93	42.1969
925.00	43.2230
925.24	43.2257
926.50	55.0316
935.52	46.2924
937.48	74.8914
944.10	50.3391
946.00	59.2505
949.00	34.5884
962.29	79.8862
964.01	59.5142
966.15	79.9616
968.20	71.4902
969.11	71.5063
969.11	71.5063
969.11	71.5063
977.42	21.2300
980.50	43.8192
983.50	28.9021
989.30	42.9143
996.32	54.9832
1001.03	37.0301
1001.68	40.0391
1004.76	63.1077
1021.30	0.0000
1024.50	0.0000
1034.80	41.3604
1036.00	35.3176
1037.82	31.2952
1038.57	37.3583
1038.76	0.0000
1045.16	46.5166
1046.59	41.4738
1048.07	39.4634

1050.47	43.5354
1050.47	43.5354
1062.04	43.6509
1063.62	37.5736
1076.63	51.9442
1077.35	41.7657
1078.86	34.6461
1085.78	37.7618
1099.22	52.2078
1112.02	35.1967
1112.84	31.6833
1115.52	51.0737
1120.29	47.3083
1120.29	47.3083
1120.29	47.3083
1120.29	47.3083
1120.51	47.3102
1121.28	47.3177
1124.00	0.0000
1129.67	44.8293
1131.51	0.0000
1147.95	0.0000
1167.94	45.7188
1173.22	55.1329
1175.09	47.8699
1177.93	54.1455
1189.05	48.0103
1204.90	57.5938
1205.75	0.0000
1213.00	70.2769
1221.42	56.7400
1230.97	68.4304
1235.34	63.2227
1236.41	0.0000
1238.25	56.9355
1246.25	67.5885
1260.41	0.0000
1271.85	31.8457
1274.45	40.3580
1274.54	40.3580
1291.56	35.1672
1298.22	0.0000
1312.09	34.2383
1325.50	43.9812
1325.50	43.9812
1332.49	27.9286
1333.61	31.1582
1360.21	29.1566
1362.66	0.0000
1365.15	27.0223
1368.21	30.2821
1368.53	0.0000
1376.25	24.9120
1384.27	18.5958
1394.10	21.4245
1395.20	20.4976
1407.95	24.2816
1434.06	15.9523
1436.60	16.8989
1457.56	0.0000
1460.81	25.4585
1489.15	23.6921
1509.49	24.7287
1596.49	23.6515
1620.62	18.4155
1678.03	0.0000
1691.02	14.7065
1691.02	14.7065
1706.46	0.0000
1750.46	0.0000
1764.49	8.6789
1764.49	8.6789
1764.49	8.6789
1764.49	8.6789
1770.23	5.2119
1771.40	24.8230
1791.20	0.0000
1808.65	9.9860

1836.01 13.0358

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244137004

Total Uranium Activity	3.7133E+00	ug/g
Total Uranium Counting Unc.	6.9895E+00	ug/g
Total Uranium Tpu	3.5661E-06	ug/g
Total Uranium Mda	6.1845E+00	ug/g

```
*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                             *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 940263                    SAMPLE ID  : G244137004       *
*   ANALYST       : MXR1                      DETECTOR   : GAM15            *
*   SAMPLE DATE   :  4-JAN-2010 12:00:00.00   COUNT TIME :    0 02:00:00.00 *
*   ANALYSIS DATE: 20-JAN-2010 13:44:08.09    SAMPLE ALQT:  123.280 GRAM    *
*                                                                           *
*****************************************************************************


        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 7.927E+00
        GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.260E+00
        GROSS GAMMA MDA     (pCi/GRAM  )  : 3.017E+00
        GROSS GAMMA DLC     (pCi/GRAM  )  : 1.460E+00
```

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:47:51.20

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137005.CNF;1
Sample date       : 4-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:44:36
Sample ID         : G244137005           Sample quantity  : 1.26320E+02 GRAM
Detector name     : GAM17                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:09.18  0.1%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 940263               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.68*	90	296	0.95	92.99	89	8	1.25E-02	37.1	
2	0	63.35*	143	546	0.94	126.34	122	10	1.99E-02	32.4	
3	2	74.85*	512	398	0.95	149.34	143	19	7.11E-02	7.6	1.37E+00
4	2	77.16*	821	315	0.86	153.96	143	19	1.14E-01	4.9	
5	0	86.72	218	729	0.90	173.09	167	11	3.03E-02	24.9	
6	3	89.90	196	213	0.99	179.45	177	12	2.72E-02	12.3	1.12E+00
7	3	92.73*	214	335	1.16	185.12	177	12	2.97E-02	16.9	
8	0	128.82	97	300	0.81	257.32	253	9	1.35E-02	33.7	
9	0	185.92*	230	181	1.28	371.56	368	9	3.19E-02	13.1	
10	0	209.23	118	167	1.19	418.21	414	8	1.64E-02	21.2	
11	5	238.55*	947	141	1.01	476.88	472	16	1.32E-01	3.9	8.87E-01
12	5	241.50	259	164	1.75	482.78	472	16	3.59E-02	13.4	
13	0	277.01	32	119	1.16	553.83	552	7	4.37E-03	59.6	
14	0	295.04*	304	125	1.25	589.90	586	9	4.22E-02	9.0	
15	0	299.87	82	156	1.14	599.56	595	12	1.14E-02	32.4	
16	0	338.10*	185	129	0.99	676.06	670	12	2.57E-02	14.6	
17	0	351.79*	487	112	1.11	703.45	698	12	6.76E-02	6.1	
18	0	410.81	60	119	1.55	821.55	814	16	8.32E-03	42.8	
19	0	462.61	53	74	1.10	925.19	919	11	7.35E-03	34.4	
20	0	510.71*	73	96	1.34	1021.45	1016	13	1.01E-02	35.6	
21	0	582.90*	253	76	1.32	1165.90	1160	12	3.52E-02	9.6	
22	0	608.74	412	72	1.54	1217.62	1211	16	5.72E-02	6.7	
23	0	726.66	80	46	1.32	1453.59	1447	15	1.11E-02	21.4	
24	0	767.42	53	28	1.56	1535.15	1530	11	7.40E-03	23.5	
25	0	794.47	42	23	1.90	1589.29	1585	10	5.86E-03	26.1	
26	0	859.95	71	24	1.86	1720.33	1712	18	9.81E-03	20.8	
27	0	910.39*	140	58	1.41	1821.28	1815	14	1.95E-02	14.4	
28	0	969.33*	68	65	1.39	1939.24	1931	12	9.49E-03	27.1	
29	0	1120.12	75	36	1.55	2241.05	2234	14	1.05E-02	20.8	
30	0	1459.53*	548	11	1.91	2920.42	2913	14	7.61E-02	4.5	
31	0	1763.34*	62	4	1.55	3528.62	3521	17	8.54E-03	15.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JAN-2010 15:47:54

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137005.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 4-JAN-2010 12:00:00
Sample ID : G244137005
Sample type : SOLID
Detector name : GAMMA17
Elapsed live time: 0 02:00:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 1.50 keV
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 75.00

Acquisition date : 20-JAN-2010 13:44:36
Sample quantity : 126.32 GRAM
Sample geometry :
Detector geometry: CAN
Elapsed real time: 0 02:00:09.18 0.1%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 0.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.961E+01	2.471E+00	4.261E-01	3.783E-02	46.023
CD-109	+	88.03	*	2.672E+00	1.357E+00	9.099E-01	8.883E-02	2.936
SN-126	+	64.28		6.549E-01	4.369E-01	3.746E-01	5.979E-02	1.748
	+	86.94		1.090E+00	7.080E-01	4.226E-01	1.759E-01	2.580
	+	87.57	*	2.622E-01	1.332E-01	8.918E-02	8.703E-03	2.941
TL-208	+	277.35		3.854E-01	4.618E-01	6.577E-01	8.374E-02	0.586
	+	510.84		4.883E-01	3.530E-01	2.565E-01	3.134E-02	1.904
	+	583.14	*	4.933E-01	1.053E-01	7.139E-02	6.753E-03	6.909
	+	860.37		1.350E+00	5.769E-01	5.658E-01	5.323E-02	2.386
BI-210	+	46.50	*	1.046E+00	7.833E-01	7.308E-01	7.927E-02	1.431
PB-210	+	46.50	*	1.046E+00	7.833E-01	7.308E-01	7.927E-02	1.431
PO-210	+	46.50	*	1.046E+00	7.822E-01	7.308E-01	7.383E-02	1.431
BI-211		72.87		3.226E+00	1.907E+00	3.353E+00	3.279E-01	0.962
	+	351.07	*	3.846E+00	5.930E-01	3.392E-01	3.166E-02	11.337
PB-212	+	74.81		2.092E+00	4.269E-01	3.542E-01	4.786E-02	5.908
	+	77.11		2.000E+00	2.754E-01	2.115E-01	2.062E-02	9.455
	+	87.30		1.213E+00	6.280E-01	4.707E-01	6.576E-02	2.577
	+	238.63	*	1.569E+00	2.001E-01	9.683E-02	9.762E-03	16.201
	+	300.09		2.138E+00	1.405E+00	1.124E+00	1.224E-01	1.902
PO-212	+	74.81		2.092E+00	4.269E-01	3.542E-01	4.786E-02	5.908
	+	77.11		2.000E+00	2.754E-01	2.115E-01	2.062E-02	9.455
	+	87.30		1.213E+00	6.280E-01	4.707E-01	6.576E-02	2.577
		115.19		7.817E-01	3.352E+00	5.614E+00	6.321E-01	0.139
	+	238.63	*	1.569E+00	2.001E-01	9.683E-02	9.762E-03	16.201
	+	300.09		2.138E+00	1.405E+00	1.124E+00	1.224E-01	1.902
BI-214	+	609.31	*	1.522E+00	2.571E-01	1.187E-01	1.208E-02	12.816
	+	1120.29		1.517E+00	6.520E-01	5.510E-01	5.891E-02	2.753
	+	1764.49		1.722E+00	5.613E-01	3.721E-01	3.147E-02	4.628
PB-214	+	74.81		3.605E+00	7.062E-01	6.102E-01	7.478E-02	5.908
	+	77.11		3.428E+00	5.396E-01	3.625E-01	4.486E-02	9.455
	+	87.30		2.078E+00	1.068E+00	8.063E-01	1.003E-01	2.577
	+	241.98		2.576E+00	7.418E-01	5.838E-01	6.215E-02	4.412
	+	295.21		1.389E+00	2.929E-01	2.339E-01	2.598E-02	5.939
	+	351.92	*	1.338E+00	2.178E-01	1.183E-01	1.264E-02	11.309

Sample ID : G244137005 Acquisition date : 20-JAN-2010 13:44:36

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		3.605E+00	7.062E-01	6.102E-01	7.478E-02	5.908
	+	77.11		3.428E+00	5.396E-01	3.625E-01	4.486E-02	9.455
	+	87.30		2.078E+00	1.068E+00	8.063E-01	1.003E-01	2.577
	+	241.98		2.576E+00	7.418E-01	5.838E-01	6.215E-02	4.412
	+	295.21		1.389E+00	2.929E-01	2.339E-01	2.598E-02	5.939
	+	351.92	*	1.338E+00	2.178E-01	1.183E-01	1.264E-02	11.309
PO-216	+	74.81		2.092E+00	4.269E-01	3.542E-01	4.786E-02	5.908
	+	77.11		2.000E+00	2.754E-01	2.115E-01	2.062E-02	9.455
	+	87.30		1.213E+00	6.280E-01	4.707E-01	6.576E-02	2.577
	+	238.63	*	1.569E+00	2.001E-01	9.683E-02	9.762E-03	16.201
	+	300.09		2.138E+00	1.405E+00	1.124E+00	1.224E-01	1.902
PO-218	+	74.81		3.605E+00	7.062E-01	6.102E-01	7.478E-02	5.908
	+	77.11		3.428E+00	5.396E-01	3.625E-01	4.486E-02	9.455
	+	87.30		2.078E+00	1.068E+00	8.063E-01	1.003E-01	2.577
	+	241.98		2.576E+00	7.418E-01	5.838E-01	6.215E-02	4.412
	+	295.21		1.389E+00	2.929E-01	2.339E-01	2.598E-02	5.939
	+	351.92	*	1.338E+00	2.178E-01	1.183E-01	1.264E-02	11.309
RA-224	+	240.98	*	4.884E+00	1.380E+00	1.103E+00	9.974E-02	4.428
RA-226	+	609.31	*	1.522E+00	2.571E-01	1.187E-01	1.208E-02	12.816
	+	1120.29		1.517E+00	6.520E-01	5.510E-01	5.891E-02	2.753
	+	1764.49		1.722E+00	5.613E-01	3.721E-01	3.147E-02	4.628
AC-228	+	338.32		1.599E+00	8.094E-01	3.768E-01	1.558E-01	4.244
	+	911.07	*	1.275E+00	3.952E-01	2.710E-01	3.074E-02	4.703
	+	969.11		1.097E+00	6.484E-01	5.190E-01	1.214E-01	2.114
RA-228	+	338.32		1.599E+00	8.094E-01	3.768E-01	1.558E-01	4.244
	+	911.07	*	1.275E+00	3.952E-01	2.710E-01	3.074E-02	4.703
	+	969.11		1.097E+00	6.484E-01	5.190E-01	1.214E-01	2.114
TH-228	+	74.81		2.126E+00	3.863E-01	3.599E-01	3.536E-02	5.908
	+	77.11		2.032E+00	2.799E-01	2.149E-01	2.095E-02	9.455
	+	87.30		1.232E+00	6.261E-01	4.783E-01	4.667E-02	2.577
	+	238.63	*	1.594E+00	2.033E-01	9.839E-02	9.920E-03	16.201
	+	300.09		2.172E+00	1.909E+00	1.142E+00	6.782E-01	1.902
TH-230	+	609.31	*	1.522E+00	2.571E-01	1.187E-01	1.208E-02	12.816
	+	1120.29		1.517E+00	6.520E-01	5.510E-01	5.891E-02	2.753
	+	1764.49		1.722E+00	5.613E-01	3.721E-01	3.147E-02	4.628
TH-232	+	338.32		1.599E+00	4.884E-01	3.768E-01	3.395E-02	4.244
	+	911.07	*	1.275E+00	3.952E-01	2.710E-01	3.074E-02	4.703
	+	969.11		1.097E+00	6.484E-01	5.190E-01	1.214E-01	2.114
TH-234	+	63.29	*	1.655E+00	1.115E+00	9.464E-01	1.766E-01	1.748
	+	92.38		1.780E+00	6.884E-01	6.261E-01	1.175E-01	2.844
U-234	+	609.31	*	1.522E+00	2.571E-01	1.187E-01	1.208E-02	12.816
	+	1120.29		1.517E+00	6.520E-01	5.510E-01	5.891E-02	2.753
	+	1764.49		1.722E+00	5.613E-01	3.721E-01	3.147E-02	4.628
NP-237	+	86.50	*	7.701E-01	4.223E-01	2.981E-01	6.804E-02	2.583
		95.87		-8.030E-01	8.510E-01	1.167E+00	2.941E-01	-0.688
U-238	+	63.29	*	1.655E+00	1.115E+00	9.464E-01	1.766E-01	1.748
	+	92.38		1.780E+00	6.276E-01	6.261E-01	6.240E-02	2.844
AM-243	+	74.67	*	3.392E-01	6.151E-02	5.740E-02	5.604E-03	5.910
	+	86.72		2.888E+01	1.467E+01	1.119E+01	1.091E+00	2.581

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		-3.452E-01	3.583E+00	5.907E+00	6.745E-01	-0.058
		142.18		-6.297E+00	1.763E+01	2.840E+01	2.929E+00	-0.222
ANH-511	+	511.00	*	1.055E-01	7.573E-02	5.543E-02	4.950E-03	1.903

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-2.875E-01	3.498E-01	5.261E-01	5.006E-02	-0.546
NA-22		1274.54	*	4.174E-02	5.366E-02	9.501E-02	8.004E-03	0.439
NA-24		1368.53	*	-8.585E-01	5.366E-02	Half-Life too short		
AL-26		1129.67		-1.027E+00	2.105E+00	3.203E+00	2.676E-01	-0.321
		1808.65	*	1.447E-02	3.340E-02	6.070E-02	5.087E-03	0.238
TI-44		67.85		1.797E-03	2.645E-02	4.049E-02	3.988E-03	0.044
	+	78.38	*	3.690E-01	5.083E-02	6.197E-02	6.038E-03	5.955
SC-46		889.25	*	6.380E-03	4.487E-02	7.553E-02	6.612E-03	0.084
	+	1120.51		2.617E-01	1.112E-01	1.618E-01	1.358E-02	1.618
V-48		944.10		-2.336E-01	1.077E+00	1.725E+00	1.510E-01	-0.135
		983.50	*	3.860E-02	8.943E-02	1.543E-01	1.346E-02	0.250
		1312.09		5.705E-02	9.305E-02	1.690E-01	1.434E-02	0.338
CR-51		320.08	*	2.074E-01	3.822E-01	6.655E-01	6.356E-02	0.312
MN-52		744.21		-2.911E-02	3.199E-01	5.319E-01	4.623E-02	-0.055
		848.13		-5.637E+00	8.981E+00	1.381E+01	1.214E+00	-0.408
		935.52		-1.209E-01	3.478E-01	5.498E-01	4.812E-02	-0.220
		1246.25		4.855E+00	9.441E+00	1.620E+01	1.354E+00	0.300
		1333.61		4.991E+00	7.218E+00	1.313E+01	1.119E+00	0.380
		1434.06	*	-9.815E-03	3.359E-01	5.569E-01	4.801E-02	-0.018
MN-54		834.83	*	2.211E-02	4.820E-02	8.353E-02	7.345E-03	0.265
CO-56		846.75	*	-1.493E-02	4.637E-02	7.418E-02	6.521E-03	-0.201
		977.42		-3.897E+00	3.928E+00	5.668E+00	4.947E-01	-0.687
		1037.82		1.562E-01	3.629E-01	6.255E-01	5.688E-02	0.250
		1175.09		-1.465E+00	2.812E+00	4.247E+00	3.471E-01	-0.345
		1238.25		2.108E-01	1.220E-01	2.265E-01	1.947E-02	0.931
		1360.21		-5.712E-01	1.094E+00	1.663E+00	1.423E-01	-0.343
		1771.40		-5.981E-02	2.702E-01	4.166E-01	3.518E-02	-0.144
CO-57		122.06	*	-7.770E-03	2.321E-02	3.769E-02	4.416E-03	-0.206
		136.48		-6.590E-02	2.113E-01	3.420E-01	3.850E-02	-0.193
CO-58		810.76	*	-2.486E-02	4.609E-02	7.209E-02	6.348E-03	-0.345
FE-59		142.65		-7.944E-01	2.881E+00	4.613E+00	4.741E-01	-0.172
		192.34		-6.431E-01	1.026E+00	1.593E+00	2.139E-01	-0.404
		1099.22	*	-6.093E-02	1.028E-01	1.527E-01	1.401E-02	-0.399
		1291.56		-4.526E-02	1.650E-01	2.546E-01	2.453E-02	-0.178
CO-60		1173.22		-4.970E-03	5.493E-02	8.762E-02	7.157E-03	-0.057
		1332.49	*	5.629E-03	5.110E-02	8.681E-02	7.399E-03	0.065
ZN-65		1115.52	*	-1.900E-02	1.265E-01	1.728E-01	1.455E-02	-0.110
GE-68		1077.35	*	4.722E-01	1.461E+00	2.480E+00	2.117E-01	0.190
AS-73		53.44	*	1.277E-01	2.200E-01	3.800E-01	3.801E-02	0.336
AS-74		595.88	*	-3.908E-02	1.202E-01	1.878E-01	1.655E-02	-0.208
		634.78		-7.116E-02	4.943E-01	7.578E-01	6.526E-02	-0.094

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75		66.05		7.584E-01	2.616E+00	4.001E+00	4.602E-01	0.190
		96.73		-9.763E-01	7.169E-01	9.638E-01	1.414E-01	-1.013
		121.11		-3.557E-02	1.243E-01	2.025E-01	2.770E-02	-0.176
		136.00		2.634E-02	3.789E-02	6.430E-02	6.954E-03	0.410
		198.60		-4.842E-01	1.891E+00	3.002E+00	2.892E-01	-0.161
		264.65	*	-4.978E-02	4.541E-02	6.531E-02	6.001E-03	-0.762
		279.53		1.157E-01	1.246E-01	1.999E-01	1.896E-02	0.579
		303.91		-1.094E+00	2.374E+00	3.380E+00	4.021E-01	-0.324
		400.65		-4.607E-02	2.998E-01	4.919E-01	5.414E-02	-0.094
BR-77	+	87.88		7.618E+02	3.870E+02	3.868E+02	3.775E+01	1.970
		200.40		7.832E+01	2.183E+02	3.586E+02	3.127E+01	0.218
	+	239.00		3.329E+02	3.975E+01	5.612E+01	5.069E+00	5.932
		249.79		-1.592E+01	9.535E+01	1.498E+02	1.362E+01	-0.106
		281.68		4.700E+01	1.305E+02	2.015E+02	1.850E+01	0.233
		297.23		1.732E+02	1.053E+02	1.401E+02	1.287E+01	1.236
		303.76		-1.174E+02	2.659E+02	3.797E+02	3.481E+01	-0.309
		439.47		1.144E+02	1.897E+02	3.293E+02	2.870E+01	0.347
		484.57		2.591E+01	3.559E+02	5.865E+02	5.210E+01	0.044
		520.65	*	2.793E+00	1.481E+01	2.458E+01	2.197E+00	0.114
		574.64		1.503E+01	3.390E+02	5.507E+02	4.890E+01	0.027
		578.91		7.819E+01	1.515E+02	2.284E+02	2.025E+01	0.342
		585.48		5.785E+02	3.140E+02	5.313E+02	4.700E+01	1.089
		755.35		3.092E+01	2.648E+02	4.487E+02	3.910E+01	0.069
		817.79		-1.004E+02	2.025E+02	3.177E+02	2.792E+01	-0.316
SR-82		698.33		2.050E+01	4.027E+01	7.089E+01	6.071E+00	0.289
		776.49	*	2.902E-02	4.339E-01	7.308E-01	6.395E-02	0.040
		1395.20		-6.686E+00	1.422E+01	2.198E+01	1.889E+00	-0.304
RB-83		520.41	*	1.407E-02	7.464E-02	1.239E-01	1.107E-02	0.114
		529.64		-6.232E-02	1.192E-01	1.835E-01	1.640E-02	-0.340
		552.65		-8.370E-02	2.289E-01	3.458E-01	3.086E-02	-0.242
RB-84		881.50	*	-6.074E-02	9.239E-02	1.413E-01	1.238E-02	-0.430
KR-85		513.99	*	9.369E+00	8.748E+00	1.403E+01	1.254E+00	0.668
SR-85		513.99	*	4.852E-02	4.530E-02	7.268E-02	6.493E-03	0.668
RB-86		1076.63	*	-2.542E-01	1.014E+00	1.601E+00	1.367E-01	-0.159
Y-88		898.02		4.339E-02	5.042E-02	9.101E-02	7.994E-03	0.477
		1836.01	*	-7.642E-03	4.253E-02	6.616E-02	5.517E-03	-0.116
ZR-88		392.90	*	7.145E-03	3.410E-02	5.751E-02	4.845E-03	0.124
Y-91		1204.90	*	-8.986E+00	2.375E+01	3.657E+01	3.019E+00	-0.246
NB-94		702.63	*	-2.708E-03	4.002E-02	6.700E-02	5.747E-03	-0.040
		871.10		-8.167E-03	4.059E-02	6.570E-02	5.766E-03	-0.124
NB-95		765.79	*	2.473E-02	6.024E-02	9.228E-02	8.060E-03	0.268
NB-95M		235.69	*	6.042E-02	1.470E-01	2.150E-01	2.195E-02	0.281
ZR-95		724.18		1.599E-01	1.241E-01	2.098E-01	1.969E-02	0.762
		756.15	*	-3.698E-02	8.944E-02	1.438E-01	1.378E-02	-0.257
NB-97		657.90	*	-6.342E-02	8.944E-02	Half-Life too short		
		1024.50		1.474E+01	8.944E-02	Half-Life too short		
ZR-97		254.15		1.663E+00	8.944E-02	Half-Life too short		
		355.39		-1.018E+01	8.944E-02	Half-Life too short		
		507.63	*	7.471E+00	8.944E-02	Half-Life too short		

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		602.52		-5.092E+00	8.944E-02	Half-Life too short		
		1021.30		-1.521E+01	8.944E-02	Half-Life too short		
		1147.95		-1.670E+01	8.944E-02	Half-Life too short		
		1362.66		6.580E+00	8.944E-02	Half-Life too short		
		1750.46		-1.470E+01	8.944E-02	Half-Life too short		
MO-99		140.51		-3.351E+01	3.605E+01	5.344E+01	1.513E+01	-0.627
		181.06		2.159E+00	2.164E+01	3.360E+01	6.127E+00	0.064
		366.43		2.337E+01	1.124E+02	1.905E+02	1.667E+01	0.123
		739.58	*	-4.401E+00	1.798E+01	2.943E+01	4.480E+00	-0.150
		778.00		-3.650E+01	4.858E+01	7.419E+01	6.495E+00	-0.492
TC-99M		140.51	*	-5.370E+11	4.858E+01	Half-Life too short		
RH-101		127.23		2.893E-02	3.404E-02	5.274E-02	5.998E-03	0.549
		198.01	*	-6.784E-03	3.391E-02	5.402E-02	4.697E-03	-0.126
		325.23		-1.834E-01	2.358E-01	3.754E-01	3.413E-02	-0.488
RH-102		418.52		-2.439E-01	3.118E-01	4.600E-01	3.956E-02	-0.530
		475.06	*	1.002E-02	3.044E-02	5.145E-02	4.557E-03	0.195
		631.29		2.346E-02	6.728E-02	1.119E-01	9.658E-03	0.210
		697.49		4.910E-02	8.749E-02	1.548E-01	1.325E-02	0.317
	+	766.84		3.383E-01	1.618E-01	2.552E-01	2.230E-02	1.326
		1046.59		-7.953E-02	1.333E-01	1.997E-01	1.720E-02	-0.398
		1112.84		-2.068E-01	3.328E-01	4.146E-01	3.491E-02	-0.499
RU-103		497.08	*	2.269E-02	4.295E-02	7.364E-02	1.056E-02	0.308
		610.33		1.327E+01	2.786E+00	3.658E+00	6.127E-01	3.629
RH-106	+	511.85		5.278E-01	3.789E-01	5.224E-01	4.666E-02	1.010
		621.84	*	4.690E-01	3.781E-01	6.757E-01	9.055E-02	0.694
		1050.47		2.880E+00	2.891E+00	5.246E+00	4.515E-01	0.549
RU-106	+	511.85		5.278E-01	3.789E-01	5.224E-01	4.666E-02	1.010
		621.84	*	4.690E-01	3.751E-01	6.757E-01	5.870E-02	0.694
		1050.47		2.880E+00	2.891E+00	5.246E+00	4.515E-01	0.549
AG-108M		433.93	*	-3.019E-02	3.351E-02	5.046E-02	4.554E-03	-0.598
		614.37		3.695E-03	5.063E-02	7.187E-02	6.513E-03	0.051
		722.95		-4.234E-03	5.326E-02	7.711E-02	6.921E-03	-0.055
AG-110M		657.75	*	-1.784E-02	4.850E-02	7.489E-02	6.527E-03	-0.238
		677.61		5.622E-02	3.848E-01	6.242E-01	5.452E-02	0.090
		706.67		-1.746E-01	2.585E-01	4.082E-01	3.604E-02	-0.428
		763.93		1.291E-01	2.112E-01	3.337E-01	2.994E-02	0.387
		884.67		-1.812E-03	5.833E-02	9.622E-02	8.692E-03	-0.019
		937.48		-3.991E-02	1.263E-01	1.998E-01	1.810E-02	-0.200
		1384.27		1.326E-01	1.979E-01	3.615E-01	3.191E-02	0.367
IN-111		171.28		4.578E-01	1.265E+00	2.096E+00	1.760E-01	0.218
		245.39	*	3.693E-01	1.493E+00	2.160E+00	1.959E-01	0.171
IN-113M		391.69	*	-1.671E-02	5.090E-02	8.251E-02	7.169E-03	-0.202
SN-113		391.69	*	-1.671E-02	5.090E-02	8.251E-02	7.169E-03	-0.202
IN-114M		190.27	*	6.447E-02	2.068E-01	3.047E-01	2.624E-02	0.212
CD-115		260.90		4.457E+01	1.835E+02	2.959E+02	2.703E+01	0.151
		492.35		2.857E+01	5.151E+01	8.863E+01	7.890E+00	0.322
		527.90	*	-6.833E+00	1.635E+01	2.548E+01	2.278E+00	-0.268
SN-117M		156.02		-1.788E+00	2.512E+00	3.947E+00	3.634E-01	-0.453
		158.56	*	1.251E-02	5.821E-02	9.603E-02	8.631E-03	0.130

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SB-122		563.90	*	-3.316E-01	3.223E+00	5.171E+00	4.604E-01	-0.064
		692.80		-3.040E+01	6.574E+01	1.061E+02	9.062E+00	-0.287
I-123		159.00	*	5.183E+00	6.574E+01	Half-Life too short		
		528.96		-9.516E+02	6.574E+01	Half-Life too short		
TE-123M		159.00	*	7.671E-03	2.862E-02	4.734E-02	4.261E-03	0.162
I-124		602.71	*	1.028E-01	1.014E+00	1.447E+00	1.270E-01	0.071
		722.78		-1.514E+00	6.640E+00	9.410E+00	8.129E-01	-0.161
		1325.50		2.520E+01	5.042E+01	8.989E+01	7.651E+00	0.280
		1376.25		8.411E+01	4.867E+01	9.657E+01	8.280E+00	0.871
		1509.49		2.349E+01	2.116E+01	4.131E+01	3.572E+00	0.569
		1691.02		-6.491E-01	5.992E+00	1.006E+01	8.603E-01	-0.065
SB-124		602.71		5.154E-03	5.083E-02	7.255E-02	6.372E-03	0.071
		645.85		4.837E-01	6.215E-01	1.074E+00	9.728E-02	0.451
		709.31		-4.510E-01	3.621E+00	6.040E+00	5.194E-01	-0.075
		713.82		-1.259E+00	2.145E+00	3.414E+00	4.108E-01	-0.369
		722.78		-1.101E-01	4.827E-01	6.841E-01	6.037E-02	-0.161
	+	968.20		1.142E+01	6.278E+00	8.838E+00	7.722E-01	1.292
		1045.16		-1.736E+00	2.796E+00	4.160E+00	3.585E-01	-0.417
		1325.50		1.957E+00	3.914E+00	6.980E+00	5.941E-01	0.280
		1368.21		-6.106E-01	2.143E+00	3.421E+00	4.599E-01	-0.178
		1436.60		3.862E+00	4.884E+00	9.057E+00	7.810E-01	0.426
		1691.02	*	-1.113E-02	1.027E-01	1.725E-01	1.534E-02	-0.065
SB-125		427.89	*	4.501E-02	1.028E-01	1.756E-01	1.549E-02	0.256
	+	463.38		6.796E-01	4.719E-01	6.024E-01	5.711E-02	1.128
		600.56		1.392E-01	2.125E-01	3.631E-01	3.419E-02	0.383
		635.90		-5.070E-02	3.470E-01	5.298E-01	4.929E-02	-0.096
TE-125M		109.28	*	-4.807E-01	8.168E+00	1.354E+01	1.664E+00	-0.036
I-126		388.63		1.717E-01	2.435E-01	4.241E-01	3.589E-02	0.405
		666.33	*	2.570E-02	2.340E-01	3.786E-01	3.196E-02	0.068
		753.82		1.897E+00	1.922E+00	3.496E+00	3.046E-01	0.543
SB-126		223.80		-6.778E-01	4.434E+00	7.025E+00	6.271E-01	-0.096
		278.60		3.495E+00	3.058E+00	4.957E+00	4.551E-01	0.705
	+	296.50		1.459E+01	2.938E+00	4.051E+00	3.719E-01	3.602
		414.70		6.517E-02	8.943E-02	1.409E-01	1.208E-02	0.463
		415.30		4.308E+00	7.274E+00	1.132E+01	9.711E-01	0.381
		555.20		1.268E+00	4.632E+00	7.720E+00	6.886E-01	0.164
		573.80		2.620E-01	1.364E+00	2.245E+00	1.994E-01	0.117
		593.00		-7.584E-02	1.260E+00	2.022E+00	1.784E-01	-0.038
		656.30		-2.322E-02	4.598E+00	7.359E+00	6.229E-01	-0.003
		666.33		1.076E-02	9.802E-02	1.585E-01	1.339E-02	0.068
		675.00		5.033E-01	2.615E+00	4.263E+00	3.614E-01	0.118
		695.00		-7.296E-02	9.532E-02	1.487E-01	1.272E-02	-0.491
		697.00		1.400E-01	3.216E-01	5.632E-01	4.820E-02	0.249
		720.50	*	-6.190E-02	2.170E-01	3.058E-01	2.640E-02	-0.202
		856.80		1.358E-01	6.916E-01	1.026E+00	9.016E-02	0.132
		989.30		-4.777E-01	1.572E+00	2.478E+00	2.160E-01	-0.193
		1034.80		-2.793E+00	1.152E+01	1.826E+01	1.578E+00	-0.153
		1213.00		-2.209E+00	6.122E+00	9.442E+00	7.812E-01	-0.234
SB-127		61.10		-7.167E+00	2.944E+01	4.457E+01	5.588E+00	-0.161

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		252.40		1.186E+00	5.543E+00	8.896E+00	3.755E+00	0.133
		290.80		2.012E+01	2.731E+01	4.329E+01	5.144E+00	0.465
	+	411.60		3.740E+01	3.259E+01	2.556E+01	4.063E+00	1.463
		444.90		5.311E+00	1.233E+01	2.104E+01	2.708E+00	0.252
		473.00		-2.514E-01	2.204E+00	3.578E+00	4.748E-01	-0.070
		543.00		-2.127E+01	2.246E+01	3.250E+01	4.813E+00	-0.654
		603.60		-1.090E+01	1.841E+01	2.364E+01	3.043E+00	-0.461
		685.20	*	-5.096E-01	1.952E+00	3.020E+00	3.500E-01	-0.169
		698.50		5.656E+00	2.116E+01	3.647E+01	5.833E+00	0.155
		722.20		-1.905E+01	4.623E+01	6.366E+01	7.296E+00	-0.299
		783.80		7.436E+00	5.434E+00	1.005E+01	1.283E+00	0.740
XE-127		57.60		-9.431E-01	2.088E+00	3.495E+00	3.510E-01	-0.270
		145.22		9.789E-02	7.127E-01	1.162E+00	1.172E-01	0.084
		172.10		-9.644E-02	1.252E-01	1.942E-01	1.633E-02	-0.497
		202.84	*	-2.181E-02	4.892E-02	7.659E-02	6.696E-03	-0.285
		374.96		-3.661E-02	2.137E-01	3.515E-01	3.040E-02	-0.104
I-131		80.18		1.245E+00	3.711E+00	5.708E+00	5.591E-01	0.218
		284.30		-3.949E-01	1.530E+00	2.548E+00	2.450E-01	-0.155
		364.48	*	3.274E-02	1.309E-01	2.225E-01	2.056E-02	0.147
		636.97		5.207E-01	1.973E+00	3.256E+00	2.960E-01	0.160
		722.89		-2.062E+00	9.940E+00	1.413E+01	1.229E+00	-0.146
TE-132		49.72		-8.564E-02	4.703E+00	7.265E+00	8.890E-01	-0.012
		111.76		-8.083E-01	3.216E+01	5.333E+01	6.978E+00	-0.015
		116.30		1.069E+01	3.161E+01	5.315E+01	7.083E+00	0.201
		228.16	*	-4.408E-02	8.675E-01	1.382E+00	2.222E-01	-0.032
BA-133		53.15		5.658E-02	9.256E-01	1.570E+00	1.570E-01	0.036
		79.62		-2.768E-01	9.764E-01	1.457E+00	2.314E-01	-0.190
		81.00		-1.044E-02	8.126E-02	1.117E-01	1.845E-02	-0.093
	+	276.40		3.810E-01	4.574E-01	6.812E-01	1.007E-01	0.559
		302.84		1.617E-02	1.533E-01	2.307E-01	3.149E-02	0.070
		356.01	*	-2.973E-02	4.979E-02	6.834E-02	9.131E-03	-0.435
		383.85		2.042E-01	3.338E-01	5.780E-01	7.250E-02	0.353
I-133	+	510.53		2.305E+00	3.338E-01	Half-Life too short		
		529.87	*	-5.857E-03	3.338E-01	Half-Life too short		
		706.58		-7.390E-01	3.338E-01	Half-Life too short		
		856.28		-3.275E-01	3.338E-01	Half-Life too short		
		875.33		-1.502E-01	3.338E-01	Half-Life too short		
		1236.41		2.479E+00	3.338E-01	Half-Life too short		
		1298.22		-4.695E-02	3.338E-01	Half-Life too short		
CS-134		475.35		7.786E-01	1.985E+00	3.373E+00	2.988E-01	0.231
		563.23		3.270E-01	4.214E-01	7.305E-01	6.564E-02	0.448
		569.32		8.611E-02	2.354E-01	3.938E-01	3.547E-02	0.219
		604.70		-3.587E-02	4.602E-02	5.748E-02	5.055E-03	-0.624
	+	795.84	*	1.230E-01	6.517E-02	1.034E-01	9.138E-03	1.190
		801.93		-3.082E-01	4.985E-01	7.781E-01	6.868E-02	-0.396
		1038.57		3.625E+00	4.483E+00	8.054E+00	6.953E-01	0.450
		1167.94		1.439E+00	3.016E+00	5.163E+00	4.230E-01	0.279
		1365.15		1.390E+00	1.468E+00	2.781E+00	2.492E-01	0.500
CS-135		268.24	*	1.305E-01	1.793E-01	2.961E-01	3.090E-02	0.441

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-135		288.45		-1.932E+11	1.793E-01	Half-Life too short		
		417.63		-3.473E+11	1.793E-01	Half-Life too short		
		546.56		1.215E+11	1.793E-01	Half-Life too short		
		836.80		1.405E+11	1.793E-01	Half-Life too short		
		1038.76		1.963E+11	1.793E-01	Half-Life too short		
		1124.00		6.964E+11	1.793E-01	Half-Life too short		
		1131.51		-1.522E+10	1.793E-01	Half-Life too short		
		1260.41	*	3.535E+10	1.793E-01	Half-Life too short		
		1457.56		8.434E+12	1.793E-01	Half-Life too short		
		1678.03		6.850E+10	1.793E-01	Half-Life too short		
		1706.46		-6.410E+10	1.793E-01	Half-Life too short		
		1791.20		-1.495E+11	1.793E-01	Half-Life too short		
CS-136		66.91		7.854E-03	4.591E-01	6.931E-01	1.121E-01	0.011
	+	86.29		3.599E+00	1.860E+00	1.747E+00	2.383E-01	2.060
		153.22		7.442E-01	7.118E-01	1.216E+00	1.262E-01	0.612
		163.89		1.148E+00	1.093E+00	1.872E+00	1.791E-01	0.613
		176.55		-1.601E-01	3.861E-01	6.111E-01	5.480E-02	-0.262
		273.65		-5.137E-01	5.872E-01	7.520E-01	7.301E-02	-0.683
		340.57		1.281E-01	1.473E-01	2.344E-01	2.164E-02	0.546
		818.51		-5.236E-02	9.021E-02	1.399E-01	1.231E-02	-0.374
		1048.07	*	-2.771E-02	1.380E-01	2.197E-01	1.973E-02	-0.126
		1235.34		1.129E+00	8.352E-01	1.505E+00	1.752E-01	0.750
BA-137M		661.65	*	-3.934E-02	4.879E-02	7.106E-02	5.986E-03	-0.554
CS-137		661.65	*	-4.159E-02	5.157E-02	7.512E-02	6.340E-03	-0.554
CE-139		165.85	*	-1.854E-02	2.900E-02	4.543E-02	3.788E-03	-0.408
BA-140		162.64		3.342E-01	7.679E-01	1.280E+00	1.169E-01	0.261
		304.84		-5.216E-01	1.509E+00	2.164E+00	6.101E-01	-0.241
		423.70		-1.301E+00	2.190E+00	3.369E+00	1.092E+00	-0.386
		537.32	*	-1.095E-01	3.214E-01	5.018E-01	1.667E-01	-0.218
LA-140		328.77		2.234E-01	3.432E-01	5.976E-01	5.696E-02	0.374
		432.53		2.268E-01	2.303E+00	3.833E+00	3.486E-01	0.059
		487.03		7.962E-02	1.578E-01	2.700E-01	2.540E-02	0.295
		751.79		-1.587E+00	2.223E+00	3.456E+00	3.325E-01	-0.459
		815.85		1.070E-01	3.895E-01	6.684E-01	6.527E-02	0.160
		867.82		9.175E-01	1.928E+00	2.990E+00	2.758E-01	0.307
		919.63		-1.456E+00	3.716E+00	5.929E+00	6.376E-01	-0.246
		925.24		7.220E-04	1.343E+00	2.216E+00	2.058E-01	0.000
		1596.49	*	-4.007E-02	1.187E-01	1.841E-01	1.589E-02	-0.218
CE-141		145.44	*	-3.560E-02	6.569E-02	1.034E-01	1.055E-02	-0.344
CE-143		57.37		-2.479E-04	6.569E-02	Half-Life too short		
		231.56		-2.455E-03	6.569E-02	Half-Life too short		
		293.26	*	1.075E-03	6.569E-02	Half-Life too short		
	+	350.59		4.935E-02	6.569E-02	Half-Life too short		
		490.36		-4.597E-04	6.569E-02	Half-Life too short		
		664.57		-6.034E-05	6.569E-02	Half-Life too short		
		721.93		-1.211E-03	6.569E-02	Half-Life too short		
CE-144		80.11		5.242E-01	1.575E+00	2.422E+00	2.359E-01	0.216
		133.54	*	-5.598E-02	2.101E-01	3.244E-01	5.503E-02	-0.173
PM-144		476.78		-1.740E-02	7.118E-02	1.139E-01	1.100E-02	-0.153

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		-1.191E-02	3.991E-02	6.225E-02	5.568E-03	-0.191
		696.49	*	9.582E-03	3.880E-02	6.689E-02	5.726E-03	0.143
		778.57		-2.154E+00	2.614E+00	3.958E+00	3.466E-01	-0.544
PR-144		696.49	*	6.497E-01	2.631E+00	4.535E+00	3.880E-01	0.143
		1489.15		5.330E+00	1.338E+01	2.385E+01	2.062E+00	0.223
PM-146		453.90	*	1.627E-03	4.870E-02	8.035E-02	8.721E-03	0.020
		633.02		4.215E-01	1.769E+00	2.897E+00	1.083E+00	0.145
		735.90		-4.244E-03	1.609E-01	2.694E-01	7.709E-02	-0.016
		747.13		1.667E-02	1.078E-01	1.834E-01	2.584E-02	0.091
ND-147	+	91.11		8.675E-01	2.326E-01	4.592E-01	4.835E-02	1.889
		319.41		-1.660E-01	3.579E+00	6.005E+00	5.476E-01	-0.028
		439.89		1.626E+00	6.325E+00	1.066E+01	9.298E-01	0.152
		531.02	*	-1.501E-01	6.649E-01	1.057E+00	1.599E-01	-0.142
PM-149		285.90	*	5.831E+00	1.152E+02	1.958E+02	3.108E+01	0.030
EU-152		121.78		-4.859E-02	6.842E-02	1.086E-01	1.378E-02	-0.447
		244.69		1.007E-01	3.520E-01	5.113E-01	4.635E-02	0.197
		344.27	*	-3.419E-02	9.882E-02	1.555E-01	1.471E-02	-0.220
		443.98		-8.147E-01	1.039E+00	1.588E+00	1.387E-01	-0.513
		778.89		-1.824E-01	2.943E-01	4.570E-01	4.001E-02	-0.399
		867.32		5.605E-01	1.070E+00	1.673E+00	1.469E-01	0.335
		964.01		1.151E-01	4.755E-01	6.980E-01	6.101E-02	0.165
		1085.78		-8.278E-02	4.697E-01	7.471E-01	6.357E-02	-0.111
		1112.02		-1.806E-01	4.216E-01	6.045E-01	5.092E-02	-0.299
		1407.95		1.750E-01	2.450E-01	4.464E-01	3.841E-02	0.392
GD-153		69.67		-2.260E-01	1.010E+00	1.523E+00	1.495E-01	-0.148
		83.37		5.607E+00	1.345E+01	1.896E+01	1.847E+00	0.296
		97.43	*	-4.530E-02	6.589E-02	1.050E-01	1.074E-02	-0.431
		103.18		-1.543E-02	8.989E-02	1.486E-01	1.565E-02	-0.104
EU-154		123.07		1.634E-03	4.717E-02	7.810E-02	1.078E-02	0.021
		247.94		3.307E-02	3.860E-01	6.172E-01	7.299E-02	0.054
		591.81		2.555E-02	8.219E-01	1.330E+00	1.573E-01	0.019
		723.30		-3.210E-02	2.214E-01	3.175E-01	3.031E-02	-0.101
		756.87		-2.790E-01	9.401E-01	1.528E+00	1.841E-01	-0.183
		873.19		-1.962E-01	3.740E-01	5.820E-01	7.189E-02	-0.337
		996.32		-2.796E-01	4.374E-01	6.537E-01	1.164E-01	-0.428
		1004.76		-3.237E-02	2.680E-01	4.331E-01	5.065E-02	-0.075
		1274.45	*	1.020E-01	1.509E-01	2.637E-01	2.942E-02	0.387
EU-155		48.70		-8.783E-02	4.179E-01	6.383E-01	6.412E-02	-0.138
		60.01		5.196E-01	2.058E+00	3.197E+00	3.216E-01	0.163
	+	86.54		3.160E-01	1.606E-01	1.584E-01	1.557E-02	1.994
		105.31	*	1.027E-01	9.556E-02	1.656E-01	1.779E-02	0.620
TB-160	+	86.79		8.514E-01	4.325E-01	4.273E-01	4.168E-02	1.992
		197.04		1.178E-02	5.919E-01	9.553E-01	8.296E-02	0.012
		215.65		4.617E-03	7.484E-01	1.200E+00	1.064E-01	0.004
	+	298.57		3.140E-01	2.055E-01	2.214E-01	2.032E-02	1.418
		879.36	*	8.292E-03	1.857E-01	3.090E-01	2.709E-02	0.027
		962.29		9.574E-01	7.732E-01	1.282E+00	1.120E-01	0.747
		966.15		7.086E-01	3.996E-01	6.624E-01	5.788E-02	1.070
		1177.93		3.295E-01	4.323E-01	7.629E-01	6.242E-02	0.432

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		1271.85		-7.093E-01	9.025E-01	1.280E+00	1.077E-01	-0.554
HO-166M		80.57		1.408E-02	2.244E-01	3.123E-01	3.042E-02	0.045
		184.41		6.775E-02	4.061E-02	6.649E-02	5.684E-03	1.019
		280.46		7.762E-02	9.456E-02	1.509E-01	1.385E-02	0.514
	+	410.95		6.294E-01	5.421E-01	4.589E-01	3.924E-02	1.372
		711.68	*	3.449E-02	7.713E-02	1.347E-01	1.159E-02	0.256
		752.31		1.581E-01	3.403E-01	5.945E-01	5.177E-02	0.266
		810.29		-3.198E-02	6.588E-02	1.035E-01	9.091E-03	-0.309
TM-171		51.35		-2.424E+00	6.456E+00	1.087E+01	1.088E+00	-0.223
		52.39		-8.148E-01	3.839E+00	6.440E+00	6.443E-01	-0.127
		59.40		8.414E+00	1.067E+01	1.697E+01	1.711E+00	0.496
		66.72	*	8.032E-01	1.581E+01	2.391E+01	2.360E+00	0.034
LU-176		88.36		9.023E-01	2.223E-01	3.174E-01	3.104E-02	2.843
		201.83		-3.045E-02	3.016E-02	4.550E-02	3.974E-03	-0.669
		306.84	*	-1.145E-02	2.672E-02	4.226E-02	3.871E-03	-0.271
		401.10		1.190E+00	7.687E+00	1.289E+01	1.094E+00	0.092
LU-177		112.95		-2.585E-01	1.629E+00	2.682E+00	2.982E-01	-0.096
	+	208.36	*	3.793E+00	1.639E+00	2.354E+00	2.070E-01	1.611
LU-177M		52.97		2.219E-02	4.153E-01	7.041E-01	7.044E-02	0.032
		54.07		2.116E-01	2.339E-01	4.079E-01	4.081E-02	0.519
		61.30		1.383E-01	6.453E-01	9.996E-01	1.001E-01	0.138
		121.62		-2.528E-01	3.518E-01	5.584E-01	6.522E-02	-0.453
		147.16		-5.110E-01	6.259E-01	9.772E-01	9.703E-02	-0.523
		171.86		-2.721E-01	4.939E-01	7.769E-01	6.529E-02	-0.350
		218.09		5.375E-01	8.546E-01	1.421E+00	1.262E-01	0.378
		268.79		2.207E+00	9.303E-01	1.649E+00	1.511E-01	1.339
		319.02		-7.465E-02	2.604E-01	4.295E-01	3.917E-02	-0.174
		367.43		-7.852E-01	9.863E-01	1.543E+00	1.349E-01	-0.509
		413.65	*	3.238E-02	2.096E-01	3.101E-01	2.657E-02	0.104
HF-181		56.28		-1.946E-01	3.000E-01	4.979E-01	4.991E-02	-0.391
		57.53		-7.780E-02	1.747E-01	2.925E-01	2.937E-02	-0.266
		65.20		4.926E-02	5.050E-01	7.661E-01	7.587E-02	0.064
		133.02		-1.697E-02	7.207E-02	1.045E-01	1.147E-02	-0.162
		136.25		3.276E-01	4.478E-01	7.608E-01	8.177E-02	0.431
		345.85		7.515E-03	2.032E-01	3.170E-01	2.838E-02	0.024
		482.03	*	1.374E-02	4.881E-02	8.193E-02	7.274E-03	0.168
W-181		56.28		-7.540E-02	1.163E-01	1.930E-01	1.934E-02	-0.391
		57.53		-3.016E-02	6.772E-02	1.134E-01	1.139E-02	-0.266
		65.20	*	1.895E-02	1.943E-01	2.947E-01	2.919E-02	0.064
TA-182		67.75		2.199E-04	6.353E-02	9.697E-02	9.551E-03	0.002
		100.10		-5.019E-03	1.520E-01	2.500E-01	2.591E-02	-0.020
		152.43		2.281E-01	3.392E-01	5.721E-01	5.438E-02	0.399
		222.10		-1.702E-01	3.651E-01	5.668E-01	5.052E-02	-0.300
		1001.68		2.758E+00	2.503E+00	4.586E+00	3.990E-01	0.601
	+	1121.28		7.213E-01	3.064E-01	4.282E-01	3.592E-02	1.685
		1189.05		-4.543E-01	3.918E-01	5.360E-01	4.401E-02	-0.848
		1221.42	*	-4.184E-02	2.611E-01	4.135E-01	3.430E-02	-0.101
		1230.97		-4.140E-02	6.549E-01	1.048E+00	8.720E-02	-0.039
RE-183		57.98		2.941E-02	6.887E-02	1.192E-01	1.198E-02	0.247

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		59.32		3.603E-02	4.415E-02	7.033E-02	7.086E-03	0.512
		67.20		-2.040E-02	1.147E-01	1.715E-01	1.691E-02	-0.119
		162.32	*	-3.546E-02	1.110E-01	1.778E-01	1.539E-02	-0.199
	+	208.81		3.119E+00	1.348E+00	1.982E+00	1.744E-01	1.573
		291.72		3.608E-01	1.035E+00	1.593E+00	1.463E-01	0.226
RE-184		57.98		1.078E-01	2.524E-01	4.368E-01	4.390E-02	0.247
		59.32		1.319E-01	1.617E-01	2.575E-01	2.595E-02	0.512
		67.20		-7.472E-02	4.201E-01	6.282E-01	6.194E-02	-0.119
		161.27		-3.382E-01	3.583E-01	5.520E-01	4.831E-02	-0.613
		216.55		-2.922E-01	2.764E-01	4.115E-01	3.649E-02	-0.710
		252.85	*	1.126E-01	2.492E-01	4.076E-01	3.711E-02	0.276
		318.01		-1.149E-01	4.547E-01	7.520E-01	6.862E-02	-0.153
		792.07		6.815E-01	1.318E+00	2.054E+00	1.801E-01	0.332
		903.28		-6.160E-01	1.262E+00	1.745E+00	1.526E-01	-0.353
		920.93		1.597E-01	5.213E-01	8.921E-01	7.807E-02	0.179
OS-185		59.72		6.713E-02	1.198E-01	1.888E-01	1.901E-02	0.356
		61.14		-1.604E-02	7.116E-02	1.078E-01	1.081E-02	-0.149
		69.30		-1.069E-01	1.821E-01	2.695E-01	2.648E-02	-0.397
		592.07		1.451E+00	3.224E+00	5.417E+00	4.780E-01	0.268
		646.12	*	3.453E-02	5.315E-02	9.074E-02	7.747E-03	0.381
		717.42		7.318E-01	1.138E+00	2.018E+00	1.740E-01	0.363
		874.81		-4.413E-01	7.514E-01	1.162E+00	1.019E-01	-0.380
		880.27		5.077E-01	1.012E+00	1.759E+00	1.542E-01	0.289
RE-188		155.03	*	2.025E-01	1.809E-01	3.099E-01	2.879E-02	0.653
		477.96		-1.748E+00	3.227E+00	5.000E+00	4.433E-01	-0.350
		633.10		7.804E-01	3.588E+00	5.886E+00	5.075E-01	0.133
W-188	+	63.58		6.714E+01	4.399E+01	4.749E+01	4.723E+00	1.414
		227.08		-2.637E+00	1.332E+01	2.101E+01	1.881E+00	-0.126
		290.67	*	5.589E+00	8.003E+00	1.267E+01	1.164E+00	0.441
IR-192	+	295.96		1.069E+00	2.155E-01	3.297E-01	3.047E-02	3.241
		308.46		2.839E-02	9.959E-02	1.710E-01	1.573E-02	0.166
		316.51	*	1.457E-03	3.549E-02	5.993E-02	5.482E-03	0.024
		468.07		3.244E-02	7.665E-02	1.218E-01	1.150E-02	0.266
		604.41		-4.865E-01	6.292E-01	7.842E-01	1.029E-01	-0.620
		612.46		-1.854E-01	9.239E-01	1.261E+00	1.261E-01	-0.147
AU-195		65.12		1.794E-02	8.994E-02	1.371E-01	1.358E-02	0.131
		66.83		1.501E-03	5.254E-02	7.937E-02	7.832E-03	0.019
	+	75.70		1.102E+00	1.998E-01	3.348E-01	3.266E-02	3.291
		98.88	*	3.152E-01	1.905E-01	3.323E-01	3.422E-02	0.949
	+	129.76		6.424E+00	4.387E+00	5.143E+00	5.761E-01	1.249
TL-200		367.94	*	-5.248E-04	4.387E+00	Half-Life too short		
		579.30		4.371E-03	4.387E+00	Half-Life too short		
		828.27		1.942E-03	4.387E+00	Half-Life too short		
		1205.75		-1.543E-03	4.387E+00	Half-Life too short		
TL-201		68.90		-5.842E-01	3.313E+00	5.328E+00	5.237E-01	-0.110
		70.82		5.877E-01	2.096E+00	3.233E+00	3.169E-01	0.182
		80.30		1.580E+00	4.640E+00	7.137E+00	6.951E-01	0.221
		135.34		2.676E+01	3.057E+01	5.222E+01	5.647E+00	0.512
		167.43	*	-1.079E+01	8.675E+00	1.304E+01	1.089E+00	-0.828

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		-4.462E-02	2.530E-01	4.069E-01	4.000E-02	-0.110
		70.82		4.477E-02	1.597E-01	2.463E-01	2.414E-02	0.182
		80.30		1.204E-01	3.535E-01	5.438E-01	5.296E-02	0.221
		439.56	*	4.422E-02	7.337E-02	1.273E-01	1.110E-02	0.347
HG-203		70.83		1.879E-01	6.654E-01	1.026E+00	1.475E-01	0.183
		72.87		6.509E-01	3.903E-01	6.765E-01	9.462E-02	0.962
		82.60		1.732E+00	1.048E+00	1.390E+00	2.012E-01	1.246
		279.20	*	4.902E-02	4.734E-02	7.642E-02	7.192E-03	0.641
BI-207		72.80		1.681E-01	1.102E-01	1.933E-01	1.890E-02	0.870
	+	74.97		6.090E-01	1.104E-01	1.633E-01	1.594E-02	3.729
		84.90		1.036E-01	1.609E-01	2.475E-01	2.412E-02	0.419
		569.67		1.030E-02	3.671E-02	6.097E-02	5.421E-03	0.169
		1063.62	*	4.170E-02	6.757E-02	1.179E-01	1.010E-02	0.354
		1770.23		-1.110E-01	5.441E-01	6.946E-01	5.867E-02	-0.160
TL-207		81.07		2.445E-02	2.025E-01	2.463E-01	2.399E-02	0.099
		83.78		7.749E-02	1.157E-01	1.649E-01	1.607E-02	0.470
		94.90		1.115E-01	1.891E-01	2.932E-01	2.959E-02	0.380
		122.32		-3.643E-01	1.611E+00	2.631E+00	3.202E-01	-0.138
		144.24		9.650E-01	7.010E-01	1.197E+00	1.322E-01	0.806
		154.21		1.222E-01	4.149E-01	6.873E-01	6.980E-02	0.178
		269.46		6.184E-01	2.255E-01	4.022E-01	3.753E-02	1.538
		323.87	*	-5.587E-01	6.883E-01	1.082E+00	1.941E-01	-0.517
	+	338.28		6.679E+00	2.122E+00	2.752E+00	3.465E-01	2.427
		445.03		9.008E-01	2.404E+00	4.086E+00	4.975E-01	0.220
PO-209		260.50		4.211E+00	9.951E+00	1.624E+01	1.484E+00	0.259
		262.80		-1.116E+01	2.696E+01	4.131E+01	3.778E+00	-0.270
		896.60	*	9.148E+00	9.064E+00	1.657E+01	1.449E+00	0.552
PB-211		404.84	*	3.106E-01	1.215E+00	1.793E+00	1.124E+00	0.173
		427.08		1.164E+00	2.340E+00	3.832E+00	2.382E+00	0.304
		831.96		-1.750E-01	1.537E+00	2.522E+00	1.581E+00	-0.069
BI-212	+	727.18	*	1.379E+00	6.063E-01	8.008E-01	8.035E-02	1.722
		785.46		1.147E+00	2.252E+00	3.932E+00	3.446E-01	0.292
		1620.62		1.953E+00	1.511E+00	3.049E+00	2.627E-01	0.640
PO-215		81.07		2.445E-02	2.025E-01	2.463E-01	2.399E-02	0.099
		83.78		7.749E-02	1.157E-01	1.649E-01	1.607E-02	0.470
		94.90		1.115E-01	1.891E-01	2.932E-01	2.959E-02	0.380
		122.32		-3.643E-01	1.611E+00	2.631E+00	3.202E-01	-0.138
		144.24		9.650E-01	7.010E-01	1.197E+00	1.322E-01	0.806
		154.21		1.222E-01	4.149E-01	6.873E-01	6.980E-02	0.178
		269.46		6.184E-01	2.255E-01	4.022E-01	3.753E-02	1.538
		323.87	*	-5.587E-01	6.883E-01	1.082E+00	1.941E-01	-0.517
	+	338.28		6.679E+00	2.122E+00	2.752E+00	3.465E-01	2.427
		445.03		9.008E-01	2.404E+00	4.086E+00	4.975E-01	0.220
RN-219		271.23		1.977E-01	2.896E-01	4.756E-01	5.123E-02	0.416
		401.81	*	5.683E-02	4.753E-01	7.950E-01	1.189E-01	0.071
RN-220		549.76	*	9.108E-01	2.819E+01	4.590E+01	4.098E+00	0.020
RA-223		81.07		2.445E-02	2.025E-01	2.463E-01	2.399E-02	0.099
		83.78		7.749E-02	1.157E-01	1.649E-01	1.607E-02	0.470
		94.90		1.115E-01	1.891E-01	2.932E-01	2.959E-02	0.380

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		122.32		-3.643E-01	1.611E+00	2.631E+00	3.202E-01	-0.138
		144.24		9.650E-01	7.010E-01	1.197E+00	1.322E-01	0.806
		154.21		1.222E-01	4.149E-01	6.873E-01	6.980E-02	0.178
		269.46		6.184E-01	2.255E-01	4.022E-01	3.753E-02	1.538
		323.87	*	-5.587E-01	6.883E-01	1.082E+00	1.941E-01	-0.517
	+	338.28		6.679E+00	2.122E+00	2.752E+00	3.465E-01	2.427
		445.03		9.008E-01	2.404E+00	4.086E+00	4.975E-01	0.220
AC-227		79.80		-3.210E-01	1.244E+00	1.857E+00	4.081E-01	-0.173
		236.00		2.966E-01	2.797E-01	4.244E-01	5.315E-02	0.699
		256.20	*	-3.639E-01	4.179E-01	6.159E-01	9.628E-02	-0.591
		286.10		-2.672E-02	1.444E+00	2.443E+00	3.317E-01	-0.011
	+	299.80		3.962E+00	2.662E+00	2.923E+00	5.195E-01	1.355
		304.40		-1.142E+00	2.116E+00	2.976E+00	5.564E-01	-0.384
		334.20		-2.468E+00	2.751E+00	3.654E+00	7.162E-01	-0.675
TH-227		79.80		-3.210E-01	1.244E+00	1.857E+00	4.131E-01	-0.173
	+	94.00		6.880E+00	2.788E+00	3.114E+00	6.969E-01	2.210
		236.00		2.966E-01	2.792E-01	4.244E-01	4.832E-02	0.699
		256.20	*	-3.639E-01	4.193E-01	6.159E-01	1.127E-01	-0.591
		286.10		-2.672E-02	1.444E+00	2.443E+00	2.453E+00	-0.011
	+	299.80		3.962E+00	2.662E+00	2.923E+00	5.195E-01	1.355
		304.40		-1.142E+00	2.116E+00	2.976E+00	5.564E-01	-0.384
		334.20		-2.468E+00	2.751E+00	3.654E+00	7.162E-01	-0.675
TH-229	+	85.43		5.881E-01	2.988E-01	2.430E-01	2.369E-02	2.420
	+	88.47		3.241E-01	8.611E-02	1.809E-01	1.769E-02	1.792
		100.00		1.984E-02	1.570E-01	2.600E-01	2.694E-02	0.076
		193.63	*	5.549E-02	5.343E-01	8.671E-01	7.499E-02	0.064
		210.97		9.303E-01	8.631E-01	1.329E+00	1.172E-01	0.700
PA-231		283.67	*	-1.347E+00	1.485E+00	2.342E+00	3.633E-01	-0.575
	+	301.29		1.585E+00	1.046E+00	1.128E+00	1.425E-01	1.405
TH-231		81.07		2.445E-02	2.025E-01	2.463E-01	2.399E-02	0.099
		83.78		7.749E-02	1.157E-01	1.649E-01	1.607E-02	0.470
		94.90		1.115E-01	1.891E-01	2.932E-01	2.959E-02	0.380
		122.32		-3.643E-01	1.611E+00	2.631E+00	3.202E-01	-0.138
		144.24		9.650E-01	7.010E-01	1.197E+00	1.322E-01	0.806
		154.21		1.222E-01	4.149E-01	6.873E-01	6.980E-02	0.178
		269.46		6.184E-01	2.255E-01	4.022E-01	3.753E-02	1.538
		323.87	*	-5.587E-01	6.883E-01	1.082E+00	1.941E-01	-0.517
	+	338.28		6.679E+00	2.122E+00	2.752E+00	3.465E-01	2.427
		445.03		9.008E-01	2.404E+00	4.086E+00	4.975E-01	0.220
U-231		84.21		4.799E+00	5.314E+00	8.255E+00	8.044E-01	0.581
	+	92.29		7.955E+00	2.804E+00	4.076E+00	4.061E-01	1.952
		95.87	*	-1.065E+00	1.102E+00	1.548E+00	1.570E-01	-0.688
		108.00		-1.186E+00	2.118E+00	3.423E+00	3.703E-01	-0.346
PA-233	+	75.28		1.777E+01	3.934E+00	4.965E+00	7.951E-01	3.579
	+	86.59		5.134E+00	2.916E+00	2.576E+00	7.009E-01	1.993
	+	300.12		1.105E+00	7.353E-01	8.118E-01	1.234E-01	1.361
		311.98	*	9.678E-03	6.770E-02	1.151E-01	1.080E-02	0.084
		340.50		7.572E-01	7.114E-01	1.117E+00	2.678E-01	0.678
		398.62		4.609E-01	2.336E+00	3.929E+00	1.044E+00	0.117

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.76		1.221E+00	1.807E+00	2.817E+00	6.067E-01	0.433
PA-234	+	63.00		1.929E+00	1.288E+00	1.352E+00	2.201E-01	1.427
		94.67		1.844E-01	1.412E-01	2.241E-01	3.016E-02	0.823
		98.44		8.266E-02	8.906E-02	1.314E-01	7.367E-02	0.629
		99.86		9.477E-02	3.992E-01	6.645E-01	6.880E-02	0.143
		111.00		-4.944E-02	1.632E-01	2.669E-01	3.706E-02	-0.185
		131.20		6.088E-02	1.105E-01	1.686E-01	1.872E-02	0.361
		152.70		3.712E-01	3.299E-01	5.590E-01	9.781E-02	0.664
	+	186.00		7.099E+00	2.889E+00	2.916E+00	9.097E-01	2.435
		226.40		5.444E-02	4.127E-01	6.653E-01	8.927E-02	0.082
		227.20		-1.277E-01	4.502E-01	7.064E-01	6.324E-02	-0.181
		248.90		-3.213E-02	8.683E-01	1.377E+00	3.110E-01	-0.023
	+	293.70		6.668E+00	1.674E+00	1.935E+00	3.403E-01	3.446
		369.80		3.001E-01	9.003E-01	1.534E+00	3.348E-01	0.196
		568.70		5.770E-01	1.183E+00	2.001E+00	1.780E-01	0.288
		569.50		1.300E-01	3.236E-01	5.432E-01	4.830E-02	0.239
		574.00		3.510E-01	1.857E+00	3.056E+00	2.714E-01	0.115
		699.00		-6.649E-02	8.593E-01	1.438E+00	2.740E-01	-0.046
		706.10		-3.183E-01	1.253E+00	2.048E+00	9.133E-01	-0.155
		733.00		6.263E-02	4.450E-01	6.648E-01	1.477E-01	0.094
		742.81		5.477E-01	1.674E+00	2.827E+00	1.901E+00	0.194
		796.30		7.205E-01	1.266E+00	1.958E+00	5.307E-01	0.368
		805.60		8.463E-01	1.185E+00	2.074E+00	6.367E-01	0.408
		819.60		3.708E-01	1.409E+00	2.404E+00	9.151E-01	0.154
		826.30		-4.255E-01	9.697E-01	1.501E+00	6.721E-01	-0.283
		831.60		-3.855E-01	7.953E-01	1.244E+00	3.718E-01	-0.310
		876.40		9.405E-01	1.428E+00	1.903E+00	1.957E+00	0.494
		880.51		5.183E-02	3.696E-01	6.198E-01	5.433E-02	0.084
		883.24		-7.440E-02	3.602E-01	5.770E-01	3.880E-01	-0.129
		899.00		-3.445E-01	1.037E+00	1.632E+00	7.137E-01	-0.211
		925.00		2.458E-01	1.314E+00	2.219E+00	1.942E-01	0.111
		926.50		2.215E-02	1.937E-01	3.241E-01	8.206E-02	0.068
		946.00	*	1.510E-01	3.651E-01	6.283E-01	1.183E-01	0.240
		949.00		4.095E-01	5.745E-01	1.016E+00	8.890E-02	0.403
		980.50		8.291E-02	9.268E-01	1.538E+00	1.342E-01	0.054
		1394.10		-5.076E-01	1.527E+00	2.358E+00	1.535E+00	-0.215
PA-234M	+	766.42		3.557E+01	2.461E+01	2.616E+01	1.328E+01	1.360
		1001.03	*	3.969E+00	5.526E+00	9.787E+00	9.821E-01	0.406
U-235	+	89.95		3.253E+00	1.295E+00	1.684E+00	5.257E-01	1.932
	+	93.35		2.140E+00	9.460E-01	1.089E+00	3.102E-01	1.966
		105.00		8.672E-01	9.592E-01	1.600E+00	4.878E-01	0.542
		143.76	*	2.080E-01	2.202E-01	3.676E-01	6.740E-02	0.566
		163.35		4.197E-01	4.592E-01	7.738E-01	1.474E-01	0.542
	+	185.71		2.629E-01	7.232E-02	1.076E-01	9.216E-03	2.443
		205.31		4.357E-01	5.849E-01	8.774E-01	1.680E-01	0.497
NP-236		94.67		1.422E-01	1.065E-01	1.703E-01	1.717E-02	0.835
		98.44		6.244E-02	5.784E-02	9.932E-02	1.021E-02	0.629
		111.00		-3.740E-02	1.234E-01	2.019E-01	2.220E-02	-0.185
		160.31	*	-2.504E-02	7.953E-02	1.275E-01	1.126E-02	-0.196

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		1.038E-01	1.330E-01	2.260E-01	2.335E-02	0.459
		117.00	*	2.515E-02	1.800E-01	3.001E-01	3.413E-02	0.084
	+	209.75		2.437E+00	1.053E+00	1.513E+00	1.333E-01	1.611
		228.18		-8.828E-03	2.317E-01	3.694E-01	3.309E-02	-0.024
	+	277.60		1.859E-01	2.221E-01	3.372E-01	3.095E-02	0.551
		334.30		-1.427E+00	1.539E+00	2.063E+00	1.865E-01	-0.692
AM-241		59.54	*	4.603E-02	6.217E-02	9.869E-02	1.048E-02	0.466
CM-243		99.55		1.068E-01	1.368E-01	2.325E-01	2.403E-02	0.459
		103.76	*	1.724E-02	8.268E-02	1.390E-01	1.469E-02	0.124
		117.00		2.587E-02	1.852E-01	3.087E-01	3.512E-02	0.084
	+	209.75		2.403E+00	1.038E+00	1.492E+00	1.314E-01	1.611
		228.18		-8.921E-03	2.341E-01	3.733E-01	3.344E-02	-0.024
	+	277.60		1.874E-01	2.239E-01	3.399E-01	3.120E-02	0.551
AM-246		798.80		3.208E-02	1.794E-01	2.674E-01	2.347E-02	0.120
		1036.00		-2.311E-01	3.800E-01	5.733E-01	4.952E-02	-0.403
		1062.04		2.152E-01	2.951E-01	5.205E-01	4.465E-02	0.414
		1078.86	*	2.119E-01	1.591E-01	3.017E-01	2.574E-02	0.702
CM-247	+	278.00		7.709E-01	9.211E-01	1.447E+00	1.329E-01	0.533
		287.40		-1.897E-01	1.154E+00	1.932E+00	1.775E-01	-0.098
		402.60	*	9.645E-03	4.276E-02	7.205E-02	6.121E-03	0.134
CF-249		252.85		4.207E-01	9.313E-01	1.523E+00	1.387E-01	0.276
		333.44		-3.045E-02	1.957E-01	2.851E-01	2.578E-02	-0.107
		387.95	*	2.062E-02	4.594E-02	7.870E-02	6.668E-03	0.262
CF-251		176.60	*	-5.792E-02	1.263E-01	1.994E-01	1.687E-02	-0.290
		227.00		-5.674E-02	3.939E-01	6.238E-01	5.583E-02	-0.091
		285.00		-2.181E-01	1.638E+00	2.750E+00	2.526E-01	-0.079

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137005      *
* Acquisition date : 20-JAN-2010 13:44:36 Detector SN#     :               *
* Detector ID        : GAM17                Sensitivity     : 5.000        *
* Geometry           : CAN                  Energy tolerance: 1.500        *
* Elapsed live time:     0 02:00:00.00      Abundance limit : 75.000       *
* Elapsed real time:     0 02:00:09.18      Half life ratio :  8.000       *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date        :  4-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G244137005           Analyst initials: MXR1          *
* Batch Number       : 940263               Sample Quantity : 1.2632E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000    *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME :  6-JAN-2010 11:41:36 MS Isotope      :                 *
* MSD DPM          :     0.000            MSD Isotope     :                 *
* LCS DPM          :     0.000            LCS Isotope     :                 *
* LCSD DPM         :     0.000            LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.961E+01	2.422E+00	4.259E-01	0.000E+00
CD-109	2.672E+00	1.330E+00	9.471E-01	0.000E+00
SN-126	2.622E-01	1.306E-01	9.283E-02	0.000E+00
TL-208	4.933E-01	1.032E-01	7.234E-02	0.000E+00
BI-210	1.046E+00	7.676E-01	7.673E-01	0.000E+00
PB-210	1.046E+00	7.676E-01	7.673E-01	0.000E+00
PO-210	1.046E+00	7.665E-01	7.673E-01	0.000E+00
BI-211	3.846E+00	5.812E-01	3.462E-01	0.000E+00
PB-212	1.569E+00	1.961E-01	9.939E-02	0.000E+00
PO-212	1.569E+00	1.961E-01	9.939E-02	0.000E+00
BI-214	1.522E+00	2.520E-01	1.202E-01	0.000E+00
PB-214	1.338E+00	2.134E-01	1.207E-01	0.000E+00
PO-214	1.338E+00	2.134E-01	1.207E-01	0.000E+00
PO-216	1.569E+00	1.961E-01	9.939E-02	0.000E+00
PO-218	1.338E+00	2.134E-01	1.207E-01	0.000E+00
RA-224	4.884E+00	1.352E+00	1.132E+00	0.000E+00
RA-226	1.522E+00	2.520E-01	1.202E-01	0.000E+00
AC-228	1.275E+00	3.872E-01	2.728E-01	0.000E+00
RA-228	1.275E+00	3.872E-01	2.728E-01	0.000E+00
TH-228	1.594E+00	1.993E-01	1.010E-01	0.000E+00
TH-230	1.522E+00	2.520E-01	1.202E-01	0.000E+00
TH-232	1.275E+00	3.872E-01	2.728E-01	0.000E+00
TH-234	1.655E+00	1.093E+00	9.895E-01	0.000E+00
U-234	1.522E+00	2.520E-01	1.202E-01	0.000E+00
NP-237	7.701E-01	4.138E-01	3.104E-01	0.000E+00
U-238	1.655E+00	1.093E+00	9.895E-01	0.000E+00
AM-243	3.392E-01	6.028E-02	5.988E-02	0.000E+00
ANH-511	1.055E-01	7.421E-02	5.627E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)

BE-7	-2.875E-01	3.428E-01	5.346E-01	0.000E+00	NOT IDENT.
NA-22	4.174E-02	5.259E-02	9.516E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.568E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.447E-02	3.273E-02	6.047E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.981E-02	6.461E-02	0.000E+00	FAIL ABUN
SC-46	6.380E-03	4.397E-02	7.606E-02	0.000E+00	FAIL ABUN
V-48	3.860E-02	8.764E-02	1.551E-01	0.000E+00	NOT IDENT.
CR-51	2.074E-01	3.745E-01	6.802E-01	0.000E+00	NOT IDENT.
MN-52	-9.815E-03	3.292E-01	5.568E-01	0.000E+00	NOT IDENT.
MN-54	2.211E-02	4.724E-02	8.419E-02	0.000E+00	NOT IDENT.
CO-56	-1.493E-02	4.544E-02	7.475E-02	0.000E+00	NOT IDENT.
CO-57	-7.770E-03	2.275E-02	3.905E-02	0.000E+00	NOT IDENT.
CO-58	-2.486E-02	4.517E-02	7.269E-02	0.000E+00	NOT IDENT.
FE-59	-6.093E-02	1.007E-01	1.533E-01	0.000E+00	NOT IDENT.
CO-60	5.629E-03	5.007E-02	8.689E-02	0.000E+00	NOT IDENT.
ZN-65	-1.900E-02	1.239E-01	1.734E-01	0.000E+00	NOT IDENT.
GE-68	4.722E-01	1.432E+00	2.490E+00	0.000E+00	NOT IDENT.
AS-73	1.277E-01	2.156E-01	3.982E-01	0.000E+00	NOT IDENT.
AS-74	-3.908E-02	1.178E-01	1.902E-01	0.000E+00	NOT IDENT.
SE-75	-4.978E-02	4.450E-02	6.694E-02	0.000E+00	NOT IDENT.
BR-77	2.793E+00	1.451E+01	2.495E+01	0.000E+00	FAIL ABUN
SR-82	2.902E-02	4.252E-01	7.373E-01	0.000E+00	NOT IDENT.
RB-83	1.407E-02	7.315E-02	1.257E-01	0.000E+00	NOT IDENT.
RB-84	-6.074E-02	9.054E-02	1.423E-01	0.000E+00	NOT IDENT.
KR-85	9.369E+00	8.573E+00	1.425E+01	0.000E+00	NOT IDENT.
SR-85	4.852E-02	4.440E-02	7.378E-02	0.000E+00	NOT IDENT.
RB-86	-2.542E-01	9.942E-01	1.607E+00	0.000E+00	NOT IDENT.
Y-88	-7.642E-03	4.168E-02	6.590E-02	0.000E+00	NOT IDENT.
ZR-88	7.145E-03	3.342E-02	5.861E-02	0.000E+00	NOT IDENT.
Y-91	-8.986E+00	2.328E+01	3.666E+01	0.000E+00	NOT IDENT.
NB-94	-2.708E-03	3.922E-02	6.770E-02	0.000E+00	NOT IDENT.
NB-95	2.473E-02	5.904E-02	9.313E-02	0.000E+00	NOT IDENT.
NB-95M	6.042E-02	1.441E-01	2.207E-01	0.000E+00	NOT IDENT.
ZR-95	-3.698E-02	8.765E-02	1.452E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.325E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.610E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-4.401E+00	1.762E+01	2.972E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.707E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.784E-03	3.324E-02	5.559E-02	0.000E+00	NOT IDENT.
RH-102	1.002E-02	2.984E-02	5.229E-02	0.000E+00	FAIL ABUN
RU-103	2.269E-02	4.209E-02	7.479E-02	0.000E+00	NOT IDENT.
RH-106	4.690E-01	3.705E-01	6.840E-01	0.000E+00	FAIL ABUN
RU-106	4.690E-01	3.676E-01	6.840E-01	0.000E+00	FAIL ABUN
AG-108M	-3.019E-02	3.284E-02	5.134E-02	0.000E+00	NOT IDENT.
AG-110M	-1.784E-02	4.753E-02	7.575E-02	0.000E+00	NOT IDENT.
IN-111	3.693E-01	1.463E+00	2.216E+00	0.000E+00	NOT IDENT.
IN-113M	-1.671E-02	4.988E-02	8.409E-02	0.000E+00	NOT IDENT.
SN-113	-1.671E-02	4.988E-02	8.409E-02	0.000E+00	NOT IDENT.
IN-114M	6.447E-02	2.027E-01	3.137E-01	0.000E+00	NOT IDENT.
CD-115	-6.833E+00	1.602E+01	2.585E+01	0.000E+00	NOT IDENT.
SN-117M	1.251E-02	5.705E-02	9.913E-02	0.000E+00	NOT IDENT.
SB-122	-3.316E-01	3.159E+00	5.242E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.895E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	7.671E-03	2.805E-02	4.887E-02	0.000E+00	NOT IDENT.
I-124	1.028E-01	9.932E-01	1.465E+00	0.000E+00	NOT IDENT.
SB-124	-1.113E-02	1.007E-01	1.720E-01	0.000E+00	FAIL ABUN
SB-125	4.501E-02	1.008E-01	1.787E-01	0.000E+00	FAIL ABUN
TE-125M	-4.807E-01	8.005E+00	1.405E+01	0.000E+00	NOT IDENT.
I-126	2.570E-02	2.294E-01	3.828E-01	0.000E+00	NOT IDENT.
SB-126	-6.190E-02	2.126E-01	3.089E-01	0.000E+00	FAIL ABUN
SB-127	-5.096E-01	1.912E+00	3.053E+00	0.000E+00	FAIL ABUN
XE-127	-2.181E-02	4.794E-02	7.879E-02	0.000E+00	NOT IDENT.
I-131	3.274E-02	1.283E-01	2.270E-01	0.000E+00	NOT IDENT.
TE-132	-4.408E-02	8.502E-01	1.419E+00	0.000E+00	NOT IDENT.
BA-133	-2.973E-02	4.879E-02	6.974E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.416E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.387E-02	1.043E-01	0.000E+00	FAIL ABUN
CS-135	1.305E-01	1.757E-01	3.034E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.337E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.771E-02	1.353E-01	2.207E-01	0.000E+00	FAIL ABUN
BA-137M	-3.934E-02	4.781E-02	7.186E-02	0.000E+00	NOT IDENT.
CS-137	-4.159E-02	5.054E-02	7.597E-02	0.000E+00	NOT IDENT.
CE-139	-1.854E-02	2.842E-02	4.687E-02	0.000E+00	NOT IDENT.
BA-140	-1.095E-01	3.149E-01	5.091E-01	0.000E+00	NOT IDENT.
LA-140	-4.007E-02	1.163E-01	1.838E-01	0.000E+00	NOT IDENT.
CE-141	-3.560E-02	6.438E-02	1.069E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.810E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-5.598E-02	2.059E-01	3.357E-01	0.000E+00	NOT IDENT.
PM-144	9.582E-03	3.802E-02	6.759E-02	0.000E+00	NOT IDENT.
PR-144	6.497E-01	2.578E+00	4.583E+00	0.000E+00	NOT IDENT.
PM-146	1.627E-03	4.773E-02	8.171E-02	0.000E+00	NOT IDENT.
ND-147	-1.501E-01	6.516E-01	1.072E+00	0.000E+00	FAIL ABUN
PM-149	5.831E+00	1.129E+02	2.005E+02	0.000E+00	NOT IDENT.
EU-152	-3.419E-02	9.685E-02	1.587E-01	0.000E+00	NOT IDENT.
GD-153	-4.530E-02	6.457E-02	1.092E-01	0.000E+00	NOT IDENT.
EU-154	1.020E-01	1.479E-01	2.641E-01	0.000E+00	NOT IDENT.
EU-155	1.027E-01	9.365E-02	1.719E-01	0.000E+00	FAIL ABUN
TB-160	8.292E-03	1.820E-01	3.112E-01	0.000E+00	FAIL ABUN
HO-166M	3.449E-02	7.559E-02	1.360E-01	0.000E+00	FAIL ABUN
TM-171	8.032E-01	1.549E+01	2.498E+01	0.000E+00	NOT IDENT.
LU-176	-1.145E-02	2.618E-02	4.322E-02	0.000E+00	NOT IDENT.
LU-177	0.000E+00	1.606E+00	2.421E+00	0.000E+00	FAIL ABUN
LU-177M	3.238E-02	2.054E-01	3.158E-01	0.000E+00	NOT IDENT.
HF-181	1.374E-02	4.784E-02	8.325E-02	0.000E+00	NOT IDENT.
W-181	1.895E-02	1.904E-01	3.080E-01	0.000E+00	NOT IDENT.
TA-182	-4.184E-02	2.559E-01	4.145E-01	0.000E+00	FAIL ABUN
RE-183	-3.546E-02	1.088E-01	1.835E-01	0.000E+00	FAIL ABUN
RE-184	1.126E-01	2.442E-01	4.180E-01	0.000E+00	NOT IDENT.
OS-185	3.453E-02	5.208E-02	9.180E-02	0.000E+00	NOT IDENT.
RE-188	2.025E-01	1.773E-01	3.200E-01	0.000E+00	NOT IDENT.
W-188	5.589E+00	7.843E+00	1.297E+01	0.000E+00	FAIL ABUN
IR-192	1.457E-03	3.478E-02	6.126E-02	0.000E+00	FAIL ABUN
AU-195	3.152E-01	1.867E-01	3.453E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	8.956E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.079E+01	8.502E+00	1.345E+01	0.000E+00	NOT IDENT.
TL-202	4.422E-02	7.190E-02	1.296E-01	0.000E+00	NOT IDENT.
HG-203	4.902E-02	4.639E-02	7.826E-02	0.000E+00	NOT IDENT.
BI-207	4.170E-02	6.621E-02	1.184E-01	0.000E+00	FAIL ABUN
TL-207	-5.587E-01	6.745E-01	1.105E+00	0.000E+00	FAIL ABUN
PO-209	9.148E+00	8.882E+00	1.668E+01	0.000E+00	NOT IDENT.
PB-211	3.106E-01	1.191E+00	1.827E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.942E-01	8.087E-01	0.000E+00	FAIL ABUN
PO-215	-5.587E-01	6.745E-01	1.105E+00	0.000E+00	FAIL ABUN
RN-219	5.683E-02	4.658E-01	8.099E-01	0.000E+00	NOT IDENT.
RN-220	9.108E-01	2.762E+01	4.654E+01	0.000E+00	NOT IDENT.
RA-223	-5.587E-01	6.745E-01	1.105E+00	0.000E+00	FAIL ABUN
AC-227	-3.639E-01	4.095E-01	6.315E-01	0.000E+00	FAIL ABUN
TH-227	-3.639E-01	4.109E-01	6.315E-01	0.000E+00	FAIL ABUN
TH-229	5.549E-02	5.236E-01	8.926E-01	0.000E+00	FAIL ABUN
PA-231	-1.347E+00	1.455E+00	2.398E+00	0.000E+00	FAIL ABUN
TH-231	-5.587E-01	6.745E-01	1.105E+00	0.000E+00	FAIL ABUN
U-231	-1.065E+00	1.080E+00	1.609E+00	0.000E+00	FAIL ABUN
PA-233	9.678E-03	6.635E-02	1.177E-01	0.000E+00	FAIL ABUN
PA-234	1.510E-01	3.578E-01	6.321E-01	0.000E+00	FAIL ABUN
PA-234M	3.969E+00	5.416E+00	9.837E+00	0.000E+00	FAIL ABUN
U-235	2.080E-01	2.158E-01	3.801E-01	0.000E+00	FAIL ABUN
NP-236	-2.504E-02	7.794E-02	1.316E-01	0.000E+00	NOT IDENT.
NP-239	2.515E-02	1.764E-01	3.111E-01	0.000E+00	FAIL ABUN
AM-241	4.603E-02	6.093E-02	1.033E-01	0.000E+00	NOT IDENT.
CM-243	1.724E-02	8.103E-02	1.444E-01	0.000E+00	FAIL ABUN
AM-246	2.119E-01	1.560E-01	3.030E-01	0.000E+00	NOT IDENT.
CM-247	9.645E-03	4.191E-02	7.340E-02	0.000E+00	FAIL ABUN
CF-249	2.062E-02	4.502E-02	8.022E-02	0.000E+00	NOT IDENT.
CF-251	-5.792E-02	1.238E-01	2.056E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:47:52.41

```
*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137005.CNF;1
Sample date       : 4-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:44:36
Sample ID         : G244137005           Sample quantity  : 1.26320E+02 GRAM
Detector name     : GAM17                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:09.18  0.1%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 940263                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	548	10.67*	7.783E-01	1.961E+01	1.961E+01	12.60
CD-109	88.03	218	3.72*	6.682E+00	2.608E+00	2.672E+00	50.80
SN-126	64.28	143	9.60	6.777E+00	6.549E-01	6.549E-01	66.71
	86.94	218	8.90	6.682E+00	1.090E+00	1.090E+00	64.94
	87.57	218	37.00*	6.682E+00	2.622E-01	2.622E-01	50.80
TL-208	277.35	32	6.80	3.571E+00	3.854E-01	3.854E-01	119.82
	510.84	73	21.60	2.057E+00	4.883E-01	4.883E-01	72.28
	583.14	253	84.20*	1.812E+00	4.933E-01	4.933E-01	21.34
	860.37	71	12.46	1.247E+00	1.350E+00	1.350E+00	42.73
BI-210	46.50	90	4.05*	6.321E+00	1.044E+00	1.046E+00	74.91
PB-210	46.50	90	4.05*	6.321E+00	1.044E+00	1.046E+00	74.91
PO-210	46.50	90	4.05*	6.321E+00	1.044E+00	1.046E+00	74.80
BI-211	72.87	------	1.27	6.803E+00	------ Line Not Found		------
	351.07	487	12.94*	2.908E+00	3.846E+00	3.846E+00	15.42
PB-212	74.81	512	10.70	6.795E+00	2.092E+00	2.092E+00	20.40
	77.11	821	18.00	6.781E+00	2.000E+00	2.000E+00	13.77
	87.30	218	8.00	6.682E+00	1.213E+00	1.213E+00	51.78
	238.63	947	44.60*	4.023E+00	1.569E+00	1.569E+00	12.76
	300.09	82	3.41	3.342E+00	2.138E+00	2.138E+00	65.72
PO-212	74.81	512	10.70	6.795E+00	2.092E+00	2.092E+00	20.40
	77.11	821	18.00	6.781E+00	2.000E+00	2.000E+00	13.77
	87.30	218	8.00	6.682E+00	1.213E+00	1.213E+00	51.78
	115.19	------	0.60	6.177E+00	------ Line Not Found		------
	238.63	947	44.60*	4.023E+00	1.569E+00	1.569E+00	12.76
	300.09	82	3.41	3.342E+00	2.138E+00	2.138E+00	65.72
BI-214	609.31	412	46.30*	1.738E+00	1.522E+00	1.522E+00	16.89
	1120.29	75	15.10	9.770E-01	1.517E+00	1.517E+00	42.98
	1764.49	62	15.80	6.717E-01	1.722E+00	1.722E+00	32.59
PB-214	74.81	512	6.21	6.795E+00	3.605E+00	3.605E+00	19.59
	77.11	821	10.50	6.781E+00	3.428E+00	3.428E+00	15.74
	87.30	218	4.67	6.682E+00	2.078E+00	2.078E+00	51.38
	241.98	259	7.49	3.985E+00	2.576E+00	2.576E+00	28.80

Sample ID : G244137005 Acquisition date : 20-JAN-2010 13:44:36

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	295.21	304	19.20	3.389E+00	1.389E+00	1.389E+00	21.09
	351.92	487	37.20*	2.908E+00	1.338E+00	1.338E+00	16.28
PO-214	74.81	512	6.21	6.795E+00	3.605E+00	3.605E+00	19.59
	77.11	821	10.50	6.781E+00	3.428E+00	3.428E+00	15.74
	87.30	218	4.67	6.682E+00	2.078E+00	2.078E+00	51.38
	241.98	259	7.49	3.985E+00	2.576E+00	2.576E+00	28.80
	295.21	304	19.20	3.389E+00	1.389E+00	1.389E+00	21.09
	351.92	487	37.20*	2.908E+00	1.338E+00	1.338E+00	16.28
PO-216	74.81	512	10.70	6.795E+00	2.092E+00	2.092E+00	20.40
	77.11	821	18.00	6.781E+00	2.000E+00	2.000E+00	13.77
	87.30	218	8.00	6.682E+00	1.213E+00	1.213E+00	51.78
	238.63	947	44.60*	4.023E+00	1.569E+00	1.569E+00	12.76
	300.09	82	3.41	3.342E+00	2.138E+00	2.138E+00	65.72
PO-218	74.81	512	6.21	6.795E+00	3.605E+00	3.605E+00	19.59
	77.11	821	10.50	6.781E+00	3.428E+00	3.428E+00	15.74
	87.30	218	4.67	6.682E+00	2.078E+00	2.078E+00	51.38
	241.98	259	7.49	3.985E+00	2.576E+00	2.576E+00	28.80
	295.21	304	19.20	3.389E+00	1.389E+00	1.389E+00	21.09
	351.92	487	37.20*	2.908E+00	1.338E+00	1.338E+00	16.28
RA-224	240.98	259	3.95*	3.985E+00	4.884E+00	4.884E+00	28.25
RA-226	609.31	412	46.30*	1.738E+00	1.522E+00	1.522E+00	16.89
	1120.29	75	15.10	9.770E-01	1.517E+00	1.517E+00	42.98
	1764.49	62	15.80	6.717E-01	1.722E+00	1.722E+00	32.59
AC-228	338.32	185	11.40	3.013E+00	1.599E+00	1.599E+00	50.60
	911.07	140	27.70*	1.182E+00	1.275E+00	1.275E+00	31.00
	969.11	68	16.60	1.115E+00	1.097E+00	1.097E+00	59.09
RA-228	338.32	185	11.40	3.013E+00	1.599E+00	1.599E+00	50.60
	911.07	140	27.70*	1.182E+00	1.275E+00	1.275E+00	31.00
	969.11	68	16.60	1.115E+00	1.097E+00	1.097E+00	59.09
TH-228	74.81	512	10.70	6.795E+00	2.092E+00	2.126E+00	18.17
	77.11	821	18.00	6.781E+00	2.000E+00	2.032E+00	13.77
	87.30	218	8.00	6.682E+00	1.213E+00	1.232E+00	50.80
	238.63	947	44.60*	4.023E+00	1.569E+00	1.594E+00	12.76
	300.09	82	3.41	3.342E+00	2.138E+00	2.172E+00	87.89
TH-230	609.31	412	46.30*	1.738E+00	1.522E+00	1.522E+00	16.89
	1120.29	75	15.10	9.770E-01	1.517E+00	1.517E+00	42.98
	1764.49	62	15.80	6.717E-01	1.722E+00	1.722E+00	32.59
TH-232	338.32	185	11.40	3.013E+00	1.599E+00	1.599E+00	30.54
	911.07	140	27.70*	1.182E+00	1.275E+00	1.275E+00	31.00
	969.11	68	16.60	1.115E+00	1.097E+00	1.097E+00	59.09
TH-234	63.29	143	3.80*	6.777E+00	1.655E+00	1.655E+00	67.40
	92.38	214	5.41	6.594E+00	1.780E+00	1.780E+00	38.67
U-234	609.31	412	46.30*	1.738E+00	1.522E+00	1.522E+00	16.89
	1120.29	75	15.10	9.770E-01	1.517E+00	1.517E+00	42.98
	1764.49	62	15.80	6.717E-01	1.722E+00	1.722E+00	32.59
NP-237	86.50	218	12.60*	6.682E+00	7.701E-01	7.701E-01	54.83
	95.87	------	2.60	6.543E+00	------ Line Not Found		------
U-238	63.29	143	3.80*	6.777E+00	1.655E+00	1.655E+00	67.40
	92.38	214	5.41	6.594E+00	1.780E+00	1.780E+00	35.25

Sample ID : G244137005 Acquisition date : 20-JAN-2010 13:44:36

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	512	66.00*	6.795E+00	3.392E-01	3.392E-01	18.13
	86.72	218	0.34	6.682E+00	2.888E+01	2.888E+01	50.80
	117.66	------	0.55	6.127E+00	------ Line Not Found		------
	142.18	------	0.13	5.624E+00	------ Line Not Found		------
ANH-511	511.00	73	100.00*	2.057E+00	1.055E-01	1.055E-01	71.79

Flag: "*" = Keyline

Sample ID : G244137005 Acquisition date : 20-JAN-2010 13:44:36

Total number of lines in spectrum 31
Number of unidentified lines 0
Number of lines tentatively identified by NID 31 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.961E+01	1.961E+01	0.247E+01	12.60	
CD-109	464.00D	1.02	2.608E+00	2.672E+00	1.357E+00	50.80	
SN-126	1.00E+05Y	1.00	2.622E-01	2.622E-01	1.332E-01	50.80	
TL-208	1.41E+10Y	1.00	4.933E-01	4.933E-01	1.053E-01	21.34	
BI-210	22.26Y	1.00	1.044E+00	1.046E+00	0.783E+00	74.91	
PB-210	22.26Y	1.00	1.044E+00	1.046E+00	0.783E+00	74.91	
PO-210	22.26Y	1.00	1.044E+00	1.046E+00	0.782E+00	74.80	
BI-211	7.04E+08Y	1.00	3.846E+00	3.846E+00	0.593E+00	15.42	
PB-212	1.41E+10Y	1.00	1.569E+00	1.569E+00	0.200E+00	12.76	
PO-212	1.41E+10Y	1.00	1.569E+00	1.569E+00	0.200E+00	12.76	
BI-214	1600.00Y	1.00	1.522E+00	1.522E+00	0.257E+00	16.89	
PB-214	1600.00Y	1.00	1.338E+00	1.338E+00	0.218E+00	16.28	
PO-214	1600.00Y	1.00	1.338E+00	1.338E+00	0.218E+00	16.28	
PO-216	1.41E+10Y	1.00	1.569E+00	1.569E+00	0.200E+00	12.76	
PO-218	1600.00Y	1.00	1.338E+00	1.338E+00	0.218E+00	16.28	
RA-224	1.41E+10Y	1.00	4.884E+00	4.884E+00	1.380E+00	28.25	
RA-226	1600.00Y	1.00	1.522E+00	1.522E+00	0.257E+00	16.89	
AC-228	1.41E+10Y	1.00	1.275E+00	1.275E+00	0.395E+00	31.00	
RA-228	1.41E+10Y	1.00	1.275E+00	1.275E+00	0.395E+00	31.00	
TH-228	1.91Y	1.02	1.569E+00	1.594E+00	0.203E+00	12.76	
TH-230	4.47E+09Y	1.00	1.522E+00	1.522E+00	0.257E+00	16.89	
TH-232	1.41E+10Y	1.00	1.275E+00	1.275E+00	0.395E+00	31.00	
TH-234	4.47E+09Y	1.00	1.655E+00	1.655E+00	1.115E+00	67.40	
U-234	4.47E+09Y	1.00	1.522E+00	1.522E+00	0.257E+00	16.89	
NP-237	2.14E+06Y	1.00	7.701E-01	7.701E-01	4.223E-01	54.83	
U-238	4.47E+09Y	1.00	1.655E+00	1.655E+00	1.115E+00	67.40	
AM-243	7380.00Y	1.00	3.392E-01	3.392E-01	0.615E-01	18.13	
ANH-511	1.00E+09Y	1.00	1.055E-01	1.055E-01	0.757E-01	71.79	
	Total Activity :		5.956E+01	5.965E+01			

Grand Total Activity : 5.956E+01 5.965E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G244137005 Acquisition date : 20-JAN-2010 13:44:36

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	89.90	196	213	0.99	179.45	177	12	2.72E-02	24.7	6.64E+00	T
0	128.82	97	300	0.81	257.32	253	9	1.35E-02	67.3	5.90E+00	T
0	185.92	230	181	1.28	371.56	368	9	3.19E-02	26.1	4.81E+00	T
0	209.23	118	167	1.19	418.21	414	8	1.64E-02	42.3	4.43E+00	T
0	410.81	60	119	1.55	821.55	814	16	8.32E-03	85.7	2.53E+00	T
0	462.61	53	74	1.10	925.19	919	11	7.35E-03	68.8	2.26E+00	T
0	726.66	80	46	1.32	1453.59	1447	15	1.11E-02	42.8	1.46E+00	T
0	767.42	53	28	1.56	1535.15	1530	11	7.40E-03	47.0	1.39E+00	T
0	794.47	42	23	1.90	1589.29	1585	10	5.86E-03	52.2	1.34E+00	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:47:59.15

```
*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
*                                                                           *
*                                DETECTOR DATA                              *
*                                                                           *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137005.CNF;1 *
* Acquisition date  : 20-JAN-2010 13:44:36  Detector SN#     :             *
* Detector ID       : GAM17                 Sensitivity      : 5.00000     *
* Geometry          : CAN                   Energy tolerance: 1.50000      *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000     *
* Elapsed real time: 0 02:00:09.18          Half life ratio : 8.00000      *
*****************************************************************************
*                                                                           *
*                                SAMPLE DATA                                *
*                                                                           *
* Sample date       : 4-JAN-2010 12:00:00.  Nuclide Library : SOLID        *
* Sample ID         : G244137005            Analyst initials: MXR1         *
* Batch Number      : 940263                Sample Quantity : 1.26320E+02 GRAM *
*****************************************************************************
*                                                                           *
*                                  QC DATA                                  *
*                                                                           *
* CALIB. DATE/TIME : 6-JAN-2010 11:41:36.18MS Isotope      :                *
* MSD ID           :                      MSD Isotope     :                *
* LCS ID           : 1032-A               LCS Isotope     :                *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.961E+01	2.471E+00	4.261E-01	3.783E-02	46.023
CD-109	2.672E+00	1.357E+00	9.099E-01	8.883E-02	2.936
SN-126	2.622E-01	1.332E-01	8.918E-02	8.703E-03	2.941
TL-208	4.933E-01	1.053E-01	7.139E-02	6.753E-03	6.909
BI-210	1.046E+00	7.833E-01	7.308E-01	7.927E-02	1.431
PB-210	1.046E+00	7.833E-01	7.308E-01	7.927E-02	1.431
PO-210	1.046E+00	7.822E-01	7.308E-01	7.383E-02	1.431
BI-211	3.846E+00	5.930E-01	3.392E-01	3.166E-02	11.337
PB-212	1.569E+00	2.001E-01	9.683E-02	9.762E-03	16.201
PO-212	1.569E+00	2.001E-01	9.683E-02	9.762E-03	16.201
BI-214	1.522E+00	2.571E-01	1.187E-01	1.208E-02	12.816
PB-214	1.338E+00	2.178E-01	1.183E-01	1.264E-02	11.309
PO-214	1.338E+00	2.178E-01	1.183E-01	1.264E-02	11.309
PO-216	1.569E+00	2.001E-01	9.683E-02	9.762E-03	16.201
PO-218	1.338E+00	2.178E-01	1.183E-01	1.264E-02	11.309
RA-224	4.884E+00	1.380E+00	1.103E+00	9.974E-02	4.428
RA-226	1.522E+00	2.571E-01	1.187E-01	1.208E-02	12.816
AC-228	1.275E+00	3.952E-01	2.710E-01	3.074E-02	4.703

Sample ID : G244137005 Acquisition date : 20-JAN-2010 13:44:36

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.275E+00	3.952E-01	2.710E-01	3.074E-02	4.703
TH-228	1.594E+00	2.033E-01	9.839E-02	9.920E-03	16.201
TH-230	1.522E+00	2.571E-01	1.187E-01	1.208E-02	12.816
TH-232	1.275E+00	3.952E-01	2.710E-01	3.074E-02	4.703
TH-234	1.655E+00	1.115E+00	9.464E-01	1.766E-01	1.748
U-234	1.522E+00	2.571E-01	1.187E-01	1.208E-02	12.816
NP-237	7.701E-01	4.223E-01	2.981E-01	6.804E-02	2.583
U-238	1.655E+00	1.115E+00	9.464E-01	1.766E-01	1.748
AM-243	3.392E-01	6.151E-02	5.740E-02	5.604E-03	5.910
ANH-511	1.055E-01	7.573E-02	5.543E-02	4.950E-03	1.903

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.875E-01		3.498E-01	5.261E-01	5.006E-02	-0.546
NA-22	4.174E-02		5.366E-02	9.501E-02	8.004E-03	0.439
NA-24	-8.585E-01		1.310E+00	Half-Life too short		
AL-26	1.447E-02		3.340E-02	6.070E-02	5.087E-03	0.238
TI-44	3.690E-01	+	5.083E-02	6.197E-02	6.038E-03	5.955
SC-46	6.380E-03		4.487E-02	7.553E-02	6.612E-03	0.084
V-48	3.860E-02		8.943E-02	1.543E-01	1.346E-02	0.250
CR-51	2.074E-01		3.822E-01	6.655E-01	6.356E-02	0.312
MN-52	-9.815E-03		3.359E-01	5.569E-01	4.801E-02	-0.018
MN-54	2.211E-02		4.820E-02	8.353E-02	7.345E-03	0.265
CO-56	-1.493E-02		4.637E-02	7.418E-02	6.521E-03	-0.201
CO-57	-7.770E-03		2.321E-02	3.769E-02	4.416E-03	-0.206
CO-58	-2.486E-02		4.609E-02	7.209E-02	6.348E-03	-0.345
FE-59	-6.093E-02		1.028E-01	1.527E-01	1.401E-02	-0.399
CO-60	5.629E-03		5.110E-02	8.681E-02	7.399E-03	0.065
ZN-65	-1.900E-02		1.265E-01	1.728E-01	1.455E-02	-0.110
GE-68	4.722E-01		1.461E+00	2.480E+00	2.117E-01	0.190
AS-73	1.277E-01		2.200E-01	3.800E-01	3.801E-02	0.336
AS-74	-3.908E-02		1.202E-01	1.878E-01	1.655E-02	-0.208
SE-75	-4.978E-02		4.541E-02	6.531E-02	6.001E-03	-0.762
BR-77	2.793E+00		1.481E+01	2.458E+01	2.197E+00	0.114
SR-82	2.902E-02		4.339E-01	7.308E-01	6.395E-02	0.040
RB-83	1.407E-02		7.464E-02	1.239E-01	1.107E-02	0.114
RB-84	-6.074E-02		9.239E-02	1.413E-01	1.238E-02	-0.430
KR-85	9.369E+00		8.748E+00	1.403E+01	1.254E+00	0.668
SR-85	4.852E-02		4.530E-02	7.268E-02	6.493E-03	0.668
RB-86	-2.542E-01		1.014E+00	1.601E+00	1.367E-01	-0.159
Y-88	-7.642E-03		4.253E-02	6.616E-02	5.517E-03	-0.116
ZR-88	7.145E-03		3.410E-02	5.751E-02	4.845E-03	0.124
Y-91	-8.986E+00		2.375E+01	3.657E+01	3.019E+00	-0.246
NB-94	-2.708E-03		4.002E-02	6.700E-02	5.747E-03	-0.040
NB-95	2.473E-02		6.024E-02	9.228E-02	8.060E-03	0.268
NB-95M	6.042E-02		1.470E-01	2.150E-01	2.195E-02	0.281

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	-3.698E-02		8.944E-02	1.438E-01	1.378E-02	-0.257
NB-97	-6.342E-02		1.696E-01	Half-Life too short		
ZR-97	7.471E+00		2.862E+00	Half-Life too short		
MO-99	-4.401E+00		1.798E+01	2.943E+01	4.480E+00	-0.150
TC-99M	-5.370E+11		2.912E+11	Half-Life too short		
RH-101	-6.784E-03		3.391E-02	5.402E-02	4.697E-03	-0.126
RH-102	1.002E-02		3.044E-02	5.145E-02	4.557E-03	0.195
RU-103	2.269E-02		4.295E-02	7.364E-02	1.056E-02	0.308
RH-106	4.690E-01		3.781E-01	6.757E-01	9.055E-02	0.694
RU-106	4.690E-01		3.751E-01	6.757E-01	5.870E-02	0.694
AG-108M	-3.019E-02		3.351E-02	5.046E-02	4.554E-03	-0.598
AG-110M	-1.784E-02		4.850E-02	7.489E-02	6.527E-03	-0.238
IN-111	3.693E-01		1.493E+00	2.160E+00	1.959E-01	0.171
IN-113M	-1.671E-02		5.090E-02	8.251E-02	7.169E-03	-0.202
SN-113	-1.671E-02		5.090E-02	8.251E-02	7.169E-03	-0.202
IN-114M	6.447E-02		2.068E-01	3.047E-01	2.624E-02	0.212
CD-115	-6.833E+00		1.635E+01	2.548E+01	2.278E+00	-0.268
SN-117M	1.251E-02		5.821E-02	9.603E-02	8.631E-03	0.130
SB-122	-3.316E-01		3.223E+00	5.171E+00	4.604E-01	-0.064
I-123	5.183E+00		9.670E+00	Half-Life too short		
TE-123M	7.671E-03		2.862E-02	4.734E-02	4.261E-03	0.162
I-124	1.028E-01		1.014E+00	1.447E+00	1.270E-01	0.071
SB-124	-1.113E-02		1.027E-01	1.725E-01	1.534E-02	-0.065
SB-125	4.501E-02		1.028E-01	1.756E-01	1.549E-02	0.256
TE-125M	-4.807E-01		8.168E+00	1.354E+01	1.664E+00	-0.036
I-126	2.570E-02		2.340E-01	3.786E-01	3.196E-02	0.068
SB-126	-6.190E-02		2.170E-01	3.058E-01	2.640E-02	-0.202
SB-127	-5.096E-01		1.952E+00	3.020E+00	3.500E-01	-0.169
XE-127	-2.181E-02		4.892E-02	7.659E-02	6.696E-03	-0.285
I-131	3.274E-02		1.309E-01	2.225E-01	2.056E-02	0.147
TE-132	-4.408E-02		8.675E-01	1.382E+00	2.222E-01	-0.032
BA-133	-2.973E-02		4.979E-02	6.834E-02	9.131E-03	-0.435
I-133	-5.857E-03		7.222E-03	Half-Life too short		
CS-134	1.230E-01	+	6.517E-02	1.034E-01	9.138E-03	1.190
CS-135	1.305E-01		1.793E-01	2.961E-01	3.090E-02	0.441
I-135	3.535E+10		3.743E+10	Half-Life too short		
CS-136	-2.771E-02		1.380E-01	2.197E-01	1.973E-02	-0.126
BA-137M	-3.934E-02		4.879E-02	7.106E-02	5.986E-03	-0.554
CS-137	-4.159E-02		5.157E-02	7.512E-02	6.340E-03	-0.554
CE-139	-1.854E-02		2.900E-02	4.543E-02	3.788E-03	-0.408
BA-140	-1.095E-01		3.214E-01	5.018E-01	1.667E-01	-0.218
LA-140	-4.007E-02		1.187E-01	1.841E-01	1.589E-02	-0.218
CE-141	-3.560E-02		6.569E-02	1.034E-01	1.055E-02	-0.344
CE-143	1.075E-03		1.944E-04	Half-Life too short		
CE-144	-5.598E-02		2.101E-01	3.244E-01	5.503E-02	-0.173
PM-144	9.582E-03		3.880E-02	6.689E-02	5.726E-03	0.143
PR-144	6.497E-01		2.631E+00	4.535E+00	3.880E-01	0.143
PM-146	1.627E-03		4.870E-02	8.035E-02	8.721E-03	0.020

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	-1.501E-01		6.649E-01	1.057E+00	1.599E-01	-0.142
PM-149	5.831E+00		1.152E+02	1.958E+02	3.108E+01	0.030
EU-152	-3.419E-02		9.882E-02	1.555E-01	1.471E-02	-0.220
GD-153	-4.530E-02		6.589E-02	1.050E-01	1.074E-02	-0.431
EU-154	1.020E-01		1.509E-01	2.637E-01	2.942E-02	0.387
EU-155	1.027E-01		9.556E-02	1.656E-01	1.779E-02	0.620
TB-160	8.292E-03		1.857E-01	3.090E-01	2.709E-02	0.027
HO-166M	3.449E-02		7.713E-02	1.347E-01	1.159E-02	0.256
TM-171	8.032E-01		1.581E+01	2.391E+01	2.360E+00	0.034
LU-176	-1.145E-02		2.672E-02	4.226E-02	3.871E-03	-0.271
LU-177	3.793E+00	+	1.639E+00	2.354E+00	2.070E-01	1.611
LU-177M	3.238E-02		2.096E-01	3.101E-01	2.657E-02	0.104
HF-181	1.374E-02		4.881E-02	8.193E-02	7.274E-03	0.168
W-181	1.895E-02		1.943E-01	2.947E-01	2.919E-02	0.064
TA-182	-4.184E-02		2.611E-01	4.135E-01	3.430E-02	-0.101
RE-183	-3.546E-02		1.110E-01	1.778E-01	1.539E-02	-0.199
RE-184	1.126E-01		2.492E-01	4.076E-01	3.711E-02	0.276
OS-185	3.453E-02		5.315E-02	9.074E-02	7.747E-03	0.381
RE-188	2.025E-01		1.809E-01	3.099E-01	2.879E-02	0.653
W-188	5.589E+00		8.003E+00	1.267E+01	1.164E+00	0.441
IR-192	1.457E-03		3.549E-02	5.993E-02	5.482E-03	0.024
AU-195	3.152E-01		1.905E-01	3.323E-01	3.422E-02	0.949
TL-200	-5.248E-04		4.569E-04	Half-Life too short		
TL-201	-1.079E+01		8.675E+00	1.304E+01	1.089E+00	-0.828
TL-202	4.422E-02		7.337E-02	1.273E-01	1.110E-02	0.347
HG-203	4.902E-02		4.734E-02	7.642E-02	7.192E-03	0.641
BI-207	4.170E-02		6.757E-02	1.179E-01	1.010E-02	0.354
TL-207	-5.587E-01		6.883E-01	1.082E+00	1.941E-01	-0.517
PO-209	9.148E+00		9.064E+00	1.657E+01	1.449E+00	0.552
PB-211	3.106E-01		1.215E+00	1.793E+00	1.124E+00	0.173
BI-212	1.379E+00	+	6.063E-01	8.008E-01	8.035E-02	1.722
PO-215	-5.587E-01		6.883E-01	1.082E+00	1.941E-01	-0.517
RN-219	5.683E-02		4.753E-01	7.950E-01	1.189E-01	0.071
RN-220	9.108E-01		2.819E+01	4.590E+01	4.098E+00	0.020
RA-223	-5.587E-01		6.883E-01	1.082E+00	1.941E-01	-0.517
AC-227	-3.639E-01		4.179E-01	6.159E-01	9.628E-02	-0.591
TH-227	-3.639E-01		4.193E-01	6.159E-01	1.127E-01	-0.591
TH-229	5.549E-02		5.343E-01	8.671E-01	7.499E-02	0.064
PA-231	-1.347E+00		1.485E+00	2.342E+00	3.633E-01	-0.575
TH-231	-5.587E-01		6.883E-01	1.082E+00	1.941E-01	-0.517
U-231	-1.065E+00		1.102E+00	1.548E+00	1.570E-01	-0.688
PA-233	9.678E-03		6.770E-02	1.151E-01	1.080E-02	0.084
PA-234	1.510E-01		3.651E-01	6.283E-01	1.183E-01	0.240
PA-234M	3.969E+00		5.526E+00	9.787E+00	9.821E-01	0.406
U-235	2.080E-01		2.202E-01	3.676E-01	6.740E-02	0.566
NP-236	-2.504E-02		7.953E-02	1.275E-01	1.126E-02	-0.196
NP-239	2.515E-02		1.800E-01	3.001E-01	3.413E-02	0.084
AM-241	4.603E-02		6.217E-02	9.869E-02	1.048E-02	0.466

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.724E-02		8.268E-02	1.390E-01	1.469E-02	0.124
AM-246	2.119E-01		1.591E-01	3.017E-01	2.574E-02	0.702
CM-247	9.645E-03		4.276E-02	7.205E-02	6.121E-03	0.134
CF-249	2.062E-02		4.594E-02	7.870E-02	6.668E-03	0.262
CF-251	-5.792E-02		1.263E-01	1.994E-01	1.687E-02	-0.290

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration    : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G244137005            *
* Acquisition date : 20-JAN-2010 13:44:36 Detector SN#     :                *
* Detector ID      : GAM17                Sensitivity     : 5.000           *
* Geometry         : CAN                  Energy tolerance: 1.500           *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 02:00:09.18     Half life ratio : 8.000           *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date      :  4-JAN-2010 12:00:00 Nuclide Library : SOLID           *
* Sample ID        : G244137005           Analyst initials: MXR1            *
* Batch Number     : 940263               Sample Quantity : 1.2632E+02 GRAM *
* Recovery         :    1.00000           Carrier Weight :    0.00000       *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
*                                                                           *
* CALIB. DATE/TIME :  6-JAN-2010 11:41:36 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.961E+01	2.422E+00	2.131E-01	1.236E+00
CD-109	2.672E+00	1.330E+00	4.738E-01	6.787E-01
SN-126	2.622E-01	1.306E-01	4.644E-02	6.661E-02
TL-208	4.933E-01	1.032E-01	3.619E-02	5.263E-02
BI-210	1.046E+00	7.676E-01	3.839E-01	3.916E-01
PB-210	1.046E+00	7.676E-01	3.839E-01	3.916E-01
PO-210	1.046E+00	7.665E-01	3.839E-01	3.911E-01
BI-211	3.846E+00	5.812E-01	1.732E-01	2.965E-01
PB-212	1.569E+00	1.961E-01	4.972E-02	1.001E-01
PO-212	1.569E+00	1.961E-01	4.972E-02	1.001E-01
BI-214	1.522E+00	2.520E-01	6.015E-02	1.285E-01
PB-214	1.338E+00	2.134E-01	6.040E-02	1.089E-01
PO-214	1.338E+00	2.134E-01	6.040E-02	1.089E-01
PO-216	1.569E+00	1.961E-01	4.972E-02	1.001E-01
PO-218	1.338E+00	2.134E-01	6.040E-02	1.089E-01
RA-224	4.884E+00	1.352E+00	5.662E-01	6.899E-01
RA-226	1.522E+00	2.520E-01	6.015E-02	1.285E-01
AC-228	1.275E+00	3.872E-01	1.365E-01	1.976E-01
RA-228	1.275E+00	3.872E-01	1.365E-01	1.976E-01
TH-228	1.594E+00	1.993E-01	5.053E-02	1.017E-01
TH-230	1.522E+00	2.520E-01	6.015E-02	1.285E-01
TH-232	1.275E+00	3.872E-01	1.365E-01	1.976E-01
TH-234	1.655E+00	1.093E+00	4.951E-01	5.576E-01
U-234	1.522E+00	2.520E-01	6.015E-02	1.285E-01
NP-237	7.701E-01	4.138E-01	1.553E-01	2.111E-01
U-238	1.655E+00	1.093E+00	4.951E-01	5.576E-01
AM-243	3.392E-01	6.028E-02	2.996E-02	3.076E-02
ANH-511	1.055E-01	7.421E-02	2.815E-02	3.786E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU

BE-7	-2.875E-01	3.428E-01	2.675E-01	1.749E-01	NOT IDENT.
NA-22	4.174E-02	5.259E-02	4.761E-02	2.683E-02	NOT IDENT.
NA-24	-8.585E+05	2.568E+06	0.000E+00	1.310E+06	SHORT HLIF
AL-26	1.447E-02	3.273E-02	3.025E-02	1.670E-02	NOT IDENT.
TI-44	3.690E-01	4.981E-02	3.232E-02	2.541E-02	FAIL ABUN
SC-46	6.380E-03	4.397E-02	3.805E-02	2.243E-02	FAIL ABUN
V-48	3.860E-02	8.764E-02	7.762E-02	4.472E-02	NOT IDENT.
CR-51	2.074E-01	3.745E-01	3.403E-01	1.911E-01	NOT IDENT.
MN-52	-9.815E-03	3.292E-01	2.785E-01	1.680E-01	NOT IDENT.
MN-54	2.211E-02	4.724E-02	4.212E-02	2.410E-02	NOT IDENT.
CO-56	-1.493E-02	4.544E-02	3.740E-02	2.318E-02	NOT IDENT.
CO-57	-7.770E-03	2.275E-02	1.954E-02	1.160E-02	NOT IDENT.
CO-58	-2.486E-02	4.517E-02	3.637E-02	2.305E-02	NOT IDENT.
FE-59	-6.093E-02	1.007E-01	7.669E-02	5.139E-02	NOT IDENT.
CO-60	5.629E-03	5.007E-02	4.347E-02	2.555E-02	NOT IDENT.
ZN-65	-1.900E-02	1.239E-01	8.676E-02	6.323E-02	NOT IDENT.
GE-68	4.722E-01	1.432E+00	1.246E+00	7.307E-01	NOT IDENT.
AS-73	1.277E-01	2.156E-01	1.992E-01	1.100E-01	NOT IDENT.
AS-74	-3.908E-02	1.178E-01	9.518E-02	6.010E-02	NOT IDENT.
SE-75	-4.978E-02	4.450E-02	3.349E-02	2.270E-02	NOT IDENT.
BR-77	2.793E+00	1.451E+01	1.248E+01	7.404E+00	FAIL ABUN
SR-82	2.902E-02	4.252E-01	3.689E-01	2.169E-01	NOT IDENT.
RB-83	1.407E-02	7.315E-02	6.291E-02	3.732E-02	NOT IDENT.
RB-84	-6.074E-02	9.054E-02	7.119E-02	4.620E-02	NOT IDENT.
KR-85	9.369E+00	8.573E+00	7.127E+00	4.374E+00	NOT IDENT.
SR-85	4.852E-02	4.440E-02	3.691E-02	2.265E-02	NOT IDENT.
RB-86	-2.542E-01	9.942E-01	8.042E-01	5.072E-01	NOT IDENT.
Y-88	-7.642E-03	4.168E-02	3.297E-02	2.127E-02	NOT IDENT.
ZR-88	7.145E-03	3.342E-02	2.932E-02	1.705E-02	NOT IDENT.
Y-91	-8.986E+00	2.328E+01	1.834E+01	1.188E+01	NOT IDENT.
NB-94	-2.708E-03	3.922E-02	3.387E-02	2.001E-02	NOT IDENT.
NB-95	2.473E-02	5.904E-02	4.659E-02	3.012E-02	NOT IDENT.
NB-95M	6.042E-02	1.441E-01	1.104E-01	7.350E-02	NOT IDENT.
ZR-95	-3.698E-02	8.765E-02	7.262E-02	4.472E-02	NOT IDENT.
NB-97	-6.342E+04	3.325E+05	0.000E+00	1.696E+05	SHORT HLIF
ZR-97	7.471E+06	5.610E+06	0.000E+00	2.862E+06	SHORT HLIF
MO-99	-4.401E+00	1.762E+01	1.487E+01	8.989E+00	NOT IDENT.
TC-99M	-5.370E+17	5.707E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.784E-03	3.324E-02	2.781E-02	1.696E-02	NOT IDENT.
RH-102	1.002E-02	2.984E-02	2.616E-02	1.522E-02	FAIL ABUN
RU-103	2.269E-02	4.209E-02	3.742E-02	2.147E-02	NOT IDENT.
RH-106	4.690E-01	3.705E-01	3.422E-01	1.890E-01	FAIL ABUN
RU-106	4.690E-01	3.676E-01	3.422E-01	1.875E-01	FAIL ABUN
AG-108M	-3.019E-02	3.284E-02	2.569E-02	1.676E-02	NOT IDENT.
AG-110M	-1.784E-02	4.753E-02	3.790E-02	2.425E-02	NOT IDENT.
IN-111	3.693E-01	1.463E+00	1.109E+00	7.466E-01	NOT IDENT.
IN-113M	-1.671E-02	4.988E-02	4.207E-02	2.545E-02	NOT IDENT.
SN-113	-1.671E-02	4.988E-02	4.207E-02	2.545E-02	NOT IDENT.
IN-114M	6.447E-02	2.027E-01	1.570E-01	1.034E-01	NOT IDENT.
CD-115	-6.833E+00	1.602E+01	1.293E+01	8.174E+00	NOT IDENT.
SN-117M	1.251E-02	5.705E-02	4.960E-02	2.911E-02	NOT IDENT.
SB-122	-3.316E-01	3.159E+00	2.622E+00	1.612E+00	NOT IDENT.
I-123	5.183E+06	1.895E+07	0.000E+00	9.670E+06	SHORT HLIF
TE-123M	7.671E-03	2.805E-02	2.445E-02	1.431E-02	NOT IDENT.
I-124	1.028E-01	9.932E-01	7.330E-01	5.068E-01	NOT IDENT.
SB-124	-1.113E-02	1.007E-01	8.605E-02	5.137E-02	FAIL ABUN
SB-125	4.501E-02	1.008E-01	8.942E-02	5.141E-02	FAIL ABUN
TE-125M	-4.807E-01	8.005E+00	7.028E+00	4.084E+00	NOT IDENT.
I-126	2.570E-02	2.294E-01	1.915E-01	1.170E-01	NOT IDENT.
SB-126	-6.190E-02	2.126E-01	1.545E-01	1.085E-01	FAIL ABUN
SB-127	-5.096E-01	1.912E+00	1.527E+00	9.758E-01	FAIL ABUN
XE-127	-2.181E-02	4.794E-02	3.942E-02	2.446E-02	NOT IDENT.
I-131	3.274E-02	1.283E-01	1.136E-01	6.546E-02	NOT IDENT.
TE-132	-4.408E-02	8.502E-01	7.100E-01	4.338E-01	NOT IDENT.
BA-133	-2.973E-02	4.879E-02	3.489E-02	2.489E-02	FAIL ABUN
I-133	-5.857E+03	1.416E+04	0.000E+00	7.222E+03	SHORT HLIF
CS-134	1.230E-01	6.387E-02	5.219E-02	3.259E-02	FAIL ABUN
CS-135	1.305E-01	1.757E-01	1.518E-01	8.967E-02	NOT IDENT.
I-135	3.535E+16	7.337E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.771E-02	1.353E-01	1.104E-01	6.902E-02	FAIL ABUN
BA-137M	-3.934E-02	4.781E-02	3.595E-02	2.439E-02	NOT IDENT.
CS-137	-4.159E-02	5.054E-02	3.801E-02	2.579E-02	NOT IDENT.
CE-139	-1.854E-02	2.842E-02	2.345E-02	1.450E-02	NOT IDENT.
BA-140	-1.095E-01	3.149E-01	2.547E-01	1.607E-01	NOT IDENT.
LA-140	-4.007E-02	1.163E-01	9.196E-02	5.934E-02	NOT IDENT.
CE-141	-3.560E-02	6.438E-02	5.347E-02	3.285E-02	NOT IDENT.
CE-143	1.075E+03	3.810E+02	0.000E+00	1.944E+02	SHORT HLIF

CE-144	-5.598E-02	2.059E-01	1.680E-01	1.050E-01	NOT IDENT.
PM-144	9.582E-03	3.802E-02	3.382E-02	1.940E-02	NOT IDENT.
PR-144	6.497E-01	2.578E+00	2.293E+00	1.315E+00	NOT IDENT.
PM-146	1.627E-03	4.773E-02	4.088E-02	2.435E-02	NOT IDENT.
ND-147	-1.501E-01	6.516E-01	5.364E-01	3.324E-01	FAIL ABUN
PM-149	5.831E+00	1.129E+02	1.003E+02	5.762E+01	NOT IDENT.
EU-152	-3.419E-02	9.685E-02	7.942E-02	4.941E-02	NOT IDENT.
GD-153	-4.530E-02	6.457E-02	5.461E-02	3.294E-02	NOT IDENT.
EU-154	1.020E-01	1.479E-01	1.321E-01	7.544E-02	NOT IDENT.
EU-155	1.027E-01	9.365E-02	8.602E-02	4.778E-02	FAIL ABUN
TB-160	8.292E-03	1.820E-01	1.557E-01	9.283E-02	FAIL ABUN
HO-166M	3.449E-02	7.559E-02	6.806E-02	3.857E-02	FAIL ABUN
TM-171	8.032E-01	1.549E+01	1.250E+01	7.905E+00	NOT IDENT.
LU-176	-1.145E-02	2.618E-02	2.162E-02	1.336E-02	NOT IDENT.
LU-177	3.793E+00	1.606E+00	1.211E+00	8.196E-01	FAIL ABUN
LU-177M	3.238E-02	2.054E-01	1.580E-01	1.048E-01	NOT IDENT.
HF-181	1.374E-02	4.784E-02	4.165E-02	2.441E-02	NOT IDENT.
W-181	1.895E-02	1.904E-01	1.541E-01	9.714E-02	NOT IDENT.
TA-182	-4.184E-02	2.559E-01	2.074E-01	1.306E-01	FAIL ABUN
RE-183	-3.546E-02	1.088E-01	9.179E-02	5.552E-02	FAIL ABUN
RE-184	1.126E-01	2.442E-01	2.091E-01	1.246E-01	NOT IDENT.
OS-185	3.453E-02	5.208E-02	4.593E-02	2.657E-02	NOT IDENT.
RE-188	2.025E-01	1.773E-01	1.601E-01	9.047E-02	NOT IDENT.
W-188	5.589E+00	7.843E+00	6.488E+00	4.001E+00	FAIL ABUN
IR-192	1.457E-03	3.478E-02	3.065E-02	1.775E-02	FAIL ABUN
AU-195	3.152E-01	1.867E-01	1.727E-01	9.526E-02	FAIL ABUN
TL-200	-5.248E+02	8.956E+02	0.000E+00	4.569E+02	SHORT HLIF
TL-201	-1.079E+01	8.502E+00	6.729E+00	4.338E+00	NOT IDENT.
TL-202	4.422E-02	7.190E-02	6.482E-02	3.669E-02	NOT IDENT.
HG-203	4.902E-02	4.639E-02	3.915E-02	2.367E-02	NOT IDENT.
BI-207	4.170E-02	6.621E-02	5.922E-02	3.378E-02	FAIL ABUN
TL-207	-5.587E-01	6.745E-01	5.530E-01	3.442E-01	FAIL ABUN
PO-209	9.148E+00	8.882E+00	8.346E+00	4.532E+00	NOT IDENT.
PB-211	3.106E-01	1.191E+00	9.139E-01	6.075E-01	NOT IDENT.
BI-212	1.379E+00	5.942E-01	4.046E-01	3.031E-01	FAIL ABUN
PO-215	-5.587E-01	6.745E-01	5.530E-01	3.442E-01	FAIL ABUN
RN-219	5.683E-02	4.658E-01	4.052E-01	2.377E-01	NOT IDENT.
RN-220	9.108E-01	2.762E+01	2.329E+01	1.409E+01	NOT IDENT.
RA-223	-5.587E-01	6.745E-01	5.530E-01	3.442E-01	FAIL ABUN
AC-227	-3.639E-01	4.095E-01	3.159E-01	2.089E-01	FAIL ABUN
TH-227	-3.639E-01	4.109E-01	3.159E-01	2.097E-01	FAIL ABUN
TH-229	5.549E-02	5.236E-01	4.466E-01	2.671E-01	FAIL ABUN
PA-231	-1.347E+00	1.455E+00	1.200E+00	7.426E-01	FAIL ABUN
TH-231	-5.587E-01	6.745E-01	5.530E-01	3.442E-01	FAIL ABUN
U-231	-1.065E+00	1.080E+00	8.051E-01	5.510E-01	FAIL ABUN
PA-233	9.678E-03	6.635E-02	5.888E-02	3.385E-02	FAIL ABUN
PA-234	1.510E-01	3.578E-01	3.162E-01	1.825E-01	FAIL ABUN
PA-234M	3.969E+00	5.416E+00	4.922E+00	2.763E+00	FAIL ABUN
U-235	2.080E-01	2.158E-01	1.901E-01	1.101E-01	FAIL ABUN
NP-236	-2.504E-02	7.794E-02	6.582E-02	3.977E-02	NOT IDENT.
NP-239	2.515E-02	1.764E-01	1.556E-01	8.999E-02	FAIL ABUN
AM-241	4.603E-02	6.093E-02	5.167E-02	3.109E-02	NOT IDENT.
CM-243	1.724E-02	8.103E-02	7.223E-02	4.134E-02	FAIL ABUN
AM-246	2.119E-01	1.560E-01	1.516E-01	7.957E-02	NOT IDENT.
CM-247	9.645E-03	4.191E-02	3.672E-02	2.138E-02	FAIL ABUN
CF-249	2.062E-02	4.502E-02	4.013E-02	2.297E-02	NOT IDENT.
CF-251	-5.792E-02	1.238E-01	1.028E-01	6.317E-02	NOT IDENT.

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*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                            CHARLESTON ,SC 29417                           *
*                     GAMMA SPECTROSCOPY BACKGROUND REPORT                  *
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ENERGY	MDA COUNTS
46.50	182.2627
46.50	182.2627
46.50	182.2627
48.70	192.2580
49.72	209.2148
51.35	229.6107
52.39	242.1380
52.97	239.9868
53.15	240.1062
53.44	226.7140
54.07	216.9007
56.28	280.6672
56.28	280.6688
57.37	0.0000
57.53	286.7535
57.53	286.7552
57.60	286.8062
57.98	264.7447
57.98	264.7447
59.32	260.0631
59.32	260.0631
59.40	260.1168
59.54	260.2111
59.72	265.5122
60.01	282.5599
61.10	301.5432
61.14	301.5733
61.30	288.6913
63.00	310.8202
63.29	311.0436
63.29	311.0436
63.58	311.2669
64.28	311.8030
65.12	324.2586
65.20	324.3213
65.20	324.3213
66.05	315.7782
66.72	329.4640
66.83	329.5517
66.91	329.6147
67.20	339.0791
67.20	339.0791
67.75	335.5570
67.85	331.6742
68.90	345.4756
68.90	345.4756
69.30	367.2799
69.67	351.6741
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70.83	340.6406
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72.87	345.7914
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74.81	347.2952
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74.81	347.2952
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75.70	347.9800
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77.11	349.0536

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78.38	350.0127
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79.80	344.7425
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80.18	313.7795
80.30	313.8588
80.30	313.8588
80.57	329.8972
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81.07	313.0072
81.07	313.0072
81.07	313.0072
81.07	313.0072
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83.37	333.6515
83.78	333.9363
83.78	333.9363
83.78	333.9363
83.78	333.9363
84.21	317.7928
84.90	329.2145
85.43	329.5697
86.29	330.1447
86.50	330.2838
86.54	330.3094
86.59	330.3442
86.72	330.4303
86.79	330.4742
86.94	330.5750
87.30	330.8148
87.30	330.8148
87.30	330.8148
87.30	330.8148
87.30	330.8148
87.30	330.8148
87.30	330.8148
87.57	253.7609
87.88	253.9181
88.03	253.9939
88.36	254.1595
88.47	254.2157
89.95	260.5009
91.11	261.0904
92.29	261.6871
92.38	261.7330
92.38	261.7330
93.35	217.5873
94.00	209.4772
94.67	215.3347
94.67	215.3371
94.90	215.4310
94.90	215.4310
94.90	215.4310
94.90	215.4310
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95.87	252.2626
96.73	266.7077
97.43	240.8172
98.44	192.4503
98.44	192.4503
98.88	177.5739
99.55	201.3096
99.55	201.3096
99.86	214.6012
100.00	214.6557
100.10	217.5212
103.18	220.6252
103.76	210.4262
105.00	201.3896
105.31	201.4996
108.00	229.1858
109.28	209.5943

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111.00	215.9695
111.76	210.4810
112.95	220.5334
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116.30	208.2058
117.00	213.2928
117.00	213.2928
117.66	214.4939
121.11	193.2436
121.62	209.0301
121.78	209.0834
122.06	195.4915
122.32	195.5719
122.32	195.5719
122.32	195.5719
122.32	195.5719
123.07	186.9936
127.23	193.6326
129.76	213.6753
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136.25	180.8011
136.48	221.8306
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140.51	0.0000
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142.65	221.8060
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144.24	170.7724
144.24	170.7724
144.24	170.7724
145.22	191.2475
145.44	210.5370
147.16	203.9423
152.43	186.0101
152.70	175.8545
153.22	187.2332
154.21	211.0481
154.21	211.0481
154.21	211.0481
154.21	211.0481
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163.35	153.4696
163.89	153.5765
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167.43	200.1406
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171.86	189.7311
172.10	196.0795
176.55	178.1837
176.60	178.1958
181.06	157.7473
184.41	150.0793
185.71	151.3762
186.00	151.4282
190.27	162.3681
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193.63	177.5247
197.04	179.2946
198.01	177.3297
198.60	183.9384
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201.83	194.3792
202.84	175.0292
205.31	148.7991

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208.81	154.2933
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209.75	142.9494
210.97	146.4285
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218.09	131.5169
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227.08	148.3654
227.20	152.8470
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228.18	142.9479
231.56	0.0000
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236.00	158.7096
236.00	158.7096
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238.63	157.9942
238.63	157.9942
238.63	157.9942
239.00	158.0511
240.98	158.3588
241.98	158.5126
241.98	158.5126
241.98	158.5126
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245.39	115.8706
247.94	128.6814
248.90	127.6600
249.79	135.7538
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252.85	118.9868
252.85	118.9868
254.15	0.0000
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256.20	143.4631
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262.80	113.1650
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268.24	132.2949
268.79	105.6557
269.46	105.7186
269.46	105.7186
269.46	105.7186
269.46	105.7186
271.23	150.1037
273.65	146.9308
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277.60	128.1376
278.00	129.0602
278.60	113.8430
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279.53	106.9028
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284.30	101.5217
285.00	98.0498
285.90	94.5899
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286.10	97.2588
287.40	98.2530
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290.80	92.3235
291.72	102.3469
293.26	0.0000
293.70	115.3340
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295.21	121.1831

295.21	121.1831
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296.50	92.7694
297.23	92.8265
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301.29	85.9761
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303.91	109.1387
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304.40	109.1832
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323.87	113.0921
323.87	113.0921
323.87	113.0921
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334.20	114.7358
334.30	114.7453
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338.28	87.6115
338.28	87.6115
338.28	87.6115
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338.32	87.6144
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345.85	79.1471
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351.92	85.7151
351.92	85.7151
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366.43	78.1481
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367.94	0.0000
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391.69	94.8669
391.69	94.8669
392.90	81.5189
398.62	82.7955
400.65	95.4410
401.10	88.7193
401.81	89.7262
402.60	88.8077
404.84	85.0728
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423.70	78.2935
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427.89	69.6707
432.53	64.9547
433.93	70.9222
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439.56	51.4017
439.89	57.3451
443.98	75.3320
444.90	58.5148
445.03	58.5193
445.03	58.5193
445.03	58.5193
445.03	58.5193
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468.07	56.3213
473.00	64.5547
475.06	52.5134
475.35	51.5128
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477.59	67.7616
477.96	60.6949
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484.57	68.0367
487.03	52.8792
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507.63	0.0000
510.53	0.0000
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511.00	68.0278
511.85	68.0600
511.85	68.0600
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513.99	52.8598
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520.65	49.7373
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529.87	0.0000
531.02	56.2692
537.32	62.7319
543.00	63.9692
546.56	0.0000
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552.65	51.6453
555.20	47.4925
563.23	49.8084
563.90	64.6673
568.70	54.1984
569.32	56.3416
569.50	55.2833
569.67	57.4146
573.80	61.7967
574.00	61.8020
574.64	61.8232
578.91	52.9831
579.30	0.0000
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585.48	48.0129
591.81	67.7296
592.07	56.9854
593.00	64.5410
595.88	66.7870
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602.52	0.0000
602.71	53.6082
602.71	53.6082
603.60	64.0111
604.41	69.2285
604.70	69.2383
609.31	47.7074

609.31	47.7074
609.31	47.7074
609.31	47.7074
610.33	47.7302
612.46	57.3359
614.37	52.1704
618.01	60.9714
621.84	37.0858
621.84	37.0858
631.29	49.3025
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633.10	53.7313
634.78	55.9680
635.90	50.5076
636.97	45.0402
645.85	43.0193
646.12	45.2304
656.30	58.7403
657.75	70.9785
657.90	0.0000
661.65	69.9925
661.65	69.9925
664.57	0.0000
666.33	52.3271
666.33	52.3271
675.00	49.1764
677.61	49.2328
685.20	49.3979
692.80	57.6719
695.00	59.5321
696.49	46.0307
696.49	46.0307
697.00	45.1392
697.49	44.2448
698.33	46.0681
698.50	50.5887
699.00	56.9230
702.63	55.2023
706.10	56.1920
706.58	0.0000
706.67	64.3645
709.31	52.6376
711.68	52.6914
713.82	65.4697
717.42	48.2668
720.50	57.7515
721.93	0.0000
722.20	51.7097
722.78	50.2009
722.78	50.2009
722.89	50.2036
722.95	47.1610
723.30	47.1685
724.18	38.0534
727.18	40.2349
733.00	35.1383
735.90	38.5455
739.58	50.5527
742.81	43.2570
744.21	46.9658
747.13	43.3339
751.79	56.3490
752.31	45.2736
753.82	39.7540
755.35	46.2537
756.15	54.5980
756.87	50.9113
763.93	38.6790
765.79	51.0939
766.42	52.6560
766.84	52.6643
776.49	38.2513
778.00	45.7425
778.57	47.6195
778.89	43.8904
783.80	36.4901
785.46	47.7490
792.07	39.1113

795.84	45.4364
796.30	42.3105
798.80	37.6455
801.93	48.9988
805.60	33.0261
810.29	39.7031
810.76	43.4922
815.85	34.1033
817.79	40.7650
818.51	41.7248
819.60	33.2039
826.30	40.8962
828.27	0.0000
831.60	51.4608
831.96	48.6081
834.83	46.7522
836.80	0.0000
846.75	40.2507
848.13	43.1477
856.28	0.0000
856.80	40.0798
860.37	40.4527
867.32	28.9680
867.82	30.5828
871.10	37.7098
873.19	44.5120
874.81	46.4742
875.33	0.0000
876.40	31.9696
879.36	43.6410
880.27	34.9242
880.51	39.7778
881.50	45.6150
883.24	40.7880
884.67	34.9787
889.25	31.1430
896.60	28.2969
898.02	29.2874
899.00	41.0166
903.28	37.7249
911.07	41.1899
911.07	41.1899
911.07	41.1899
919.63	37.3775
920.93	29.5217
925.00	28.5780
925.24	30.5512
926.50	28.5929
935.52	40.5496
937.48	34.6385
944.10	33.7244
946.00	31.7609
949.00	33.7800
962.29	36.5915
964.01	59.9121
966.15	68.2816
968.20	71.9930
969.11	48.3440
969.11	48.3440
969.11	48.3440
977.42	49.1448
980.50	36.1433
983.50	30.1487
989.30	34.2333
996.32	38.3479
1001.03	29.3101
1001.68	27.2947
1004.76	38.4527
1021.30	0.0000
1024.50	0.0000
1034.80	35.7554
1036.00	40.8789
1037.82	26.5865
1038.57	23.5245
1038.76	0.0000
1045.16	32.7969
1046.59	34.8616
1048.07	34.8782

1050.47	26.6919
1050.47	26.6919
1062.04	30.9082
1063.62	31.9536
1076.63	36.2202
1077.35	27.9479
1078.86	17.6043
1085.78	32.1701
1099.22	32.2987
1112.02	40.5286
1112.84	43.5893
1115.52	38.3890
1120.29	34.5984
1120.29	34.5984
1120.29	34.5984
1120.29	34.5984
1120.51	34.6000
1121.28	40.2013
1124.00	0.0000
1129.67	39.9501
1131.51	0.0000
1147.95	0.0000
1167.94	30.8252
1173.22	33.0011
1175.09	41.5384
1177.93	27.7151
1189.05	49.1872
1204.90	42.9590
1205.75	0.0000
1213.00	43.0566
1221.42	47.4697
1230.97	51.9211
1235.34	38.9865
1236.41	0.0000
1238.25	35.7667
1246.25	27.1545
1260.41	0.0000
1271.85	36.0889
1274.45	24.0754
1274.54	22.9821
1291.56	32.9780
1298.22	0.0000
1312.09	17.4978
1325.50	21.2546
1325.50	21.2546
1332.49	25.9207
1333.61	20.3726
1360.21	19.5773
1362.66	0.0000
1365.15	13.0675
1368.21	21.4839
1368.53	0.0000
1376.25	14.9753
1384.27	15.9430
1394.10	22.5615
1395.20	23.5087
1407.95	18.8647
1434.06	18.9844
1436.60	14.2468
1457.56	0.0000
1460.81	6.5502
1489.15	10.5775
1509.49	8.6946
1596.49	18.7155
1620.62	5.9412
1678.03	0.0000
1691.02	10.0505
1691.02	10.0505
1706.46	0.0000
1750.46	0.0000
1764.49	8.1618
1764.49	8.1618
1764.49	8.1618
1764.49	8.1618
1770.23	7.0039
1771.40	9.1948
1791.20	0.0000
1808.65	5.1459

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244137005

Total Uranium Activity	5.0184E+00	ug/g
Total Uranium Counting Unc.	3.2529E+00	ug/g
Total Uranium Tpu	1.6596E-06	ug/g
Total Uranium Mda	1.4754E+00	ug/g

```
*******************************************************************************
*                                                                             *
*                          GEL Laboratories LLC                           *
*                               2040 SAVAGE ROAD                              *
*                             CHARLESTON ,SC 29417                            *
*                              GROSS GAMMA REPORT                             *
*                                                                             *
*                                                                             *
*******************************************************************************
*                                                                             *
*   BATCH ID      : 940263                    SAMPLE ID  : G244137005         *
*   ANALYST       : MXR1                      DETECTOR   : GAM17              *
*   SAMPLE DATE   :  4-JAN-2010 12:00:00.00   COUNT TIME :    0 02:00:00.00   *
*   ANALYSIS DATE: 20-JAN-2010 13:44:36.33    SAMPLE ALQT:  126.320 GRAM      *
*                                                                             *
*******************************************************************************


        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 8.211E+00
        GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.273E+00
        GROSS GAMMA MDA     (pCi/GRAM  )  : 3.420E+00
        GROSS GAMMA DLC     (pCi/GRAM  )  : 1.652E+00
```

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:50:00.43

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*****************************************************************************
*                              GEL Laboratories LLC                         *
*                                2040 Savage Road                           *
*                              Charleston, SC 29414                         *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137006.CNF;1
Sample date       : 4-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:45:06
Sample ID         : G244137006           Sample quantity  : 1.19520E+02 GRAM
Detector name     : GAM20                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:33.59  0.5%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 940263               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.38*	30	335	0.86	92.79	90	8	4.16E-03	111.5	
2	0	63.43*	96	477	1.02	126.84	123	8	1.34E-02	41.9	
3	4	74.90*	443	428	1.01	149.74	145	13	6.15E-02	8.8	1.10E+00
4	4	77.22*	742	380	1.02	154.38	145	13	1.03E-01	5.8	
5	2	84.26*	77	463	1.26	168.44	162	31	1.08E-02	47.8	3.46E+00
6	2	87.33	322	420	1.27	174.56	162	31	4.47E-02	12.2	
7	2	90.00	206	382	1.27	179.90	162	31	2.86E-02	18.4	
8	2	92.78*	280	333	1.28	185.44	162	31	3.89E-02	14.7	
9	0	129.06	59	293	1.06	257.90	254	8	8.15E-03	52.2	
10	0	185.85*	220	328	1.50	371.33	367	10	3.05E-02	17.6	
11	0	209.29	152	264	1.09	418.14	414	10	2.11E-02	21.5	
12	3	238.52*	1246	162	1.08	476.52	469	19	1.73E-01	3.3	1.66E+00
13	3	241.60	355	250	1.52	482.68	469	19	4.93E-02	10.2	
14	0	270.22	91	232	1.06	539.86	534	11	1.27E-02	34.1	
15	0	295.20*	408	211	1.15	589.75	583	12	5.67E-02	8.8	
16	0	299.79	79	125	0.94	598.92	595	8	1.10E-02	26.8	
17	0	338.32*	201	221	1.08	675.91	670	12	2.80E-02	16.6	
18	0	351.78	742	158	1.15	702.80	698	11	1.03E-01	4.9	
19	0	409.33	47	143	1.52	817.79	813	13	6.53E-03	54.4	
20	0	462.96	81	95	0.84	924.94	920	10	1.12E-02	25.2	
21	0	510.86*	93	91	1.32	1020.68	1015	12	1.29E-02	28.2	
22	0	583.14*	385	135	1.36	1165.14	1158	15	5.35E-02	8.4	
23	0	609.26*	528	101	1.41	1217.35	1210	13	7.33E-02	5.9	
24	0	661.58	94	92	1.52	1321.94	1317	14	1.30E-02	23.7	
25	0	727.22*	101	79	1.60	1453.16	1445	15	1.40E-02	21.8	
26	0	767.90	62	47	1.04	1534.50	1529	11	8.62E-03	24.8	
27	0	795.19*	66	49	1.90	1589.07	1582	15	9.20E-03	26.9	
28	0	860.66	56	55	1.11	1719.99	1713	14	7.73E-03	31.5	
29	0	875.96	37	22	1.12	1750.58	1746	12	5.09E-03	30.1	
30	0	911.06	251	87	1.40	1820.80	1814	15	3.49E-02	10.2	
31	1	964.64	58	40	1.84	1927.95	1923	21	8.12E-03	22.2	1.16E+00
32	1	968.77	151	33	1.84	1936.23	1923	21	2.10E-02	11.4	
33	0	1120.39	97	48	1.51	2239.55	2234	13	1.34E-02	18.0	
34	0	1377.53	38	40	1.90	2754.16	2745	20	5.28E-03	43.9	
35	0	1402.10	19	17	1.56	2803.36	2798	13	2.69E-03	48.7	
36	0	1460.49	1049	22	1.86	2920.24	2913	16	1.46E-01	3.2	
37	0	1587.80	14	13	1.26	3175.17	3170	10	1.97E-03	53.7	
38	0	1729.57	23	7	2.42	3459.11	3452	13	3.12E-03	31.5	

Sample ID : G244137006 Acquisition date : 20-JAN-2010 13:45:06

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1764.06	113	0	2.06	3528.19	3522	16	1.57E-02	9.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JAN-2010 15:50:03

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137006.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 4-JAN-2010 12:00:00 Acquisition date : 20-JAN-2010 13:45:06
Sample ID : G244137006 Sample quantity : 119.52 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA20 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:33.59 0.5%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.464E+01	2.675E+00	5.181E-01	4.518E-02	47.564
CD-109	+	88.03	*	4.008E+00	1.049E+00	1.027E+00	9.707E-02	3.904
SN-126	+	64.28		6.755E-01	5.743E-01	6.248E-01	9.046E-02	1.081
	+	86.94		1.635E+00	7.878E-01	4.218E-01	1.751E-01	3.877
	+	87.57	*	3.933E-01	1.029E-01	1.010E-01	9.504E-03	3.893
BA-137M	+	661.65	*	1.342E-01	6.507E-02	5.473E-02	5.493E-03	2.451
CS-137	+	661.65	*	1.418E-01	6.879E-02	5.786E-02	5.815E-03	2.451
TL-208		277.35		6.164E-01	3.608E-01	6.379E-01	8.482E-02	0.966
	+	510.84		4.511E-01	2.607E-01	2.166E-01	2.708E-02	2.082
	+	583.14	*	5.325E-01	1.051E-01	5.446E-02	5.599E-03	9.779
	+	860.37		7.182E-01	4.585E-01	4.180E-01	4.431E-02	1.718
BI-210	+	46.50	*	1.277E+00	2.849E+00	3.148E+00	2.919E-01	0.406
PB-210	+	46.50	*	1.277E+00	2.849E+00	3.148E+00	2.919E-01	0.406
PO-210	+	46.50	*	1.277E+00	2.849E+00	3.148E+00	2.641E-01	0.406
BI-211		72.87		3.784E+00	2.988E+00	4.579E+00	3.616E-01	0.827
	+	351.07	*	4.534E+00	6.222E-01	3.209E-01	3.074E-02	14.130
PB-212	+	74.81		2.150E+00	4.640E-01	4.666E-01	5.759E-02	4.609
	+	77.11		2.069E+00	2.941E-01	2.685E-01	2.221E-02	7.706
	+	87.30		1.819E+00	5.096E-01	4.681E-01	6.416E-02	3.886
	+	238.63	*	1.671E+00	2.095E-01	8.873E-02	9.436E-03	18.838
	+	300.09		1.639E+00	8.971E-01	1.107E+00	1.266E-01	1.480
PO-212	+	74.81		2.150E+00	4.640E-01	4.666E-01	5.759E-02	4.609
	+	77.11		2.069E+00	2.941E-01	2.685E-01	2.221E-02	7.706
	+	87.30		1.819E+00	5.096E-01	4.681E-01	6.416E-02	3.886
		115.19		1.968E-01	3.274E+00	5.286E+00	4.440E-01	0.037
	+	238.63	*	1.671E+00	2.095E-01	8.873E-02	9.436E-03	18.838
	+	300.09		1.639E+00	8.971E-01	1.107E+00	1.266E-01	1.480
BI-214	+	609.31	*	1.375E+00	2.240E-01	1.100E-01	1.224E-02	12.498
	+	1120.29		1.292E+00	4.859E-01	4.110E-01	4.447E-02	3.143
	+	1764.49		2.042E+00	4.191E-01	2.899E-01	2.381E-02	7.043
PB-214	+	74.81		3.705E+00	7.711E-01	8.040E-01	8.802E-02	4.609
	+	77.11		3.547E+00	5.720E-01	4.603E-01	5.176E-02	7.706
	+	87.30		3.116E+00	8.501E-01	8.019E-01	9.732E-02	3.886
	+	241.98		2.863E+00	6.639E-01	5.341E-01	5.973E-02	5.360

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	295.21		1.478E+00	3.116E-01	2.006E-01	2.341E-02	7.368
	+	351.92	*	1.577E+00	2.316E-01	1.094E-01	1.192E-02	14.416
PO-214	+	74.81		3.705E+00	7.711E-01	8.040E-01	8.802E-02	4.609
	+	77.11		3.547E+00	5.720E-01	4.603E-01	5.176E-02	7.706
	+	87.30		3.116E+00	8.501E-01	8.019E-01	9.732E-02	3.886
	+	241.98		2.863E+00	6.639E-01	5.341E-01	5.973E-02	5.360
	+	295.21		1.478E+00	3.116E-01	2.006E-01	2.341E-02	7.368
	+	351.92	*	1.577E+00	2.316E-01	1.094E-01	1.192E-02	14.416
PO-216	+	74.81		2.150E+00	4.640E-01	4.666E-01	5.759E-02	4.609
	+	77.11		2.069E+00	2.941E-01	2.685E-01	2.221E-02	7.706
	+	87.30		1.819E+00	5.096E-01	4.681E-01	6.416E-02	3.886
	+	238.63	*	1.671E+00	2.095E-01	8.873E-02	9.436E-03	18.838
	+	300.09		1.639E+00	8.971E-01	1.107E+00	1.266E-01	1.480
PO-218	+	74.81		3.705E+00	7.711E-01	8.040E-01	8.802E-02	4.609
	+	77.11		3.547E+00	5.720E-01	4.603E-01	5.176E-02	7.706
	+	87.30		3.116E+00	8.501E-01	8.019E-01	9.732E-02	3.886
	+	241.98		2.863E+00	6.639E-01	5.341E-01	5.973E-02	5.360
	+	295.21		1.478E+00	3.116E-01	2.006E-01	2.341E-02	7.368
	+	351.92	*	1.577E+00	2.316E-01	1.094E-01	1.192E-02	14.416
RA-224	+	240.98	*	5.429E+00	1.222E+00	1.010E+00	9.758E-02	5.377
RA-226	+	609.31	*	1.375E+00	2.240E-01	1.100E-01	1.224E-02	12.498
	+	1120.29		1.292E+00	4.859E-01	4.110E-01	4.447E-02	3.143
	+	1764.49		2.042E+00	4.191E-01	2.899E-01	2.381E-02	7.043
AC-228	+	338.32		1.357E+00	7.204E-01	3.657E-01	1.515E-01	3.711
	+	911.07	*	1.532E+00	3.653E-01	1.929E-01	2.363E-02	7.940
	+	969.11		1.622E+00	5.326E-01	3.669E-01	8.708E-02	4.420
RA-228	+	338.32		1.357E+00	7.204E-01	3.657E-01	1.515E-01	3.711
	+	911.07	*	1.532E+00	3.653E-01	1.929E-01	2.363E-02	7.940
	+	969.11		1.622E+00	5.326E-01	3.669E-01	8.708E-02	4.420
TH-228	+	74.81		2.185E+00	4.256E-01	4.741E-01	3.859E-02	4.609
	+	77.11		2.102E+00	2.989E-01	2.728E-01	2.256E-02	7.706
	+	87.30		1.849E+00	4.837E-01	4.757E-01	4.458E-02	3.886
	+	238.63	*	1.698E+00	2.129E-01	9.016E-02	9.588E-03	18.838
	+	300.09		1.666E+00	1.333E+00	1.125E+00	6.691E-01	1.480
TH-230	+	609.31	*	1.375E+00	2.240E-01	1.100E-01	1.224E-02	12.498
	+	1120.29		1.292E+00	4.859E-01	4.110E-01	4.447E-02	3.143
	+	1764.49		2.042E+00	4.191E-01	2.899E-01	2.381E-02	7.043
TH-232	+	338.32		1.357E+00	4.681E-01	3.657E-01	3.426E-02	3.711
	+	911.07	*	1.532E+00	3.653E-01	1.929E-01	2.363E-02	7.940
	+	969.11		1.622E+00	5.326E-01	3.669E-01	8.708E-02	4.420
TH-234	+	63.29	*	1.707E+00	1.460E+00	1.612E+00	2.801E-01	1.059
	+	92.38		2.267E+00	7.858E-01	6.740E-01	1.236E-01	3.364
U-234	+	609.31	*	1.375E+00	2.240E-01	1.100E-01	1.224E-02	12.498
	+	1120.29		1.292E+00	4.859E-01	4.110E-01	4.447E-02	3.143
	+	1764.49		2.042E+00	4.191E-01	2.899E-01	2.381E-02	7.043
NP-237	+	86.50	*	1.155E+00	3.849E-01	2.988E-01	6.760E-02	3.866
		95.87		5.389E-02	9.314E-01	1.351E+00	3.343E-01	0.040
U-238	+	63.29	*	1.707E+00	1.460E+00	1.612E+00	2.801E-01	1.059
	+	92.38		2.267E+00	6.982E-01	6.740E-01	6.161E-02	3.364

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	+	74.67	*	3.486E-01	6.780E-02	7.581E-02	6.102E-03	4.599
	+	86.72		4.331E+01	1.133E+01	1.119E+01	1.041E+00	3.871
		117.66		-8.686E-01	3.586E+00	5.703E+00	4.774E-01	-0.152
		142.18		5.961E+00	1.719E+01	2.787E+01	2.353E+00	0.214
ANH-511	+	511.00	*	9.744E-02	5.572E-02	4.681E-02	4.362E-03	2.082

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	2.577E-01	3.226E-01	5.531E-01	5.376E-02	0.466
NA-22		1274.54	*	-9.942E-03	3.928E-02	6.124E-02	5.073E-03	-0.162
NA-24		1368.53	*	-1.159E-02	3.928E-02	Half-Life too short		
AL-26		1129.67		-2.362E-01	1.533E+00	2.450E+00	2.075E-01	-0.096
		1808.65	*	-2.314E-02	2.967E-02	4.055E-02	3.294E-03	-0.571
TI-44		67.85		-1.455E-02	3.984E-02	6.125E-02	4.608E-03	-0.238
	+	78.38	*	3.818E-01	5.428E-02	7.306E-02	6.131E-03	5.227
SC-46		889.25	*	-5.193E-03	3.817E-02	6.223E-02	6.203E-03	-0.083
	+	1120.51		2.229E-01	8.252E-02	1.247E-01	1.067E-02	1.787
V-48		944.10		-8.239E-01	9.457E-01	1.415E+00	1.381E-01	-0.582
		983.50	*	1.030E-02	6.717E-02	1.121E-01	1.071E-02	0.092
		1312.09		6.852E-02	7.792E-02	1.389E-01	1.159E-02	0.493
CR-51		320.08	*	-2.266E-01	3.708E-01	5.909E-01	5.924E-02	-0.384
MN-52		744.21		9.613E-02	2.297E-01	3.984E-01	4.047E-02	0.241
		848.13		1.042E+00	7.123E+00	1.197E+01	1.206E+00	0.087
		935.52		3.325E-01	2.893E-01	5.218E-01	5.112E-02	0.637
		1246.25		-5.555E-02	8.073E+00	1.302E+01	1.070E+00	-0.004
		1333.61		2.252E+00	4.814E+00	8.266E+00	6.925E-01	0.272
		1434.06	*	7.654E-02	2.413E-01	4.212E-01	3.564E-02	0.182
MN-54		834.83	*	2.411E-02	3.899E-02	6.771E-02	6.839E-03	0.356
CO-56		846.75	*	3.614E-02	3.703E-02	6.659E-02	6.711E-03	0.543
		977.42		-2.122E+00	2.649E+00	3.780E+00	3.625E-01	-0.561
		1037.82		4.303E-02	2.866E-01	4.764E-01	4.597E-02	0.090
		1175.09		-7.379E-01	2.119E+00	3.305E+00	2.659E-01	-0.223
		1238.25		8.601E-02	9.662E-02	1.669E-01	1.412E-02	0.515
		1360.21		5.734E-02	8.194E-01	1.389E+00	1.168E-01	0.041
		1771.40		-3.966E-03	2.406E-01	3.386E-01	2.777E-02	-0.012
CO-57		122.06	*	-5.220E-03	2.359E-02	3.749E-02	3.129E-03	-0.139
		136.48		-3.368E-03	2.069E-01	3.307E-01	2.994E-02	-0.010
CO-58		810.76	*	-1.769E-02	3.780E-02	6.001E-02	6.093E-03	-0.295
FE-59		142.65		-8.828E-01	2.800E+00	4.354E+00	3.678E-01	-0.203
		192.34		-3.633E-01	8.620E-01	1.431E+00	1.965E-01	-0.254
		1099.22	*	1.725E-02	8.277E-02	1.379E-01	1.301E-02	0.125
		1291.56		2.024E-02	1.174E-01	1.930E-01	1.836E-02	0.105
CO-60		1173.22		9.172E-03	4.442E-02	7.349E-02	5.908E-03	0.125
		1332.49	*	2.146E-02	3.336E-02	5.858E-02	4.907E-03	0.366
ZN-65		1115.52	*	1.744E-02	8.831E-02	1.280E-01	1.102E-02	0.136
GE-68		1077.35	*	-1.291E-01	1.157E+00	1.863E+00	1.662E-01	-0.069
AS-73		53.44	*	5.009E-01	5.639E-01	9.611E-01	7.135E-02	0.521

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AS-74		595.88	*	6.922E-02	9.307E-02	1.581E-01	1.548E-02	0.438
		634.78		-3.121E-01	3.498E-01	5.449E-01	5.420E-02	-0.573
SE-75		66.05		-3.638E+00	4.361E+00	6.132E+00	5.801E-01	-0.593
		96.73		-8.208E-01	7.918E-01	1.064E+00	1.469E-01	-0.772
		121.11		-5.516E-02	1.276E-01	2.005E-01	2.208E-02	-0.275
		136.00		1.409E-02	3.791E-02	6.169E-02	5.212E-03	0.228
		198.60		1.177E+00	1.716E+00	2.946E+00	2.965E-01	0.400
		264.65	*	-3.494E-02	4.899E-02	6.815E-02	6.747E-03	-0.513
		279.53		-1.421E-01	1.069E-01	1.639E-01	1.678E-02	-0.867
		303.91		9.604E-01	2.275E+00	3.429E+00	4.243E-01	0.280
		400.65		5.023E-03	2.663E-01	4.368E-01	4.794E-02	0.011
BR-77	+	87.88		1.143E+03	2.990E+02	4.191E+02	3.958E+01	2.727
		200.40		-1.039E+02	2.069E+02	3.424E+02	3.150E+01	-0.303
	+	239.00		3.548E+02	4.153E+01	5.176E+01	4.993E+00	6.854
		249.79		-1.001E+01	7.905E+01	1.316E+02	1.283E+01	-0.076
		281.68		3.387E+01	1.089E+02	1.846E+02	1.836E+01	0.184
		297.23		3.190E+02	1.031E+02	1.446E+02	1.423E+01	2.206
		303.76		9.763E+01	2.541E+02	3.821E+02	3.738E+01	0.255
		439.47		-1.038E+02	1.706E+02	2.638E+02	2.318E+01	-0.393
		484.57		5.426E+01	2.962E+02	4.869E+02	4.449E+01	0.111
		520.65	*	-7.821E+00	1.234E+01	1.869E+01	1.753E+00	-0.418
		574.64		-2.993E+02	2.636E+02	3.752E+02	3.634E+01	-0.798
		578.91		1.020E+02	1.202E+02	1.848E+02	1.794E+01	0.552
		585.48		1.438E+03	3.214E+02	5.709E+02	5.561E+01	2.519
		755.35		-1.023E+02	2.002E+02	3.182E+02	3.234E+01	-0.321
		817.79		-1.910E+02	1.581E+02	2.269E+02	2.298E+01	-0.842
SR-82		698.33		1.246E+01	3.564E+01	6.082E+01	6.150E+00	0.205
		776.49	*	-2.710E-01	3.754E-01	5.837E-01	5.931E-02	-0.464
		1395.20		-6.017E-01	9.638E+00	1.431E+01	1.207E+00	-0.042
RB-83		520.41	*	-3.643E-02	6.192E-02	9.427E-02	8.841E-03	-0.386
		529.64		-6.910E-02	1.014E-01	1.532E-01	1.445E-02	-0.451
		552.65		-6.387E-02	1.905E-01	2.970E-01	2.843E-02	-0.215
RB-84		881.50	*	-8.279E-03	6.822E-02	9.585E-02	9.578E-03	-0.086
KR-85		513.99	*	1.217E+01	7.786E+00	1.260E+01	1.176E+00	0.966
SR-85		513.99	*	6.300E-02	4.032E-02	6.524E-02	6.092E-03	0.966
RB-86		1076.63	*	-3.462E-01	7.667E-01	1.187E+00	1.059E-01	-0.292
Y-88		898.02		-1.542E-03	3.897E-02	6.409E-02	6.395E-03	-0.024
		1836.01	*	-1.893E-04	3.583E-02	5.878E-02	4.743E-03	-0.003
ZR-88		392.90	*	-1.640E-02	2.962E-02	4.665E-02	3.901E-03	-0.351
Y-91		1204.90	*	-3.313E+00	1.841E+01	2.959E+01	2.402E+00	-0.112
NB-94		702.63	*	-2.411E-02	3.357E-02	5.302E-02	5.365E-03	-0.455
		871.10		-3.847E-03	3.450E-02	4.865E-02	4.876E-03	-0.079
NB-95		765.79	*	3.451E-02	4.641E-02	7.276E-02	7.395E-03	0.474
NB-95M		235.69	*	7.289E-02	1.342E-01	2.050E-01	2.203E-02	0.356
ZR-95		724.18		1.278E-02	1.019E-01	1.505E-01	1.623E-02	0.085
		756.15	*	-2.381E-02	6.643E-02	1.073E-01	1.171E-02	-0.222
NB-97		657.90	*	-3.559E-03	6.643E-02	Half-Life too short		
		1024.50		-2.168E+01	6.643E-02	Half-Life too short		
ZR-97		254.15		3.313E-01	6.643E-02	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		355.39		-4.336E+00	6.643E-02	Half-Life too short		
		507.63	*	4.967E-01	6.643E-02	Half-Life too short		
		602.52		-6.781E+00	6.643E-02	Half-Life too short		
		1021.30		4.768E+00	6.643E-02	Half-Life too short		
		1147.95		6.133E+00	6.643E-02	Half-Life too short		
		1362.66		1.357E+01	6.643E-02	Half-Life too short		
		1750.46		1.124E+01	6.643E-02	Half-Life too short		
MO-99		140.51		-2.691E+01	3.477E+01	5.143E+01	1.421E+01	-0.523
		181.06		-8.717E+00	2.380E+01	3.247E+01	5.988E+00	-0.268
		366.43		-3.312E+01	9.979E+01	1.604E+02	1.426E+01	-0.206
		739.58	*	-8.569E+00	1.349E+01	2.111E+01	3.400E+00	-0.406
		778.00		-1.680E+01	4.077E+01	6.536E+01	6.641E+00	-0.257
TC-99M		140.51	*	-4.317E+11	4.077E+01	Half-Life too short		
RH-101		127.23		9.131E-03	3.355E-02	4.871E-02	4.063E-03	0.187
		198.01	*	3.306E-02	3.166E-02	5.500E-02	5.041E-03	0.601
		325.23		-3.198E-01	2.206E-01	3.303E-01	3.154E-02	-0.968
RH-102		418.52		-2.353E-02	2.907E-01	4.725E-01	4.065E-02	-0.050
		475.06	*	-7.508E-03	2.872E-02	4.565E-02	4.138E-03	-0.164
		631.29		3.929E-02	5.302E-02	9.013E-02	8.953E-03	0.436
		697.49		-2.807E-02	7.882E-02	1.277E-01	1.291E-02	-0.220
	+	766.84		2.691E-01	1.365E-01	2.008E-01	2.041E-02	1.340
		1046.59		1.211E-02	1.092E-01	1.806E-01	1.653E-02	0.067
		1112.84		-4.100E-02	2.237E-01	3.349E-01	2.888E-02	-0.122
RU-103		497.08	*	1.560E-02	3.796E-02	6.347E-02	9.227E-03	0.246
	+	610.33		1.510E+01	3.177E+00	3.238E+00	5.619E-01	4.663
RH-106	+	511.85		4.876E-01	2.788E-01	4.351E-01	4.056E-02	1.121
		621.84	*	-2.681E-01	3.233E-01	4.726E-01	6.718E-02	-0.567
		1050.47		7.244E-01	2.126E+00	3.599E+00	3.285E-01	0.201
RU-106	+	511.85		4.876E-01	2.788E-01	4.351E-01	4.056E-02	1.121
		621.84	*	-2.681E-01	3.222E-01	4.726E-01	4.678E-02	-0.567
		1050.47		7.244E-01	2.126E+00	3.599E+00	3.285E-01	0.201
AG-108M		433.93	*	-4.252E-05	3.187E-02	5.198E-02	4.717E-03	-0.001
		614.37		9.738E-03	4.403E-02	6.291E-02	6.395E-03	0.155
		722.95		-2.113E-02	4.352E-02	5.947E-02	6.204E-03	-0.355
AG-110M		657.75	*	-1.352E-03	3.362E-02	4.906E-02	5.026E-03	-0.028
		677.61		-5.461E-02	2.823E-01	4.666E-01	4.797E-02	-0.117
		706.67		1.001E-02	1.993E-01	3.354E-01	3.464E-02	0.030
		763.93		5.724E-02	1.670E-01	2.524E-01	2.618E-02	0.227
		884.67		1.779E-02	4.424E-02	7.608E-02	7.778E-03	0.234
		937.48		-8.587E-02	1.136E-01	1.728E-01	1.739E-02	-0.497
		1384.27		-4.051E-02	1.392E-01	1.870E-01	1.623E-02	-0.217
IN-111		171.28		-2.555E-01	1.239E+00	1.942E+00	1.709E-01	-0.132
		245.39	*	5.673E-01	1.368E+00	2.081E+00	2.020E-01	0.273
IN-113M		391.69	*	-2.156E-02	4.303E-02	6.806E-02	5.871E-03	-0.317
SN-113		391.69	*	-2.156E-02	4.303E-02	6.806E-02	5.871E-03	-0.317
IN-114M		190.27	*	2.159E-01	1.829E-01	2.922E-01	2.648E-02	0.739
CD-115		260.90		5.237E+01	1.667E+02	2.833E+02	2.787E+01	0.185
		492.35		4.709E+00	4.539E+01	7.415E+01	6.816E+00	0.064
		527.90	*	-1.076E+01	1.372E+01	2.049E+01	1.932E+00	-0.525

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SN-117M		156.02		-1.390E+00	2.390E+00	3.691E+00	3.174E-01	-0.377
		158.56	*	-9.789E-03	5.477E-02	8.628E-02	7.446E-03	-0.113
SB-122		563.90	*	1.948E+00	2.738E+00	4.633E+00	4.462E-01	0.420
		692.80		2.460E+01	5.087E+01	8.859E+01	8.949E+00	0.278
I-123		159.00	*	-3.379E+00	5.087E+01	Half-Life too short		
		528.96		-1.353E+03	5.087E+01	Half-Life too short		
TE-123M		159.00	*	-4.998E-03	2.734E-02	4.306E-02	3.741E-03	-0.116
I-124		602.71	*	2.740E-01	8.241E-01	1.196E+00	1.175E-01	0.229
		722.78		-2.446E+00	5.337E+00	7.323E+00	7.427E-01	-0.334
		1325.50		3.524E+01	3.950E+01	7.043E+01	5.892E+00	0.500
	+	1376.25		8.128E+01	7.166E+01	7.773E+01	6.547E+00	1.046
		1509.49		8.046E+00	1.784E+01	3.147E+01	2.668E+00	0.256
		1691.02		2.175E+00	4.127E+00	7.463E+00	6.223E-01	0.291
SB-124		602.71		1.374E-02	4.133E-02	5.999E-02	5.891E-03	0.229
		645.85		1.335E-01	4.661E-01	8.032E-01	8.381E-02	0.166
		709.31		1.299E-01	2.616E+00	4.401E+00	4.457E-01	0.030
		713.82		-1.853E+00	1.494E+00	2.181E+00	2.871E-01	-0.850
		722.78		-1.778E-01	3.880E-01	5.323E-01	5.484E-02	-0.334
	+	968.20		1.688E+01	4.163E+00	7.028E+00	6.775E-01	2.402
		1045.16		-1.971E+00	2.540E+00	3.808E+00	3.490E-01	-0.518
		1325.50		2.736E+00	3.067E+00	5.468E+00	4.575E-01	0.500
		1368.21		-5.545E-01	1.699E+00	2.498E+00	3.334E-01	-0.222
		1436.60		-1.407E+00	3.441E+00	5.407E+00	4.576E-01	-0.260
		1691.02	*	3.729E-02	7.076E-02	1.280E-01	1.112E-02	0.291
SB-125		427.89	*	-2.067E-02	9.177E-02	1.463E-01	1.295E-02	-0.141
	+	463.38		7.657E-01	3.934E-01	5.553E-01	5.346E-02	1.379
		600.56		-1.057E-01	1.780E-01	2.696E-01	2.796E-02	-0.392
		635.90		-2.088E-01	2.488E-01	3.883E-01	4.100E-02	-0.538
TE-125M		109.28	*	4.957E+00	8.828E+00	1.457E+01	1.490E+00	0.340
I-126		388.63		1.116E-01	2.120E-01	3.594E-01	3.027E-02	0.310
		666.33	*	8.612E-02	2.031E-01	3.114E-01	3.129E-02	0.277
		753.82		4.266E-02	1.390E+00	2.327E+00	2.365E-01	0.018
SB-126		223.80		1.892E-01	3.942E+00	6.655E+00	6.313E-01	0.028
		278.60		2.543E+00	2.472E+00	4.319E+00	4.299E-01	0.589
	+	296.50		1.552E+01	3.125E+00	3.946E+00	3.885E-01	3.934
		414.70		-1.573E-02	8.749E-02	1.231E-01	1.054E-02	-0.128
		415.30		9.498E-01	7.262E+00	1.054E+01	9.033E-01	0.090
		555.20		-1.218E+00	4.200E+00	6.299E+00	6.037E-01	-0.193
		573.80		-5.311E-01	1.040E+00	1.589E+00	1.538E-01	-0.334
		593.00		-2.917E-01	9.231E-01	1.434E+00	1.401E-01	-0.203
		656.30		5.009E-01	3.503E+00	5.229E+00	5.239E-01	0.096
		666.33		3.607E-02	8.506E-02	1.304E-01	1.310E-02	0.277
		675.00		1.047E+00	1.875E+00	3.293E+00	3.315E-01	0.318
		695.00		-4.108E-02	7.855E-02	1.261E-01	1.275E-02	-0.326
		697.00		-1.929E-01	2.909E-01	4.592E-01	4.642E-02	-0.420
		720.50	*	5.779E-02	1.617E-01	2.454E-01	2.488E-02	0.235
		856.80		1.608E-01	5.192E-01	7.774E-01	7.818E-02	0.207
		989.30		-4.597E-01	1.145E+00	1.787E+00	1.702E-01	-0.257
		1034.80		-7.205E-01	8.018E+00	1.297E+01	1.199E+00	-0.056

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1213.00		-3.153E+00	4.856E+00	7.362E+00	5.993E-01	-0.428
SB-127		61.10		-1.853E+01	5.674E+01	8.200E+01	8.515E+00	-0.226
		252.40		-1.056E-03	4.791E+00	8.028E+00	3.401E+00	0.000
		290.80		-4.430E+00	2.765E+01	3.999E+01	4.971E+00	-0.111
		411.60		4.288E+00	1.579E+01	2.321E+01	3.687E+00	0.185
		444.90		8.398E-01	1.033E+01	1.694E+01	2.191E+00	0.050
		473.00		-9.464E-01	1.917E+00	2.981E+00	3.996E-01	-0.317
		543.00		-2.064E+01	1.934E+01	2.772E+01	4.204E+00	-0.744
		603.60		-6.984E+00	1.553E+01	2.044E+01	2.782E+00	-0.342
		685.20	*	-5.983E-01	1.403E+00	2.262E+00	2.893E-01	-0.265
		698.50		6.279E+00	1.885E+01	3.164E+01	5.339E+00	0.198
		722.20		3.771E+00	3.742E+01	5.514E+01	6.967E+00	0.068
		783.80		4.107E+00	4.310E+00	7.655E+00	1.054E+00	0.537
XE-127		57.60		1.274E+00	4.393E+00	7.313E+00	5.225E-01	0.174
		145.22		1.342E-01	7.092E-01	1.128E+00	9.553E-02	0.119
		172.10		-8.621E-02	1.172E-01	1.779E-01	1.568E-02	-0.485
		202.84	*	1.303E-02	4.483E-02	7.673E-02	7.082E-03	0.170
		374.96		-4.044E-03	1.991E-01	3.208E-01	2.797E-02	-0.013
I-131		80.18		-8.522E-01	5.880E+00	6.673E+00	5.763E-01	-0.128
		284.30		-1.030E+00	1.463E+00	2.331E+00	2.407E-01	-0.442
		364.48	*	-4.536E-02	1.176E-01	1.884E-01	1.769E-02	-0.241
		636.97		-1.935E-01	1.539E+00	2.568E+00	2.666E-01	-0.075
		722.89		-3.791E+00	7.965E+00	1.090E+01	1.111E+00	-0.348
TE-132		49.72		-7.880E+00	1.590E+01	2.281E+01	2.401E+00	-0.345
		111.76		-1.217E+01	3.398E+01	5.385E+01	5.913E+00	-0.226
		116.30		1.306E+01	3.168E+01	5.190E+01	5.673E+00	0.252
		228.16	*	-3.118E-01	7.753E-01	1.277E+00	2.095E-01	-0.244
BA-133		53.15		1.881E+00	2.404E+00	4.083E+00	3.042E-01	0.461
		79.62		3.200E-02	1.525E+00	1.754E+00	2.661E-01	0.018
		81.00		-3.929E-02	1.154E-01	1.286E-01	2.044E-02	-0.305
		276.40		3.861E-01	3.623E-01	6.120E-01	9.347E-02	0.631
		302.84		3.086E-03	1.535E-01	2.246E-01	3.161E-02	0.014
		356.01	*	-9.909E-03	4.831E-02	6.861E-02	9.268E-03	-0.144
		383.85		-9.920E-03	2.981E-01	4.884E-01	6.126E-02	-0.020
I-133	+	510.53		2.130E+00	2.981E-01	Half-Life too short		
		529.87	*	-8.663E-03	2.981E-01	Half-Life too short		
		706.58		3.591E-02	2.981E-01	Half-Life too short		
		856.28		4.435E-01	2.981E-01	Half-Life too short		
	+	875.33		5.294E-01	2.981E-01	Half-Life too short		
		1236.41		1.217E+00	2.981E-01	Half-Life too short		
		1298.22		-3.270E-01	2.981E-01	Half-Life too short		
CS-134		475.35		-5.376E-01	1.907E+00	3.027E+00	2.745E-01	-0.178
		563.23		2.710E-01	3.784E-01	6.403E-01	6.212E-02	0.423
		569.32		-1.795E-02	1.837E-01	2.924E-01	2.855E-02	-0.061
		604.70		-3.066E-04	3.719E-02	5.181E-02	5.101E-03	-0.006
	+	795.84	*	1.314E-01	7.207E-02	8.714E-02	8.892E-03	1.508
		801.93		5.280E-02	4.670E-01	6.837E-01	6.964E-02	0.077
		1038.57		1.214E-01	3.628E+00	5.953E+00	5.484E-01	0.020
		1167.94		-7.763E-01	2.550E+00	4.009E+00	3.245E-01	-0.194

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1365.15		-5.024E-01	1.064E+00	1.664E+00	1.467E-01	-0.302
CS-135		268.24	*	1.706E-01	1.801E-01	2.801E-01	3.104E-02	0.609
I-135		288.45		4.283E+11	1.801E-01	Half-Life too short		
		417.63		-3.193E+10	1.801E-01	Half-Life too short		
		546.56		4.716E+10	1.801E-01	Half-Life too short		
		836.80		2.770E+11	1.801E-01	Half-Life too short		
		1038.76		1.366E+10	1.801E-01	Half-Life too short		
		1124.00		1.475E+11	1.801E-01	Half-Life too short		
		1131.51		7.411E+09	1.801E-01	Half-Life too short		
		1260.41	*	-2.091E+10	1.801E-01	Half-Life too short		
		1457.56		5.545E+12	1.801E-01	Half-Life too short		
		1678.03		-6.529E+10	1.801E-01	Half-Life too short		
		1706.46		1.420E+11	1.801E-01	Half-Life too short		
		1791.20		1.822E+10	1.801E-01	Half-Life too short		
CS-136		66.91		-4.363E-01	7.449E-01	1.059E+00	1.570E-01	-0.412
	+	86.29		5.398E+00	1.503E+00	1.971E+00	2.618E-01	2.739
		153.22		5.105E-01	7.015E-01	1.151E+00	1.104E-01	0.443
		163.89		2.206E-01	1.129E+00	1.768E+00	1.720E-01	0.125
		176.55		-1.421E-01	3.723E-01	5.767E-01	5.397E-02	-0.246
		273.65		-5.670E-01	5.126E-01	6.860E-01	7.150E-02	-0.826
		340.57		2.061E-01	1.421E-01	2.276E-01	2.178E-02	0.905
		818.51		-5.857E-02	7.049E-02	1.067E-01	1.081E-02	-0.549
		1048.07	*	8.314E-02	1.061E-01	1.870E-01	1.775E-02	0.445
		1235.34		1.235E-01	6.441E-01	1.057E+00	1.220E-01	0.117
CE-139		165.85	*	3.061E-03	2.982E-02	4.756E-02	4.152E-03	0.064
BA-140		162.64		4.296E-01	7.787E-01	1.239E+00	1.137E-01	0.347
		304.84		6.989E-01	1.373E+00	2.168E+00	6.158E-01	0.322
		423.70		8.104E-01	2.044E+00	3.401E+00	1.103E+00	0.238
		537.32	*	1.213E-01	2.585E-01	4.284E-01	1.430E-01	0.283
LA-140		328.77		5.244E-01	3.069E-01	5.475E-01	5.444E-02	0.958
		432.53		-1.057E+00	2.182E+00	3.431E+00	3.136E-01	-0.308
		487.03		4.666E-02	1.388E-01	2.309E-01	2.230E-02	0.202
		751.79		-1.229E-01	1.563E+00	2.591E+00	2.838E-01	-0.047
		815.85		-6.068E-02	2.970E-01	4.831E-01	5.308E-02	-0.126
		867.82		1.891E-01	1.439E+00	2.202E+00	2.295E-01	0.086
		919.63		-2.452E+00	2.783E+00	3.976E+00	4.642E-01	-0.617
		925.24		7.059E-01	1.221E+00	2.060E+00	2.126E-01	0.343
		1596.49	*	-2.561E-02	8.035E-02	1.263E-01	1.066E-02	-0.203
CE-141		145.44	*	2.295E-02	6.219E-02	1.009E-01	8.712E-03	0.227
CE-143		57.37		1.207E-04	6.219E-02	Half-Life too short		
		231.56		1.280E-03	6.219E-02	Half-Life too short		
		293.26	*	1.086E-03	6.219E-02	Half-Life too short		
	+	350.59		5.820E-02	6.219E-02	Half-Life too short		
		490.36		-5.609E-04	6.219E-02	Half-Life too short		
		664.57		1.519E-03	6.219E-02	Half-Life too short		
		721.93		4.391E-04	6.219E-02	Half-Life too short		
CE-144		80.11		-4.014E-01	2.497E+00	2.830E+00	2.424E-01	-0.142
		133.54	*	-9.215E-02	2.038E-01	3.018E-01	4.657E-02	-0.305
PM-144		476.78		2.451E-02	6.804E-02	1.133E-01	1.116E-02	0.216

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		-1.205E-02	3.170E-02	4.883E-02	4.928E-03	-0.247
		696.49	*	-2.556E-02	3.535E-02	5.549E-02	5.610E-03	-0.461
		778.57		1.764E-01	2.067E+00	3.470E+00	3.527E-01	0.051
PR-144		696.49	*	-1.733E+00	2.397E+00	3.762E+00	3.802E-01	-0.461
		1489.15		6.914E+00	9.937E+00	1.838E+01	1.558E+00	0.376
PM-146		453.90	*	2.349E-02	4.192E-02	7.094E-02	7.770E-03	0.331
		633.02		8.133E-01	1.328E+00	2.185E+00	8.237E-01	0.372
		735.90		1.305E-01	1.416E-01	2.466E-01	7.177E-02	0.529
		747.13		-3.606E-02	7.812E-02	1.243E-01	1.869E-02	-0.290
ND-147	+	91.11		9.042E-01	3.439E-01	5.099E-01	5.045E-02	1.773
		319.41		-9.988E-02	3.376E+00	5.586E+00	5.375E-01	-0.018
		439.89		-4.079E+00	5.571E+00	8.512E+00	7.482E-01	-0.479
		531.02	*	4.158E-01	5.557E-01	9.480E-01	1.464E-01	0.439
PM-149		285.90	*	-1.815E+02	1.202E+02	1.766E+02	2.879E+01	-1.028
EU-152		121.78		-3.162E-02	6.881E-02	1.080E-01	1.046E-02	-0.293
		244.69		3.110E-01	3.367E-01	5.278E-01	5.120E-02	0.589
		344.27	*	-8.306E-02	9.893E-02	1.405E-01	1.371E-02	-0.591
		443.98		5.252E-01	8.493E-01	1.440E+00	1.270E-01	0.365
		778.89		1.179E-01	2.354E-01	4.097E-01	4.163E-02	0.288
		867.32		-2.496E-01	8.887E-01	1.223E+00	1.227E-01	-0.204
	+	964.01		7.217E-01	3.282E-01	5.788E-01	5.592E-02	1.247
		1085.78		-1.044E-01	3.448E-01	5.415E-01	4.794E-02	-0.193
		1112.02		-1.365E-01	3.012E-01	4.660E-01	4.022E-02	-0.293
		1407.95		1.910E-01	1.729E-01	3.029E-01	2.559E-02	0.631
GD-153		69.67		2.137E-02	1.445E+00	2.257E+00	1.726E-01	0.009
	+	83.37		1.710E+01	1.641E+01	2.104E+01	1.876E+00	0.813
		97.43	*	-5.448E-02	8.023E-02	1.106E-01	9.813E-03	-0.492
		103.18		-1.019E-01	9.827E-02	1.508E-01	1.305E-02	-0.675
EU-154		123.07		2.535E-02	4.760E-02	7.828E-02	8.729E-03	0.324
		247.94		-1.840E-01	3.296E-01	5.351E-01	6.599E-02	-0.344
		591.81		-1.669E-01	5.553E-01	8.624E-01	1.082E-01	-0.194
		723.30		-4.947E-02	1.761E-01	2.472E-01	2.701E-02	-0.200
		756.87		5.578E-01	7.210E-01	1.276E+00	1.676E-01	0.437
		873.19		-2.183E-02	2.913E-01	4.130E-01	5.478E-02	-0.053
		996.32		-1.006E-01	3.175E-01	5.008E-01	9.115E-02	-0.201
		1004.76		-1.751E-02	2.143E-01	3.484E-01	4.270E-02	-0.050
		1274.45	*	-3.703E-03	1.074E-01	1.723E-01	1.904E-02	-0.021
EU-155		48.70		-1.207E+00	1.581E+00	2.231E+00	1.785E-01	-0.541
		60.01		2.024E+00	4.018E+00	6.057E+00	4.298E-01	0.334
	+	86.54		4.739E-01	1.241E-01	1.733E-01	1.623E-02	2.734
		105.31	*	3.987E-02	1.008E-01	1.655E-01	1.439E-02	0.241
TB-160	+	86.79		1.277E+00	3.341E-01	4.683E-01	4.360E-02	2.727
		197.04		2.915E-02	5.374E-01	9.009E-01	8.246E-02	0.032
		215.65		5.073E-01	7.382E-01	1.243E+00	1.167E-01	0.408
	+	298.57		2.407E-01	1.310E-01	1.949E-01	1.915E-02	1.235
		879.36	*	-9.188E-02	1.357E-01	1.715E-01	1.715E-02	-0.536
		962.29		6.379E-01	6.399E-01	1.003E+00	9.701E-02	0.636
		966.15		8.945E-01	2.643E-01	5.014E-01	4.839E-02	1.784
		1177.93		-2.744E-01	3.094E-01	4.452E-01	3.585E-02	-0.616

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1271.85		2.441E-02	6.663E-01	1.078E+00	8.917E-02	0.023
HO-166M		80.57		1.194E-01	3.056E-01	3.615E-01	3.114E-02	0.330
	+	184.41		1.554E-01	5.644E-02	6.986E-02	6.274E-03	2.224
		280.46		-9.977E-02	8.222E-02	1.270E-01	1.264E-02	-0.785
		410.95		2.142E-01	2.395E-01	4.138E-01	3.532E-02	0.518
		711.68	*	2.555E-02	5.485E-02	9.538E-02	9.662E-03	0.268
		752.31		-1.453E-02	2.358E-01	3.914E-01	3.977E-02	-0.037
		810.29		-3.070E-02	5.786E-02	9.139E-02	9.264E-03	-0.336
TM-171		51.35		-8.085E+00	2.064E+01	3.189E+01	2.436E+00	-0.254
		52.39		1.235E+01	1.036E+01	1.784E+01	1.343E+00	0.692
		59.40		1.904E+01	2.128E+01	3.267E+01	2.312E+00	0.583
		66.72	*	-1.257E+01	2.551E+01	3.656E+01	2.724E+00	-0.344
LU-176	+	88.36		9.329E-01	2.441E-01	3.476E-01	3.278E-02	2.684
		201.83		-2.704E-02	2.721E-02	4.387E-02	4.043E-03	-0.616
		306.84	*	3.304E-03	2.359E-02	3.950E-02	3.853E-03	0.084
		401.10		1.485E-01	6.752E+00	1.108E+01	9.351E-01	0.013
LU-177		112.95		-2.615E+00	1.738E+00	2.529E+00	2.132E-01	-1.034
	+	208.36	*	4.002E+00	1.763E+00	2.178E+00	2.026E-01	1.837
LU-177M		52.97		9.413E-01	1.094E+00	1.862E+00	1.391E-01	0.505
		54.07		5.912E-01	5.861E-01	1.002E+00	7.387E-02	0.590
		61.30		-1.350E-01	1.241E+00	1.815E+00	1.298E-01	-0.074
		121.62		-2.392E-01	3.573E-01	5.547E-01	4.626E-02	-0.431
		147.16		-7.414E-02	6.372E-01	1.011E+00	8.583E-02	-0.073
		171.86		-2.611E-01	4.689E-01	7.201E-01	6.343E-02	-0.363
		218.09		-7.014E-02	8.190E-01	1.376E+00	1.296E-01	-0.051
	+	268.79		1.876E+00	1.293E+00	1.465E+00	1.450E-01	1.280
		319.02		5.124E-02	2.525E-01	4.234E-01	4.075E-02	0.121
		367.43		-4.700E-01	8.441E-01	1.333E+00	1.183E-01	-0.353
		413.65	*	-5.155E-02	1.921E-01	2.678E-01	2.292E-02	-0.193
HF-181		56.28		-8.213E-01	6.844E-01	1.069E+00	7.710E-02	-0.769
		57.53		8.604E-02	3.677E-01	6.107E-01	4.366E-02	0.141
		65.20		1.673E-01	8.480E-01	1.258E+00	9.254E-02	0.133
		133.02		-2.891E-02	7.040E-02	9.759E-02	8.167E-03	-0.296
		136.25		-2.502E-02	4.584E-01	7.316E-01	6.138E-02	-0.034
		345.85		-7.643E-02	1.917E-01	2.835E-01	2.623E-02	-0.270
		482.03	*	-1.543E-02	4.298E-02	6.769E-02	6.172E-03	-0.228
W-181		56.28		-3.182E-01	2.652E-01	4.141E-01	2.988E-02	-0.768
		57.53		3.313E-02	1.426E-01	2.368E-01	1.693E-02	0.140
		65.20	*	6.436E-02	3.262E-01	4.838E-01	3.560E-02	0.133
TA-182		67.75		-5.191E-02	1.026E-01	1.470E-01	1.105E-02	-0.353
		100.10		9.945E-02	1.636E-01	2.714E-01	2.376E-02	0.366
		152.43		2.981E-01	3.398E-01	5.615E-01	4.802E-02	0.531
		222.10		-6.300E-02	3.271E-01	5.462E-01	5.170E-02	-0.115
		1001.68		7.681E-01	1.990E+00	3.372E+00	3.187E-01	0.228
	+	1121.28		6.144E-01	2.274E-01	3.465E-01	2.961E-02	1.773
		1189.05		-9.583E-02	3.144E-01	4.939E-01	3.991E-02	-0.194
		1221.42	*	2.135E-02	1.839E-01	3.008E-01	2.454E-02	0.071
		1230.97		-2.714E-01	4.960E-01	7.598E-01	6.216E-02	-0.357
RE-183		57.98		4.727E-02	1.451E-01	2.418E-01	1.724E-02	0.195

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		59.32		7.820E-02	8.817E-02	1.354E-01	9.582E-03	0.578
		67.20		-1.107E-01	1.829E-01	2.605E-01	1.949E-02	-0.425
		162.32	*	3.270E-02	1.085E-01	1.706E-01	1.481E-02	0.192
	+	208.81		3.290E+00	1.450E+00	1.813E+00	1.687E-01	1.815
		291.72		-4.923E-01	1.025E+00	1.444E+00	1.427E-01	-0.341
RE-184		57.98		1.732E-01	5.319E-01	8.862E-01	6.317E-02	0.195
		59.32		2.863E-01	3.228E-01	4.956E-01	3.509E-02	0.578
		67.20		-4.056E-01	6.699E-01	9.543E-01	7.139E-02	-0.425
		161.27		-3.142E-01	3.402E-01	5.126E-01	4.442E-02	-0.613
		216.55		6.154E-02	2.592E-01	4.417E-01	4.152E-02	0.139
		252.85	*	7.705E-03	2.160E-01	3.626E-01	3.544E-02	0.021
		318.01		3.375E-01	4.326E-01	7.477E-01	7.205E-02	0.451
		792.07		4.947E-01	1.059E+00	1.617E+00	1.642E-01	0.306
		903.28		9.936E-02	1.003E+00	1.580E+00	1.568E-01	0.063
		920.93		-1.323E-01	4.171E-01	6.643E-01	6.547E-02	-0.199
OS-185		59.72		2.195E-01	2.367E-01	3.640E-01	2.578E-02	0.603
		61.14		-4.308E-02	1.369E-01	1.980E-01	1.415E-02	-0.218
		69.30		2.562E-02	2.605E-01	4.081E-01	3.111E-02	0.063
		592.07		-7.513E-01	2.297E+00	3.559E+00	3.477E-01	-0.211
		646.12	*	1.499E-02	3.846E-02	6.683E-02	6.674E-03	0.224
		717.42		1.066E-01	8.184E-01	1.386E+00	1.405E-01	0.077
	+	874.81		1.031E+00	6.297E-01	9.286E-01	9.296E-02	1.110
		880.27		-4.319E-01	7.304E-01	9.366E-01	9.362E-02	-0.461
RE-188		155.03	*	9.530E-02	1.732E-01	2.824E-01	2.424E-02	0.338
		477.96		1.260E+00	3.094E+00	5.171E+00	4.699E-01	0.244
		633.10		5.528E-02	2.782E+00	4.446E+00	4.420E-01	0.012
W-188	+	63.58		6.925E+01	5.823E+01	7.605E+01	5.527E+00	0.911
		227.08		-6.702E-01	1.174E+01	1.971E+01	1.877E+00	-0.034
		290.67	*	-1.303E+00	8.136E+00	1.177E+01	1.164E+00	-0.111
IR-192	+	295.96		1.137E+00	2.292E-01	3.018E-01	2.989E-02	3.768
		308.46		-5.185E-02	9.324E-02	1.495E-01	1.462E-02	-0.347
		316.51	*	2.045E-02	3.349E-02	5.742E-02	5.553E-03	0.356
		468.07		2.701E-02	6.713E-02	9.976E-02	9.585E-03	0.271
		604.41		6.353E-02	4.945E-01	7.002E-01	9.695E-02	0.091
		612.46		7.238E-01	8.317E-01	1.263E+00	1.389E-01	0.573
AU-195		65.12		9.264E-02	1.497E-01	2.258E-01	1.660E-02	0.410
		66.83		-4.959E-02	8.516E-02	1.215E-01	9.060E-03	-0.408
	+	75.70		1.132E+00	2.202E-01	4.140E-01	3.370E-02	2.735
		98.88	*	2.821E-01	2.263E-01	3.468E-01	3.054E-02	0.814
	+	129.76		3.318E+00	3.477E+00	4.605E+00	3.846E-01	0.720
TL-200		367.94	*	2.807E-04	3.477E+00	Half-Life too short		
		579.30		6.557E-03	3.477E+00	Half-Life too short		
		828.27		6.817E-03	3.477E+00	Half-Life too short		
		1205.75		1.961E-04	3.477E+00	Half-Life too short		
TL-201		68.90		-1.404E+00	4.916E+00	7.970E+00	6.054E-01	-0.176
		70.82		6.060E-01	3.184E+00	4.696E+00	3.632E-01	0.129
		80.30		-9.137E-01	7.342E+00	8.346E+00	7.165E-01	-0.109
		135.34		-5.275E-01	3.071E+01	4.911E+01	4.117E+00	-0.011
		167.43	*	1.925E+00	8.685E+00	1.392E+01	1.218E+00	0.138

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		-1.073E-01	3.754E-01	6.087E-01	4.623E-02	-0.176
		70.82		4.616E-02	2.425E-01	3.576E-01	2.766E-02	0.129
		80.30		-6.961E-02	5.594E-01	6.358E-01	5.459E-02	-0.109
		439.56	*	-4.333E-02	6.573E-02	1.011E-01	8.886E-03	-0.428
HG-203		70.83		1.943E-01	1.010E+00	1.489E+00	1.946E-01	0.130
		72.87		7.635E-01	6.077E-01	9.238E-01	1.177E-01	0.827
		82.60		9.992E-01	9.028E-01	1.515E+00	2.103E-01	0.659
		279.20	*	-1.370E-02	3.961E-02	6.482E-02	6.592E-03	-0.211
BI-207		72.80		1.728E-01	1.727E-01	2.625E-01	2.071E-02	0.658
	+	74.97		6.258E-01	1.217E-01	2.023E-01	1.633E-02	3.094
	+	84.90		2.206E-01	2.117E-01	2.874E-01	2.612E-02	0.768
		569.67		-3.671E-04	2.838E-02	4.552E-02	4.397E-03	-0.008
		1063.62	*	1.088E-02	4.884E-02	8.162E-02	7.370E-03	0.133
		1770.23		-3.017E-02	5.028E-01	6.989E-01	5.734E-02	-0.043
TL-207		81.07		-9.346E-02	2.542E-01	2.829E-01	2.452E-02	-0.330
	+	83.78		1.454E-01	1.396E-01	1.801E-01	1.614E-02	0.807
		94.90		5.290E-01	2.277E-01	3.617E-01	3.254E-02	1.462
		122.32		-1.373E-01	1.626E+00	2.602E+00	2.339E-01	-0.053
		144.24		3.940E-01	6.843E-01	1.106E+00	1.051E-01	0.356
		154.21		2.121E-01	3.974E-01	6.475E-01	6.111E-02	0.328
	+	269.46		4.374E-01	3.016E-01	3.498E-01	3.517E-02	1.250
		323.87	*	-4.595E-01	6.342E-01	9.953E-01	1.810E-01	-0.462
	+	338.28		5.666E+00	2.017E+00	2.484E+00	3.191E-01	2.282
		445.03		5.987E-02	2.018E+00	3.295E+00	4.033E-01	0.018
PO-209		260.50		6.402E-01	9.163E+00	1.539E+01	1.513E+00	0.042
		262.80		4.533E+00	2.523E+01	4.259E+01	4.196E+00	0.106
		896.60	*	1.687E-01	6.868E+00	1.137E+01	1.131E+00	0.015
PB-211		404.84	*	-4.850E-01	1.078E+00	1.416E+00	8.869E-01	-0.343
		427.08		-2.733E+00	2.723E+00	3.131E+00	1.946E+00	-0.873
		831.96		-1.918E+00	1.718E+00	1.738E+00	1.093E+00	-1.103
BI-212	+	727.18	*	1.192E+00	5.379E-01	6.810E-01	7.728E-02	1.750
		785.46		2.814E+00	1.780E+00	3.286E+00	3.337E-01	0.856
		1620.62		6.919E-01	1.293E+00	2.304E+00	1.940E-01	0.300
PO-215		81.07		-9.346E-02	2.542E-01	2.829E-01	2.452E-02	-0.330
	+	83.78		1.454E-01	1.396E-01	1.801E-01	1.614E-02	0.807
		94.90		5.290E-01	2.277E-01	3.617E-01	3.254E-02	1.462
		122.32		-1.373E-01	1.626E+00	2.602E+00	2.339E-01	-0.053
		144.24		3.940E-01	6.843E-01	1.106E+00	1.051E-01	0.356
		154.21		2.121E-01	3.974E-01	6.475E-01	6.111E-02	0.328
	+	269.46		4.374E-01	3.016E-01	3.498E-01	3.517E-02	1.250
		323.87	*	-4.595E-01	6.342E-01	9.953E-01	1.810E-01	-0.462
	+	338.28		5.666E+00	2.017E+00	2.484E+00	3.191E-01	2.282
		445.03		5.987E-02	2.018E+00	3.295E+00	4.033E-01	0.018
RN-219	+	271.23		5.612E-01	3.882E-01	4.350E-01	4.964E-02	1.290
		401.81	*	-1.130E-01	4.192E-01	6.740E-01	1.006E-01	-0.168
RN-220		549.76	*	8.944E+00	2.602E+01	4.304E+01	4.112E+00	0.208
RA-223		81.07		-9.346E-02	2.542E-01	2.829E-01	2.452E-02	-0.330
	+	83.78		1.454E-01	1.396E-01	1.801E-01	1.614E-02	0.807
		94.90		5.290E-01	2.277E-01	3.617E-01	3.254E-02	1.462

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		122.32		-1.373E-01	1.626E+00	2.602E+00	2.339E-01	-0.053
		144.24		3.940E-01	6.843E-01	1.106E+00	1.051E-01	0.356
		154.21		2.121E-01	3.974E-01	6.475E-01	6.111E-02	0.328
	+	269.46		4.374E-01	3.016E-01	3.498E-01	3.517E-02	1.250
		323.87	*	-4.595E-01	6.342E-01	9.953E-01	1.810E-01	-0.462
	+	338.28		5.666E+00	2.017E+00	2.484E+00	3.191E-01	2.282
		445.03		5.987E-02	2.018E+00	3.295E+00	4.033E-01	0.018
AC-227		79.80		-3.494E-01	1.927E+00	2.180E+00	4.679E-01	-0.160
		236.00		5.012E-01	2.700E-01	4.290E-01	5.562E-02	1.168
		256.20	*	1.153E-01	3.639E-01	6.184E-01	9.919E-02	0.186
		286.10		-1.826E+00	1.454E+00	2.207E+00	3.109E-01	-0.827
	+	299.80		3.038E+00	1.716E+00	2.516E+00	4.557E-01	1.207
		304.40		1.605E+00	1.971E+00	3.032E+00	5.762E-01	0.529
		334.20		-1.926E-01	2.490E+00	3.593E+00	7.109E-01	-0.054
TH-227		79.80		-3.494E-01	1.927E+00	2.180E+00	4.739E-01	-0.160
	+	94.00		8.761E+00	3.217E+00	3.708E+00	8.138E-01	2.363
		236.00		5.012E-01	2.687E-01	4.290E-01	5.092E-02	1.168
		256.20	*	1.153E-01	3.640E-01	6.184E-01	1.154E-01	0.186
		286.10		-1.826E+00	2.327E+00	2.207E+00	2.218E+00	-0.827
	+	299.80		3.038E+00	1.716E+00	2.516E+00	4.557E-01	1.207
		304.40		1.605E+00	1.971E+00	3.032E+00	5.762E-01	0.529
		334.20		-1.926E-01	2.490E+00	3.593E+00	7.109E-01	-0.054
TH-229	+	85.43		2.177E-01	2.089E-01	2.949E-01	2.699E-02	0.738
	+	88.47		5.370E-01	1.405E-01	1.989E-01	1.874E-02	2.700
		100.00		7.408E-02	1.721E-01	2.810E-01	2.461E-02	0.264
		193.63	*	-2.785E-01	4.545E-01	7.479E-01	6.812E-02	-0.372
		210.97		6.282E-01	8.330E-01	1.280E+00	1.195E-01	0.491
PA-231		283.67	*	2.282E-01	1.366E+00	2.298E+00	3.669E-01	0.099
		301.29		6.757E-01	6.408E-01	9.981E-01	1.308E-01	0.677
TH-231		81.07		-9.346E-02	2.542E-01	2.829E-01	2.452E-02	-0.330
	+	83.78		1.454E-01	1.396E-01	1.801E-01	1.614E-02	0.807
		94.90		5.290E-01	2.277E-01	3.617E-01	3.254E-02	1.462
		122.32		-1.373E-01	1.626E+00	2.602E+00	2.339E-01	-0.053
		144.24		3.940E-01	6.843E-01	1.106E+00	1.051E-01	0.356
		154.21		2.121E-01	3.974E-01	6.475E-01	6.111E-02	0.328
	+	269.46		4.374E-01	3.016E-01	3.498E-01	3.517E-02	1.250
		323.87	*	-4.595E-01	6.342E-01	9.953E-01	1.810E-01	-0.462
	+	338.28		5.666E+00	2.017E+00	2.484E+00	3.191E-01	2.282
		445.03		5.987E-02	2.018E+00	3.295E+00	4.033E-01	0.018
U-231	+	84.21		7.333E+00	7.037E+00	9.278E+00	8.359E-01	0.790
	+	92.29		1.013E+01	3.120E+00	4.527E+00	4.141E-01	2.238
		95.87	*	7.150E-02	1.236E+00	1.792E+00	1.603E-01	0.040
		108.00		-1.865E+00	2.329E+00	3.620E+00	3.085E-01	-0.515
PA-233	+	75.28		1.826E+01	4.241E+00	6.103E+00	9.194E-01	2.992
	+	86.59		7.700E+00	2.808E+00	2.818E+00	7.621E-01	2.732
	+	300.12		8.469E-01	4.721E-01	7.006E-01	1.093E-01	1.209
		311.98	*	1.758E-02	5.862E-02	9.901E-02	9.823E-03	0.178
		340.50		1.200E+00	7.223E-01	1.093E+00	2.634E-01	1.098
		398.62		1.411E+00	2.146E+00	3.611E+00	9.592E-01	0.391

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.76		-6.750E-01	1.902E+00	2.622E+00	5.646E-01	-0.257
PA-234	+	63.00		1.989E+00	1.692E+00	2.214E+00	3.272E-01	0.898
		94.67		4.032E-01	1.651E-01	2.778E-01	3.520E-02	1.451
		98.44		1.027E-01	1.075E-01	1.394E-01	7.779E-02	0.737
		99.86		2.751E-01	4.341E-01	7.142E-01	6.260E-02	0.385
		111.00		2.947E-02	1.708E-01	2.774E-01	3.322E-02	0.106
		131.20		-1.963E-02	1.080E-01	1.521E-01	1.271E-02	-0.129
		152.70		2.469E-01	3.302E-01	5.396E-01	9.181E-02	0.458
	+	186.00		5.593E+00	2.635E+00	2.727E+00	8.540E-01	2.051
		226.40		8.538E-02	3.678E-01	6.257E-01	8.637E-02	0.136
		227.20		-3.507E-02	3.921E-01	6.572E-01	6.259E-02	-0.053
		248.90		2.184E-01	7.346E-01	1.248E+00	2.855E-01	0.175
	+	293.70		7.095E+00	1.781E+00	1.786E+00	3.207E-01	3.972
		369.80		2.413E-01	7.639E-01	1.282E+00	2.803E-01	0.188
		568.70		-1.036E-01	9.432E-01	1.500E+00	1.448E-01	-0.069
		569.50		-1.734E-02	2.546E-01	4.063E-01	3.925E-02	-0.043
		574.00		-8.150E-01	1.409E+00	2.137E+00	2.069E-01	-0.381
		699.00		3.822E-01	7.449E-01	1.262E+00	2.498E-01	0.303
		706.10		-1.087E-01	9.999E-01	1.660E+00	7.452E-01	-0.066
		733.00		4.606E-02	3.957E-01	5.838E-01	1.333E-01	0.079
		742.81		3.778E-01	1.234E+00	2.075E+00	1.399E+00	0.182
	+	796.30		2.552E+00	1.545E+00	1.656E+00	4.566E-01	1.541
		805.60		-2.191E-01	1.023E+00	1.646E+00	5.120E-01	-0.133
		819.60		5.779E-01	1.089E+00	1.868E+00	7.171E-01	0.309
		826.30		-2.646E-01	8.098E-01	1.289E+00	5.808E-01	-0.205
		831.60		-6.647E-01	6.564E-01	9.370E-01	2.840E-01	-0.709
	+	876.40		1.459E+00	1.740E+00	1.363E+00	1.402E+00	1.071
		880.51		-1.841E-01	2.766E-01	3.516E-01	3.514E-02	-0.524
		883.24		7.227E-03	2.800E-01	4.218E-01	2.843E-01	0.017
		899.00		-1.980E-01	7.770E-01	1.241E+00	5.461E-01	-0.159
		925.00		8.058E-01	1.215E+00	2.066E+00	2.033E-01	0.390
		926.50		1.962E-02	1.773E-01	2.867E-01	7.373E-02	0.068
		946.00	*	2.702E-01	2.954E-01	5.209E-01	1.006E-01	0.519
		949.00		1.370E-01	4.575E-01	7.732E-01	7.527E-02	0.177
		980.50		-2.771E-01	6.400E-01	9.970E-01	9.546E-02	-0.278
		1394.10		5.758E-01	1.030E+00	1.693E+00	1.102E+00	0.340
PA-234M	+	766.42		2.829E+01	2.015E+01	2.057E+01	1.050E+01	1.375
		1001.03	*	1.409E+00	4.273E+00	7.235E+00	7.739E-01	0.195
U-235	+	89.95		3.390E+00	1.630E+00	1.749E+00	5.430E-01	1.939
	+	93.35		2.726E+00	1.110E+00	1.233E+00	3.473E-01	2.211
		105.00		7.245E-01	9.984E-01	1.626E+00	4.851E-01	0.446
		143.76	*	8.302E-03	2.116E-01	3.344E-01	5.827E-02	0.025
		163.35		-8.740E-02	4.793E-01	7.360E-01	1.407E-01	-0.119
	+	185.71		2.071E-01	7.525E-02	1.012E-01	9.104E-03	2.048
		205.31		3.421E-02	5.403E-01	8.075E-01	1.565E-01	0.042
NP-236		94.67		3.088E-01	1.223E-01	2.110E-01	1.900E-02	1.463
		98.44		7.759E-02	6.910E-02	1.053E-01	9.296E-03	0.737
		111.00		2.229E-02	1.292E-01	2.098E-01	1.776E-02	0.106
		160.31	*	-5.994E-02	7.625E-02	1.159E-01	1.003E-02	-0.517

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		1.340E-01	1.444E-01	2.401E-01	2.108E-02	0.558
		117.00	*	3.029E-02	1.775E-01	2.878E-01	2.411E-02	0.105
	+	209.75		2.571E+00	1.133E+00	1.461E+00	1.361E-01	1.760
		228.18		-9.781E-02	2.074E-01	3.408E-01	3.249E-02	-0.287
		277.60		3.166E-01	1.711E-01	3.073E-01	3.058E-02	1.030
		334.30		-9.414E-02	1.412E+00	2.039E+00	1.922E-01	-0.046
AM-241		59.54	*	1.124E-01	1.237E-01	1.900E-01	1.487E-02	0.592
CM-243		99.55		1.379E-01	1.486E-01	2.471E-01	2.169E-02	0.558
		103.76	*	1.677E-02	8.827E-02	1.439E-01	1.242E-02	0.117
		117.00		3.116E-02	1.826E-01	2.961E-01	2.481E-02	0.105
	+	209.75		2.535E+00	1.117E+00	1.440E+00	1.342E-01	1.760
		228.18		-9.884E-02	2.096E-01	3.444E-01	3.283E-02	-0.287
		277.60		3.192E-01	1.726E-01	3.099E-01	3.083E-02	1.030
AM-246		798.80		-1.656E-01	1.568E-01	1.960E-01	1.989E-02	-0.845
		1036.00		-6.126E-02	2.664E-01	4.241E-01	3.914E-02	-0.144
		1062.04		-8.323E-02	2.070E-01	3.222E-01	2.913E-02	-0.258
		1078.86	*	6.192E-02	1.259E-01	2.164E-01	1.928E-02	0.286
CM-247		278.00		1.128E+00	7.070E-01	1.260E+00	1.254E-01	0.895
		287.40		5.104E-01	1.141E+00	1.946E+00	1.929E-01	0.262
		402.60	*	7.978E-03	3.635E-02	6.040E-02	5.108E-03	0.132
CF-249		252.85		2.880E-02	8.074E-01	1.355E+00	1.325E-01	0.021
		333.44		-1.354E-01	1.928E-01	2.633E-01	2.486E-02	-0.514
		387.95	*	1.789E-02	3.931E-02	6.638E-02	5.601E-03	0.270
CF-251		176.60	*	-4.884E-02	1.220E-01	1.888E-01	1.675E-02	-0.259
		227.00		-1.089E-02	3.493E-01	5.873E-01	5.592E-02	-0.019
		285.00		-2.545E+00	1.611E+00	2.396E+00	2.378E-01	-1.062

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137006      *
* Acquisition date : 20-JAN-2010 13:45:06 Detector SN#     :               *
* Detector ID        : GAM20               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:     0 02:00:00.00     Abundance limit : 75.000        *
* Elapsed real time:     0 02:00:33.59     Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date        :  4-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G244137006           Analyst initials: MXR1          *
* Batch Number       : 940263               Sample Quantity : 1.1952E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
* Standard Weight  :    0.00000                                             *
* CALIB. DATE/TIME : 26-AUG-2009 06:32:11 MS Isotope      :                 *
* MSD DPM            :    0.000             MSD Isotope     :               *
* LCS DPM            :    0.000             LCS Isotope     :               *
* LCSD DPM           :    0.000             LCSD Isotope    :               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.464E+01	2.622E+00	5.167E-01	0.000E+00
CD-109	4.008E+00	1.028E+00	1.057E+00	0.000E+00
SN-126	3.933E-01	1.009E-01	1.041E-01	0.000E+00
BA-137M	1.342E-01	6.377E-02	5.510E-02	0.000E+00
CS-137	1.418E-01	6.742E-02	5.825E-02	0.000E+00
TL-208	5.325E-01	1.030E-01	5.491E-02	0.000E+00
BI-210	1.277E+00	2.792E+00	3.265E+00	0.000E+00
PB-210	1.277E+00	2.792E+00	3.265E+00	0.000E+00
PO-210	1.277E+00	2.792E+00	3.265E+00	0.000E+00
BI-211	4.534E+00	6.098E-01	3.254E-01	0.000E+00
PB-212	1.671E+00	2.054E-01	9.038E-02	0.000E+00
PO-212	1.671E+00	2.054E-01	9.038E-02	0.000E+00
BI-214	1.375E+00	2.195E-01	1.109E-01	0.000E+00
PB-214	1.577E+00	2.269E-01	1.109E-01	0.000E+00
PO-214	1.577E+00	2.269E-01	1.109E-01	0.000E+00
PO-216	1.671E+00	2.054E-01	9.038E-02	0.000E+00
PO-218	1.577E+00	2.269E-01	1.109E-01	0.000E+00
RA-224	5.429E+00	1.197E+00	1.028E+00	0.000E+00
RA-226	1.375E+00	2.195E-01	1.109E-01	0.000E+00
AC-228	1.532E+00	3.580E-01	1.935E-01	0.000E+00
RA-228	1.532E+00	3.580E-01	1.935E-01	0.000E+00
TH-228	1.698E+00	2.087E-01	9.184E-02	0.000E+00
TH-230	1.375E+00	2.195E-01	1.109E-01	0.000E+00
TH-232	1.532E+00	3.580E-01	1.935E-01	0.000E+00
TH-234	1.707E+00	1.431E+00	1.667E+00	0.000E+00
U-234	1.375E+00	2.195E-01	1.109E-01	0.000E+00
NP-237	1.155E+00	3.772E-01	3.079E-01	0.000E+00
U-238	1.707E+00	1.431E+00	1.667E+00	0.000E+00
AM-243	3.486E-01	6.644E-02	7.823E-02	0.000E+00
ANH-511	9.744E-02	5.460E-02	4.727E-02	0.000E+00

---- Non-Identified Nuclides ----

Key-Line

Nuclide	Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM	)	
BE-7	2.577E-01	3.161E-01	5.589E-01	0.000E+00	NOT IDENT.
NA-22	-9.942E-03	3.849E-02	6.118E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.013E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.314E-02	2.907E-02	4.034E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.319E-02	7.535E-02	0.000E+00	FAIL ABUN
SC-46	-5.193E-03	3.741E-02	6.243E-02	0.000E+00	FAIL ABUN
V-48	1.030E-02	6.583E-02	1.123E-01	0.000E+00	NOT IDENT.
CR-51	-2.266E-01	3.634E-01	5.999E-01	0.000E+00	NOT IDENT.
MN-52	7.654E-02	2.365E-01	4.202E-01	0.000E+00	NOT IDENT.
MN-54	2.411E-02	3.821E-02	6.798E-02	0.000E+00	NOT IDENT.
CO-56	3.614E-02	3.629E-02	6.684E-02	0.000E+00	NOT IDENT.
CO-57	-5.220E-03	2.312E-02	3.848E-02	0.000E+00	NOT IDENT.
CO-58	-1.769E-02	3.704E-02	6.027E-02	0.000E+00	NOT IDENT.
FE-59	1.725E-02	8.111E-02	1.380E-01	0.000E+00	NOT IDENT.
CO-60	2.146E-02	3.269E-02	5.849E-02	0.000E+00	NOT IDENT.
ZN-65	1.744E-02	8.654E-02	1.281E-01	0.000E+00	NOT IDENT.
GE-68	-1.291E-01	1.133E+00	1.865E+00	0.000E+00	NOT IDENT.
AS-73	5.009E-01	5.527E-01	9.955E-01	0.000E+00	NOT IDENT.
AS-74	6.922E-02	9.121E-02	1.594E-01	0.000E+00	NOT IDENT.
SE-75	-3.494E-02	4.801E-02	6.934E-02	0.000E+00	NOT IDENT.
BR-77	-7.821E+00	1.209E+01	1.887E+01	0.000E+00	FAIL ABUN
SR-82	-2.710E-01	3.679E-01	5.865E-01	0.000E+00	NOT IDENT.
RB-83	-3.643E-02	6.068E-02	9.517E-02	0.000E+00	NOT IDENT.
RB-84	-8.279E-03	6.685E-02	9.618E-02	0.000E+00	NOT IDENT.
KR-85	1.217E+01	7.630E+00	1.272E+01	0.000E+00	NOT IDENT.
SR-85	6.300E-02	3.952E-02	6.587E-02	0.000E+00	NOT IDENT.
RB-86	-3.462E-01	7.514E-01	1.188E+00	0.000E+00	NOT IDENT.
Y-88	-1.893E-04	3.511E-02	5.847E-02	0.000E+00	NOT IDENT.
ZR-88	-1.640E-02	2.903E-02	4.725E-02	0.000E+00	NOT IDENT.
Y-91	-3.313E+00	1.804E+01	2.958E+01	0.000E+00	NOT IDENT.
NB-94	-2.411E-02	3.290E-02	5.334E-02	0.000E+00	NOT IDENT.
NB-95	3.451E-02	4.549E-02	7.313E-02	0.000E+00	NOT IDENT.
NB-95M	7.289E-02	1.315E-01	2.089E-01	0.000E+00	NOT IDENT.
ZR-95	-2.381E-02	6.510E-02	1.078E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.354E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.626E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-8.569E+00	1.322E+01	2.123E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.497E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.306E-02	3.103E-02	5.614E-02	0.000E+00	NOT IDENT.
RH-102	-7.508E-03	2.814E-02	4.613E-02	0.000E+00	FAIL ABUN
RU-103	1.560E-02	3.720E-02	6.411E-02	0.000E+00	FAIL ABUN
RH-106	-2.681E-01	3.168E-01	4.761E-01	0.000E+00	FAIL ABUN
RU-106	-2.681E-01	3.157E-01	4.761E-01	0.000E+00	FAIL ABUN
AG-108M	-4.252E-05	3.123E-02	5.259E-02	0.000E+00	NOT IDENT.
AG-110M	-1.352E-03	3.295E-02	4.939E-02	0.000E+00	NOT IDENT.
IN-111	5.673E-01	1.340E+00	2.119E+00	0.000E+00	NOT IDENT.
IN-113M	-2.156E-02	4.217E-02	6.894E-02	0.000E+00	NOT IDENT.
SN-113	-2.156E-02	4.217E-02	6.894E-02	0.000E+00	NOT IDENT.
IN-114M	2.159E-01	1.793E-01	2.984E-01	0.000E+00	NOT IDENT.
CD-115	-1.076E+01	1.345E+01	2.069E+01	0.000E+00	NOT IDENT.
SN-117M	-9.789E-03	5.368E-02	8.829E-02	0.000E+00	NOT IDENT.
SB-122	1.948E+00	2.683E+00	4.673E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.812E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-4.998E-03	2.680E-02	4.406E-02	0.000E+00	NOT IDENT.
I-124	2.740E-01	8.076E-01	1.206E+00	0.000E+00	FAIL ABUN
SB-124	3.729E-02	6.935E-02	1.274E-01	0.000E+00	FAIL ABUN
SB-125	-2.067E-02	8.993E-02	1.480E-01	0.000E+00	FAIL ABUN
TE-125M	4.957E+00	8.651E+00	1.497E+01	0.000E+00	NOT IDENT.
I-126	8.612E-02	1.990E-01	3.135E-01	0.000E+00	NOT IDENT.
SB-126	5.779E-02	1.585E-01	2.468E-01	0.000E+00	FAIL ABUN
SB-127	-5.983E-01	1.375E+00	2.276E+00	0.000E+00	NOT IDENT.
XE-127	1.303E-02	4.393E-02	7.831E-02	0.000E+00	NOT IDENT.
I-131	-4.536E-02	1.153E-01	1.910E-01	0.000E+00	NOT IDENT.
TE-132	-3.118E-01	7.598E-01	1.301E+00	0.000E+00	NOT IDENT.
BA-133	-9.909E-03	4.735E-02	6.957E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.216E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.063E-02	8.754E-02	0.000E+00	FAIL ABUN
CS-135	1.706E-01	1.765E-01	2.849E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.634E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.314E-02	1.040E-01	1.873E-01	0.000E+00	FAIL ABUN
CE-139	3.061E-03	2.922E-02	4.864E-02	0.000E+00	NOT IDENT.
BA-140	1.213E-01	2.533E-01	4.323E-01	0.000E+00	NOT IDENT.
LA-140	-2.561E-02	7.874E-02	1.258E-01	0.000E+00	NOT IDENT.
CE-141	2.295E-02	6.095E-02	1.034E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.682E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-9.215E-02	1.997E-01	3.094E-01	0.000E+00	NOT IDENT.
PM-144	-2.556E-02	3.465E-02	5.583E-02	0.000E+00	NOT IDENT.
PR-144	-1.733E+00	2.349E+00	3.785E+00	0.000E+00	NOT IDENT.
PM-146	2.349E-02	4.108E-02	7.173E-02	0.000E+00	NOT IDENT.
ND-147	4.158E-01	5.446E-01	9.569E-01	0.000E+00	FAIL ABUN
PM-149	-1.815E+02	1.178E+02	1.795E+02	0.000E+00	NOT IDENT.
EU-152	-8.306E-02	9.695E-02	1.426E-01	0.000E+00	FAIL ABUN
GD-153	-5.448E-02	7.862E-02	1.138E-01	0.000E+00	FAIL ABUN
EU-154	-3.703E-03	1.053E-01	1.722E-01	0.000E+00	NOT IDENT.
EU-155	3.987E-02	9.877E-02	1.701E-01	0.000E+00	FAIL ABUN
TB-160	-9.188E-02	1.330E-01	1.721E-01	0.000E+00	FAIL ABUN
HO-166M	2.555E-02	5.375E-02	9.594E-02	0.000E+00	FAIL ABUN
TM-171	-1.257E+01	2.500E+01	3.778E+01	0.000E+00	NOT IDENT.
LU-176	3.304E-03	2.312E-02	4.012E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.728E+00	2.222E+00	0.000E+00	FAIL ABUN
LU-177M	-5.155E-02	1.883E-01	2.710E-01	0.000E+00	FAIL ABUN
HF-181	-1.543E-02	4.212E-02	6.839E-02	0.000E+00	NOT IDENT.
W-181	6.436E-02	3.197E-01	5.000E-01	0.000E+00	NOT IDENT.
TA-182	2.135E-02	1.802E-01	3.006E-01	0.000E+00	FAIL ABUN
RE-183	3.270E-02	1.064E-01	1.746E-01	0.000E+00	FAIL ABUN
RE-184	7.705E-03	2.117E-01	3.692E-01	0.000E+00	NOT IDENT.
OS-185	1.499E-02	3.769E-02	6.730E-02	0.000E+00	FAIL ABUN
RE-188	9.530E-02	1.697E-01	2.890E-01	0.000E+00	NOT IDENT.
W-188	-1.303E+00	7.973E+00	1.196E+01	0.000E+00	FAIL ABUN
IR-192	2.045E-02	3.282E-02	5.830E-02	0.000E+00	FAIL ABUN
AU-195	2.821E-01	2.217E-01	3.568E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.489E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.925E+00	8.511E+00	1.424E+01	0.000E+00	NOT IDENT.
TL-202	-4.333E-02	6.442E-02	1.023E-01	0.000E+00	NOT IDENT.
HG-203	-1.370E-02	3.881E-02	6.591E-02	0.000E+00	NOT IDENT.
BI-207	1.088E-02	4.786E-02	8.172E-02	0.000E+00	FAIL ABUN
TL-207	-4.595E-01	6.215E-01	1.010E+00	0.000E+00	FAIL ABUN
PO-209	1.687E-01	6.731E+00	1.141E+01	0.000E+00	NOT IDENT.
PB-211	-4.850E-01	1.056E+00	1.433E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.271E-01	6.848E-01	0.000E+00	FAIL ABUN
PO-215	-4.595E-01	6.215E-01	1.010E+00	0.000E+00	FAIL ABUN
RN-219	-1.130E-01	4.108E-01	6.825E-01	0.000E+00	FAIL ABUN
RN-220	8.944E+00	2.549E+01	4.342E+01	0.000E+00	NOT IDENT.
RA-223	-4.595E-01	6.215E-01	1.010E+00	0.000E+00	FAIL ABUN
AC-227	1.153E-01	3.566E-01	6.294E-01	0.000E+00	FAIL ABUN
TH-227	1.153E-01	3.568E-01	6.294E-01	0.000E+00	FAIL ABUN
TH-229	-2.785E-01	4.454E-01	7.637E-01	0.000E+00	FAIL ABUN
PA-231	2.282E-01	1.338E+00	2.336E+00	0.000E+00	NOT IDENT.
TH-231	-4.595E-01	6.215E-01	1.010E+00	0.000E+00	FAIL ABUN
U-231	7.150E-02	1.211E+00	1.844E+00	0.000E+00	FAIL ABUN
PA-233	1.758E-02	5.744E-02	1.005E-01	0.000E+00	FAIL ABUN
PA-234	2.702E-01	2.895E-01	5.222E-01	0.000E+00	FAIL ABUN
PA-234M	1.409E+00	4.187E+00	7.248E+00	0.000E+00	FAIL ABUN
U-235	8.302E-03	2.074E-01	3.426E-01	0.000E+00	FAIL ABUN
NP-236	-5.994E-02	7.472E-02	1.186E-01	0.000E+00	NOT IDENT.
NP-239	3.029E-02	1.739E-01	2.955E-01	0.000E+00	FAIL ABUN
AM-241	1.124E-01	1.212E-01	1.966E-01	0.000E+00	NOT IDENT.
CM-243	1.677E-02	8.651E-02	1.479E-01	0.000E+00	FAIL ABUN
AM-246	6.192E-02	1.234E-01	2.166E-01	0.000E+00	NOT IDENT.
CM-247	7.978E-03	3.562E-02	6.116E-02	0.000E+00	NOT IDENT.
CF-249	1.789E-02	3.852E-02	6.724E-02	0.000E+00	NOT IDENT.
CF-251	-4.884E-02	1.195E-01	1.929E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:50:01.70

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137006.CNF;1
Sample date      : 4-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:45:06
Sample ID        : G244137006           Sample quantity  : 1.19520E+02 GRAM
Detector name    : GAM20                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00        Elapsed real time: 0 02:00:33.59  0.5%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity      : 5.00000
Batch ID         : 940263               Detector SN#     :
Matrix Spike ID  :                      LCS ID           : 1032-A
*****************************************************************************
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1049	10.67*	1.253E+00	2.464E+01	2.464E+01	10.86
CD-109	88.03	322	3.72*	6.941E+00	3.912E+00	4.008E+00	26.16
SN-126	64.28	96	9.60	4.656E+00	6.755E-01	6.755E-01	85.01
	86.94	322	8.90	6.941E+00	1.635E+00	1.635E+00	48.17
	87.57	322	37.00*	6.941E+00	3.933E-01	3.933E-01	26.16
BA-137M	661.65	94	89.98*	2.435E+00	1.340E-01	1.342E-01	48.51
CS-137	661.65	94	85.12*	2.435E+00	1.417E-01	1.418E-01	48.51
TL-208	277.35	------	6.80	4.722E+00	------ Line Not Found		------
	510.84	93	21.60	2.993E+00	4.511E-01	4.511E-01	57.79
	583.14	385	84.20*	2.697E+00	5.325E-01	5.325E-01	19.74
	860.37	56	12.46	1.954E+00	7.182E-01	7.182E-01	63.84
BI-210	46.50	30	4.05*	1.822E+00	1.275E+00	1.277E+00	223.10
PB-210	46.50	30	4.05*	1.822E+00	1.275E+00	1.277E+00	223.10
PO-210	46.50	30	4.05*	1.822E+00	1.275E+00	1.277E+00	223.06
BI-211	72.87	------	1.27	5.845E+00	------ Line Not Found		------
	351.07	742	12.94*	3.970E+00	4.534E+00	4.534E+00	13.72
PB-212	74.81	443	10.70	6.049E+00	2.150E+00	2.150E+00	21.58
	77.11	742	18.00	6.261E+00	2.069E+00	2.069E+00	14.21
	87.30	322	8.00	6.941E+00	1.819E+00	1.819E+00	28.01
	238.63	1246	44.60*	5.251E+00	1.671E+00	1.671E+00	12.54
	300.09	79	3.41	4.464E+00	1.639E+00	1.639E+00	54.73
PO-212	74.81	443	10.70	6.049E+00	2.150E+00	2.150E+00	21.58
	77.11	742	18.00	6.261E+00	2.069E+00	2.069E+00	14.21
	87.30	322	8.00	6.941E+00	1.819E+00	1.819E+00	28.01
	115.19	------	0.60	7.430E+00	------ Line Not Found		------
	238.63	1246	44.60*	5.251E+00	1.671E+00	1.671E+00	12.54
	300.09	79	3.41	4.464E+00	1.639E+00	1.639E+00	54.73
BI-214	609.31	528	46.30*	2.604E+00	1.375E+00	1.375E+00	16.29
	1120.29	97	15.10	1.557E+00	1.292E+00	1.292E+00	37.61
	1764.49	113	15.80	1.100E+00	2.042E+00	2.042E+00	20.53
PB-214	74.81	443	6.21	6.049E+00	3.705E+00	3.705E+00	20.81
	77.11	742	10.50	6.261E+00	3.547E+00	3.547E+00	16.13

Sample ID : G244137006 Acquisition date : 20-JAN-2010 13:45:06

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	87.30	322	4.67	6.941E+00	3.116E+00	3.116E+00	27.28
	241.98	355	7.49	5.204E+00	2.863E+00	2.863E+00	23.19
	295.21	408	19.20	4.514E+00	1.478E+00	1.478E+00	21.08
	351.92	742	37.20*	3.970E+00	1.577E+00	1.577E+00	14.68
PO-214	74.81	443	6.21	6.049E+00	3.705E+00	3.705E+00	20.81
	77.11	742	10.50	6.261E+00	3.547E+00	3.547E+00	16.13
	87.30	322	4.67	6.941E+00	3.116E+00	3.116E+00	27.28
	241.98	355	7.49	5.204E+00	2.863E+00	2.863E+00	23.19
	295.21	408	19.20	4.514E+00	1.478E+00	1.478E+00	21.08
	351.92	742	37.20*	3.970E+00	1.577E+00	1.577E+00	14.68
PO-216	74.81	443	10.70	6.049E+00	2.150E+00	2.150E+00	21.58
	77.11	742	18.00	6.261E+00	2.069E+00	2.069E+00	14.21
	87.30	322	8.00	6.941E+00	1.819E+00	1.819E+00	28.01
	238.63	1246	44.60*	5.251E+00	1.671E+00	1.671E+00	12.54
	300.09	79	3.41	4.464E+00	1.639E+00	1.639E+00	54.73
PO-218	74.81	443	6.21	6.049E+00	3.705E+00	3.705E+00	20.81
	77.11	742	10.50	6.261E+00	3.547E+00	3.547E+00	16.13
	87.30	322	4.67	6.941E+00	3.116E+00	3.116E+00	27.28
	241.98	355	7.49	5.204E+00	2.863E+00	2.863E+00	23.19
	295.21	408	19.20	4.514E+00	1.478E+00	1.478E+00	21.08
	351.92	742	37.20*	3.970E+00	1.577E+00	1.577E+00	14.68
RA-224	240.98	355	3.95*	5.204E+00	5.429E+00	5.429E+00	22.50
RA-226	609.31	528	46.30*	2.604E+00	1.375E+00	1.375E+00	16.29
	1120.29	97	15.10	1.557E+00	1.292E+00	1.292E+00	37.61
	1764.49	113	15.80	1.100E+00	2.042E+00	2.042E+00	20.53
AC-228	338.32	201	11.40	4.086E+00	1.357E+00	1.357E+00	53.09
	911.07	251	27.70*	1.861E+00	1.532E+00	1.532E+00	23.85
	969.11	151	16.60	1.765E+00	1.622E+00	1.622E+00	32.84
RA-228	338.32	201	11.40	4.086E+00	1.357E+00	1.357E+00	53.09
	911.07	251	27.70*	1.861E+00	1.532E+00	1.532E+00	23.85
	969.11	151	16.60	1.765E+00	1.622E+00	1.622E+00	32.84
TH-228	74.81	443	10.70	6.049E+00	2.150E+00	2.185E+00	19.48
	77.11	742	18.00	6.261E+00	2.069E+00	2.102E+00	14.21
	87.30	322	8.00	6.941E+00	1.819E+00	1.849E+00	26.16
	238.63	1246	44.60*	5.251E+00	1.671E+00	1.698E+00	12.54
	300.09	79	3.41	4.464E+00	1.639E+00	1.666E+00	80.00
TH-230	609.31	528	46.30*	2.604E+00	1.375E+00	1.375E+00	16.29
	1120.29	97	15.10	1.557E+00	1.292E+00	1.292E+00	37.61
	1764.49	113	15.80	1.100E+00	2.042E+00	2.042E+00	20.53
TH-232	338.32	201	11.40	4.086E+00	1.357E+00	1.357E+00	34.49
	911.07	251	27.70*	1.861E+00	1.532E+00	1.532E+00	23.85
	969.11	151	16.60	1.765E+00	1.622E+00	1.622E+00	32.84
TH-234	63.29	96	3.80*	4.656E+00	1.707E+00	1.707E+00	85.56
	92.38	280	5.41	7.167E+00	2.267E+00	2.267E+00	34.66
U-234	609.31	528	46.30*	2.604E+00	1.375E+00	1.375E+00	16.29
	1120.29	97	15.10	1.557E+00	1.292E+00	1.292E+00	37.61
	1764.49	113	15.80	1.100E+00	2.042E+00	2.042E+00	20.53
NP-237	86.50	322	12.60*	6.941E+00	1.155E+00	1.155E+00	33.32
	95.87	------	2.60	7.260E+00	------ Line Not Found		------

Sample ID : G244137006 Acquisition date : 20-JAN-2010 13:45:06

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-238	63.29	96	3.80*	4.656E+00	1.707E+00	1.707E+00	85.56
	92.38	280	5.41	7.167E+00	2.267E+00	2.267E+00	30.80
AM-243	74.67	443	66.00*	6.049E+00	3.486E-01	3.486E-01	19.45
	86.72	322	0.34	6.941E+00	4.331E+01	4.331E+01	26.16
	117.66	------	0.55	7.416E+00	------ Line Not Found		------
	142.18	------	0.13	7.067E+00	------ Line Not Found		------
ANH-511	511.00	93	100.00*	2.993E+00	9.744E-02	9.744E-02	57.18

Flag: "*" = Keyline

Sample ID : G244137006 Acquisition date : 20-JAN-2010 13:45:06

Total number of lines in spectrum 39
Number of unidentified lines 4
Number of lines tentatively identified by NID 35 89.74%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.464E+01	2.464E+01	0.268E+01	10.86	
CD-109	464.00D	1.02	3.912E+00	4.008E+00	1.049E+00	26.16	
SN-126	1.00E+05Y	1.00	3.933E-01	3.933E-01	1.029E-01	26.16	
BA-137M	30.17Y	1.00	1.340E-01	1.342E-01	0.651E-01	48.51	
CS-137	30.17Y	1.00	1.417E-01	1.418E-01	0.688E-01	48.51	
TL-208	1.41E+10Y	1.00	5.325E-01	5.325E-01	1.051E-01	19.74	
BI-210	22.26Y	1.00	1.275E+00	1.277E+00	2.849E+00	223.10	
PB-210	22.26Y	1.00	1.275E+00	1.277E+00	2.849E+00	223.10	
PO-210	22.26Y	1.00	1.275E+00	1.277E+00	2.849E+00	223.06	
BI-211	7.04E+08Y	1.00	4.534E+00	4.534E+00	0.622E+00	13.72	
PB-212	1.41E+10Y	1.00	1.671E+00	1.671E+00	0.210E+00	12.54	
PO-212	1.41E+10Y	1.00	1.671E+00	1.671E+00	0.210E+00	12.54	
BI-214	1600.00Y	1.00	1.375E+00	1.375E+00	0.224E+00	16.29	
PB-214	1600.00Y	1.00	1.577E+00	1.577E+00	0.232E+00	14.68	
PO-214	1600.00Y	1.00	1.577E+00	1.577E+00	0.232E+00	14.68	
PO-216	1.41E+10Y	1.00	1.671E+00	1.671E+00	0.210E+00	12.54	
PO-218	1600.00Y	1.00	1.577E+00	1.577E+00	0.232E+00	14.68	
RA-224	1.41E+10Y	1.00	5.429E+00	5.429E+00	1.222E+00	22.50	
RA-226	1600.00Y	1.00	1.375E+00	1.375E+00	0.224E+00	16.29	
AC-228	1.41E+10Y	1.00	1.532E+00	1.532E+00	0.365E+00	23.85	
RA-228	1.41E+10Y	1.00	1.532E+00	1.532E+00	0.365E+00	23.85	
TH-228	1.91Y	1.02	1.671E+00	1.698E+00	0.213E+00	12.54	
TH-230	4.47E+09Y	1.00	1.375E+00	1.375E+00	0.224E+00	16.29	
TH-232	1.41E+10Y	1.00	1.532E+00	1.532E+00	0.365E+00	23.85	
TH-234	4.47E+09Y	1.00	1.707E+00	1.707E+00	1.460E+00	85.56	
U-234	4.47E+09Y	1.00	1.375E+00	1.375E+00	0.224E+00	16.29	
NP-237	2.14E+06Y	1.00	1.155E+00	1.155E+00	0.385E+00	33.32	
U-238	4.47E+09Y	1.00	1.707E+00	1.707E+00	1.460E+00	85.56	
AM-243	7380.00Y	1.00	3.486E-01	3.486E-01	0.678E-01	19.45	
ANH-511	1.00E+09Y	1.00	9.744E-02	9.744E-02	5.572E-02	57.18	
	Total Activity :		7.007E+01	7.020E+01			

Grand Total Activity : 7.007E+01 7.020E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G244137006 Acquisition date : 20-JAN-2010 13:45:06

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	84.26	77	463	1.26	168.44	162	31	1.08E-02	95.5	6.77E+00	T
2	90.00	206	382	1.27	179.90	162	31	2.86E-02	36.7	7.06E+00	T
0	129.06	59	293	1.06	257.90	254	8	8.15E-03	****	7.29E+00	T
0	185.85	220	328	1.50	371.33	367	10	3.05E-02	35.2	6.18E+00	T
0	209.29	152	264	1.09	418.14	414	10	2.11E-02	43.1	5.73E+00	T
0	270.22	91	232	1.06	539.86	534	11	1.27E-02	68.2	4.81E+00	T
0	409.33	47	143	1.52	817.79	813	13	6.53E-03	****	3.55E+00	
0	462.96	81	95	0.84	924.94	920	10	1.12E-02	50.5	3.23E+00	T
0	727.22	101	79	1.60	1453.16	1445	15	1.40E-02	43.7	2.25E+00	T
0	767.90	62	47	1.04	1534.50	1529	11	8.62E-03	49.7	2.15E+00	T
0	795.19	66	49	1.90	1589.07	1582	15	9.20E-03	53.9	2.09E+00	T
0	875.96	37	22	1.12	1750.58	1746	12	5.09E-03	60.3	1.92E+00	T
1	964.64	58	40	1.84	1927.95	1923	21	8.12E-03	44.4	1.77E+00	T
0	1377.53	38	40	1.90	2754.16	2745	20	5.28E-03	87.8	1.31E+00	T
0	1402.10	19	17	1.56	2803.36	2798	13	2.69E-03	97.4	1.29E+00	
0	1587.80	14	13	1.26	3175.17	3170	10	1.97E-03	****	1.18E+00	
0	1729.57	23	7	2.42	3459.11	3452	13	3.12E-03	62.9	1.11E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:50:07.96

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137006.CNF;1 *
* Acquisition date  : 20-JAN-2010 13:45:06  Detector SN#     :             *
* Detector ID       : GAM20                 Sensitivity      : 5.00000     *
* Geometry          : CAN                   Energy tolerance: 1.50000      *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000     *
* Elapsed real time: 0 02:00:33.59          Half life ratio : 8.00000      *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date       : 4-JAN-2010 12:00:00.  Nuclide Library : SOLID        *
* Sample ID         : G244137006            Analyst initials: MXR1         *
* Batch Number      : 940263                Sample Quantity : 1.19520E+02 GRAM *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
*                                                                           *
* CALIB. DATE/TIME : 26-AUG-2009 06:32:11.7MS Isotope      :               *
* MSD ID           :                      MSD Isotope     :               *
* LCS ID           : 1032-A               LCS Isotope     :               *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.464E+01	2.675E+00	5.181E-01	4.518E-02	47.564
CD-109	4.008E+00	1.049E+00	1.027E+00	9.707E-02	3.904
SN-126	3.933E-01	1.029E-01	1.010E-01	9.504E-03	3.893
BA-137M	1.342E-01	6.507E-02	5.473E-02	5.493E-03	2.451
CS-137	1.418E-01	6.879E-02	5.786E-02	5.815E-03	2.451
TL-208	5.325E-01	1.051E-01	5.446E-02	5.599E-03	9.779
BI-210	1.277E+00	2.849E+00	3.148E+00	2.919E-01	0.406
PB-210	1.277E+00	2.849E+00	3.148E+00	2.919E-01	0.406
PO-210	1.277E+00	2.849E+00	3.148E+00	2.641E-01	0.406
BI-211	4.534E+00	6.222E-01	3.209E-01	3.074E-02	14.130
PB-212	1.671E+00	2.095E-01	8.873E-02	9.436E-03	18.838
PO-212	1.671E+00	2.095E-01	8.873E-02	9.436E-03	18.838
BI-214	1.375E+00	2.240E-01	1.100E-01	1.224E-02	12.498
PB-214	1.577E+00	2.316E-01	1.094E-01	1.192E-02	14.416
PO-214	1.577E+00	2.316E-01	1.094E-01	1.192E-02	14.416
PO-216	1.671E+00	2.095E-01	8.873E-02	9.436E-03	18.838
PO-218	1.577E+00	2.316E-01	1.094E-01	1.192E-02	14.416
RA-224	5.429E+00	1.222E+00	1.010E+00	9.758E-02	5.377

Sample ID : G244137006 Acquisition date : 20-JAN-2010 13:45:06

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-226	1.375E+00	2.240E-01	1.100E-01	1.224E-02	12.498
AC-228	1.532E+00	3.653E-01	1.929E-01	2.363E-02	7.940
RA-228	1.532E+00	3.653E-01	1.929E-01	2.363E-02	7.940
TH-228	1.698E+00	2.129E-01	9.016E-02	9.588E-03	18.838
TH-230	1.375E+00	2.240E-01	1.100E-01	1.224E-02	12.498
TH-232	1.532E+00	3.653E-01	1.929E-01	2.363E-02	7.940
TH-234	1.707E+00	1.460E+00	1.612E+00	2.801E-01	1.059
U-234	1.375E+00	2.240E-01	1.100E-01	1.224E-02	12.498
NP-237	1.155E+00	3.849E-01	2.988E-01	6.760E-02	3.866
U-238	1.707E+00	1.460E+00	1.612E+00	2.801E-01	1.059
AM-243	3.486E-01	6.780E-02	7.581E-02	6.102E-03	4.599
ANH-511	9.744E-02	5.572E-02	4.681E-02	4.362E-03	2.082

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.577E-01		3.226E-01	5.531E-01	5.376E-02	0.466
NA-22	-9.942E-03		3.928E-02	6.124E-02	5.073E-03	-0.162
NA-24	-1.159E-02		1.027E+00	Half-Life too short		
AL-26	-2.314E-02		2.967E-02	4.055E-02	3.294E-03	-0.571
TI-44	3.818E-01	+	5.428E-02	7.306E-02	6.131E-03	5.227
SC-46	-5.193E-03		3.817E-02	6.223E-02	6.203E-03	-0.083
V-48	1.030E-02		6.717E-02	1.121E-01	1.071E-02	0.092
CR-51	-2.266E-01		3.708E-01	5.909E-01	5.924E-02	-0.384
MN-52	7.654E-02		2.413E-01	4.212E-01	3.564E-02	0.182
MN-54	2.411E-02		3.899E-02	6.771E-02	6.839E-03	0.356
CO-56	3.614E-02		3.703E-02	6.659E-02	6.711E-03	0.543
CO-57	-5.220E-03		2.359E-02	3.749E-02	3.129E-03	-0.139
CO-58	-1.769E-02		3.780E-02	6.001E-02	6.093E-03	-0.295
FE-59	1.725E-02		8.277E-02	1.379E-01	1.301E-02	0.125
CO-60	2.146E-02		3.336E-02	5.858E-02	4.907E-03	0.366
ZN-65	1.744E-02		8.831E-02	1.280E-01	1.102E-02	0.136
GE-68	-1.291E-01		1.157E+00	1.863E+00	1.662E-01	-0.069
AS-73	5.009E-01		5.639E-01	9.611E-01	7.135E-02	0.521
AS-74	6.922E-02		9.307E-02	1.581E-01	1.548E-02	0.438
SE-75	-3.494E-02		4.899E-02	6.815E-02	6.747E-03	-0.513
BR-77	-7.821E+00		1.234E+01	1.869E+01	1.753E+00	-0.418
SR-82	-2.710E-01		3.754E-01	5.837E-01	5.931E-02	-0.464
RB-83	-3.643E-02		6.192E-02	9.427E-02	8.841E-03	-0.386
RB-84	-8.279E-03		6.822E-02	9.585E-02	9.578E-03	-0.086
KR-85	1.217E+01		7.786E+00	1.260E+01	1.176E+00	0.966
SR-85	6.300E-02		4.032E-02	6.524E-02	6.092E-03	0.966
RB-86	-3.462E-01		7.667E-01	1.187E+00	1.059E-01	-0.292
Y-88	-1.893E-04		3.583E-02	5.878E-02	4.743E-03	-0.003
ZR-88	-1.640E-02		2.962E-02	4.665E-02	3.901E-03	-0.351
Y-91	-3.313E+00		1.841E+01	2.959E+01	2.402E+00	-0.112
NB-94	-2.411E-02		3.357E-02	5.302E-02	5.365E-03	-0.455

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95	3.451E-02		4.641E-02	7.276E-02	7.395E-03	0.474
NB-95M	7.289E-02		1.342E-01	2.050E-01	2.203E-02	0.356
ZR-95	-2.381E-02		6.643E-02	1.073E-01	1.171E-02	-0.222
NB-97	-3.559E-03		1.201E-01	Half-Life too short		
ZR-97	4.967E-01		2.360E+00	Half-Life too short		
MO-99	-8.569E+00		1.349E+01	2.111E+01	3.400E+00	-0.406
TC-99M	-4.317E+11		2.805E+11	Half-Life too short		
RH-101	3.306E-02		3.166E-02	5.500E-02	5.041E-03	0.601
RH-102	-7.508E-03		2.872E-02	4.565E-02	4.138E-03	-0.164
RU-103	1.560E-02		3.796E-02	6.347E-02	9.227E-03	0.246
RH-106	-2.681E-01		3.233E-01	4.726E-01	6.718E-02	-0.567
RU-106	-2.681E-01		3.222E-01	4.726E-01	4.678E-02	-0.567
AG-108M	-4.252E-05		3.187E-02	5.198E-02	4.717E-03	-0.001
AG-110M	-1.352E-03		3.362E-02	4.906E-02	5.026E-03	-0.028
IN-111	5.673E-01		1.368E+00	2.081E+00	2.020E-01	0.273
IN-113M	-2.156E-02		4.303E-02	6.806E-02	5.871E-03	-0.317
SN-113	-2.156E-02		4.303E-02	6.806E-02	5.871E-03	-0.317
IN-114M	2.159E-01		1.829E-01	2.922E-01	2.648E-02	0.739
CD-115	-1.076E+01		1.372E+01	2.049E+01	1.932E+00	-0.525
SN-117M	-9.789E-03		5.477E-02	8.628E-02	7.446E-03	-0.113
SB-122	1.948E+00		2.738E+00	4.633E+00	4.462E-01	0.420
I-123	-3.379E+00		9.244E+00	Half-Life too short		
TE-123M	-4.998E-03		2.734E-02	4.306E-02	3.741E-03	-0.116
I-124	2.740E-01		8.241E-01	1.196E+00	1.175E-01	0.229
SB-124	3.729E-02		7.076E-02	1.280E-01	1.112E-02	0.291
SB-125	-2.067E-02		9.177E-02	1.463E-01	1.295E-02	-0.141
TE-125M	4.957E+00		8.828E+00	1.457E+01	1.490E+00	0.340
I-126	8.612E-02		2.031E-01	3.114E-01	3.129E-02	0.277
SB-126	5.779E-02		1.617E-01	2.454E-01	2.488E-02	0.235
SB-127	-5.983E-01		1.403E+00	2.262E+00	2.893E-01	-0.265
XE-127	1.303E-02		4.483E-02	7.673E-02	7.082E-03	0.170
I-131	-4.536E-02		1.176E-01	1.884E-01	1.769E-02	-0.241
TE-132	-3.118E-01		7.753E-01	1.277E+00	2.095E-01	-0.244
BA-133	-9.909E-03		4.831E-02	6.861E-02	9.268E-03	-0.144
I-133	-8.663E-03		6.202E-03	Half-Life too short		
CS-134	1.314E-01	+	7.207E-02	8.714E-02	8.892E-03	1.508
CS-135	1.706E-01		1.801E-01	2.801E-01	3.104E-02	0.609
I-135	-2.091E+10		2.874E+10	Half-Life too short		
CS-136	8.314E-02		1.061E-01	1.870E-01	1.775E-02	0.445
CE-139	3.061E-03		2.982E-02	4.756E-02	4.152E-03	0.064
BA-140	1.213E-01		2.585E-01	4.284E-01	1.430E-01	0.283
LA-140	-2.561E-02		8.035E-02	1.263E-01	1.066E-02	-0.203
CE-141	2.295E-02		6.219E-02	1.009E-01	8.712E-03	0.227
CE-143	1.086E-03		1.878E-04	Half-Life too short		
CE-144	-9.215E-02		2.038E-01	3.018E-01	4.657E-02	-0.305
PM-144	-2.556E-02		3.535E-02	5.549E-02	5.610E-03	-0.461
PR-144	-1.733E+00		2.397E+00	3.762E+00	3.802E-01	-0.461
PM-146	2.349E-02		4.192E-02	7.094E-02	7.770E-03	0.331

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	4.158E-01		5.557E-01	9.480E-01	1.464E-01	0.439
PM-149	-1.815E+02		1.202E+02	1.766E+02	2.879E+01	-1.028
EU-152	-8.306E-02		9.893E-02	1.405E-01	1.371E-02	-0.591
GD-153	-5.448E-02		8.023E-02	1.106E-01	9.813E-03	-0.492
EU-154	-3.703E-03		1.074E-01	1.723E-01	1.904E-02	-0.021
EU-155	3.987E-02		1.008E-01	1.655E-01	1.439E-02	0.241
TB-160	-9.188E-02		1.357E-01	1.715E-01	1.715E-02	-0.536
HO-166M	2.555E-02		5.485E-02	9.538E-02	9.662E-03	0.268
TM-171	-1.257E+01		2.551E+01	3.656E+01	2.724E+00	-0.344
LU-176	3.304E-03		2.359E-02	3.950E-02	3.853E-03	0.084
LU-177	4.002E+00	+	1.763E+00	2.178E+00	2.026E-01	1.837
LU-177M	-5.155E-02		1.921E-01	2.678E-01	2.292E-02	-0.193
HF-181	-1.543E-02		4.298E-02	6.769E-02	6.172E-03	-0.228
W-181	6.436E-02		3.262E-01	4.838E-01	3.560E-02	0.133
TA-182	2.135E-02		1.839E-01	3.008E-01	2.454E-02	0.071
RE-183	3.270E-02		1.085E-01	1.706E-01	1.481E-02	0.192
RE-184	7.705E-03		2.160E-01	3.626E-01	3.544E-02	0.021
OS-185	1.499E-02		3.846E-02	6.683E-02	6.674E-03	0.224
RE-188	9.530E-02		1.732E-01	2.824E-01	2.424E-02	0.338
W-188	-1.303E+00		8.136E+00	1.177E+01	1.164E+00	-0.111
IR-192	2.045E-02		3.349E-02	5.742E-02	5.553E-03	0.356
AU-195	2.821E-01		2.263E-01	3.468E-01	3.054E-02	0.814
TL-200	2.807E-04		3.821E-04	Half-Life too short		
TL-201	1.925E+00		8.685E+00	1.392E+01	1.218E+00	0.138
TL-202	-4.333E-02		6.573E-02	1.011E-01	8.886E-03	-0.428
HG-203	-1.370E-02		3.961E-02	6.482E-02	6.592E-03	-0.211
BI-207	1.088E-02		4.884E-02	8.162E-02	7.370E-03	0.133
TL-207	-4.595E-01		6.342E-01	9.953E-01	1.810E-01	-0.462
PO-209	1.687E-01		6.868E+00	1.137E+01	1.131E+00	0.015
PB-211	-4.850E-01		1.078E+00	1.416E+00	8.869E-01	-0.343
BI-212	1.192E+00	+	5.379E-01	6.810E-01	7.728E-02	1.750
PO-215	-4.595E-01		6.342E-01	9.953E-01	1.810E-01	-0.462
RN-219	-1.130E-01		4.192E-01	6.740E-01	1.006E-01	-0.168
RN-220	8.944E+00		2.602E+01	4.304E+01	4.112E+00	0.208
RA-223	-4.595E-01		6.342E-01	9.953E-01	1.810E-01	-0.462
AC-227	1.153E-01		3.639E-01	6.184E-01	9.919E-02	0.186
TH-227	1.153E-01		3.640E-01	6.184E-01	1.154E-01	0.186
TH-229	-2.785E-01		4.545E-01	7.479E-01	6.812E-02	-0.372
PA-231	2.282E-01		1.366E+00	2.298E+00	3.669E-01	0.099
TH-231	-4.595E-01		6.342E-01	9.953E-01	1.810E-01	-0.462
U-231	7.150E-02		1.236E+00	1.792E+00	1.603E-01	0.040
PA-233	1.758E-02		5.862E-02	9.901E-02	9.823E-03	0.178
PA-234	2.702E-01		2.954E-01	5.209E-01	1.006E-01	0.519
PA-234M	1.409E+00		4.273E+00	7.235E+00	7.739E-01	0.195
U-235	8.302E-03		2.116E-01	3.344E-01	5.827E-02	0.025
NP-236	-5.994E-02		7.625E-02	1.159E-01	1.003E-02	-0.517
NP-239	3.029E-02		1.775E-01	2.878E-01	2.411E-02	0.105
AM-241	1.124E-01		1.237E-01	1.900E-01	1.487E-02	0.592

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.677E-02		8.827E-02	1.439E-01	1.242E-02	0.117
AM-246	6.192E-02		1.259E-01	2.164E-01	1.928E-02	0.286
CM-247	7.978E-03		3.635E-02	6.040E-02	5.108E-03	0.132
CF-249	1.789E-02		3.931E-02	6.638E-02	5.601E-03	0.270
CF-251	-4.884E-02		1.220E-01	1.888E-01	1.675E-02	-0.259

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G244137006           *
* Acquisition date  : 20-JAN-2010 13:45:06 Detector SN#     :               *
* Detector ID       : GAM20                 Sensitivity     : 5.000         *
* Geometry          : CAN                   Energy tolerance: 1.500         *
* Elapsed live time:    0 02:00:00.00       Abundance limit : 75.000        *
* Elapsed real time:    0 02:00:33.59       Half life ratio : 8.000         *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date       :  4-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G244137006           Analyst initials: MXR1           *
* Batch Number      : 940263               Sample Quantity : 1.1952E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
*                                                                           *
* CALIB. DATE/TIME : 26-AUG-2009 06:32:11 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.464E+01	2.622E+00	2.585E-01	1.338E+00
CD-109	4.008E+00	1.028E+00	5.290E-01	5.243E-01
SN-126	3.933E-01	1.009E-01	5.208E-02	5.146E-02
BA-137M	1.342E-01	6.377E-02	2.757E-02	3.254E-02
CS-137	1.418E-01	6.742E-02	2.914E-02	3.440E-02
TL-208	5.325E-01	1.030E-01	2.747E-02	5.256E-02
BI-210	1.277E+00	2.792E+00	1.634E+00	1.425E+00
PB-210	1.277E+00	2.792E+00	1.634E+00	1.425E+00
PO-210	1.277E+00	2.792E+00	1.634E+00	1.424E+00
BI-211	4.534E+00	6.098E-01	1.628E-01	3.111E-01
PB-212	1.671E+00	2.054E-01	4.522E-02	1.048E-01
PO-212	1.671E+00	2.054E-01	4.522E-02	1.048E-01
BI-214	1.375E+00	2.195E-01	5.547E-02	1.120E-01
PB-214	1.577E+00	2.269E-01	5.551E-02	1.158E-01
PO-214	1.577E+00	2.269E-01	5.551E-02	1.158E-01
PO-216	1.671E+00	2.054E-01	4.522E-02	1.048E-01
PO-218	1.577E+00	2.269E-01	5.551E-02	1.158E-01
RA-224	5.429E+00	1.197E+00	5.144E-01	6.108E-01
RA-226	1.375E+00	2.195E-01	5.547E-02	1.120E-01
AC-228	1.532E+00	3.580E-01	9.681E-02	1.827E-01
RA-228	1.532E+00	3.580E-01	9.681E-02	1.827E-01
TH-228	1.698E+00	2.087E-01	4.595E-02	1.065E-01
TH-230	1.375E+00	2.195E-01	5.547E-02	1.120E-01
TH-232	1.532E+00	3.580E-01	9.681E-02	1.827E-01
TH-234	1.707E+00	1.431E+00	8.337E-01	7.300E-01
U-234	1.375E+00	2.195E-01	5.547E-02	1.120E-01
NP-237	1.155E+00	3.772E-01	1.540E-01	1.924E-01
U-238	1.707E+00	1.431E+00	8.337E-01	7.300E-01
AM-243	3.486E-01	6.644E-02	3.914E-02	3.390E-02
ANH-511	9.744E-02	5.460E-02	2.365E-02	2.786E-02

---- Non-Identified Nuclides ----

Key-Line

Nuclide	Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	2.577E-01	3.161E-01	2.796E-01	1.613E-01	NOT IDENT.
NA-22	-9.942E-03	3.849E-02	3.061E-02	1.964E-02	NOT IDENT.
NA-24	-1.159E+04	2.013E+06	0.000E+00	1.027E+06	SHORT HLIF
AL-26	-2.314E-02	2.907E-02	2.018E-02	1.483E-02	NOT IDENT.
TI-44	3.818E-01	5.319E-02	3.770E-02	2.714E-02	FAIL ABUN
SC-46	-5.193E-03	3.741E-02	3.123E-02	1.909E-02	FAIL ABUN
V-48	1.030E-02	6.583E-02	5.618E-02	3.359E-02	NOT IDENT.
CR-51	-2.266E-01	3.634E-01	3.001E-01	1.854E-01	NOT IDENT.
MN-52	7.654E-02	2.365E-01	2.102E-01	1.207E-01	NOT IDENT.
MN-54	2.411E-02	3.821E-02	3.401E-02	1.950E-02	NOT IDENT.
CO-56	3.614E-02	3.629E-02	3.344E-02	1.852E-02	NOT IDENT.
CO-57	-5.220E-03	2.312E-02	1.925E-02	1.180E-02	NOT IDENT.
CO-58	-1.769E-02	3.704E-02	3.015E-02	1.890E-02	NOT IDENT.
FE-59	1.725E-02	8.111E-02	6.906E-02	4.138E-02	NOT IDENT.
CO-60	2.146E-02	3.269E-02	2.926E-02	1.668E-02	NOT IDENT.
ZN-65	1.744E-02	8.654E-02	6.410E-02	4.415E-02	NOT IDENT.
GE-68	-1.291E-01	1.133E+00	9.330E-01	5.783E-01	NOT IDENT.
AS-73	5.009E-01	5.527E-01	4.981E-01	2.820E-01	NOT IDENT.
AS-74	6.922E-02	9.121E-02	7.975E-02	4.653E-02	NOT IDENT.
SE-75	-3.494E-02	4.801E-02	3.469E-02	2.450E-02	NOT IDENT.
BR-77	-7.821E+00	1.209E+01	9.441E+00	6.168E+00	FAIL ABUN
SR-82	-2.710E-01	3.679E-01	2.934E-01	1.877E-01	NOT IDENT.
RB-83	-3.643E-02	6.068E-02	4.761E-02	3.096E-02	NOT IDENT.
RB-84	-8.279E-03	6.685E-02	4.812E-02	3.411E-02	NOT IDENT.
KR-85	1.217E+01	7.630E+00	6.363E+00	3.893E+00	NOT IDENT.
SR-85	6.300E-02	3.952E-02	3.295E-02	2.016E-02	NOT IDENT.
RB-86	-3.462E-01	7.514E-01	5.943E-01	3.834E-01	NOT IDENT.
Y-88	-1.893E-04	3.511E-02	2.925E-02	1.791E-02	NOT IDENT.
ZR-88	-1.640E-02	2.903E-02	2.364E-02	1.481E-02	NOT IDENT.
Y-91	-3.313E+00	1.804E+01	1.480E+01	9.204E+00	NOT IDENT.
NB-94	-2.411E-02	3.290E-02	2.669E-02	1.678E-02	NOT IDENT.
NB-95	3.451E-02	4.549E-02	3.659E-02	2.321E-02	NOT IDENT.
NB-95M	7.289E-02	1.315E-01	1.045E-01	6.708E-02	NOT IDENT.
ZR-95	-2.381E-02	6.510E-02	5.394E-02	3.322E-02	NOT IDENT.
NB-97	-3.559E+03	2.354E+05	0.000E+00	1.201E+05	SHORT HLIF
ZR-97	4.967E+05	4.626E+06	0.000E+00	2.360E+06	SHORT HLIF
MO-99	-8.569E+00	1.322E+01	1.062E+01	6.745E+00	NOT IDENT.
TC-99M	-4.317E+17	5.497E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.306E-02	3.103E-02	2.809E-02	1.583E-02	NOT IDENT.
RH-102	-7.508E-03	2.814E-02	2.308E-02	1.436E-02	FAIL ABUN
RU-103	1.560E-02	3.720E-02	3.208E-02	1.898E-02	FAIL ABUN
RH-106	-2.681E-01	3.168E-01	2.382E-01	1.617E-01	FAIL ABUN
RU-106	-2.681E-01	3.157E-01	2.382E-01	1.611E-01	FAIL ABUN
AG-108M	-4.252E-05	3.123E-02	2.631E-02	1.593E-02	NOT IDENT.
AG-110M	-1.352E-03	3.295E-02	2.471E-02	1.681E-02	NOT IDENT.
IN-111	5.673E-01	1.340E+00	1.060E+00	6.839E-01	NOT IDENT.
IN-113M	-2.156E-02	4.217E-02	3.449E-02	2.151E-02	NOT IDENT.
SN-113	-2.156E-02	4.217E-02	3.449E-02	2.151E-02	NOT IDENT.
IN-114M	2.159E-01	1.793E-01	1.493E-01	9.147E-02	NOT IDENT.
CD-115	-1.076E+01	1.345E+01	1.035E+01	6.861E+00	NOT IDENT.
SN-117M	-9.789E-03	5.368E-02	4.417E-02	2.739E-02	NOT IDENT.
SB-122	1.948E+00	2.683E+00	2.338E+00	1.369E+00	NOT IDENT.
I-123	-3.379E+06	1.812E+07	0.000E+00	9.244E+06	SHORT HLIF
TE-123M	-4.998E-03	2.680E-02	2.204E-02	1.367E-02	NOT IDENT.
I-124	2.740E-01	8.076E-01	6.032E-01	4.120E-01	FAIL ABUN
SB-124	3.729E-02	6.935E-02	6.374E-02	3.538E-02	FAIL ABUN
SB-125	-2.067E-02	8.993E-02	7.405E-02	4.589E-02	FAIL ABUN
TE-125M	4.957E+00	8.651E+00	7.489E+00	4.414E+00	NOT IDENT.
I-126	8.612E-02	1.990E-01	1.568E-01	1.016E-01	NOT IDENT.
SB-126	5.779E-02	1.585E-01	1.235E-01	8.086E-02	FAIL ABUN
SB-127	-5.983E-01	1.375E+00	1.139E+00	7.016E-01	NOT IDENT.
XE-127	1.303E-02	4.393E-02	3.918E-02	2.241E-02	NOT IDENT.
I-131	-4.536E-02	1.153E-01	9.556E-02	5.882E-02	NOT IDENT.
TE-132	-3.118E-01	7.598E-01	6.510E-01	3.876E-01	NOT IDENT.
BA-133	-9.909E-03	4.735E-02	3.480E-02	2.416E-02	NOT IDENT.
I-133	-8.663E+03	1.216E+04	0.000E+00	6.202E+03	SHORT HLIF
CS-134	1.314E-01	7.063E-02	4.380E-02	3.604E-02	FAIL ABUN
CS-135	1.706E-01	1.765E-01	1.425E-01	9.005E-02	NOT IDENT.
I-135	-2.091E+16	5.634E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.314E-02	1.040E-01	9.368E-02	5.304E-02	FAIL ABUN
CE-139	3.061E-03	2.922E-02	2.434E-02	1.491E-02	NOT IDENT.
BA-140	1.213E-01	2.533E-01	2.163E-01	1.292E-01	NOT IDENT.
LA-140	-2.561E-02	7.874E-02	6.295E-02	4.017E-02	NOT IDENT.
CE-141	2.295E-02	6.095E-02	5.171E-02	3.110E-02	NOT IDENT.
CE-143	1.086E+03	3.682E+02	0.000E+00	1.878E+02	SHORT HLIF

CE-144	-9.215E-02	1.997E-01	1.548E-01	1.019E-01	NOT IDENT.
PM-144	-2.556E-02	3.465E-02	2.793E-02	1.768E-02	NOT IDENT.
PR-144	-1.733E+00	2.349E+00	1.894E+00	1.198E+00	NOT IDENT.
PM-146	2.349E-02	4.108E-02	3.589E-02	2.096E-02	NOT IDENT.
ND-147	4.158E-01	5.446E-01	4.787E-01	2.778E-01	FAIL ABUN
PM-149	-1.815E+02	1.178E+02	8.980E+01	6.012E+01	NOT IDENT.
EU-152	-8.306E-02	9.695E-02	7.132E-02	4.946E-02	FAIL ABUN
GD-153	-5.448E-02	7.862E-02	5.696E-02	4.011E-02	FAIL ABUN
EU-154	-3.703E-03	1.053E-01	8.614E-02	5.371E-02	NOT IDENT.
EU-155	3.987E-02	9.877E-02	8.512E-02	5.039E-02	FAIL ABUN
TB-160	-9.188E-02	1.330E-01	8.612E-02	6.784E-02	FAIL ABUN
HO-166M	2.555E-02	5.375E-02	4.800E-02	2.742E-02	FAIL ABUN
TM-171	-1.257E+01	2.500E+01	1.890E+01	1.276E+01	NOT IDENT.
LU-176	3.304E-03	2.312E-02	2.007E-02	1.180E-02	FAIL ABUN
LU-177	4.002E+00	1.728E+00	1.112E+00	8.817E-01	FAIL ABUN
LU-177M	-5.155E-02	1.883E-01	1.356E-01	9.606E-02	FAIL ABUN
HF-181	-1.543E-02	4.212E-02	3.422E-02	2.149E-02	NOT IDENT.
W-181	6.436E-02	3.197E-01	2.502E-01	1.631E-01	NOT IDENT.
TA-182	2.135E-02	1.802E-01	1.504E-01	9.194E-02	FAIL ABUN
RE-183	3.270E-02	1.064E-01	8.734E-02	5.426E-02	FAIL ABUN
RE-184	7.705E-03	2.117E-01	1.847E-01	1.080E-01	NOT IDENT.
OS-185	1.499E-02	3.769E-02	3.367E-02	1.923E-02	FAIL ABUN
RE-188	9.530E-02	1.697E-01	1.446E-01	8.658E-02	NOT IDENT.
W-188	-1.303E+00	7.973E+00	5.985E+00	4.068E+00	FAIL ABUN
IR-192	2.045E-02	3.282E-02	2.917E-02	1.675E-02	FAIL ABUN
AU-195	2.821E-01	2.217E-01	1.785E-01	1.131E-01	FAIL ABUN
TL-200	2.807E+02	7.489E+02	0.000E+00	3.821E+02	SHORT HLIF
TL-201	1.925E+00	8.511E+00	7.125E+00	4.342E+00	NOT IDENT.
TL-202	-4.333E-02	6.442E-02	5.119E-02	3.287E-02	NOT IDENT.
HG-203	-1.370E-02	3.881E-02	3.297E-02	1.980E-02	NOT IDENT.
BI-207	1.088E-02	4.786E-02	4.088E-02	2.442E-02	FAIL ABUN
TL-207	-4.595E-01	6.215E-01	5.054E-01	3.171E-01	FAIL ABUN
PO-209	1.687E-01	6.731E+00	5.707E+00	3.434E+00	NOT IDENT.
PB-211	-4.850E-01	1.056E+00	7.171E-01	5.388E-01	NOT IDENT.
BI-212	1.192E+00	5.271E-01	3.426E-01	2.689E-01	FAIL ABUN
PO-215	-4.595E-01	6.215E-01	5.054E-01	3.171E-01	FAIL ABUN
RN-219	-1.130E-01	4.108E-01	3.415E-01	2.096E-01	FAIL ABUN
RN-220	8.944E+00	2.549E+01	2.172E+01	1.301E+01	NOT IDENT.
RA-223	-4.595E-01	6.215E-01	5.054E-01	3.171E-01	FAIL ABUN
AC-227	1.153E-01	3.566E-01	3.149E-01	1.819E-01	FAIL ABUN
TH-227	1.153E-01	3.568E-01	3.149E-01	1.820E-01	FAIL ABUN
TH-229	-2.785E-01	4.454E-01	3.821E-01	2.273E-01	FAIL ABUN
PA-231	2.282E-01	1.338E+00	1.169E+00	6.829E-01	NOT IDENT.
TH-231	-4.595E-01	6.215E-01	5.054E-01	3.171E-01	FAIL ABUN
U-231	7.150E-02	1.211E+00	9.227E-01	6.178E-01	FAIL ABUN
PA-233	1.758E-02	5.744E-02	5.030E-02	2.931E-02	FAIL ABUN
PA-234	2.702E-01	2.895E-01	2.613E-01	1.477E-01	FAIL ABUN
PA-234M	1.409E+00	4.187E+00	3.626E+00	2.136E+00	FAIL ABUN
U-235	8.302E-03	2.074E-01	1.714E-01	1.058E-01	FAIL ABUN
NP-236	-5.994E-02	7.472E-02	5.935E-02	3.812E-02	NOT IDENT.
NP-239	3.029E-02	1.739E-01	1.479E-01	8.873E-02	FAIL ABUN
AM-241	1.124E-01	1.212E-01	9.834E-02	6.185E-02	NOT IDENT.
CM-243	1.677E-02	8.651E-02	7.400E-02	4.414E-02	FAIL ABUN
AM-246	6.192E-02	1.234E-01	1.084E-01	6.294E-02	NOT IDENT.
CM-247	7.978E-03	3.562E-02	3.060E-02	1.817E-02	NOT IDENT.
CF-249	1.789E-02	3.852E-02	3.364E-02	1.966E-02	NOT IDENT.
CF-251	-4.884E-02	1.195E-01	9.652E-02	6.098E-02	NOT IDENT.

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*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                            CHARLESTON ,SC 29417                           *
*                     GAMMA SPECTROSCOPY BACKGROUND REPORT                  *
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ENERGY	MDA COUNTS
46.50	257.7182
46.50	257.7182
46.50	257.7182
48.70	277.0083
49.72	276.1315
51.35	295.9246
52.39	259.9233
52.97	277.9695
53.15	278.0692
53.44	276.2573
54.07	277.5905
56.28	350.2242
56.28	350.2260
57.37	0.0000
57.53	311.2854
57.53	311.2862
57.60	311.3268
57.98	320.5096
57.98	320.5096
59.32	306.8502
59.32	306.8502
59.40	306.8955
59.54	306.9760
59.72	307.0793
60.01	328.2268
61.10	375.4435
61.14	375.4702
61.30	371.0738
63.00	377.7475
63.29	377.9440
63.29	377.9440
63.58	378.1405
64.28	385.1595
65.12	387.2456
65.20	387.3003
65.20	387.3003
66.05	419.6971
66.72	409.5689
66.83	417.2333
66.91	417.2920
67.20	417.5018
67.20	417.5018
67.75	425.4965
67.85	414.6259
68.90	439.5322
68.90	439.5322
69.30	431.5023
69.67	431.7746
70.82	446.0534
70.82	446.0534
70.83	446.0601
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72.87	452.1734
72.87	452.1734
74.67	426.3467
74.81	426.4440
74.81	426.4440
74.81	426.4440
74.81	426.4440
74.81	426.4440
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74.81	426.4440
74.97	426.5540
75.28	426.7678
75.70	427.0555
77.11	428.0204
77.11	428.0204

77.11	428.0204
77.11	428.0204
77.11	428.0204
77.11	428.0204
77.11	428.0204
78.38	386.6119
79.62	387.3634
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79.80	387.4722
80.11	387.6591
80.18	387.7010
80.30	387.7735
80.30	387.7735
80.57	344.4868
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81.07	388.2351
81.07	388.2351
81.07	388.2351
81.07	388.2351
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83.37	314.7959
83.78	314.9931
83.78	314.9931
83.78	314.9931
83.78	314.9931
84.21	315.1966
84.90	315.5233
85.43	315.7745
86.29	316.1783
86.50	316.2769
86.54	316.2954
86.59	316.3185
86.72	316.3786
86.79	316.4110
86.94	316.4819
87.30	316.6499
87.30	316.6499
87.30	316.6499
87.30	316.6499
87.30	316.6499
87.30	316.6499
87.30	316.6499
87.57	316.7747
87.88	316.9196
88.03	316.9889
88.36	317.1415
88.47	317.1924
89.95	317.8751
91.11	318.4052
92.29	318.9415
92.38	318.9832
92.38	318.9832
93.35	319.4208
94.00	319.7137
94.67	320.0111
94.67	320.0142
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98.44	243.6512
98.88	240.6102
99.55	258.3729
99.55	258.3729
99.86	268.0551
100.00	275.5537
100.10	275.5919
103.18	313.0546
103.76	271.5932
105.00	264.5393
105.31	279.6463
108.00	325.7811
109.28	272.4684

111.00	269.8256
111.00	269.8256
111.76	288.4501
112.95	304.0279
115.19	259.3057
116.30	256.4013
117.00	255.5336
117.00	255.5336
117.66	268.7982
121.11	257.8981
121.62	268.9887
121.78	260.2907
122.06	251.6257
122.32	248.4198
122.32	248.4198
122.32	248.4198
122.32	248.4198
123.07	230.0208
127.23	255.9075
129.76	230.1594
131.20	247.1223
133.02	260.9272
133.54	262.0759
135.34	267.7149
136.00	250.1244
136.25	273.5444
136.48	273.6144
140.51	300.5179
140.51	0.0000
142.18	267.4868
142.65	283.2970
143.76	266.8179
144.24	251.2526
144.24	251.2526
144.24	251.2526
144.24	251.2526
145.22	258.2516
145.44	258.3125
147.16	267.7839
152.43	252.2860
152.70	260.2766
153.22	261.5481
154.21	259.5468
154.21	259.5468
154.21	259.5468
154.21	259.5468
155.03	256.3605
156.02	281.5984
158.56	236.7845
159.00	0.0000
159.00	239.1660
160.31	250.8838
161.27	251.1233
162.32	221.6740
162.64	218.3160
163.35	250.4942
163.89	235.7504
165.85	247.6670
167.43	243.4536
171.28	233.9815
171.86	236.4161
172.10	236.4703
176.55	229.3544
176.60	229.3665
181.06	240.7841
184.41	225.4197
185.71	257.5753
186.00	257.6425
190.27	185.7894
192.34	222.9694
193.63	224.9868
197.04	216.8068
198.01	197.5052
198.60	201.1483
200.40	252.9366
201.83	257.6883
202.84	225.0058
205.31	216.7429

208.36	210.1497
208.81	213.6252
209.75	213.7930
209.75	213.7930
210.97	222.0689
215.65	202.3781
216.55	222.1892
218.09	219.7642
222.10	209.6323
223.80	197.2498
226.40	186.7771
227.00	190.4935
227.08	190.5048
227.20	190.5240
228.16	197.9301
228.18	200.6573
228.18	200.6573
231.56	0.0000
235.69	217.7233
236.00	222.1590
236.00	222.1590
238.63	202.2860
238.63	202.2860
238.63	202.2860
238.63	202.2860
239.00	202.3434
240.98	202.6485
241.98	202.8003
241.98	202.8003
241.98	202.8003
244.69	155.9515
245.39	160.4490
247.94	171.4460
248.90	149.4303
249.79	158.7593
252.40	163.6877
252.85	161.8916
252.85	161.8916
254.15	0.0000
256.20	165.9969
256.20	165.9969
260.50	166.5124
260.90	160.0480
262.80	159.3340
264.65	183.6141
268.24	178.0962
268.79	164.6885
269.46	153.5323
269.46	153.5323
269.46	153.5323
269.46	153.5323
271.23	140.9747
273.65	193.7929
276.40	146.2123
277.35	133.6667
277.60	128.9831
277.60	128.9831
278.00	133.7274
278.60	146.9713
279.20	173.4209
279.53	195.1427
280.46	186.7776
281.68	140.6720
283.67	131.4069
284.30	147.5425
285.00	165.5899
285.90	176.1063
286.10	167.6066
286.10	167.6066
287.40	135.5288
288.45	0.0000
290.67	162.6107
290.80	162.6264
291.72	167.2881
293.26	0.0000
293.70	141.6184
295.21	141.7592
295.21	141.7592

295.21	141.7592
295.96	110.5660
296.50	110.6050
297.23	110.6581
298.57	110.7554
299.80	137.5994
299.80	137.5994
300.09	133.0382
300.09	133.0382
300.09	133.0382
300.09	133.0382
300.12	133.0403
301.29	151.5067
302.84	145.5314
303.76	139.4859
303.91	139.4993
304.40	122.6758
304.40	122.6758
304.84	132.9369
306.84	136.3080
308.46	148.9406
311.98	119.4193
316.51	124.5908
318.01	120.8401
319.02	134.4590
319.41	134.4908
320.08	148.0997
323.87	148.4475
323.87	148.4475
323.87	148.4475
323.87	148.4475
325.23	173.8187
328.77	119.7005
333.44	160.8344
334.20	139.0364
334.20	139.0364
334.30	139.0451
338.28	136.0497
338.28	136.0497
338.28	136.0497
338.28	136.0497
338.32	136.0540
338.32	136.0540
338.32	136.0540
340.50	117.6086
340.57	117.6141
344.27	133.5886
345.85	119.2931
350.59	0.0000
351.07	127.8123
351.92	122.3501
351.92	122.3501
351.92	122.3501
355.39	0.0000
356.01	129.7606
364.48	113.2972
366.43	109.4427
367.43	112.4913
367.94	0.0000
369.80	92.7048
374.96	105.9693
383.85	117.5409
387.95	108.7432
388.63	107.7755
391.69	116.0265
391.69	116.0265
392.90	115.0924
398.62	108.3568
400.65	124.6929
401.10	118.6389
401.81	124.7699
402.60	109.6002
404.84	117.0457
410.95	98.8694
411.60	102.7780
413.65	106.1534
414.70	106.2122
415.30	101.3418

415.76	116.0805
417.63	0.0000
418.52	112.5613
423.70	103.6261
427.08	122.3047
427.89	97.6788
432.53	110.2752
433.93	96.9447
439.47	89.9736
439.56	89.9776
439.89	91.0266
443.98	63.2264
444.90	77.7729
445.03	77.7775
445.03	77.7775
445.03	77.7775
445.03	77.7775
453.90	83.3228
463.38	70.3121
468.07	70.4689
473.00	92.4969
475.06	93.6390
475.35	96.8080
476.78	89.5019
477.59	80.0554
477.96	86.3905
482.03	95.0002
484.57	84.5435
487.03	78.2919
490.36	0.0000
492.35	75.3021
497.08	69.0873
507.63	0.0000
510.53	0.0000
510.84	91.9760
511.00	91.9819
511.85	104.4290
511.85	104.4290
513.99	73.6837
513.99	73.6837
520.41	73.0344
520.65	74.1148
527.90	81.8934
528.96	0.0000
529.64	83.0344
529.87	0.0000
531.02	61.5036
537.32	65.9983
543.00	88.9368
546.56	0.0000
549.76	75.0518
552.65	76.2314
555.20	74.1322
563.23	80.9443
563.90	78.7786
568.70	74.5493
569.32	72.3768
569.50	72.3809
569.67	70.1934
573.80	78.0029
574.00	78.0094
574.64	85.7219
578.91	61.6516
579.30	0.0000
583.14	71.6829
585.48	49.4525
591.81	64.1862
592.07	65.3001
593.00	70.8594
595.88	65.3991
600.56	88.8428
602.52	0.0000
602.71	67.5780
602.71	67.5780
603.60	87.1688
604.41	74.7407
604.70	80.0881
609.31	82.4619

609.31	82.4619
609.31	82.4619
609.31	82.4619
610.33	87.4009
612.46	78.5469
614.37	76.8205
618.01	77.1512
621.84	82.8661
621.84	82.8661
631.29	57.3174
633.02	53.9810
633.10	67.4780
634.78	80.1261
635.90	74.7567
636.97	66.6777
645.85	61.4756
646.12	56.9615
656.30	57.4809
657.75	55.9983
657.90	0.0000
661.65	67.2938
661.65	67.2938
664.57	0.0000
666.33	65.2856
666.33	65.2856
675.00	53.9167
677.61	64.9435
685.20	60.5360
692.80	59.7806
695.00	79.1574
696.49	84.7249
696.49	84.7249
697.00	84.7384
697.49	81.0691
698.33	70.9562
698.50	70.9599
699.00	67.2862
702.63	88.5984
706.10	72.9998
706.58	0.0000
706.67	70.2406
709.31	65.6802
711.68	55.5513
713.82	72.2700
717.42	58.4442
720.50	60.3646
721.93	0.0000
722.20	65.0457
722.78	69.7064
722.78	69.7064
722.89	69.7083
722.95	69.7101
723.30	63.5220
724.18	69.7394
727.18	53.9884
733.00	59.0704
735.90	47.6133
739.58	63.5641
742.81	50.5327
744.21	45.8753
747.13	54.3552
751.79	52.5629
752.31	51.6337
753.82	55.4162
755.35	62.9630
756.15	62.9793
756.87	50.7713
763.93	54.9752
765.79	61.2961
766.42	64.4529
766.84	69.1779
776.49	70.0290
778.00	63.4357
778.57	53.0305
778.89	47.3535
783.80	57.8636
785.46	50.3021
792.07	55.4822

795.84	52.3749
796.30	52.3829
798.80	69.8994
801.93	66.7888
805.60	63.0464
810.29	65.0532
810.76	61.2359
815.85	47.9175
817.79	59.4540
818.51	56.5902
819.60	39.3384
826.30	60.5744
828.27	0.0000
831.60	76.0838
831.96	83.7970
834.83	65.5546
836.80	0.0000
846.75	41.6069
848.13	50.3356
856.28	0.0000
856.80	48.5278
860.37	48.5803
867.32	51.9284
867.82	44.5167
871.10	43.8640
873.19	40.6403
874.81	37.4068
875.33	0.0000
876.40	32.2177
879.36	43.9728
880.27	40.7257
880.51	45.6162
881.50	39.1113
883.24	43.3245
884.67	40.1271
889.25	52.9216
896.60	47.1434
898.02	49.1272
899.00	50.1247
903.28	50.4330
911.07	46.3563
911.07	46.3563
911.07	46.3563
919.63	53.8317
920.93	48.4665
925.00	42.5811
925.24	42.5843
926.50	46.5617
935.52	44.6957
937.48	65.5891
944.10	63.7219
946.00	40.8428
949.00	53.8392
962.29	56.7082
964.01	58.4031
966.15	54.0962
968.20	54.1279
969.11	54.1411
969.11	54.1411
969.11	54.1411
977.42	45.7791
980.50	43.2478
983.50	41.2703
989.30	41.3353
996.32	42.4245
1001.03	44.5006
1001.68	41.4735
1004.76	54.6697
1021.30	0.0000
1024.50	0.0000
1034.80	37.7588
1036.00	41.8538
1037.82	40.8516
1038.57	43.9259
1038.76	0.0000
1045.16	60.3742
1046.59	45.0398
1048.07	36.8666

1050.47	39.9636
1050.47	39.9636
1062.04	45.2203
1063.62	42.1551
1076.63	48.4848
1077.35	44.3668
1078.86	35.0940
1085.78	40.3254
1099.22	39.4250
1112.02	53.0818
1112.84	49.4482
1115.52	39.9337
1120.29	43.8047
1120.29	43.8047
1120.29	43.8047
1120.29	43.8047
1120.51	43.8067
1121.28	39.9898
1124.00	0.0000
1129.67	44.9505
1131.51	0.0000
1147.95	0.0000
1167.94	60.1395
1173.22	51.7658
1175.09	51.7874
1177.93	47.5928
1189.05	61.5032
1204.90	54.2821
1205.75	0.0000
1213.00	60.7824
1221.42	51.2859
1230.97	73.8853
1235.34	71.8156
1236.41	0.0000
1238.25	67.5712
1246.25	52.6511
1260.41	0.0000
1271.85	35.6651
1274.45	34.6047
1274.54	37.8489
1291.56	34.7359
1298.22	0.0000
1312.09	25.0788
1325.50	25.1529
1325.50	25.1529
1332.49	19.7139
1333.61	20.8146
1360.21	21.1170
1362.66	0.0000
1365.15	26.6530
1368.21	26.9772
1368.53	0.0000
1376.25	24.8730
1384.27	18.9827
1394.10	14.4250
1395.20	18.0353
1407.95	14.3073
1434.06	20.5113
1436.60	25.1851
1457.56	0.0000
1460.81	22.4971
1489.15	12.2547
1509.49	21.7684
1596.49	20.2079
1620.62	18.3660
1678.03	0.0000
1691.02	10.7695
1691.02	10.7695
1706.46	0.0000
1750.46	0.0000
1764.49	11.9009
1764.49	11.9009
1764.49	11.9009
1764.49	11.9009
1770.23	13.6144
1771.40	11.9150
1791.20	0.0000
1808.65	16.9875

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244137006

Total Uranium Activity	5.0807E+00	ug/g
Total Uranium Counting Unc.	4.2579E+00	ug/g
Total Uranium Tpu	2.1724E-06	ug/g
Total Uranium Mda	2.4817E+00	ug/g

```
*******************************************************************************
*                                                                             *
*                          GEL Laboratories LLC                          *
*                               2040 SAVAGE ROAD                              *
*                             CHARLESTON ,SC 29417                            *
*                              GROSS GAMMA REPORT                             *
*                                                                             *
*                                                                             *
*******************************************************************************
*                                                                             *
*   BATCH ID      : 940263                    SAMPLE ID  : G244137006         *
*   ANALYST       : MXR1                      DETECTOR   : GAM20              *
*   SAMPLE DATE   :  4-JAN-2010 12:00:00.00   COUNT TIME :    0 02:00:00.00   *
*   ANALYSIS DATE: 20-JAN-2010 13:45:06.95    SAMPLE ALQT:  119.520 GRAM      *
*                                                                             *
*******************************************************************************


         GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 9.522E+00
         GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.567E+00
         GROSS GAMMA MDA     (pCi/GRAM  )  : 4.323E+00
         GROSS GAMMA DLC     (pCi/GRAM  )  : 2.097E+00
```

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:48:57.24

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137007.CNF;1
Sample date       : 4-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:45:34
Sample ID         : G244137007           Sample quantity  : 1.27960E+02 GRAM
Detector name     : GAM25                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.85  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 940263               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.46*	101	359	0.91	92.48	89	7	1.40E-02	35.0	
2	0	63.36*	153	549	0.85	126.27	123	7	2.13E-02	27.8	
3	2	74.84*	820	398	0.86	149.24	143	14	1.14E-01	5.1	1.18E+00
4	2	77.11*	1335	366	0.82	153.77	143	14	1.85E-01	3.6	
5	0	84.18*	118	400	0.91	167.92	165	6	1.64E-02	28.8	
6	6	87.23	411	390	1.06	174.00	171	22	5.71E-02	8.7	2.30E+00
7	6	89.93	254	342	0.95	179.41	171	22	3.53E-02	12.9	
8	6	92.84*	389	398	1.28	185.23	171	22	5.40E-02	11.3	
9	0	129.65	70	368	1.17	258.85	253	9	9.68E-03	51.2	
10	0	186.08*	263	309	1.11	371.70	368	10	3.65E-02	14.5	
11	0	208.97	155	246	0.88	417.47	413	9	2.15E-02	20.0	
12	0	238.59*	1341	340	0.96	476.72	473	8	1.86E-01	3.7	
13	0	241.90	255	218	1.51	483.32	481	7	3.54E-02	11.9	
14	0	270.36	76	242	1.44	540.24	536	10	1.06E-02	39.8	
15	0	277.28	64	187	1.23	554.08	551	9	8.95E-03	40.3	
16	0	295.16	435	224	0.86	589.84	585	10	6.05E-02	8.0	
17	0	300.24	79	156	1.28	600.01	596	9	1.09E-02	30.9	
18	0	328.22	80	192	1.16	655.96	649	13	1.12E-02	37.5	
19	0	338.24*	277	170	1.11	676.00	671	10	3.85E-02	10.8	
20	0	351.90*	740	156	1.15	703.31	697	13	1.03E-01	5.1	
21	0	463.26	115	113	1.74	926.03	921	13	1.60E-02	21.0	
22	0	510.61*	103	182	1.31	1020.71	1014	15	1.44E-02	32.9	
23	0	583.11*	419	79	1.43	1165.71	1160	14	5.82E-02	6.8	
24	0	609.22*	496	90	1.41	1217.92	1211	13	6.88E-02	6.1	
25	0	727.22	100	48	1.61	1453.92	1449	10	1.39E-02	16.3	
26	0	795.19	47	39	1.22	1589.86	1585	11	6.46E-03	29.7	
27	0	861.25*	48	82	1.85	1721.98	1712	20	6.65E-03	50.9	
28	0	910.99*	274	57	1.26	1821.47	1814	13	3.81E-02	8.3	
29	0	934.79	26	50	1.74	1869.06	1863	10	3.59E-03	54.8	
30	2	964.62	66	42	2.17	1928.73	1923	22	9.11E-03	22.4	7.69E-01
31	2	968.81*	150	33	1.73	1937.11	1923	22	2.08E-02	11.2	
32	0	1121.15*	66	101	1.75	2241.80	2232	20	9.14E-03	39.7	
33	0	1238.36	33	43	1.85	2476.22	2469	11	4.60E-03	42.4	
34	0	1378.11	27	21	1.13	2755.73	2751	13	3.76E-03	39.0	
35	0	1460.54*	832	14	2.09	2920.60	2910	18	1.16E-01	3.7	
36	0	1620.30	27	0	1.41	3240.15	3233	14	3.75E-03	19.2	
37	0	1764.43*	72	0	2.32	3528.43	3522	15	1.00E-02	12.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JAN-2010 15:49:00

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137007.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 4-JAN-2010 12:00:00 Acquisition date : 20-JAN-2010 13:45:34
Sample ID : G244137007 Sample quantity : 127.96 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA25 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.85 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.063E+01	2.318E+00	4.106E-01	3.497E-02	50.251
CD-109	+	88.03	*	3.533E+00	7.215E-01	6.783E-01	7.289E-02	5.209
SN-126	+	64.28		4.781E-01	2.765E-01	2.833E-01	4.514E-02	1.688
	+	86.94		1.442E+00	6.533E-01	2.754E-01	1.152E-01	5.235
	+	87.57	*	3.468E-01	7.081E-02	6.644E-02	7.124E-03	5.220
TL-208	+	277.35		5.868E-01	4.807E-01	5.351E-01	7.601E-02	1.097
	+	510.84		5.002E-01	3.354E-01	2.033E-01	2.692E-02	2.460
	+	583.14	*	5.846E-01	1.029E-01	5.728E-02	6.457E-03	10.206
	+	860.37		6.387E-01	6.542E-01	4.313E-01	4.509E-02	1.481
BI-210	+	46.50	*	7.979E-01	5.640E-01	5.385E-01	5.553E-02	1.482
PB-210	+	46.50	*	7.979E-01	5.640E-01	5.385E-01	5.553E-02	1.482
PO-210	+	46.50	*	7.979E-01	5.632E-01	5.385E-01	5.129E-02	1.482
BI-211		72.87		2.133E+00	1.419E+00	2.340E+00	2.362E-01	0.912
	+	351.07	*	4.316E+00	6.328E-01	2.600E-01	2.740E-02	16.597
BI-212	+	727.18	*	1.216E+00	4.221E-01	4.535E-01	5.449E-02	2.681
		785.46		1.246E+00	1.812E+00	3.146E+00	3.320E-01	0.396
	+	1620.62		2.843E+00	1.119E+00	1.888E+00	1.570E-01	1.505
PB-212	+	74.81		2.320E+00	3.983E-01	2.499E-01	3.450E-02	9.285
	+	77.11		2.255E+00	2.817E-01	1.498E-01	1.535E-02	15.055
	+	87.30		1.604E+00	3.647E-01	3.069E-01	4.497E-02	5.226
	+	238.63	*	1.652E+00	2.236E-01	9.202E-02	1.048E-02	17.950
	+	300.09		1.523E+00	9.596E-01	1.039E+00	1.294E-01	1.467
PO-212	+	74.81		2.320E+00	3.983E-01	2.499E-01	3.450E-02	9.285
	+	77.11		2.255E+00	2.817E-01	1.498E-01	1.535E-02	15.055
	+	87.30		1.604E+00	3.647E-01	3.069E-01	4.497E-02	5.226
		115.19		6.882E-01	2.525E+00	4.320E+00	5.357E-01	0.159
	+	238.63	*	1.652E+00	2.236E-01	9.202E-02	1.048E-02	17.950
	+	300.09		1.523E+00	9.596E-01	1.039E+00	1.294E-01	1.467
BI-214	+	609.31	*	1.308E+00	2.242E-01	1.089E-01	1.314E-02	12.010
	+	1120.29		9.153E-01	7.334E-01	4.586E-01	4.977E-02	1.996
	+	1764.49		1.420E+00	3.847E-01	1.814E-01	1.495E-02	7.827
PB-214	+	74.81		3.998E+00	6.474E-01	4.306E-01	5.415E-02	9.285
	+	77.11		3.865E+00	5.656E-01	2.567E-01	3.278E-02	15.055
	+	87.30		2.748E+00	5.997E-01	5.258E-01	6.937E-02	5.226

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	241.98		1.889E+00	5.017E-01	4.668E-01	5.567E-02	4.048
	+	295.21		1.477E+00	3.022E-01	1.872E-01	2.374E-02	7.891
	+	351.92	*	1.501E+00	2.336E-01	9.068E-02	1.065E-02	16.556
PO-214	+	74.81		3.998E+00	6.474E-01	4.306E-01	5.415E-02	9.285
	+	77.11		3.865E+00	5.656E-01	2.567E-01	3.278E-02	15.055
	+	87.30		2.748E+00	5.997E-01	5.258E-01	6.937E-02	5.226
	+	241.98		1.889E+00	5.017E-01	4.668E-01	5.567E-02	4.048
	+	295.21		1.477E+00	3.022E-01	1.872E-01	2.374E-02	7.891
	+	351.92	*	1.501E+00	2.336E-01	9.068E-02	1.065E-02	16.556
PO-216	+	74.81		2.320E+00	3.983E-01	2.499E-01	3.450E-02	9.285
	+	77.11		2.255E+00	2.817E-01	1.498E-01	1.535E-02	15.055
	+	87.30		1.604E+00	3.647E-01	3.069E-01	4.497E-02	5.226
	+	238.63	*	1.652E+00	2.236E-01	9.202E-02	1.048E-02	17.950
	+	300.09		1.523E+00	9.596E-01	1.039E+00	1.294E-01	1.467
PO-218	+	74.81		3.998E+00	6.474E-01	4.306E-01	5.415E-02	9.285
	+	77.11		3.865E+00	5.656E-01	2.567E-01	3.278E-02	15.055
	+	87.30		2.748E+00	5.997E-01	5.258E-01	6.937E-02	5.226
	+	241.98		1.889E+00	5.017E-01	4.668E-01	5.567E-02	4.048
	+	295.21		1.477E+00	3.022E-01	1.872E-01	2.374E-02	7.891
	+	351.92	*	1.501E+00	2.336E-01	9.068E-02	1.065E-02	16.556
RA-224	+	240.98	*	3.583E+00	9.299E-01	1.195E+00	1.256E-01	2.997
RA-226	+	609.31	*	1.308E+00	2.242E-01	1.089E-01	1.314E-02	12.010
	+	1120.29		9.153E-01	7.334E-01	4.586E-01	4.977E-02	1.996
	+	1764.49		1.420E+00	3.847E-01	1.814E-01	1.495E-02	7.827
AC-228	+	338.32		1.777E+00	8.334E-01	3.681E-01	1.534E-01	4.827
	+	911.07	*	1.732E+00	3.551E-01	1.943E-01	2.311E-02	8.915
	+	969.11		1.668E+00	5.425E-01	3.176E-01	7.497E-02	5.250
RA-228	+	338.32		1.777E+00	8.334E-01	3.681E-01	1.534E-01	4.827
	+	911.07	*	1.732E+00	3.551E-01	1.943E-01	2.311E-02	8.915
	+	969.11		1.668E+00	5.425E-01	3.176E-01	7.497E-02	5.250
TH-228	+	74.81		2.358E+00	3.405E-01	2.539E-01	2.596E-02	9.285
	+	77.11		2.291E+00	2.862E-01	1.522E-01	1.559E-02	15.055
	+	87.30		1.630E+00	3.328E-01	3.119E-01	3.340E-02	5.226
	+	238.63	*	1.678E+00	2.272E-01	9.350E-02	1.065E-02	17.950
	+	300.09		1.548E+00	1.329E+00	1.055E+00	6.298E-01	1.467
TH-230	+	609.31	*	1.308E+00	2.242E-01	1.089E-01	1.314E-02	12.010
	+	1120.29		9.153E-01	7.334E-01	4.586E-01	4.977E-02	1.996
	+	1764.49		1.420E+00	3.847E-01	1.814E-01	1.494E-02	7.827
TH-232	+	338.32		1.777E+00	4.249E-01	3.681E-01	3.837E-02	4.827
	+	911.07	*	1.732E+00	3.551E-01	1.943E-01	2.311E-02	8.915
	+	969.11		1.668E+00	5.425E-01	3.176E-01	7.497E-02	5.250
TH-234	+	63.29	*	1.208E+00	7.082E-01	6.906E-01	1.286E-01	1.749
	+	92.38		2.282E+00	6.786E-01	4.585E-01	8.857E-02	4.977
U-234	+	609.31	*	1.308E+00	2.242E-01	1.089E-01	1.314E-02	12.010
	+	1120.29		9.153E-01	7.334E-01	4.586E-01	4.977E-02	1.996
	+	1764.49		1.420E+00	3.847E-01	1.814E-01	1.494E-02	7.827
NP-237	+	86.50	*	1.018E+00	2.956E-01	2.133E-01	4.955E-02	4.774
		95.87		-4.131E-01	6.019E-01	8.813E-01	2.259E-01	-0.469
U-238	+	63.29	*	1.208E+00	7.082E-01	6.906E-01	1.286E-01	1.749

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	92.38		2.282E+00	5.735E-01	4.585E-01	5.032E-02	4.977
AM-243	+	74.67	*	3.762E-01	5.417E-02	4.050E-02	4.113E-03	9.289
	+	86.72		3.819E+01	7.798E+00	7.288E+00	7.784E-01	5.240
		117.66		-1.375E+00	2.698E+00	4.455E+00	5.602E-01	-0.309
		142.18		-1.182E+01	1.403E+01	2.197E+01	2.481E+00	-0.538
ANH-511	+	511.00	*	1.080E-01	7.188E-02	4.393E-02	4.522E-03	2.460

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	1.166E-02	3.235E-01	5.285E-01	5.595E-02	0.022
NA-22		1274.54	*	-2.358E-02	4.419E-02	6.827E-02	5.598E-03	-0.345
NA-24		1368.53	*	-3.122E-01	4.419E-02	Half-Life too short		
AL-26		1129.67		-1.022E+00	1.962E+00	2.593E+00	2.213E-01	-0.394
		1808.65	*	2.056E-02	3.384E-02	6.174E-02	5.059E-03	0.333
TI-44		67.85		4.101E-03	1.902E-02	3.034E-02	3.020E-03	0.135
	+	78.38	*	4.161E-01	5.198E-02	4.468E-02	4.601E-03	9.314
SC-46		889.25	*	-1.760E-02	3.779E-02	5.824E-02	5.577E-03	-0.302
	+	1120.51		1.579E-01	1.261E-01	1.324E-01	1.138E-02	1.193
V-48		944.10		1.847E-01	9.301E-01	1.536E+00	1.441E-01	0.120
		983.50	*	-1.086E-02	7.568E-02	1.200E-01	1.112E-02	-0.091
		1312.09		2.151E-02	7.921E-02	1.342E-01	1.094E-02	0.160
CR-51		320.08	*	2.834E-02	3.287E-01	5.567E-01	6.182E-02	0.051
MN-52		744.21		-6.167E-02	2.803E-01	4.552E-01	4.918E-02	-0.135
		848.13		2.717E+00	7.392E+00	1.251E+01	1.254E+00	0.217
	+	935.52		3.612E-01	3.971E-01	5.998E-01	5.639E-02	0.602
		1246.25		6.964E+00	8.855E+00	1.556E+01	1.278E+00	0.447
		1333.61		2.091E+00	5.756E+00	9.838E+00	7.991E-01	0.213
		1434.06	*	7.592E-02	2.570E-01	4.363E-01	3.595E-02	0.174
MN-54		834.83	*	2.864E-03	4.016E-02	6.613E-02	6.711E-03	0.043
CO-56		846.75	*	-4.621E-03	3.874E-02	6.256E-02	6.277E-03	-0.074
		977.42		2.587E+00	2.935E+00	5.061E+00	4.700E-01	0.511
		1037.82		-9.027E-02	3.120E-01	5.084E-01	4.824E-02	-0.178
		1175.09		-1.049E+00	2.267E+00	3.586E+00	2.952E-01	-0.293
	+	1238.25		1.305E-01	1.112E-01	1.647E-01	1.396E-02	0.792
		1360.21		-1.872E-01	9.761E-01	1.550E+00	1.265E-01	-0.121
		1771.40		-4.310E-02	1.902E-01	2.416E-01	1.989E-02	-0.178
CO-57		122.06	*	1.061E-02	1.825E-02	3.146E-02	4.057E-03	0.337
		136.48		2.649E-02	1.617E-01	2.726E-01	3.342E-02	0.097
CO-58		810.76	*	-1.481E-02	3.810E-02	6.005E-02	6.230E-03	-0.247
FE-59		142.65		-2.857E-02	2.213E+00	3.615E+00	4.067E-01	-0.008
		192.34		-6.302E-01	8.316E-01	1.301E+00	1.823E-01	-0.484
		1099.22	*	-4.557E-02	8.014E-02	1.248E-01	1.175E-02	-0.365
		1291.56		-5.821E-02	1.187E-01	1.829E-01	1.718E-02	-0.318
CO-60		1173.22		1.331E-02	4.466E-02	7.608E-02	6.262E-03	0.175
		1332.49	*	-7.174E-03	4.201E-02	6.734E-02	5.469E-03	-0.107
ZN-65		1115.52	*	2.686E-02	8.995E-02	1.349E-01	1.165E-02	0.199
GE-68		1077.35	*	-1.154E-01	1.290E+00	2.139E+00	1.893E-01	-0.054

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AS-73		53.44	*	-5.380E-02	1.651E-01	2.610E-01	2.505E-02	-0.206
AS-74		595.88	*	-5.782E-03	8.762E-02	1.390E-01	1.506E-02	-0.042
		634.78		-1.882E-01	3.411E-01	5.445E-01	5.989E-02	-0.346
SE-75		66.05		-1.420E+00	2.069E+00	2.909E+00	3.353E-01	-0.488
		96.73		-2.678E-01	5.046E-01	7.546E-01	1.163E-01	-0.355
		121.11		-4.741E-02	9.950E-02	1.641E-01	2.412E-02	-0.289
		136.00		9.652E-03	3.001E-02	5.093E-02	6.042E-03	0.190
		198.60		2.726E-01	1.598E+00	2.587E+00	2.716E-01	0.105
		264.65	*	-1.578E-02	3.970E-02	6.156E-02	6.747E-03	-0.256
		279.53		-1.297E-02	1.106E-01	1.541E-01	1.758E-02	-0.084
		303.91		-1.477E-01	2.009E+00	2.984E+00	3.973E-01	-0.049
		400.65		7.064E-02	2.477E-01	4.170E-01	4.824E-02	0.169
BR-77	+	87.88		1.008E+03	2.057E+02	2.895E+02	3.108E+01	3.481
		200.40		7.522E+01	1.853E+02	3.074E+02	2.978E+01	0.245
	+	239.00		3.506E+02	4.478E+01	4.993E+01	5.228E+00	7.021
		249.79		7.382E+00	7.683E+01	1.236E+02	1.319E+01	0.060
		281.68		-3.868E+01	1.231E+02	1.684E+02	1.877E+01	-0.230
		297.23		1.578E+02	9.514E+01	1.227E+02	1.352E+01	1.286
		303.76		-2.183E+01	2.247E+02	3.331E+02	3.647E+01	-0.066
		439.47		7.097E+01	1.763E+02	2.977E+02	2.867E+01	0.238
		484.57		-1.563E+01	2.970E+02	4.813E+02	4.847E+01	-0.032
		520.65	*	-9.575E+00	1.222E+01	1.821E+01	1.888E+00	-0.526
		574.64		-1.440E+02	2.767E+02	4.222E+02	4.528E+01	-0.341
		578.91		8.698E+01	1.176E+02	1.788E+02	1.922E+01	0.486
		585.48		1.398E+03	3.508E+02	5.957E+02	6.424E+01	2.347
		755.35		1.094E+02	2.270E+02	3.895E+02	4.184E+01	0.281
		817.79		4.760E+01	1.755E+02	2.951E+02	3.039E+01	0.161
SR-82		698.33		-3.951E+00	3.667E+01	6.053E+01	6.655E+00	-0.065
		776.49	*	-3.999E-01	4.275E-01	6.450E-01	6.845E-02	-0.620
		1395.20		-5.519E+00	1.030E+01	1.529E+01	1.254E+00	-0.361
RB-83		520.41	*	-6.136E-02	6.206E-02	9.034E-02	9.365E-03	-0.679
		529.64		-7.323E-02	9.707E-02	1.452E-01	1.515E-02	-0.504
		552.65		3.142E-02	1.755E-01	2.870E-01	3.040E-02	0.110
RB-84		881.50	*	4.627E-02	7.277E-02	1.256E-01	1.214E-02	0.368
KR-85		513.99	*	1.320E+01	8.099E+00	1.308E+01	1.350E+00	1.009
SR-85		513.99	*	6.838E-02	4.195E-02	6.776E-02	6.991E-03	1.009
RB-86		1076.63	*	9.878E-03	8.237E-01	1.378E+00	1.221E-01	0.007
Y-88		898.02		1.890E-02	4.470E-02	7.548E-02	7.179E-03	0.250
		1836.01	*	3.155E-04	4.064E-02	6.701E-02	5.476E-03	0.005
ZR-88		392.90	*	-5.727E-04	2.857E-02	4.729E-02	4.304E-03	-0.012
Y-91		1204.90	*	1.118E+01	2.001E+01	3.464E+01	2.851E+00	0.323
NB-94		702.63	*	-1.640E-02	3.402E-02	5.329E-02	5.852E-03	-0.308
		871.10		3.286E-02	3.572E-02	6.301E-02	6.164E-03	0.521
NB-95		765.79	*	5.557E-02	4.450E-02	7.977E-02	8.521E-03	0.697
NB-95M		235.69	*	6.701E-03	1.122E-01	1.614E-01	1.850E-02	0.042
ZR-95		724.18		-2.720E-02	1.117E-01	1.563E-01	1.798E-02	-0.174
		756.15	*	2.109E-02	7.460E-02	1.261E-01	1.444E-02	0.167
NB-97		657.90	*	-2.816E-01	7.460E-02	Half-Life too short		
		1024.50		7.414E+00	7.460E-02	Half-Life too short		

---- Non-Identified Nuclides ----

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ZR-97		254.15		-1.582E+01	7.460E-02	Half-Life too short		
		355.39		-7.139E-01	7.460E-02	Half-Life too short		
		507.63	*	5.409E+00	7.460E-02	Half-Life too short		
		602.52		-3.060E+00	7.460E-02	Half-Life too short		
		1021.30		-1.001E+01	7.460E-02	Half-Life too short		
		1147.95		-6.423E+00	7.460E-02	Half-Life too short		
		1362.66		1.361E+01	7.460E-02	Half-Life too short		
		1750.46		-5.100E+00	7.460E-02	Half-Life too short		
MO-99		140.51		1.237E+00	2.643E+01	4.351E+01	1.248E+01	0.028
		181.06		-2.399E+01	1.867E+01	2.617E+01	4.868E+00	-0.917
		366.43		-2.840E+01	9.601E+01	1.569E+02	1.537E+01	-0.181
		739.58	*	8.480E+00	1.439E+01	2.493E+01	4.123E+00	0.340
		778.00		3.902E+00	4.603E+01	7.639E+01	8.100E+00	0.051
TC-99M		140.51	*	1.985E+10	4.603E+01	Half-Life too short		
RH-101		127.23		1.680E-03	2.511E-02	3.812E-02	4.770E-03	0.044
		198.01	*	9.158E-03	2.924E-02	4.766E-02	4.592E-03	0.192
		325.23		-3.483E-02	2.157E-01	3.159E-01	3.365E-02	-0.110
RH-102		418.52		2.037E-02	2.813E-01	4.659E-01	4.381E-02	0.044
		475.06	*	4.514E-03	2.901E-02	4.784E-02	4.776E-03	0.094
		631.29		4.549E-02	5.121E-02	9.164E-02	1.007E-02	0.496
		697.49		3.150E-02	8.069E-02	1.380E-01	1.518E-02	0.228
		766.84		8.905E-02	1.162E-01	2.019E-01	2.155E-02	0.441
		1046.59		-3.008E-02	1.042E-01	1.692E-01	1.524E-02	-0.178
		1112.84		-1.555E-01	2.624E-01	3.441E-01	2.975E-02	-0.452
RU-103		497.08	*	2.457E-02	4.197E-02	7.085E-02	1.074E-02	0.347
	+	610.33		1.436E+01	3.117E+00	3.176E+00	5.708E-01	4.521
RH-106	+	511.85		5.407E-01	3.597E-01	4.264E-01	4.392E-02	1.268
		621.84	*	2.365E-02	3.186E-01	5.388E-01	8.064E-02	0.044
		1050.47		-7.790E-01	2.349E+00	3.809E+00	3.425E-01	-0.205
RU-106	+	511.85		5.407E-01	3.597E-01	4.264E-01	4.392E-02	1.268
		621.84	*	2.365E-02	3.186E-01	5.388E-01	5.900E-02	0.044
		1050.47		-7.790E-01	2.349E+00	3.809E+00	3.425E-01	-0.205
AG-108M		433.93	*	3.863E-03	2.928E-02	4.859E-02	4.802E-03	0.080
		614.37		-2.034E-02	4.539E-02	6.275E-02	7.021E-03	-0.324
		722.95		-2.135E-02	4.663E-02	6.328E-02	7.071E-03	-0.337
AG-110M		657.75	*	-3.732E-02	3.920E-02	6.074E-02	6.845E-03	-0.614
		677.61		-3.202E-01	2.946E-01	4.405E-01	4.951E-02	-0.727
		706.67		1.102E-01	1.971E-01	3.423E-01	3.819E-02	0.322
		763.93		-1.871E-01	1.822E-01	2.744E-01	2.988E-02	-0.682
		884.67		6.526E-03	5.017E-02	8.273E-02	8.173E-03	0.079
		937.48		6.872E-02	1.206E-01	1.830E-01	1.773E-02	0.375
		1384.27		1.322E-01	1.839E-01	2.926E-01	2.471E-02	0.452
IN-111		171.28		6.140E-01	1.003E+00	1.700E+00	1.535E-01	0.361
		245.39	*	4.837E-01	1.167E+00	1.722E+00	1.823E-01	0.281
IN-113M		391.69	*	-8.033E-03	4.176E-02	6.834E-02	6.383E-03	-0.118
SN-113		391.69	*	-8.033E-03	4.176E-02	6.834E-02	6.383E-03	-0.118
IN-114M		190.27	*	2.843E-02	1.689E-01	2.495E-01	2.361E-02	0.114
CD-115		260.90		7.260E+01	1.500E+02	2.462E+02	2.674E+01	0.295
		492.35		-1.975E+01	4.809E+01	7.553E+01	7.657E+00	-0.262

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		527.90	*	-7.988E+00	1.358E+01	2.071E+01	2.159E+00	-0.386
SN-117M		156.02		-2.369E+00	1.972E+00	3.048E+00	3.039E-01	-0.777
		158.56	*	-3.507E-02	4.495E-02	7.151E-02	6.943E-03	-0.490
SB-122		563.90	*	1.074E+00	2.622E+00	4.347E+00	4.634E-01	0.247
		692.80		1.033E+01	5.584E+01	9.434E+01	1.039E+01	0.110
I-123		159.00	*	-6.721E+00	5.584E+01	Half-Life too short		
		528.96		-8.714E+02	5.584E+01	Half-Life too short		
TE-123M		159.00	*	-9.939E-03	2.247E-02	3.643E-02	3.537E-03	-0.273
I-124		602.71	*	-1.349E-01	8.750E-01	1.266E+00	1.376E-01	-0.107
		722.78		1.388E+00	5.326E+00	7.919E+00	8.637E-01	0.175
		1325.50		4.896E+00	4.490E+01	7.443E+01	6.052E+00	0.066
		1376.25		7.307E+01	3.974E+01	7.267E+01	5.944E+00	1.006
		1509.49		1.854E+01	1.862E+01	3.435E+01	2.848E+00	0.540
		1691.02		-5.554E+00	4.623E+00	5.745E+00	4.763E-01	-0.967
SB-124		602.71		-6.764E-03	4.388E-02	6.346E-02	6.898E-03	-0.107
		645.85		-1.385E-01	4.911E-01	8.038E-01	9.197E-02	-0.172
		709.31		-2.005E-02	2.636E+00	4.378E+00	4.797E-01	-0.005
		713.82		-4.505E-01	1.521E+00	2.456E+00	3.388E-01	-0.183
		722.78		1.009E-01	3.872E-01	5.757E-01	6.363E-02	0.175
	+	968.20		1.736E+01	4.209E+00	7.656E+00	7.132E-01	2.267
		1045.16		-5.516E-01	2.225E+00	3.628E+00	3.271E-01	-0.152
		1325.50		3.801E-01	3.486E+00	5.779E+00	4.699E-01	0.066
		1368.21		-1.062E-01	1.533E+00	2.474E+00	3.264E-01	-0.043
		1436.60		-2.304E-01	3.577E+00	5.749E+00	4.739E-01	-0.040
		1691.02	*	-9.523E-02	7.930E-02	9.851E-02	8.515E-03	-0.967
SB-125		427.89	*	8.708E-02	8.959E-02	1.563E-01	1.510E-02	0.557
	+	463.38		1.078E+00	4.675E-01	5.883E-01	6.159E-02	1.833
		600.56		1.329E-01	1.742E-01	2.951E-01	3.355E-02	0.450
		635.90		2.811E-02	2.436E-01	4.128E-01	4.769E-02	0.068
TE-125M		109.28	*	1.660E+00	6.305E+00	1.082E+01	1.437E+00	0.153
I-126		388.63		-5.943E-02	1.930E-01	3.133E-01	2.877E-02	-0.190
		666.33	*	-1.634E-01	2.124E-01	3.343E-01	3.700E-02	-0.489
		753.82		9.801E-01	1.597E+00	2.766E+00	2.975E-01	0.354
SB-126		223.80		1.613E+00	3.670E+00	6.059E+00	6.165E-01	0.266
	+	278.60		4.093E+00	3.333E+00	4.116E+00	4.590E-01	0.994
	+	296.50		1.551E+01	3.023E+00	3.740E+00	4.123E-01	4.148
		414.70		-3.680E-02	7.370E-02	1.172E-01	1.097E-02	-0.314
		415.30		-3.828E+00	6.274E+00	9.897E+00	9.270E-01	-0.387
		555.20		3.618E-01	3.676E+00	5.963E+00	6.326E-01	0.061
		573.80		-7.080E-01	1.104E+00	1.665E+00	1.785E-01	-0.425
		593.00		-2.359E-01	8.824E-01	1.370E+00	1.483E-01	-0.172
		656.30		3.985E-01	3.571E+00	6.028E+00	6.669E-01	0.066
		666.33		-6.845E-02	8.893E-02	1.400E-01	1.550E-02	-0.489
		675.00		2.477E-01	1.976E+00	3.333E+00	3.685E-01	0.074
		695.00		3.656E-02	8.620E-02	1.479E-01	1.627E-02	0.247
		697.00		1.410E-01	2.932E-01	5.049E-01	5.553E-02	0.279
		720.50	*	7.946E-02	1.579E-01	2.590E-01	2.827E-02	0.307
		856.80		2.022E-01	5.727E-01	8.466E-01	8.409E-02	0.239
		989.30		-2.757E-01	1.332E+00	2.094E+00	1.936E-01	-0.132

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1034.80		-1.581E+00	9.603E+00	1.586E+01	1.438E+00	-0.100
		1213.00		-2.840E+00	4.954E+00	7.732E+00	6.361E-01	-0.367
SB-127		61.10		-5.307E+00	2.232E+01	3.233E+01	4.008E+00	-0.164
		252.40		-1.305E+00	4.553E+00	7.094E+00	3.021E+00	-0.184
		290.80		-9.899E+00	2.494E+01	3.629E+01	4.861E+00	-0.273
		411.60		-8.968E+00	1.479E+01	2.336E+01	3.814E+00	-0.384
		444.90		1.077E+00	1.065E+01	1.760E+01	2.382E+00	0.061
		473.00		-3.665E-01	2.085E+00	3.357E+00	4.713E-01	-0.109
		543.00		-3.151E+00	2.048E+01	3.255E+01	5.150E+00	-0.097
		603.60		-8.493E-01	1.402E+01	2.047E+01	2.944E+00	-0.041
		685.20	*	1.798E-01	1.639E+00	2.756E+00	3.734E-01	0.065
		698.50		-1.211E+00	1.874E+01	3.103E+01	5.405E+00	-0.039
		722.20		2.847E+01	3.777E+01	5.908E+01	7.833E+00	0.482
		783.80		1.567E+00	4.595E+00	7.766E+00	1.093E+00	0.202
XE-127		57.60		-1.039E+00	1.649E+00	2.541E+00	2.477E-01	-0.409
		145.22		4.591E-01	5.335E-01	9.190E-01	1.013E-01	0.500
		172.10		-2.168E-02	9.915E-02	1.616E-01	1.463E-02	-0.134
		202.84	*	2.146E-04	4.094E-02	6.663E-02	6.490E-03	0.003
		374.96		3.594E-02	1.930E-01	3.247E-01	3.110E-02	0.111
I-131		80.18		3.504E+00	2.782E+00	4.235E+00	4.415E-01	0.827
		284.30		4.034E-01	1.534E+00	2.466E+00	2.832E-01	0.164
		364.48	*	5.259E-02	1.115E-01	1.914E-01	1.965E-02	0.275
		636.97		-8.639E-01	1.554E+00	2.479E+00	2.824E-01	-0.348
		722.89		1.446E+00	7.906E+00	1.165E+01	1.276E+00	0.124
TE-132		49.72		-1.240E+00	3.553E+00	5.172E+00	6.118E-01	-0.240
		111.76		1.785E+00	2.480E+01	4.220E+01	5.927E+00	0.042
		116.30		-8.277E+00	2.376E+01	3.957E+01	5.665E+00	-0.209
		228.16	*	-5.210E-01	7.374E-01	1.133E+00	1.908E-01	-0.460
BA-133		53.15		6.674E-02	6.795E-01	1.096E+00	1.051E-01	0.061
		79.62		1.187E-01	7.312E-01	1.061E+00	1.726E-01	0.112
		81.00		9.386E-03	5.637E-02	8.173E-02	1.383E-02	0.115
	+	276.40		5.800E-01	4.771E-01	6.174E-01	9.916E-02	0.940
		302.84		-4.668E-02	1.352E-01	1.962E-01	2.925E-02	-0.238
		356.01	*	7.009E-05	3.945E-02	5.804E-02	8.229E-03	0.001
		383.85		9.659E-02	2.608E-01	4.435E-01	5.808E-02	0.218
I-133	+	510.53		2.362E+00	2.608E-01	Half-Life too short		
		529.87	*	-1.036E-02	2.608E-01	Half-Life too short		
		706.58		3.576E-01	2.608E-01	Half-Life too short		
		856.28		6.775E-01	2.608E-01	Half-Life too short		
		875.33		-6.613E-02	2.608E-01	Half-Life too short		
		1236.41		1.541E+00	2.608E-01	Half-Life too short		
		1298.22		-2.120E-01	2.608E-01	Half-Life too short		
CS-134		475.35		-1.998E-01	1.933E+00	3.128E+00	3.123E-01	-0.064
		563.23		1.942E-01	3.614E-01	6.047E-01	6.485E-02	0.321
		569.32		-1.521E-02	1.991E-01	3.104E-01	3.349E-02	-0.049
		604.70		-1.618E-02	3.419E-02	4.745E-02	5.170E-03	-0.341
	+	795.84	*	9.513E-02	5.741E-02	8.531E-02	8.981E-03	1.115
		801.93		-2.715E-01	4.770E-01	6.688E-01	7.001E-02	-0.406
		1038.57		-4.445E-01	3.780E+00	6.265E+00	5.668E-01	-0.071

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		1167.94		1.922E+00	2.473E+00	4.389E+00	3.629E-01	0.438
		1365.15		-7.720E-01	1.144E+00	1.665E+00	1.429E-01	-0.464
CS-135		268.24	*	9.010E-02	1.639E-01	2.410E-01	2.909E-02	0.374
I-135		288.45		5.835E+10	1.639E-01	Half-Life too short		
		417.63		1.380E+11	1.639E-01	Half-Life too short		
		546.56		2.584E+10	1.639E-01	Half-Life too short		
		836.80		2.334E+10	1.639E-01	Half-Life too short		
		1038.76		-6.546E+10	1.639E-01	Half-Life too short		
		1124.00		2.072E+11	1.639E-01	Half-Life too short		
		1131.51		-2.745E+10	1.639E-01	Half-Life too short		
		1260.41	*	9.015E+09	1.639E-01	Half-Life too short		
		1457.56		5.904E+12	1.639E-01	Half-Life too short		
		1678.03		1.714E+10	1.639E-01	Half-Life too short		
		1706.46		6.151E+10	1.639E-01	Half-Life too short		
		1791.20		9.268E+10	1.639E-01	Half-Life too short		
CS-136		66.91		4.804E-02	3.506E-01	5.146E-01	8.339E-02	0.093
	+	86.29		4.760E+00	1.073E+00	1.345E+00	1.924E-01	3.538
		153.22		7.866E-01	5.780E-01	1.003E+00	1.116E-01	0.784
		163.89		-1.048E+00	9.343E-01	1.430E+00	1.447E-01	-0.733
		176.55		2.144E-01	3.122E-01	5.292E-01	5.095E-02	0.405
		273.65		5.568E-02	6.003E-01	6.708E-01	7.729E-02	0.083
		340.57		1.374E-01	1.430E-01	2.246E-01	2.378E-02	0.612
		818.51		-8.314E-03	7.938E-02	1.289E-01	1.327E-02	-0.065
		1048.07	*	-8.399E-02	1.109E-01	1.712E-01	1.601E-02	-0.491
		1235.34		2.922E-01	7.366E-01	1.093E+00	1.264E-01	0.267
BA-137M		661.65	*	-1.879E-02	4.256E-02	7.205E-02	7.981E-03	-0.261
CS-137		661.65	*	-1.986E-02	4.499E-02	7.616E-02	8.447E-03	-0.261
CE-139		165.85	*	2.680E-02	2.402E-02	4.151E-02	3.702E-03	0.646
BA-140		162.64		-3.410E-01	6.586E-01	1.046E+00	1.019E-01	-0.326
		304.84		5.760E-01	1.270E+00	1.949E+00	5.616E-01	0.296
		423.70		-1.994E+00	1.984E+00	2.847E+00	9.294E-01	-0.701
		537.32	*	3.958E-02	2.874E-01	4.678E-01	1.575E-01	0.085
LA-140	+	328.77		6.677E-01	5.058E-01	5.170E-01	5.683E-02	1.291
		432.53		-2.751E-01	1.997E+00	3.248E+00	3.228E-01	-0.085
		487.03		2.084E-02	1.410E-01	2.319E-01	2.447E-02	0.090
		751.79		-4.144E-01	1.911E+00	3.102E+00	3.572E-01	-0.134
		815.85		2.094E-01	3.240E-01	5.637E-01	6.291E-02	0.371
		867.82		-9.535E-01	1.723E+00	2.225E+00	2.274E-01	-0.429
		919.63		1.638E-01	2.749E+00	4.488E+00	5.080E-01	0.036
		925.24		2.785E-01	1.188E+00	1.972E+00	1.956E-01	0.141
		1596.49	*	-5.229E-02	1.024E-01	1.590E-01	1.322E-02	-0.329
CE-141		145.44	*	-1.506E-02	4.950E-02	8.139E-02	9.052E-03	-0.185
CE-143		57.37		-4.482E-04	4.950E-02	Half-Life too short		
		231.56		5.626E-03	4.950E-02	Half-Life too short		
		293.26	*	8.494E-04	4.950E-02	Half-Life too short		
	+	350.59		5.541E-02	4.950E-02	Half-Life too short		
		490.36		1.919E-03	4.950E-02	Half-Life too short		
		664.57		-7.222E-04	4.950E-02	Half-Life too short		
		721.93		2.592E-03	4.950E-02	Half-Life too short		

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CE-144		80.11		1.445E+00	1.178E+00	1.792E+00	1.859E-01	0.806
		133.54	*	-6.808E-02	1.527E-01	2.381E-01	4.209E-02	-0.286
PM-144		476.78		-1.675E-02	7.000E-02	1.121E-01	1.200E-02	-0.149
		618.01		-6.148E-03	3.241E-02	5.377E-02	5.981E-03	-0.114
		696.49	*	8.748E-03	3.548E-02	6.015E-02	6.618E-03	0.145
		778.57		1.491E+00	2.433E+00	4.203E+00	4.456E-01	0.355
PR-144		696.49	*	5.931E-01	2.405E+00	4.078E+00	4.486E-01	0.145
		1489.15		4.045E+00	1.034E+01	1.794E+01	1.486E+00	0.225
PM-146		453.90	*	4.033E-02	4.109E-02	7.161E-02	8.362E-03	0.563
		633.02		1.594E-01	1.289E+00	2.184E+00	8.296E-01	0.073
		735.90		-1.027E-01	1.422E-01	2.140E-01	6.281E-02	-0.480
		747.13		-1.034E-02	9.258E-02	1.516E-01	2.345E-02	-0.068
ND-147	+	91.11		7.897E-01	2.231E-01	3.297E-01	3.784E-02	2.395
		319.41		-4.240E-01	3.050E+00	5.098E+00	5.478E-01	-0.083
		439.89		2.312E+00	5.772E+00	9.742E+00	9.389E-01	0.237
		531.02	*	-2.396E-01	5.443E-01	8.403E-01	1.351E-01	-0.285
PM-149		285.90	*	2.748E+01	1.187E+02	1.904E+02	3.247E+01	0.144
EU-152		121.78		9.129E-03	5.323E-02	9.045E-02	1.246E-02	0.101
		244.69		1.120E-01	2.909E-01	4.281E-01	4.528E-02	0.262
		344.27	*	3.487E-02	9.056E-02	1.503E-01	1.614E-02	0.232
		443.98		-2.998E-01	8.732E-01	1.393E+00	1.349E-01	-0.215
		778.89		1.871E-01	2.818E-01	4.885E-01	5.176E-02	0.383
		867.32		-8.614E-01	9.819E-01	1.194E+00	1.173E-01	-0.721
	+	964.01		8.391E-01	3.842E-01	6.228E-01	5.810E-02	1.347
		1085.78		2.820E-01	3.972E-01	7.061E-01	6.218E-02	0.399
		1112.02		-1.431E-01	3.418E-01	4.817E-01	4.167E-02	-0.297
		1407.95		2.745E-01	2.040E-01	3.827E-01	3.144E-02	0.717
GD-153		69.67		-3.978E-01	7.842E-01	1.110E+00	1.110E-01	-0.358
	+	83.37		1.739E+01	1.019E+01	1.413E+01	1.486E+00	1.231
		97.43	*	-4.627E-03	5.293E-02	8.131E-02	9.156E-03	-0.057
		103.18		-7.677E-02	6.671E-02	1.073E-01	1.246E-02	-0.715
EU-154		123.07		2.266E-02	3.720E-02	6.409E-02	9.490E-03	0.354
		247.94		1.391E-02	3.078E-01	4.941E-01	6.453E-02	0.028
		591.81		6.307E-02	5.756E-01	9.289E-01	1.242E-01	0.068
		723.30		-8.527E-02	1.953E-01	2.659E-01	3.093E-02	-0.321
		756.87		-1.211E-02	8.058E-01	1.330E+00	1.805E-01	-0.009
		873.19		4.387E-02	3.204E-01	5.288E-01	6.911E-02	0.083
		996.32		-2.310E-01	4.051E-01	6.100E-01	1.102E-01	-0.379
		1004.76		-2.082E-01	2.241E-01	3.210E-01	3.873E-02	-0.649
		1274.45	*	-4.523E-02	1.213E-01	1.909E-01	2.097E-02	-0.237
EU-155		48.70		-1.513E-01	3.309E-01	4.789E-01	4.558E-02	-0.316
		60.01		-1.982E-01	1.590E+00	2.313E+00	2.276E-01	-0.086
	+	86.54		4.178E-01	8.547E-02	1.227E-01	1.318E-02	3.404
		105.31	*	1.188E-01	7.335E-02	1.302E-01	1.539E-02	0.912
TB-160	+	86.79		1.126E+00	2.299E-01	3.404E-01	3.636E-02	3.308
		197.04		-4.813E-01	5.058E-01	7.714E-01	7.417E-02	-0.624
		215.65		1.155E-01	6.288E-01	1.028E+00	1.029E-01	0.112
		298.57		1.104E-01	1.481E-01	1.768E-01	1.945E-02	0.624
		879.36	*	-4.179E-02	1.485E-01	2.352E-01	2.279E-02	-0.178

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		962.29		4.946E-01	6.758E-01	1.022E+00	9.535E-02	0.484
		966.15		1.250E+00	2.875E-01	5.517E-01	5.143E-02	2.267
		1177.93		-1.722E-02	3.420E-01	5.637E-01	4.640E-02	-0.031
		1271.85		3.786E-01	6.532E-01	1.145E+00	9.381E-02	0.331
HO-166M		80.57		1.250E-01	1.734E-01	2.283E-01	2.373E-02	0.547
		184.41		5.547E-02	3.392E-02	5.496E-02	5.130E-03	1.009
		280.46		-2.559E-03	8.312E-02	1.166E-01	1.301E-02	-0.022
		410.95		2.981E-01	2.477E-01	4.356E-01	4.058E-02	0.684
		711.68	*	-3.447E-02	5.782E-02	9.080E-02	9.942E-03	-0.380
		752.31		9.075E-04	2.838E-01	4.692E-01	5.049E-02	0.002
		810.29		-3.859E-02	5.800E-02	8.867E-02	9.187E-03	-0.435
TM-171		51.35		-4.630E+00	4.976E+00	7.611E+00	7.269E-01	-0.608
		52.39		1.863E+00	2.773E+00	4.587E+00	4.391E-01	0.406
		59.40		-1.445E+00	8.386E+00	1.217E+01	1.197E+00	-0.119
		66.72	*	-3.733E+00	1.222E+01	1.755E+01	1.742E+00	-0.213
LU-176	+	88.36		8.225E-01	1.680E-01	2.214E-01	2.383E-02	3.716
		201.83		-1.764E-02	2.495E-02	3.910E-02	3.800E-03	-0.451
		306.84	*	8.433E-03	2.086E-02	3.605E-02	3.933E-03	0.234
		401.10		8.288E-01	6.529E+00	1.089E+01	1.002E+00	0.076
LU-177		112.95		-1.210E+00	1.262E+00	2.041E+00	2.500E-01	-0.593
	+	208.36	*	3.692E+00	1.522E+00	1.997E+00	1.968E-01	1.849
LU-177M		52.97		1.322E-01	3.026E-01	4.953E-01	4.748E-02	0.267
		54.07		2.915E-02	1.756E-01	2.837E-01	2.729E-02	0.103
		61.30		-2.087E-01	4.941E-01	7.084E-01	6.975E-02	-0.295
		121.62		-2.748E-02	2.750E-01	4.620E-01	5.940E-02	-0.059
		147.16		-2.755E-01	4.978E-01	8.072E-01	8.749E-02	-0.341
		171.86		1.630E-01	3.852E-01	6.472E-01	5.856E-02	0.252
		218.09		-2.874E-01	7.219E-01	1.142E+00	1.148E-01	-0.252
		268.79		9.840E-01	8.619E-01	1.310E+00	1.440E-01	0.751
		319.02		-4.518E-02	2.214E-01	3.686E-01	3.962E-02	-0.123
		367.43		-2.388E-01	8.023E-01	1.310E+00	1.280E-01	-0.182
		413.65	*	-2.329E-01	1.701E-01	2.517E-01	2.353E-02	-0.925
HF-181		56.28		2.824E-02	2.287E-01	3.663E-01	3.551E-02	0.077
		57.53		-1.225E-01	1.389E-01	2.117E-01	2.063E-02	-0.578
		65.20		-7.207E-02	3.821E-01	5.529E-01	5.472E-02	-0.130
		133.02		-3.740E-02	5.218E-02	7.477E-02	9.020E-03	-0.500
		136.25		1.146E-01	3.547E-01	6.018E-01	7.101E-02	0.190
		345.85		-2.380E-01	2.001E-01	2.619E-01	2.691E-02	-0.909
		482.03	*	7.643E-03	4.246E-02	7.005E-02	7.039E-03	0.109
W-181		56.28		1.095E-02	8.865E-02	1.420E-01	1.376E-02	0.077
		57.53		-4.755E-02	5.384E-02	8.208E-02	7.999E-03	-0.579
		65.20	*	-2.773E-02	1.470E-01	2.127E-01	2.105E-02	-0.130
TA-182		67.75		2.673E-02	4.489E-02	7.257E-02	7.221E-03	0.368
		100.10		4.482E-03	1.094E-01	1.872E-01	2.137E-02	0.024
		152.43		-7.933E-02	2.813E-01	4.617E-01	4.771E-02	-0.172
		222.10		-8.153E-02	3.017E-01	4.801E-01	4.869E-02	-0.170
		1001.68		8.230E-01	2.130E+00	3.609E+00	3.321E-01	0.228
	+	1121.28		4.353E-01	3.476E-01	3.678E-01	3.160E-02	1.183
		1189.05		1.717E-01	2.843E-01	4.983E-01	4.102E-02	0.345

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1221.42	*	5.516E-02	1.909E-01	3.236E-01	2.661E-02	0.170
		1230.97		7.018E-02	5.569E-01	8.024E-01	6.596E-02	0.087
RE-183		57.98		-1.426E-02	5.482E-02	8.603E-02	8.402E-03	-0.166
		59.32		-3.326E-03	3.184E-02	5.025E-02	4.939E-03	-0.066
		67.20		3.244E-02	8.022E-02	1.289E-01	1.281E-02	0.252
		162.32	*	3.616E-03	9.149E-02	1.493E-01	1.390E-02	0.024
	+	208.81		3.035E+00	1.252E+00	1.632E+00	1.610E-01	1.860
		291.72		-2.161E-01	9.453E-01	1.394E+00	1.543E-01	-0.155
RE-184		57.98		-5.227E-02	2.009E-01	3.153E-01	3.079E-02	-0.166
		59.32		-1.218E-02	1.166E-01	1.840E-01	1.809E-02	-0.066
		67.20		1.188E-01	2.939E-01	4.722E-01	4.693E-02	0.252
		161.27		4.044E-01	2.831E-01	4.946E-01	4.660E-02	0.818
		216.55		3.436E-02	2.198E-01	3.588E-01	3.598E-02	0.096
		252.85	*	-1.205E-01	2.045E-01	3.142E-01	3.369E-02	-0.384
		318.01		-7.849E-02	3.810E-01	6.343E-01	6.827E-02	-0.124
		792.07		2.386E-01	1.029E+00	1.513E+00	1.589E-01	0.158
		903.28		3.389E-02	1.114E+00	1.645E+00	1.557E-01	0.021
		920.93		-3.110E-01	4.487E-01	6.697E-01	6.318E-02	-0.464
OS-185		59.72		-7.854E-03	9.402E-02	1.371E-01	1.349E-02	-0.057
		61.14		-2.049E-02	5.426E-02	7.801E-02	7.680E-03	-0.263
		69.30		1.441E-02	1.266E-01	2.009E-01	2.007E-02	0.072
		592.07		4.776E-02	2.347E+00	3.757E+00	4.064E-01	0.013
		646.12	*	-1.271E-02	4.155E-02	6.785E-02	7.487E-03	-0.187
		717.42		-2.062E-02	8.754E-01	1.450E+00	1.585E-01	-0.014
		874.81		-1.960E-01	6.306E-01	9.961E-01	9.703E-02	-0.197
		880.27		3.681E-01	7.989E-01	1.359E+00	1.315E-01	0.271
RE-188		155.03	*	9.590E-02	1.436E-01	2.428E-01	2.446E-02	0.395
		477.96		1.217E+00	3.055E+00	5.122E+00	5.127E-01	0.238
		633.10		1.556E-01	2.611E+00	4.406E+00	4.843E-01	0.035
W-188	+	63.58		4.902E+01	2.767E+01	3.716E+01	3.668E+00	1.319
		227.08		7.041E+00	1.102E+01	1.835E+01	1.880E+00	0.384
		290.67	*	-3.102E+00	7.361E+00	1.069E+01	1.185E+00	-0.290
IR-192	+	295.96		1.136E+00	2.217E-01	2.911E-01	3.225E-02	3.904
		308.46		-7.311E-02	8.285E-02	1.321E-01	1.444E-02	-0.553
		316.51	*	2.150E-03	2.871E-02	4.863E-02	5.253E-03	0.044
		468.07		-2.332E-03	7.545E-02	1.075E-01	1.125E-02	-0.022
		604.41		-2.006E-01	4.677E-01	6.525E-01	9.534E-02	-0.307
		612.46		7.289E-01	8.257E-01	1.306E+00	1.560E-01	0.558
AU-195		65.12		-1.349E-02	6.776E-02	9.800E-02	9.698E-03	-0.138
		66.83		3.956E-03	4.004E-02	5.868E-02	5.826E-03	0.067
	+	75.70		1.222E+00	1.759E-01	2.647E-01	2.698E-02	4.616
		98.88	*	1.837E-01	1.457E-01	2.489E-01	2.824E-02	0.738
	+	129.76		3.348E+00	3.452E+00	3.903E+00	4.809E-01	0.858
TL-200		367.94	*	2.824E-05	3.452E+00	Half-Life too short		
		579.30		3.084E-03	3.452E+00	Half-Life too short		
		828.27		-1.935E-03	3.452E+00	Half-Life too short		
		1205.75		3.066E-03	3.452E+00	Half-Life too short		
TL-201		68.90		9.707E-01	2.455E+00	3.939E+00	3.930E-01	0.246
		70.82		4.837E-01	1.587E+00	2.338E+00	2.346E-01	0.207

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		80.30		3.429E+00	3.987E+00	5.293E+00	5.493E-01	0.648
		135.34		4.107E+00	2.341E+01	3.952E+01	4.693E+00	0.104
		167.43	*	1.632E+00	6.861E+00	1.145E+01	1.024E+00	0.142
TL-202		68.90		7.413E-02	1.875E-01	3.008E-01	3.001E-02	0.246
		70.82		3.684E-02	1.209E-01	1.781E-01	1.786E-02	0.207
		80.30		2.612E-01	3.037E-01	4.032E-01	4.185E-02	0.648
		439.56	*	2.731E-02	6.817E-02	1.151E-01	1.108E-02	0.237
HG-203		70.83		1.544E-01	5.036E-01	7.418E-01	1.079E-01	0.208
		72.87		4.304E-01	2.896E-01	4.720E-01	6.707E-02	0.912
		82.60		-8.731E-02	6.611E-01	9.420E-01	1.411E-01	-0.093
		279.20	*	1.216E-02	4.183E-02	6.028E-02	6.842E-03	0.202
BI-207		72.80		1.037E-01	8.176E-02	1.341E-01	1.353E-02	0.774
	+	74.97		6.753E-01	9.724E-02	1.345E-01	1.368E-02	5.020
	+	84.90		2.243E-01	1.315E-01	1.881E-01	1.992E-02	1.193
		569.67		-1.548E-03	3.109E-02	4.858E-02	5.197E-03	-0.032
		1063.62	*	2.362E-02	5.279E-02	9.191E-02	8.203E-03	0.257
		1770.23		-1.308E-01	4.131E-01	5.080E-01	4.183E-02	-0.258
TL-207		81.07		1.669E-02	1.244E-01	1.800E-01	1.875E-02	0.093
	+	83.78		1.479E-01	8.670E-02	1.237E-01	1.303E-02	1.196
		94.90		4.702E-02	1.469E-01	2.305E-01	2.562E-02	0.204
		122.32		8.488E-01	1.255E+00	2.170E+00	2.887E-01	0.391
		144.24		4.245E-01	5.478E-01	9.199E-01	1.096E-01	0.461
		154.21		4.774E-01	3.329E-01	5.749E-01	6.264E-02	0.830
	+	269.46		3.407E-01	2.738E-01	3.208E-01	3.576E-02	1.062
		323.87	*	2.915E-02	6.543E-01	9.750E-01	1.832E-01	0.030
	+	338.28		7.419E+00	1.890E+00	2.529E+00	3.448E-01	2.934
		445.03		5.507E-01	2.080E+00	3.476E+00	4.475E-01	0.158
PO-209		260.50		6.714E+00	8.213E+00	1.372E+01	1.490E+00	0.489
		262.80		-4.005E+00	2.317E+01	3.650E+01	3.977E+00	-0.110
		896.60	*	8.705E+00	8.007E+00	1.424E+01	1.352E+00	0.611
PB-211		404.84	*	-4.906E-01	9.790E-01	1.485E+00	9.321E-01	-0.330
		427.08		2.002E+00	2.292E+00	3.391E+00	2.111E+00	0.590
		831.96		4.277E-01	1.299E+00	2.143E+00	1.348E+00	0.200
PO-215		81.07		1.669E-02	1.244E-01	1.800E-01	1.875E-02	0.093
	+	83.78		1.479E-01	8.670E-02	1.237E-01	1.303E-02	1.196
		94.90		4.702E-02	1.469E-01	2.305E-01	2.562E-02	0.204
		122.32		8.488E-01	1.255E+00	2.170E+00	2.887E-01	0.391
		144.24		4.245E-01	5.478E-01	9.199E-01	1.096E-01	0.461
		154.21		4.774E-01	3.329E-01	5.749E-01	6.264E-02	0.830
	+	269.46		3.407E-01	2.738E-01	3.208E-01	3.576E-02	1.062
		323.87	*	2.915E-02	6.543E-01	9.750E-01	1.832E-01	0.030
	+	338.28		7.419E+00	1.890E+00	2.529E+00	3.448E-01	2.934
		445.03		5.507E-01	2.080E+00	3.476E+00	4.475E-01	0.158
RN-219	+	271.23		4.372E-01	3.521E-01	4.151E-01	5.148E-02	1.053
		401.81	*	-7.935E-02	4.008E-01	6.543E-01	1.006E-01	-0.121
RN-220		549.76	*	-7.211E+00	2.427E+01	3.794E+01	4.012E+00	-0.190
RA-223		81.07		1.669E-02	1.244E-01	1.800E-01	1.875E-02	0.093
	+	83.78		1.479E-01	8.670E-02	1.237E-01	1.303E-02	1.196
		94.90		4.702E-02	1.469E-01	2.305E-01	2.562E-02	0.204

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		122.32		8.488E-01	1.255E+00	2.170E+00	2.887E-01	0.391
		144.24		4.245E-01	5.478E-01	9.199E-01	1.096E-01	0.461
		154.21		4.774E-01	3.329E-01	5.749E-01	6.264E-02	0.830
	+	269.46		3.407E-01	2.738E-01	3.208E-01	3.576E-02	1.062
		323.87	*	2.915E-02	6.543E-01	9.750E-01	1.832E-01	0.030
	+	338.28		7.419E+00	1.890E+00	2.529E+00	3.448E-01	2.934
		445.03		5.507E-01	2.080E+00	3.476E+00	4.475E-01	0.158
AC-227		79.80		9.673E-01	9.184E-01	1.360E+00	3.026E-01	0.711
		236.00		1.612E-01	2.131E-01	3.199E-01	4.340E-02	0.504
		256.20	*	1.018E-02	3.296E-01	5.273E-01	8.785E-02	0.019
		286.10		2.463E-01	1.469E+00	2.347E+00	3.509E-01	0.105
	+	299.80		2.823E+00	1.822E+00	2.373E+00	4.455E-01	1.190
		304.40		9.442E-01	1.738E+00	2.695E+00	5.289E-01	0.350
		334.20		3.057E+00	2.596E+00	3.594E+00	7.301E-01	0.851
TH-227		79.80		9.673E-01	9.190E-01	1.360E+00	3.062E-01	0.711
	+	94.00		8.818E+00	2.832E+00	2.511E+00	5.740E-01	3.511
		236.00		1.612E-01	2.129E-01	3.199E-01	4.006E-02	0.504
		256.20	*	1.018E-02	3.296E-01	5.273E-01	1.012E-01	0.019
		286.10		2.463E-01	1.489E+00	2.347E+00	2.362E+00	0.105
	+	299.80		2.823E+00	1.822E+00	2.373E+00	4.455E-01	1.190
		304.40		9.442E-01	1.738E+00	2.695E+00	5.289E-01	0.350
		334.20		3.057E+00	2.596E+00	3.594E+00	7.301E-01	0.851
TH-229	+	85.43		2.214E-01	1.298E-01	1.846E-01	1.959E-02	1.200
	+	88.47		4.735E-01	9.668E-02	1.258E-01	1.355E-02	3.763
		100.00		6.275E-03	1.129E-01	1.932E-01	2.205E-02	0.032
		193.63	*	1.261E-01	4.245E-01	7.031E-01	6.708E-02	0.179
		210.97		7.489E-01	6.884E-01	1.064E+00	1.055E-01	0.704
PA-231		283.67	*	1.761E-01	1.420E+00	2.264E+00	3.790E-01	0.078
	+	301.29		1.129E+00	7.151E-01	9.427E-01	1.320E-01	1.198
TH-231		81.07		1.669E-02	1.244E-01	1.800E-01	1.875E-02	0.093
	+	83.78		1.479E-01	8.670E-02	1.237E-01	1.303E-02	1.196
		94.90		4.702E-02	1.469E-01	2.305E-01	2.562E-02	0.204
		122.32		8.488E-01	1.255E+00	2.170E+00	2.887E-01	0.391
		144.24		4.245E-01	5.478E-01	9.199E-01	1.096E-01	0.461
		154.21		4.774E-01	3.329E-01	5.749E-01	6.264E-02	0.830
	+	269.46		3.407E-01	2.738E-01	3.208E-01	3.576E-02	1.062
		323.87	*	2.915E-02	6.543E-01	9.750E-01	1.832E-01	0.030
	+	338.28		7.419E+00	1.890E+00	2.529E+00	3.448E-01	2.934
		445.03		5.507E-01	2.080E+00	3.476E+00	4.475E-01	0.158
U-231	+	84.21		7.458E+00	4.372E+00	6.305E+00	6.656E-01	1.183
	+	92.29		1.020E+01	2.563E+00	3.309E+00	3.630E-01	3.082
		95.87	*	-5.481E-01	7.886E-01	1.169E+00	1.306E-01	-0.469
		108.00		-1.592E+00	1.640E+00	2.661E+00	3.171E-01	-0.598
PA-233	+	75.28		1.971E+01	3.783E+00	3.914E+00	6.369E-01	5.035
	+	86.59		6.789E+00	2.212E+00	2.009E+00	5.535E-01	3.379
	+	300.12		7.871E-01	5.028E-01	6.644E-01	1.087E-01	1.185
		311.98	*	3.446E-02	5.334E-02	9.324E-02	1.030E-02	0.370
		340.50		8.022E-01	6.928E-01	1.064E+00	2.610E-01	0.754
		398.62		-7.083E-01	2.038E+00	3.283E+00	8.803E-01	-0.216

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.76		7.953E-02	1.543E+00	2.553E+00	5.583E-01	0.031
PA-234	+	63.00		1.408E+00	8.154E-01	1.055E+00	1.712E-01	1.335
		94.67		1.277E-01	1.097E-01	1.764E-01	2.513E-02	0.724
		98.44		8.431E-02	7.692E-02	1.001E-01	5.632E-02	0.842
		99.86		2.150E-02	2.856E-01	4.895E-01	5.583E-02	0.044
		111.00		1.521E-02	1.259E-01	2.147E-01	3.175E-02	0.071
		131.20		-2.298E-03	7.958E-02	1.198E-01	1.463E-02	-0.019
		152.70		1.626E-01	2.678E-01	4.537E-01	8.148E-02	0.358
	+	186.00		6.016E+00	2.572E+00	2.401E+00	7.545E-01	2.506
		226.40		3.693E-01	3.480E-01	5.867E-01	8.392E-02	0.629
		227.20		1.935E-01	3.675E-01	6.088E-01	6.237E-02	0.318
		248.90		-1.418E-01	7.173E-01	1.133E+00	2.637E-01	-0.125
	+	293.70		7.090E+00	1.743E+00	1.685E+00	3.139E-01	4.209
		369.80		-4.135E-01	7.823E-01	1.249E+00	2.777E-01	-0.331
		568.70		-1.550E-01	1.016E+00	1.573E+00	1.681E-01	-0.099
		569.50		-1.727E-02	2.756E-01	4.301E-01	4.600E-02	-0.040
		574.00		-1.010E+00	1.500E+00	2.254E+00	2.416E-01	-0.448
		699.00		6.094E-02	7.259E-01	1.216E+00	2.463E-01	0.050
		706.10		-5.688E-02	1.005E+00	1.663E+00	7.503E-01	-0.034
		733.00		-4.550E-02	3.817E-01	5.664E-01	1.312E-01	-0.080
		742.81		7.066E-01	1.488E+00	2.429E+00	1.641E+00	0.291
	+	796.30		1.847E+00	1.211E+00	1.666E+00	4.614E-01	1.109
		805.60		7.465E-01	1.056E+00	1.798E+00	5.610E-01	0.415
		819.60		-3.189E-01	1.210E+00	1.922E+00	7.386E-01	-0.166
		826.30		-5.815E-01	8.450E-01	1.219E+00	5.493E-01	-0.477
		831.60		2.835E-01	6.689E-01	1.126E+00	3.416E-01	0.252
		876.40		-5.302E-01	1.034E+00	1.345E+00	1.384E+00	-0.394
		880.51		1.007E-01	2.893E-01	4.869E-01	4.712E-02	0.207
		883.24		1.176E-01	2.965E-01	4.845E-01	3.264E-01	0.243
		899.00		2.956E-01	9.053E-01	1.501E+00	6.590E-01	0.197
		925.00		5.712E-01	1.150E+00	1.960E+00	1.848E-01	0.291
		926.50		1.294E-01	1.803E-01	3.022E-01	7.725E-02	0.428
		946.00	*	3.295E-02	3.258E-01	5.320E-01	1.017E-01	0.062
		949.00		2.875E-01	4.988E-01	8.483E-01	7.948E-02	0.339
		980.50		-3.634E-01	7.744E-01	1.184E+00	1.098E-01	-0.307
		1394.10		3.979E-01	1.051E+00	1.765E+00	1.148E+00	0.225
PA-234M		766.42		1.520E+01	1.397E+01	2.107E+01	1.077E+01	0.721
		1001.03	*	1.606E+00	4.972E+00	8.359E+00	8.755E-01	0.192
U-235	+	89.95		2.961E+00	1.208E+00	1.238E+00	3.907E-01	2.391
	+	93.35		2.743E+00	1.005E+00	9.010E-01	2.600E-01	3.045
		105.00		1.217E+00	7.932E-01	1.268E+00	3.916E-01	0.960
		143.76	*	8.624E-02	1.691E-01	2.808E-01	5.303E-02	0.307
		163.35		-3.065E-01	3.904E-01	6.046E-01	1.170E-01	-0.507
	+	185.71		2.228E-01	6.787E-02	8.784E-02	8.225E-03	2.536
		205.31		1.752E-01	4.756E-01	7.055E-01	1.386E-01	0.248
NP-236		94.67		9.923E-02	8.288E-02	1.341E-01	1.489E-02	0.740
		98.44		6.372E-02	4.633E-02	7.566E-02	8.566E-03	0.842
		111.00		1.150E-02	9.525E-02	1.624E-01	1.968E-02	0.071
		160.31	*	1.068E-02	6.336E-02	1.057E-01	1.007E-02	0.101

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		6.645E-02	9.519E-02	1.666E-01	1.897E-02	0.399
		117.00	*	-1.627E-01	1.361E-01	2.160E-01	2.707E-02	-0.753
	+	209.75		2.372E+00	9.780E-01	1.258E+00	1.244E-01	1.885
		228.18		-1.404E-01	1.958E-01	3.022E-01	3.101E-02	-0.465
	+	277.60		2.830E-01	2.305E-01	2.976E-01	3.314E-02	0.951
		334.30		1.704E+00	1.438E+00	2.031E+00	2.132E-01	0.839
AM-241		59.54	*	-7.278E-03	4.902E-02	7.125E-02	7.403E-03	-0.102
CM-243		99.55		6.839E-02	9.796E-02	1.714E-01	1.952E-02	0.399
		103.76	*	-1.212E-03	6.177E-02	1.052E-01	1.225E-02	-0.012
		117.00		-1.674E-01	1.401E-01	2.223E-01	2.785E-02	-0.753
	+	209.75		2.339E+00	9.642E-01	1.240E+00	1.226E-01	1.885
		228.18		-1.419E-01	1.979E-01	3.054E-01	3.134E-02	-0.465
	+	277.60		2.853E-01	2.324E-01	3.000E-01	3.341E-02	0.951
AM-246		798.80		-6.592E-02	1.581E-01	2.120E-01	2.216E-02	-0.311
		1036.00		4.013E-02	3.002E-01	5.098E-01	4.618E-02	0.079
		1062.04		6.536E-02	2.330E-01	3.999E-01	3.573E-02	0.163
		1078.86	*	-3.205E-02	1.466E-01	2.399E-01	2.122E-02	-0.134
CM-247	+	278.00		1.174E+00	9.558E-01	1.222E+00	1.362E-01	0.960
		287.40		1.180E-01	1.181E+00	1.878E+00	2.086E-01	0.063
		402.60	*	-2.450E-03	3.611E-02	5.946E-02	5.481E-03	-0.041
CF-249		252.85		-4.505E-01	7.644E-01	1.174E+00	1.259E-01	-0.384
		333.44		2.600E-01	2.099E-01	2.660E-01	2.797E-02	0.978
		387.95	*	-1.623E-02	3.545E-02	5.692E-02	5.238E-03	-0.285
CF-251		176.60	*	7.082E-02	1.024E-01	1.736E-01	1.590E-02	0.408
		227.00		2.244E-01	3.285E-01	5.480E-01	5.611E-02	0.410
		285.00		-1.466E-01	1.673E+00	2.632E+00	2.928E-01	-0.056

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137007      *
* Acquisition date : 20-JAN-2010 13:45:34 Detector SN#     :               *
* Detector ID        : GAM25               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000        *
* Elapsed real time:    0 02:00:01.85      Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date        :  4-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G244137007           Analyst initials: MXR1          *
* Batch Number       : 940263               Sample Quantity : 1.2796E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME :  7-OCT-2009 09:38:43 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.063E+01	2.272E+00	4.106E-01	0.000E+00
CD-109	3.533E+00	7.071E-01	7.078E-01	0.000E+00
SN-126	3.468E-01	6.940E-02	6.933E-02	0.000E+00
TL-208	5.846E-01	1.008E-01	5.811E-02	0.000E+00
BI-210	7.979E-01	5.528E-01	5.671E-01	0.000E+00
PB-210	7.979E-01	5.528E-01	5.671E-01	0.000E+00
PO-210	7.979E-01	5.519E-01	5.671E-01	0.000E+00
BI-211	4.316E+00	6.201E-01	2.658E-01	0.000E+00
BI-212	1.216E+00	4.137E-01	4.585E-01	0.000E+00
PB-212	1.652E+00	2.191E-01	9.462E-02	0.000E+00
PO-212	1.652E+00	2.191E-01	9.462E-02	0.000E+00
BI-214	1.308E+00	2.197E-01	1.104E-01	0.000E+00
PB-214	1.501E+00	2.290E-01	9.269E-02	0.000E+00
PO-214	1.501E+00	2.290E-01	9.269E-02	0.000E+00
PO-216	1.652E+00	2.191E-01	9.462E-02	0.000E+00
PO-218	1.501E+00	2.290E-01	9.269E-02	0.000E+00
RA-224	3.583E+00	9.113E-01	1.229E+00	0.000E+00
RA-226	1.308E+00	2.197E-01	1.104E-01	0.000E+00
AC-228	1.732E+00	3.480E-01	1.958E-01	0.000E+00
RA-228	1.732E+00	3.480E-01	1.958E-01	0.000E+00
TH-228	1.678E+00	2.227E-01	9.614E-02	0.000E+00
TH-230	1.308E+00	2.197E-01	1.104E-01	0.000E+00
TH-232	1.732E+00	3.480E-01	1.958E-01	0.000E+00
TH-234	1.208E+00	6.940E-01	7.240E-01	0.000E+00
U-234	1.308E+00	2.197E-01	1.104E-01	0.000E+00
NP-237	1.018E+00	2.897E-01	2.226E-01	0.000E+00
U-238	1.208E+00	6.940E-01	7.240E-01	0.000E+00
AM-243	3.762E-01	5.308E-02	4.236E-02	0.000E+00
ANH-511	1.080E-01	7.045E-02	4.465E-02	0.000E+00

---- Non-Identified Nuclides ----

Key-Line Activity	K.L. Act error	MDA

Nuclide	(pCi/GRAM	) Ided	(pCi/GRAM	)	
BE-7	1.166E-02	3.170E-01	5.378E-01	0.000E+00	NOT IDENT.
NA-22	-2.358E-02	4.330E-02	6.842E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.828E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	2.056E-02	3.316E-02	6.153E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.094E-02	4.669E-02	0.000E+00	FAIL ABUN
SC-46	-1.760E-02	3.703E-02	5.869E-02	0.000E+00	FAIL ABUN
V-48	-1.086E-02	7.416E-02	1.207E-01	0.000E+00	NOT IDENT.
CR-51	2.834E-02	3.221E-01	5.699E-01	0.000E+00	NOT IDENT.
MN-52	7.592E-02	2.519E-01	4.364E-01	0.000E+00	FAIL ABUN
MN-54	2.864E-03	3.936E-02	6.672E-02	0.000E+00	NOT IDENT.
CO-56	-4.621E-03	3.796E-02	6.310E-02	0.000E+00	FAIL ABUN
CO-57	1.061E-02	1.789E-02	3.267E-02	0.000E+00	NOT IDENT.
CO-58	-1.481E-02	3.733E-02	6.061E-02	0.000E+00	NOT IDENT.
FE-59	-4.557E-02	7.854E-02	1.254E-01	0.000E+00	NOT IDENT.
CO-60	-7.174E-03	4.117E-02	6.745E-02	0.000E+00	NOT IDENT.
ZN-65	2.686E-02	8.815E-02	1.355E-01	0.000E+00	NOT IDENT.
GE-68	-1.154E-01	1.265E+00	2.149E+00	0.000E+00	NOT IDENT.
AS-73	-5.380E-02	1.618E-01	2.743E-01	0.000E+00	NOT IDENT.
AS-74	-5.782E-03	8.587E-02	1.409E-01	0.000E+00	NOT IDENT.
SE-75	-1.578E-02	3.891E-02	6.320E-02	0.000E+00	NOT IDENT.
BR-77	-9.575E+00	1.197E+01	1.851E+01	0.000E+00	FAIL ABUN
SR-82	-3.999E-01	4.189E-01	6.514E-01	0.000E+00	NOT IDENT.
RB-83	-6.136E-02	6.082E-02	9.180E-02	0.000E+00	NOT IDENT.
RB-84	4.627E-02	7.131E-02	1.266E-01	0.000E+00	NOT IDENT.
KR-85	1.320E+01	7.937E+00	1.330E+01	0.000E+00	NOT IDENT.
SR-85	6.838E-02	4.111E-02	6.887E-02	0.000E+00	NOT IDENT.
RB-86	9.878E-03	8.073E-01	1.385E+00	0.000E+00	NOT IDENT.
Y-88	3.155E-04	3.983E-02	6.677E-02	0.000E+00	NOT IDENT.
ZR-88	-5.727E-04	2.800E-02	4.826E-02	0.000E+00	NOT IDENT.
Y-91	1.118E+01	1.961E+01	3.475E+01	0.000E+00	NOT IDENT.
NB-94	-1.640E-02	3.334E-02	5.391E-02	0.000E+00	NOT IDENT.
NB-95	5.557E-02	4.361E-02	8.058E-02	0.000E+00	NOT IDENT.
NB-95M	6.701E-03	1.100E-01	1.660E-01	0.000E+00	NOT IDENT.
ZR-95	2.109E-02	7.311E-02	1.274E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.756E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.946E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	8.480E+00	1.410E+01	2.520E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	4.158E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	9.158E-03	2.866E-02	4.914E-02	0.000E+00	NOT IDENT.
RH-102	4.514E-03	2.843E-02	4.868E-02	0.000E+00	NOT IDENT.
RU-103	2.457E-02	4.113E-02	7.205E-02	0.000E+00	FAIL ABUN
RH-106	2.365E-02	3.123E-01	5.460E-01	0.000E+00	FAIL ABUN
RU-106	2.365E-02	3.123E-01	5.460E-01	0.000E+00	FAIL ABUN
AG-108M	3.863E-03	2.870E-02	4.952E-02	0.000E+00	NOT IDENT.
AG-110M	-3.732E-02	3.842E-02	6.150E-02	0.000E+00	NOT IDENT.
IN-111	4.837E-01	1.143E+00	1.770E+00	0.000E+00	NOT IDENT.
IN-113M	-8.033E-03	4.092E-02	6.975E-02	0.000E+00	NOT IDENT.
SN-113	-8.033E-03	4.092E-02	6.975E-02	0.000E+00	NOT IDENT.
IN-114M	2.843E-02	1.655E-01	2.574E-01	0.000E+00	NOT IDENT.
CD-115	-7.988E+00	1.331E+01	2.104E+01	0.000E+00	NOT IDENT.
SN-117M	-3.507E-02	4.405E-02	7.398E-02	0.000E+00	NOT IDENT.
SB-122	1.074E+00	2.569E+00	4.412E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.489E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-9.939E-03	2.202E-02	3.768E-02	0.000E+00	NOT IDENT.
I-124	-1.349E-01	8.575E-01	1.283E+00	0.000E+00	NOT IDENT.
SB-124	-9.523E-02	7.772E-02	9.828E-02	0.000E+00	FAIL ABUN
SB-125	8.708E-02	8.779E-02	1.593E-01	0.000E+00	FAIL ABUN
TE-125M	1.660E+00	6.179E+00	1.125E+01	0.000E+00	NOT IDENT.
I-126	-1.634E-01	2.081E-01	3.384E-01	0.000E+00	NOT IDENT.
SB-126	7.946E-02	1.547E-01	2.619E-01	0.000E+00	FAIL ABUN
SB-127	1.798E-01	1.606E+00	2.789E+00	0.000E+00	NOT IDENT.
XE-127	2.146E-04	4.012E-02	6.868E-02	0.000E+00	NOT IDENT.
I-131	5.259E-02	1.093E-01	1.955E-01	0.000E+00	NOT IDENT.
TE-132	-5.210E-01	7.226E-01	1.166E+00	0.000E+00	NOT IDENT.
BA-133	7.009E-05	3.866E-02	5.932E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.176E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.626E-02	8.613E-02	0.000E+00	FAIL ABUN
CS-135	9.010E-02	1.607E-01	2.474E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.477E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.399E-02	1.087E-01	1.721E-01	0.000E+00	FAIL ABUN
BA-137M	-1.879E-02	4.171E-02	7.295E-02	0.000E+00	NOT IDENT.
CS-137	-1.986E-02	4.409E-02	7.711E-02	0.000E+00	NOT IDENT.
CE-139	2.680E-02	2.354E-02	4.291E-02	0.000E+00	NOT IDENT.
BA-140	3.958E-02	2.817E-01	4.752E-01	0.000E+00	NOT IDENT.
LA-140	-5.229E-02	1.004E-01	1.587E-01	0.000E+00	FAIL ABUN
CE-141	-1.506E-02	4.851E-02	8.431E-02	0.000E+00	NOT IDENT.

CE-143	0.000E+00	3.035E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-6.808E-02	1.496E-01	2.469E-01	0.000E+00	NOT IDENT.
PM-144	8.748E-03	3.477E-02	6.085E-02	0.000E+00	NOT IDENT.
PR-144	5.931E-01	2.357E+00	4.125E+00	0.000E+00	NOT IDENT.
PM-146	4.033E-02	4.027E-02	7.292E-02	0.000E+00	NOT IDENT.
ND-147	-2.396E-01	5.334E-01	8.537E-01	0.000E+00	FAIL ABUN
PM-149	2.748E+01	1.164E+02	1.952E+02	0.000E+00	NOT IDENT.
EU-152	3.487E-02	8.875E-02	1.537E-01	0.000E+00	FAIL ABUN
GD-153	-4.627E-03	5.187E-02	8.471E-02	0.000E+00	FAIL ABUN
EU-154	-4.523E-02	1.188E-01	1.913E-01	0.000E+00	NOT IDENT.
EU-155	1.188E-01	7.188E-02	1.355E-01	0.000E+00	FAIL ABUN
TB-160	-4.179E-02	1.456E-01	2.370E-01	0.000E+00	FAIL ABUN
HO-166M	-3.447E-02	5.666E-02	9.182E-02	0.000E+00	NOT IDENT.
TM-171	-3.733E+00	1.198E+01	1.838E+01	0.000E+00	NOT IDENT.
LU-176	8.433E-03	2.044E-02	3.693E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.492E+00	2.057E+00	0.000E+00	FAIL ABUN
LU-177M	-2.329E-01	1.667E-01	2.567E-01	0.000E+00	NOT IDENT.
HF-181	7.643E-03	4.161E-02	7.127E-02	0.000E+00	NOT IDENT.
W-181	-2.773E-02	1.441E-01	2.229E-01	0.000E+00	NOT IDENT.
TA-182	5.516E-02	1.871E-01	3.245E-01	0.000E+00	FAIL ABUN
RE-183	3.616E-03	8.966E-02	1.544E-01	0.000E+00	FAIL ABUN
RE-184	-1.205E-01	2.004E-01	3.227E-01	0.000E+00	NOT IDENT.
OS-185	-1.271E-02	4.072E-02	6.873E-02	0.000E+00	NOT IDENT.
RE-188	9.590E-02	1.407E-01	2.513E-01	0.000E+00	NOT IDENT.
W-188	-3.102E+00	7.214E+00	1.096E+01	0.000E+00	FAIL ABUN
IR-192	2.150E-03	2.813E-02	4.980E-02	0.000E+00	FAIL ABUN
AU-195	1.837E-01	1.427E-01	2.593E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.162E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.632E+00	6.724E+00	1.184E+01	0.000E+00	NOT IDENT.
TL-202	2.731E-02	6.680E-02	1.172E-01	0.000E+00	NOT IDENT.
HG-203	1.216E-02	4.099E-02	6.184E-02	0.000E+00	NOT IDENT.
BI-207	2.362E-02	5.173E-02	9.237E-02	0.000E+00	FAIL ABUN
TL-207	2.915E-02	6.412E-01	9.980E-01	0.000E+00	FAIL ABUN
PO-209	8.705E+00	7.847E+00	1.435E+01	0.000E+00	NOT IDENT.
PB-211	-4.906E-01	9.594E-01	1.515E+00	0.000E+00	NOT IDENT.
PO-215	2.915E-02	6.412E-01	9.980E-01	0.000E+00	FAIL ABUN
RN-219	-7.935E-02	3.928E-01	6.675E-01	0.000E+00	FAIL ABUN
RN-220	-7.211E+00	2.378E+01	3.852E+01	0.000E+00	NOT IDENT.
RA-223	2.915E-02	6.412E-01	9.980E-01	0.000E+00	FAIL ABUN
AC-227	1.018E-02	3.231E-01	5.417E-01	0.000E+00	FAIL ABUN
TH-227	1.018E-02	3.231E-01	5.417E-01	0.000E+00	FAIL ABUN
TH-229	1.261E-01	4.161E-01	7.253E-01	0.000E+00	FAIL ABUN
PA-231	1.761E-01	1.391E+00	2.322E+00	0.000E+00	FAIL ABUN
TH-231	2.915E-02	6.412E-01	9.980E-01	0.000E+00	FAIL ABUN
U-231	-5.481E-01	7.729E-01	1.219E+00	0.000E+00	FAIL ABUN
PA-233	3.446E-02	5.228E-02	9.549E-02	0.000E+00	FAIL ABUN
PA-234	3.295E-02	3.193E-01	5.357E-01	0.000E+00	FAIL ABUN
PA-234M	1.606E+00	4.872E+00	8.409E+00	0.000E+00	NOT IDENT.
U-235	8.624E-02	1.657E-01	2.909E-01	0.000E+00	FAIL ABUN
NP-236	1.068E-02	6.209E-02	1.093E-01	0.000E+00	NOT IDENT.
NP-239	-1.627E-01	1.334E-01	2.245E-01	0.000E+00	FAIL ABUN
AM-241	-7.278E-03	4.804E-02	7.476E-02	0.000E+00	NOT IDENT.
CM-243	-1.212E-03	6.054E-02	1.095E-01	0.000E+00	FAIL ABUN
AM-246	-3.205E-02	1.437E-01	2.410E-01	0.000E+00	NOT IDENT.
CM-247	-2.450E-03	3.538E-02	6.066E-02	0.000E+00	FAIL ABUN
CF-249	-1.623E-02	3.475E-02	5.810E-02	0.000E+00	NOT IDENT.
CF-251	7.082E-02	1.003E-01	1.793E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:48:58.41

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137007.CNF;1
Sample date       : 4-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 13:45:34
Sample ID         : G244137007           Sample quantity  : 1.27960E+02 GRAM
Detector name     : GAM25                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.85  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 940263                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	832	10.67*	1.109E+00	2.063E+01	2.063E+01	11.24
CD-109	88.03	411	3.72*	9.404E+00	3.449E+00	3.533E+00	20.42
SN-126	64.28	153	9.60	9.779E+00	4.781E-01	4.781E-01	57.83
	86.94	411	8.90	9.404E+00	1.442E+00	1.442E+00	45.31
	87.57	411	37.00*	9.404E+00	3.468E-01	3.468E-01	20.42
TL-208	277.35	64	6.80	4.739E+00	5.868E-01	5.868E-01	81.92
	510.84	103	21.60	2.809E+00	5.002E-01	5.002E-01	67.05
	583.14	419	84.20*	2.497E+00	5.846E-01	5.846E-01	17.60
	860.37	48	12.46	1.764E+00	6.387E-01	6.387E-01	102.41
BI-210	46.50	101	4.05*	9.185E+00	7.968E-01	7.979E-01	70.69
PB-210	46.50	101	4.05*	9.185E+00	7.968E-01	7.979E-01	70.69
PO-210	46.50	101	4.05*	9.185E+00	7.968E-01	7.979E-01	70.58
BI-211	72.87	------	1.27	9.724E+00	------ Line Not Found		------
	351.07	740	12.94*	3.886E+00	4.316E+00	4.316E+00	14.66
BI-212	727.18	100	11.80*	2.051E+00	1.216E+00	1.216E+00	34.72
	785.46	------	1.97	1.914E+00	------ Line Not Found		------
	1620.62	27	2.75	1.013E+00	2.843E+00	2.843E+00	39.38
PB-212	74.81	820	10.70	9.693E+00	2.320E+00	2.320E+00	17.17
	77.11	1335	18.00	9.652E+00	2.255E+00	2.255E+00	12.49
	87.30	411	8.00	9.404E+00	1.604E+00	1.604E+00	22.74
	238.63	1341	44.60*	5.339E+00	1.652E+00	1.652E+00	13.54
	300.09	79	3.41	4.440E+00	1.523E+00	1.523E+00	63.00
PO-212	74.81	820	10.70	9.693E+00	2.320E+00	2.320E+00	17.17
	77.11	1335	18.00	9.652E+00	2.255E+00	2.255E+00	12.49
	87.30	411	8.00	9.404E+00	1.604E+00	1.604E+00	22.74
	115.19	------	0.60	8.498E+00	------ Line Not Found		------
	238.63	1341	44.60*	5.339E+00	1.652E+00	1.652E+00	13.54
	300.09	79	3.41	4.440E+00	1.523E+00	1.523E+00	63.00
BI-214	609.31	496	46.30*	2.401E+00	1.308E+00	1.308E+00	17.14
	1120.29	66	15.10	1.397E+00	9.153E-01	9.153E-01	80.12
	1764.49	72	15.80	9.413E-01	1.420E+00	1.420E+00	27.10
PB-214	74.81	820	6.21	9.693E+00	3.998E+00	3.998E+00	16.19

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	1335	10.50	9.652E+00	3.865E+00	3.865E+00	14.63
	87.30	411	4.67	9.404E+00	2.748E+00	2.748E+00	21.83
	241.98	255	7.49	5.283E+00	1.889E+00	1.889E+00	26.56
	295.21	435	19.20	4.503E+00	1.477E+00	1.477E+00	20.46
	351.92	740	37.20*	3.886E+00	1.501E+00	1.501E+00	15.56
PO-214	74.81	820	6.21	9.693E+00	3.998E+00	3.998E+00	16.19
	77.11	1335	10.50	9.652E+00	3.865E+00	3.865E+00	14.63
	87.30	411	4.67	9.404E+00	2.748E+00	2.748E+00	21.83
	241.98	255	7.49	5.283E+00	1.889E+00	1.889E+00	26.56
	295.21	435	19.20	4.503E+00	1.477E+00	1.477E+00	20.46
	351.92	740	37.20*	3.886E+00	1.501E+00	1.501E+00	15.56
PO-216	74.81	820	10.70	9.693E+00	2.320E+00	2.320E+00	17.17
	77.11	1335	18.00	9.652E+00	2.255E+00	2.255E+00	12.49
	87.30	411	8.00	9.404E+00	1.604E+00	1.604E+00	22.74
	238.63	1341	44.60*	5.339E+00	1.652E+00	1.652E+00	13.54
	300.09	79	3.41	4.440E+00	1.523E+00	1.523E+00	63.00
PO-218	74.81	820	6.21	9.693E+00	3.998E+00	3.998E+00	16.19
	77.11	1335	10.50	9.652E+00	3.865E+00	3.865E+00	14.63
	87.30	411	4.67	9.404E+00	2.748E+00	2.748E+00	21.83
	241.98	255	7.49	5.283E+00	1.889E+00	1.889E+00	26.56
	295.21	435	19.20	4.503E+00	1.477E+00	1.477E+00	20.46
	351.92	740	37.20*	3.886E+00	1.501E+00	1.501E+00	15.56
RA-224	240.98	255	3.95*	5.283E+00	3.583E+00	3.583E+00	25.96
RA-226	609.31	496	46.30*	2.401E+00	1.308E+00	1.308E+00	17.14
	1120.29	66	15.10	1.397E+00	9.153E-01	9.153E-01	80.12
	1764.49	72	15.80	9.413E-01	1.420E+00	1.420E+00	27.10
AC-228	338.32	277	11.40	4.019E+00	1.777E+00	1.777E+00	46.91
	911.07	274	27.70*	1.678E+00	1.732E+00	1.732E+00	20.50
	969.11	150	16.60	1.589E+00	1.668E+00	1.668E+00	32.53
RA-228	338.32	277	11.40	4.019E+00	1.777E+00	1.777E+00	46.91
	911.07	274	27.70*	1.678E+00	1.732E+00	1.732E+00	20.50
	969.11	150	16.60	1.589E+00	1.668E+00	1.668E+00	32.53
TH-228	74.81	820	10.70	9.693E+00	2.320E+00	2.358E+00	14.44
	77.11	1335	18.00	9.652E+00	2.255E+00	2.291E+00	12.49
	87.30	411	8.00	9.404E+00	1.604E+00	1.630E+00	20.42
	238.63	1341	44.60*	5.339E+00	1.652E+00	1.678E+00	13.54
	300.09	79	3.41	4.440E+00	1.523E+00	1.548E+00	85.87
TH-230	609.31	496	46.30*	2.401E+00	1.308E+00	1.308E+00	17.14
	1120.29	66	15.10	1.397E+00	9.153E-01	9.153E-01	80.12
	1764.49	72	15.80	9.413E-01	1.420E+00	1.420E+00	27.10
TH-232	338.32	277	11.40	4.019E+00	1.777E+00	1.777E+00	23.92
	911.07	274	27.70*	1.678E+00	1.732E+00	1.732E+00	20.50
	969.11	150	16.60	1.589E+00	1.668E+00	1.668E+00	32.53
TH-234	63.29	153	3.80*	9.779E+00	1.208E+00	1.208E+00	58.63
	92.38	389	5.41	9.238E+00	2.282E+00	2.282E+00	29.74
U-234	609.31	496	46.30*	2.401E+00	1.308E+00	1.308E+00	17.14
	1120.29	66	15.10	1.397E+00	9.153E-01	9.153E-01	80.12
	1764.49	72	15.80	9.413E-01	1.420E+00	1.420E+00	27.10
NP-237	86.50	411	12.60*	9.404E+00	1.018E+00	1.018E+00	29.03

Sample ID : G244137007 Acquisition date : 20-JAN-2010 13:45:34

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	95.87	------	2.60	9.143E+00	------ Line Not Found		------
U-238	63.29	153	3.80*	9.779E+00	1.208E+00	1.208E+00	58.63
	92.38	389	5.41	9.238E+00	2.282E+00	2.282E+00	25.13
AM-243	74.67	820	66.00*	9.693E+00	3.762E-01	3.762E-01	14.40
	86.72	411	0.34	9.404E+00	3.819E+01	3.819E+01	20.42
	117.66	------	0.55	8.415E+00	------ Line Not Found		------
	142.18	------	0.13	7.617E+00	------ Line Not Found		------
ANH-511	511.00	103	100.00*	2.809E+00	1.080E-01	1.080E-01	66.53

Flag: "*" = Keyline

Sample ID : G244137007 Acquisition date : 20-JAN-2010 13:45:34

Total number of lines in spectrum 37
Number of unidentified lines 1
Number of lines tentatively identified by NID 36 97.30%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.063E+01	2.063E+01	0.232E+01	11.24	
CD-109	464.00D	1.02	3.449E+00	3.533E+00	0.721E+00	20.42	
SN-126	1.00E+05Y	1.00	3.468E-01	3.468E-01	0.708E-01	20.42	
TL-208	1.41E+10Y	1.00	5.846E-01	5.846E-01	1.029E-01	17.60	
BI-210	22.26Y	1.00	7.968E-01	7.979E-01	5.640E-01	70.69	
PB-210	22.26Y	1.00	7.968E-01	7.979E-01	5.640E-01	70.69	
PO-210	22.26Y	1.00	7.968E-01	7.979E-01	5.632E-01	70.58	
BI-211	7.04E+08Y	1.00	4.316E+00	4.316E+00	0.633E+00	14.66	
BI-212	1.41E+10Y	1.00	1.216E+00	1.216E+00	0.422E+00	34.72	
PB-212	1.41E+10Y	1.00	1.652E+00	1.652E+00	0.224E+00	13.54	
PO-212	1.41E+10Y	1.00	1.652E+00	1.652E+00	0.224E+00	13.54	
BI-214	1600.00Y	1.00	1.308E+00	1.308E+00	0.224E+00	17.14	
PB-214	1600.00Y	1.00	1.501E+00	1.501E+00	0.234E+00	15.56	
PO-214	1600.00Y	1.00	1.501E+00	1.501E+00	0.234E+00	15.56	
PO-216	1.41E+10Y	1.00	1.652E+00	1.652E+00	0.224E+00	13.54	
PO-218	1600.00Y	1.00	1.501E+00	1.501E+00	0.234E+00	15.56	
RA-224	1.41E+10Y	1.00	3.583E+00	3.583E+00	0.930E+00	25.96	
RA-226	1600.00Y	1.00	1.308E+00	1.308E+00	0.224E+00	17.14	
AC-228	1.41E+10Y	1.00	1.732E+00	1.732E+00	0.355E+00	20.50	
RA-228	1.41E+10Y	1.00	1.732E+00	1.732E+00	0.355E+00	20.50	
TH-228	1.91Y	1.02	1.652E+00	1.678E+00	0.227E+00	13.54	
TH-230	4.47E+09Y	1.00	1.308E+00	1.308E+00	0.224E+00	17.14	
TH-232	1.41E+10Y	1.00	1.732E+00	1.732E+00	0.355E+00	20.50	
TH-234	4.47E+09Y	1.00	1.208E+00	1.208E+00	0.708E+00	58.63	
U-234	4.47E+09Y	1.00	1.308E+00	1.308E+00	0.224E+00	17.14	
NP-237	2.14E+06Y	1.00	1.018E+00	1.018E+00	0.296E+00	29.03	
U-238	4.47E+09Y	1.00	1.208E+00	1.208E+00	0.708E+00	58.63	
AM-243	7380.00Y	1.00	3.762E-01	3.762E-01	0.542E-01	14.40	
ANH-511	1.00E+09Y	1.00	1.080E-01	1.080E-01	0.719E-01	66.53	
	Total Activity :		6.198E+01	6.209E+01			

Grand Total Activity : 6.198E+01 6.209E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G244137007 Acquisition date : 20-JAN-2010 13:45:34

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	84.18	118	400	0.91	167.92	165	6	1.64E-02	57.7	9.49E+00	T
6	89.93	254	342	0.95	179.41	171	22	3.53E-02	25.8	9.33E+00	T
0	129.65	70	368	1.17	258.85	253	9	9.68E-03	****	8.02E+00	T
0	186.08	263	309	1.11	371.70	368	10	3.65E-02	29.0	6.41E+00	T
0	208.97	155	246	0.88	417.47	413	9	2.15E-02	40.0	5.90E+00	T
0	270.36	76	242	1.44	540.24	536	10	1.06E-02	79.6	4.84E+00	T
0	328.22	80	192	1.16	655.96	649	13	1.12E-02	74.9	4.12E+00	T
0	463.26	115	113	1.74	926.03	921	13	1.60E-02	42.1	3.06E+00	T
0	795.19	47	39	1.22	1589.86	1585	11	6.46E-03	59.4	1.89E+00	T
0	934.79	26	50	1.74	1869.06	1863	10	3.59E-03	****	1.64E+00	T
2	964.62	66	42	2.17	1928.73	1923	22	9.11E-03	44.8	1.60E+00	T
0	1238.36	33	43	1.85	2476.22	2469	11	4.60E-03	84.8	1.28E+00	T
0	1378.11	27	21	1.13	2755.73	2751	13	3.76E-03	78.1	1.17E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:49:05.48

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*******************************************************************************
*                            GEL Laboratories LLC                             *
*                              2040 Savage Road                               *
*                            Charleston, SC 29414                             *
*******************************************************************************
*                                                                             *
*                              DETECTOR DATA                                  *
*                                                                             *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244137007.CNF;1   *
* Acquisition date  : 20-JAN-2010 13:45:34  Detector SN#     :                *
* Detector ID       : GAM25                 Sensitivity      : 5.00000        *
* Geometry          : CAN                   Energy tolerance: 1.50000         *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000        *
* Elapsed real time: 0 02:00:01.85          Half life ratio : 8.00000         *
*******************************************************************************
*                                                                             *
*                               SAMPLE DATA                                   *
*                                                                             *
* Sample date       : 4-JAN-2010 12:00:00.  Nuclide Library : SOLID           *
* Sample ID         : G244137007            Analyst initials: MXR1            *
* Batch Number      : 940263                Sample Quantity : 1.27960E+02 GRAM *
*******************************************************************************
*                                                                             *
*                                 QC DATA                                     *
*                                                                             *
* CALIB. DATE/TIME : 7-OCT-2009 09:38:43.34MS Isotope       :                 *
* MSD ID           :                       MSD Isotope      :                 *
* LCS ID           : 1032-A                LCS Isotope      :                 *
*******************************************************************************
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.063E+01	2.318E+00	4.106E-01	3.497E-02	50.251
CD-109	3.533E+00	7.215E-01	6.783E-01	7.289E-02	5.209
SN-126	3.468E-01	7.081E-02	6.644E-02	7.124E-03	5.220
TL-208	5.846E-01	1.029E-01	5.728E-02	6.457E-03	10.206
BI-210	7.979E-01	5.640E-01	5.385E-01	5.553E-02	1.482
PB-210	7.979E-01	5.640E-01	5.385E-01	5.553E-02	1.482
PO-210	7.979E-01	5.632E-01	5.385E-01	5.129E-02	1.482
BI-211	4.316E+00	6.328E-01	2.600E-01	2.740E-02	16.597
BI-212	1.216E+00	4.221E-01	4.535E-01	5.449E-02	2.681
PB-212	1.652E+00	2.236E-01	9.202E-02	1.048E-02	17.950
PO-212	1.652E+00	2.236E-01	9.202E-02	1.048E-02	17.950
BI-214	1.308E+00	2.242E-01	1.089E-01	1.314E-02	12.010
PB-214	1.501E+00	2.336E-01	9.068E-02	1.065E-02	16.556
PO-214	1.501E+00	2.336E-01	9.068E-02	1.065E-02	16.556
PO-216	1.652E+00	2.236E-01	9.202E-02	1.048E-02	17.950
PO-218	1.501E+00	2.336E-01	9.068E-02	1.065E-02	16.556
RA-224	3.583E+00	9.299E-01	1.195E+00	1.256E-01	2.997
RA-226	1.308E+00	2.242E-01	1.089E-01	1.314E-02	12.010

Sample ID : G244137007 Acquisition date : 20-JAN-2010 13:45:34

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.732E+00	3.551E-01	1.943E-01	2.311E-02	8.915
RA-228	1.732E+00	3.551E-01	1.943E-01	2.311E-02	8.915
TH-228	1.678E+00	2.272E-01	9.350E-02	1.065E-02	17.950
TH-230	1.308E+00	2.242E-01	1.089E-01	1.314E-02	12.010
TH-232	1.732E+00	3.551E-01	1.943E-01	2.311E-02	8.915
TH-234	1.208E+00	7.082E-01	6.906E-01	1.286E-01	1.749
U-234	1.308E+00	2.242E-01	1.089E-01	1.314E-02	12.010
NP-237	1.018E+00	2.956E-01	2.133E-01	4.955E-02	4.774
U-238	1.208E+00	7.082E-01	6.906E-01	1.286E-01	1.749
AM-243	3.762E-01	5.417E-02	4.050E-02	4.113E-03	9.289
ANH-511	1.080E-01	7.188E-02	4.393E-02	4.522E-03	2.460

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.166E-02		3.235E-01	5.285E-01	5.595E-02	0.022
NA-22	-2.358E-02		4.419E-02	6.827E-02	5.598E-03	-0.345
NA-24	-3.122E-01		9.324E-01	Half-Life too short		
AL-26	2.056E-02		3.384E-02	6.174E-02	5.059E-03	0.333
TI-44	4.161E-01	+	5.198E-02	4.468E-02	4.601E-03	9.314
SC-46	-1.760E-02		3.779E-02	5.824E-02	5.577E-03	-0.302
V-48	-1.086E-02		7.568E-02	1.200E-01	1.112E-02	-0.091
CR-51	2.834E-02		3.287E-01	5.567E-01	6.182E-02	0.051
MN-52	7.592E-02		2.570E-01	4.363E-01	3.595E-02	0.174
MN-54	2.864E-03		4.016E-02	6.613E-02	6.711E-03	0.043
CO-56	-4.621E-03		3.874E-02	6.256E-02	6.277E-03	-0.074
CO-57	1.061E-02		1.825E-02	3.146E-02	4.057E-03	0.337
CO-58	-1.481E-02		3.810E-02	6.005E-02	6.230E-03	-0.247
FE-59	-4.557E-02		8.014E-02	1.248E-01	1.175E-02	-0.365
CO-60	-7.174E-03		4.201E-02	6.734E-02	5.469E-03	-0.107
ZN-65	2.686E-02		8.995E-02	1.349E-01	1.165E-02	0.199
GE-68	-1.154E-01		1.290E+00	2.139E+00	1.893E-01	-0.054
AS-73	-5.380E-02		1.651E-01	2.610E-01	2.505E-02	-0.206
AS-74	-5.782E-03		8.762E-02	1.390E-01	1.506E-02	-0.042
SE-75	-1.578E-02		3.970E-02	6.156E-02	6.747E-03	-0.256
BR-77	-9.575E+00		1.222E+01	1.821E+01	1.888E+00	-0.526
SR-82	-3.999E-01		4.275E-01	6.450E-01	6.845E-02	-0.620
RB-83	-6.136E-02		6.206E-02	9.034E-02	9.365E-03	-0.679
RB-84	4.627E-02		7.277E-02	1.256E-01	1.214E-02	0.368
KR-85	1.320E+01		8.099E+00	1.308E+01	1.350E+00	1.009
SR-85	6.838E-02		4.195E-02	6.776E-02	6.991E-03	1.009
RB-86	9.878E-03		8.237E-01	1.378E+00	1.221E-01	0.007
Y-88	3.155E-04		4.064E-02	6.701E-02	5.476E-03	0.005
ZR-88	-5.727E-04		2.857E-02	4.729E-02	4.304E-03	-0.012
Y-91	1.118E+01		2.001E+01	3.464E+01	2.851E+00	0.323
NB-94	-1.640E-02		3.402E-02	5.329E-02	5.852E-03	-0.308
NB-95	5.557E-02		4.450E-02	7.977E-02	8.521E-03	0.697

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	6.701E-03		1.122E-01	1.614E-01	1.850E-02	0.042
ZR-95	2.109E-02		7.460E-02	1.261E-01	1.444E-02	0.167
NB-97	-2.816E-01		1.406E-01	Half-Life too short		
ZR-97	5.409E+00		2.524E+00	Half-Life too short		
MO-99	8.480E+00		1.439E+01	2.493E+01	4.123E+00	0.340
TC-99M	1.985E+10		2.121E+11	Half-Life too short		
RH-101	9.158E-03		2.924E-02	4.766E-02	4.592E-03	0.192
RH-102	4.514E-03		2.901E-02	4.784E-02	4.776E-03	0.094
RU-103	2.457E-02		4.197E-02	7.085E-02	1.074E-02	0.347
RH-106	2.365E-02		3.186E-01	5.388E-01	8.064E-02	0.044
RU-106	2.365E-02		3.186E-01	5.388E-01	5.900E-02	0.044
AG-108M	3.863E-03		2.928E-02	4.859E-02	4.802E-03	0.080
AG-110M	-3.732E-02		3.920E-02	6.074E-02	6.845E-03	-0.614
IN-111	4.837E-01		1.167E+00	1.722E+00	1.823E-01	0.281
IN-113M	-8.033E-03		4.176E-02	6.834E-02	6.383E-03	-0.118
SN-113	-8.033E-03		4.176E-02	6.834E-02	6.383E-03	-0.118
IN-114M	2.843E-02		1.689E-01	2.495E-01	2.361E-02	0.114
CD-115	-7.988E+00		1.358E+01	2.071E+01	2.159E+00	-0.386
SN-117M	-3.507E-02		4.495E-02	7.151E-02	6.943E-03	-0.490
SB-122	1.074E+00		2.622E+00	4.347E+00	4.634E-01	0.247
I-123	-6.721E+00		7.598E+00	Half-Life too short		
TE-123M	-9.939E-03		2.247E-02	3.643E-02	3.537E-03	-0.273
I-124	-1.349E-01		8.750E-01	1.266E+00	1.376E-01	-0.107
SB-124	-9.523E-02		7.930E-02	9.851E-02	8.515E-03	-0.967
SB-125	8.708E-02		8.959E-02	1.563E-01	1.510E-02	0.557
TE-125M	1.660E+00		6.305E+00	1.082E+01	1.437E+00	0.153
I-126	-1.634E-01		2.124E-01	3.343E-01	3.700E-02	-0.489
SB-126	7.946E-02		1.579E-01	2.590E-01	2.827E-02	0.307
SB-127	1.798E-01		1.639E+00	2.756E+00	3.734E-01	0.065
XE-127	2.146E-04		4.094E-02	6.663E-02	6.490E-03	0.003
I-131	5.259E-02		1.115E-01	1.914E-01	1.965E-02	0.275
TE-132	-5.210E-01		7.374E-01	1.133E+00	1.908E-01	-0.460
BA-133	7.009E-05		3.945E-02	5.804E-02	8.229E-03	0.001
I-133	-1.036E-02		6.000E-03	Half-Life too short		
CS-134	9.513E-02	+	5.741E-02	8.531E-02	8.981E-03	1.115
CS-135	9.010E-02		1.639E-01	2.410E-01	2.909E-02	0.374
I-135	9.015E+09		3.305E+10	Half-Life too short		
CS-136	-8.399E-02		1.109E-01	1.712E-01	1.601E-02	-0.491
BA-137M	-1.879E-02		4.256E-02	7.205E-02	7.981E-03	-0.261
CS-137	-1.986E-02		4.499E-02	7.616E-02	8.447E-03	-0.261
CE-139	2.680E-02		2.402E-02	4.151E-02	3.702E-03	0.646
BA-140	3.958E-02		2.874E-01	4.678E-01	1.575E-01	0.085
LA-140	-5.229E-02		1.024E-01	1.590E-01	1.322E-02	-0.329
CE-141	-1.506E-02		4.950E-02	8.139E-02	9.052E-03	-0.185
CE-143	8.494E-04		1.548E-04	Half-Life too short		
CE-144	-6.808E-02		1.527E-01	2.381E-01	4.209E-02	-0.286
PM-144	8.748E-03		3.548E-02	6.015E-02	6.618E-03	0.145
PR-144	5.931E-01		2.405E+00	4.078E+00	4.486E-01	0.145

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-146	4.033E-02		4.109E-02	7.161E-02	8.362E-03	0.563
ND-147	-2.396E-01		5.443E-01	8.403E-01	1.351E-01	-0.285
PM-149	2.748E+01		1.187E+02	1.904E+02	3.247E+01	0.144
EU-152	3.487E-02		9.056E-02	1.503E-01	1.614E-02	0.232
GD-153	-4.627E-03		5.293E-02	8.131E-02	9.156E-03	-0.057
EU-154	-4.523E-02		1.213E-01	1.909E-01	2.097E-02	-0.237
EU-155	1.188E-01		7.335E-02	1.302E-01	1.539E-02	0.912
TB-160	-4.179E-02		1.485E-01	2.352E-01	2.279E-02	-0.178
HO-166M	-3.447E-02		5.782E-02	9.080E-02	9.942E-03	-0.380
TM-171	-3.733E+00		1.222E+01	1.755E+01	1.742E+00	-0.213
LU-176	8.433E-03		2.086E-02	3.605E-02	3.933E-03	0.234
LU-177	3.692E+00	+	1.522E+00	1.997E+00	1.968E-01	1.849
LU-177M	-2.329E-01		1.701E-01	2.517E-01	2.353E-02	-0.925
HF-181	7.643E-03		4.246E-02	7.005E-02	7.039E-03	0.109
W-181	-2.773E-02		1.470E-01	2.127E-01	2.105E-02	-0.130
TA-182	5.516E-02		1.909E-01	3.236E-01	2.661E-02	0.170
RE-183	3.616E-03		9.149E-02	1.493E-01	1.390E-02	0.024
RE-184	-1.205E-01		2.045E-01	3.142E-01	3.369E-02	-0.384
OS-185	-1.271E-02		4.155E-02	6.785E-02	7.487E-03	-0.187
RE-188	9.590E-02		1.436E-01	2.428E-01	2.446E-02	0.395
W-188	-3.102E+00		7.361E+00	1.069E+01	1.185E+00	-0.290
IR-192	2.150E-03		2.871E-02	4.863E-02	5.253E-03	0.044
AU-195	1.837E-01		1.457E-01	2.489E-01	2.824E-02	0.738
TL-200	2.824E-05		3.654E-04	Half-Life too short		
TL-201	1.632E+00		6.861E+00	1.145E+01	1.024E+00	0.142
TL-202	2.731E-02		6.817E-02	1.151E-01	1.108E-02	0.237
HG-203	1.216E-02		4.183E-02	6.028E-02	6.842E-03	0.202
BI-207	2.362E-02		5.279E-02	9.191E-02	8.203E-03	0.257
TL-207	2.915E-02		6.543E-01	9.750E-01	1.832E-01	0.030
PO-209	8.705E+00		8.007E+00	1.424E+01	1.352E+00	0.611
PB-211	-4.906E-01		9.790E-01	1.485E+00	9.321E-01	-0.330
PO-215	2.915E-02		6.543E-01	9.750E-01	1.832E-01	0.030
RN-219	-7.935E-02		4.008E-01	6.543E-01	1.006E-01	-0.121
RN-220	-7.211E+00		2.427E+01	3.794E+01	4.012E+00	-0.190
RA-223	2.915E-02		6.543E-01	9.750E-01	1.832E-01	0.030
AC-227	1.018E-02		3.296E-01	5.273E-01	8.785E-02	0.019
TH-227	1.018E-02		3.296E-01	5.273E-01	1.012E-01	0.019
TH-229	1.261E-01		4.245E-01	7.031E-01	6.708E-02	0.179
PA-231	1.761E-01		1.420E+00	2.264E+00	3.790E-01	0.078
TH-231	2.915E-02		6.543E-01	9.750E-01	1.832E-01	0.030
U-231	-5.481E-01		7.886E-01	1.169E+00	1.306E-01	-0.469
PA-233	3.446E-02		5.334E-02	9.324E-02	1.030E-02	0.370
PA-234	3.295E-02		3.258E-01	5.320E-01	1.017E-01	0.062
PA-234M	1.606E+00		4.972E+00	8.359E+00	8.755E-01	0.192
U-235	8.624E-02		1.691E-01	2.808E-01	5.303E-02	0.307
NP-236	1.068E-02		6.336E-02	1.057E-01	1.007E-02	0.101
NP-239	-1.627E-01		1.361E-01	2.160E-01	2.707E-02	-0.753
AM-241	-7.278E-03		4.902E-02	7.125E-02	7.403E-03	-0.102

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.212E-03		6.177E-02	1.052E-01	1.225E-02	-0.012
AM-246	-3.205E-02		1.466E-01	2.399E-01	2.122E-02	-0.134
CM-247	-2.450E-03		3.611E-02	5.946E-02	5.481E-03	-0.041
CF-249	-1.623E-02		3.545E-02	5.692E-02	5.238E-03	-0.285
CF-251	7.082E-02		1.024E-01	1.736E-01	1.590E-02	0.408

VAX/VMS Nuclide Identification Report Generated

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G244137007           *
* Acquisition date  : 20-JAN-2010 13:45:34 Detector SN#     :               *
* Detector ID       : GAM25                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.85      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date       :  4-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G244137007           Analyst initials: MXR1           *
* Batch Number      : 940263               Sample Quantity : 1.2796E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
*                                                                           *
* CALIB. DATE/TIME :  7-OCT-2009 09:38:43 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.063E+01	2.272E+00	2.054E-01	1.159E+00
CD-109	3.533E+00	7.071E-01	3.541E-01	3.607E-01
SN-126	3.468E-01	6.940E-02	3.468E-02	3.541E-02
TL-208	5.846E-01	1.008E-01	2.907E-02	5.144E-02
BI-210	7.979E-01	5.528E-01	2.837E-01	2.820E-01
PB-210	7.979E-01	5.528E-01	2.837E-01	2.820E-01
PO-210	7.979E-01	5.519E-01	2.837E-01	2.816E-01
BI-211	4.316E+00	6.201E-01	1.330E-01	3.164E-01
BI-212	1.216E+00	4.137E-01	2.294E-01	2.111E-01
PB-212	1.652E+00	2.191E-01	4.734E-02	1.118E-01
PO-212	1.652E+00	2.191E-01	4.734E-02	1.118E-01
BI-214	1.308E+00	2.197E-01	5.522E-02	1.121E-01
PB-214	1.501E+00	2.290E-01	4.637E-02	1.168E-01
PO-214	1.501E+00	2.290E-01	4.637E-02	1.168E-01
PO-216	1.652E+00	2.191E-01	4.734E-02	1.118E-01
PO-218	1.501E+00	2.290E-01	4.637E-02	1.168E-01
RA-224	3.583E+00	9.113E-01	6.148E-01	4.650E-01
RA-226	1.308E+00	2.197E-01	5.522E-02	1.121E-01
AC-228	1.732E+00	3.480E-01	9.794E-02	1.775E-01
RA-228	1.732E+00	3.480E-01	9.794E-02	1.775E-01
TH-228	1.678E+00	2.227E-01	4.810E-02	1.136E-01
TH-230	1.308E+00	2.197E-01	5.522E-02	1.121E-01
TH-232	1.732E+00	3.480E-01	9.794E-02	1.775E-01
TH-234	1.208E+00	6.940E-01	3.622E-01	3.541E-01
U-234	1.308E+00	2.197E-01	5.522E-02	1.121E-01
NP-237	1.018E+00	2.897E-01	1.114E-01	1.478E-01
U-238	1.208E+00	6.940E-01	3.622E-01	3.541E-01
AM-243	3.762E-01	5.308E-02	2.119E-02	2.708E-02
ANH-511	1.080E-01	7.045E-02	2.234E-02	3.594E-02

---- Non-Identified Nuclides ----

Key-Line Activity	K.L Act error	DLC	TPU

Nuclide	(pCi/GRAM)		(pCi/GRAM)		
BE-7	1.166E-02	3.170E-01	2.691E-01	1.618E-01	NOT IDENT.
NA-22	-2.358E-02	4.330E-02	3.423E-02	2.209E-02	NOT IDENT.
NA-24	-3.122E+05	1.828E+06	0.000E+00	9.324E+05	SHORT HLIF
AL-26	2.056E-02	3.316E-02	3.078E-02	1.692E-02	NOT IDENT.
TI-44	4.161E-01	5.094E-02	2.336E-02	2.599E-02	FAIL ABUN
SC-46	-1.760E-02	3.703E-02	2.936E-02	1.889E-02	FAIL ABUN
V-48	-1.086E-02	7.416E-02	6.040E-02	3.784E-02	NOT IDENT.
CR-51	2.834E-02	3.221E-01	2.851E-01	1.644E-01	NOT IDENT.
MN-52	7.592E-02	2.519E-01	2.183E-01	1.285E-01	FAIL ABUN
MN-54	2.864E-03	3.936E-02	3.338E-02	2.008E-02	NOT IDENT.
CO-56	-4.621E-03	3.796E-02	3.157E-02	1.937E-02	FAIL ABUN
CO-57	1.061E-02	1.789E-02	1.635E-02	9.126E-03	NOT IDENT.
CO-58	-1.481E-02	3.733E-02	3.032E-02	1.905E-02	NOT IDENT.
FE-59	-4.557E-02	7.854E-02	6.271E-02	4.007E-02	NOT IDENT.
CO-60	-7.174E-03	4.117E-02	3.374E-02	2.101E-02	NOT IDENT.
ZN-65	2.686E-02	8.815E-02	6.777E-02	4.498E-02	NOT IDENT.
GE-68	-1.154E-01	1.265E+00	1.075E+00	6.452E-01	NOT IDENT.
AS-73	-5.380E-02	1.618E-01	1.372E-01	8.257E-02	NOT IDENT.
AS-74	-5.782E-03	8.587E-02	7.050E-02	4.381E-02	NOT IDENT.
SE-75	-1.578E-02	3.891E-02	3.162E-02	1.985E-02	NOT IDENT.
BR-77	-9.575E+00	1.197E+01	9.260E+00	6.109E+00	FAIL ABUN
SR-82	-3.999E-01	4.189E-01	3.259E-01	2.137E-01	NOT IDENT.
RB-83	-6.136E-02	6.082E-02	4.593E-02	3.103E-02	NOT IDENT.
RB-84	4.627E-02	7.131E-02	6.335E-02	3.638E-02	NOT IDENT.
KR-85	1.320E+01	7.937E+00	6.653E+00	4.050E+00	NOT IDENT.
SR-85	6.838E-02	4.111E-02	3.446E-02	2.097E-02	NOT IDENT.
RB-86	9.878E-03	8.073E-01	6.929E-01	4.119E-01	NOT IDENT.
Y-88	3.155E-04	3.983E-02	3.340E-02	2.032E-02	NOT IDENT.
ZR-88	-5.727E-04	2.800E-02	2.415E-02	1.429E-02	NOT IDENT.
Y-91	1.118E+01	1.961E+01	1.738E+01	1.001E+01	NOT IDENT.
NB-94	-1.640E-02	3.334E-02	2.697E-02	1.701E-02	NOT IDENT.
NB-95	5.557E-02	4.361E-02	4.032E-02	2.225E-02	NOT IDENT.
NB-95M	6.701E-03	1.100E-01	8.305E-02	5.612E-02	NOT IDENT.
ZR-95	2.109E-02	7.311E-02	6.373E-02	3.730E-02	NOT IDENT.
NB-97	-2.816E+05	2.756E+05	0.000E+00	1.406E+05	SHORT HLIF
ZR-97	5.409E+06	4.946E+06	0.000E+00	2.524E+06	SHORT HLIF
MO-99	8.480E+00	1.410E+01	1.261E+01	7.193E+00	NOT IDENT.
TC-99M	1.985E+16	4.158E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	9.158E-03	2.866E-02	2.458E-02	1.462E-02	NOT IDENT.
RH-102	4.514E-03	2.843E-02	2.435E-02	1.451E-02	NOT IDENT.
RU-103	2.457E-02	4.113E-02	3.604E-02	2.098E-02	FAIL ABUN
RH-106	2.365E-02	3.123E-01	2.732E-01	1.593E-01	FAIL ABUN
RU-106	2.365E-02	3.123E-01	2.732E-01	1.593E-01	FAIL ABUN
AG-108M	3.863E-03	2.870E-02	2.477E-02	1.464E-02	NOT IDENT.
AG-110M	-3.732E-02	3.842E-02	3.077E-02	1.960E-02	NOT IDENT.
IN-111	4.837E-01	1.143E+00	8.854E-01	5.833E-01	NOT IDENT.
IN-113M	-8.033E-03	4.092E-02	3.489E-02	2.088E-02	NOT IDENT.
SN-113	-8.033E-03	4.092E-02	3.489E-02	2.088E-02	NOT IDENT.
IN-114M	2.843E-02	1.655E-01	1.288E-01	8.444E-02	NOT IDENT.
CD-115	-7.988E+00	1.331E+01	1.053E+01	6.789E+00	NOT IDENT.
SN-117M	-3.507E-02	4.405E-02	3.701E-02	2.247E-02	NOT IDENT.
SB-122	1.074E+00	2.569E+00	2.207E+00	1.311E+00	NOT IDENT.
I-123	-6.721E+06	1.489E+07	0.000E+00	7.598E+06	SHORT HLIF
TE-123M	-9.939E-03	2.202E-02	1.885E-02	1.124E-02	NOT IDENT.
I-124	-1.349E-01	8.575E-01	6.420E-01	4.375E-01	NOT IDENT.
SB-124	-9.523E-02	7.772E-02	4.917E-02	3.965E-02	FAIL ABUN
SB-125	8.708E-02	8.779E-02	7.970E-02	4.479E-02	FAIL ABUN
TE-125M	1.660E+00	6.179E+00	5.629E+00	3.152E+00	NOT IDENT.
I-126	-1.634E-01	2.081E-01	1.693E-01	1.062E-01	NOT IDENT.
SB-126	7.946E-02	1.547E-01	1.310E-01	7.895E-02	FAIL ABUN
SB-127	1.798E-01	1.606E+00	1.395E+00	8.195E-01	NOT IDENT.
XE-127	2.146E-04	4.012E-02	3.436E-02	2.047E-02	NOT IDENT.
I-131	5.259E-02	1.093E-01	9.783E-02	5.576E-02	NOT IDENT.
TE-132	-5.210E-01	7.226E-01	5.833E-01	3.687E-01	NOT IDENT.
BA-133	7.009E-05	3.866E-02	2.968E-02	1.972E-02	FAIL ABUN
I-133	-1.036E+04	1.176E+04	0.000E+00	6.000E+03	SHORT HLIF
CS-134	9.513E-02	5.626E-02	4.309E-02	2.870E-02	FAIL ABUN
CS-135	9.010E-02	1.607E-01	1.238E-01	8.197E-02	NOT IDENT.
I-135	9.015E+15	6.477E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.399E-02	1.087E-01	8.609E-02	5.547E-02	FAIL ABUN
BA-137M	-1.879E-02	4.171E-02	3.650E-02	2.128E-02	NOT IDENT.
CS-137	-1.986E-02	4.409E-02	3.858E-02	2.250E-02	NOT IDENT.
CE-139	2.680E-02	2.354E-02	2.147E-02	1.201E-02	NOT IDENT.
BA-140	3.958E-02	2.817E-01	2.377E-01	1.437E-01	NOT IDENT.
LA-140	-5.229E-02	1.004E-01	7.942E-02	5.121E-02	FAIL ABUN
CE-141	-1.506E-02	4.851E-02	4.218E-02	2.475E-02	NOT IDENT.

CE-143	8.494E+02	3.035E+02	0.000E+00	1.548E+02	SHORT HLIF
CE-144	-6.808E-02	1.496E-01	1.235E-01	7.633E-02	NOT IDENT.
PM-144	8.748E-03	3.477E-02	3.044E-02	1.774E-02	NOT IDENT.
PR-144	5.931E-01	2.357E+00	2.064E+00	1.203E+00	NOT IDENT.
PM-146	4.033E-02	4.027E-02	3.648E-02	2.055E-02	NOT IDENT.
ND-147	-2.396E-01	5.334E-01	4.271E-01	2.721E-01	FAIL ABUN
PM-149	2.748E+01	1.164E+02	9.767E+01	5.937E+01	NOT IDENT.
EU-152	3.487E-02	8.875E-02	7.690E-02	4.528E-02	FAIL ABUN
GD-153	-4.627E-03	5.187E-02	4.238E-02	2.646E-02	FAIL ABUN
EU-154	-4.523E-02	1.188E-01	9.569E-02	6.063E-02	NOT IDENT.
EU-155	1.188E-01	7.188E-02	6.779E-02	3.667E-02	FAIL ABUN
TB-160	-4.179E-02	1.456E-01	1.186E-01	7.427E-02	FAIL ABUN
HO-166M	-3.447E-02	5.666E-02	4.594E-02	2.891E-02	NOT IDENT.
TM-171	-3.733E+00	1.198E+01	9.198E+00	6.110E+00	NOT IDENT.
LU-176	8.433E-03	2.044E-02	1.847E-02	1.043E-02	FAIL ABUN
LU-177	3.692E+00	1.492E+00	1.029E+00	7.611E-01	FAIL ABUN
LU-177M	-2.329E-01	1.667E-01	1.284E-01	8.507E-02	NOT IDENT.
HF-181	7.643E-03	4.161E-02	3.566E-02	2.123E-02	NOT IDENT.
W-181	-2.773E-02	1.441E-01	1.115E-01	7.350E-02	NOT IDENT.
TA-182	5.516E-02	1.871E-01	1.624E-01	9.544E-02	FAIL ABUN
RE-183	3.616E-03	8.966E-02	7.727E-02	4.574E-02	FAIL ABUN
RE-184	-1.205E-01	2.004E-01	1.615E-01	1.023E-01	NOT IDENT.
OS-185	-1.271E-02	4.072E-02	3.438E-02	2.077E-02	NOT IDENT.
RE-188	9.590E-02	1.407E-01	1.257E-01	7.179E-02	NOT IDENT.
W-188	-3.102E+00	7.214E+00	5.485E+00	3.681E+00	FAIL ABUN
IR-192	2.150E-03	2.813E-02	2.491E-02	1.435E-02	FAIL ABUN
AU-195	1.837E-01	1.427E-01	1.297E-01	7.283E-02	FAIL ABUN
TL-200	2.824E+01	7.162E+02	0.000E+00	3.654E+02	SHORT HLIF
TL-201	1.632E+00	6.724E+00	5.923E+00	3.431E+00	NOT IDENT.
TL-202	2.731E-02	6.680E-02	5.865E-02	3.408E-02	NOT IDENT.
HG-203	1.216E-02	4.099E-02	3.094E-02	2.091E-02	NOT IDENT.
BI-207	2.362E-02	5.173E-02	4.621E-02	2.639E-02	FAIL ABUN
TL-207	2.915E-02	6.412E-01	4.993E-01	3.271E-01	FAIL ABUN
PO-209	8.705E+00	7.847E+00	7.182E+00	4.004E+00	NOT IDENT.
PB-211	-4.906E-01	9.594E-01	7.580E-01	4.895E-01	NOT IDENT.
PO-215	2.915E-02	6.412E-01	4.993E-01	3.271E-01	FAIL ABUN
RN-219	-7.935E-02	3.928E-01	3.340E-01	2.004E-01	FAIL ABUN
RN-220	-7.211E+00	2.378E+01	1.927E+01	1.213E+01	NOT IDENT.
RA-223	2.915E-02	6.412E-01	4.993E-01	3.271E-01	FAIL ABUN
AC-227	1.018E-02	3.231E-01	2.710E-01	1.648E-01	FAIL ABUN
TH-227	1.018E-02	3.231E-01	2.710E-01	1.648E-01	FAIL ABUN
TH-229	1.261E-01	4.161E-01	3.628E-01	2.123E-01	FAIL ABUN
PA-231	1.761E-01	1.391E+00	1.162E+00	7.098E-01	FAIL ABUN
TH-231	2.915E-02	6.412E-01	4.993E-01	3.271E-01	FAIL ABUN
U-231	-5.481E-01	7.729E-01	6.097E-01	3.943E-01	FAIL ABUN
PA-233	3.446E-02	5.228E-02	4.777E-02	2.667E-02	FAIL ABUN
PA-234	3.295E-02	3.193E-01	2.680E-01	1.629E-01	FAIL ABUN
PA-234M	1.606E+00	4.872E+00	4.207E+00	2.486E+00	NOT IDENT.
U-235	8.624E-02	1.657E-01	1.456E-01	8.455E-02	FAIL ABUN
NP-236	1.068E-02	6.209E-02	5.471E-02	3.168E-02	NOT IDENT.
NP-239	-1.627E-01	1.334E-01	1.123E-01	6.807E-02	FAIL ABUN
AM-241	-7.278E-03	4.804E-02	3.740E-02	2.451E-02	NOT IDENT.
CM-243	-1.212E-03	6.054E-02	5.479E-02	3.089E-02	FAIL ABUN
AM-246	-3.205E-02	1.437E-01	1.206E-01	7.331E-02	NOT IDENT.
CM-247	-2.450E-03	3.538E-02	3.035E-02	1.805E-02	FAIL ABUN
CF-249	-1.623E-02	3.475E-02	2.907E-02	1.773E-02	NOT IDENT.
CF-251	7.082E-02	1.003E-01	8.972E-02	5.120E-02	NOT IDENT.

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*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                          CHARLESTON ,SC 29417                             *
*                   GAMMA SPECTROSCOPY BACKGROUND REPORT                    *
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ENERGY	MDA COUNTS
46.50	215.2045
46.50	215.2045
46.50	215.2045
48.70	246.7741
49.72	246.4492
51.35	271.0605
52.39	238.3685
52.97	252.1047
53.15	264.3614
53.44	285.5493
54.07	273.0834
56.28	279.9951
56.28	279.9989
57.37	0.0000
57.53	339.4638
57.53	339.4661
57.60	330.6220
57.98	326.6420
57.98	326.6420
59.32	330.6020
59.32	330.6020
59.40	335.9544
59.54	336.1356
59.72	331.8642
60.01	333.7373
61.10	339.6538
61.14	347.2543
61.30	347.4648
63.00	353.4802
63.29	353.8592
63.29	353.8592
63.58	354.2365
64.28	380.3491
65.12	379.9777
65.20	380.0880
65.20	380.0880
66.05	419.6836
66.72	402.1891
66.83	380.7691
66.91	380.8746
67.20	373.9345
67.20	373.9345
67.75	364.2172
67.85	386.3930
68.90	365.6809
68.90	365.6809
69.30	384.8481
69.67	412.5880
70.82	373.5688
70.82	373.5688
70.83	373.5809
72.80	358.7526
72.87	358.8361
72.87	358.8361
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74.81	361.1345
74.81	361.1345
74.81	361.1345
74.81	361.1345
74.81	361.1345
74.81	361.1345
74.97	361.3224
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77.11	363.8226

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81.07	345.7364
81.07	345.7364
82.60	345.7307
83.37	338.3957
83.78	306.2363
83.78	306.2363
83.78	306.2363
83.78	306.2363
84.21	306.6302
84.90	343.2175
85.43	343.7558
86.29	344.6252
86.50	344.8367
86.54	344.8773
86.59	344.9286
86.72	285.9059
86.79	285.9626
86.94	286.0900
87.30	286.3892
87.30	286.3892
87.30	286.3892
87.30	286.3892
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87.57	286.6140
87.88	286.8706
88.03	286.9945
88.36	287.2671
88.47	287.3591
89.95	288.5769
91.11	289.5239
92.29	282.9681
92.38	283.0397
92.38	283.0397
93.35	283.8001
94.00	284.3087
94.67	284.8277
94.67	284.8312
94.90	285.0105
94.90	285.0105
94.90	285.0105
94.90	285.0105
95.87	269.3246
95.87	269.3246
96.73	271.2193
97.43	266.6464
98.44	218.9840
98.44	218.9840
98.88	228.4160
99.55	232.3960
99.55	232.3960
99.86	247.9201
100.00	248.0104
100.10	248.0785
103.18	269.8246
103.76	248.7107
105.00	221.0039
105.31	227.2249
108.00	287.8994
109.28	247.7980

111.00	252.3428
111.00	252.3428
111.76	252.8057
112.95	284.3369
115.19	250.4506
116.30	253.7645
117.00	271.9523
117.00	271.9523
117.66	253.6774
121.11	251.2008
121.62	242.5081
121.78	234.5094
122.06	220.2717
122.32	215.9021
122.32	215.9021
122.32	215.9021
122.32	215.9021
123.07	218.0668
127.23	229.1703
129.76	193.3931
131.20	204.9955
133.02	225.1199
133.54	223.4305
135.34	227.6021
136.00	233.4712
136.25	234.5186
136.48	243.9032
140.51	245.9151
140.51	0.0000
142.18	260.8116
142.65	248.8499
143.76	231.5159
144.24	224.2000
144.24	224.2000
144.24	224.2000
144.24	224.2000
145.22	213.3073
145.44	250.2248
147.16	243.4865
152.43	271.7969
152.70	245.1250
153.22	230.0293
154.21	218.9337
154.21	218.9337
154.21	218.9337
154.21	218.9337
155.03	233.6957
156.02	270.7380
158.56	234.2578
159.00	0.0000
159.00	230.5698
160.31	222.3819
161.27	189.6938
162.32	223.1902
162.64	238.9214
163.35	236.2961
163.89	247.2762
165.85	197.1376
167.43	207.5228
171.28	192.0838
171.86	198.2218
172.10	221.1081
176.55	195.8126
176.60	195.8285
181.06	236.7456
184.41	200.3969
185.71	234.2898
186.00	234.3979
190.27	206.8877
192.34	241.9010
193.63	205.4158
197.04	242.6426
198.01	213.0180
198.60	214.2437
200.40	210.6819
201.83	239.2230
202.84	217.7126
205.31	194.4709

208.36	200.6021
208.81	200.7361
209.75	198.9072
209.75	198.9072
210.97	173.9597
215.65	183.6312
216.55	178.5547
218.09	194.9234
222.10	198.1706
223.80	180.3867
226.40	163.7946
227.00	170.4016
227.08	170.4209
227.20	171.5270
228.16	199.8370
228.18	199.8427
228.18	199.8427
231.56	0.0000
235.69	176.7821
236.00	176.8546
236.00	176.8546
238.63	257.9926
238.63	257.9926
238.63	257.9926
238.63	257.9926
239.00	335.3879
240.98	336.2626
241.98	183.2052
241.98	183.2052
241.98	183.2052
244.69	135.8175
245.39	127.6511
247.94	150.8017
248.90	162.0876
249.79	156.7145
252.40	160.5776
252.85	165.1330
252.85	165.1330
254.15	0.0000
256.20	150.1393
256.20	150.1393
260.50	128.4124
260.90	134.1098
262.80	147.9773
264.65	160.7640
268.24	165.4399
268.79	167.2562
269.46	162.2665
269.46	162.2665
269.46	162.2665
269.46	162.2665
271.23	167.7437
273.65	157.9257
276.40	167.0473
277.35	159.7601
277.60	159.8081
277.60	159.8081
278.00	159.8817
278.60	145.0313
279.20	148.5867
279.53	153.8297
280.46	140.1531
281.68	157.6782
283.67	148.1953
284.30	150.6193
285.00	160.0173
285.90	155.5373
286.10	155.5727
286.10	155.5727
287.40	156.9672
288.45	0.0000
290.67	163.8486
290.80	162.4708
291.72	166.8440
293.26	0.0000
293.70	139.1100
295.21	140.7520
295.21	140.7520

295.21	140.7520
295.96	130.3040
296.50	140.9521
297.23	141.0669
298.57	141.2744
299.80	132.9769
299.80	132.9769
300.09	133.0182
300.09	133.0182
300.09	133.0182
300.09	133.0182
300.12	133.0228
301.29	138.8605
302.84	139.0949
303.76	136.3922
303.91	136.4133
304.40	118.0035
304.40	118.0035
304.84	122.3274
306.84	120.2735
308.46	142.7954
311.98	109.2892
316.51	114.3109
318.01	124.4076
319.02	126.3431
319.41	129.1028
320.08	124.6750
323.87	132.0566
323.87	132.0566
323.87	132.0566
323.87	132.0566
325.23	132.2410
328.77	133.0811
333.44	95.2450
334.20	102.6501
334.20	102.6501
334.30	102.6604
338.28	152.7602
338.28	152.7602
338.28	152.7602
338.28	152.7602
338.32	152.7653
338.32	152.7653
338.32	152.7653
340.50	147.5610
340.57	147.5708
344.27	120.6022
345.85	142.4016
350.59	0.0000
351.07	92.2460
351.92	92.3215
351.92	92.3215
351.92	92.3215
355.39	0.0000
356.01	95.8641
364.48	100.9705
366.43	112.4976
367.43	109.7625
367.94	0.0000
369.80	120.4326
374.96	120.0495
383.85	93.1606
387.95	109.8861
388.63	109.9522
391.69	115.0833
391.69	115.0833
392.90	109.3963
398.62	124.5332
400.65	113.0547
401.10	118.9489
401.81	122.9238
402.60	122.0303
404.84	134.9804
410.95	109.1335
411.60	139.6881
413.65	132.0432
414.70	110.4619
415.30	116.4371

415.76	102.6622
417.63	0.0000
418.52	110.8123
423.70	115.2601
427.08	83.6949
427.89	90.7292
432.53	94.0732
433.93	85.1608
439.47	87.5509
439.56	87.5576
439.89	87.5801
443.98	91.9039
444.90	86.9173
445.03	83.8941
445.03	83.8941
445.03	83.8941
445.03	83.8941
453.90	77.3510
463.38	91.2408
468.07	98.7671
473.00	108.4254
475.06	93.0789
475.35	100.3406
476.78	106.6604
477.59	94.2895
477.96	87.0608
482.03	88.3618
484.57	90.6082
487.03	85.5547
490.36	0.0000
492.35	93.2167
497.08	84.0747
507.63	0.0000
510.53	0.0000
510.84	81.7120
511.00	81.7214
511.85	81.7696
511.85	81.7696
513.99	79.9774
513.99	79.9774
520.41	77.9836
520.65	74.7894
527.90	78.3823
528.96	0.0000
529.64	77.4009
529.87	0.0000
531.02	73.1672
537.32	88.6064
543.00	88.9418
546.56	0.0000
549.76	71.9075
552.65	58.9438
555.20	59.0427
563.23	74.7361
563.90	74.7693
568.70	79.4092
569.32	77.2333
569.50	77.2440
569.67	77.2525
573.80	87.4116
574.00	87.4236
574.64	85.2456
578.91	58.6104
579.30	0.0000
583.14	77.9083
585.48	71.3340
591.81	62.6633
592.07	62.6719
593.00	62.7078
595.88	65.0624
600.56	66.3732
602.52	0.0000
602.71	88.6128
602.71	88.6128
603.60	73.6336
604.41	78.1799
604.70	78.1947
609.31	78.7121

609.31	78.7121
609.31	78.7121
609.31	78.7121
610.33	86.0033
612.46	83.0908
614.37	92.2620
618.01	84.5787
621.84	76.5659
621.84	76.5659
631.29	54.9946
633.02	63.3062
633.10	63.3095
634.78	69.8009
635.90	58.8172
636.97	69.8881
645.85	72.0948
646.12	72.1062
656.30	75.3106
657.75	107.0095
657.90	0.0000
661.65	89.5266
661.65	89.5266
664.57	0.0000
666.33	105.6533
666.33	105.6533
675.00	62.0055
677.61	76.2065
685.20	70.8545
692.80	72.0942
695.00	76.9263
696.49	76.0371
696.49	76.0371
697.00	74.1571
697.49	77.9801
698.33	84.6760
698.50	82.7796
699.00	77.0924
702.63	77.2407
706.10	68.7832
706.58	0.0000
706.67	58.2925
709.31	63.1592
711.68	69.9435
713.82	61.3891
717.42	64.3877
720.50	61.3625
721.93	0.0000
722.20	54.5929
722.78	57.8218
722.78	57.8218
722.89	57.8247
722.95	73.8890
723.30	73.9021
724.18	81.9723
727.18	64.7149
733.00	58.1265
735.90	64.0326
739.58	53.4612
742.81	62.3109
744.21	72.0976
747.13	66.3498
751.79	74.3282
752.31	68.4773
753.82	60.6982
755.35	62.7031
756.15	65.6685
756.87	69.6150
763.93	97.4072
765.79	61.0585
766.42	61.0767
766.84	74.8849
776.49	85.1371
778.00	68.3582
778.57	61.4399
778.89	61.4505
783.80	69.5437
785.46	59.6558
792.07	49.8718

795.84	53.2917
796.30	44.9747
798.80	63.3720
801.93	68.7154
805.60	54.2070
810.29	61.3693
810.76	56.3514
815.85	43.3727
817.79	51.4881
818.51	57.5650
819.60	54.5629
826.30	59.7994
828.27	0.0000
831.60	60.9609
831.96	60.9712
834.83	70.2078
836.80	0.0000
846.75	53.1972
848.13	47.0882
856.28	0.0000
856.80	53.0946
860.37	48.3758
867.32	61.9453
867.82	58.5177
871.10	45.5028
873.19	56.9296
874.81	61.1131
875.33	0.0000
876.40	62.1929
879.36	59.1598
880.27	47.7621
880.51	49.8434
881.50	45.7091
883.24	45.7435
884.67	49.9336
889.25	50.0320
896.60	46.0077
898.02	53.3595
899.00	54.4286
903.28	52.4304
911.07	43.8365
911.07	43.8365
911.07	43.8365
919.63	42.2349
920.93	53.8787
925.00	41.2718
925.24	45.5090
926.50	40.0033
935.52	33.6574
937.48	39.0031
944.10	45.8639
946.00	55.5064
949.00	54.5062
962.29	64.4707
964.01	48.3860
966.15	37.6660
968.20	37.6968
969.11	37.7104
969.11	37.7104
969.11	37.7104
977.42	34.8324
980.50	56.2809
983.50	49.8464
989.30	47.7877
996.32	63.1656
1001.03	46.9158
1001.68	42.5620
1004.76	61.1885
1021.30	0.0000
1024.50	0.0000
1034.80	53.4192
1036.00	47.9163
1037.82	51.6364
1038.57	47.9608
1038.76	0.0000
1045.16	41.6071
1046.59	43.4811
1048.07	54.6115

1050.47	54.6595
1050.47	54.6595
1062.04	48.3818
1063.62	45.6165
1076.63	49.5775
1077.35	53.3331
1078.86	54.2971
1085.78	41.2948
1099.22	42.4365
1112.02	52.5778
1112.84	58.4824
1115.52	39.0251
1120.29	50.3560
1120.29	50.3560
1120.29	50.3560
1120.29	50.3560
1120.51	50.3604
1121.28	50.3733
1124.00	0.0000
1129.67	55.5607
1131.51	0.0000
1147.95	0.0000
1167.94	43.4619
1173.22	49.3461
1175.09	58.0908
1177.93	47.4847
1189.05	39.8806
1204.90	55.7360
1205.75	0.0000
1213.00	63.7278
1221.42	51.1219
1230.97	59.1699
1235.34	64.3317
1236.41	0.0000
1238.25	64.3927
1246.25	51.5324
1260.41	0.0000
1271.85	29.9719
1274.45	44.9945
1274.54	47.9941
1291.56	39.2031
1298.22	0.0000
1312.09	29.3351
1325.50	38.5953
1325.50	38.5953
1332.49	37.6594
1333.61	29.5263
1360.21	27.7086
1362.66	0.0000
1365.15	27.7493
1368.21	20.5729
1368.53	0.0000
1376.25	15.9082
1384.27	21.2603
1394.10	16.5833
1395.20	24.8828
1407.95	21.8519
1434.06	19.9177
1436.60	20.9806
1457.56	0.0000
1460.81	12.6738
1489.15	12.7725
1509.49	16.0535
1596.49	30.0313
1620.62	14.8716
1678.03	0.0000
1691.02	21.1376
1691.02	21.1376
1706.46	0.0000
1750.46	0.0000
1764.49	3.9109
1764.49	3.9109
1764.49	3.9109
1764.49	3.9109
1770.23	8.5663
1771.40	6.8550
1791.20	0.0000
1808.65	10.8646

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244137007

Total Uranium Activity	3.6335E+00	ug/g
Total Uranium Counting Unc.	2.0661E+00	ug/g
Total Uranium Tpu	1.0541E-06	ug/g
Total Uranium Mda	1.0797E+00	ug/g

```
*******************************************************************************
*                                                                             *
*                          GEL Laboratories LLC                          *
*                               2040 SAVAGE ROAD                              *
*                             CHARLESTON ,SC 29417                            *
*                              GROSS GAMMA REPORT                             *
*                                                                             *
*                                                                             *
*******************************************************************************
*                                                                             *
*   BATCH ID      : 940263                    SAMPLE ID   : G244137007        *
*   ANALYST       : MXR1                      DETECTOR    : GAM25             *
*   SAMPLE DATE   :  4-JAN-2010 12:00:00.00   COUNT TIME  :    0 02:00:00.00  *
*   ANALYSIS DATE: 20-JAN-2010 13:45:34.34    SAMPLE ALQT:  127.960 GRAM      *
*                                                                             *
*******************************************************************************
```

```
GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 8.762E+00
GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.258E+00
GROSS GAMMA MDA     (pCi/GRAM  )  : 3.649E+00
GROSS GAMMA DLC     (pCi/GRAM  )  : 1.769E+00
```

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 16:10:10.95

```
*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012144.CNF;1
Sample date       : 13-JAN-2010 00:00:00 Acquisition date : 20-JAN-2010 14:09:39
Sample ID         : G1202012144          Sample quantity  : 1.34090E+02 GRAM
Detector name     : GAM04                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:00.42  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 940263               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	238.89*	9	50	0.94	477.86	474	9	1.22E-03	167.5	
2	0	511.20*	24	33	2.36	1022.49	1014	19	3.30E-03	87.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JAN-2010 16:10:14

```
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012144.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 13-JAN-2010 00:00:00 Acquisition date : 20-JAN-2010 14:09:39
Sample ID         : G1202012144          Sample quantity  : 134.09 GRAM
Sample type       : SOLID                Sample geometry  :
Detector name     : GAMMA4               Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:00.42   0.0%
Peak Width (FWHM):      3.00             Confidence level :      5.00 %
Energy tolerance :      1.50 keV         Half life ratio  :      8.00
Errors propagated: Yes                   Systematic Error :      0.00 %
Efficiency type  : Empirical             Efficiencies at  : Peak Energy
Abundance limit  :     75.00             WTM error limit  :      3.00
```

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	511.00	*	2.435E-02	4.282E-02	2.295E-02	1.284E-03	1.061

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-5.024E-02	1.359E-01	2.083E-01	1.380E-02	-0.241
NA-22		1274.54	*	-4.999E-03	1.860E-02	2.909E-02	1.902E-03	-0.172
NA-24		1368.53	*	-7.867E-06	1.860E-02	Half-Life too short		
AL-26		1129.67		-3.080E-01	8.350E-01	1.237E+00	7.981E-02	-0.249
		1808.65	*	-4.433E-04	1.495E-02	2.397E-02	1.422E-03	-0.018
K-40		1460.81	*	-1.445E-01	2.417E-01	3.738E-01	2.657E-02	-0.387
TI-44		67.85		-5.655E-03	2.256E-02	3.714E-02	4.319E-03	-0.152
		78.38	*	6.240E-04	1.541E-02	2.503E-02	2.879E-03	0.025
SC-46		889.25	*	7.051E-03	2.049E-02	3.566E-02	2.884E-03	0.198
		1120.51		1.170E-02	2.007E-02	3.657E-02	2.396E-03	0.320
V-48		944.10		6.812E-02	3.118E-01	5.333E-01	4.263E-02	0.128
		983.50	*	-1.727E-02	2.508E-02	3.455E-02	2.677E-03	-0.500
		1312.09		-5.059E-03	2.464E-02	3.887E-02	2.619E-03	-0.130
CR-51		320.08	*	-1.668E-01	1.605E-01	2.375E-01	1.672E-02	-0.703
MN-52		744.21		5.221E-03	4.308E-02	7.341E-02	4.357E-03	0.071
		848.13		8.963E-01	1.443E+00	2.618E+00	1.948E-01	0.342
		935.52		2.628E-02	4.818E-02	8.708E-02	7.003E-03	0.302
		1246.25		-2.127E-02	1.169E+00	1.952E+00	1.242E-01	-0.011
		1333.61		3.402E-01	1.027E+00	1.835E+00	1.258E-01	0.185
		1434.06	*	2.109E-02	5.061E-02	9.226E-02	6.296E-03	0.229
MN-54		834.83	*	5.811E-03	1.811E-02	3.156E-02	2.284E-03	0.184
CO-56		846.75	*	1.754E-04	2.000E-02	3.312E-02	2.457E-03	0.005
		977.42		4.859E-01	1.160E+00	2.077E+00	1.618E-01	0.234
		1037.82		3.554E-02	1.661E-01	2.806E-01	2.208E-02	0.127
		1175.09		-1.813E-02	8.576E-01	1.373E+00	8.178E-02	-0.013
		1238.25		-1.417E-02	3.159E-02	4.769E-02	3.174E-03	-0.297
		1360.21		-2.356E-01	4.398E-01	6.188E-01	4.241E-02	-0.381
		1771.40		-1.074E-01	1.259E-01	1.334E-01	8.102E-03	-0.805

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57		122.06	*	-3.437E-03	1.097E-02	1.748E-02	1.214E-03	-0.197
		136.48		3.911E-02	8.769E-02	1.493E-01	1.111E-02	0.262
CO-58		810.76	*	-9.833E-03	2.023E-02	3.085E-02	2.130E-03	-0.319
FE-59		142.65		2.034E-01	1.149E+00	1.902E+00	1.243E-01	0.107
		192.34		-2.383E-01	3.886E-01	5.810E-01	7.066E-02	-0.410
		1099.22	*	8.510E-03	3.374E-02	5.800E-02	4.432E-03	0.147
		1291.56		1.657E-02	4.804E-02	8.662E-02	6.999E-03	0.191
CO-60		1173.22		-6.158E-03	1.999E-02	3.175E-02	1.888E-03	-0.194
		1332.49	*	7.714E-03	2.049E-02	3.691E-02	2.529E-03	0.209
ZN-65		1115.52	*	-1.238E-02	4.197E-02	6.348E-02	4.199E-03	-0.195
GE-68		1077.35	*	-2.634E-01	6.292E-01	9.272E-01	6.476E-02	-0.284
AS-73		53.44	*	1.034E-01	6.404E-01	1.104E+00	1.445E-01	0.094
AS-74		595.88	*	2.256E-02	3.868E-02	6.719E-02	3.547E-03	0.336
		634.78		1.952E-02	1.179E-01	1.945E-01	9.839E-03	0.100
SE-75		66.05		-1.230E+00	2.570E+00	3.947E+00	5.180E-01	-0.312
		96.73		-4.640E-02	3.393E-01	5.570E-01	8.078E-02	-0.083
		121.11		4.241E-02	5.573E-02	9.792E-02	9.827E-03	0.433
		136.00		1.925E-02	1.561E-02	2.842E-02	1.905E-03	0.678
		198.60		-6.373E-01	1.065E+00	1.484E+00	1.146E-01	-0.429
		264.65	*	6.844E-03	1.975E-02	3.453E-02	2.323E-03	0.198
		279.53		-2.819E-02	4.885E-02	7.748E-02	5.470E-03	-0.364
		303.91		-2.799E-01	9.099E-01	1.474E+00	1.476E-01	-0.190
		400.65		-1.120E-01	1.152E-01	1.627E-01	1.465E-02	-0.688
BR-77		87.88		1.561E+00	7.481E+00	1.271E+01	1.528E+00	0.123
		200.40		-5.157E+00	9.976E+00	1.522E+01	9.930E-01	-0.339
	+	239.00		2.039E-01	6.832E-01	8.915E-01	5.941E-02	0.229
		249.79		-8.152E-01	3.646E+00	6.065E+00	4.049E-01	-0.134
		281.68		3.404E+00	4.627E+00	8.364E+00	5.554E-01	0.407
		297.23		-4.324E+00	2.837E+00	3.970E+00	2.612E-01	-1.089
		303.76		-2.812E+00	9.007E+00	1.459E+01	9.549E-01	-0.193
		439.47		-2.697E+00	8.104E+00	1.268E+01	7.190E-01	-0.213
		484.57		-1.152E+01	1.062E+01	1.352E+01	7.628E-01	-0.852
		520.65	*	-1.687E-01	5.987E-01	9.275E-01	5.165E-02	-0.182
		574.64		-8.418E+00	1.235E+01	1.764E+01	9.488E-01	-0.477
		578.91		4.035E+00	4.153E+00	7.785E+00	4.174E-01	0.518
		585.48		8.653E+00	8.825E+00	1.632E+01	8.700E-01	0.530
		755.35		-5.569E+00	7.775E+00	1.102E+01	6.710E-01	-0.505
		817.79		-1.192E+00	7.778E+00	1.255E+01	8.761E-01	-0.095
SR-82		698.33		4.046E+00	1.625E+01	2.808E+01	1.497E+00	0.144
		776.49	*	-1.851E-02	1.276E-01	2.061E-01	1.316E-02	-0.090
		1395.20		-2.236E+00	4.105E+00	5.658E+00	3.873E-01	-0.395
RB-83		520.41	*	1.691E-03	3.201E-02	5.230E-02	2.913E-03	0.032
		529.64		-1.201E-02	4.971E-02	7.730E-02	4.285E-03	-0.155
		552.65		1.019E-02	9.848E-02	1.614E-01	8.825E-03	0.063
RB-84		881.50	*	-1.848E-02	3.229E-02	4.379E-02	3.488E-03	-0.422
KR-85		513.99	*	6.105E+00	4.086E+00	7.728E+00	4.317E-01	0.790
SR-85		513.99	*	2.892E-02	1.936E-02	3.661E-02	2.045E-03	0.790
RB-86		1076.63	*	-7.858E-02	2.909E-01	4.428E-01	3.096E-02	-0.177
Y-88		898.02		4.901E-03	2.143E-02	3.663E-02	3.031E-03	0.134

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1836.01	*	-5.270E-03	2.128E-02	3.171E-02	1.851E-03	-0.166
ZR-88		392.90	*	1.478E-02	1.478E-02	2.720E-02	1.531E-03	0.543
Y-91		1204.90	*	2.185E+00	6.984E+00	1.207E+01	7.396E-01	0.181
NB-94		702.63	*	9.856E-03	1.924E-02	3.429E-02	1.847E-03	0.287
		871.10		-7.537E-03	1.618E-02	2.408E-02	1.877E-03	-0.313
NB-95		765.79	*	2.859E-03	1.759E-02	3.009E-02	1.875E-03	0.095
NB-95M		235.69	*	-3.707E-02	5.931E-02	7.542E-02	6.189E-03	-0.491
ZR-95		724.18		-8.551E-03	4.353E-02	7.068E-02	4.769E-03	-0.121
		756.15	*	-3.879E-03	2.657E-02	4.299E-02	3.130E-03	-0.090
NB-97		657.90	*	-5.874E-06	2.657E-02	Half-Life too short		
		1024.50		6.920E-04	2.657E-02	Half-Life too short		
ZR-97		254.15		1.109E-03	2.657E-02	Half-Life too short		
		355.39		-4.823E-04	2.657E-02	Half-Life too short		
		507.63	*	6.650E-04	2.657E-02	Half-Life too short		
		602.52		1.009E-03	2.657E-02	Half-Life too short		
		1021.30		-1.582E-04	2.657E-02	Half-Life too short		
		1147.95		-4.921E-04	2.657E-02	Half-Life too short		
		1362.66		7.354E-04	2.657E-02	Half-Life too short		
		1750.46		-1.295E-03	2.657E-02	Half-Life too short		
MO-99		140.51		1.451E+00	1.781E+00	3.047E+00	8.264E-01	0.476
		181.06		-3.612E-01	1.149E+00	1.787E+00	3.103E-01	-0.202
		366.43		4.717E-01	6.700E+00	1.121E+01	6.699E-01	0.042
		739.58	*	-5.518E-02	7.959E-01	1.313E+00	1.813E-01	-0.042
		778.00		-1.030E+00	2.061E+00	3.053E+00	1.955E-01	-0.337
TC-99M		140.51	*	1.302E+01	2.061E+00	Half-Life too short		
RH-101		127.23		-5.086E-03	1.331E-02	2.101E-02	1.427E-03	-0.242
		198.01	*	-9.388E-03	2.013E-02	2.839E-02	1.849E-03	-0.331
		325.23		-2.250E-02	1.165E-01	1.911E-01	1.223E-02	-0.118
RH-102		418.52		-2.190E-02	1.295E-01	2.078E-01	1.176E-02	-0.105
		475.06	*	2.769E-03	1.463E-02	2.450E-02	1.385E-03	0.113
		631.29		7.319E-03	2.810E-02	4.687E-02	2.381E-03	0.156
		697.49		8.099E-03	4.310E-02	7.401E-02	3.939E-03	0.109
		766.84		1.407E-02	4.896E-02	8.532E-02	5.330E-03	0.165
		1046.59		5.289E-02	5.120E-02	1.011E-01	7.344E-03	0.523
		1112.84		6.723E-02	1.010E-01	1.864E-01	1.236E-02	0.361
RU-103		497.08	*	1.482E-03	1.868E-02	3.072E-02	3.859E-03	0.048
		610.33		-3.483E-02	3.867E-01	5.996E-01	9.116E-02	-0.058
RH-106	+	511.85		1.199E-01	2.109E-01	2.762E-01	1.544E-02	0.434
		621.84	*	-8.330E-02	1.491E-01	2.117E-01	2.418E-02	-0.394
		1050.47		3.673E-01	1.028E+00	1.802E+00	1.303E-01	0.204
RU-106	+	511.85		1.199E-01	2.109E-01	2.762E-01	1.544E-02	0.434
		621.84	*	-8.330E-02	1.489E-01	2.117E-01	1.087E-02	-0.394
		1050.47		3.673E-01	1.028E+00	1.802E+00	1.303E-01	0.204
AG-108M		433.93	*	1.715E-02	1.776E-02	3.245E-02	2.005E-03	0.529
		614.37		-8.869E-03	1.801E-02	2.615E-02	1.497E-03	-0.339
		722.95		-9.357E-03	2.236E-02	3.513E-02	2.162E-03	-0.266
CD-109		88.03	*	2.819E-02	3.032E-01	5.101E-01	6.130E-02	0.055
AG-110M		657.75	*	-4.226E-03	1.801E-02	2.934E-02	1.568E-03	-0.144
		677.61		1.093E-01	1.184E-01	2.312E-01	1.266E-02	0.473

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		706.67		-1.815E-01	1.159E-01	1.478E-01	8.587E-03	-1.227
		763.93		6.713E-02	7.515E-02	1.424E-01	9.314E-03	0.471
		884.67		9.150E-03	2.258E-02	4.014E-02	3.336E-03	0.228
		937.48		1.506E-02	5.009E-02	8.714E-02	7.290E-03	0.173
		1384.27		4.751E-02	8.346E-02	1.565E-01	1.119E-02	0.304
IN-111		171.28		-5.988E-02	7.052E-02	1.033E-01	6.586E-03	-0.580
		245.39	*	-3.421E-03	8.745E-02	1.377E-01	9.188E-03	-0.025
IN-113M		391.69	*	-1.051E-02	2.255E-02	3.516E-02	2.118E-03	-0.299
SN-113		391.69	*	-1.051E-02	2.255E-02	3.516E-02	2.118E-03	-0.299
IN-114M		190.27	*	-3.161E-02	7.411E-02	1.136E-01	7.352E-03	-0.278
CD-115		260.90		1.711E+00	5.905E+00	1.028E+01	6.862E-01	0.167
		492.35		-8.565E-01	1.868E+00	2.835E+00	1.596E-01	-0.302
		527.90	*	-2.632E-01	5.511E-01	8.255E-01	4.581E-02	-0.319
SN-117M		156.02		5.251E-02	7.140E-01	1.167E+00	7.485E-02	0.045
		158.56	*	3.255E-03	1.777E-02	2.930E-02	1.874E-03	0.111
SB-122		563.90	*	-8.685E-02	1.481E-01	2.145E-01	1.164E-02	-0.405
		692.80		7.855E-03	3.227E+00	5.415E+00	2.849E-01	0.001
I-123		159.00	*	-1.050E-05	3.227E+00	Half-Life too short		
		528.96		-7.327E-03	3.227E+00	Half-Life too short		
TE-123M		159.00	*	-6.880E-04	1.300E-02	2.099E-02	1.357E-03	-0.033
I-124		602.71	*	5.675E-02	1.125E-01	1.925E-01	1.009E-02	0.295
		722.78		-2.922E-01	6.686E-01	1.047E+00	5.917E-02	-0.279
		1325.50		-2.313E+00	4.642E+00	6.717E+00	4.576E-01	-0.344
		1376.25		-1.977E+00	3.654E+00	5.052E+00	3.462E-01	-0.391
		1509.49		-1.641E+00	2.309E+00	2.959E+00	1.995E-01	-0.554
		1691.02		1.942E-01	5.764E-01	1.049E+00	6.650E-02	0.185
SB-124		602.71		1.054E-02	2.089E-02	3.574E-02	1.875E-03	0.295
		645.85		9.160E-02	2.180E-01	3.906E-01	2.279E-02	0.235
		709.31		8.794E-01	1.406E+00	2.546E+00	1.394E-01	0.345
		713.82		-3.684E-01	8.759E-01	1.381E+00	1.390E-01	-0.267
		722.78		-7.866E-02	1.800E-01	2.819E-01	1.672E-02	-0.279
		968.20		1.151E-01	1.150E+00	1.917E+00	1.504E-01	0.060
		1045.16		7.662E-01	1.058E+00	1.978E+00	1.439E-01	0.387
		1325.50		-6.650E-01	1.335E+00	1.931E+00	1.316E-01	-0.344
		1368.21		-7.214E-02	7.556E-01	1.224E+00	1.520E-01	-0.059
		1436.60		5.920E-01	1.833E+00	3.283E+00	2.239E-01	0.180
		1691.02	*	1.233E-02	3.659E-02	6.661E-02	4.526E-03	0.185
SB-125		427.89	*	-4.059E-03	4.542E-02	7.371E-02	4.363E-03	-0.055
		463.38		1.460E-02	1.241E-01	2.063E-01	1.371E-02	0.071
		600.56		3.276E-02	1.122E-01	1.865E-01	1.164E-02	0.176
		635.90		-6.036E-02	1.196E-01	1.700E-01	1.048E-02	-0.355
TE-125M		109.28	*	2.607E-01	4.228E+00	6.382E+00	6.324E-01	0.041
I-126		388.63		-2.944E-02	6.604E-02	1.028E-01	5.828E-03	-0.287
		666.33	*	-1.730E-02	5.620E-02	8.993E-02	4.436E-03	-0.192
		753.82		-5.366E-02	3.989E-01	6.471E-01	3.926E-02	-0.083
SB-126		223.80		-9.614E-02	1.226E+00	1.932E+00	1.280E-01	-0.050
		278.60		-4.765E-01	7.369E-01	1.158E+00	7.701E-02	-0.411
		296.50		-5.761E-02	4.347E-01	7.214E-01	4.750E-02	-0.080
		414.70		1.700E-03	2.099E-02	3.498E-02	1.979E-03	0.049

---- Non-Identified Nuclides ----

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		415.30		1.554E-01	1.793E+00	2.990E+00	1.692E-01	0.052
		555.20		7.661E-01	1.278E+00	2.257E+00	1.232E-01	0.339
		573.80		2.965E-02	3.681E-01	5.995E-01	3.227E-02	0.049
		593.00		-3.318E-02	3.159E-01	4.981E-01	2.637E-02	-0.067
		656.30		-2.007E+00	1.133E+00	1.341E+00	6.591E-02	-1.497
		666.33		-7.107E-03	2.308E-02	3.694E-02	1.822E-03	-0.192
		675.00		-5.200E-01	4.780E-01	5.975E-01	3.011E-02	-0.870
		695.00		-9.679E-03	2.882E-02	4.617E-02	2.442E-03	-0.210
		697.00		-7.145E-03	1.012E-01	1.682E-01	8.938E-03	-0.042
		720.50	*	-2.924E-02	4.985E-02	7.591E-02	4.266E-03	-0.385
		856.80		-5.732E-02	1.548E-01	2.383E-01	1.805E-02	-0.241
		989.30		2.367E-01	4.089E-01	7.429E-01	5.725E-02	0.319
		1034.80		1.437E+00	3.454E+00	6.016E+00	4.429E-01	0.239
		1213.00		6.395E-01	1.140E+00	2.092E+00	1.292E-01	0.306
SN-126		64.28		4.251E-02	2.829E-01	4.610E-01	7.941E-02	0.092
		86.94		1.029E-01	1.410E-01	2.385E-01	1.006E-01	0.432
		87.57	*	1.928E-02	3.072E-02	5.399E-02	6.475E-03	0.357
SB-127		61.10		-3.338E+00	8.714E+00	1.421E+01	1.790E+00	-0.235
		252.40		9.201E-02	5.572E-01	9.572E-01	3.946E-01	0.096
		290.80		-2.681E+00	2.778E+00	4.212E+00	3.163E-01	-0.636
		411.60		-4.165E-01	1.376E+00	2.163E+00	2.800E-01	-0.193
		444.90		-6.459E-01	1.470E+00	2.177E+00	1.915E-01	-0.297
		473.00		8.822E-02	2.328E-01	3.985E-01	3.689E-02	0.221
		543.00		9.588E-01	2.434E+00	4.143E+00	4.644E-01	0.231
		603.60		6.057E-01	1.741E+00	2.921E+00	2.480E-01	0.207
		685.20	*	1.339E-02	1.462E-01	2.495E-01	1.664E-02	0.054
		698.50		7.783E-01	2.293E+00	4.001E+00	5.167E-01	0.195
		722.20		-2.205E+00	4.067E+00	6.255E+00	4.176E-01	-0.352
		783.80		1.609E-01	3.621E-01	6.550E-01	6.018E-02	0.246
XE-127		57.60		2.699E+00	3.429E+00	6.209E+00	7.774E-01	0.435
		145.22		3.788E-02	2.681E-01	4.425E-01	2.880E-02	0.086
		172.10		-5.588E-02	4.501E-02	6.222E-02	3.969E-03	-0.898
		202.84	*	7.650E-04	2.133E-02	3.424E-02	2.238E-03	0.022
		374.96		3.220E-02	8.807E-02	1.521E-01	8.922E-03	0.212
I-131		80.18		-4.932E-02	9.399E-01	1.566E+00	1.811E-01	-0.031
		284.30		-8.473E-02	3.806E-01	6.271E-01	4.488E-02	-0.135
		364.48	*	-8.457E-03	3.045E-02	4.885E-02	3.225E-03	-0.173
		636.97		-2.300E-01	3.641E-01	5.013E-01	2.892E-02	-0.459
		722.89		-8.060E-01	1.970E+00	3.102E+00	1.759E-01	-0.260
TE-132		49.72		-7.347E-01	3.631E+00	6.064E+00	7.741E-01	-0.121
		111.76		-2.283E+00	2.636E+00	3.982E+00	3.399E-01	-0.573
		116.30		1.209E-01	2.470E+00	4.087E+00	3.323E-01	0.030
		228.16	*	4.478E-03	7.062E-02	1.129E-01	1.533E-02	0.040
BA-133		53.15		7.430E-01	2.825E+00	4.920E+00	6.441E-01	0.151
		79.62		-4.225E-01	5.559E-01	8.592E-01	1.465E-01	-0.492
		81.00		9.530E-03	3.627E-02	6.221E-02	1.099E-02	0.153
		276.40		8.208E-03	1.648E-01	2.797E-01	3.739E-02	0.029
		302.84		-3.097E-02	6.399E-02	1.013E-01	1.221E-02	-0.306
		356.01	*	4.381E-03	2.126E-02	3.619E-02	4.239E-03	0.121

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		383.85		-8.461E-02	1.632E-01	2.532E-01	2.745E-02	-0.334
I-133	+	510.53		6.018E-04	1.632E-01	Half-Life too short		
		529.87	*	-4.232E-06	1.632E-01	Half-Life too short		
		706.58		-8.825E-04	1.632E-01	Half-Life too short		
		856.28		-3.237E-04	1.632E-01	Half-Life too short		
		875.33		-6.139E-05	1.632E-01	Half-Life too short		
		1236.41		4.081E-04	1.632E-01	Half-Life too short		
		1298.22		-4.724E-05	1.632E-01	Half-Life too short		
CS-134		475.35		-9.182E-02	9.554E-01	1.536E+00	8.687E-02	-0.060
		563.23		-1.061E-01	1.766E-01	2.549E-01	1.417E-02	-0.416
		569.32		7.677E-02	1.113E-01	1.959E-01	1.095E-02	0.392
		604.70		-6.028E-03	1.917E-02	2.934E-02	1.546E-03	-0.205
		795.84	*	9.200E-03	2.310E-02	4.075E-02	2.747E-03	0.226
		801.93		-2.525E-01	2.669E-01	3.951E-01	2.691E-02	-0.639
		1038.57		1.273E+00	1.965E+00	3.592E+00	2.633E-01	0.354
		1167.94		-9.147E-02	1.062E+00	1.674E+00	1.006E-01	-0.055
		1365.15		-5.442E-02	5.741E-01	9.304E-01	6.830E-02	-0.058
CS-135		268.24	*	-1.492E-02	7.507E-02	1.246E-01	1.038E-02	-0.120
I-135		288.45		6.965E+01	7.507E-02	Half-Life too short		
		417.63		-1.180E+01	7.507E-02	Half-Life too short		
		546.56		-1.069E+00	7.507E-02	Half-Life too short		
		836.80		4.585E+01	7.507E-02	Half-Life too short		
		1038.76		1.784E+01	7.507E-02	Half-Life too short		
		1124.00		-2.876E+01	7.507E-02	Half-Life too short		
		1131.51		6.528E+00	7.507E-02	Half-Life too short		
		1260.41	*	1.011E+01	7.507E-02	Half-Life too short		
		1457.56		1.730E+01	7.507E-02	Half-Life too short		
		1678.03		-5.910E-01	7.507E-02	Half-Life too short		
		1706.46		-3.156E+00	7.507E-02	Half-Life too short		
		1791.20		2.017E+01	7.507E-02	Half-Life too short		
CS-136		66.91		-9.666E-02	2.641E-01	4.297E-01	7.446E-02	-0.225
		86.29		3.161E-01	2.833E-01	5.117E-01	7.798E-02	0.618
		153.22		-7.661E-02	2.081E-01	3.266E-01	2.526E-02	-0.235
		163.89		2.294E-01	3.334E-01	5.732E-01	4.416E-02	0.400
		176.55		2.485E-03	1.116E-01	1.804E-01	1.272E-02	0.014
		273.65		-2.997E-02	1.416E-01	2.342E-01	1.727E-02	-0.128
		340.57		6.306E-03	4.102E-02	6.951E-02	4.586E-03	0.091
		818.51		-4.459E-03	2.614E-02	4.205E-02	2.941E-03	-0.106
		1048.07	*	-4.323E-02	3.917E-02	4.780E-02	3.669E-03	-0.904
		1235.34		8.025E-02	1.490E-01	2.766E-01	2.844E-02	0.290
BA-137M		661.65	*	-3.303E-03	2.181E-02	3.635E-02	1.773E-03	-0.091
CS-137		661.65	*	-3.492E-03	2.306E-02	3.842E-02	1.885E-03	-0.091
CE-139		165.85	*	-6.263E-03	1.398E-02	2.167E-02	1.377E-03	-0.289
BA-140		162.64		-6.963E-02	2.345E-01	3.690E-01	2.596E-02	-0.189
		304.84		5.492E-02	3.735E-01	6.369E-01	1.749E-01	0.086
		423.70		-1.581E-04	6.389E-01	1.050E+00	3.336E-01	0.000
		537.32	*	4.648E-03	9.673E-02	1.536E-01	4.986E-02	0.030
LA-140		328.77		2.562E-02	9.517E-02	1.635E-01	1.146E-02	0.157
		432.53		1.365E-01	7.389E-01	1.241E+00	7.805E-02	0.110

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		487.03		-3.660E-03	4.428E-02	7.118E-02	4.572E-03	-0.051
		751.79		2.621E-01	4.564E-01	8.441E-01	6.157E-02	0.310
		815.85		-3.997E-02	1.081E-01	1.670E-01	1.361E-02	-0.239
		867.82		-3.008E-02	4.151E-01	6.746E-01	5.566E-02	-0.045
		919.63		-3.284E-02	8.752E-01	1.426E+00	1.462E-01	-0.023
		925.24		-2.576E-01	3.692E-01	5.134E-01	4.452E-02	-0.502
		1596.49	*	-2.789E-02	3.502E-02	4.438E-02	2.923E-03	-0.629
CE-141		145.44	*	3.420E-03	2.412E-02	3.980E-02	2.672E-03	0.086
CE-143		57.37		3.218E+00	1.621E+01	2.798E+01	3.749E+00	0.115
		231.56		-8.413E-01	2.915E+01	4.611E+01	1.433E+01	-0.018
		293.26	*	8.242E-01	1.458E+00	2.564E+00	5.304E-01	0.321
		350.59		-1.079E+01	2.056E+01	3.114E+01	9.469E+00	-0.346
		490.36		6.212E-02	3.525E+01	5.738E+01	1.772E+01	0.001
		664.57		-8.977E+00	1.460E+01	2.180E+01	6.869E+00	-0.412
		721.93		-1.067E+01	1.689E+01	2.516E+01	7.148E+00	-0.424
CE-144		80.11		-3.314E-01	8.452E-01	1.362E+00	1.574E-01	-0.243
		133.54	*	-4.449E-02	9.191E-02	1.433E-01	2.089E-02	-0.310
PM-144		476.78		-2.055E-02	3.181E-02	4.643E-02	3.165E-03	-0.443
		618.01		-9.858E-03	1.492E-02	2.075E-02	1.150E-03	-0.475
		696.49	*	9.504E-04	1.918E-02	3.237E-02	1.719E-03	0.029
		778.57		-9.907E-01	9.920E-01	1.297E+00	8.320E-02	-0.764
PR-144		696.49	*	6.415E-02	1.294E+00	2.185E+00	1.160E-01	0.029
		1489.15		4.160E+00	6.331E+00	1.221E+01	8.267E-01	0.341
PM-146		453.90	*	-2.703E-03	2.269E-02	3.513E-02	2.998E-03	-0.077
		633.02		1.739E-01	6.742E-01	1.122E+00	4.120E-01	0.155
		735.90		-3.977E-02	6.611E-02	9.600E-02	2.677E-02	-0.414
		747.13		-3.526E-02	4.137E-02	5.711E-02	7.190E-03	-0.617
ND-147		91.11		1.645E-02	6.940E-02	1.178E-01	1.381E-02	0.140
		319.41		-4.372E-01	1.053E+00	1.684E+00	1.085E-01	-0.260
		439.89		-8.608E-01	1.977E+00	2.985E+00	1.693E-01	-0.288
		531.02	*	-5.632E-02	1.861E-01	2.869E-01	3.848E-02	-0.196
PM-149		285.90	*	-4.368E+00	4.295E+00	6.385E+00	9.267E-01	-0.684
EU-152		121.78		-6.749E-03	3.273E-02	5.276E-02	4.496E-03	-0.128
		244.69		6.382E-04	1.679E-01	2.656E-01	1.772E-02	0.002
		344.27	*	-4.623E-03	4.936E-02	8.139E-02	5.633E-03	-0.057
		443.98		-1.579E-02	5.275E-01	8.233E-01	4.670E-02	-0.019
		778.89		-5.978E-02	1.004E-01	1.436E-01	9.213E-03	-0.416
		867.32		-4.269E-02	3.841E-01	6.195E-01	4.794E-02	-0.069
		964.01		-4.750E-02	1.433E-01	2.202E-01	1.734E-02	-0.216
		1085.78		-6.534E-02	1.510E-01	2.127E-01	1.469E-02	-0.307
		1112.02		9.234E-02	1.429E-01	2.630E-01	1.746E-02	0.351
		1407.95		-1.325E-02	1.137E-01	1.840E-01	1.259E-02	-0.072
GD-153		69.67		-4.480E-02	7.706E-01	1.291E+00	1.491E-01	-0.035
		83.37		-2.956E+00	5.558E+00	8.794E+00	1.029E+00	-0.336
		97.43	*	4.177E-03	3.514E-02	5.895E-02	5.786E-03	0.071
		103.18		-5.268E-04	4.068E-02	6.729E-02	5.988E-03	-0.008
EU-154		123.07		-1.543E-02	2.303E-02	3.530E-02	3.573E-03	-0.437
		247.94		7.143E-02	1.932E-01	3.172E-01	3.203E-02	0.225
		591.81		-7.560E-02	2.964E-01	4.536E-01	4.303E-02	-0.167

---- Non-Identified Nuclides ----

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		723.30		-4.028E-02	9.317E-02	1.461E-01	1.017E-02	-0.276
		756.87		-1.016E-01	3.270E-01	5.114E-01	5.276E-02	-0.199
		873.19		-1.370E-03	1.373E-01	2.260E-01	2.645E-02	-0.006
		996.32		2.923E-02	1.704E-01	2.881E-01	4.989E-02	0.101
		1004.76		3.189E-02	9.280E-02	1.628E-01	1.775E-02	0.196
		1274.45	*	-2.047E-02	5.350E-02	8.127E-02	7.972E-03	-0.252
EU-155		48.70		-1.864E+00	2.515E+00	3.972E+00	4.576E-01	-0.469
		60.01		-4.268E-01	3.039E+00	5.078E+00	6.169E-01	-0.084
		86.54		4.316E-02	3.838E-02	6.972E-02	8.350E-03	0.619
		105.31	*	-1.622E-02	4.464E-02	7.121E-02	6.206E-03	-0.228
TB-160		86.79		9.986E-02	9.603E-02	1.734E-01	2.069E-02	0.576
		197.04		-9.922E-03	3.151E-01	4.621E-01	3.007E-02	-0.021
		215.65		-1.352E-01	3.201E-01	4.856E-01	3.202E-02	-0.278
		298.57		-5.350E-02	4.703E-02	6.865E-02	4.513E-03	-0.779
		879.36	*	1.109E-02	6.705E-02	1.138E-01	9.022E-03	0.097
		962.29		6.214E-02	2.241E-01	3.859E-01	3.043E-02	0.161
		966.15		1.810E-02	8.885E-02	1.506E-01	1.184E-02	0.120
		1177.93		-8.710E-03	1.266E-01	1.997E-01	1.193E-02	-0.044
		1271.85		8.376E-02	2.399E-01	4.384E-01	2.854E-02	0.191
HO-166M		80.57		5.217E-03	1.026E-01	1.727E-01	1.998E-02	0.030
		184.41		-1.400E-03	1.845E-02	2.881E-02	1.856E-03	-0.049
		280.46		-2.136E-04	4.024E-02	6.783E-02	4.507E-03	-0.003
		410.95		-3.954E-03	1.038E-01	1.701E-01	9.616E-03	-0.023
		711.68	*	3.702E-02	3.495E-02	6.614E-02	3.640E-03	0.560
		752.31		2.517E-03	1.106E-01	1.853E-01	1.120E-02	0.014
		810.29		-2.609E-02	3.361E-02	4.857E-02	3.336E-03	-0.537
TM-171		51.35		-1.157E+01	2.596E+01	4.216E+01	5.460E+00	-0.274
		52.39		-7.914E-01	1.272E+01	2.150E+01	2.812E+00	-0.037
		59.40		-9.181E-01	1.640E+01	2.763E+01	3.369E+00	-0.033
		66.72	*	-2.731E+00	1.385E+01	2.292E+01	2.680E+00	-0.119
LU-176		88.36		-3.562E-02	7.276E-02	1.156E-01	1.378E-02	-0.308
		201.83		2.075E-03	1.503E-02	2.435E-02	1.590E-03	0.085
		306.84	*	-1.813E-03	1.135E-02	1.870E-02	1.221E-03	-0.097
		401.10		-4.161E+00	3.378E+00	4.627E+00	2.611E-01	-0.899
LU-177		112.95		-4.224E-01	3.341E-01	4.820E-01	3.732E-02	-0.876
		208.36	*	6.215E-02	2.265E-01	3.720E-01	2.441E-02	0.167
LU-177M		52.97		4.079E-01	1.208E+00	2.120E+00	2.776E-01	0.192
		54.07		3.349E-01	6.323E-01	1.125E+00	1.467E-01	0.298
		61.30		-3.047E-01	8.412E-01	1.375E+00	1.659E-01	-0.222
		121.62		-1.630E-02	1.629E-01	2.652E-01	1.847E-02	-0.061
		147.16		-3.508E-01	3.041E-01	4.416E-01	2.865E-02	-0.795
		171.86		-2.135E-01	2.061E-01	2.943E-01	1.877E-02	-0.725
		218.09		-1.186E-01	3.838E-01	5.899E-01	3.895E-02	-0.201
		268.79		6.419E-02	3.666E-01	6.299E-01	4.201E-02	0.102
		319.02		-3.708E-02	1.295E-01	2.103E-01	1.356E-02	-0.176
		367.43		3.390E-01	4.379E-01	7.910E-01	4.717E-02	0.429
		413.65	*	1.548E-02	7.484E-02	1.269E-01	7.179E-03	0.122
HF-181		56.28		-3.747E-01	6.053E-01	9.639E-01	1.229E-01	-0.389
		57.53		1.427E-01	3.017E-01	5.329E-01	6.678E-02	0.268

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		65.20		-1.835E-01	4.700E-01	7.284E-01	8.586E-02	-0.252
		133.02		-1.243E-02	2.664E-02	4.171E-02	2.784E-03	-0.298
		136.25		1.409E-01	1.680E-01	2.964E-01	1.963E-02	0.475
		345.85		3.076E-02	8.558E-02	1.481E-01	9.200E-03	0.208
		482.03	*	-5.336E-03	1.463E-02	2.212E-02	1.249E-03	-0.241
W-181		56.28		-1.584E-01	2.567E-01	4.088E-01	5.212E-02	-0.387
		57.53		6.042E-02	1.280E-01	2.261E-01	2.834E-02	0.267
		65.20	*	-7.725E-02	1.979E-01	3.067E-01	3.614E-02	-0.252
TA-182		67.75		-1.085E-02	5.179E-02	8.561E-02	9.960E-03	-0.127
		100.10		-2.762E-02	7.233E-02	1.155E-01	1.081E-02	-0.239
		152.43		-2.255E-02	1.517E-01	2.432E-01	1.566E-02	-0.093
		222.10		-1.084E-01	1.643E-01	2.424E-01	1.604E-02	-0.447
		1001.68		-2.095E-01	8.891E-01	1.374E+00	1.047E-01	-0.152
		1121.28		4.020E-03	6.178E-02	1.012E-01	6.621E-03	0.040
		1189.05		3.061E-02	1.194E-01	2.041E-01	1.233E-02	0.150
		1221.42	*	3.320E-02	8.000E-02	1.449E-01	9.018E-03	0.229
		1230.97		-2.486E-01	2.093E-01	2.499E-01	1.569E-02	-0.995
RE-183		57.98		4.677E-02	1.222E-01	2.141E-01	2.666E-02	0.218
		59.32		-3.536E-03	6.324E-02	1.066E-01	1.301E-02	-0.033
		67.20		-2.879E-02	9.235E-02	1.512E-01	1.763E-02	-0.190
		162.32	*	-1.872E-02	4.824E-02	7.526E-02	4.796E-03	-0.249
		208.81		-1.846E-01	4.100E-01	6.227E-01	4.088E-02	-0.297
		291.72		-5.119E-01	4.599E-01	6.895E-01	4.554E-02	-0.742
RE-184		57.98		1.800E-01	4.702E-01	8.241E-01	1.026E-01	0.218
		59.32		-1.360E-02	2.432E-01	4.098E-01	5.003E-02	-0.033
		67.20		-1.108E-01	3.554E-01	5.818E-01	6.786E-02	-0.190
		161.27		-1.228E-01	1.606E-01	2.405E-01	1.534E-02	-0.511
		216.55		-1.458E-01	1.224E-01	1.674E-01	1.105E-02	-0.871
		252.85	*	4.790E-02	1.101E-01	1.940E-01	1.296E-02	0.247
		318.01		-7.134E-03	2.264E-01	3.779E-01	2.440E-02	-0.019
		792.07		-5.343E-01	4.188E-01	5.007E-01	3.307E-02	-1.067
		903.28		-1.531E-01	4.500E-01	6.872E-01	5.639E-02	-0.223
		920.93		2.117E-02	2.047E-01	3.433E-01	2.788E-02	0.062
OS-185		59.72		5.406E-02	1.678E-01	2.923E-01	3.556E-02	0.185
		61.14		-3.441E-02	9.081E-02	1.482E-01	1.789E-02	-0.232
		69.30		-2.506E-02	1.373E-01	2.275E-01	2.630E-02	-0.110
		592.07		-4.332E-01	1.224E+00	1.846E+00	9.779E-02	-0.235
		646.12	*	4.198E-03	1.943E-02	3.382E-02	1.686E-03	0.124
		717.42		1.767E-01	4.414E-01	7.813E-01	4.359E-02	0.226
		874.81		-1.756E-01	2.732E-01	3.907E-01	3.070E-02	-0.449
		880.27		-2.364E-02	4.200E-01	6.469E-01	5.139E-02	-0.037
RE-188		155.03	*	1.927E-02	7.443E-02	1.237E-01	7.941E-03	0.156
		477.96		-5.172E-01	1.296E+00	1.971E+00	1.114E-01	-0.262
		633.10		3.102E-01	1.259E+00	2.100E+00	1.065E-01	0.148
W-188		63.58		-8.473E+00	2.762E+01	4.581E+01	5.452E+00	-0.185
		227.08		-1.106E+00	5.722E+00	8.896E+00	5.902E-01	-0.124
		290.67	*	-3.291E+00	3.462E+00	5.263E+00	3.478E-01	-0.625
IR-192		295.96		2.869E-02	4.674E-02	8.313E-02	5.542E-03	0.345
		308.46		-1.620E-02	4.231E-02	6.789E-02	4.465E-03	-0.239

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		316.51	*	1.041E-02	1.702E-02	3.019E-02	1.960E-03	0.345
		468.07		1.061E-02	3.111E-02	5.318E-02	3.492E-03	0.200
		604.41		4.208E-02	2.401E-01	3.942E-01	4.364E-02	0.107
		612.46		-2.336E-01	3.258E-01	4.559E-01	3.245E-02	-0.512
AU-195		65.12		-3.982E-02	9.290E-02	1.433E-01	1.690E-02	-0.278
		66.83		-7.293E-03	4.486E-02	7.451E-02	8.706E-03	-0.098
		75.70		5.659E-02	8.641E-02	1.446E-01	1.656E-02	0.391
		98.88	*	8.040E-02	9.519E-02	1.693E-01	1.618E-02	0.475
		129.76		1.018E+00	1.152E+00	2.038E+00	1.373E-01	0.500
TL-200		367.94	*	8.441E-01	1.949E+00	3.393E+00	2.022E-01	0.249
		579.30		9.701E+00	1.328E+01	2.391E+01	1.282E+00	0.406
		828.27		-3.344E+00	2.126E+01	3.424E+01	2.444E+00	-0.098
		1205.75		2.096E-01	8.245E+00	1.332E+01	8.173E-01	0.016
TL-201		68.90		-2.341E-02	4.234E-01	7.097E-01	8.218E-02	-0.033
		70.82		1.428E-01	2.281E-01	4.034E-01	4.642E-02	0.354
		80.30		-3.578E-02	3.508E-01	5.816E-01	6.724E-02	-0.062
		135.34		1.410E+00	1.930E+00	3.371E+00	2.237E-01	0.418
		167.43	*	-2.038E-01	6.045E-01	9.461E-01	6.015E-02	-0.215
TL-202		68.90		-7.627E-03	1.380E-01	2.313E-01	2.678E-02	-0.033
		70.82		4.641E-02	7.411E-02	1.311E-01	1.508E-02	0.354
		80.30		-1.163E-02	1.140E-01	1.891E-01	2.186E-02	-0.062
		439.56	*	-7.654E-03	2.300E-02	3.597E-02	2.040E-03	-0.213
HG-203		70.83		2.776E-01	4.410E-01	7.785E-01	1.214E-01	0.357
		72.87		-1.860E-01	2.774E-01	4.130E-01	6.282E-02	-0.450
		82.60		2.610E-03	3.682E-01	6.162E-01	9.756E-02	0.004
		279.20	*	-5.782E-03	1.660E-02	2.698E-02	1.878E-03	-0.214
BI-207		72.80		-4.450E-02	8.454E-02	1.355E-01	1.554E-02	-0.328
		74.97		9.392E-03	5.113E-02	8.278E-02	9.480E-03	0.113
		84.90		-1.227E-02	7.299E-02	1.200E-01	1.416E-02	-0.102
		569.67		1.551E-02	1.655E-02	3.013E-02	1.627E-03	0.515
		1063.62	*	1.905E-02	2.362E-02	4.492E-02	3.195E-03	0.424
		1770.23		-1.430E-01	2.646E-01	3.424E-01	2.080E-02	-0.418
TL-207		81.07		2.165E-02	8.011E-02	1.376E-01	1.595E-02	0.157
		83.78		-4.156E-02	4.876E-02	7.433E-02	8.719E-03	-0.559
		94.90		-1.402E-01	1.125E-01	1.669E-01	1.720E-02	-0.840
		122.32		-6.642E-01	7.959E-01	1.201E+00	9.241E-02	-0.553
		144.24		2.185E-02	3.299E-01	5.407E-01	4.229E-02	0.040
		154.21		-1.349E-01	1.872E-01	2.832E-01	2.135E-02	-0.476
		269.46		4.160E-02	8.751E-02	1.544E-01	1.065E-02	0.269
		323.87	*	4.750E-02	3.531E-01	5.982E-01	1.001E-01	0.079
		338.28		7.446E-02	5.576E-01	8.820E-01	9.532E-02	0.084
		445.03		-5.834E-01	1.328E+00	1.966E+00	2.005E-01	-0.297
TL-208		277.35		-9.694E-02	1.688E-01	2.672E-01	2.953E-02	-0.363
	+	510.84		1.127E-01	1.985E-01	2.672E-01	2.681E-02	0.422
		583.14	*	-1.546E-02	2.315E-02	3.180E-02	2.001E-03	-0.486
		860.37		1.565E-01	1.410E-01	2.745E-01	2.290E-02	0.570
PO-209		260.50		1.904E+00	4.587E+00	8.068E+00	5.388E-01	0.236
		262.80		-5.932E+00	1.287E+01	2.081E+01	1.389E+00	-0.285
		896.60	*	-2.381E+00	4.088E+00	6.002E+00	4.925E-01	-0.397

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-210		46.50	*	4.554E-01	4.562E+00	7.775E+00	6.776E-01	0.059
PB-210		46.50	*	4.554E-01	4.562E+00	7.775E+00	6.776E-01	0.059
PO-210		46.50	*	4.554E-01	4.562E+00	7.775E+00	6.039E-01	0.059
BI-211		72.87		-1.046E+00	1.556E+00	2.322E+00	2.662E-01	-0.450
		351.07	*	-2.796E-02	1.104E-01	1.743E-01	1.177E-02	-0.160
PB-211		404.84	*	3.190E-01	4.850E-01	7.960E-01	4.961E-01	0.401
		427.08		3.668E-02	1.035E+00	1.708E+00	1.055E+00	0.021
		831.96		-4.998E-01	6.903E-01	8.675E-01	5.420E-01	-0.576
BI-212		727.18	*	7.810E-02	1.462E-01	2.630E-01	2.011E-02	0.297
		785.46		1.709E-01	6.863E-01	1.199E+00	7.803E-02	0.143
		1620.62		3.200E-01	8.496E-01	1.515E+00	9.889E-02	0.211
PB-212		74.81		-1.205E-02	1.793E-01	2.848E-01	4.210E-02	-0.042
		77.11		-6.401E-02	9.394E-02	1.436E-01	1.647E-02	-0.446
		87.30		8.261E-02	1.459E-01	2.546E-01	3.972E-02	0.324
	+	238.63	*	1.140E-02	3.821E-02	4.972E-02	3.993E-03	0.229
		300.09		1.816E-01	3.161E-01	5.648E-01	4.973E-02	0.321
PO-212		74.81		-1.205E-02	1.793E-01	2.848E-01	4.210E-02	-0.042
		77.11		-6.401E-02	9.394E-02	1.436E-01	1.647E-02	-0.446
		87.30		8.261E-02	1.459E-01	2.546E-01	3.972E-02	0.324
		115.19		1.669E+00	1.525E+00	2.753E+00	2.072E-01	0.606
	+	238.63	*	1.140E-02	3.821E-02	4.972E-02	3.993E-03	0.229
		300.09		1.816E-01	3.161E-01	5.648E-01	4.973E-02	0.321
BI-214		609.31	*	-7.242E-03	4.185E-02	6.420E-02	4.718E-03	-0.113
		1120.29		9.336E-02	1.228E-01	2.312E-01	2.154E-02	0.404
		1764.49		-4.448E-02	1.679E-01	2.806E-01	1.710E-02	-0.159
PB-214		74.81		-2.076E-02	3.089E-01	4.907E-01	6.693E-02	-0.042
		77.11		-1.097E-01	1.613E-01	2.461E-01	3.390E-02	-0.446
		87.30		1.415E-01	2.498E-01	4.362E-01	6.211E-02	0.324
		241.98		-6.184E-02	1.880E-01	2.512E-01	2.189E-02	-0.246
		295.21		1.080E-01	6.696E-02	1.278E-01	1.161E-02	0.845
		351.92	*	5.157E-03	3.757E-02	6.186E-02	5.277E-03	0.083
PO-214		74.81		-2.076E-02	3.089E-01	4.907E-01	6.693E-02	-0.042
		77.11		-1.097E-01	1.613E-01	2.461E-01	3.390E-02	-0.446
		87.30		1.415E-01	2.498E-01	4.362E-01	6.211E-02	0.324
		241.98		-6.184E-02	1.880E-01	2.512E-01	2.189E-02	-0.246
		295.21		1.080E-01	6.696E-02	1.278E-01	1.161E-02	0.845
		351.92	*	5.157E-03	3.757E-02	6.186E-02	5.277E-03	0.083
PO-215		81.07		2.165E-02	8.011E-02	1.376E-01	1.595E-02	0.157
		83.78		-4.156E-02	4.876E-02	7.433E-02	8.719E-03	-0.559
		94.90		-1.402E-01	1.125E-01	1.669E-01	1.720E-02	-0.840
		122.32		-6.642E-01	7.959E-01	1.201E+00	9.241E-02	-0.553
		144.24		2.185E-02	3.299E-01	5.407E-01	4.229E-02	0.040
		154.21		-1.349E-01	1.872E-01	2.832E-01	2.135E-02	-0.476
		269.46		4.160E-02	8.751E-02	1.544E-01	1.065E-02	0.269
		323.87	*	4.750E-02	3.531E-01	5.982E-01	1.001E-01	0.079
		338.28		7.446E-02	5.576E-01	8.820E-01	9.532E-02	0.084
		445.03		-5.834E-01	1.328E+00	1.966E+00	2.005E-01	-0.297
PO-216		74.81		-1.205E-02	1.793E-01	2.848E-01	4.210E-02	-0.042
		77.11		-6.401E-02	9.394E-02	1.436E-01	1.647E-02	-0.446

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		87.30		8.261E-02	1.459E-01	2.546E-01	3.972E-02	0.324
	+	238.63	*	1.140E-02	3.821E-02	4.972E-02	3.993E-03	0.229
		300.09		1.816E-01	3.161E-01	5.648E-01	4.973E-02	0.321
PO-218		74.81		-2.076E-02	3.089E-01	4.907E-01	6.693E-02	-0.042
		77.11		-1.097E-01	1.613E-01	2.461E-01	3.390E-02	-0.446
		87.30		1.415E-01	2.498E-01	4.362E-01	6.211E-02	0.324
		241.98		-6.184E-02	1.880E-01	2.512E-01	2.189E-02	-0.246
		295.21		1.080E-01	6.696E-02	1.278E-01	1.161E-02	0.845
		351.92	*	5.157E-03	3.757E-02	6.186E-02	5.277E-03	0.083
RN-219		271.23		4.736E-02	1.134E-01	1.989E-01	1.739E-02	0.238
		401.81	*	-1.350E-01	2.077E-01	3.122E-01	4.227E-02	-0.432
RN-220		549.76	*	-9.631E+00	1.466E+01	2.127E+01	1.165E+00	-0.453
RA-223		81.07		2.165E-02	8.011E-02	1.376E-01	1.595E-02	0.157
		83.78		-4.156E-02	4.876E-02	7.433E-02	8.719E-03	-0.559
		94.90		-1.402E-01	1.125E-01	1.669E-01	1.720E-02	-0.840
		122.32		-6.642E-01	7.959E-01	1.201E+00	9.241E-02	-0.553
		144.24		2.185E-02	3.299E-01	5.407E-01	4.229E-02	0.040
		154.21		-1.349E-01	1.872E-01	2.832E-01	2.135E-02	-0.476
		269.46		4.160E-02	8.751E-02	1.544E-01	1.065E-02	0.269
		323.87	*	4.750E-02	3.531E-01	5.982E-01	1.001E-01	0.079
		338.28		7.446E-02	5.576E-01	8.820E-01	9.532E-02	0.084
		445.03		-5.834E-01	1.328E+00	1.966E+00	2.005E-01	-0.297
RA-224		240.98	*	-7.661E-02	3.584E-01	4.881E-01	3.254E-02	-0.157
RA-226		609.31	*	-7.242E-03	4.185E-02	6.420E-02	4.718E-03	-0.113
		1120.29		9.336E-02	1.228E-01	2.312E-01	2.154E-02	0.404
		1764.49		-4.448E-02	1.679E-01	2.806E-01	1.710E-02	-0.159
AC-227		79.80		-3.640E-01	6.863E-01	1.085E+00	2.477E-01	-0.335
		236.00		-1.125E-01	1.220E-01	1.467E-01	1.606E-02	-0.767
		256.20	*	-1.740E-01	1.853E-01	2.825E-01	4.053E-02	-0.616
		286.10		-7.381E-01	7.625E-01	1.147E+00	1.375E-01	-0.644
		299.80		1.348E-01	6.006E-01	1.034E+00	1.714E-01	0.130
		304.40		7.354E-02	8.269E-01	1.402E+00	2.462E-01	0.052
		334.20		-6.012E-01	1.080E+00	1.675E+00	3.101E-01	-0.359
TH-227		79.80		-3.640E-01	6.864E-01	1.085E+00	2.505E-01	-0.335
		94.00		-8.994E-01	1.006E+00	1.509E+00	3.407E-01	-0.596
		236.00		-1.125E-01	1.219E-01	1.467E-01	1.412E-02	-0.767
		256.20	*	-1.740E-01	1.860E-01	2.825E-01	4.864E-02	-0.616
		286.10		-7.381E-01	1.059E+00	1.147E+00	1.149E+00	-0.644
		299.80		1.348E-01	6.006E-01	1.034E+00	1.714E-01	0.130
		304.40		7.354E-02	8.269E-01	1.402E+00	2.462E-01	0.052
		334.20		-6.012E-01	1.080E+00	1.675E+00	3.101E-01	-0.359
AC-228		338.32		1.783E-02	1.337E-01	2.112E-01	8.626E-02	0.084
		911.07	*	7.138E-03	7.451E-02	1.303E-01	1.421E-02	0.055
		969.11		-2.308E-03	1.233E-01	2.013E-01	4.641E-02	-0.011
RA-228		338.32		1.783E-02	1.337E-01	2.112E-01	8.626E-02	0.084
		911.07	*	7.138E-03	7.451E-02	1.303E-01	1.421E-02	0.055
		969.11		-2.308E-03	1.233E-01	2.013E-01	4.641E-02	-0.011
TH-228		74.81		-1.214E-02	1.806E-01	2.870E-01	3.302E-02	-0.042
		77.11		-6.450E-02	9.466E-02	1.447E-01	1.660E-02	-0.446

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		87.30		8.324E-02	1.468E-01	2.566E-01	3.072E-02	0.324
	+	238.63	*	1.149E-02	3.851E-02	5.009E-02	4.023E-03	0.229
		300.09		1.830E-01	3.359E-01	5.691E-01	3.359E-01	0.321
TH-229		85.43		6.282E-02	7.096E-02	1.272E-01	1.506E-02	0.494
		88.47		-2.224E-02	4.165E-02	6.584E-02	7.827E-03	-0.338
		100.00		-2.605E-02	7.897E-02	1.268E-01	1.189E-02	-0.205
		193.63	*	-5.852E-02	2.401E-01	3.754E-01	2.436E-02	-0.156
		210.97		-2.158E-01	3.435E-01	5.097E-01	3.351E-02	-0.423
TH-230		609.31	*	-7.242E-03	4.185E-02	6.420E-02	4.718E-03	-0.113
		1120.29		9.336E-02	1.228E-01	2.312E-01	2.154E-02	0.404
		1764.49		-4.448E-02	1.679E-01	2.806E-01	1.710E-02	-0.159
PA-231		283.67	*	9.648E-02	7.338E-01	1.253E+00	1.773E-01	0.077
		301.29		2.189E-01	2.400E-01	4.413E-01	4.807E-02	0.496
TH-231		81.07		2.165E-02	8.011E-02	1.376E-01	1.595E-02	0.157
		83.78		-4.156E-02	4.876E-02	7.433E-02	8.719E-03	-0.559
		94.90		-1.402E-01	1.125E-01	1.669E-01	1.720E-02	-0.840
		122.32		-6.642E-01	7.959E-01	1.201E+00	9.241E-02	-0.553
		144.24		2.185E-02	3.299E-01	5.407E-01	4.229E-02	0.040
		154.21		-1.349E-01	1.872E-01	2.832E-01	2.135E-02	-0.476
		269.46		4.160E-02	8.751E-02	1.544E-01	1.065E-02	0.269
		323.87	*	4.750E-02	3.531E-01	5.982E-01	1.001E-01	0.079
		338.28		7.446E-02	5.576E-01	8.820E-01	9.532E-02	0.084
		445.03		-5.834E-01	1.328E+00	1.966E+00	2.005E-01	-0.297
U-231		84.21		-8.266E-01	6.226E-01	8.935E-01	1.050E-01	-0.925
		92.29		1.689E-02	2.903E-01	4.787E-01	5.208E-02	0.035
		95.87	*	-6.750E-02	1.455E-01	2.321E-01	2.347E-02	-0.291
		108.00		-3.126E-01	3.036E-01	4.097E-01	3.392E-02	-0.763
TH-232		338.32		1.783E-02	1.335E-01	2.112E-01	1.328E-02	0.084
		911.07	*	7.138E-03	7.451E-02	1.303E-01	1.421E-02	0.055
		969.11		-2.308E-03	1.233E-01	2.013E-01	4.641E-02	-0.011
PA-233		75.28		6.316E-01	1.459E+00	2.399E+00	4.103E-01	0.263
		86.59		7.029E-01	6.501E-01	1.135E+00	3.185E-01	0.619
		300.12		9.507E-02	1.638E-01	2.923E-01	4.030E-02	0.325
		311.98	*	8.595E-03	3.185E-02	5.488E-02	3.742E-03	0.157
		340.50		5.483E-02	2.970E-01	5.044E-01	1.165E-01	0.109
		398.62		-8.815E-02	1.044E+00	1.704E+00	4.401E-01	-0.052
		415.76		4.880E-02	7.371E-01	1.225E+00	2.517E-01	0.040
PA-234		63.00		-4.145E-01	8.993E-01	1.468E+00	2.578E-01	-0.282
		94.67		-8.473E-02	8.046E-02	1.212E-01	1.656E-02	-0.699
		98.44		3.956E-02	4.623E-02	7.303E-02	4.086E-02	0.542
		99.86		-5.246E-02	2.013E-01	3.257E-01	3.062E-02	-0.161
		111.00		6.227E-02	7.772E-02	1.372E-01	1.594E-02	0.454
		131.20		4.154E-02	4.672E-02	8.240E-02	5.527E-03	0.504
		152.70		-6.847E-03	1.542E-01	2.496E-01	4.007E-02	-0.027
		186.00		-3.236E-02	6.818E-01	1.068E+00	3.277E-01	-0.030
		226.40		1.061E-02	1.941E-01	3.103E-01	3.724E-02	0.034
		227.20		-4.264E-02	2.082E-01	3.232E-01	2.144E-02	-0.132
		248.90		5.106E-02	4.347E-01	6.954E-01	1.512E-01	0.073
		293.70		3.511E-01	3.319E-01	6.029E-01	9.879E-02	0.582

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		369.80		-2.781E-01	4.716E-01	7.237E-01	1.510E-01	-0.384
		568.70		4.997E-01	5.602E-01	1.010E+00	5.461E-02	0.495
		569.50		7.982E-02	1.545E-01	2.664E-01	1.439E-02	0.300
		574.00		3.825E-01	7.399E-01	1.288E+00	6.932E-02	0.297
		699.00		6.397E-02	4.478E-01	7.630E-01	1.361E-01	0.084
		706.10		-4.193E-01	6.143E-01	8.835E-01	3.895E-01	-0.475
		733.00		8.025E-02	1.528E-01	2.786E-01	5.921E-02	0.288
		742.81		2.389E-01	6.368E-01	1.098E+00	7.347E-01	0.218
		796.30		2.153E-01	4.616E-01	8.161E-01	2.162E-01	0.264
		805.60		1.382E-01	5.956E-01	1.018E+00	3.074E-01	0.136
		819.60		4.399E-02	6.550E-01	1.097E+00	4.136E-01	0.040
		826.30		2.430E-01	4.357E-01	7.656E-01	3.405E-01	0.317
		831.60		-2.147E-01	3.140E-01	4.423E-01	1.303E-01	-0.485
		876.40		3.054E-01	5.094E-01	7.539E-01	7.746E-01	0.405
		880.51		-1.547E-02	1.595E-01	2.435E-01	1.935E-02	-0.064
		883.24		-4.166E-02	1.492E-01	2.283E-01	1.533E-01	-0.183
		899.00		2.740E-01	4.713E-01	8.249E-01	3.600E-01	0.332
		925.00		-1.221E-01	5.384E-01	8.397E-01	6.801E-02	-0.145
		926.50		9.081E-04	8.407E-02	1.383E-01	3.471E-02	0.007
		946.00	*	1.377E-01	1.447E-01	2.764E-01	5.107E-02	0.498
		949.00		-6.933E-02	2.261E-01	3.476E-01	2.769E-02	-0.199
		980.50		7.709E-02	3.314E-01	5.690E-01	4.419E-02	0.135
		1394.10		-4.260E-01	6.178E-01	6.909E-01	4.483E-01	-0.617
PA-234M		766.42		2.920E+00	5.195E+00	9.095E+00	4.583E+00	0.321
		1001.03	*	-2.735E-01	2.060E+00	3.260E+00	2.973E-01	-0.084
TH-234		63.29	*	-2.589E-01	7.478E-01	1.234E+00	2.441E-01	-0.210
		92.38		-1.962E-02	2.657E-01	4.342E-01	8.359E-02	-0.045
U-234		609.31	*	-7.242E-03	4.185E-02	6.420E-02	4.718E-03	-0.113
		1120.29		9.336E-02	1.228E-01	2.312E-01	2.154E-02	0.404
		1764.49		-4.448E-02	1.679E-01	2.806E-01	1.710E-02	-0.159
U-235		89.95		-8.759E-01	5.384E-01	6.388E-01	2.030E-01	-1.371
		93.35		-2.998E-02	3.107E-01	5.063E-01	1.454E-01	-0.059
		105.00		-3.841E-02	4.306E-01	7.061E-01	2.108E-01	-0.054
		143.76	*	3.477E-02	9.906E-02	1.661E-01	2.753E-02	0.209
		163.35		1.089E-01	2.152E-01	3.637E-01	6.609E-02	0.299
		185.71		-1.982E-03	2.517E-02	3.932E-02	2.535E-03	-0.050
		205.31		7.942E-04	2.559E-01	4.092E-01	7.463E-02	0.002
NP-236		94.67		-6.419E-02	6.077E-02	9.193E-02	9.518E-03	-0.698
		98.44		2.992E-02	3.082E-02	5.521E-02	5.321E-03	0.542
		111.00		4.710E-02	5.865E-02	1.038E-01	8.245E-03	0.454
		160.31	*	-3.267E-03	3.704E-02	5.955E-02	3.802E-03	-0.055
NP-237		86.50	*	1.056E-01	9.641E-02	1.706E-01	4.065E-02	0.619
		95.87		-2.063E-01	4.471E-01	7.095E-01	1.787E-01	-0.291
U-238		63.29	*	-2.589E-01	7.478E-01	1.234E+00	2.441E-01	-0.210
		92.38		-1.962E-02	2.657E-01	4.342E-01	4.715E-02	-0.045
NP-239		99.55		1.410E-02	6.676E-02	1.129E-01	1.067E-02	0.125
		117.00	*	-4.779E-02	8.464E-02	1.318E-01	9.701E-03	-0.362
		209.75		-2.105E-01	3.486E-01	5.194E-01	3.412E-02	-0.405
		228.18		7.893E-03	1.146E-01	1.833E-01	1.217E-02	0.043

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		277.60		-3.121E-02	8.045E-02	1.302E-01	8.662E-03	-0.240
		334.30		-3.553E-01	6.073E-01	9.433E-01	5.965E-02	-0.377
AM-241		59.54	*	1.448E-02	9.498E-02	1.631E-01	2.059E-02	0.089
AM-243		74.67	*	-1.957E-03	2.920E-02	4.640E-02	5.313E-03	-0.042
		86.72		3.656E+00	3.535E+00	6.380E+00	7.609E-01	0.573
		117.66		-1.768E+00	1.710E+00	2.527E+00	1.844E-01	-0.700
		142.18		3.034E+00	8.344E+00	1.403E+01	9.176E-01	0.216
CM-243		99.55		1.450E-02	6.867E-02	1.161E-01	1.097E-02	0.125
		103.76	*	-4.096E-03	3.873E-02	6.345E-02	5.595E-03	-0.065
		117.00		-4.914E-02	8.704E-02	1.356E-01	9.976E-03	-0.362
		209.75		-2.074E-01	3.435E-01	5.118E-01	3.362E-02	-0.405
		228.18		7.971E-03	1.157E-01	1.852E-01	1.229E-02	0.043
		277.60		-3.145E-02	8.106E-02	1.312E-01	8.728E-03	-0.240
AM-246		798.80		-1.922E-02	8.011E-02	1.283E-01	8.597E-03	-0.150
		1036.00		1.875E-02	1.792E-01	2.968E-01	2.182E-02	0.063
		1062.04		-1.073E-02	1.194E-01	1.902E-01	1.355E-02	-0.056
		1078.86	*	1.501E-02	6.663E-02	1.134E-01	7.904E-03	0.132
CM-247		278.00		-1.308E-01	3.413E-01	5.531E-01	3.679E-02	-0.236
		287.40		3.334E-01	6.099E-01	1.081E+00	7.156E-02	0.309
		402.60	*	2.536E-03	1.777E-02	2.985E-02	1.684E-03	0.085
CF-249		252.85		1.854E-01	4.262E-01	7.509E-01	5.015E-02	0.247
		333.44		-5.526E-03	7.573E-02	1.253E-01	7.934E-03	-0.044
		387.95	*	-6.176E-03	1.993E-02	3.166E-02	1.799E-03	-0.195
CF-251		176.60	*	7.368E-04	5.718E-02	9.232E-02	5.909E-03	0.008
		227.00		-3.433E-02	1.852E-01	2.883E-01	1.912E-02	-0.119
		285.00		-6.808E-01	8.809E-01	1.367E+00	9.063E-02	-0.498

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012144    *
* Acquisition date : 20-JAN-2010 14:09:39 Detector SN#     :               *
* Detector ID        : GAM04               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:     0 02:00:00.00     Abundance limit : 75.000        *
* Elapsed real time:     0 02:00:00.42     Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date        : 13-JAN-2010 00:00:00 Nuclide Library : SOLID        *
* Sample ID          : G1202012144          Analyst initials: MXR1         *
* Batch Number       : 940263               Sample Quantity : 1.3409E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000    *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
* Standard Weight  :    0.00000                                             *
* CALIB. DATE/TIME :  5-MAY-2009 14:25:41 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope      :               *
* LCS DPM          :    0.000             LCS Isotope      :               *
* LCSD DPM         :    0.000             LCSD Isotope     :               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
ANH-511	2.435E-02	4.197E-02	2.344E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)		
BE-7	-5.024E-02	1.332E-01	2.130E-01	0.000E+00	NOT IDENT.
NA-22	-4.999E-03	1.823E-02	2.922E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	8.068E+01	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-4.433E-04	1.465E-02	2.392E-02	0.000E+00	NOT IDENT.
K-40	-1.445E-01	2.369E-01	3.746E-01	0.000E+00	NOT IDENT.
TI-44	6.240E-04	1.510E-02	2.641E-02	0.000E+00	NOT IDENT.
SC-46	7.051E-03	2.008E-02	3.605E-02	0.000E+00	NOT IDENT.
V-48	-1.727E-02	2.458E-02	3.487E-02	0.000E+00	NOT IDENT.
CR-51	-1.668E-01	1.573E-01	2.446E-01	0.000E+00	NOT IDENT.
MN-52	2.109E-02	4.959E-02	9.247E-02	0.000E+00	NOT IDENT.
MN-54	5.811E-03	1.775E-02	3.195E-02	0.000E+00	NOT IDENT.
CO-56	1.754E-04	1.960E-02	3.351E-02	0.000E+00	NOT IDENT.
CO-57	-3.437E-03	1.075E-02	1.831E-02	0.000E+00	NOT IDENT.
CO-58	-9.833E-03	1.982E-02	3.125E-02	0.000E+00	NOT IDENT.
FE-59	8.510E-03	3.306E-02	5.842E-02	0.000E+00	NOT IDENT.
CO-60	7.714E-03	2.008E-02	3.705E-02	0.000E+00	NOT IDENT.
ZN-65	-1.238E-02	4.113E-02	6.392E-02	0.000E+00	NOT IDENT.
GE-68	-2.634E-01	6.166E-01	9.343E-01	0.000E+00	NOT IDENT.
AS-73	1.034E-01	6.276E-01	1.173E+00	0.000E+00	NOT IDENT.
AS-74	2.256E-02	3.791E-02	6.844E-02	0.000E+00	NOT IDENT.
SE-75	6.844E-03	1.935E-02	3.568E-02	0.000E+00	NOT IDENT.
BR-77	-1.687E-01	5.867E-01	9.469E-01	0.000E+00	FAIL ABUN
SR-82	-1.851E-02	1.251E-01	2.090E-01	0.000E+00	NOT IDENT.
RB-83	1.691E-03	3.137E-02	5.340E-02	0.000E+00	NOT IDENT.
RB-84	-1.848E-02	3.165E-02	4.429E-02	0.000E+00	NOT IDENT.
KR-85	6.105E+00	4.005E+00	7.893E+00	0.000E+00	NOT IDENT.

SR-85	2.892E-02	1.897E-02	3.739E-02	0.000E+00	NOT IDENT.
RB-86	-7.858E-02	2.850E-01	4.462E-01	0.000E+00	NOT IDENT.
Y-88	-5.270E-03	2.085E-02	3.164E-02	0.000E+00	NOT IDENT.
ZR-88	1.478E-02	1.449E-02	2.791E-02	0.000E+00	NOT IDENT.
Y-91	2.185E+00	6.844E+00	1.213E+01	0.000E+00	NOT IDENT.
NB-94	9.856E-03	1.886E-02	3.482E-02	0.000E+00	NOT IDENT.
NB-95	2.859E-03	1.724E-02	3.051E-02	0.000E+00	NOT IDENT.
NB-95M	-3.707E-02	5.813E-02	7.809E-02	0.000E+00	NOT IDENT.
ZR-95	-3.879E-03	2.604E-02	4.360E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.065E+01	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	7.069E+02	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-5.518E-02	7.800E-01	1.332E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.540E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-9.388E-03	1.973E-02	2.948E-02	0.000E+00	NOT IDENT.
RH-102	2.769E-03	1.434E-02	2.506E-02	0.000E+00	NOT IDENT.
RU-103	1.482E-03	1.831E-02	3.139E-02	0.000E+00	NOT IDENT.
RH-106	-8.330E-02	1.461E-01	2.154E-01	0.000E+00	FAIL ABUN
RU-106	-8.330E-02	1.459E-01	2.154E-01	0.000E+00	FAIL ABUN
AG-108M	1.715E-02	1.741E-02	3.324E-02	0.000E+00	NOT IDENT.
CD-109	2.819E-02	2.971E-01	5.371E-01	0.000E+00	NOT IDENT.
AG-110M	-4.226E-03	1.765E-02	2.983E-02	0.000E+00	NOT IDENT.
IN-111	-3.421E-03	8.570E-02	1.425E-01	0.000E+00	NOT IDENT.
IN-113M	-1.051E-02	2.210E-02	3.608E-02	0.000E+00	NOT IDENT.
SN-113	-1.051E-02	2.210E-02	3.608E-02	0.000E+00	NOT IDENT.
IN-114M	-3.161E-02	7.263E-02	1.181E-01	0.000E+00	NOT IDENT.
CD-115	-2.632E-01	5.401E-01	8.426E-01	0.000E+00	NOT IDENT.
SN-117M	3.255E-03	1.741E-02	3.055E-02	0.000E+00	NOT IDENT.
SB-122	-8.685E-02	1.452E-01	2.187E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.945E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-6.880E-04	1.274E-02	2.188E-02	0.000E+00	NOT IDENT.
I-124	5.675E-02	1.103E-01	1.960E-01	0.000E+00	NOT IDENT.
SB-124	1.233E-02	3.586E-02	6.656E-02	0.000E+00	NOT IDENT.
SB-125	-4.059E-03	4.451E-02	7.552E-02	0.000E+00	NOT IDENT.
TE-125M	2.607E-01	4.144E+00	6.696E+00	0.000E+00	NOT IDENT.
I-126	-1.730E-02	5.508E-02	9.141E-02	0.000E+00	NOT IDENT.
SB-126	-2.924E-02	4.885E-02	7.706E-02	0.000E+00	NOT IDENT.
SN-126	1.928E-02	3.010E-02	5.686E-02	0.000E+00	NOT IDENT.
SB-127	1.339E-02	1.433E-01	2.535E-01	0.000E+00	NOT IDENT.
XE-127	7.650E-04	2.091E-02	3.554E-02	0.000E+00	NOT IDENT.
I-131	-8.457E-03	2.984E-02	5.019E-02	0.000E+00	NOT IDENT.
TE-132	4.478E-03	6.921E-02	1.170E-01	0.000E+00	NOT IDENT.
BA-133	4.381E-03	2.084E-02	3.720E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.373E+00	0.000E+00	0.000E+00	SHORT HLIF
CS-134	9.200E-03	2.263E-02	4.129E-02	0.000E+00	NOT IDENT.
CS-135	-1.492E-02	7.357E-02	1.287E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.478E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.323E-02	3.839E-02	4.819E-02	0.000E+00	NOT IDENT.
BA-137M	-3.303E-03	2.138E-02	3.695E-02	0.000E+00	NOT IDENT.
CS-137	-3.492E-03	2.260E-02	3.906E-02	0.000E+00	NOT IDENT.
CE-139	-6.263E-03	1.370E-02	2.258E-02	0.000E+00	NOT IDENT.
BA-140	4.648E-03	9.479E-02	1.567E-01	0.000E+00	NOT IDENT.
LA-140	-2.789E-02	3.432E-02	4.439E-02	0.000E+00	NOT IDENT.
CE-141	3.420E-03	2.364E-02	4.156E-02	0.000E+00	NOT IDENT.
CE-143	8.242E-01	1.429E+00	2.644E+00	0.000E+00	NOT IDENT.
CE-144	-4.449E-02	9.007E-02	1.498E-01	0.000E+00	NOT IDENT.
PM-144	9.504E-04	1.879E-02	3.287E-02	0.000E+00	NOT IDENT.
PR-144	6.415E-02	1.268E+00	2.219E+00	0.000E+00	NOT IDENT.
PM-146	-2.703E-03	2.224E-02	3.595E-02	0.000E+00	NOT IDENT.
ND-147	-5.632E-02	1.824E-01	2.928E-01	0.000E+00	NOT IDENT.
PM-149	-4.368E+00	4.209E+00	6.589E+00	0.000E+00	NOT IDENT.
EU-152	-4.623E-03	4.837E-02	8.371E-02	0.000E+00	NOT IDENT.
GD-153	4.177E-03	3.443E-02	6.197E-02	0.000E+00	NOT IDENT.
EU-154	-2.047E-02	5.243E-02	8.163E-02	0.000E+00	NOT IDENT.
EU-155	-1.622E-02	4.375E-02	7.476E-02	0.000E+00	NOT IDENT.
TB-160	1.109E-02	6.571E-02	1.151E-01	0.000E+00	NOT IDENT.
HO-166M	3.702E-02	3.425E-02	6.715E-02	0.000E+00	NOT IDENT.
TM-171	-2.731E+00	1.357E+01	2.425E+01	0.000E+00	NOT IDENT.
LU-176	-1.813E-03	1.113E-02	1.928E-02	0.000E+00	NOT IDENT.
LU-177	6.215E-02	2.220E-01	3.860E-01	0.000E+00	NOT IDENT.
LU-177M	1.548E-02	7.335E-02	1.301E-01	0.000E+00	NOT IDENT.
HF-181	-5.336E-03	1.434E-02	2.262E-02	0.000E+00	NOT IDENT.
W-181	-7.725E-02	1.939E-01	3.245E-01	0.000E+00	NOT IDENT.
TA-182	3.320E-02	7.840E-02	1.457E-01	0.000E+00	NOT IDENT.
RE-183	-1.872E-02	4.728E-02	7.843E-02	0.000E+00	NOT IDENT.
RE-184	4.790E-02	1.079E-01	2.007E-01	0.000E+00	NOT IDENT.
OS-185	4.198E-03	1.904E-02	3.440E-02	0.000E+00	NOT IDENT.
RE-188	1.927E-02	7.294E-02	1.290E-01	0.000E+00	NOT IDENT.
W-188	-3.291E+00	3.393E+00	5.429E+00	0.000E+00	NOT IDENT.

IR-192	1.041E-02	1.668E-02	3.109E-02	0.000E+00	NOT IDENT.
AU-195	8.040E-02	9.329E-02	1.779E-01	0.000E+00	NOT IDENT.
TL-200	8.441E-01	1.910E+00	3.486E+00	0.000E+00	NOT IDENT.
TL-201	-2.038E-01	5.924E-01	9.855E-01	0.000E+00	NOT IDENT.
TL-202	-7.654E-03	2.254E-02	3.684E-02	0.000E+00	NOT IDENT.
HG-203	-5.782E-03	1.626E-02	2.785E-02	0.000E+00	NOT IDENT.
BI-207	1.905E-02	2.315E-02	4.528E-02	0.000E+00	NOT IDENT.
TL-207	4.750E-02	3.460E-01	6.159E-01	0.000E+00	NOT IDENT.
TL-208	-1.546E-02	2.269E-02	3.240E-02	0.000E+00	FAIL ABUN
PO-209	-2.381E+00	4.006E+00	6.068E+00	0.000E+00	NOT IDENT.
BI-210	4.554E-01	4.471E+00	8.275E+00	0.000E+00	NOT IDENT.
PB-210	4.554E-01	4.471E+00	8.275E+00	0.000E+00	NOT IDENT.
PO-210	4.554E-01	4.471E+00	8.275E+00	0.000E+00	NOT IDENT.
BI-211	-2.796E-02	1.082E-01	1.792E-01	0.000E+00	NOT IDENT.
PB-211	3.190E-01	4.753E-01	8.163E-01	0.000E+00	NOT IDENT.
BI-212	7.810E-02	1.433E-01	2.669E-01	0.000E+00	NOT IDENT.
PB-212	1.140E-02	3.745E-02	5.147E-02	0.000E+00	FAIL ABUN
PO-212	1.140E-02	3.745E-02	5.147E-02	0.000E+00	FAIL ABUN
BI-214	-7.242E-03	4.102E-02	6.537E-02	0.000E+00	NOT IDENT.
PB-214	5.157E-03	3.682E-02	6.360E-02	0.000E+00	NOT IDENT.
PO-214	5.157E-03	3.682E-02	6.360E-02	0.000E+00	NOT IDENT.
PO-215	4.750E-02	3.460E-01	6.159E-01	0.000E+00	NOT IDENT.
PO-216	1.140E-02	3.745E-02	5.147E-02	0.000E+00	FAIL ABUN
PO-218	5.157E-03	3.682E-02	6.360E-02	0.000E+00	NOT IDENT.
RN-219	-1.350E-01	2.035E-01	3.202E-01	0.000E+00	NOT IDENT.
RN-220	-9.631E+00	1.437E+01	2.170E+01	0.000E+00	NOT IDENT.
RA-223	4.750E-02	3.460E-01	6.159E-01	0.000E+00	NOT IDENT.
RA-224	-7.661E-02	3.512E-01	5.052E-01	0.000E+00	NOT IDENT.
RA-226	-7.242E-03	4.102E-02	6.537E-02	0.000E+00	NOT IDENT.
AC-227	-1.740E-01	1.815E-01	2.920E-01	0.000E+00	NOT IDENT.
TH-227	-1.740E-01	1.823E-01	2.920E-01	0.000E+00	NOT IDENT.
AC-228	7.138E-03	7.302E-02	1.317E-01	0.000E+00	NOT IDENT.
RA-228	7.138E-03	7.302E-02	1.317E-01	0.000E+00	NOT IDENT.
TH-228	1.149E-02	3.774E-02	5.186E-02	0.000E+00	FAIL ABUN
TH-229	-5.852E-02	2.353E-01	3.901E-01	0.000E+00	NOT IDENT.
TH-230	-7.242E-03	4.102E-02	6.537E-02	0.000E+00	NOT IDENT.
PA-231	9.648E-02	7.191E-01	1.293E+00	0.000E+00	NOT IDENT.
TH-231	4.750E-02	3.460E-01	6.159E-01	0.000E+00	NOT IDENT.
U-231	-6.750E-02	1.426E-01	2.441E-01	0.000E+00	NOT IDENT.
TH-232	7.138E-03	7.302E-02	1.317E-01	0.000E+00	NOT IDENT.
PA-233	8.595E-03	3.121E-02	5.654E-02	0.000E+00	NOT IDENT.
PA-234	1.377E-01	1.418E-01	2.791E-01	0.000E+00	NOT IDENT.
PA-234M	-2.735E-01	2.019E+00	3.290E+00	0.000E+00	NOT IDENT.
TH-234	-2.589E-01	7.328E-01	1.306E+00	0.000E+00	NOT IDENT.
U-234	-7.242E-03	4.102E-02	6.537E-02	0.000E+00	NOT IDENT.
U-235	3.477E-02	9.708E-02	1.734E-01	0.000E+00	NOT IDENT.
NP-236	-3.267E-03	3.630E-02	6.207E-02	0.000E+00	NOT IDENT.
NP-237	1.056E-01	9.448E-02	1.797E-01	0.000E+00	NOT IDENT.
U-238	-2.589E-01	7.328E-01	1.306E+00	0.000E+00	NOT IDENT.
NP-239	-4.779E-02	8.295E-02	1.382E-01	0.000E+00	NOT IDENT.
AM-241	1.448E-02	9.308E-02	1.728E-01	0.000E+00	NOT IDENT.
AM-243	-1.957E-03	2.862E-02	4.899E-02	0.000E+00	NOT IDENT.
CM-243	-4.096E-03	3.796E-02	6.663E-02	0.000E+00	NOT IDENT.
AM-246	1.501E-02	6.530E-02	1.143E-01	0.000E+00	NOT IDENT.
CM-247	2.536E-03	1.741E-02	3.061E-02	0.000E+00	NOT IDENT.
CF-249	-6.176E-03	1.953E-02	3.250E-02	0.000E+00	NOT IDENT.
CF-251	7.368E-04	5.604E-02	9.607E-02	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 16:10:11.98

```
*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012144.CNF;1
Sample date       : 13-JAN-2010 00:00:00 Acquisition date : 20-JAN-2010 14:09:39
Sample ID         : G1202012144          Sample quantity  : 1.34090E+02 GRAM
Detector name     : GAM04                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:00.42  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 940263                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
ANH-511	511.00	24	100.00*	2.729E+00	2.435E-02	2.435E-02	175.89

Flag: "*" = Keyline

Sample ID : G1202012144 Acquisition date : 20-JAN-2010 14:09:39

Total number of lines in spectrum	2	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	2	100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
ANH-511	1.00E+09Y	1.00	2.435E-02	2.435E-02	4.282E-02	175.89	
		Total Activity :	2.435E-02	2.435E-02			
		Grand Total Activity :	2.435E-02	2.435E-02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G1202012144 Acquisition date : 20-JAN-2010 14:09:39

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	238.89	9	50	0.94	477.86	474	9	1.22E-03	****	4.82E+00	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 16:10:17.57

```
*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
*                                                                           *
*                                DETECTOR DATA                              *
*                                                                           *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012144.CNF;1  *
* Acquisition date  : 20-JAN-2010 14:09:39  Detector SN#     :              *
* Detector ID       : GAM04                 Sensitivity      : 5.00000      *
* Geometry          : CAN                   Energy tolerance: 1.50000       *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000      *
* Elapsed real time: 0 02:00:00.42          Half life ratio : 8.00000       *
*****************************************************************************
*                                                                           *
*                                SAMPLE DATA                                *
*                                                                           *
* Sample date       : 13-JAN-2010 00:00:00  Nuclide Library : SOLID         *
* Sample ID         : G1202012144           Analyst initials: MXR1          *
* Batch Number      : 940263                Sample Quantity : 1.34090E+02 GRAM *
*****************************************************************************
*                                                                           *
*                                  QC DATA                                  *
*                                                                           *
* CALIB. DATE/TIME : 5-MAY-2009 14:25:41.36MS Isotope      :                *
* MSD ID           :                      MSD Isotope      :               *
* LCS ID           : 1032-A               LCS Isotope      :               *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	2.435E-02	4.282E-02	2.295E-02	1.284E-03	1.061

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-5.024E-02		1.359E-01	2.083E-01	1.380E-02	-0.241
NA-22	-4.999E-03		1.860E-02	2.909E-02	1.902E-03	-0.172
NA-24	-7.867E-06		4.116E-05	Half-Life too short		
AL-26	-4.433E-04		1.495E-02	2.397E-02	1.422E-03	-0.018
K-40	-1.445E-01		2.417E-01	3.738E-01	2.657E-02	-0.387
TI-44	6.240E-04		1.541E-02	2.503E-02	2.879E-03	0.025
SC-46	7.051E-03		2.049E-02	3.566E-02	2.884E-03	0.198
V-48	-1.727E-02		2.508E-02	3.455E-02	2.677E-03	-0.500
CR-51	-1.668E-01		1.605E-01	2.375E-01	1.672E-02	-0.703
MN-52	2.109E-02		5.061E-02	9.226E-02	6.296E-03	0.229
MN-54	5.811E-03		1.811E-02	3.156E-02	2.284E-03	0.184

Sample ID : G1202012144 Acquisition date : 20-JAN-2010 14:09:39

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-56	1.754E-04		2.000E-02	3.312E-02	2.457E-03	0.005
CO-57	-3.437E-03		1.097E-02	1.748E-02	1.214E-03	-0.197
CO-58	-9.833E-03		2.023E-02	3.085E-02	2.130E-03	-0.319
FE-59	8.510E-03		3.374E-02	5.800E-02	4.432E-03	0.147
CO-60	7.714E-03		2.049E-02	3.691E-02	2.529E-03	0.209
ZN-65	-1.238E-02		4.197E-02	6.348E-02	4.199E-03	-0.195
GE-68	-2.634E-01		6.292E-01	9.272E-01	6.476E-02	-0.284
AS-73	1.034E-01		6.404E-01	1.104E+00	1.445E-01	0.094
AS-74	2.256E-02		3.868E-02	6.719E-02	3.547E-03	0.336
SE-75	6.844E-03		1.975E-02	3.453E-02	2.323E-03	0.198
BR-77	-1.687E-01		5.987E-01	9.275E-01	5.165E-02	-0.182
SR-82	-1.851E-02		1.276E-01	2.061E-01	1.316E-02	-0.090
RB-83	1.691E-03		3.201E-02	5.230E-02	2.913E-03	0.032
RB-84	-1.848E-02		3.229E-02	4.379E-02	3.488E-03	-0.422
KR-85	6.105E+00		4.086E+00	7.728E+00	4.317E-01	0.790
SR-85	2.892E-02		1.936E-02	3.661E-02	2.045E-03	0.790
RB-86	-7.858E-02		2.909E-01	4.428E-01	3.096E-02	-0.177
Y-88	-5.270E-03		2.128E-02	3.171E-02	1.851E-03	-0.166
ZR-88	1.478E-02		1.478E-02	2.720E-02	1.531E-03	0.543
Y-91	2.185E+00		6.984E+00	1.207E+01	7.396E-01	0.181
NB-94	9.856E-03		1.924E-02	3.429E-02	1.847E-03	0.287
NB-95	2.859E-03		1.759E-02	3.009E-02	1.875E-03	0.095
NB-95M	-3.707E-02		5.931E-02	7.542E-02	6.189E-03	-0.491
ZR-95	-3.879E-03		2.657E-02	4.299E-02	3.130E-03	-0.090
NB-97	-5.874E-06		1.564E-05	Half-Life too short		
ZR-97	6.650E-04		3.607E-04	Half-Life too short		
MO-99	-5.518E-02		7.959E-01	1.313E+00	1.813E-01	-0.042
TC-99M	1.302E+01		7.858E+00	Half-Life too short		
RH-101	-9.388E-03		2.013E-02	2.839E-02	1.849E-03	-0.331
RH-102	2.769E-03		1.463E-02	2.450E-02	1.385E-03	0.113
RU-103	1.482E-03		1.868E-02	3.072E-02	3.859E-03	0.048
RH-106	-8.330E-02		1.491E-01	2.117E-01	2.418E-02	-0.394
RU-106	-8.330E-02		1.489E-01	2.117E-01	1.087E-02	-0.394
AG-108M	1.715E-02		1.776E-02	3.245E-02	2.005E-03	0.529
CD-109	2.819E-02		3.032E-01	5.101E-01	6.130E-02	0.055
AG-110M	-4.226E-03		1.801E-02	2.934E-02	1.568E-03	-0.144
IN-111	-3.421E-03		8.745E-02	1.377E-01	9.188E-03	-0.025
IN-113M	-1.051E-02		2.255E-02	3.516E-02	2.118E-03	-0.299
SN-113	-1.051E-02		2.255E-02	3.516E-02	2.118E-03	-0.299
IN-114M	-3.161E-02		7.411E-02	1.136E-01	7.352E-03	-0.278
CD-115	-2.632E-01		5.511E-01	8.255E-01	4.581E-02	-0.319
SN-117M	3.255E-03		1.777E-02	2.930E-02	1.874E-03	0.111
SB-122	-8.685E-02		1.481E-01	2.145E-01	1.164E-02	-0.405
I-123	-1.050E-05		9.922E-05	Half-Life too short		
TE-123M	-6.880E-04		1.300E-02	2.099E-02	1.357E-03	-0.033
I-124	5.675E-02		1.125E-01	1.925E-01	1.009E-02	0.295
SB-124	1.233E-02		3.659E-02	6.661E-02	4.526E-03	0.185
SB-125	-4.059E-03		4.542E-02	7.371E-02	4.363E-03	-0.055

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-125M	2.607E-01		4.228E+00	6.382E+00	6.324E-01	0.041
I-126	-1.730E-02		5.620E-02	8.993E-02	4.436E-03	-0.192
SB-126	-2.924E-02		4.985E-02	7.591E-02	4.266E-03	-0.385
SN-126	1.928E-02		3.072E-02	5.399E-02	6.475E-03	0.357
SB-127	1.339E-02		1.462E-01	2.495E-01	1.664E-02	0.054
XE-127	7.650E-04		2.133E-02	3.424E-02	2.238E-03	0.022
I-131	-8.457E-03		3.045E-02	4.885E-02	3.225E-03	-0.173
TE-132	4.478E-03		7.062E-02	1.129E-01	1.533E-02	0.040
BA-133	4.381E-03		2.126E-02	3.619E-02	4.239E-03	0.121
I-133	-4.232E-06		3.762E-06	Half-Life too short		
CS-134	9.200E-03		2.310E-02	4.075E-02	2.747E-03	0.226
CS-135	-1.492E-02		7.507E-02	1.246E-01	1.038E-02	-0.120
I-135	1.011E+01		7.539E+00	Half-Life too short		
CS-136	-4.323E-02		3.917E-02	4.780E-02	3.669E-03	-0.904
BA-137M	-3.303E-03		2.181E-02	3.635E-02	1.773E-03	-0.091
CS-137	-3.492E-03		2.306E-02	3.842E-02	1.885E-03	-0.091
CE-139	-6.263E-03		1.398E-02	2.167E-02	1.377E-03	-0.289
BA-140	4.648E-03		9.673E-02	1.536E-01	4.986E-02	0.030
LA-140	-2.789E-02		3.502E-02	4.438E-02	2.923E-03	-0.629
CE-141	3.420E-03		2.412E-02	3.980E-02	2.672E-03	0.086
CE-143	8.242E-01		1.458E+00	2.564E+00	5.304E-01	0.321
CE-144	-4.449E-02		9.191E-02	1.433E-01	2.089E-02	-0.310
PM-144	9.504E-04		1.918E-02	3.237E-02	1.719E-03	0.029
PR-144	6.415E-02		1.294E+00	2.185E+00	1.160E-01	0.029
PM-146	-2.703E-03		2.269E-02	3.513E-02	2.998E-03	-0.077
ND-147	-5.632E-02		1.861E-01	2.869E-01	3.848E-02	-0.196
PM-149	-4.368E+00		4.295E+00	6.385E+00	9.267E-01	-0.684
EU-152	-4.623E-03		4.936E-02	8.139E-02	5.633E-03	-0.057
GD-153	4.177E-03		3.514E-02	5.895E-02	5.786E-03	0.071
EU-154	-2.047E-02		5.350E-02	8.127E-02	7.972E-03	-0.252
EU-155	-1.622E-02		4.464E-02	7.121E-02	6.206E-03	-0.228
TB-160	1.109E-02		6.705E-02	1.138E-01	9.022E-03	0.097
HO-166M	3.702E-02		3.495E-02	6.614E-02	3.640E-03	0.560
TM-171	-2.731E+00		1.385E+01	2.292E+01	2.680E+00	-0.119
LU-176	-1.813E-03		1.135E-02	1.870E-02	1.221E-03	-0.097
LU-177	6.215E-02		2.265E-01	3.720E-01	2.441E-02	0.167
LU-177M	1.548E-02		7.484E-02	1.269E-01	7.179E-03	0.122
HF-181	-5.336E-03		1.463E-02	2.212E-02	1.249E-03	-0.241
W-181	-7.725E-02		1.979E-01	3.067E-01	3.614E-02	-0.252
TA-182	3.320E-02		8.000E-02	1.449E-01	9.018E-03	0.229
RE-183	-1.872E-02		4.824E-02	7.526E-02	4.796E-03	-0.249
RE-184	4.790E-02		1.101E-01	1.940E-01	1.296E-02	0.247
OS-185	4.198E-03		1.943E-02	3.382E-02	1.686E-03	0.124
RE-188	1.927E-02		7.443E-02	1.237E-01	7.941E-03	0.156
W-188	-3.291E+00		3.462E+00	5.263E+00	3.478E-01	-0.625
IR-192	1.041E-02		1.702E-02	3.019E-02	1.960E-03	0.345
AU-195	8.040E-02		9.519E-02	1.693E-01	1.618E-02	0.475
TL-200	8.441E-01		1.949E+00	3.393E+00	2.022E-01	0.249

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-201	-2.038E-01		6.045E-01	9.461E-01	6.015E-02	-0.215
TL-202	-7.654E-03		2.300E-02	3.597E-02	2.040E-03	-0.213
HG-203	-5.782E-03		1.660E-02	2.698E-02	1.878E-03	-0.214
BI-207	1.905E-02		2.362E-02	4.492E-02	3.195E-03	0.424
TL-207	4.750E-02		3.531E-01	5.982E-01	1.001E-01	0.079
TL-208	-1.546E-02		2.315E-02	3.180E-02	2.001E-03	-0.486
PO-209	-2.381E+00		4.088E+00	6.002E+00	4.925E-01	-0.397
BI-210	4.554E-01		4.562E+00	7.775E+00	6.776E-01	0.059
PB-210	4.554E-01		4.562E+00	7.775E+00	6.776E-01	0.059
PO-210	4.554E-01		4.562E+00	7.775E+00	6.039E-01	0.059
BI-211	-2.796E-02		1.104E-01	1.743E-01	1.177E-02	-0.160
PB-211	3.190E-01		4.850E-01	7.960E-01	4.961E-01	0.401
BI-212	7.810E-02		1.462E-01	2.630E-01	2.011E-02	0.297
PB-212	1.140E-02	+	3.821E-02	4.972E-02	3.993E-03	0.229
PO-212	1.140E-02	+	3.821E-02	4.972E-02	3.993E-03	0.229
BI-214	-7.242E-03		4.185E-02	6.420E-02	4.718E-03	-0.113
PB-214	5.157E-03		3.757E-02	6.186E-02	5.277E-03	0.083
PO-214	5.157E-03		3.757E-02	6.186E-02	5.277E-03	0.083
PO-215	4.750E-02		3.531E-01	5.982E-01	1.001E-01	0.079
PO-216	1.140E-02	+	3.821E-02	4.972E-02	3.993E-03	0.229
PO-218	5.157E-03		3.757E-02	6.186E-02	5.277E-03	0.083
RN-219	-1.350E-01		2.077E-01	3.122E-01	4.227E-02	-0.432
RN-220	-9.631E+00		1.466E+01	2.127E+01	1.165E+00	-0.453
RA-223	4.750E-02		3.531E-01	5.982E-01	1.001E-01	0.079
RA-224	-7.661E-02		3.584E-01	4.881E-01	3.254E-02	-0.157
RA-226	-7.242E-03		4.185E-02	6.420E-02	4.718E-03	-0.113
AC-227	-1.740E-01		1.853E-01	2.825E-01	4.053E-02	-0.616
TH-227	-1.740E-01		1.860E-01	2.825E-01	4.864E-02	-0.616
AC-228	7.138E-03		7.451E-02	1.303E-01	1.421E-02	0.055
RA-228	7.138E-03		7.451E-02	1.303E-01	1.421E-02	0.055
TH-228	1.149E-02	+	3.851E-02	5.009E-02	4.023E-03	0.229
TH-229	-5.852E-02		2.401E-01	3.754E-01	2.436E-02	-0.156
TH-230	-7.242E-03		4.185E-02	6.420E-02	4.718E-03	-0.113
PA-231	9.648E-02		7.338E-01	1.253E+00	1.773E-01	0.077
TH-231	4.750E-02		3.531E-01	5.982E-01	1.001E-01	0.079
U-231	-6.750E-02		1.455E-01	2.321E-01	2.347E-02	-0.291
TH-232	7.138E-03		7.451E-02	1.303E-01	1.421E-02	0.055
PA-233	8.595E-03		3.185E-02	5.488E-02	3.742E-03	0.157
PA-234	1.377E-01		1.447E-01	2.764E-01	5.107E-02	0.498
PA-234M	-2.735E-01		2.060E+00	3.260E+00	2.973E-01	-0.084
TH-234	-2.589E-01		7.478E-01	1.234E+00	2.441E-01	-0.210
U-234	-7.242E-03		4.185E-02	6.420E-02	4.718E-03	-0.113
U-235	3.477E-02		9.906E-02	1.661E-01	2.753E-02	0.209
NP-236	-3.267E-03		3.704E-02	5.955E-02	3.802E-03	-0.055
NP-237	1.056E-01		9.641E-02	1.706E-01	4.065E-02	0.619
U-238	-2.589E-01		7.478E-01	1.234E+00	2.441E-01	-0.210
NP-239	-4.779E-02		8.464E-02	1.318E-01	9.701E-03	-0.362
AM-241	1.448E-02		9.498E-02	1.631E-01	2.059E-02	0.089

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	-1.957E-03		2.920E-02	4.640E-02	5.313E-03	-0.042
CM-243	-4.096E-03		3.873E-02	6.345E-02	5.595E-03	-0.065
AM-246	1.501E-02		6.663E-02	1.134E-01	7.904E-03	0.132
CM-247	2.536E-03		1.777E-02	2.985E-02	1.684E-03	0.085
CF-249	-6.176E-03		1.993E-02	3.166E-02	1.799E-03	-0.195
CF-251	7.368E-04		5.718E-02	9.232E-02	5.909E-03	0.008

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202012144          *
* Acquisition date  : 20-JAN-2010 14:09:39 Detector SN#     :               *
* Detector ID       : GAM04                 Sensitivity     : 5.000         *
* Geometry          : CAN                   Energy tolerance: 1.500         *
* Elapsed live time:    0 02:00:00.00       Abundance limit : 75.000        *
* Elapsed real time:    0 02:00:00.42       Half life ratio : 8.000         *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date       : 13-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202012144          Analyst initials: MXR1           *
* Batch Number      : 940263               Sample Quantity : 1.3409E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
*                                                                           *
* CALIB. DATE/TIME :  5-MAY-2009 14:25:41 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
ANH-511	2.435E-02	4.197E-02	1.173E-02	2.141E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	-5.024E-02	1.332E-01	1.066E-01	6.797E-02	NOT IDENT.
NA-22	-4.999E-03	1.823E-02	1.462E-02	9.299E-03	NOT IDENT.
NA-24	-7.867E+00	8.068E+01	0.000E+00	4.116E+01	SHORT HLIF
AL-26	-4.433E-04	1.465E-02	1.197E-02	7.474E-03	NOT IDENT.
K-40	-1.445E-01	2.369E-01	1.874E-01	1.209E-01	NOT IDENT.
TI-44	6.240E-04	1.510E-02	1.321E-02	7.704E-03	NOT IDENT.
SC-46	7.051E-03	2.008E-02	1.804E-02	1.024E-02	NOT IDENT.
V-48	-1.727E-02	2.458E-02	1.745E-02	1.254E-02	NOT IDENT.
CR-51	-1.668E-01	1.573E-01	1.224E-01	8.026E-02	NOT IDENT.
MN-52	2.109E-02	4.959E-02	4.626E-02	2.530E-02	NOT IDENT.
MN-54	5.811E-03	1.775E-02	1.598E-02	9.055E-03	NOT IDENT.
CO-56	1.754E-04	1.960E-02	1.677E-02	1.000E-02	NOT IDENT.
CO-57	-3.437E-03	1.075E-02	9.160E-03	5.484E-03	NOT IDENT.
CO-58	-9.833E-03	1.982E-02	1.563E-02	1.011E-02	NOT IDENT.
FE-59	8.510E-03	3.306E-02	2.923E-02	1.687E-02	NOT IDENT.
CO-60	7.714E-03	2.008E-02	1.853E-02	1.024E-02	NOT IDENT.
ZN-65	-1.238E-02	4.113E-02	3.198E-02	2.098E-02	NOT IDENT.
GE-68	-2.634E-01	6.166E-01	4.674E-01	3.146E-01	NOT IDENT.
AS-73	1.034E-01	6.276E-01	5.867E-01	3.202E-01	NOT IDENT.
AS-74	2.256E-02	3.791E-02	3.424E-02	1.934E-02	NOT IDENT.
SE-75	6.844E-03	1.935E-02	1.785E-02	9.875E-03	NOT IDENT.
BR-77	-1.687E-01	5.867E-01	4.737E-01	2.993E-01	FAIL ABUN
SR-82	-1.851E-02	1.251E-01	1.045E-01	6.382E-02	NOT IDENT.
RB-83	1.691E-03	3.137E-02	2.672E-02	1.600E-02	NOT IDENT.
RB-84	-1.848E-02	3.165E-02	2.216E-02	1.615E-02	NOT IDENT.
KR-85	6.105E+00	4.005E+00	3.949E+00	2.043E+00	NOT IDENT.

SR-85	2.892E-02	1.897E-02	1.871E-02	9.679E-03	NOT IDENT.
RB-86	-7.858E-02	2.850E-01	2.232E-01	1.454E-01	NOT IDENT.
Y-88	-5.270E-03	2.085E-02	1.583E-02	1.064E-02	NOT IDENT.
ZR-88	1.478E-02	1.449E-02	1.396E-02	7.391E-03	NOT IDENT.
Y-91	2.185E+00	6.844E+00	6.071E+00	3.492E+00	NOT IDENT.
NB-94	9.856E-03	1.886E-02	1.742E-02	9.621E-03	NOT IDENT.
NB-95	2.859E-03	1.724E-02	1.526E-02	8.794E-03	NOT IDENT.
NB-95M	-3.707E-02	5.813E-02	3.907E-02	2.966E-02	NOT IDENT.
ZR-95	-3.879E-03	2.604E-02	2.181E-02	1.329E-02	NOT IDENT.
NB-97	-5.874E+00	3.065E+01	0.000E+00	1.564E+01	SHORT HLIF
ZR-97	6.650E+02	7.069E+02	0.000E+00	3.607E+02	SHORT HLIF
MO-99	-5.518E-02	7.800E-01	6.663E-01	3.980E-01	NOT IDENT.
TC-99M	1.302E+07	1.540E+07	0.000E+00	7.858E+06	SHORT HLIF
RH-101	-9.388E-03	1.973E-02	1.475E-02	1.006E-02	NOT IDENT.
RH-102	2.769E-03	1.434E-02	1.254E-02	7.314E-03	NOT IDENT.
RU-103	1.482E-03	1.831E-02	1.570E-02	9.340E-03	NOT IDENT.
RH-106	-8.330E-02	1.461E-01	1.078E-01	7.456E-02	FAIL ABUN
RU-106	-8.330E-02	1.459E-01	1.078E-01	7.443E-02	FAIL ABUN
AG-108M	1.715E-02	1.741E-02	1.663E-02	8.880E-03	NOT IDENT.
CD-109	2.819E-02	2.971E-01	2.687E-01	1.516E-01	NOT IDENT.
AG-110M	-4.226E-03	1.765E-02	1.492E-02	9.007E-03	NOT IDENT.
IN-111	-3.421E-03	8.570E-02	7.127E-02	4.373E-02	NOT IDENT.
IN-113M	-1.051E-02	2.210E-02	1.805E-02	1.128E-02	NOT IDENT.
SN-113	-1.051E-02	2.210E-02	1.805E-02	1.128E-02	NOT IDENT.
IN-114M	-3.161E-02	7.263E-02	5.906E-02	3.706E-02	NOT IDENT.
CD-115	-2.632E-01	5.401E-01	4.216E-01	2.756E-01	NOT IDENT.
SN-117M	3.255E-03	1.741E-02	1.528E-02	8.885E-03	NOT IDENT.
SB-122	-8.685E-02	1.452E-01	1.094E-01	7.407E-02	NOT IDENT.
I-123	-1.050E+01	1.945E+02	0.000E+00	9.922E+01	SHORT HLIF
TE-123M	-6.880E-04	1.274E-02	1.095E-02	6.502E-03	NOT IDENT.
I-124	5.675E-02	1.103E-01	9.805E-02	5.626E-02	NOT IDENT.
SB-124	1.233E-02	3.586E-02	3.330E-02	1.830E-02	NOT IDENT.
SB-125	-4.059E-03	4.451E-02	3.778E-02	2.271E-02	NOT IDENT.
TE-125M	2.607E-01	4.144E+00	3.350E+00	2.114E+00	NOT IDENT.
I-126	-1.730E-02	5.508E-02	4.573E-02	2.810E-02	NOT IDENT.
SB-126	-2.924E-02	4.885E-02	3.855E-02	2.493E-02	NOT IDENT.
SN-126	1.928E-02	3.010E-02	2.844E-02	1.536E-02	NOT IDENT.
SB-127	1.339E-02	1.433E-01	1.268E-01	7.310E-02	NOT IDENT.
XE-127	7.650E-04	2.091E-02	1.778E-02	1.067E-02	NOT IDENT.
I-131	-8.457E-03	2.984E-02	2.511E-02	1.523E-02	NOT IDENT.
TE-132	4.478E-03	6.921E-02	5.852E-02	3.531E-02	NOT IDENT.
BA-133	4.381E-03	2.084E-02	1.861E-02	1.063E-02	NOT IDENT.
I-133	-4.232E+00	7.373E+00	0.000E+00	3.762E+00	SHORT HLIF
CS-134	9.200E-03	2.263E-02	2.066E-02	1.155E-02	NOT IDENT.
CS-135	-1.492E-02	7.357E-02	6.437E-02	3.754E-02	NOT IDENT.
I-135	1.011E+07	1.478E+07	0.000E+00	7.539E+06	SHORT HLIF
CS-136	-4.323E-02	3.839E-02	2.411E-02	1.959E-02	NOT IDENT.
BA-137M	-3.303E-03	2.138E-02	1.849E-02	1.091E-02	NOT IDENT.
CS-137	-3.492E-03	2.260E-02	1.954E-02	1.153E-02	NOT IDENT.
CE-139	-6.263E-03	1.370E-02	1.130E-02	6.991E-03	NOT IDENT.
BA-140	4.648E-03	9.479E-02	7.839E-02	4.836E-02	NOT IDENT.
LA-140	-2.789E-02	3.432E-02	2.221E-02	1.751E-02	NOT IDENT.
CE-141	3.420E-03	2.364E-02	2.079E-02	1.206E-02	NOT IDENT.
CE-143	8.242E-01	1.429E+00	1.323E+00	7.289E-01	NOT IDENT.
CE-144	-4.449E-02	9.007E-02	7.495E-02	4.595E-02	NOT IDENT.
PM-144	9.504E-04	1.879E-02	1.645E-02	9.588E-03	NOT IDENT.
PR-144	6.415E-02	1.268E+00	1.110E+00	6.471E-01	NOT IDENT.
PM-146	-2.703E-03	2.224E-02	1.799E-02	1.135E-02	NOT IDENT.
ND-147	-5.632E-02	1.824E-01	1.465E-01	9.305E-02	NOT IDENT.
PM-149	-4.368E+00	4.209E+00	3.296E+00	2.148E+00	NOT IDENT.
EU-152	-4.623E-03	4.837E-02	4.188E-02	2.468E-02	NOT IDENT.
GD-153	4.177E-03	3.443E-02	3.100E-02	1.757E-02	NOT IDENT.
EU-154	-2.047E-02	5.243E-02	4.084E-02	2.675E-02	NOT IDENT.
EU-155	-1.622E-02	4.375E-02	3.740E-02	2.232E-02	NOT IDENT.
TB-160	1.109E-02	6.571E-02	5.757E-02	3.352E-02	NOT IDENT.
HO-166M	3.702E-02	3.425E-02	3.360E-02	1.747E-02	NOT IDENT.
TM-171	-2.731E+00	1.357E+01	1.213E+01	6.924E+00	NOT IDENT.
LU-176	-1.813E-03	1.113E-02	9.644E-03	5.677E-03	NOT IDENT.
LU-177	6.215E-02	2.220E-01	1.931E-01	1.133E-01	NOT IDENT.
LU-177M	1.548E-02	7.335E-02	6.508E-02	3.742E-02	NOT IDENT.
HF-181	-5.336E-03	1.434E-02	1.132E-02	7.316E-03	NOT IDENT.
W-181	-7.725E-02	1.939E-01	1.624E-01	9.893E-02	NOT IDENT.
TA-182	3.320E-02	7.840E-02	7.287E-02	4.000E-02	NOT IDENT.
RE-183	-1.872E-02	4.728E-02	3.924E-02	2.412E-02	NOT IDENT.
RE-184	4.790E-02	1.079E-01	1.004E-01	5.506E-02	NOT IDENT.
OS-185	4.198E-03	1.904E-02	1.721E-02	9.716E-03	NOT IDENT.
RE-188	1.927E-02	7.294E-02	6.452E-02	3.721E-02	NOT IDENT.
W-188	-3.291E+00	3.393E+00	2.716E+00	1.731E+00	NOT IDENT.

IR-192	1.041E-02	1.668E-02	1.556E-02	8.510E-03	NOT IDENT.
AU-195	8.040E-02	9.329E-02	8.899E-02	4.760E-02	NOT IDENT.
TL-200	8.441E-01	1.910E+00	1.744E+00	9.747E-01	NOT IDENT.
TL-201	-2.038E-01	5.924E-01	4.930E-01	3.022E-01	NOT IDENT.
TL-202	-7.654E-03	2.254E-02	1.843E-02	1.150E-02	NOT IDENT.
HG-203	-5.782E-03	1.626E-02	1.393E-02	8.298E-03	NOT IDENT.
BI-207	1.905E-02	2.315E-02	2.265E-02	1.181E-02	NOT IDENT.
TL-207	4.750E-02	3.460E-01	3.081E-01	1.765E-01	NOT IDENT.
TL-208	-1.546E-02	2.269E-02	1.621E-02	1.158E-02	FAIL ABUN
PO-209	-2.381E+00	4.006E+00	3.036E+00	2.044E+00	NOT IDENT.
BI-210	4.554E-01	4.471E+00	4.140E+00	2.281E+00	NOT IDENT.
PB-210	4.554E-01	4.471E+00	4.140E+00	2.281E+00	NOT IDENT.
PO-210	4.554E-01	4.471E+00	4.140E+00	2.281E+00	NOT IDENT.
BI-211	-2.796E-02	1.082E-01	8.965E-02	5.519E-02	NOT IDENT.
PB-211	3.190E-01	4.753E-01	4.084E-01	2.425E-01	NOT IDENT.
BI-212	7.810E-02	1.433E-01	1.335E-01	7.311E-02	NOT IDENT.
PB-212	1.140E-02	3.745E-02	2.575E-02	1.911E-02	FAIL ABUN
PO-212	1.140E-02	3.745E-02	2.575E-02	1.911E-02	FAIL ABUN
BI-214	-7.242E-03	4.102E-02	3.270E-02	2.093E-02	NOT IDENT.
PB-214	5.157E-03	3.682E-02	3.182E-02	1.879E-02	NOT IDENT.
PO-214	5.157E-03	3.682E-02	3.182E-02	1.879E-02	NOT IDENT.
PO-215	4.750E-02	3.460E-01	3.081E-01	1.765E-01	NOT IDENT.
PO-216	1.140E-02	3.745E-02	2.575E-02	1.911E-02	FAIL ABUN
PO-218	5.157E-03	3.682E-02	3.182E-02	1.879E-02	NOT IDENT.
RN-219	-1.350E-01	2.035E-01	1.602E-01	1.038E-01	NOT IDENT.
RN-220	-9.631E+00	1.437E+01	1.086E+01	7.330E+00	NOT IDENT.
RA-223	4.750E-02	3.460E-01	3.081E-01	1.765E-01	NOT IDENT.
RA-224	-7.661E-02	3.512E-01	2.527E-01	1.792E-01	NOT IDENT.
RA-226	-7.242E-03	4.102E-02	3.270E-02	2.093E-02	NOT IDENT.
AC-227	-1.740E-01	1.815E-01	1.461E-01	9.263E-02	NOT IDENT.
TH-227	-1.740E-01	1.823E-01	1.461E-01	9.299E-02	NOT IDENT.
AC-228	7.138E-03	7.302E-02	6.589E-02	3.725E-02	NOT IDENT.
RA-228	7.138E-03	7.302E-02	6.589E-02	3.725E-02	NOT IDENT.
TH-228	1.149E-02	3.774E-02	2.594E-02	1.925E-02	FAIL ABUN
TH-229	-5.852E-02	2.353E-01	1.951E-01	1.200E-01	NOT IDENT.
TH-230	-7.242E-03	4.102E-02	3.270E-02	2.093E-02	NOT IDENT.
PA-231	9.648E-02	7.191E-01	6.470E-01	3.669E-01	NOT IDENT.
TH-231	4.750E-02	3.460E-01	3.081E-01	1.765E-01	NOT IDENT.
U-231	-6.750E-02	1.426E-01	1.221E-01	7.273E-02	NOT IDENT.
TH-232	7.138E-03	7.302E-02	6.589E-02	3.725E-02	NOT IDENT.
PA-233	8.595E-03	3.121E-02	2.829E-02	1.592E-02	NOT IDENT.
PA-234	1.377E-01	1.418E-01	1.396E-01	7.233E-02	NOT IDENT.
PA-234M	-2.735E-01	2.019E+00	1.646E+00	1.030E+00	NOT IDENT.
TH-234	-2.589E-01	7.328E-01	6.536E-01	3.739E-01	NOT IDENT.
U-234	-7.242E-03	4.102E-02	3.270E-02	2.093E-02	NOT IDENT.
U-235	3.477E-02	9.708E-02	8.677E-02	4.953E-02	NOT IDENT.
NP-236	-3.267E-03	3.630E-02	3.105E-02	1.852E-02	NOT IDENT.
NP-237	1.056E-01	9.448E-02	8.990E-02	4.821E-02	NOT IDENT.
U-238	-2.589E-01	7.328E-01	6.536E-01	3.739E-01	NOT IDENT.
NP-239	-4.779E-02	8.295E-02	6.912E-02	4.232E-02	NOT IDENT.
AM-241	1.448E-02	9.308E-02	8.647E-02	4.749E-02	NOT IDENT.
AM-243	-1.957E-03	2.862E-02	2.451E-02	1.460E-02	NOT IDENT.
CM-243	-4.096E-03	3.796E-02	3.334E-02	1.937E-02	NOT IDENT.
AM-246	1.501E-02	6.530E-02	5.716E-02	3.332E-02	NOT IDENT.
CM-247	2.536E-03	1.741E-02	1.532E-02	8.883E-03	NOT IDENT.
CF-249	-6.176E-03	1.953E-02	1.626E-02	9.965E-03	NOT IDENT.
CF-251	7.368E-04	5.604E-02	4.806E-02	2.859E-02	NOT IDENT.

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                          CHARLESTON ,SC 29417                             *
*                   GAMMA SPECTROSCOPY BACKGROUND REPORT                    *
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ENERGY	MDA COUNTS
46.50	45.2339
46.50	45.2339
46.50	45.2339
48.70	54.9780
49.72	44.8016
51.35	46.7408
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52.97	37.3877
53.15	40.8859
53.44	47.0127
54.07	39.2448
56.28	55.2692
56.28	55.2697
57.37	45.7505
57.53	42.2489
57.53	42.2491
57.60	36.9746
57.98	44.0610
57.98	44.0610
59.32	49.5192
59.32	49.5192
59.40	49.5294
59.54	46.8927
59.72	44.2588
60.01	52.2639
61.10	55.9612
61.14	55.9668
61.30	55.9894
63.00	52.6563
63.29	50.0146
63.29	50.0146
63.58	50.9439
64.28	46.5545
65.12	54.7232
65.20	54.7337
65.20	54.7337
66.05	56.6435
66.72	53.1314
66.83	53.1456
66.91	57.6605
67.20	56.7983
67.20	56.7983
67.75	55.0666
67.85	55.0796
68.90	57.0249
68.90	57.0249
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69.67	55.3135
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70.82	49.0949
70.83	49.0960
72.80	70.3198
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74.67	66.0267
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74.81	66.0472
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74.81	66.0472
74.81	66.0472
74.81	66.0472
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79.80	61.1969
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80.30	50.1227
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81.07	42.7659
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81.07	42.7659
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83.78	60.7686
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84.90	55.2849
85.43	43.1493
86.29	43.2240
86.50	43.2420
86.54	43.2455
86.59	43.2497
86.72	45.1418
86.79	45.1479
86.94	49.8660
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87.30	49.9018
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87.30	49.9018
87.30	49.9018
87.30	49.9018
87.57	47.1024
87.88	51.8442
88.03	51.8596
88.36	60.3851
88.47	60.3981
89.95	92.7523
91.11	64.5033
92.29	54.1916
92.38	58.0044
92.38	58.0044
93.35	55.2535
94.00	65.8137
94.67	93.5912
94.67	93.5922
94.90	96.4989
94.90	96.4989
94.90	96.4989
94.90	96.4989
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95.87	75.6163
96.73	67.1090
97.43	61.4359
98.44	48.0858
98.44	48.0858
98.88	47.1620
99.55	52.0378
99.55	52.0378
99.86	57.8522
100.00	57.8668
100.10	57.8778
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103.76	48.5474
105.00	50.5993
105.31	55.4948
108.00	65.5350
109.28	48.0335

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111.00	45.2244
111.76	68.9073
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117.00	64.5411
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121.11	44.9780
121.62	59.0189
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122.32	69.0983
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147.16	84.1426
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152.70	68.0350
153.22	70.1774
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154.21	74.4653
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154.21	74.4653
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171.86	62.2304
172.10	62.2486
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176.60	53.9602
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227.20	52.5067
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236.00	62.1826
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301.29	25.6442
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303.91	38.5489
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304.40	33.0551
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351.92	26.6713
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445.03	33.4512
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475.35	25.8041
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583.14	24.0578
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602.71	26.4976
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609.31	22.1515

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609.31	22.1515
609.31	22.1515
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621.84	20.0550
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661.65	17.2480
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697.00	27.6599
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722.78	26.0996
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739.58	15.0180
742.81	12.2183
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747.13	18.8306
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752.31	11.3221
753.82	12.2729
755.35	16.0591
756.15	12.2846
756.87	14.1786
763.93	11.3751
765.79	15.1781
766.42	12.3351
766.84	15.1844
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778.00	13.3451
778.57	18.1154
778.89	12.3963
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792.07	20.1279

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884.67	9.9197
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903.28	13.9788
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911.07	11.0132
911.07	11.0132
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944.10	11.1380
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949.00	15.2131
962.29	12.2244
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969.11	11.2310
969.11	11.2310
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983.50	15.3875
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1038.76	0.0000
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1046.59	5.2327
1048.07	19.8934

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1112.84	7.4737
1115.52	13.8906
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1120.29	6.4198
1120.29	6.4198
1120.29	6.4198
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1129.67	13.9477
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1147.95	0.0000
1167.94	9.7625
1173.22	6.5180
1175.09	8.6953
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1189.05	7.6381
1204.90	7.6716
1205.75	8.7699
1213.00	5.4919
1221.42	9.1744
1230.97	13.7976
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1291.56	6.5428
1298.22	0.0000
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1325.50	9.4287
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1333.61	7.5586
1360.21	8.5602
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1365.15	6.6662
1368.21	6.6713
1368.53	0.0000
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1384.27	5.7410
1394.10	8.6320
1395.20	7.6751
1407.95	11.5483
1434.06	5.8103
1436.60	5.8137
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1460.81	8.7708
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1691.02	3.0754
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1750.46	0.0000
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1764.49	4.1623
1764.49	4.1623
1764.49	4.1623
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1808.65	3.1489

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202012144

Total Uranium Activity	-7.5402E-01	ug/g
Total Uranium Counting Unc.	2.1806E+00	ug/g
Total Uranium Tpu	1.1126E-06	ug/g
Total Uranium Mda	1.9448E+00	ug/g

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*                                                                           *
*                          GEL Laboratories LLC                           *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 940263                    SAMPLE ID  : G1202012144      *
*   ANALYST       : MXR1                      DETECTOR   : GAM04            *
*   SAMPLE DATE   : 13-JAN-2010 00:00:00.00   COUNT TIME :    0 02:00:00.00 *
*   ANALYSIS DATE: 20-JAN-2010 14:09:39.04    SAMPLE ALQT:  134.090 GRAM    *
*                                                                           *
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        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 2.943E-02
        GROSS GAMMA ERROR   (pCi/GRAM  )  : 3.382E-02
        GROSS GAMMA MDA     (pCi/GRAM  )  : 5.459E-02
        GROSS GAMMA DLC     (pCi/GRAM  )  : 2.513E-02
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VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 17:48:05.99

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*****************************************************************************
*                              GEL Laboratories LLC                         *
*                                2040 Savage Road                           *
*                              Charleston, SC 29414                         *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012145.CNF;1
Sample date       : 5-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 15:47:39
Sample ID         : G1202012145          Sample quantity  : 1.28360E+02 GRAM
Detector name     : GAM18                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.58  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 940263               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	2	75.05*	415	447	1.18	149.22	143	17	5.77E-02	10.0	1.52E+00
2	2	77.32*	706	405	1.14	153.75	143	17	9.80E-02	6.4	
3	0	87.36	215	549	1.07	173.82	170	8	2.99E-02	20.0	
4	5	90.20	150	254	1.07	179.50	177	13	2.09E-02	16.3	2.33E+00
5	5	93.07*	253	474	1.57	185.24	177	13	3.51E-02	18.1	
6	0	105.93	105	323	1.14	210.94	207	8	1.45E-02	31.4	
7	0	129.20	134	369	1.28	257.49	253	9	1.86E-02	27.2	
8	0	186.45*	267	427	1.46	371.93	366	12	3.71E-02	17.3	
9	0	209.36	177	443	1.42	417.75	412	13	2.46E-02	25.6	
10	3	238.76*	1682	204	1.25	476.52	471	19	2.34E-01	2.9	8.54E-01
11	3	241.77	434	254	1.77	482.53	471	19	6.03E-02	11.3	
12	0	270.25	168	256	1.63	539.49	534	12	2.33E-02	20.6	
13	2	295.32*	508	179	1.32	589.61	584	21	7.05E-02	6.6	2.78E+00
14	2	300.18	169	197	1.61	599.33	584	21	2.35E-02	17.6	
15	0	327.51	59	189	1.50	653.96	650	9	8.23E-03	43.6	
16	0	338.35*	366	239	1.09	675.64	670	11	5.08E-02	9.8	
17	0	351.92*	912	264	1.36	702.77	695	16	1.27E-01	5.3	
18	0	463.00	107	137	1.49	924.87	919	11	1.48E-02	23.4	
19	0	510.91*	204	194	2.39	1020.65	1011	20	2.83E-02	20.4	
20	0	583.14*	537	125	1.29	1165.07	1159	12	7.46E-02	6.1	
21	0	609.03*	619	200	1.62	1216.84	1210	16	8.60E-02	6.6	
22	0	727.60*	135	132	1.75	1453.91	1448	16	1.88E-02	21.4	
23	0	767.67	68	91	1.07	1534.03	1529	11	9.41E-03	29.8	
24	0	794.96	63	74	1.17	1588.61	1583	12	8.79E-03	30.1	
25	0	860.47	80	123	0.84	1719.59	1710	20	1.11E-02	35.6	
26	0	910.82*	466	49	1.95	1820.29	1812	15	6.48E-02	5.8	
27	2	964.17	68	72	2.13	1926.96	1918	53	9.40E-03	28.5	1.99E+00
28	2	968.55	264	64	2.36	1935.73	1918	53	3.67E-02	9.0	
29	0	1119.99*	190	63	1.28	2238.54	2230	19	2.63E-02	12.5	
30	0	1238.15	55	73	1.28	2474.84	2471	11	7.58E-03	34.2	
31	0	1378.02	63	31	2.09	2754.54	2745	18	8.76E-03	24.3	
32	0	1460.11*	1459	37	2.40	2918.71	2907	20	2.03E-01	2.8	
33	0	1729.38	50	3	2.39	3457.21	3450	13	6.88E-03	16.1	
34	0	1763.94*	110	37	2.63	3526.33	3517	22	1.53E-02	17.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JAN-2010 17:48:08

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012145.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 5-JAN-2010 12:00:00 Acquisition date : 20-JAN-2010 15:47:39
Sample ID : G1202012145 Sample quantity : 128.36 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA18 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.58 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.112E+01	2.003E+00	3.780E-01	2.868E-02	55.883
CD-109	+	88.03	*	2.684E+00	1.102E+00	1.097E+00	1.014E-01	2.448
SN-126		64.28		3.516E-01	5.353E-01	8.997E-01	1.330E-01	0.391
	+	86.94		1.097E+00	6.320E-01	5.416E-01	2.246E-01	2.025
	+	87.57	*	2.638E-01	1.083E-01	1.291E-01	1.190E-02	2.043
EU-155		48.70		-2.032E+00	3.162E+00	5.197E+00	3.942E-01	-0.391
		60.01		-1.102E+00	5.097E+00	8.452E+00	6.449E-01	-0.130
	+	86.54		3.177E-01	1.305E-01	1.534E-01	1.413E-02	2.072
	+	105.31	*	1.917E-01	1.213E-01	1.431E-01	1.023E-02	1.340
TL-208		277.35		2.587E-01	3.027E-01	5.107E-01	5.363E-02	0.507
	+	510.84		6.394E-01	2.695E-01	1.553E-01	1.652E-02	4.116
	+	583.14	*	4.744E-01	6.910E-02	4.345E-02	3.406E-03	10.918
	+	860.37		6.412E-01	4.620E-01	3.128E-01	3.499E-02	2.050
BI-211		72.87		4.417E+00	3.261E+00	5.089E+00	4.202E-01	0.868
	+	351.07	*	3.779E+00	4.662E-01	2.457E-01	1.577E-02	15.382
PB-212	+	74.81		2.296E+00	5.436E-01	4.972E-01	6.232E-02	4.617
	+	77.11		2.179E+00	3.354E-01	2.782E-01	2.358E-02	7.832
	+	87.30		1.220E+00	5.155E-01	5.994E-01	8.141E-02	2.035
	+	238.63	*	1.624E+00	1.486E-01	6.937E-02	4.956E-03	23.408
	+	300.09		2.423E+00	8.746E-01	9.492E-01	7.794E-02	2.552
PO-212	+	74.81		2.296E+00	5.436E-01	4.972E-01	6.232E-02	4.617
	+	77.11		2.179E+00	3.354E-01	2.782E-01	2.358E-02	7.832
	+	87.30		1.220E+00	5.155E-01	5.994E-01	8.141E-02	2.035
		115.19		-6.176E-01	3.077E+00	4.914E+00	3.095E-01	-0.126
	+	238.63	*	1.624E+00	1.486E-01	6.937E-02	4.956E-03	23.408
	+	300.09		2.423E+00	8.746E-01	9.492E-01	7.794E-02	2.552
BI-214	+	609.31	*	1.026E+00	1.637E-01	9.578E-02	8.556E-03	10.714
	+	1120.29		1.573E+00	4.220E-01	3.268E-01	3.129E-02	4.814
	+	1764.49		1.203E+00	4.346E-01	2.733E-01	1.662E-02	4.402
PB-214	+	74.81		3.956E+00	9.092E-01	8.568E-01	9.564E-02	4.617
	+	77.11		3.735E+00	6.415E-01	4.769E-01	5.435E-02	7.832
	+	87.30		2.090E+00	8.730E-01	1.027E+00	1.232E-01	2.035
	+	241.98		2.514E+00	6.026E-01	4.170E-01	3.297E-02	6.029
	+	295.21		1.281E+00	2.008E-01	1.666E-01	1.413E-02	7.688

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	351.92	*	1.315E+00	1.761E-01	8.563E-02	7.084E-03	15.353
PO-214	+	74.81		3.956E+00	9.092E-01	8.568E-01	9.564E-02	4.617
	+	77.11		3.735E+00	6.415E-01	4.769E-01	5.435E-02	7.832
	+	87.30		2.090E+00	8.730E-01	1.027E+00	1.232E-01	2.035
	+	241.98		2.514E+00	6.026E-01	4.170E-01	3.297E-02	6.029
	+	295.21		1.281E+00	2.008E-01	1.666E-01	1.413E-02	7.688
	+	351.92	*	1.315E+00	1.761E-01	8.563E-02	7.084E-03	15.353
PO-216	+	74.81		2.296E+00	5.436E-01	4.972E-01	6.232E-02	4.617
	+	77.11		2.179E+00	3.354E-01	2.782E-01	2.358E-02	7.832
	+	87.30		1.220E+00	5.155E-01	5.994E-01	8.141E-02	2.035
	+	238.63	*	1.624E+00	1.486E-01	6.937E-02	4.956E-03	23.408
	+	300.09		2.423E+00	8.746E-01	9.492E-01	7.794E-02	2.552
PO-218	+	74.81		3.956E+00	9.092E-01	8.568E-01	9.564E-02	4.617
	+	77.11		3.735E+00	6.415E-01	4.769E-01	5.435E-02	7.832
	+	87.30		2.090E+00	8.730E-01	1.027E+00	1.232E-01	2.035
	+	241.98		2.514E+00	6.026E-01	4.170E-01	3.297E-02	6.029
	+	295.21		1.281E+00	2.008E-01	1.666E-01	1.413E-02	7.688
	+	351.92	*	1.315E+00	1.761E-01	8.563E-02	7.084E-03	15.353
RA-224	+	240.98	*	4.767E+00	1.111E+00	7.885E-01	4.392E-02	6.046
RA-226	+	609.31	*	1.026E+00	1.637E-01	9.578E-02	8.556E-03	10.714
	+	1120.29		1.573E+00	4.220E-01	3.268E-01	3.129E-02	4.814
	+	1764.49		1.203E+00	4.346E-01	2.733E-01	1.662E-02	4.402
AC-228	+	338.32		1.682E+00	7.614E-01	3.094E-01	1.261E-01	5.437
	+	911.07	*	1.771E+00	3.128E-01	1.449E-01	1.920E-02	12.223
	+	969.11		1.761E+00	5.269E-01	2.908E-01	6.963E-02	6.057
RA-228	+	338.32		1.682E+00	7.614E-01	3.094E-01	1.261E-01	5.437
	+	911.07	*	1.771E+00	3.128E-01	1.449E-01	1.920E-02	12.223
	+	969.11		1.761E+00	5.269E-01	2.908E-01	6.963E-02	6.057
TH-228	+	74.81		2.331E+00	5.078E-01	5.048E-01	4.254E-02	4.617
	+	77.11		2.212E+00	3.405E-01	2.824E-01	2.394E-02	7.832
	+	87.30		1.239E+00	5.085E-01	6.085E-01	5.593E-02	2.035
	+	238.63	*	1.649E+00	1.509E-01	7.043E-02	5.031E-03	23.408
	+	300.09		2.459E+00	1.688E+00	9.636E-01	5.679E-01	2.552
TH-230	+	609.31	*	1.026E+00	1.637E-01	9.577E-02	8.555E-03	10.714
	+	1120.29		1.573E+00	4.220E-01	3.268E-01	3.129E-02	4.814
	+	1764.49		1.203E+00	4.346E-01	2.733E-01	1.662E-02	4.402
TH-232	+	338.32		1.682E+00	3.448E-01	3.094E-01	1.790E-02	5.437
	+	911.07	*	1.771E+00	3.128E-01	1.449E-01	1.920E-02	12.223
	+	969.11		1.761E+00	5.269E-01	2.908E-01	6.963E-02	6.057
U-234	+	609.31	*	1.026E+00	1.637E-01	9.577E-02	8.555E-03	10.714
	+	1120.29		1.573E+00	4.220E-01	3.268E-01	3.129E-02	4.814
	+	1764.49		1.203E+00	4.346E-01	2.733E-01	1.662E-02	4.402
U-235	+	89.95		2.422E+00	1.090E+00	1.441E+00	4.457E-01	1.681
	+	93.35		2.355E+00	1.076E+00	7.463E-01	2.086E-01	3.156
	+	105.00		1.879E+00	1.304E+00	1.409E+00	4.145E-01	1.334
		143.76	*	5.655E-02	1.840E-01	2.919E-01	4.727E-02	0.194
		163.35		2.534E-01	3.818E-01	6.566E-01	1.170E-01	0.386
	+	185.71		1.891E-01	6.623E-02	5.565E-02	2.960E-03	3.398
		205.31		9.312E-03	4.486E-01	6.580E-01	1.175E-01	0.014

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-237	+	86.50	*	7.747E-01	3.559E-01	3.741E-01	8.441E-02	2.071
		95.87		-9.319E-02	8.618E-01	1.246E+00	3.043E-01	-0.075
AM-243	+	74.67	*	3.722E-01	8.098E-02	8.093E-02	6.753E-03	4.599
	+	86.72		2.905E+01	1.192E+01	1.439E+01	1.316E+00	2.018
		117.66		-3.651E-01	3.212E+00	5.140E+00	3.161E-01	-0.071
		142.18		9.490E+00	1.473E+01	2.403E+01	1.324E+00	0.395
ANH-511	+	511.00	*	1.381E-01	5.706E-02	3.356E-02	2.217E-03	4.115

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	3.851E-02	2.409E-01	4.013E-01	2.908E-02	0.096
NA-22		1274.54	*	1.007E-02	3.409E-02	5.733E-02	3.901E-03	0.176
NA-24		1368.53	*	-3.847E-01	3.409E-02	Half-Life too short		
AL-26		1129.67		-1.560E-01	1.510E+00	2.201E+00	1.470E-01	-0.071
		1808.65	*	1.895E-03	2.362E-02	3.921E-02	2.289E-03	0.048
TI-44		67.85		-3.176E-02	4.415E-02	7.131E-02	5.735E-03	-0.445
	+	78.38	*	4.020E-01	6.189E-02	7.681E-02	6.567E-03	5.234
SC-46		889.25	*	-1.994E-02	3.126E-02	4.839E-02	5.397E-03	-0.412
	+	1120.51		2.694E-01	7.003E-02	1.002E-01	6.923E-03	2.689
V-48		944.10		1.210E-01	6.432E-01	1.062E+00	1.124E-01	0.114
		983.50	*	3.280E-03	6.624E-02	9.223E-02	9.122E-03	0.036
		1312.09		-2.069E-03	6.409E-02	1.046E-01	7.622E-03	-0.020
CR-51		320.08	*	2.242E-03	3.095E-01	4.987E-01	3.211E-02	0.004
MN-52		744.21		1.333E-02	1.852E-01	3.091E-01	2.726E-02	0.043
		848.13		8.447E-02	5.126E+00	8.425E+00	8.814E-01	0.010
		935.52		2.443E-01	2.120E-01	3.575E-01	3.834E-02	0.683
		1246.25		1.258E+00	6.045E+00	9.000E+00	5.787E-01	0.140
		1333.61		-5.736E-02	3.769E+00	6.152E+00	4.648E-01	-0.009
		1434.06	*	2.628E-03	1.821E-01	2.960E-01	2.181E-02	0.009
MN-54		834.83	*	1.789E-02	2.966E-02	5.064E-02	5.187E-03	0.353
CO-56		846.75	*	-2.899E-02	3.071E-02	4.649E-02	4.853E-03	-0.624
		977.42		-1.549E+00	2.307E+00	3.515E+00	3.516E-01	-0.441
		1037.82		2.477E-02	2.181E-01	3.685E-01	3.414E-02	0.067
		1175.09		1.156E-01	1.738E+00	2.891E+00	1.604E-01	0.040
	+	1238.25		1.267E-01	8.699E-02	1.331E-01	8.872E-03	0.952
		1360.21		-5.020E-01	7.989E-01	1.217E+00	9.144E-02	-0.413
		1771.40		1.166E-02	1.977E-01	2.795E-01	1.689E-02	0.042
CO-57		122.06	*	-1.806E-02	2.148E-02	3.310E-02	1.961E-03	-0.546
		136.48		8.241E-02	1.734E-01	2.819E-01	1.845E-02	0.292
CO-58		810.76	*	-2.413E-02	2.931E-02	4.504E-02	4.446E-03	-0.536
FE-59		142.65		1.223E+00	2.338E+00	3.747E+00	2.062E-01	0.326
		192.34		3.050E-01	7.787E-01	1.232E+00	1.428E-01	0.248
		1099.22	*	-5.958E-02	6.100E-02	9.228E-02	7.596E-03	-0.646
		1291.56		3.518E-03	9.367E-02	1.541E-01	1.295E-02	0.023
CO-60		1173.22		3.436E-03	3.545E-02	5.908E-02	3.265E-03	0.058
		1332.49	*	-5.652E-03	2.864E-02	4.586E-02	3.465E-03	-0.123
ZN-65		1115.52	*	5.673E-03	7.321E-02	1.051E-01	7.402E-03	0.054

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GE-68		1077.35	*	7.776E-01	9.104E-01	1.615E+00	1.283E-01	0.482
AS-73		53.44	*	-2.594E-01	1.008E+00	1.678E+00	1.330E-01	-0.155
AS-74		595.88	*	-9.556E-02	7.679E-02	1.135E-01	8.156E-03	-0.842
		634.78		7.408E-02	2.590E-01	4.258E-01	3.170E-02	0.174
SE-75		66.05		-4.334E+00	5.088E+00	7.958E+00	7.882E-01	-0.545
		96.73		9.850E-02	6.983E-01	1.023E+00	1.349E-01	0.096
		121.11		-7.864E-03	1.137E-01	1.820E-01	1.699E-02	-0.043
		136.00		-9.876E-03	3.325E-02	5.225E-02	2.975E-03	-0.189
		198.60		1.651E-01	1.446E+00	2.394E+00	1.624E-01	0.069
		264.65	*	9.846E-04	3.848E-02	5.521E-02	3.157E-03	0.018
		279.53		2.207E-02	8.767E-02	1.444E-01	8.924E-03	0.153
		303.91		-1.637E+00	1.996E+00	2.646E+00	2.517E-01	-0.619
		400.65		7.875E-03	2.011E-01	3.371E-01	3.071E-02	0.023
BR-77	+	87.88		5.869E+02	2.409E+02	3.202E+02	2.958E+01	1.833
		200.40		-1.323E+01	1.305E+02	2.169E+02	1.168E+01	-0.061
	+	239.00		2.639E+02	2.106E+01	3.276E+01	1.822E+00	8.057
		249.79		-3.894E+01	5.013E+01	7.897E+01	4.427E+00	-0.493
		281.68		-6.413E+01	7.413E+01	1.153E+02	6.578E+00	-0.556
		297.23		3.189E+02	5.658E+01	1.049E+02	6.024E+00	3.039
		303.76		-1.342E+02	1.720E+02	2.292E+02	1.319E+01	-0.586
		439.47		1.519E+01	1.032E+02	1.729E+02	1.054E+01	0.088
		484.57		-6.243E+01	1.770E+02	2.851E+02	1.830E+01	-0.219
		520.65	*	-2.591E+00	8.164E+00	1.271E+01	8.477E-01	-0.204
		574.64		2.506E+01	1.627E+02	2.668E+02	1.879E+01	0.094
		578.91		-2.811E+01	7.871E+01	1.064E+02	7.524E+00	-0.264
		585.48		1.515E+03	2.329E+02	4.085E+02	2.907E+01	3.708
		755.35		1.862E+01	1.285E+02	2.153E+02	1.935E+01	0.086
		817.79		1.547E+01	9.923E+01	1.654E+02	1.648E+01	0.094
SR-82		698.33		-8.808E+00	2.617E+01	4.277E+01	3.482E+00	-0.206
		776.49	*	-2.859E-01	2.970E-01	4.558E-01	4.245E-02	-0.627
		1395.20		-6.968E+00	8.416E+00	1.235E+01	9.207E-01	-0.564
RB-83		520.41	*	-1.936E-02	5.319E-02	8.249E-02	5.502E-03	-0.235
		529.64		-7.497E-02	8.280E-02	1.254E-01	8.442E-03	-0.598
		552.65		-1.195E-02	1.476E-01	2.390E-01	1.647E-02	-0.050
RB-84		881.50	*	2.046E-02	5.347E-02	9.000E-02	9.919E-03	0.227
KR-85		513.99	*	1.887E+01	6.461E+00	1.101E+01	7.292E-01	1.714
SR-85		513.99	*	9.679E-02	3.314E-02	5.646E-02	3.741E-03	1.714
RB-86		1076.63	*	6.014E-01	5.876E-01	1.053E+00	8.379E-02	0.571
Y-88		898.02		-8.984E-03	3.357E-02	5.367E-02	6.084E-03	-0.167
		1836.01	*	-1.459E-02	2.451E-02	3.606E-02	2.054E-03	-0.405
ZR-88		392.90	*	-6.094E-03	2.447E-02	4.048E-02	2.328E-03	-0.151
Y-91		1204.90	*	4.755E+00	1.341E+01	2.273E+01	1.344E+00	0.209
NB-94		702.63	*	3.092E-03	2.597E-02	4.367E-02	3.583E-03	0.071
		871.10		1.142E-03	2.489E-02	4.001E-02	4.339E-03	0.029
NB-95		765.79	*	5.558E-02	3.792E-02	6.063E-02	5.546E-03	0.917
NB-95M		235.69	*	4.677E-02	1.128E-01	1.670E-01	1.225E-02	0.280
ZR-95		724.18		1.624E-01	8.803E-02	1.435E-01	1.331E-02	1.131
		756.15	*	1.014E-02	5.432E-02	9.122E-02	8.976E-03	0.111
NB-97		657.90	*	-2.750E-02	5.432E-02	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1024.50		-3.006E+00	5.432E-02	Half-Life too short		
ZR-97		254.15		2.155E+00	5.432E-02	Half-Life too short		
		355.39		3.714E+00	5.432E-02	Half-Life too short		
		507.63	*	3.148E+00	5.432E-02	Half-Life too short		
		602.52		4.717E+00	5.432E-02	Half-Life too short		
		1021.30		4.669E-01	5.432E-02	Half-Life too short		
		1147.95		-3.764E+00	5.432E-02	Half-Life too short		
		1362.66		2.092E+00	5.432E-02	Half-Life too short		
		1750.46		8.387E-01	5.432E-02	Half-Life too short		
MO-99		140.51		-3.228E+01	2.515E+01	3.476E+01	9.347E+00	-0.929
		181.06		1.081E+01	1.510E+01	2.305E+01	3.914E+00	0.469
		366.43		-3.353E+01	6.432E+01	1.053E+02	6.084E+00	-0.318
		739.58	*	-1.639E+00	8.808E+00	1.444E+01	2.203E+00	-0.113
		778.00		-1.083E+01	2.602E+01	4.173E+01	3.896E+00	-0.260
TC-99M		140.51	*	-5.203E+10	2.602E+01	Half-Life too short		
RH-101		127.23		-5.962E-03	3.114E-02	4.384E-02	2.533E-03	-0.136
		198.01	*	4.840E-03	2.668E-02	4.429E-02	2.381E-03	0.109
		325.23		-5.668E-02	2.126E-01	2.926E-01	1.691E-02	-0.194
RH-102		418.52		-6.399E-02	2.229E-01	3.657E-01	2.173E-02	-0.175
		475.06	*	-6.986E-03	2.140E-02	3.457E-02	2.196E-03	-0.202
		631.29		3.232E-02	3.856E-02	6.599E-02	4.898E-03	0.490
		697.49		-1.705E-02	5.946E-02	9.752E-02	7.928E-03	-0.175
	+	766.84		1.841E-01	1.111E-01	1.578E-01	1.446E-02	1.167
		1046.59		-9.065E-03	8.777E-02	1.457E-01	1.257E-02	-0.062
		1112.84		8.319E-02	1.721E-01	2.595E-01	1.842E-02	0.321
RU-103		497.08	*	-2.938E-03	2.976E-02	4.859E-02	6.309E-03	-0.060
	+	610.33		1.109E+01	2.304E+00	2.314E+00	3.711E-01	4.792
RH-106	+	511.85		6.899E-01	2.850E-01	3.508E-01	2.319E-02	1.967
		621.84	*	2.727E-01	2.449E-01	4.217E-01	5.305E-02	0.647
		1050.47		1.266E+00	1.812E+00	3.175E+00	2.713E-01	0.399
RU-106	+	511.85		6.899E-01	2.850E-01	3.508E-01	2.319E-02	1.967
		621.84	*	2.727E-01	2.433E-01	4.217E-01	3.103E-02	0.647
		1050.47		1.266E+00	1.812E+00	3.175E+00	2.713E-01	0.399
AG-108M		433.93	*	8.889E-03	2.391E-02	4.061E-02	2.653E-03	0.219
		614.37		-6.803E-03	3.591E-02	4.905E-02	3.779E-03	-0.139
		722.95		1.228E-02	3.539E-02	5.243E-02	4.636E-03	0.234
AG-110M		657.75	*	-8.934E-03	2.750E-02	4.524E-02	3.568E-03	-0.197
		677.61		1.563E-01	2.377E-01	4.137E-01	3.356E-02	0.378
		706.67		3.123E-02	1.596E-01	2.696E-01	2.294E-02	0.116
		763.93		3.256E-02	1.363E-01	1.989E-01	1.860E-02	0.164
		884.67		1.676E-02	3.925E-02	6.618E-02	7.474E-03	0.253
		937.48		-2.794E-02	8.541E-02	1.351E-01	1.479E-02	-0.207
		1384.27		1.563E-01	1.443E-01	2.316E-01	1.795E-02	0.675
IN-111		171.28		1.269E-01	8.001E-01	1.357E+00	7.140E-02	0.093
		245.39	*	4.458E-01	8.362E-01	1.252E+00	6.995E-02	0.356
IN-113M		391.69	*	-9.680E-03	3.502E-02	5.785E-02	3.549E-03	-0.167
SN-113		391.69	*	-9.680E-03	3.502E-02	5.785E-02	3.549E-03	-0.167
IN-114M		190.27	*	1.096E-01	1.510E-01	2.319E-01	1.238E-02	0.473
CD-115		260.90		1.495E+01	1.039E+02	1.712E+02	9.665E+00	0.087

---- Non-Identified Nuclides ----

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		492.35		-1.067E+01	2.762E+01	4.429E+01	2.867E+00	-0.241
		527.90	*	-6.429E+00	8.556E+00	1.311E+01	8.811E-01	-0.490
SN-117M		156.02		-3.898E-01	1.820E+00	3.063E+00	1.636E-01	-0.127
		158.56	*	-1.690E-03	4.334E-02	7.333E-02	3.897E-03	-0.023
SB-122		563.90	*	5.403E-01	1.603E+00	2.663E+00	1.856E-01	0.203
		692.80		1.829E+01	3.332E+01	5.754E+01	4.639E+00	0.318
I-123		159.00	*	-4.212E-01	3.332E+01	Half-Life too short		
		528.96		-3.837E+02	3.332E+01	Half-Life too short		
TE-123M		159.00	*	-1.975E-03	2.239E-02	3.780E-02	2.040E-03	-0.052
I-124		602.71	*	1.617E-01	6.694E-01	9.436E-01	6.823E-02	0.171
		722.78		1.406E+00	3.729E+00	5.539E+00	4.707E-01	0.254
		1325.50		-2.578E+00	2.513E+01	4.067E+01	3.035E+00	-0.063
		1376.25		5.251E+01	2.791E+01	4.795E+01	3.590E+00	1.095
		1509.49		2.129E+01	1.289E+01	2.464E+01	1.765E+00	0.864
		1691.02		7.124E-02	3.028E+00	5.017E+00	3.236E-01	0.014
SB-124		602.71		9.340E-03	3.866E-02	5.450E-02	3.942E-03	0.171
		645.85		-9.739E-02	3.599E-01	5.654E-01	4.583E-02	-0.172
		709.31		-5.958E-01	2.162E+00	3.541E+00	2.939E-01	-0.168
		713.82		1.046E+00	1.297E+00	2.259E+00	2.679E-01	0.463
		722.78		1.177E-01	3.122E-01	4.637E-01	4.029E-02	0.254
	+	968.20		1.814E+01	3.738E+00	5.786E+00	5.884E-01	3.135
		1045.16		-9.383E-01	1.853E+00	2.975E+00	2.576E-01	-0.315
		1325.50		-2.305E-01	2.247E+00	3.637E+00	2.714E-01	-0.063
		1368.21		-1.013E+00	1.560E+00	2.017E+00	2.580E-01	-0.502
		1436.60		-2.019E-01	2.670E+00	4.292E+00	3.160E-01	-0.047
		1691.02	*	1.407E-03	5.979E-02	9.906E-02	6.834E-03	0.014
SB-125		427.89	*	-7.304E-03	7.119E-02	1.178E-01	7.360E-03	-0.062
	+	463.38		6.623E-01	3.134E-01	4.353E-01	3.120E-02	1.522
		600.56		1.891E-02	1.581E-01	2.505E-01	1.995E-02	0.076
		635.90		7.273E-02	1.960E-01	3.243E-01	2.675E-02	0.224
TE-125M		109.28	*	-6.905E-01	8.717E+00	1.250E+01	1.099E+00	-0.055
I-126		388.63		1.355E-01	1.579E-01	2.759E-01	1.586E-02	0.491
		666.33	*	4.212E-02	1.378E-01	2.353E-01	1.809E-02	0.179
		753.82		5.024E-01	1.136E+00	1.938E+00	1.737E-01	0.259
SB-126		223.80		-7.784E-01	3.330E+00	5.459E+00	3.001E-01	-0.143
		278.60		1.753E+00	2.013E+00	3.406E+00	1.941E-01	0.515
	+	296.50		1.278E+01	1.837E+00	3.050E+00	1.751E-01	4.190
		414.70		4.193E-02	5.891E-02	1.019E-01	6.024E-03	0.412
		415.30		1.556E+00	4.828E+00	8.192E+00	4.849E-01	0.190
		555.20		9.120E-01	2.998E+00	4.982E+00	3.442E-01	0.183
		573.80		3.108E-01	8.173E-01	1.359E+00	9.563E-02	0.229
		593.00		-9.085E-04	7.220E-01	1.169E+00	8.374E-02	-0.001
		656.30		1.549E+00	2.592E+00	4.504E+00	3.417E-01	0.344
		666.33		1.760E-02	5.759E-02	9.835E-02	7.561E-03	0.179
		675.00		1.885E+00	1.577E+00	2.819E+00	2.201E-01	0.669
		695.00		4.851E-02	5.959E-02	1.043E-01	8.442E-03	0.465
		697.00		-8.514E-02	2.088E-01	3.397E-01	2.759E-02	-0.251
		720.50	*	-6.288E-02	1.297E-01	1.857E-01	1.572E-02	-0.339
		856.80		1.014E-01	4.153E-01	5.996E-01	6.359E-02	0.169

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		989.30		9.561E-01	1.101E+00	1.680E+00	1.643E-01	0.569
		1034.80		-8.709E-01	6.667E+00	1.061E+01	9.424E-01	-0.082
		1213.00		-1.445E+00	3.600E+00	5.764E+00	3.466E-01	-0.251
SB-127		61.10		-7.205E+01	6.140E+01	9.738E+01	1.021E+01	-0.740
		252.40		8.383E-01	3.367E+00	5.562E+00	2.310E+00	0.151
		290.80		-1.785E+01	1.974E+01	2.610E+01	2.382E+00	-0.684
		411.60		6.590E+00	9.920E+00	1.703E+01	2.456E+00	0.387
		444.90		2.050E+00	7.850E+00	1.276E+01	1.402E+00	0.161
		473.00		-1.511E-01	1.229E+00	2.013E+00	2.309E-01	-0.075
		543.00		-1.750E+01	1.212E+01	1.724E+01	2.311E+00	-1.015
		603.60		-9.086E+00	1.219E+01	1.572E+01	1.825E+00	-0.578
		685.20	*	-3.690E-01	9.782E-01	1.592E+00	1.735E-01	-0.232
		698.50		-3.684E+00	1.176E+01	1.923E+01	2.994E+00	-0.192
		722.20		-4.025E+00	2.694E+01	3.809E+01	4.218E+00	-0.106
		783.80		4.446E+00	2.887E+00	5.149E+00	6.694E-01	0.864
XE-127		57.60		-1.399E+00	6.568E+00	1.091E+01	8.410E-01	-0.128
		145.22		-7.578E-03	6.005E-01	9.397E-01	5.137E-02	-0.008
		172.10		-4.589E-02	9.652E-02	1.597E-01	8.406E-03	-0.287
		202.84	*	-9.028E-03	3.816E-02	6.085E-02	3.285E-03	-0.148
		374.96		2.379E-02	1.430E-01	2.426E-01	1.399E-02	0.098
I-131		80.18		4.461E-01	4.249E+00	6.293E+00	5.486E-01	0.071
		284.30		-5.339E-01	1.208E+00	1.919E+00	1.223E-01	-0.278
		364.48	*	-3.651E-03	8.458E-02	1.422E-01	9.180E-03	-0.026
		636.97		-5.334E-01	1.135E+00	1.756E+00	1.407E-01	-0.304
		722.89		2.141E+00	5.985E+00	8.875E+00	7.594E-01	0.241
TE-132		49.72		2.378E+00	2.529E+01	4.283E+01	4.375E+00	0.056
		111.76		1.241E+01	2.595E+01	4.267E+01	3.965E+00	0.291
		116.30		2.120E+01	2.347E+01	3.912E+01	3.556E+00	0.542
		228.16	*	1.786E-01	5.696E-01	9.529E-01	1.359E-01	0.187
BA-133		53.15		-7.596E-01	4.361E+00	7.287E+00	5.783E-01	-0.104
		79.62		5.710E-01	1.220E+00	1.836E+00	2.796E-01	0.311
		81.00		-9.360E-02	9.561E-02	1.321E-01	2.105E-02	-0.708
		276.40		4.621E-01	3.221E-01	5.164E-01	6.670E-02	0.895
		302.84		-6.618E-02	1.351E-01	1.840E-01	2.141E-02	-0.360
		356.01	*	3.507E-02	3.721E-02	5.556E-02	6.418E-03	0.631
		383.85		-4.654E-02	2.189E-01	3.630E-01	3.938E-02	-0.128
I-133	+	510.53		1.452E+00	2.189E-01	Half-Life too short		
		529.87	*	-4.872E-03	2.189E-01	Half-Life too short		
		706.58		6.772E-02	2.189E-01	Half-Life too short		
		856.28		-2.382E-01	2.189E-01	Half-Life too short		
		875.33		-5.348E-02	2.189E-01	Half-Life too short		
		1236.41		9.648E-01	2.189E-01	Half-Life too short		
		1298.22		3.055E-02	2.189E-01	Half-Life too short		
CS-134		475.35		-6.495E-01	1.415E+00	2.266E+00	1.440E-01	-0.287
		563.23		1.267E-01	2.761E-01	4.623E-01	3.266E-02	0.274
		569.32		3.407E-02	1.505E-01	2.482E-01	1.774E-02	0.137
		604.70		-2.424E-02	3.477E-02	4.512E-02	3.281E-03	-0.537
	+	795.84	*	7.850E-02	4.783E-02	6.579E-02	6.363E-03	1.193
		801.93		-4.310E-01	3.387E-01	4.436E-01	4.328E-02	-0.972

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		1038.57		1.531E-01	2.685E+00	4.515E+00	3.972E-01	0.034
		1167.94		4.483E-01	1.911E+00	3.219E+00	1.825E-01	0.139
		1365.15		5.600E-01	9.154E-01	1.589E+00	1.264E-01	0.352
CS-135		268.24	*	1.434E-01	1.430E-01	2.171E-01	1.641E-02	0.660
I-135		288.45		-1.746E+10	1.430E-01	Half-Life too short		
		417.63		-1.594E+10	1.430E-01	Half-Life too short		
		546.56		1.098E+10	1.430E-01	Half-Life too short		
		836.80		2.321E+10	1.430E-01	Half-Life too short		
		1038.76		-7.400E+08	1.430E-01	Half-Life too short		
		1124.00		3.513E+10	1.430E-01	Half-Life too short		
		1131.51		5.172E+09	1.430E-01	Half-Life too short		
		1260.41	*	-2.694E+09	1.430E-01	Half-Life too short		
		1457.56		9.161E+11	1.430E-01	Half-Life too short		
		1678.03		6.569E+08	1.430E-01	Half-Life too short		
		1706.46		-1.039E+10	1.430E-01	Half-Life too short		
		1791.20		-3.352E+09	1.430E-01	Half-Life too short		
CS-136		66.91		-1.118E+00	8.274E-01	1.245E+00	1.880E-01	-0.898
	+	86.29		3.450E+00	1.454E+00	1.850E+00	2.439E-01	1.865
		153.22		1.436E-01	5.211E-01	8.934E-01	6.150E-02	0.161
		163.89		6.443E-01	8.612E-01	1.493E+00	1.020E-01	0.431
		176.55		5.209E-02	2.982E-01	5.050E-01	3.060E-02	0.103
		273.65		-2.389E-01	4.049E-01	5.544E-01	3.611E-02	-0.431
		340.57		5.628E-01	1.335E-01	2.264E-01	1.393E-02	2.486
		818.51		-1.251E-02	5.551E-02	8.979E-02	8.965E-03	-0.139
		1048.07	*	4.857E-02	8.364E-02	1.456E-01	1.305E-02	0.334
		1235.34		7.586E-01	5.737E-01	8.759E-01	9.005E-02	0.866
BA-137M		661.65	*	-4.518E-03	2.783E-02	4.623E-02	3.524E-03	-0.098
CS-137		661.65	*	-4.776E-03	2.942E-02	4.887E-02	3.734E-03	-0.098
CE-139		165.85	*	1.800E-03	2.384E-02	4.039E-02	2.120E-03	0.045
BA-140		162.64		2.788E-01	5.973E-01	1.027E+00	6.227E-02	0.271
		304.84		-4.472E-01	1.227E+00	1.680E+00	4.583E-01	-0.266
		423.70		4.615E-02	1.480E+00	2.469E+00	7.854E-01	0.019
		537.32	*	-4.261E-03	1.899E-01	3.097E-01	1.013E-01	-0.014
LA-140	+	328.77		3.385E-01	2.963E-01	4.304E-01	2.789E-02	0.787
		432.53		4.212E-01	1.552E+00	2.621E+00	1.738E-01	0.161
		487.03		2.113E-02	1.029E-01	1.716E-01	1.224E-02	0.123
		751.79		-4.808E-01	1.317E+00	2.129E+00	2.092E-01	-0.226
		815.85		-4.528E-03	2.339E-01	3.847E-01	4.158E-02	-0.012
		867.82		6.516E-01	1.164E+00	1.741E+00	1.942E-01	0.374
		919.63		3.784E-01	2.066E+00	3.345E+00	4.226E-01	0.113
		925.24		3.217E-01	8.495E-01	1.425E+00	1.614E-01	0.226
		1596.49	*	2.767E-02	6.930E-02	1.199E-01	8.228E-03	0.231
CE-141		145.44	*	-2.911E-03	5.441E-02	8.498E-02	4.851E-03	-0.034
CE-143		57.37		-2.110E-04	5.441E-02	Half-Life too short		
		231.56		-7.804E-04	5.441E-02	Half-Life too short		
		293.26	*	6.484E-04	5.441E-02	Half-Life too short		
	+	350.59		3.059E-02	5.441E-02	Half-Life too short		
		490.36		-1.046E-03	5.441E-02	Half-Life too short		
		664.57		8.996E-04	5.441E-02	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		721.93		-2.882E-04	5.441E-02	Half-Life too short		
CE-144		80.11		2.705E-01	1.952E+00	2.897E+00	2.508E-01	0.093
		133.54	*	2.281E-01	1.866E-01	2.801E-01	3.961E-02	0.814
PM-144		476.78		-4.912E-03	4.962E-02	8.134E-02	6.036E-03	-0.060
		618.01		-4.291E-03	2.752E-02	4.123E-02	3.139E-03	-0.104
		696.49	*	-9.032E-03	2.668E-02	4.361E-02	3.540E-03	-0.207
		778.57		-1.533E+00	1.777E+00	2.748E+00	2.569E-01	-0.558
PR-144		696.49	*	-6.121E-01	1.808E+00	2.955E+00	2.398E-01	-0.207
		1489.15		-5.719E+00	9.557E+00	1.428E+01	1.031E+00	-0.401
PM-146		453.90	*	2.221E-02	3.467E-02	5.937E-02	5.281E-03	0.374
		633.02		5.870E-01	1.026E+00	1.685E+00	6.255E-01	0.348
		735.90		-1.405E-01	1.372E-01	1.663E-01	4.760E-02	-0.845
		747.13		5.691E-03	6.986E-02	1.166E-01	1.655E-02	0.049
ND-147	+	91.11		6.097E-01	2.075E-01	4.448E-01	4.183E-02	1.371
		319.41		-1.249E+00	2.757E+00	4.331E+00	2.502E-01	-0.288
		439.89		-8.737E-01	4.166E+00	6.827E+00	4.165E-01	-0.128
		531.02	*	5.830E-02	4.191E-01	6.913E-01	9.645E-02	0.084
PM-149		285.90	*	6.738E+01	7.359E+01	1.241E+02	1.755E+01	0.543
EU-152		121.78		-2.967E-02	6.180E-02	9.694E-02	7.471E-03	-0.306
		244.69		3.064E-01	2.692E-01	4.172E-01	2.330E-02	0.735
		344.27	*	-9.615E-02	9.927E-02	1.155E-01	7.536E-03	-0.833
		443.98		-2.061E-01	7.531E-01	1.185E+00	7.263E-02	-0.174
		778.89		-1.887E-01	2.054E-01	3.161E-01	2.955E-02	-0.597
		867.32		5.970E-01	6.676E-01	1.035E+00	1.116E-01	0.577
	+	964.01		5.197E-01	3.007E-01	4.638E-01	4.751E-02	1.120
		1085.78		-3.866E-02	2.859E-01	4.713E-01	3.652E-02	-0.082
		1112.02		8.013E-02	2.503E-01	3.701E-01	2.635E-02	0.216
		1407.95		1.514E-01	1.535E-01	2.723E-01	2.023E-02	0.556
GD-153		69.67		-7.019E-01	1.747E+00	2.547E+00	2.067E-01	-0.276
		83.37		1.402E+01	1.464E+01	2.209E+01	1.963E+00	0.635
		97.43	*	-1.935E-03	7.563E-02	1.097E-01	8.581E-03	-0.018
		103.18		-5.271E-02	9.982E-02	1.399E-01	1.009E-02	-0.377
EU-154		123.07		-9.245E-03	4.392E-02	6.976E-02	6.597E-03	-0.133
		247.94		-2.956E-02	2.952E-01	4.222E-01	3.977E-02	-0.070
		591.81		-1.428E-01	4.865E-01	7.714E-01	8.204E-02	-0.185
		723.30		9.173E-02	1.494E-01	2.264E-01	2.134E-02	0.405
		756.87		4.732E-01	5.913E-01	1.028E+00	1.261E-01	0.460
		873.19		-1.290E-01	2.189E-01	3.393E-01	4.726E-02	-0.380
		996.32		-3.052E-01	3.035E-01	4.416E-01	8.075E-02	-0.691
		1004.76		-1.718E-01	1.697E-01	2.484E-01	3.054E-02	-0.692
		1274.45	*	3.948E-02	9.426E-02	1.600E-01	1.598E-02	0.247
TB-160	+	86.79		8.490E-01	3.485E-01	4.671E-01	4.273E-02	1.818
		197.04		-4.684E-02	4.478E-01	7.349E-01	3.947E-02	-0.064
		215.65		4.208E-03	6.897E-01	1.006E+00	5.494E-02	0.004
		298.57		2.204E-01	9.601E-02	1.699E-01	9.758E-03	1.297
		879.36	*	-2.782E-02	1.050E-01	1.680E-01	1.845E-02	-0.166
		962.29		8.079E-01	4.980E-01	7.896E-01	8.112E-02	1.023
		966.15		1.320E+00	2.573E-01	4.514E-01	4.607E-02	2.925
		1177.93		1.327E-01	2.712E-01	4.647E-01	2.595E-02	0.286

---- Non-Identified Nuclides ----

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		1271.85		-4.461E-01	5.670E-01	8.681E-01	5.867E-02	-0.514
HO-166M		80.57		-5.438E-02	2.522E-01	3.672E-01	3.191E-02	-0.148
		184.41		3.459E-02	3.368E-02	5.344E-02	2.839E-03	0.647
		280.46		-6.180E-02	6.960E-02	1.082E-01	6.172E-03	-0.571
		410.95		2.550E-01	1.957E-01	3.467E-01	2.041E-02	0.736
		711.68	*	-1.565E-02	4.724E-02	7.706E-02	6.423E-03	-0.203
		752.31		-9.767E-03	2.079E-01	3.439E-01	3.075E-02	-0.028
		810.29		-3.816E-02	4.371E-02	6.681E-02	6.578E-03	-0.571
TM-171		51.35		2.727E+01	3.852E+01	6.658E+01	5.277E+00	0.410
		52.39		-5.405E+00	1.938E+01	3.226E+01	2.563E+00	-0.168
		59.40		-4.081E+00	2.781E+01	4.626E+01	3.513E+00	-0.088
		66.72	*	-2.493E+01	2.930E+01	4.582E+01	3.663E+00	-0.544
LU-176	+	88.36		6.257E-01	2.568E-01	3.420E-01	3.140E-02	1.830
		201.83		-1.585E-02	2.256E-02	3.652E-02	1.969E-03	-0.434
		306.84	*	1.986E-02	2.135E-02	3.497E-02	2.013E-03	0.568
		401.10		-4.278E-01	5.276E+00	8.789E+00	5.109E-01	-0.049
LU-177		112.95		-1.879E-02	1.402E+00	2.259E+00	1.456E-01	-0.008
	+	208.36	*	3.117E+00	1.606E+00	1.692E+00	9.178E-02	1.842
LU-177M		52.97		-5.783E-01	1.985E+00	3.301E+00	2.621E-01	-0.175
		54.07		-2.991E-01	1.002E+00	1.664E+00	1.316E-01	-0.180
		61.30		-1.898E+00	1.564E+00	2.485E+00	1.920E-01	-0.764
		121.62		-1.356E-01	3.176E-01	4.997E-01	2.964E-02	-0.271
		147.16		-3.249E-01	5.556E-01	8.567E-01	4.662E-02	-0.379
		171.86		-1.606E-01	3.863E-01	6.406E-01	3.372E-02	-0.251
		218.09		3.388E-01	6.942E-01	1.174E+00	6.419E-02	0.289
	+	268.79		2.428E+00	1.011E+00	1.188E+00	6.736E-02	2.044
		319.02		-1.999E-01	2.137E-01	3.261E-01	1.883E-02	-0.613
		367.43		8.990E-02	6.669E-01	1.131E+00	6.533E-02	0.079
		413.65	*	-9.554E-02	1.440E-01	2.319E-01	1.369E-02	-0.412
HF-181		56.28		1.754E-01	1.056E+00	1.783E+00	1.389E-01	0.098
		57.53		-9.884E-02	5.523E-01	9.190E-01	7.087E-02	-0.108
		65.20		-7.719E-01	1.013E+00	1.595E+00	1.265E-01	-0.484
		133.02		-3.048E-03	6.208E-02	8.781E-02	4.967E-03	-0.035
		136.25		7.736E-02	3.825E-01	6.146E-01	3.442E-02	0.126
		345.85		-1.881E-01	1.756E-01	2.225E-01	1.287E-02	-0.845
		482.03	*	2.139E-02	3.148E-02	5.402E-02	3.458E-03	0.396
W-181		56.28		6.881E-02	4.131E-01	6.975E-01	5.434E-02	0.099
		57.53		-3.871E-02	2.163E-01	3.599E-01	2.775E-02	-0.108
		65.20	*	-2.998E-01	3.937E-01	6.198E-01	4.916E-02	-0.484
TA-182		67.75		-1.977E-01	1.134E-01	1.695E-01	1.363E-02	-1.166
		100.10		3.131E-02	1.533E-01	2.512E-01	1.889E-02	0.125
		152.43		-1.407E-01	2.882E-01	4.452E-01	2.395E-02	-0.316
		222.10		1.396E-02	2.834E-01	4.703E-01	2.582E-02	0.030
		1001.68		1.130E+00	1.624E+00	2.679E+00	2.557E-01	0.422
	+	1121.28		7.441E-01	1.934E-01	2.755E-01	1.898E-02	2.700
		1189.05		1.516E-01	2.204E-01	3.832E-01	2.191E-02	0.396
		1221.42	*	9.901E-02	1.507E-01	2.597E-01	1.589E-02	0.381
		1230.97		-3.033E-01	4.020E-01	5.619E-01	3.505E-02	-0.540
RE-183		57.98		-3.670E-02	2.135E-01	3.553E-01	2.729E-02	-0.103

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		59.32		-2.093E-02	1.144E-01	1.901E-01	1.444E-02	-0.110
		67.20		-2.915E-01	2.046E-01	3.112E-01	2.494E-02	-0.937
		162.32	*	-8.409E-03	8.748E-02	1.475E-01	7.784E-03	-0.057
	+	208.81		2.791E+00	1.439E+00	1.524E+00	8.269E-02	1.832
		291.72		-4.109E-01	8.350E-01	1.142E+00	6.544E-02	-0.360
RE-184		57.98		-1.352E-01	7.866E-01	1.309E+00	1.005E-01	-0.103
		59.32		-7.703E-02	4.212E-01	6.997E-01	5.316E-02	-0.110
		67.20		-1.074E+00	7.536E-01	1.146E+00	9.186E-02	-0.937
		161.27		-1.393E-01	2.830E-01	4.701E-01	2.486E-02	-0.296
		216.55		-3.790E-02	2.243E-01	3.570E-01	1.950E-02	-0.106
		252.85	*	4.682E-02	1.790E-01	2.973E-01	1.670E-02	0.157
		318.01		-1.263E-01	3.659E-01	5.785E-01	3.339E-02	-0.218
		792.07		-4.262E-02	9.587E-01	1.355E+00	1.295E-01	-0.031
		903.28		-3.306E-01	9.072E-01	1.214E+00	1.363E-01	-0.272
		920.93		9.218E-02	3.364E-01	5.603E-01	6.140E-02	0.165
OS-185		59.72		2.488E-02	3.029E-01	5.083E-01	3.866E-02	0.049
		61.14		-2.044E-01	1.727E-01	2.747E-01	2.120E-02	-0.744
		69.30		-1.370E-01	3.143E-01	4.574E-01	3.705E-02	-0.299
		592.07		-5.254E-02	1.966E+00	3.177E+00	2.274E-01	-0.017
		646.12	*	-2.891E-03	3.082E-02	4.914E-02	3.695E-03	-0.059
		717.42		-8.948E-02	7.193E-01	1.189E+00	1.001E-01	-0.075
		874.81		-2.649E-01	4.201E-01	6.483E-01	7.072E-02	-0.409
		880.27		-9.356E-02	5.938E-01	9.589E-01	1.055E-01	-0.098
RE-188		155.03	*	1.487E-01	1.356E-01	2.386E-01	1.277E-02	0.623
		477.96		9.810E-01	2.285E+00	3.867E+00	2.464E-01	0.254
		633.10		1.064E+00	2.043E+00	3.416E+00	2.539E-01	0.311
W-188		63.58		3.450E+01	5.505E+01	9.281E+01	7.292E+00	0.372
		227.08		7.150E+00	1.049E+01	1.782E+01	9.818E-01	0.401
		290.67	*	-6.210E+00	6.771E+00	8.962E+00	5.133E-01	-0.693
IR-192	+	295.96		9.769E-01	1.408E-01	2.390E-01	1.394E-02	4.087
		308.46		1.932E-02	7.932E-02	1.297E-01	7.560E-03	0.149
		316.51	*	-1.138E-02	2.796E-02	4.406E-02	2.555E-03	-0.258
		468.07		4.628E-04	5.520E-02	7.913E-02	5.639E-03	0.006
		604.41		-3.884E-01	4.741E-01	6.061E-01	7.365E-02	-0.641
		612.46		1.987E+00	7.525E-01	1.223E+00	1.073E-01	1.625
AU-195		65.12		-1.249E-01	1.830E-01	2.891E-01	2.292E-02	-0.432
		66.83		-1.277E-01	9.800E-02	1.503E-01	1.202E-02	-0.850
	+	75.70		1.205E+00	2.621E-01	4.241E-01	3.562E-02	2.841
		98.88	*	2.647E-01	1.924E-01	3.287E-01	2.515E-02	0.805
	+	129.76		6.214E+00	3.405E+00	4.329E+00	2.477E-01	1.435
TL-200		367.94	*	7.909E-05	3.405E+00	Half-Life too short		
		579.30		1.665E-03	3.405E+00	Half-Life too short		
		828.27		1.674E-03	3.405E+00	Half-Life too short		
		1205.75		8.371E-04	3.405E+00	Half-Life too short		
TL-201		68.90		-1.655E+00	4.745E+00	7.406E+00	5.987E-01	-0.223
		70.82		2.945E+00	2.770E+00	4.308E+00	3.517E-01	0.684
		80.30		-8.860E-01	4.719E+00	6.883E+00	5.968E-01	-0.129
		135.34		-1.874E+01	2.202E+01	3.372E+01	1.893E+00	-0.556
		167.43	*	-4.680E+00	5.646E+00	9.224E+00	4.842E-01	-0.507

---- Non-Identified Nuclides ----

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TL-202		68.90		-1.478E-01	4.237E-01	6.614E-01	5.347E-02	-0.223
		70.82		2.623E-01	2.467E-01	3.836E-01	3.132E-02	0.684
		80.30		-7.893E-02	4.204E-01	6.132E-01	5.317E-02	-0.129
		439.56	*	4.138E-03	4.927E-02	8.225E-02	5.014E-03	0.050
HG-203		70.83		1.138E+00	1.074E+00	1.660E+00	2.211E-01	0.686
		72.87		8.791E-01	6.549E-01	1.013E+00	1.314E-01	0.868
		82.60		-1.153E+00	1.246E+00	1.569E+00	2.177E-01	-0.735
		279.20	*	2.247E-02	3.287E-02	5.521E-02	3.348E-03	0.407
BI-207		72.80		2.307E-01	1.894E-01	2.945E-01	2.431E-02	0.783
	+	74.97		6.681E-01	1.454E-01	2.178E-01	1.821E-02	3.068
		84.90		2.317E-01	1.885E-01	2.868E-01	2.581E-02	0.808
		569.67		3.302E-03	2.375E-02	3.893E-02	2.728E-03	0.085
		1063.62	*	2.590E-02	3.916E-02	6.855E-02	5.659E-03	0.378
		1770.23		2.685E-02	4.085E-01	5.781E-01	3.497E-02	0.046
TL-207		81.07		-2.069E-01	2.091E-01	2.913E-01	2.541E-02	-0.710
		83.78		1.073E-01	1.260E-01	1.894E-01	1.688E-02	0.567
		94.90		3.999E-01	2.189E-01	3.443E-01	2.803E-02	1.161
		122.32		-1.108E+00	1.490E+00	2.307E+00	1.567E-01	-0.480
		144.24		4.526E-01	5.869E-01	9.488E-01	6.621E-02	0.477
		154.21		3.706E-01	3.079E-01	5.436E-01	3.617E-02	0.682
	+	269.46		5.682E-01	2.368E-01	2.898E-01	1.721E-02	1.961
		323.87	*	2.358E-01	6.118E-01	8.820E-01	1.456E-01	0.267
	+	338.28		7.025E+00	1.567E+00	2.126E+00	2.237E-01	3.304
		445.03		7.057E-01	1.806E+00	2.957E+00	3.094E-01	0.239
PO-209		260.50		1.624E+00	7.647E+00	1.264E+01	7.135E-01	0.128
		262.80		-7.665E+00	2.106E+01	3.382E+01	1.911E+00	-0.227
		896.60	*	1.823E+00	5.811E+00	9.713E+00	1.096E+00	0.188
BI-210		46.50	*	2.185E+00	4.746E+00	8.176E+00	6.326E-01	0.267
PB-210		46.50	*	2.185E+00	4.746E+00	8.176E+00	6.326E-01	0.267
PO-210		46.50	*	2.185E+00	4.746E+00	8.176E+00	5.439E-01	0.267
PB-211		404.84	*	-4.032E-01	7.897E-01	1.217E+00	7.587E-01	-0.331
		427.08		-2.878E-01	1.609E+00	2.636E+00	1.630E+00	-0.109
		831.96		-8.868E-01	1.110E+00	1.472E+00	9.262E-01	-0.602
BI-212	+	727.18	*	1.005E+00	4.425E-01	5.354E-01	5.332E-02	1.877
		785.46		1.318E+00	1.425E+00	2.484E+00	2.348E-01	0.531
		1620.62		1.618E+00	1.130E+00	2.124E+00	1.436E-01	0.762
PO-215		81.07		-2.069E-01	2.091E-01	2.913E-01	2.541E-02	-0.710
		83.78		1.073E-01	1.260E-01	1.894E-01	1.688E-02	0.567
		94.90		3.999E-01	2.189E-01	3.443E-01	2.803E-02	1.161
		122.32		-1.108E+00	1.490E+00	2.307E+00	1.567E-01	-0.480
		144.24		4.526E-01	5.869E-01	9.488E-01	6.621E-02	0.477
		154.21		3.706E-01	3.079E-01	5.436E-01	3.617E-02	0.682
	+	269.46		5.682E-01	2.368E-01	2.898E-01	1.721E-02	1.961
		323.87	*	2.358E-01	6.118E-01	8.820E-01	1.456E-01	0.267
	+	338.28		7.025E+00	1.567E+00	2.126E+00	2.237E-01	3.304
		445.03		7.057E-01	1.806E+00	2.957E+00	3.094E-01	0.239
RN-219	+	271.23		7.291E-01	3.064E-01	3.652E-01	2.928E-02	1.996
		401.81	*	-7.016E-02	3.220E-01	5.322E-01	7.246E-02	-0.132
RN-220		549.76	*	-1.239E+01	1.994E+01	3.107E+01	2.135E+00	-0.399

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-223		81.07		-2.069E-01	2.091E-01	2.913E-01	2.541E-02	-0.710
		83.78		1.073E-01	1.260E-01	1.894E-01	1.688E-02	0.567
		94.90		3.999E-01	2.189E-01	3.443E-01	2.803E-02	1.161
		122.32		-1.108E+00	1.490E+00	2.307E+00	1.567E-01	-0.480
		144.24		4.526E-01	5.869E-01	9.488E-01	6.621E-02	0.477
		154.21		3.706E-01	3.079E-01	5.436E-01	3.617E-02	0.682
	+	269.46		5.682E-01	2.368E-01	2.898E-01	1.721E-02	1.961
		323.87	*	2.358E-01	6.118E-01	8.820E-01	1.456E-01	0.267
	+	338.28		7.025E+00	1.567E+00	2.126E+00	2.237E-01	3.304
		445.03		7.057E-01	1.806E+00	2.957E+00	3.094E-01	0.239
AC-227		79.80		4.358E-01	1.525E+00	2.276E+00	4.896E-01	0.191
		236.00		4.253E-01	2.302E-01	3.577E-01	3.690E-02	1.189
		256.20	*	-1.122E-01	3.085E-01	4.964E-01	6.895E-02	-0.226
		286.10		1.162E+00	1.217E+00	2.061E+00	2.374E-01	0.564
	+	299.80		4.490E+00	1.739E+00	2.208E+00	3.592E-01	2.033
		304.40		-1.769E+00	1.832E+00	2.374E+00	4.103E-01	-0.745
		334.20		-6.330E-02	2.171E+00	3.032E+00	5.558E-01	-0.021
TH-227		79.80		4.358E-01	1.525E+00	2.276E+00	4.958E-01	0.191
	+	94.00		7.570E+00	3.190E+00	3.354E+00	7.258E-01	2.257
		236.00		4.253E-01	2.292E-01	3.577E-01	3.183E-02	1.189
		256.20	*	-1.122E-01	3.087E-01	4.964E-01	8.360E-02	-0.226
		286.10		1.162E+00	1.679E+00	2.061E+00	2.064E+00	0.564
	+	299.80		4.490E+00	1.739E+00	2.208E+00	3.592E-01	2.033
		304.40		-1.769E+00	1.832E+00	2.374E+00	4.103E-01	-0.745
		334.20		-6.330E-02	2.171E+00	3.032E+00	5.558E-01	-0.021
TH-229		85.43		2.526E-01	1.892E-01	2.886E-01	2.609E-02	0.875
	+	88.47		3.602E-01	1.478E-01	1.961E-01	1.797E-02	1.836
		100.00		3.575E-02	1.593E-01	2.612E-01	1.967E-02	0.137
		193.63	*	-1.550E-01	3.949E-01	6.498E-01	3.479E-02	-0.238
		210.97		1.534E+00	6.947E-01	1.125E+00	6.114E-02	1.364
PA-231		283.67	*	-8.513E-01	1.241E+00	1.939E+00	2.665E-01	-0.439
	+	301.29		1.796E+00	6.585E-01	8.790E-01	9.162E-02	2.043
TH-231		81.07		-2.069E-01	2.091E-01	2.913E-01	2.541E-02	-0.710
		83.78		1.073E-01	1.260E-01	1.894E-01	1.688E-02	0.567
		94.90		3.999E-01	2.189E-01	3.443E-01	2.803E-02	1.161
		122.32		-1.108E+00	1.490E+00	2.307E+00	1.567E-01	-0.480
		144.24		4.526E-01	5.869E-01	9.488E-01	6.621E-02	0.477
		154.21		3.706E-01	3.079E-01	5.436E-01	3.617E-02	0.682
	+	269.46		5.682E-01	2.368E-01	2.898E-01	1.721E-02	1.961
		323.87	*	2.358E-01	6.118E-01	8.820E-01	1.456E-01	0.267
	+	338.28		7.025E+00	1.567E+00	2.126E+00	2.237E-01	3.304
		445.03		7.057E-01	1.806E+00	2.957E+00	3.094E-01	0.239
U-231		84.21		4.903E+00	5.407E+00	8.138E+00	7.280E-01	0.602
	+	92.29		7.527E+00	2.792E+00	3.560E+00	3.031E-01	2.114
		95.87	*	-1.063E-01	9.830E-01	1.421E+00	1.139E-01	-0.075
		108.00		-1.257E-01	1.932E+00	2.776E+00	1.887E-01	-0.045
PA-233	+	75.28		1.950E+01	4.912E+00	6.453E+00	9.817E-01	3.021
	+	86.59		5.164E+00	2.493E+00	2.824E+00	7.623E-01	1.828
	+	300.12		1.252E+00	4.710E-01	6.155E-01	8.256E-02	2.034

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		311.98	*	-4.722E-03	5.151E-02	8.273E-02	5.068E-03	-0.057
		340.50		2.983E+00	9.333E-01	1.125E+00	2.584E-01	2.651
		398.62		-6.183E-01	1.638E+00	2.675E+00	6.915E-01	-0.231
		415.76		-6.182E-01	1.292E+00	2.088E+00	4.306E-01	-0.296
PA-234		63.00		8.219E-01	1.655E+00	2.775E+00	4.184E-01	0.296
		94.67		4.204E-01	1.671E-01	2.612E-01	3.159E-02	1.609
		98.44		7.033E-02	8.725E-02	1.315E-01	7.321E-02	0.535
		99.86		1.017E-01	4.039E-01	6.631E-01	5.003E-02	0.153
		111.00		6.193E-02	1.568E-01	2.572E-01	2.759E-02	0.241
		131.20		9.699E-02	9.833E-02	1.474E-01	8.389E-03	0.658
		152.70		-8.672E-02	2.780E-01	4.325E-01	6.772E-02	-0.200
	+	186.00		5.106E+00	2.355E+00	2.154E+00	6.563E-01	2.370
		226.40		1.576E-01	3.277E-01	5.519E-01	6.301E-02	0.286
		227.20		2.505E-01	3.540E-01	6.018E-01	3.317E-02	0.416
		248.90		-2.319E-01	6.229E-01	9.643E-01	2.067E-01	-0.240
		293.70		4.787E+00	1.096E+00	1.404E+00	2.254E-01	3.411
		369.80		1.975E-01	6.320E-01	1.079E+00	2.246E-01	0.183
		568.70		-1.191E-01	7.738E-01	1.244E+00	8.712E-02	-0.096
		569.50		2.251E-02	2.103E-01	3.440E-01	2.411E-02	0.065
		574.00		6.336E-01	1.148E+00	1.931E+00	1.359E-01	0.328
		699.00		-1.398E-01	5.476E-01	8.988E-01	1.696E-01	-0.156
		706.10		1.760E-01	7.922E-01	1.334E+00	5.939E-01	0.132
		733.00		3.170E-01	3.007E-01	4.668E-01	1.037E-01	0.679
		742.81		7.538E-01	1.154E+00	1.806E+00	1.215E+00	0.417
	+	796.30		1.526E+00	1.008E+00	1.264E+00	3.461E-01	1.207
		805.60		4.621E-01	7.422E-01	1.258E+00	3.897E-01	0.367
		819.60		-3.291E-01	9.478E-01	1.505E+00	5.775E-01	-0.219
		826.30		4.013E-01	6.606E-01	1.093E+00	4.926E-01	0.367
		831.60		-7.027E-01	5.450E-01	7.404E-01	2.246E-01	-0.949
		876.40		2.048E-01	6.443E-01	1.024E+00	1.055E+00	0.200
		880.51		5.717E-02	2.110E-01	3.525E-01	3.879E-02	0.162
		883.24		7.812E-02	2.291E-01	3.744E-01	2.530E-01	0.209
		899.00		-7.445E-02	6.815E-01	1.102E+00	4.885E-01	-0.068
		925.00		1.485E-01	8.894E-01	1.468E+00	1.599E-01	0.101
		926.50		7.963E-03	1.294E-01	2.117E-01	5.532E-02	0.038
		946.00	*	1.403E-01	2.142E-01	3.649E-01	7.199E-02	0.384
		949.00		1.346E-01	3.269E-01	5.489E-01	5.764E-02	0.245
		980.50		-1.881E-01	5.896E-01	9.293E-01	9.243E-02	-0.202
		1394.10		-1.135E+00	1.203E+00	1.339E+00	8.698E-01	-0.848
PA-234M	+	766.42		1.936E+01	1.518E+01	1.666E+01	8.469E+00	1.162
		1001.03	*	2.164E+00	3.741E+00	6.120E+00	6.602E-01	0.354
TH-234		63.29	*	9.575E-01	1.401E+00	2.353E+00	4.149E-01	0.407
	+	92.38		1.959E+00	7.906E-01	9.259E-01	1.669E-01	2.116
NP-236		94.67		3.211E-01	1.236E-01	1.984E-01	1.621E-02	1.619
		98.44		5.314E-02	5.909E-02	9.944E-02	7.658E-03	0.534
		111.00		4.684E-02	1.185E-01	1.945E-01	1.279E-02	0.241
		160.31	*	-1.323E-02	6.267E-02	1.053E-01	5.577E-03	-0.126
U-238		63.29	*	9.575E-01	1.401E+00	2.353E+00	4.149E-01	0.407
	+	92.38		1.959E+00	7.266E-01	9.259E-01	7.870E-02	2.116

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		6.474E-02	1.346E-01	2.230E-01	1.690E-02	0.290
		117.00	*	7.269E-02	1.611E-01	2.643E-01	1.636E-02	0.275
	+	209.75		2.201E+00	1.134E+00	1.191E+00	6.467E-02	1.849
		228.18		5.650E-02	1.845E-01	3.088E-01	1.703E-02	0.183
		277.60		1.083E-01	1.449E-01	2.440E-01	1.390E-02	0.444
		334.30		2.049E-02	1.232E+00	1.727E+00	9.990E-02	0.012
AM-241		59.54	*	-1.353E-02	1.615E-01	2.693E-01	2.234E-02	-0.050
CM-243		99.55		6.661E-02	1.385E-01	2.294E-01	1.739E-02	0.290
		103.76	*	-2.574E-02	9.310E-02	1.325E-01	9.485E-03	-0.194
		117.00		7.478E-02	1.658E-01	2.719E-01	1.683E-02	0.275
	+	209.75		2.170E+00	1.118E+00	1.174E+00	6.375E-02	1.849
		228.18		5.709E-02	1.864E-01	3.120E-01	1.721E-02	0.183
		277.60		1.092E-01	1.461E-01	2.460E-01	1.401E-02	0.444
AM-246		798.80		-1.741E-02	1.076E-01	1.496E-01	1.445E-02	-0.116
		1036.00		-4.948E-02	2.156E-01	3.541E-01	3.135E-02	-0.140
		1062.04		1.060E-01	1.705E-01	2.977E-01	2.468E-02	0.356
		1078.86	*	5.977E-02	1.074E-01	1.865E-01	1.475E-02	0.320
CM-247		278.00		2.888E-01	6.084E-01	1.012E+00	5.768E-02	0.285
		287.40		1.094E-01	9.784E-01	1.598E+00	9.144E-02	0.068
		402.60	*	2.515E-02	2.840E-02	4.960E-02	2.889E-03	0.507
CF-249		252.85		1.756E-01	6.715E-01	1.116E+00	6.266E-02	0.157
		333.44		-1.845E-01	2.039E-01	2.170E-01	1.255E-02	-0.850
		387.95	*	8.300E-03	3.109E-02	5.284E-02	3.038E-03	0.157
CF-251		176.60	*	1.601E-02	1.025E-01	1.735E-01	9.163E-03	0.092
		227.00		2.134E-01	3.146E-01	5.342E-01	2.944E-02	0.399
		285.00		1.797E-01	1.386E+00	2.268E+00	1.296E-01	0.079

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012145    *
* Acquisition date : 20-JAN-2010 15:47:39 Detector SN#     :               *
* Detector ID        : GAM18               Sensitivity      : 5.000        *
* Geometry           : CAN                 Energy tolerance: 1.500         *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000        *
* Elapsed real time:    0 02:00:01.58      Half life ratio :  8.000        *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date        :  5-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G1202012145          Analyst initials: MXR1          *
* Batch Number       : 940263               Sample Quantity : 1.2836E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000     *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME : 23-APR-2009 11:59:23 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.112E+01	1.962E+00	3.780E-01	0.000E+00
CD-109	2.684E+00	1.080E+00	1.145E+00	0.000E+00
SN-126	2.638E-01	1.061E-01	1.348E-01	0.000E+00
EU-155	1.917E-01	1.188E-01	1.490E-01	0.000E+00
TL-208	4.744E-01	6.772E-02	4.409E-02	0.000E+00
BI-211	3.779E+00	4.569E-01	2.513E-01	0.000E+00
PB-212	1.624E+00	1.457E-01	7.136E-02	0.000E+00
PO-212	1.624E+00	1.457E-01	7.136E-02	0.000E+00
BI-214	1.026E+00	1.604E-01	9.712E-02	0.000E+00
PB-214	1.315E+00	1.726E-01	8.757E-02	0.000E+00
PO-214	1.315E+00	1.726E-01	8.757E-02	0.000E+00
PO-216	1.624E+00	1.457E-01	7.136E-02	0.000E+00
PO-218	1.315E+00	1.726E-01	8.757E-02	0.000E+00
RA-224	4.767E+00	1.089E+00	8.110E-01	0.000E+00
RA-226	1.026E+00	1.604E-01	9.712E-02	0.000E+00
AC-228	1.771E+00	3.066E-01	1.460E-01	0.000E+00
RA-228	1.771E+00	3.066E-01	1.460E-01	0.000E+00
TH-228	1.649E+00	1.479E-01	7.245E-02	0.000E+00
TH-230	1.026E+00	1.604E-01	9.712E-02	0.000E+00
TH-232	1.771E+00	3.066E-01	1.460E-01	0.000E+00
U-234	1.026E+00	1.604E-01	9.712E-02	0.000E+00
U-235	5.655E-02	1.803E-01	3.025E-01	0.000E+00
NP-237	7.747E-01	3.488E-01	3.907E-01	0.000E+00
AM-243	3.722E-01	7.936E-02	8.470E-02	0.000E+00
ANH-511	1.381E-01	5.592E-02	3.413E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)		
BE-7	3.851E-02	2.361E-01	4.085E-01	0.000E+00	NOT IDENT.
NA-22	1.007E-02	3.341E-02	5.747E-02	0.000E+00	NOT IDENT.

NA-24	0.000E+00	6.893E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.895E-03	2.315E-02	3.908E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.065E-02	8.033E-02	0.000E+00	FAIL ABUN
SC-46	-1.994E-02	3.063E-02	4.878E-02	0.000E+00	FAIL ABUN
V-48	3.280E-03	6.492E-02	9.282E-02	0.000E+00	NOT IDENT.
CR-51	2.242E-03	3.033E-01	5.108E-01	0.000E+00	NOT IDENT.
MN-52	2.628E-03	1.784E-01	2.961E-01	0.000E+00	NOT IDENT.
MN-54	1.789E-02	2.907E-02	5.110E-02	0.000E+00	NOT IDENT.
CO-56	-2.899E-02	3.010E-02	4.690E-02	0.000E+00	FAIL ABUN
CO-57	-1.806E-02	2.105E-02	3.439E-02	0.000E+00	NOT IDENT.
CO-58	-2.413E-02	2.872E-02	4.547E-02	0.000E+00	NOT IDENT.
FE-59	-5.958E-02	5.978E-02	9.271E-02	0.000E+00	NOT IDENT.
CO-60	-5.652E-03	2.807E-02	4.594E-02	0.000E+00	NOT IDENT.
ZN-65	5.673E-03	7.174E-02	1.056E-01	0.000E+00	NOT IDENT.
GE-68	7.776E-01	8.922E-01	1.623E+00	0.000E+00	NOT IDENT.
AS-73	-2.594E-01	9.876E-01	1.764E+00	0.000E+00	NOT IDENT.
AS-74	-9.556E-02	7.525E-02	1.151E-01	0.000E+00	NOT IDENT.
SE-75	9.846E-04	3.771E-02	5.671E-02	0.000E+00	NOT IDENT.
BR-77	-2.591E+00	8.001E+00	1.292E+01	0.000E+00	FAIL ABUN
SR-82	-2.859E-01	2.911E-01	4.605E-01	0.000E+00	NOT IDENT.
RB-83	-1.936E-02	5.213E-02	8.385E-02	0.000E+00	NOT IDENT.
RB-84	2.046E-02	5.240E-02	9.074E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.331E+00	1.119E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.248E-02	5.740E-02	0.000E+00	NOT IDENT.
RB-86	6.014E-01	5.759E-01	1.058E+00	0.000E+00	NOT IDENT.
Y-88	-1.459E-02	2.402E-02	3.593E-02	0.000E+00	NOT IDENT.
ZR-88	-6.094E-03	2.398E-02	4.133E-02	0.000E+00	NOT IDENT.
Y-91	4.755E+00	1.314E+01	2.281E+01	0.000E+00	NOT IDENT.
NB-94	3.092E-03	2.545E-02	4.419E-02	0.000E+00	NOT IDENT.
NB-95	5.558E-02	3.716E-02	6.127E-02	0.000E+00	NOT IDENT.
NB-95M	4.677E-02	1.106E-01	1.718E-01	0.000E+00	NOT IDENT.
ZR-95	1.014E-02	5.323E-02	9.219E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	7.814E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.708E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.639E+00	8.632E+00	1.460E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	4.001E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	4.840E-03	2.615E-02	4.569E-02	0.000E+00	NOT IDENT.
RH-102	-6.986E-03	2.098E-02	3.520E-02	0.000E+00	FAIL ABUN
RU-103	-2.938E-03	2.916E-02	4.943E-02	0.000E+00	FAIL ABUN
RH-106	2.727E-01	2.400E-01	4.275E-01	0.000E+00	FAIL ABUN
RU-106	2.727E-01	2.385E-01	4.275E-01	0.000E+00	FAIL ABUN
AG-108M	8.889E-03	2.343E-02	4.140E-02	0.000E+00	NOT IDENT.
AG-110M	-8.934E-03	2.695E-02	4.582E-02	0.000E+00	NOT IDENT.
IN-111	4.458E-01	8.195E-01	1.287E+00	0.000E+00	NOT IDENT.
IN-113M	-9.680E-03	3.432E-02	5.906E-02	0.000E+00	NOT IDENT.
SN-113	-9.680E-03	3.432E-02	5.906E-02	0.000E+00	NOT IDENT.
IN-114M	1.096E-01	1.480E-01	2.394E-01	0.000E+00	NOT IDENT.
CD-115	-6.429E+00	8.385E+00	1.332E+01	0.000E+00	NOT IDENT.
SN-117M	-1.690E-03	4.248E-02	7.590E-02	0.000E+00	NOT IDENT.
SB-122	5.403E-01	1.571E+00	2.704E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	4.678E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.975E-03	2.194E-02	3.913E-02	0.000E+00	NOT IDENT.
I-124	1.617E-01	6.560E-01	9.570E-01	0.000E+00	NOT IDENT.
SB-124	1.407E-03	5.859E-02	9.884E-02	0.000E+00	FAIL ABUN
SB-125	-7.304E-03	6.976E-02	1.201E-01	0.000E+00	FAIL ABUN
TE-125M	-6.905E-01	8.542E+00	1.301E+01	0.000E+00	NOT IDENT.
I-126	4.212E-02	1.351E-01	2.383E-01	0.000E+00	NOT IDENT.
SB-126	-6.288E-02	1.271E-01	1.878E-01	0.000E+00	FAIL ABUN
SB-127	-3.690E-01	9.587E-01	1.611E+00	0.000E+00	NOT IDENT.
XE-127	-9.028E-03	3.739E-02	6.275E-02	0.000E+00	NOT IDENT.
I-131	-3.651E-03	8.288E-02	1.453E-01	0.000E+00	NOT IDENT.
TE-132	1.786E-01	5.582E-01	9.809E-01	0.000E+00	NOT IDENT.
BA-133	3.507E-02	3.646E-02	5.681E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	4.865E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.687E-02	6.643E-02	0.000E+00	FAIL ABUN
CS-135	1.434E-01	1.401E-01	2.229E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	4.834E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	4.857E-02	8.197E-02	1.464E-01	0.000E+00	FAIL ABUN
BA-137M	-4.518E-03	2.727E-02	4.682E-02	0.000E+00	NOT IDENT.
CS-137	-4.776E-03	2.883E-02	4.949E-02	0.000E+00	NOT IDENT.
CE-139	1.800E-03	2.336E-02	4.178E-02	0.000E+00	NOT IDENT.
BA-140	-4.261E-03	1.861E-01	3.146E-01	0.000E+00	NOT IDENT.
LA-140	2.767E-02	6.791E-02	1.198E-01	0.000E+00	FAIL ABUN
CE-141	-2.911E-03	5.332E-02	8.807E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.971E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	2.281E-01	1.829E-01	2.907E-01	0.000E+00	NOT IDENT.
PM-144	-9.032E-03	2.614E-02	4.413E-02	0.000E+00	NOT IDENT.
PR-144	-6.121E-01	1.772E+00	2.990E+00	0.000E+00	NOT IDENT.

PM-146	2.221E-02	3.397E-02	6.047E-02	0.000E+00	NOT IDENT.
ND-147	5.830E-02	4.107E-01	7.025E-01	0.000E+00	FAIL ABUN
PM-149	6.738E+01	7.212E+01	1.273E+02	0.000E+00	NOT IDENT.
EU-152	-9.615E-02	9.728E-02	1.181E-01	0.000E+00	FAIL ABUN
GD-153	-1.935E-03	7.412E-02	1.144E-01	0.000E+00	NOT IDENT.
EU-154	3.948E-02	9.237E-02	1.604E-01	0.000E+00	NOT IDENT.
TB-160	-2.782E-02	1.029E-01	1.693E-01	0.000E+00	FAIL ABUN
HO-166M	-1.565E-02	4.630E-02	7.795E-02	0.000E+00	NOT IDENT.
TM-171	-2.493E+01	2.871E+01	4.803E+01	0.000E+00	NOT IDENT.
LU-176	1.986E-02	2.093E-02	3.584E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.574E+00	1.744E+00	0.000E+00	FAIL ABUN
LU-177M	-9.554E-02	1.411E-01	2.365E-01	0.000E+00	FAIL ABUN
HF-181	2.139E-02	3.085E-02	5.498E-02	0.000E+00	NOT IDENT.
W-181	-2.998E-01	3.858E-01	6.499E-01	0.000E+00	NOT IDENT.
TA-182	9.901E-02	1.477E-01	2.605E-01	0.000E+00	FAIL ABUN
RE-183	-8.409E-03	8.573E-02	1.526E-01	0.000E+00	FAIL ABUN
RE-184	4.682E-02	1.754E-01	3.056E-01	0.000E+00	NOT IDENT.
OS-185	-2.891E-03	3.021E-02	4.978E-02	0.000E+00	NOT IDENT.
RE-188	1.487E-01	1.329E-01	2.471E-01	0.000E+00	NOT IDENT.
W-188	-6.210E+00	6.635E+00	9.192E+00	0.000E+00	NOT IDENT.
IR-192	-1.138E-02	2.740E-02	4.513E-02	0.000E+00	FAIL ABUN
AU-195	2.647E-01	1.885E-01	3.426E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	3.423E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-4.680E+00	5.533E+00	9.539E+00	0.000E+00	NOT IDENT.
TL-202	4.138E-03	4.829E-02	8.382E-02	0.000E+00	NOT IDENT.
HG-203	2.247E-02	3.221E-02	5.666E-02	0.000E+00	NOT IDENT.
BI-207	2.590E-02	3.838E-02	6.891E-02	0.000E+00	FAIL ABUN
TL-207	2.358E-01	5.996E-01	9.032E-01	0.000E+00	FAIL ABUN
PO-209	1.823E+00	5.694E+00	9.790E+00	0.000E+00	NOT IDENT.
BI-210	2.185E+00	4.652E+00	8.616E+00	0.000E+00	NOT IDENT.
PB-210	2.185E+00	4.652E+00	8.616E+00	0.000E+00	NOT IDENT.
PO-210	2.185E+00	4.651E+00	8.616E+00	0.000E+00	NOT IDENT.
PB-211	-4.032E-01	7.739E-01	1.242E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.337E-01	5.414E-01	0.000E+00	FAIL ABUN
PO-215	2.358E-01	5.996E-01	9.032E-01	0.000E+00	FAIL ABUN
RN-219	-7.016E-02	3.156E-01	5.432E-01	0.000E+00	FAIL ABUN
RN-220	-1.239E+01	1.954E+01	3.156E+01	0.000E+00	NOT IDENT.
RA-223	2.358E-01	5.996E-01	9.032E-01	0.000E+00	FAIL ABUN
AC-227	-1.122E-01	3.024E-01	5.101E-01	0.000E+00	FAIL ABUN
TH-227	-1.122E-01	3.026E-01	5.101E-01	0.000E+00	FAIL ABUN
TH-229	-1.550E-01	3.870E-01	6.705E-01	0.000E+00	FAIL ABUN
PA-231	-8.513E-01	1.217E+00	1.990E+00	0.000E+00	FAIL ABUN
TH-231	2.358E-01	5.996E-01	9.032E-01	0.000E+00	FAIL ABUN
U-231	-1.063E-01	9.633E-01	1.482E+00	0.000E+00	FAIL ABUN
PA-233	-4.722E-03	5.048E-02	8.475E-02	0.000E+00	FAIL ABUN
PA-234	1.403E-01	2.099E-01	3.675E-01	0.000E+00	FAIL ABUN
PA-234M	2.164E+00	3.666E+00	6.158E+00	0.000E+00	FAIL ABUN
TH-234	9.575E-01	1.373E+00	2.469E+00	0.000E+00	FAIL ABUN
NP-236	-1.323E-02	6.142E-02	1.089E-01	0.000E+00	NOT IDENT.
U-238	9.575E-01	1.373E+00	2.469E+00	0.000E+00	FAIL ABUN
NP-239	7.269E-02	1.579E-01	2.748E-01	0.000E+00	FAIL ABUN
AM-241	-1.353E-02	1.583E-01	2.828E-01	0.000E+00	NOT IDENT.
CM-243	-2.574E-02	9.124E-02	1.380E-01	0.000E+00	FAIL ABUN
AM-246	5.977E-02	1.053E-01	1.875E-01	0.000E+00	NOT IDENT.
CM-247	2.515E-02	2.783E-02	5.061E-02	0.000E+00	NOT IDENT.
CF-249	8.300E-03	3.047E-02	5.396E-02	0.000E+00	NOT IDENT.
CF-251	1.601E-02	1.005E-01	1.793E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 17:48:07.03

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
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Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012145.CNF;1
Sample date       : 5-JAN-2010 12:00:00. Acquisition date : 20-JAN-2010 15:47:39
Sample ID         : G1202012145          Sample quantity  : 1.28360E+02 GRAM
Detector name     : GAM18                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:01.58  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 940263                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1459	10.67*	1.893E+00	2.112E+01	2.112E+01	9.48
CD-109	88.03	215	3.72*	6.453E+00	2.624E+00	2.684E+00	41.05
SN-126	64.28	------	9.60	3.245E+00	------ Line Not Found		------
	86.94	215	8.90	6.453E+00	1.097E+00	1.097E+00	57.63
	87.57	215	37.00*	6.453E+00	2.638E-01	2.638E-01	41.05
EU-155	48.70	------	4.60	9.095E-01	------ Line Not Found		------
	60.01	------	1.11	2.537E+00	------ Line Not Found		------
	86.54	215	30.90	6.453E+00	3.159E-01	3.177E-01	41.07
	105.31	105	20.70*	7.750E+00	1.906E-01	1.917E-01	63.26
TL-208	277.35	------	6.80	6.258E+00	------ Line Not Found		------
	510.84	204	21.60	4.309E+00	6.394E-01	6.394E-01	42.15
	583.14	537	84.20*	3.934E+00	4.744E-01	4.744E-01	14.57
	860.37	80	12.46	2.915E+00	6.412E-01	6.412E-01	72.05
BI-211	72.87	------	1.27	4.622E+00	------ Line Not Found		------
	351.07	912	12.94*	5.451E+00	3.779E+00	3.779E+00	12.34
PB-212	74.81	415	10.70	4.944E+00	2.296E+00	2.296E+00	23.68
	77.11	706	18.00	5.262E+00	2.179E+00	2.179E+00	15.39
	87.30	215	8.00	6.453E+00	1.220E+00	1.220E+00	42.25
	238.63	1682	44.60*	6.792E+00	1.624E+00	1.624E+00	9.15
	300.09	169	3.41	5.983E+00	2.423E+00	2.423E+00	36.10
PO-212	74.81	415	10.70	4.944E+00	2.296E+00	2.296E+00	23.68
	77.11	706	18.00	5.262E+00	2.179E+00	2.179E+00	15.39
	87.30	215	8.00	6.453E+00	1.220E+00	1.220E+00	42.25
	115.19	------	0.60	8.058E+00	------ Line Not Found		------
	238.63	1682	44.60*	6.792E+00	1.624E+00	1.624E+00	9.15
	300.09	169	3.41	5.983E+00	2.423E+00	2.423E+00	36.10
BI-214	609.31	619	46.30*	3.813E+00	1.026E+00	1.026E+00	15.96
	1120.29	190	15.10	2.334E+00	1.573E+00	1.573E+00	26.82
	1764.49	110	15.80	1.695E+00	1.203E+00	1.203E+00	36.12
PB-214	74.81	415	6.21	4.944E+00	3.956E+00	3.956E+00	22.98
	77.11	706	10.50	5.262E+00	3.735E+00	3.735E+00	17.18
	87.30	215	4.67	6.453E+00	2.090E+00	2.090E+00	41.77

Sample ID : G1202012145 Acquisition date : 20-JAN-2010 15:47:39

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	241.98	434	7.49	6.747E+00	2.514E+00	2.514E+00	23.97
	295.21	508	19.20	6.040E+00	1.281E+00	1.281E+00	15.68
	351.92	912	37.20*	5.451E+00	1.315E+00	1.315E+00	13.39
PO-214	74.81	415	6.21	4.944E+00	3.956E+00	3.956E+00	22.98
	77.11	706	10.50	5.262E+00	3.735E+00	3.735E+00	17.18
	87.30	215	4.67	6.453E+00	2.090E+00	2.090E+00	41.77
	241.98	434	7.49	6.747E+00	2.514E+00	2.514E+00	23.97
	295.21	508	19.20	6.040E+00	1.281E+00	1.281E+00	15.68
	351.92	912	37.20*	5.451E+00	1.315E+00	1.315E+00	13.39
PO-216	74.81	415	10.70	4.944E+00	2.296E+00	2.296E+00	23.68
	77.11	706	18.00	5.262E+00	2.179E+00	2.179E+00	15.39
	87.30	215	8.00	6.453E+00	1.220E+00	1.220E+00	42.25
	238.63	1682	44.60*	6.792E+00	1.624E+00	1.624E+00	9.15
	300.09	169	3.41	5.983E+00	2.423E+00	2.423E+00	36.10
PO-218	74.81	415	6.21	4.944E+00	3.956E+00	3.956E+00	22.98
	77.11	706	10.50	5.262E+00	3.735E+00	3.735E+00	17.18
	87.30	215	4.67	6.453E+00	2.090E+00	2.090E+00	41.77
	241.98	434	7.49	6.747E+00	2.514E+00	2.514E+00	23.97
	295.21	508	19.20	6.040E+00	1.281E+00	1.281E+00	15.68
	351.92	912	37.20*	5.451E+00	1.315E+00	1.315E+00	13.39
RA-224	240.98	434	3.95*	6.747E+00	4.767E+00	4.767E+00	23.30
RA-226	609.31	619	46.30*	3.813E+00	1.026E+00	1.026E+00	15.96
	1120.29	190	15.10	2.334E+00	1.573E+00	1.573E+00	26.82
	1764.49	110	15.80	1.695E+00	1.203E+00	1.203E+00	36.12
AC-228	338.32	366	11.40	5.580E+00	1.682E+00	1.682E+00	45.26
	911.07	466	27.70*	2.780E+00	1.771E+00	1.771E+00	17.66
	969.11	264	16.60	2.640E+00	1.761E+00	1.761E+00	29.91
RA-228	338.32	366	11.40	5.580E+00	1.682E+00	1.682E+00	45.26
	911.07	466	27.70*	2.780E+00	1.771E+00	1.771E+00	17.66
	969.11	264	16.60	2.640E+00	1.761E+00	1.761E+00	29.91
TH-228	74.81	415	10.70	4.944E+00	2.296E+00	2.331E+00	21.78
	77.11	706	18.00	5.262E+00	2.179E+00	2.212E+00	15.39
	87.30	215	8.00	6.453E+00	1.220E+00	1.239E+00	41.05
	238.63	1682	44.60*	6.792E+00	1.624E+00	1.649E+00	9.15
	300.09	169	3.41	5.983E+00	2.423E+00	2.459E+00	68.62
TH-230	609.31	619	46.30*	3.813E+00	1.026E+00	1.026E+00	15.96
	1120.29	190	15.10	2.334E+00	1.573E+00	1.573E+00	26.82
	1764.49	110	15.80	1.695E+00	1.203E+00	1.203E+00	36.12
TH-232	338.32	366	11.40	5.580E+00	1.682E+00	1.682E+00	20.49
	911.07	466	27.70*	2.780E+00	1.771E+00	1.771E+00	17.66
	969.11	264	16.60	2.640E+00	1.761E+00	1.761E+00	29.91
U-234	609.31	619	46.30*	3.813E+00	1.026E+00	1.026E+00	15.96
	1120.29	190	15.10	2.334E+00	1.573E+00	1.573E+00	26.82
	1764.49	110	15.80	1.695E+00	1.203E+00	1.203E+00	36.12
U-235	89.95	150	2.70	6.723E+00	2.422E+00	2.422E+00	44.98
	93.35	253	4.50	6.968E+00	2.355E+00	2.355E+00	45.68
	105.00	105	2.10	7.750E+00	1.879E+00	1.879E+00	69.40
	143.76	------	10.50*	8.222E+00	------	Line Not Found	------
	163.35	------	4.70	8.004E+00	------	Line Not Found	------

Sample ID : G1202012145 Acquisition date : 20-JAN-2010 15:47:39

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	185.71	267	54.00	7.640E+00	1.891E-01	1.891E-01	35.02
	205.31	------	4.70	7.323E+00	------ Line Not Found		------
NP-237	86.50	215	12.60*	6.453E+00	7.747E-01	7.747E-01	45.94
	95.87	------	2.60	7.180E+00	------ Line Not Found		------
AM-243	74.67	415	66.00*	4.944E+00	3.722E-01	3.722E-01	21.76
	86.72	215	0.34	6.453E+00	2.905E+01	2.905E+01	41.05
	117.66	------	0.55	8.112E+00	------ Line Not Found		------
	142.18	------	0.13	8.232E+00	------ Line Not Found		------
ANH-511	511.00	204	100.00*	4.309E+00	1.381E-01	1.381E-01	41.31

Flag: "*" = Keyline

Sample ID : G1202012145 Acquisition date : 20-JAN-2010 15:47:39

Total number of lines in spectrum	34	
Number of unidentified lines	2	
Number of lines tentatively identified by NID	32	94.12%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.112E+01	2.112E+01	0.200E+01	9.48	
CD-109	464.00D	1.02	2.624E+00	2.684E+00	1.102E+00	41.05	
SN-126	1.00E+05Y	1.00	2.638E-01	2.638E-01	1.083E-01	41.05	
EU-155	4.96Y	1.01	1.906E-01	1.917E-01	1.213E-01	63.26	
TL-208	1.41E+10Y	1.00	4.744E-01	4.744E-01	0.691E-01	14.57	
BI-211	7.04E+08Y	1.00	3.779E+00	3.779E+00	0.466E+00	12.34	
PB-212	1.41E+10Y	1.00	1.624E+00	1.624E+00	0.149E+00	9.15	
PO-212	1.41E+10Y	1.00	1.624E+00	1.624E+00	0.149E+00	9.15	
BI-214	1600.00Y	1.00	1.026E+00	1.026E+00	0.164E+00	15.96	
PB-214	1600.00Y	1.00	1.315E+00	1.315E+00	0.176E+00	13.39	
PO-214	1600.00Y	1.00	1.315E+00	1.315E+00	0.176E+00	13.39	
PO-216	1.41E+10Y	1.00	1.624E+00	1.624E+00	0.149E+00	9.15	
PO-218	1600.00Y	1.00	1.315E+00	1.315E+00	0.176E+00	13.39	
RA-224	1.41E+10Y	1.00	4.767E+00	4.767E+00	1.111E+00	23.30	
RA-226	1600.00Y	1.00	1.026E+00	1.026E+00	0.164E+00	15.96	
AC-228	1.41E+10Y	1.00	1.771E+00	1.771E+00	0.313E+00	17.66	
RA-228	1.41E+10Y	1.00	1.771E+00	1.771E+00	0.313E+00	17.66	
TH-228	1.91Y	1.02	1.624E+00	1.649E+00	0.151E+00	9.15	
TH-230	4.47E+09Y	1.00	1.026E+00	1.026E+00	0.164E+00	15.96	
TH-232	1.41E+10Y	1.00	1.771E+00	1.771E+00	0.313E+00	17.66	
U-234	4.47E+09Y	1.00	1.026E+00	1.026E+00	0.164E+00	15.96	
U-235	7.04E+08Y	1.00	1.891E-01	1.891E-01	0.662E-01	35.02	K
NP-237	2.14E+06Y	1.00	7.747E-01	7.747E-01	3.559E-01	45.94	
AM-243	7380.00Y	1.00	3.722E-01	3.722E-01	0.810E-01	21.76	
ANH-511	1.00E+09Y	1.00	1.381E-01	1.381E-01	0.571E-01	41.31	
	Total Activity :		5.455E+01	5.464E+01			

Grand Total Activity : 5.455E+01 5.464E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G1202012145 Acquisition date : 20-JAN-2010 15:47:39

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	129.20	134	369	1.28	257.49	253	9	1.86E-02	54.5	8.25E+00	T
0	209.36	177	443	1.42	417.75	412	13	2.46E-02	51.3	7.26E+00	T
0	270.25	168	256	1.63	539.49	534	12	2.33E-02	41.3	6.35E+00	T
0	327.51	59	189	1.50	653.96	650	9	8.23E-03	87.3	5.69E+00	T
0	463.00	107	137	1.49	924.87	919	11	1.48E-02	46.8	4.60E+00	T
0	727.60	135	132	1.75	1453.91	1448	16	1.88E-02	42.9	3.34E+00	T
0	767.67	68	91	1.07	1534.03	1529	11	9.41E-03	59.7	3.20E+00	T
0	794.96	63	74	1.17	1588.61	1583	12	8.79E-03	60.2	3.11E+00	T
2	964.17	68	72	2.13	1926.96	1918	53	9.40E-03	56.9	2.65E+00	T
0	1238.15	55	73	1.28	2474.84	2471	11	7.58E-03	68.3	2.15E+00	T
0	1378.02	63	31	2.09	2754.54	2745	18	8.76E-03	48.7	1.97E+00	
0	1729.38	50	3	2.39	3457.21	3450	13	6.88E-03	32.2	1.71E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 17:48:12.23

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012145.CNF;1  *
* Acquisition date  : 20-JAN-2010 15:47:39  Detector SN#     :             *
* Detector ID       : GAM18                 Sensitivity      : 5.00000     *
* Geometry          : CAN                   Energy tolerance: 1.50000      *
* Elapsed live time: 0 02:00:00.00          Abundance limit : 75.00000     *
* Elapsed real time: 0 02:00:01.58          Half life ratio : 8.00000      *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date       : 5-JAN-2010 12:00:00.  Nuclide Library : SOLID        *
* Sample ID         : G1202012145           Analyst initials: MXR1         *
* Batch Number      : 940263                Sample Quantity : 1.28360E+02 GRAM *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
*                                                                           *
* CALIB. DATE/TIME : 23-APR-2009 11:59:23.2MS Isotope      :               *
* MSD ID           :                      MSD Isotope     :               *
* LCS ID           : 1032-A               LCS Isotope     :               *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.112E+01	2.003E+00	3.780E-01	2.868E-02	55.883
CD-109	2.684E+00	1.102E+00	1.097E+00	1.014E-01	2.448
SN-126	2.638E-01	1.083E-01	1.291E-01	1.190E-02	2.043
EU-155	1.917E-01	1.213E-01	1.431E-01	1.023E-02	1.340
TL-208	4.744E-01	6.910E-02	4.345E-02	3.406E-03	10.918
BI-211	3.779E+00	4.662E-01	2.457E-01	1.577E-02	15.382
PB-212	1.624E+00	1.486E-01	6.937E-02	4.956E-03	23.408
PO-212	1.624E+00	1.486E-01	6.937E-02	4.956E-03	23.408
BI-214	1.026E+00	1.637E-01	9.578E-02	8.556E-03	10.714
PB-214	1.315E+00	1.761E-01	8.563E-02	7.084E-03	15.353
PO-214	1.315E+00	1.761E-01	8.563E-02	7.084E-03	15.353
PO-216	1.624E+00	1.486E-01	6.937E-02	4.956E-03	23.408
PO-218	1.315E+00	1.761E-01	8.563E-02	7.084E-03	15.353
RA-224	4.767E+00	1.111E+00	7.885E-01	4.392E-02	6.046
RA-226	1.026E+00	1.637E-01	9.578E-02	8.556E-03	10.714
AC-228	1.771E+00	3.128E-01	1.449E-01	1.920E-02	12.223
RA-228	1.771E+00	3.128E-01	1.449E-01	1.920E-02	12.223
TH-228	1.649E+00	1.509E-01	7.043E-02	5.031E-03	23.408

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.026E+00	1.637E-01	9.577E-02	8.555E-03	10.714
TH-232	1.771E+00	3.128E-01	1.449E-01	1.920E-02	12.223
U-234	1.026E+00	1.637E-01	9.577E-02	8.555E-03	10.714
U-235	1.891E-01	6.623E-02	2.919E-01	4.727E-02	0.648
NP-237	7.747E-01	3.559E-01	3.741E-01	8.441E-02	2.071
AM-243	3.722E-01	8.098E-02	8.093E-02	6.753E-03	4.599
ANH-511	1.381E-01	5.706E-02	3.356E-02	2.217E-03	4.115

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	3.851E-02		2.409E-01	4.013E-01	2.908E-02	0.096
NA-22	1.007E-02		3.409E-02	5.733E-02	3.901E-03	0.176
NA-24	-3.847E-01		3.517E-01	Half-Life too short		
AL-26	1.895E-03		2.362E-02	3.921E-02	2.289E-03	0.048
TI-44	4.020E-01	+	6.189E-02	7.681E-02	6.567E-03	5.234
SC-46	-1.994E-02		3.126E-02	4.839E-02	5.397E-03	-0.412
V-48	3.280E-03		6.624E-02	9.223E-02	9.122E-03	0.036
CR-51	2.242E-03		3.095E-01	4.987E-01	3.211E-02	0.004
MN-52	2.628E-03		1.821E-01	2.960E-01	2.181E-02	0.009
MN-54	1.789E-02		2.966E-02	5.064E-02	5.187E-03	0.353
CO-56	-2.899E-02		3.071E-02	4.649E-02	4.853E-03	-0.624
CO-57	-1.806E-02		2.148E-02	3.310E-02	1.961E-03	-0.546
CO-58	-2.413E-02		2.931E-02	4.504E-02	4.446E-03	-0.536
FE-59	-5.958E-02		6.100E-02	9.228E-02	7.596E-03	-0.646
CO-60	-5.652E-03		2.864E-02	4.586E-02	3.465E-03	-0.123
ZN-65	5.673E-03		7.321E-02	1.051E-01	7.402E-03	0.054
GE-68	7.776E-01		9.104E-01	1.615E+00	1.283E-01	0.482
AS-73	-2.594E-01		1.008E+00	1.678E+00	1.330E-01	-0.155
AS-74	-9.556E-02		7.679E-02	1.135E-01	8.156E-03	-0.842
SE-75	9.846E-04		3.848E-02	5.521E-02	3.157E-03	0.018
BR-77	-2.591E+00		8.164E+00	1.271E+01	8.477E-01	-0.204
SR-82	-2.859E-01		2.970E-01	4.558E-01	4.245E-02	-0.627
RB-83	-1.936E-02		5.319E-02	8.249E-02	5.502E-03	-0.235
RB-84	2.046E-02		5.347E-02	9.000E-02	9.919E-03	0.227
KR-85	1.887E+01		6.461E+00	1.101E+01	7.292E-01	1.714
SR-85	9.679E-02		3.314E-02	5.646E-02	3.741E-03	1.714
RB-86	6.014E-01		5.876E-01	1.053E+00	8.379E-02	0.571
Y-88	-1.459E-02		2.451E-02	3.606E-02	2.054E-03	-0.405
ZR-88	-6.094E-03		2.447E-02	4.048E-02	2.328E-03	-0.151
Y-91	4.755E+00		1.341E+01	2.273E+01	1.344E+00	0.209
NB-94	3.092E-03		2.597E-02	4.367E-02	3.583E-03	0.071
NB-95	5.558E-02		3.792E-02	6.063E-02	5.546E-03	0.917
NB-95M	4.677E-02		1.128E-01	1.670E-01	1.225E-02	0.280
ZR-95	1.014E-02		5.432E-02	9.122E-02	8.976E-03	0.111
NB-97	-2.750E-02		3.987E-02	Half-Life too short		
ZR-97	3.148E+00		8.715E-01	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	-1.639E+00		8.808E+00	1.444E+01	2.203E+00	-0.113
TC-99M	-5.203E+10		2.041E+10	Half-Life too short		
RH-101	4.840E-03		2.668E-02	4.429E-02	2.381E-03	0.109
RH-102	-6.986E-03		2.140E-02	3.457E-02	2.196E-03	-0.202
RU-103	-2.938E-03		2.976E-02	4.859E-02	6.309E-03	-0.060
RH-106	2.727E-01		2.449E-01	4.217E-01	5.305E-02	0.647
RU-106	2.727E-01		2.433E-01	4.217E-01	3.103E-02	0.647
AG-108M	8.889E-03		2.391E-02	4.061E-02	2.653E-03	0.219
AG-110M	-8.934E-03		2.750E-02	4.524E-02	3.568E-03	-0.197
IN-111	4.458E-01		8.362E-01	1.252E+00	6.995E-02	0.356
IN-113M	-9.680E-03		3.502E-02	5.785E-02	3.549E-03	-0.167
SN-113	-9.680E-03		3.502E-02	5.785E-02	3.549E-03	-0.167
IN-114M	1.096E-01		1.510E-01	2.319E-01	1.238E-02	0.473
CD-115	-6.429E+00		8.556E+00	1.311E+01	8.811E-01	-0.490
SN-117M	-1.690E-03		4.334E-02	7.333E-02	3.897E-03	-0.023
SB-122	5.403E-01		1.603E+00	2.663E+00	1.856E-01	0.203
I-123	-4.212E-01		2.387E+00	Half-Life too short		
TE-123M	-1.975E-03		2.239E-02	3.780E-02	2.040E-03	-0.052
I-124	1.617E-01		6.694E-01	9.436E-01	6.823E-02	0.171
SB-124	1.407E-03		5.979E-02	9.906E-02	6.834E-03	0.014
SB-125	-7.304E-03		7.119E-02	1.178E-01	7.360E-03	-0.062
TE-125M	-6.905E-01		8.717E+00	1.250E+01	1.099E+00	-0.055
I-126	4.212E-02		1.378E-01	2.353E-01	1.809E-02	0.179
SB-126	-6.288E-02		1.297E-01	1.857E-01	1.572E-02	-0.339
SB-127	-3.690E-01		9.782E-01	1.592E+00	1.735E-01	-0.232
XE-127	-9.028E-03		3.816E-02	6.085E-02	3.285E-03	-0.148
I-131	-3.651E-03		8.458E-02	1.422E-01	9.180E-03	-0.026
TE-132	1.786E-01		5.696E-01	9.529E-01	1.359E-01	0.187
BA-133	3.507E-02		3.721E-02	5.556E-02	6.418E-03	0.631
I-133	-4.872E-03		2.482E-03	Half-Life too short		
CS-134	7.850E-02	+	4.783E-02	6.579E-02	6.363E-03	1.193
CS-135	1.434E-01		1.430E-01	2.171E-01	1.641E-02	0.660
I-135	-2.694E+09		2.466E+09	Half-Life too short		
CS-136	4.857E-02		8.364E-02	1.456E-01	1.305E-02	0.334
BA-137M	-4.518E-03		2.783E-02	4.623E-02	3.524E-03	-0.098
CS-137	-4.776E-03		2.942E-02	4.887E-02	3.734E-03	-0.098
CE-139	1.800E-03		2.384E-02	4.039E-02	2.120E-03	0.045
BA-140	-4.261E-03		1.899E-01	3.097E-01	1.013E-01	-0.014
LA-140	2.767E-02		6.930E-02	1.199E-01	8.228E-03	0.231
CE-141	-2.911E-03		5.441E-02	8.498E-02	4.851E-03	-0.034
CE-143	6.484E-04		1.006E-04	Half-Life too short		
CE-144	2.281E-01		1.866E-01	2.801E-01	3.961E-02	0.814
PM-144	-9.032E-03		2.668E-02	4.361E-02	3.540E-03	-0.207
PR-144	-6.121E-01		1.808E+00	2.955E+00	2.398E-01	-0.207
PM-146	2.221E-02		3.467E-02	5.937E-02	5.281E-03	0.374
ND-147	5.830E-02		4.191E-01	6.913E-01	9.645E-02	0.084
PM-149	6.738E+01		7.359E+01	1.241E+02	1.755E+01	0.543
EU-152	-9.615E-02		9.927E-02	1.155E-01	7.536E-03	-0.833

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-1.935E-03		7.563E-02	1.097E-01	8.581E-03	-0.018
EU-154	3.948E-02		9.426E-02	1.600E-01	1.598E-02	0.247
TB-160	-2.782E-02		1.050E-01	1.680E-01	1.845E-02	-0.166
HO-166M	-1.565E-02		4.724E-02	7.706E-02	6.423E-03	-0.203
TM-171	-2.493E+01		2.930E+01	4.582E+01	3.663E+00	-0.544
LU-176	1.986E-02		2.135E-02	3.497E-02	2.013E-03	0.568
LU-177	3.117E+00	+	1.606E+00	1.692E+00	9.178E-02	1.842
LU-177M	-9.554E-02		1.440E-01	2.319E-01	1.369E-02	-0.412
HF-181	2.139E-02		3.148E-02	5.402E-02	3.458E-03	0.396
W-181	-2.998E-01		3.937E-01	6.198E-01	4.916E-02	-0.484
TA-182	9.901E-02		1.507E-01	2.597E-01	1.589E-02	0.381
RE-183	-8.409E-03		8.748E-02	1.475E-01	7.784E-03	-0.057
RE-184	4.682E-02		1.790E-01	2.973E-01	1.670E-02	0.157
OS-185	-2.891E-03		3.082E-02	4.914E-02	3.695E-03	-0.059
RE-188	1.487E-01		1.356E-01	2.386E-01	1.277E-02	0.623
W-188	-6.210E+00		6.771E+00	8.962E+00	5.133E-01	-0.693
IR-192	-1.138E-02		2.796E-02	4.406E-02	2.555E-03	-0.258
AU-195	2.647E-01		1.924E-01	3.287E-01	2.515E-02	0.805
TL-200	7.909E-05		1.746E-04	Half-Life too short		
TL-201	-4.680E+00		5.646E+00	9.224E+00	4.842E-01	-0.507
TL-202	4.138E-03		4.927E-02	8.225E-02	5.014E-03	0.050
HG-203	2.247E-02		3.287E-02	5.521E-02	3.348E-03	0.407
BI-207	2.590E-02		3.916E-02	6.855E-02	5.659E-03	0.378
TL-207	2.358E-01		6.118E-01	8.820E-01	1.456E-01	0.267
PO-209	1.823E+00		5.811E+00	9.713E+00	1.096E+00	0.188
BI-210	2.185E+00		4.746E+00	8.176E+00	6.326E-01	0.267
PB-210	2.185E+00		4.746E+00	8.176E+00	6.326E-01	0.267
PO-210	2.185E+00		4.746E+00	8.176E+00	5.439E-01	0.267
PB-211	-4.032E-01		7.897E-01	1.217E+00	7.587E-01	-0.331
BI-212	1.005E+00	+	4.425E-01	5.354E-01	5.332E-02	1.877
PO-215	2.358E-01		6.118E-01	8.820E-01	1.456E-01	0.267
RN-219	-7.016E-02		3.220E-01	5.322E-01	7.246E-02	-0.132
RN-220	-1.239E+01		1.994E+01	3.107E+01	2.135E+00	-0.399
RA-223	2.358E-01		6.118E-01	8.820E-01	1.456E-01	0.267
AC-227	-1.122E-01		3.085E-01	4.964E-01	6.895E-02	-0.226
TH-227	-1.122E-01		3.087E-01	4.964E-01	8.360E-02	-0.226
TH-229	-1.550E-01		3.949E-01	6.498E-01	3.479E-02	-0.238
PA-231	-8.513E-01		1.241E+00	1.939E+00	2.665E-01	-0.439
TH-231	2.358E-01		6.118E-01	8.820E-01	1.456E-01	0.267
U-231	-1.063E-01		9.830E-01	1.421E+00	1.139E-01	-0.075
PA-233	-4.722E-03		5.151E-02	8.273E-02	5.068E-03	-0.057
PA-234	1.403E-01		2.142E-01	3.649E-01	7.199E-02	0.384
PA-234M	2.164E+00		3.741E+00	6.120E+00	6.602E-01	0.354
TH-234	9.575E-01		1.401E+00	2.353E+00	4.149E-01	0.407
NP-236	-1.323E-02		6.267E-02	1.053E-01	5.577E-03	-0.126
U-238	9.575E-01		1.401E+00	2.353E+00	4.149E-01	0.407
NP-239	7.269E-02		1.611E-01	2.643E-01	1.636E-02	0.275
AM-241	-1.353E-02		1.615E-01	2.693E-01	2.234E-02	-0.050

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-2.574E-02		9.310E-02	1.325E-01	9.485E-03	-0.194
AM-246	5.977E-02		1.074E-01	1.865E-01	1.475E-02	0.320
CM-247	2.515E-02		2.840E-02	4.960E-02	2.889E-03	0.507
CF-249	8.300E-03		3.109E-02	5.284E-02	3.038E-03	0.157
CF-251	1.601E-02		1.025E-01	1.735E-01	9.163E-03	0.092

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202012145          *
* Acquisition date  : 20-JAN-2010 15:47:39 Detector SN#     :               *
* Detector ID       : GAM18                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.58      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date       :  5-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202012145          Analyst initials: MXR1           *
* Batch Number      : 940263               Sample Quantity : 1.2836E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
*                                                                           *
* CALIB. DATE/TIME : 23-APR-2009 11:59:23 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.112E+01	1.962E+00	1.891E-01	1.001E+00
CD-109	2.684E+00	1.080E+00	5.728E-01	5.509E-01
SN-126	2.638E-01	1.061E-01	6.744E-02	5.414E-02
EU-155	1.917E-01	1.188E-01	7.456E-02	6.064E-02
TL-208	4.744E-01	6.772E-02	2.206E-02	3.455E-02
BI-211	3.779E+00	4.569E-01	1.257E-01	2.331E-01
PB-212	1.624E+00	1.457E-01	3.570E-02	7.432E-02
PO-212	1.624E+00	1.457E-01	3.570E-02	7.432E-02
BI-214	1.026E+00	1.604E-01	4.859E-02	8.186E-02
PB-214	1.315E+00	1.726E-01	4.381E-02	8.805E-02
PO-214	1.315E+00	1.726E-01	4.381E-02	8.805E-02
PO-216	1.624E+00	1.457E-01	3.570E-02	7.432E-02
PO-218	1.315E+00	1.726E-01	4.381E-02	8.805E-02
RA-224	4.767E+00	1.089E+00	4.057E-01	5.554E-01
RA-226	1.026E+00	1.604E-01	4.859E-02	8.186E-02
AC-228	1.771E+00	3.066E-01	7.304E-02	1.564E-01
RA-228	1.771E+00	3.066E-01	7.304E-02	1.564E-01
TH-228	1.649E+00	1.479E-01	3.624E-02	7.545E-02
TH-230	1.026E+00	1.604E-01	4.859E-02	8.186E-02
TH-232	1.771E+00	3.066E-01	7.304E-02	1.564E-01
U-234	1.026E+00	1.604E-01	4.859E-02	8.186E-02
U-235	5.655E-02	1.803E-01	1.514E-01	9.200E-02
NP-237	7.747E-01	3.488E-01	1.955E-01	1.780E-01
AM-243	3.722E-01	7.936E-02	4.238E-02	4.049E-02
ANH-511	1.381E-01	5.592E-02	1.707E-02	2.853E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	3.851E-02	2.361E-01	2.044E-01	1.205E-01 NOT IDENT.
NA-22	1.007E-02	3.341E-02	2.875E-02	1.705E-02 NOT IDENT.

NA-24	-3.847E+05	6.893E+05	0.000E+00	3.517E+05	SHORT HLIF
AL-26	1.895E-03	2.315E-02	1.955E-02	1.181E-02	NOT IDENT.
TI-44	4.020E-01	6.065E-02	4.019E-02	3.094E-02	FAIL ABUN
SC-46	-1.994E-02	3.063E-02	2.440E-02	1.563E-02	FAIL ABUN
V-48	3.280E-03	6.492E-02	4.644E-02	3.312E-02	NOT IDENT.
CR-51	2.242E-03	3.033E-01	2.555E-01	1.548E-01	NOT IDENT.
MN-52	2.628E-03	1.784E-01	1.482E-01	9.103E-02	NOT IDENT.
MN-54	1.789E-02	2.907E-02	2.557E-02	1.483E-02	NOT IDENT.
CO-56	-2.899E-02	3.010E-02	2.347E-02	1.535E-02	FAIL ABUN
CO-57	-1.806E-02	2.105E-02	1.721E-02	1.074E-02	NOT IDENT.
CO-58	-2.413E-02	2.872E-02	2.275E-02	1.465E-02	NOT IDENT.
FE-59	-5.958E-02	5.978E-02	4.638E-02	3.050E-02	NOT IDENT.
CO-60	-5.652E-03	2.807E-02	2.298E-02	1.432E-02	NOT IDENT.
ZN-65	5.673E-03	7.174E-02	5.281E-02	3.660E-02	NOT IDENT.
GE-68	7.776E-01	8.922E-01	8.119E-01	4.552E-01	NOT IDENT.
AS-73	-2.594E-01	9.876E-01	8.827E-01	5.039E-01	NOT IDENT.
AS-74	-9.556E-02	7.525E-02	5.761E-02	3.839E-02	NOT IDENT.
SE-75	9.846E-04	3.771E-02	2.837E-02	1.924E-02	NOT IDENT.
BR-77	-2.591E+00	8.001E+00	6.462E+00	4.082E+00	FAIL ABUN
SR-82	-2.859E-01	2.911E-01	2.304E-01	1.485E-01	NOT IDENT.
RB-83	-1.936E-02	5.213E-02	4.195E-02	2.660E-02	NOT IDENT.
RB-84	2.046E-02	5.240E-02	4.539E-02	2.673E-02	NOT IDENT.
KR-85	1.887E+01	6.331E+00	5.599E+00	3.230E+00	NOT IDENT.
SR-85	9.679E-02	3.248E-02	2.872E-02	1.657E-02	NOT IDENT.
RB-86	6.014E-01	5.759E-01	5.292E-01	2.938E-01	NOT IDENT.
Y-88	-1.459E-02	2.402E-02	1.798E-02	1.225E-02	NOT IDENT.
ZR-88	-6.094E-03	2.398E-02	2.068E-02	1.224E-02	NOT IDENT.
Y-91	4.755E+00	1.314E+01	1.141E+01	6.704E+00	NOT IDENT.
NB-94	3.092E-03	2.545E-02	2.211E-02	1.299E-02	NOT IDENT.
NB-95	5.558E-02	3.716E-02	3.065E-02	1.896E-02	NOT IDENT.
NB-95M	4.677E-02	1.106E-01	8.596E-02	5.641E-02	NOT IDENT.
ZR-95	1.014E-02	5.323E-02	4.612E-02	2.716E-02	NOT IDENT.
NB-97	-2.750E+04	7.814E+04	0.000E+00	3.987E+04	SHORT HLIF
ZR-97	3.148E+06	1.708E+06	0.000E+00	8.715E+05	SHORT HLIF
MO-99	-1.639E+00	8.632E+00	7.304E+00	4.404E+00	NOT IDENT.
TC-99M	-5.203E+16	4.001E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	4.840E-03	2.615E-02	2.286E-02	1.334E-02	NOT IDENT.
RH-102	-6.986E-03	2.098E-02	1.761E-02	1.070E-02	FAIL ABUN
RU-103	-2.938E-03	2.916E-02	2.473E-02	1.488E-02	FAIL ABUN
RH-106	2.727E-01	2.400E-01	2.139E-01	1.225E-01	FAIL ABUN
RU-106	2.727E-01	2.385E-01	2.139E-01	1.217E-01	FAIL ABUN
AG-108M	8.889E-03	2.343E-02	2.071E-02	1.196E-02	NOT IDENT.
AG-110M	-8.934E-03	2.695E-02	2.292E-02	1.375E-02	NOT IDENT.
IN-111	4.458E-01	8.195E-01	6.439E-01	4.181E-01	NOT IDENT.
IN-113M	-9.680E-03	3.432E-02	2.955E-02	1.751E-02	NOT IDENT.
SN-113	-9.680E-03	3.432E-02	2.955E-02	1.751E-02	NOT IDENT.
IN-114M	1.096E-01	1.480E-01	1.198E-01	7.552E-02	NOT IDENT.
CD-115	-6.429E+00	8.385E+00	6.665E+00	4.278E+00	NOT IDENT.
SN-117M	-1.690E-03	4.248E-02	3.797E-02	2.167E-02	NOT IDENT.
SB-122	5.403E-01	1.571E+00	1.353E+00	8.014E-01	NOT IDENT.
I-123	-4.212E+05	4.678E+06	0.000E+00	2.387E+06	SHORT HLIF
TE-123M	-1.975E-03	2.194E-02	1.958E-02	1.120E-02	NOT IDENT.
I-124	1.617E-01	6.560E-01	4.788E-01	3.347E-01	NOT IDENT.
SB-124	1.407E-03	5.859E-02	4.945E-02	2.990E-02	FAIL ABUN
SB-125	-7.304E-03	6.976E-02	6.008E-02	3.559E-02	FAIL ABUN
TE-125M	-6.905E-01	8.542E+00	6.509E+00	4.358E+00	NOT IDENT.
I-126	4.212E-02	1.351E-01	1.192E-01	6.890E-02	NOT IDENT.
SB-126	-6.288E-02	1.271E-01	9.394E-02	6.487E-02	FAIL ABUN
SB-127	-3.690E-01	9.587E-01	8.061E-01	4.891E-01	NOT IDENT.
XE-127	-9.028E-03	3.739E-02	3.139E-02	1.908E-02	NOT IDENT.
I-131	-3.651E-03	8.288E-02	7.271E-02	4.229E-02	NOT IDENT.
TE-132	1.786E-01	5.582E-01	4.907E-01	2.848E-01	NOT IDENT.
BA-133	3.507E-02	3.646E-02	2.842E-02	1.860E-02	NOT IDENT.
I-133	-4.872E+03	4.865E+03	0.000E+00	2.482E+03	SHORT HLIF
CS-134	7.850E-02	4.687E-02	3.324E-02	2.391E-02	FAIL ABUN
CS-135	1.434E-01	1.401E-01	1.115E-01	7.150E-02	NOT IDENT.
I-135	-2.694E+15	4.834E+15	0.000E+00	2.466E+15	SHORT HLIF
CS-136	4.857E-02	8.197E-02	7.323E-02	4.182E-02	FAIL ABUN
BA-137M	-4.518E-03	2.727E-02	2.342E-02	1.391E-02	NOT IDENT.
CS-137	-4.776E-03	2.883E-02	2.476E-02	1.471E-02	NOT IDENT.
CE-139	1.800E-03	2.336E-02	2.090E-02	1.192E-02	NOT IDENT.
BA-140	-4.261E-03	1.861E-01	1.574E-01	9.497E-02	NOT IDENT.
LA-140	2.767E-02	6.791E-02	5.992E-02	3.465E-02	FAIL ABUN
CE-141	-2.911E-03	5.332E-02	4.406E-02	2.721E-02	NOT IDENT.
CE-143	6.484E+02	1.971E+02	0.000E+00	1.006E+02	SHORT HLIF
CE-144	2.281E-01	1.829E-01	1.454E-01	9.330E-02	NOT IDENT.
PM-144	-9.032E-03	2.614E-02	2.208E-02	1.334E-02	NOT IDENT.
PR-144	-6.121E-01	1.772E+00	1.496E+00	9.039E-01	NOT IDENT.

PM-146	2.221E-02	3.397E-02	3.026E-02	1.733E-02	NOT IDENT.
ND-147	5.830E-02	4.107E-01	3.514E-01	2.095E-01	FAIL ABUN
PM-149	6.738E+01	7.212E+01	6.370E+01	3.679E+01	NOT IDENT.
EU-152	-9.615E-02	9.728E-02	5.910E-02	4.963E-02	FAIL ABUN
GD-153	-1.935E-03	7.412E-02	5.724E-02	3.782E-02	NOT IDENT.
EU-154	3.948E-02	9.237E-02	8.023E-02	4.713E-02	NOT IDENT.
TB-160	-2.782E-02	1.029E-01	8.472E-02	5.249E-02	FAIL ABUN
HO-166M	-1.565E-02	4.630E-02	3.900E-02	2.362E-02	NOT IDENT.
TM-171	-2.493E+01	2.871E+01	2.403E+01	1.465E+01	NOT IDENT.
LU-176	1.986E-02	2.093E-02	1.793E-02	1.068E-02	FAIL ABUN
LU-177	3.117E+00	1.574E+00	8.726E-01	8.032E-01	FAIL ABUN
LU-177M	-9.554E-02	1.411E-01	1.183E-01	7.198E-02	FAIL ABUN
HF-181	2.139E-02	3.085E-02	2.751E-02	1.574E-02	NOT IDENT.
W-181	-2.998E-01	3.858E-01	3.252E-01	1.969E-01	NOT IDENT.
TA-182	9.901E-02	1.477E-01	1.303E-01	7.535E-02	FAIL ABUN
RE-183	-8.409E-03	8.573E-02	7.633E-02	4.374E-02	FAIL ABUN
RE-184	4.682E-02	1.754E-01	1.529E-01	8.949E-02	NOT IDENT.
OS-185	-2.891E-03	3.021E-02	2.491E-02	1.541E-02	NOT IDENT.
RE-188	1.487E-01	1.329E-01	1.236E-01	6.780E-02	NOT IDENT.
W-188	-6.210E+00	6.635E+00	4.599E+00	3.385E+00	NOT IDENT.
IR-192	-1.138E-02	2.740E-02	2.258E-02	1.398E-02	FAIL ABUN
AU-195	2.647E-01	1.885E-01	1.714E-01	9.618E-02	FAIL ABUN
TL-200	7.909E+01	3.423E+02	0.000E+00	1.746E+02	SHORT HLIF
TL-201	-4.680E+00	5.533E+00	4.772E+00	2.823E+00	NOT IDENT.
TL-202	4.138E-03	4.829E-02	4.194E-02	2.464E-02	NOT IDENT.
HG-203	2.247E-02	3.221E-02	2.834E-02	1.643E-02	NOT IDENT.
BI-207	2.590E-02	3.838E-02	3.448E-02	1.958E-02	FAIL ABUN
TL-207	2.358E-01	5.996E-01	4.519E-01	3.059E-01	FAIL ABUN
PO-209	1.823E+00	5.694E+00	4.898E+00	2.905E+00	NOT IDENT.
BI-210	2.185E+00	4.652E+00	4.311E+00	2.373E+00	NOT IDENT.
PB-210	2.185E+00	4.652E+00	4.311E+00	2.373E+00	NOT IDENT.
PO-210	2.185E+00	4.651E+00	4.311E+00	2.373E+00	NOT IDENT.
PB-211	-4.032E-01	7.739E-01	6.213E-01	3.948E-01	NOT IDENT.
BI-212	1.005E+00	4.337E-01	2.709E-01	2.213E-01	FAIL ABUN
PO-215	2.358E-01	5.996E-01	4.519E-01	3.059E-01	FAIL ABUN
RN-219	-7.016E-02	3.156E-01	2.718E-01	1.610E-01	FAIL ABUN
RN-220	-1.239E+01	1.954E+01	1.579E+01	9.970E+00	NOT IDENT.
RA-223	2.358E-01	5.996E-01	4.519E-01	3.059E-01	FAIL ABUN
AC-227	-1.122E-01	3.024E-01	2.552E-01	1.543E-01	FAIL ABUN
TH-227	-1.122E-01	3.026E-01	2.552E-01	1.544E-01	FAIL ABUN
TH-229	-1.550E-01	3.870E-01	3.355E-01	1.975E-01	FAIL ABUN
PA-231	-8.513E-01	1.217E+00	9.955E-01	6.207E-01	FAIL ABUN
TH-231	2.358E-01	5.996E-01	4.519E-01	3.059E-01	FAIL ABUN
U-231	-1.063E-01	9.633E-01	7.414E-01	4.915E-01	FAIL ABUN
PA-233	-4.722E-03	5.048E-02	4.240E-02	2.576E-02	FAIL ABUN
PA-234	1.403E-01	2.099E-01	1.839E-01	1.071E-01	FAIL ABUN
PA-234M	2.164E+00	3.666E+00	3.081E+00	1.871E+00	FAIL ABUN
TH-234	9.575E-01	1.373E+00	1.235E+00	7.007E-01	FAIL ABUN
NP-236	-1.323E-02	6.142E-02	5.450E-02	3.134E-02	NOT IDENT.
U-238	9.575E-01	1.373E+00	1.235E+00	7.007E-01	FAIL ABUN
NP-239	7.269E-02	1.579E-01	1.375E-01	8.057E-02	FAIL ABUN
AM-241	-1.353E-02	1.583E-01	1.415E-01	8.075E-02	NOT IDENT.
CM-243	-2.574E-02	9.124E-02	6.905E-02	4.655E-02	FAIL ABUN
AM-246	5.977E-02	1.053E-01	9.379E-02	5.372E-02	NOT IDENT.
CM-247	2.515E-02	2.783E-02	2.532E-02	1.420E-02	NOT IDENT.
CF-249	8.300E-03	3.047E-02	2.700E-02	1.555E-02	NOT IDENT.
CF-251	1.601E-02	1.005E-01	8.970E-02	5.126E-02	NOT IDENT.

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*                          GEL Laboratories LLC                             *
*                             2040 SAVAGE ROAD                              *
*                           CHARLESTON ,SC 29417                            *
*                     GAMMA SPECTROSCOPY BACKGROUND REPORT                  *
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46.50	251.6360
46.50	251.6360
46.50	251.6360
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51.35	264.7414
52.39	291.2116
52.97	297.3142
53.15	293.8786
53.44	298.7573
54.07	289.4257
56.28	283.5192
56.28	283.5223
57.37	0.0000
57.53	294.0580
57.53	294.0596
57.60	295.9814
57.98	296.3859
57.98	296.3859
59.32	309.8976
59.32	309.8976
59.40	309.9848
59.54	310.1372
59.72	301.0135
60.01	313.4465
61.10	382.0569
61.14	382.1099
61.30	383.2575
63.00	342.1293
63.29	334.9160
63.29	334.9160
63.58	335.2420
64.28	350.2258
65.12	386.3212
65.20	386.4231
65.20	386.4231
66.05	381.7891
66.72	373.0776
66.83	395.1665
66.91	395.2676
67.20	384.1704
67.20	384.1704
67.75	395.3799
67.85	379.2281
68.90	371.2729
68.90	371.2729
69.30	385.3077
69.67	385.7599
70.82	333.4940
70.82	333.4940
70.83	333.5046
72.80	393.8825
72.87	393.9670
72.87	393.9670
74.67	368.7240
74.81	368.8783
74.81	368.8783
74.81	368.8783
74.81	368.8783
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74.81	368.8783
74.97	369.0538
75.28	369.3951
75.70	369.8553
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77.11	371.3893

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77.11	371.3893
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77.11	371.3893
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79.80	333.5767
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80.30	350.4543
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81.07	397.5490
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83.78	368.9337
83.78	368.9337
83.78	368.9337
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84.90	361.0017
85.43	378.1605
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86.50	486.9614
86.54	487.0128
86.59	487.0789
86.72	516.0881
86.79	516.1815
86.94	516.3916
87.30	516.8896
87.30	516.8896
87.30	516.8896
87.30	516.8896
87.30	516.8896
87.30	516.8896
87.30	516.8896
87.57	517.2606
87.88	365.4254
88.03	365.5719
88.36	365.8905
88.47	365.9967
89.95	367.4213
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92.29	297.2599
92.38	297.3291
92.38	297.3291
93.35	298.0639
94.00	249.0542
94.67	297.5054
94.67	297.5098
94.90	297.6812
94.90	297.6812
94.90	297.6812
94.90	297.6812
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95.87	298.4033
96.73	281.9108
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98.44	281.5302
98.44	281.5302
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99.55	295.8828
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100.10	303.6070
103.18	306.8963
103.76	308.8993
105.00	281.1984
105.31	279.8125
108.00	294.3450
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111.00	294.1966
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117.00	282.8529
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121.11	283.1310
121.62	296.6158
121.78	296.7146
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122.32	310.2491
122.32	310.2491
122.32	310.2491
122.32	310.2491
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144.24	291.6308
144.24	291.6308
145.22	312.8564
145.44	312.9837
147.16	333.5800
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152.70	326.3904
153.22	307.1464
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154.21	270.8607
154.21	270.8607
154.21	270.8607
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163.35	297.3617
163.89	294.0649
165.85	306.6411
167.43	326.2592
171.28	286.8094
171.86	309.6452
172.10	315.1816
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176.60	302.8813
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184.41	331.4026
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186.00	286.0603
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193.63	290.2456
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202.84	293.9615
205.31	276.3259

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209.75	272.1060
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216.55	294.0287
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228.18	271.0023
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236.00	313.0198
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238.63	238.9039
238.63	238.9039
238.63	238.9039
239.00	239.0124
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241.98	239.8894
241.98	239.8894
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247.94	189.2912
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252.40	204.6123
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252.85	206.7376
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256.20	241.9767
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262.80	223.4277
264.65	202.8381
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268.79	203.7917
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269.46	211.7554
269.46	211.7554
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277.60	217.8250
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300.09	202.9054
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300.09	202.9054
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323.87	189.7175
323.87	189.7175
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334.30	209.1942
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338.28	209.5346
338.28	209.5346
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391.69	175.6804
392.90	178.6334
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439.56	120.9874
439.89	126.7809
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444.90	134.0047
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445.03	130.1616
445.03	130.1616
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513.99	106.2484
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609.31	154.4941
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621.84	89.6830
631.29	77.1241
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661.65	125.1592
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666.33	111.6306
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696.49	124.6415
697.00	126.5488
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722.78	100.9316
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911.07	67.2872
911.07	67.2872
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969.11	87.7164
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1175.09	88.6323
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1596.49	36.4692
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1691.02	26.5089
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1750.46	0.0000
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1764.49	28.9575
1764.49	28.9575
1764.49	28.9575
1770.23	23.1069
1771.40	21.3353
1791.20	0.0000
1808.65	22.1853

1836.01 23.3334

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202012145

Total Uranium Activity	2.8747E+00	ug/g
Total Uranium Counting Unc.	4.0866E+00	ug/g
Total Uranium Tpu	2.0850E-06	ug/g
Total Uranium Mda	3.6752E+00	ug/g

```
*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                             *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 940263                    SAMPLE ID   : G1202012145     *
*   ANALYST       : MXR1                      DETECTOR    : GAM18           *
*   SAMPLE DATE   :  5-JAN-2010 12:00:00.00   COUNT TIME :    0 02:00:00.00 *
*   ANALYSIS DATE: 20-JAN-2010 15:47:39.52    SAMPLE ALQT:  128.360 GRAM    *
*                                                                           *
*****************************************************************************


        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 8.389E+00
        GROSS GAMMA ERROR   (pCi/GRAM  )  : 1.067E+00
        GROSS GAMMA MDA     (pCi/GRAM  )  : 2.263E+00
        GROSS GAMMA DLC     (pCi/GRAM  )  : 1.096E+00
```

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:51:09.19

```
*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012146.CNF;1
Sample date       : 13-JAN-2010 00:00:00 Acquisition date : 20-JAN-2010 14:47:02
Sample ID         : G1202012146          Sample quantity  : 1.55440E+02 GRAM
Detector name     : GAM13                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00         Elapsed real time: 0 01:00:01.63  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID         : 940263                Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
*****************************************************************************
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	59.41	7113	1202	1.13	118.58	113	10	1.98E+00	1.5	
2	4	74.70	222	393	1.02	149.17	146	13	6.17E-02	15.3	9.81E-01
3	4	76.99*	321	465	1.35	153.76	146	13	8.91E-02	13.4	
4	0	87.85	1921	594	1.17	175.47	171	10	5.34E-01	3.3	
5	0	92.71*	52	445	1.39	185.21	181	9	1.45E-02	81.2	
6	0	122.11	232	474	1.22	244.02	237	12	6.45E-02	19.9	
7	0	185.71*	89	259	1.31	371.25	367	10	2.46E-02	38.0	
8	0	238.51*	418	526	1.29	476.87	471	14	1.16E-01	12.7	
9	0	294.83*	132	247	1.61	589.55	584	12	3.67E-02	25.5	
10	0	338.06*	85	146	1.27	676.02	672	9	2.36E-02	28.2	
11	0	351.82*	150	270	1.55	703.55	698	11	4.15E-02	23.0	
12	0	510.64*	25	202	1.60	1021.29	1015	14	6.96E-03	129.5	
13	0	583.18*	140	169	1.70	1166.41	1158	17	3.88E-02	23.3	
14	0	608.89*	106	132	1.49	1217.86	1214	10	2.94E-02	22.9	
15	0	661.25	1927	196	1.65	1322.61	1316	16	5.35E-01	2.8	
16	0	725.83	38	136	1.62	1451.81	1451	15	1.06E-02	66.9	
17	0	968.85*	69	131	2.01	1938.03	1931	14	1.93E-02	37.4	
18	0	1068.07	38	73	1.89	2136.56	2128	14	1.05E-02	50.9	
19	0	1172.54	1618	80	1.89	2345.59	2336	20	4.50E-01	2.8	
20	0	1331.70	1392	19	2.05	2664.05	2654	19	3.87E-01	2.8	
21	0	1764.66	18	12	1.48	3530.41	3524	12	4.94E-03	45.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 20-JAN-2010 15:51:13

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012146.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 13-JAN-2010 00:00:00 Acquisition date : 20-JAN-2010 14:47:02
Sample ID : G1202012146 Sample quantity : 155.44 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA13 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.63 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57	+	122.06	*	1.997E-01	8.327E-02	6.162E-02	7.794E-03	3.240
		136.48		9.954E-02	3.376E-01	5.533E-01	6.476E-02	0.180
CO-60	+	1173.22		6.320E+00	4.989E-01	1.266E-01	6.960E-03	49.913
	+	1332.49	*	6.019E+00	4.791E-01	1.012E-01	5.754E-03	59.493
CD-109	+	88.03	*	3.485E+01	3.584E+00	1.687E+00	1.331E-01	20.656
SN-126		64.28		-6.408E-01	4.051E-01	6.783E-01	1.056E-01	-0.945
	+	86.94		1.440E+01	6.010E+00	6.949E-01	2.865E-01	20.723
	+	87.57	*	3.464E+00	3.563E-01	1.675E-01	1.325E-02	20.684
BA-137M	+	661.65	*	5.126E+00	5.073E-01	1.208E-01	9.852E-03	42.433
CS-137	+	661.65	*	5.418E+00	5.371E-01	1.277E-01	1.044E-02	42.433
TL-208		277.35		5.484E-01	6.600E-01	1.117E+00	1.308E-01	0.491
	+	510.84		2.209E-01	5.726E-01	5.038E-01	5.476E-02	0.438
	+	583.14	*	3.553E-01	1.678E-01	1.159E-01	9.594E-03	3.066
		860.37		2.762E-01	6.826E-01	1.164E+00	9.812E-02	0.237
BI-211		72.87		9.146E-01	3.202E+00	4.899E+00	4.284E-01	0.187
	+	351.07	*	1.596E+00	7.424E-01	6.633E-01	4.835E-02	2.406
PB-212	+	74.81		1.362E+00	4.526E-01	5.583E-01	7.102E-02	2.440
	+	77.11		1.172E+00	3.306E-01	3.337E-01	2.835E-02	3.513
	+	87.30		1.602E+01	2.298E+00	7.739E-01	9.875E-02	20.700
	+	238.63	*	9.607E-01	2.584E-01	1.580E-01	1.435E-02	6.080
		300.09		1.262E+00	1.556E+00	2.365E+00	2.250E-01	0.533
PO-212	+	74.81		1.362E+00	4.526E-01	5.583E-01	7.102E-02	2.440
	+	77.11		1.172E+00	3.306E-01	3.337E-01	2.835E-02	3.513
	+	87.30		1.602E+01	2.298E+00	7.739E-01	9.875E-02	20.700
		115.19		6.099E-01	5.061E+00	8.331E+00	9.661E-01	0.073
	+	238.63	*	9.607E-01	2.584E-01	1.580E-01	1.435E-02	6.080
		300.09		1.262E+00	1.556E+00	2.365E+00	2.250E-01	0.533
BI-214	+	609.31	*	5.079E-01	2.371E-01	2.520E-01	2.356E-02	2.016
		1120.29		1.067E+00	7.195E-01	1.273E+00	1.139E-01	0.838
	+	1764.49		6.044E-01	5.538E-01	4.877E-01	2.770E-02	1.239
PB-214	+	74.81		2.347E+00	7.682E-01	9.619E-01	1.094E-01	2.440
	+	77.11		2.010E+00	5.871E-01	5.721E-01	6.528E-02	3.513
	+	87.30		2.744E+01	3.528E+00	1.326E+00	1.466E-01	20.701
		241.98		8.683E-01	7.249E-01	1.130E+00	1.093E-01	0.769

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	295.21		8.242E-01	4.284E-01	3.989E-01	3.907E-02	2.066
	+	351.92	*	5.552E-01	2.599E-01	2.313E-01	2.071E-02	2.401
PO-214	+	74.81		2.347E+00	7.682E-01	9.619E-01	1.094E-01	2.440
	+	77.11		2.010E+00	5.871E-01	5.721E-01	6.528E-02	3.513
	+	87.30		2.744E+01	3.528E+00	1.326E+00	1.466E-01	20.701
		241.98		8.683E-01	7.249E-01	1.130E+00	1.093E-01	0.769
	+	295.21		8.242E-01	4.284E-01	3.989E-01	3.907E-02	2.066
	+	351.92	*	5.552E-01	2.599E-01	2.313E-01	2.071E-02	2.401
PO-216	+	74.81		1.362E+00	4.526E-01	5.583E-01	7.102E-02	2.440
	+	77.11		1.172E+00	3.306E-01	3.337E-01	2.835E-02	3.513
	+	87.30		1.602E+01	2.298E+00	7.739E-01	9.875E-02	20.700
	+	238.63	*	9.607E-01	2.584E-01	1.580E-01	1.435E-02	6.080
		300.09		1.262E+00	1.556E+00	2.365E+00	2.250E-01	0.533
PO-218	+	74.81		2.347E+00	7.682E-01	9.619E-01	1.094E-01	2.440
	+	77.11		2.010E+00	5.871E-01	5.721E-01	6.528E-02	3.513
	+	87.30		2.744E+01	3.528E+00	1.326E+00	1.466E-01	20.701
		241.98		8.683E-01	7.249E-01	1.130E+00	1.093E-01	0.769
	+	295.21		8.242E-01	4.284E-01	3.989E-01	3.907E-02	2.066
	+	351.92	*	5.552E-01	2.599E-01	2.313E-01	2.071E-02	2.401
RA-226	+	609.31	*	5.079E-01	2.371E-01	2.520E-01	2.356E-02	2.016
		1120.29		1.067E+00	7.195E-01	1.273E+00	1.139E-01	0.838
	+	1764.49		6.044E-01	5.538E-01	4.877E-01	2.770E-02	1.239
TH-228	+	74.81		1.372E+00	4.379E-01	5.625E-01	4.895E-02	2.440
	+	77.11		1.181E+00	3.331E-01	3.363E-01	2.857E-02	3.513
	+	87.30		1.614E+01	1.660E+00	7.798E-01	6.180E-02	20.701
	+	238.63	*	9.681E-01	2.604E-01	1.592E-01	1.446E-02	6.080
		300.09		1.271E+00	1.735E+00	2.383E+00	1.409E+00	0.533
TH-230	+	609.31	*	5.079E-01	2.371E-01	2.520E-01	2.356E-02	2.016
		1120.29		1.067E+00	7.195E-01	1.273E+00	1.139E-01	0.838
	+	1764.49		6.044E-01	5.538E-01	4.877E-01	2.770E-02	1.239
U-234	+	609.31	*	5.079E-01	2.371E-01	2.520E-01	2.356E-02	2.016
		1120.29		1.067E+00	7.195E-01	1.273E+00	1.139E-01	0.838
	+	1764.49		6.044E-01	5.538E-01	4.877E-01	2.770E-02	1.239
NP-237	+	86.50	*	1.017E+01	2.345E+00	5.281E-01	1.168E-01	19.259
		95.87		-4.008E-02	1.245E+00	1.843E+00	4.557E-01	-0.022
AM-241	+	59.54	*	1.296E+01	1.372E+00	2.161E-01	2.198E-02	59.974
AM-243	+	74.67	*	2.208E-01	7.041E-02	9.048E-02	7.815E-03	2.441
	+	86.72		3.814E+02	3.923E+01	1.982E+01	1.577E+00	19.247
		117.66		-3.049E+00	6.445E+00	9.121E+00	1.091E+00	-0.334
		142.18		-1.478E+01	2.738E+01	4.310E+01	4.567E+00	-0.343
ANH-511	+	511.00	*	4.771E-02	1.236E-01	1.089E-01	7.597E-03	0.438

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	3.665E-01	6.972E-01	1.195E+00	8.988E-02	0.307
NA-22		1274.54	*	1.008E-02	7.362E-02	1.242E-01	7.011E-03	0.081
NA-24		1368.53	*	2.814E-04	7.362E-02	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AL-26		1129.67		-2.385E+00	3.877E+00	5.941E+00	3.521E-01	-0.401
		1808.65	*	1.844E-02	4.949E-02	8.845E-02	4.991E-03	0.208
K-40		1460.81	*	9.101E-01	6.789E-01	1.296E+00	7.923E-02	0.702
TI-44		67.85		-6.715E-03	3.881E-02	6.514E-02	5.897E-03	-0.103
	+	78.38	*	2.163E-01	6.100E-02	6.789E-02	5.718E-03	3.185
SC-46		889.25	*	4.081E-02	1.051E-01	1.780E-01	1.348E-02	0.229
		1120.51		1.749E-01	1.142E-01	2.038E-01	1.225E-02	0.858
V-48		944.10		-6.215E-01	1.959E+00	3.163E+00	2.309E-01	-0.197
		983.50	*	-5.015E-02	1.355E-01	2.164E-01	1.531E-02	-0.232
		1312.09		-4.154E-02	9.413E-02	1.472E-01	8.342E-03	-0.282
CR-51		320.08	*	3.453E-01	5.732E-01	9.670E-01	7.526E-02	0.357
MN-52		744.21		-1.610E-01	2.181E-01	3.295E-01	2.675E-02	-0.489
		848.13		1.296E+00	7.460E+00	1.253E+01	9.758E-01	0.103
		935.52		4.059E-01	3.028E-01	5.340E-01	3.922E-02	0.760
		1246.25		2.728E+00	3.964E+00	7.123E+00	3.987E-01	0.383
		1333.61		2.790E+02	2.254E+01	3.670E+01	2.088E+00	7.602
		1434.06	*	-9.571E-02	1.490E-01	2.185E-01	1.256E-02	-0.438
MN-54		834.83	*	-4.669E-03	8.821E-02	1.464E-01	1.149E-02	-0.032
CO-56		846.75	*	-9.813E-03	1.027E-01	1.699E-01	1.324E-02	-0.058
		977.42		-1.018E+00	8.227E+00	1.275E+01	9.068E-01	-0.080
		1037.82		4.763E-01	7.948E-01	1.349E+00	9.824E-02	0.353
		1175.09		2.323E+02	1.877E+01	3.091E+01	1.700E+00	7.515
		1238.25		3.611E-02	1.072E-01	1.854E-01	1.106E-02	0.195
		1360.21		-1.861E+00	1.305E+00	1.562E+00	8.918E-02	-1.191
		1771.40		-8.140E-01	4.468E-01	4.772E-01	2.708E-02	-1.706
CO-58		810.76	*	-4.085E-02	9.236E-02	1.497E-01	1.193E-02	-0.273
FE-59		142.65		-1.025E+00	3.714E+00	5.929E+00	6.252E-01	-0.173
		192.34		8.244E-01	1.300E+00	2.258E+00	2.930E-01	0.365
		1099.22	*	1.122E-01	2.167E-01	3.642E-01	2.602E-02	0.308
		1291.56		-3.822E-02	1.932E-01	3.137E-01	2.291E-02	-0.122
ZN-65		1115.52	*	-2.817E-01	2.378E-01	3.524E-01	2.139E-02	-0.799
GE-68		1077.35	*	2.279E+00	3.183E+00	5.437E+00	3.475E-01	0.419
AS-73		53.44	*	-2.748E-01	5.488E-01	9.236E-01	7.801E-02	-0.298
AS-74		595.88	*	-1.413E-01	1.539E-01	2.365E-01	1.816E-02	-0.598
		634.78		4.670E-01	6.169E-01	1.055E+00	8.405E-02	0.443
SE-75		66.05		-8.671E+00	3.940E+00	5.993E+00	6.528E-01	-1.447
		96.73		-9.832E-01	1.041E+00	1.438E+00	1.995E-01	-0.684
	+	121.11		1.048E+00	4.434E-01	4.446E-01	6.409E-02	2.357
		136.00		3.928E-02	6.160E-02	1.023E-01	1.156E-02	0.384
		198.60		4.587E-01	2.737E+00	4.642E+00	4.148E-01	0.099
		264.65	*	-1.808E-03	7.408E-02	1.227E-01	9.614E-03	-0.015
		279.53		-9.192E-02	1.854E-01	2.983E-01	2.400E-02	-0.308
		303.91		-2.288E+00	3.686E+00	5.833E+00	6.197E-01	-0.392
		400.65		7.586E-02	5.300E-01	8.530E-01	7.839E-02	0.089
BR-77	+	87.88		8.490E+02	8.732E+01	9.627E+01	7.599E+00	8.819
		200.40		5.037E+00	2.943E+01	5.015E+01	3.973E+00	0.100
	+	239.00		1.720E+01	4.563E+00	5.161E+00	4.077E-01	3.333
		249.79		1.911E+00	1.319E+01	2.212E+01	1.739E+00	0.086
		281.68		-7.156E+00	1.829E+01	2.958E+01	2.268E+00	-0.242

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		297.23		4.765E+00	1.266E+01	1.871E+01	1.407E+00	0.255
		303.76		-3.446E+01	3.709E+01	5.768E+01	4.297E+00	-0.597
		439.47		-8.251E+00	3.575E+01	5.946E+01	3.756E+00	-0.139
		484.57		-5.326E+00	5.759E+01	9.567E+01	6.450E+00	-0.056
		520.65	*	9.970E-01	2.401E+00	4.088E+00	2.887E-01	0.244
		574.64		-1.485E+01	5.446E+01	8.273E+01	6.216E+00	-0.180
		578.91		-1.066E+01	2.271E+01	3.081E+01	2.325E+00	-0.346
		585.48		8.291E+01	4.582E+01	7.478E+01	5.682E+00	1.109
		755.35		6.409E+00	4.484E+01	7.272E+01	5.888E+00	0.088
		817.79		1.588E+01	3.788E+01	6.483E+01	5.132E+00	0.245
SR-82		698.33		2.481E+00	5.911E+01	9.587E+01	7.827E+00	0.026
		776.49	*	-5.462E-01	7.061E-01	1.119E+00	9.005E-02	-0.488
		1395.20		1.079E+01	1.613E+01	2.884E+01	1.652E+00	0.374
RB-83		520.41	*	3.197E-02	1.363E-01	2.295E-01	1.620E-02	0.139
		529.64		-1.564E-01	2.055E-01	3.228E-01	2.305E-02	-0.484
		552.65		5.624E-03	4.017E-01	6.639E-01	4.869E-02	0.008
RB-84		881.50	*	-4.664E-03	1.636E-01	2.706E-01	2.061E-02	-0.017
KR-85		513.99	*	1.445E+01	1.670E+01	2.576E+01	1.804E+00	0.561
SR-85		513.99	*	6.845E-02	7.913E-02	1.220E-01	8.548E-03	0.561
RB-86		1076.63	*	2.973E-01	1.611E+00	2.598E+00	1.662E-01	0.114
Y-88		898.02		-5.518E-02	1.072E-01	1.713E-01	1.297E-02	-0.322
		1836.01	*	-4.142E-02	5.185E-02	6.925E-02	3.900E-03	-0.598
ZR-88		392.90	*	1.044E-02	6.427E-02	1.042E-01	6.103E-03	0.100
Y-91		1204.90	*	-5.921E+00	2.643E+01	4.315E+01	2.392E+00	-0.137
NB-94		702.63	*	8.877E-05	7.623E-02	1.232E-01	1.006E-02	0.001
		871.10		6.142E-02	9.542E-02	1.642E-01	1.260E-02	0.374
NB-95		765.79	*	4.092E-02	8.402E-02	1.453E-01	1.173E-02	0.282
NB-95M		235.69	*	-3.627E-02	2.110E-01	3.077E-01	2.846E-02	-0.118
ZR-95		724.18		1.305E-01	2.170E-01	3.198E-01	2.856E-02	0.408
		756.15	*	5.043E-02	1.591E-01	2.610E-01	2.355E-02	0.193
NB-97		657.90	*	1.291E-03	1.591E-01	Half-Life too short		
		1024.50		3.918E-03	1.591E-01	Half-Life too short		
ZR-97		254.15		-1.341E-03	1.591E-01	Half-Life too short		
		355.39		7.295E-04	1.591E-01	Half-Life too short		
		507.63	*	5.302E-04	1.591E-01	Half-Life too short		
		602.52		8.114E-04	1.591E-01	Half-Life too short		
		1021.30		4.812E-03	1.591E-01	Half-Life too short		
		1147.95		-3.175E-03	1.591E-01	Half-Life too short		
		1362.66		-4.245E-03	1.591E-01	Half-Life too short		
		1750.46		-7.658E-04	1.591E-01	Half-Life too short		
MO-99		140.51		-2.154E+00	6.236E+00	9.859E+00	2.803E+00	-0.218
		181.06		-4.363E-01	4.702E+00	6.579E+00	1.181E+00	-0.066
		366.43		-1.199E+01	2.590E+01	4.068E+01	2.617E+00	-0.295
		739.58	*	1.098E+00	3.967E+00	6.510E+00	9.705E-01	0.169
		778.00		3.648E+00	1.154E+01	1.973E+01	1.587E+00	0.185
TC-99M		140.51	*	-1.961E+01	1.154E+01	Half-Life too short		
RH-101		127.23		1.373E-02	5.194E-02	8.151E-02	9.898E-03	0.168
		198.01	*	1.427E-02	5.319E-02	9.057E-02	7.172E-03	0.158
		325.23		7.581E-02	4.242E-01	6.989E-01	5.010E-02	0.108

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-102		418.52		4.730E-01	6.486E-01	1.079E+00	6.596E-02	0.438
		475.06	*	-5.112E-02	7.091E-02	1.136E-01	7.559E-03	-0.450
		631.29		-8.687E-02	1.228E-01	1.901E-01	1.510E-02	-0.457
		697.49		-4.866E-02	1.651E-01	2.610E-01	2.131E-02	-0.186
		766.84		6.156E-02	2.339E-01	3.988E-01	3.219E-02	0.154
		1046.59		6.852E-02	3.073E-01	5.088E-01	3.377E-02	0.135
		1112.84		1.007E-03	6.110E-01	9.904E-01	6.025E-02	0.001
RU-103		497.08	*	8.376E-02	7.593E-02	1.333E-01	1.755E-02	0.628
	+	610.33		4.804E+00	2.332E+00	3.310E+00	5.386E-01	1.451
RH-106	+	511.85		2.349E-01	6.088E-01	6.714E-01	4.691E-02	0.350
		621.84	*	8.981E-02	6.917E-01	1.140E+00	1.470E-01	0.079
		1050.47		2.426E+00	5.765E+00	9.684E+00	6.398E-01	0.250
RU-106	+	511.85		2.349E-01	6.088E-01	6.714E-01	4.691E-02	0.350
		621.84	*	8.981E-02	6.917E-01	1.140E+00	8.980E-02	0.079
		1050.47		2.426E+00	5.765E+00	9.684E+00	6.398E-01	0.250
AG-108M		433.93	*	4.926E-03	6.917E-02	1.170E-01	7.869E-03	0.042
		614.37		1.741E-02	9.546E-02	1.374E-01	1.126E-02	0.127
		722.95		-1.162E-02	1.024E-01	1.404E-01	1.194E-02	-0.083
AG-110M		657.75	*	5.230E-01	1.312E-01	2.205E-01	1.853E-02	2.372
		677.61		1.788E-01	6.735E-01	1.113E+00	9.370E-02	0.161
		706.67		3.147E-01	4.427E-01	7.511E-01	6.317E-02	0.419
		763.93		-1.678E-01	3.553E-01	5.774E-01	4.815E-02	-0.291
		884.67		3.161E-02	1.355E-01	2.276E-01	1.801E-02	0.139
		937.48		1.661E-01	3.334E-01	5.636E-01	4.339E-02	0.295
		1384.27		-3.873E-02	2.342E-01	3.761E-01	2.288E-02	-0.103
IN-111		171.28		-1.036E-01	2.594E-01	4.041E-01	3.172E-02	-0.256
		245.39	*	-1.286E-01	3.131E-01	4.726E-01	3.724E-02	-0.272
IN-113M		391.69	*	-5.543E-02	9.453E-02	1.467E-01	9.141E-03	-0.378
SN-113		391.69	*	-5.543E-02	9.453E-02	1.467E-01	9.141E-03	-0.378
IN-114M		190.27	*	4.686E-02	3.022E-01	4.285E-01	3.386E-02	0.109
CD-115		260.90		-1.052E+01	2.190E+01	3.546E+01	2.769E+00	-0.297
		492.35		-3.412E+00	7.382E+00	1.196E+01	8.146E-01	-0.285
		527.90	*	-3.354E-01	2.141E+00	3.513E+00	2.503E-01	-0.095
SN-117M		156.02		2.332E-01	2.417E+00	3.894E+00	3.518E-01	0.060
		158.56	*	-8.789E-03	6.135E-02	9.754E-02	8.518E-03	-0.090
SB-122		563.90	*	3.156E-01	6.176E-01	1.052E+00	7.810E-02	0.300
		692.80		-7.836E+00	1.395E+01	2.161E+01	1.764E+00	-0.363
I-123		159.00	*	1.876E-04	1.395E+01	Half-Life too short		
		528.96		-1.053E-02	1.395E+01	Half-Life too short		
TE-123M		159.00	*	1.221E-02	4.389E-02	7.123E-02	6.220E-03	0.171
I-124		602.71	*	8.717E-02	4.729E-01	7.132E-01	5.515E-02	0.122
		722.78		-1.241E-01	3.087E+00	4.269E+00	3.478E-01	-0.029
		1325.50		1.915E+01	2.026E+01	3.323E+01	1.888E+00	0.576
		1376.25		8.880E-01	1.256E+01	2.095E+01	1.198E+00	0.042
		1509.49		-1.597E+00	7.940E+00	1.259E+01	7.257E-01	-0.127
		1691.02		-1.307E-01	1.774E+00	2.822E+00	1.616E-01	-0.046
SB-124		602.71		1.617E-02	8.774E-02	1.323E-01	1.023E-02	0.122
		645.85		3.092E-01	1.016E+00	1.690E+00	1.453E-01	0.183
		709.31		-2.405E+00	5.648E+00	8.820E+00	7.196E-01	-0.273

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		713.82		-1.514E+00	3.374E+00	5.251E+00	6.149E-01	-0.288
		722.78		-3.337E-02	8.303E-01	1.148E+00	9.581E-02	-0.029
	+	968.20		1.312E+01	9.872E+00	1.185E+01	8.492E-01	1.107
		1045.16		3.638E+00	6.137E+00	1.028E+01	6.833E-01	0.354
		1325.50		5.502E+00	5.820E+00	9.545E+00	5.423E-01	0.576
		1368.21		2.060E+00	2.494E+00	4.586E+00	5.425E-01	0.449
		1436.60		-9.099E-01	5.408E+00	8.642E+00	4.967E-01	-0.105
		1691.02	*	-8.294E-03	1.126E-01	1.790E-01	1.115E-02	-0.046
SB-125		427.89	*	-7.578E-02	1.941E-01	3.205E-01	2.062E-02	-0.236
		463.38		3.234E-01	6.548E-01	1.122E+00	8.319E-02	0.288
		600.56		4.924E-01	3.940E-01	6.921E-01	5.827E-02	0.711
		635.90		5.274E-01	6.316E-01	1.084E+00	9.454E-02	0.487
TE-125M		109.28	*	8.626E+00	1.176E+01	1.988E+01	2.413E+00	0.434
I-126		388.63		1.362E-01	2.909E-01	4.802E-01	2.844E-02	0.284
		666.33	*	-2.122E-01	3.098E-01	4.023E-01	3.282E-02	-0.527
		753.82		7.263E-01	2.369E+00	3.886E+00	3.148E-01	0.187
SB-126		223.80		-1.864E+00	4.592E+00	7.571E+00	6.002E-01	-0.246
		278.60		1.463E-01	2.872E+00	4.757E+00	3.659E-01	0.031
		296.50		2.532E+00	2.020E+00	3.129E+00	2.356E-01	0.809
		414.70		-1.525E-01	1.136E-01	1.665E-01	1.012E-02	-0.916
		415.30		-6.610E+00	9.209E+00	1.407E+01	8.559E-01	-0.470
		555.20		3.160E+00	5.544E+00	9.480E+00	6.973E-01	0.333
		573.80		5.204E-01	1.536E+00	2.518E+00	1.890E-01	0.207
		593.00		5.549E-01	1.326E+00	2.235E+00	1.712E-01	0.248
		656.30		-1.848E+00	6.192E+00	8.449E+00	6.860E-01	-0.219
		666.33		-8.714E-02	1.273E-01	1.652E-01	1.348E-02	-0.527
		675.00		-1.635E-01	2.929E+00	4.732E+00	3.863E-01	-0.035
		695.00		6.109E-03	1.075E-01	1.746E-01	1.426E-02	0.035
		697.00		9.756E-02	3.759E-01	6.195E-01	5.058E-02	0.157
		720.50	*	7.236E-02	2.238E-01	3.490E-01	2.844E-02	0.207
		856.80		-8.927E-01	7.389E-01	1.117E+00	8.650E-02	-0.799
		989.30		5.268E-01	2.246E+00	3.740E+00	2.632E-01	0.141
		1034.80		-2.907E-01	1.578E+01	2.572E+01	1.730E+00	-0.011
		1213.00		2.067E+00	4.454E+00	7.802E+00	4.333E-01	0.265
SB-127		61.10		2.482E+02	3.125E+01	3.681E+01	3.735E+00	6.744
		252.40		3.315E-01	2.042E+00	3.418E+00	1.416E+00	0.097
		290.80		-6.965E+00	1.153E+01	1.591E+01	1.334E+00	-0.438
		411.60		1.692E+00	7.002E+00	1.135E+01	1.489E+00	0.149
		444.90		-6.710E-01	5.793E+00	9.683E+00	8.971E-01	-0.069
		473.00		6.574E-02	1.022E+00	1.716E+00	1.696E-01	0.038
		543.00		4.807E+00	9.154E+00	1.561E+01	1.899E+00	0.308
		603.60		-1.698E+00	7.840E+00	1.090E+01	1.114E+00	-0.156
		685.20	*	5.953E-01	7.854E-01	1.339E+00	1.230E-01	0.445
		698.50		2.099E+00	8.363E+00	1.377E+01	1.971E+00	0.153
		722.20		2.266E+00	1.942E+01	2.732E+01	2.430E+00	0.083
		783.80		1.381E+00	2.178E+00	3.783E+00	3.910E-01	0.365
XE-127		57.60		5.107E+01	7.813E+00	1.128E+01	1.043E+00	4.527
		145.22		-3.226E-01	9.109E-01	1.441E+00	1.479E-01	-0.224
		172.10		3.716E-02	1.653E-01	2.663E-01	2.091E-02	0.140

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		202.84	*	-1.542E-02	6.521E-02	1.091E-01	8.648E-03	-0.141
		374.96		-3.680E-01	3.543E-01	5.342E-01	3.336E-02	-0.689
I-131		80.18		-1.606E+00	2.908E+00	4.248E+00	3.540E-01	-0.378
		284.30		-3.797E-02	1.470E+00	2.423E+00	1.964E-01	-0.016
		364.48	*	3.023E-02	1.190E-01	1.953E-01	1.374E-02	0.155
		636.97		2.007E+00	1.867E+00	3.248E+00	2.748E-01	0.618
		722.89		-9.232E-01	9.025E+00	1.239E+01	1.012E+00	-0.074
TE-132		49.72		3.120E+00	1.970E+00	3.464E+00	2.918E-01	0.901
		111.76		-4.906E+00	8.580E+00	1.357E+01	1.571E+00	-0.362
		116.30		-1.106E+00	8.968E+00	1.300E+01	1.590E+00	-0.085
		228.16	*	-3.752E-02	2.386E-01	3.973E-01	5.659E-02	-0.094
BA-133		53.15		-1.095E+00	2.478E+00	4.178E+00	3.506E-01	-0.262
		79.62		-4.113E-01	1.513E+00	2.242E+00	3.380E-01	-0.183
		81.00		-1.528E-01	1.286E-01	1.791E-01	2.810E-02	-0.853
		276.40		6.358E-01	6.473E-01	1.099E+00	1.530E-01	0.579
		302.84		-1.794E-01	2.705E-01	4.271E-01	5.368E-02	-0.420
		356.01	*	-4.270E-02	1.054E-01	1.464E-01	1.758E-02	-0.292
		383.85		3.858E-01	6.274E-01	1.044E+00	1.148E-01	0.370
I-133	+	510.53		1.184E-03	6.274E-01	Half-Life too short		
		529.87	*	-2.508E-05	6.274E-01	Half-Life too short		
		706.58		1.604E-03	6.274E-01	Half-Life too short		
		856.28		-4.837E-03	6.274E-01	Half-Life too short		
		875.33		5.309E-05	6.274E-01	Half-Life too short		
		1236.41		2.281E-03	6.274E-01	Half-Life too short		
		1298.22		1.460E-03	6.274E-01	Half-Life too short		
CS-134		475.35		-2.882E+00	4.566E+00	7.348E+00	4.892E-01	-0.392
		563.23		5.459E-01	7.288E-01	1.259E+00	9.464E-02	0.434
		569.32		1.601E-01	4.262E-01	7.165E-01	5.449E-02	0.223
		604.70		-5.768E-02	9.107E-02	1.218E-01	9.466E-03	-0.474
		795.84	*	7.697E-02	1.033E-01	1.809E-01	1.458E-02	0.426
		801.93		-9.203E-01	9.480E-01	1.459E+00	1.171E-01	-0.631
		1038.57		1.095E-01	1.053E+01	1.720E+01	1.152E+00	0.006
		1167.94		2.582E+01	7.566E+00	1.354E+01	7.518E-01	1.907
		1365.15		1.404E+00	1.818E+00	3.344E+00	2.103E-01	0.420
CS-135		268.24	*	2.571E-01	2.814E-01	4.848E-01	4.478E-02	0.530
I-135		288.45		-2.371E+02	2.814E-01	Half-Life too short		
		417.63		3.214E+02	2.814E-01	Half-Life too short		
		546.56		1.795E+02	2.814E-01	Half-Life too short		
		836.80		-1.996E+02	2.814E-01	Half-Life too short		
		1038.76		-2.844E+01	2.814E-01	Half-Life too short		
		1124.00		-4.753E+02	2.814E-01	Half-Life too short		
		1131.51		-2.614E+00	2.814E-01	Half-Life too short		
		1260.41	*	-8.062E+00	2.814E-01	Half-Life too short		
		1457.56		1.550E+02	2.814E-01	Half-Life too short		
		1678.03		1.147E+02	2.814E-01	Half-Life too short		
		1706.46		-6.017E+00	2.814E-01	Half-Life too short		
		1791.20		5.801E+01	2.814E-01	Half-Life too short		
CS-136		66.91		1.831E-01	4.182E-01	7.153E-01	1.124E-01	0.256
		86.29		1.066E+01	1.883E+00	2.476E+00	3.077E-01	4.305

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		153.22		-2.291E-01	6.825E-01	1.076E+00	1.108E-01	-0.213
		163.89		-6.749E-01	1.186E+00	1.825E+00	1.674E-01	-0.370
		176.55		-9.025E-02	3.993E-01	6.265E-01	5.265E-02	-0.144
		273.65		-5.794E-01	5.376E-01	8.379E-01	6.999E-02	-0.692
		340.57		6.317E-02	1.755E-01	2.566E-01	1.855E-02	0.246
		818.51		5.972E-02	1.280E-01	2.196E-01	1.738E-02	0.272
		1048.07	*	-1.108E-01	1.947E-01	3.041E-01	2.156E-02	-0.364
		1235.34		4.884E-01	5.146E-01	9.424E-01	9.290E-02	0.518
CE-139		165.85	*	-1.457E-02	4.672E-02	7.336E-02	5.752E-03	-0.199
BA-140		162.64		-6.011E-01	8.212E-01	1.252E+00	1.097E-01	-0.480
		304.84		-6.201E-01	1.568E+00	2.502E+00	6.927E-01	-0.248
		423.70		7.197E-01	2.925E+00	4.722E+00	1.504E+00	0.152
		537.32	*	-1.341E-02	3.709E-01	6.125E-01	2.009E-01	-0.022
LA-140		328.77		-2.835E-01	3.626E-01	5.643E-01	4.342E-02	-0.502
		432.53		-1.404E+00	2.858E+00	4.685E+00	3.194E-01	-0.300
		487.03		-2.772E-02	2.052E-01	3.399E-01	2.525E-02	-0.082
		751.79		-8.175E-01	2.794E+00	4.388E+00	3.984E-01	-0.186
		815.85		5.582E-02	5.403E-01	9.074E-01	8.161E-02	0.062
		867.82		9.147E-02	2.510E+00	4.174E+00	3.422E-01	0.022
		919.63		3.541E-01	5.472E+00	9.067E+00	8.799E-01	0.039
		925.24		1.417E-01	2.222E+00	3.679E+00	2.951E-01	0.039
		1596.49	*	-5.203E-02	9.184E-02	1.333E-01	7.679E-03	-0.390
CE-141		145.44	*	-2.369E-02	8.053E-02	1.278E-01	1.325E-02	-0.185
CE-143		57.37		1.295E+02	2.934E+01	4.494E+01	4.635E+00	2.881
		231.56		3.757E+01	1.009E+02	1.654E+02	5.190E+01	0.227
		293.26	*	1.225E+01	6.617E+00	9.958E+00	2.093E+00	1.230
	+	350.59		2.854E+02	1.574E+02	1.678E+02	5.122E+01	1.701
		490.36		-8.300E+00	1.401E+02	2.329E+02	7.247E+01	-0.036
		664.57		7.010E+02	2.479E+02	2.045E+02	6.579E+01	3.428
		721.93		-1.897E+00	7.990E+01	1.107E+02	3.212E+01	-0.017
CE-144		80.11		-1.440E+00	2.509E+00	3.661E+00	3.048E-01	-0.393
		133.54	*	-6.880E-02	3.121E-01	5.002E-01	8.670E-02	-0.138
PM-144		476.78		2.796E-02	1.602E-01	2.689E-01	2.066E-02	0.104
		618.01		-5.049E-03	6.959E-02	1.132E-01	9.177E-03	-0.045
		696.49	*	3.022E-02	7.252E-02	1.208E-01	9.868E-03	0.250
		778.57		1.987E+00	5.148E+00	8.841E+00	7.112E-01	0.225
PR-144		696.49	*	2.040E+00	4.895E+00	8.156E+00	6.659E-01	0.250
		1489.15		1.455E+00	1.856E+01	3.081E+01	1.775E+00	0.047
PM-146		453.90	*	3.126E-02	9.765E-02	1.665E-01	1.512E-02	0.188
		633.02		-1.305E+00	3.292E+00	5.169E+00	1.924E+00	-0.253
		735.90		-3.499E-01	4.450E-01	5.505E-01	1.567E-01	-0.636
		747.13		-2.340E-02	2.108E-01	3.357E-01	4.610E-02	-0.070
ND-147		91.11		-3.926E-01	2.955E-01	3.848E-01	3.470E-02	-1.020
		319.41		1.060E+00	3.825E+00	6.348E+00	4.604E-01	0.167
		439.89		-1.273E+00	8.114E+00	1.354E+01	8.564E-01	-0.094
		531.02	*	-3.762E-01	7.419E-01	1.186E+00	1.678E-01	-0.317
PM-149		285.90	*	1.413E+01	1.617E+01	2.759E+01	4.138E+00	0.512
EU-152	+	121.78		5.902E-01	2.478E-01	2.568E-01	3.474E-02	2.298
		244.69		-4.148E-02	6.347E-01	9.280E-01	7.315E-02	-0.045

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		344.27	*	1.444E-01	1.968E-01	3.220E-01	2.414E-02	0.448
		443.98		-1.400E-01	2.158E+00	3.616E+00	2.300E-01	-0.039
		778.89		2.517E-01	5.953E-01	1.025E+00	8.243E-02	0.246
		867.32		1.666E-01	2.225E+00	3.709E+00	2.853E-01	0.045
		964.01		3.999E-01	8.373E-01	1.232E+00	8.862E-02	0.324
		1085.78		-9.890E-03	1.034E+00	1.678E+00	1.061E-01	-0.006
		1112.02		4.132E-01	8.772E-01	1.470E+00	8.954E-02	0.281
		1407.95		4.271E-03	2.537E-01	4.190E-01	2.403E-02	0.010
GD-153		69.67		4.303E-01	1.447E+00	2.462E+00	2.201E-01	0.175
		83.37		9.650E+00	2.022E+01	3.068E+01	2.497E+00	0.315
		97.43	*	-5.467E-02	1.017E-01	1.550E-01	1.410E-02	-0.353
		103.18		2.698E-02	1.397E-01	2.323E-01	2.294E-02	0.116
EU-154	+	123.07		4.141E-01	1.754E-01	1.720E-01	2.507E-02	2.408
		247.94		-1.329E-01	6.290E-01	1.037E+00	1.133E-01	-0.128
		591.81		6.311E-01	1.365E+00	2.250E+00	2.469E-01	0.280
		723.30		1.027E-02	4.312E-01	6.005E-01	5.466E-02	0.017
		756.87		1.015E+00	1.849E+00	3.079E+00	3.573E-01	0.329
		873.19		6.068E-01	8.270E-01	1.428E+00	1.655E-01	0.425
		996.32		2.053E-01	1.012E+00	1.678E+00	2.859E-01	0.122
		1004.76		4.051E-01	5.300E-01	9.125E-01	9.539E-02	0.444
		1274.45	*	2.615E-02	2.062E-01	3.475E-01	3.210E-02	0.075
EU-155		48.70		4.309E-01	1.072E+00	1.855E+00	1.400E-01	0.232
	+	60.01		4.204E+02	4.222E+01	2.295E+01	2.197E+00	18.317
	+	86.54		4.160E+00	4.309E-01	3.855E-01	3.107E-02	10.792
		105.31	*	1.896E-02	1.455E-01	2.395E-01	2.458E-02	0.079
TB-160	+	86.79		1.037E+01	1.066E+00	1.062E+00	8.442E-02	9.767
		197.04		3.313E-02	8.298E-01	1.400E+00	1.109E-01	0.024
		215.65		-4.365E-01	1.215E+00	2.015E+00	1.598E-01	-0.217
		298.57		5.271E-02	2.119E-01	3.108E-01	2.333E-02	0.170
		879.36	*	-2.745E-01	3.513E-01	5.513E-01	4.206E-02	-0.498
		962.29		5.122E-01	1.505E+00	2.183E+00	1.572E-01	0.235
		966.15		8.646E-01	5.899E-01	9.266E-01	6.652E-02	0.933
		1177.93		6.197E-01	7.118E-01	1.101E+00	6.059E-02	0.563
		1271.85		-3.364E-01	1.036E+00	1.655E+00	9.313E-02	-0.203
HO-166M		80.57		-4.030E-01	3.434E-01	4.851E-01	4.025E-02	-0.831
	+	184.41		1.076E-01	8.218E-02	1.025E-01	8.088E-03	1.050
		280.46		-1.282E-01	1.553E-01	2.453E-01	1.883E-02	-0.523
		410.95		3.390E-01	5.351E-01	8.869E-01	5.355E-02	0.382
		711.68	*	-6.804E-02	1.319E-01	2.041E-01	1.665E-02	-0.333
		752.31		1.154E-02	6.654E-01	1.070E+00	8.669E-02	0.011
		810.29		-5.665E-02	1.496E-01	2.437E-01	1.936E-02	-0.232
TM-171		51.35		-5.440E+00	1.809E+01	3.077E+01	2.477E+00	-0.177
		52.39		-2.179E+00	1.017E+01	1.725E+01	1.423E+00	-0.126
	+	59.40		2.201E+03	2.210E+02	1.249E+02	1.198E+01	17.616
		66.72	*	1.039E+01	2.228E+01	3.820E+01	3.486E+00	0.272
LU-176	+	88.36		8.216E+00	8.450E-01	9.190E-01	7.290E-02	8.939
		201.83		-1.980E-02	4.665E-02	7.743E-02	6.135E-03	-0.256
		306.84	*	5.982E-03	4.617E-02	7.571E-02	5.613E-03	0.079
		401.10		2.951E+00	1.480E+01	2.389E+01	1.419E+00	0.124

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LU-177		112.95		-7.637E-01	1.064E+00	1.666E+00	1.877E-01	-0.458
		208.36	*	3.006E-01	8.208E-01	1.405E+00	1.114E-01	0.214
LU-177M		52.97		-5.320E-01	1.073E+00	1.806E+00	1.510E-01	-0.295
		54.07		-2.147E-01	6.362E-01	1.028E+00	8.806E-02	-0.209
		61.30		1.192E+01	1.915E+00	2.861E+00	2.713E-01	4.166
	+	121.62		2.933E+00	1.223E+00	1.274E+00	1.602E-01	2.302
		147.16		-1.555E-01	9.614E-01	1.535E+00	1.543E-01	-0.101
		171.86		5.792E-02	7.509E-01	1.200E+00	9.425E-02	0.048
		218.09		-1.187E-01	1.434E+00	2.404E+00	1.906E-01	-0.049
		268.79		1.564E+00	1.362E+00	2.370E+00	1.840E-01	0.660
		319.02		-4.250E-02	4.676E-01	7.605E-01	5.519E-02	-0.056
		367.43		2.961E-01	1.827E+00	2.979E+00	1.910E-01	0.099
		413.65	*	-4.132E-01	3.848E-01	5.747E-01	3.486E-02	-0.719
HF-181		56.28		9.177E-01	7.808E-01	1.232E+00	1.108E-01	0.745
		57.53		3.443E+00	6.053E-01	9.124E-01	8.420E-02	3.774
		65.20		-2.021E+00	6.915E-01	1.014E+00	9.351E-02	-1.994
		133.02		-9.437E-02	8.990E-02	1.372E-01	1.585E-02	-0.688
		136.25		4.021E-01	6.629E-01	1.100E+00	1.235E-01	0.366
		345.85		-2.228E-01	3.836E-01	5.189E-01	3.546E-02	-0.429
		482.03	*	-2.697E-02	8.727E-02	1.433E-01	9.629E-03	-0.188
W-181		56.28		3.896E-01	3.311E-01	5.227E-01	4.698E-02	0.745
		57.53		1.456E+00	2.565E-01	3.868E-01	3.569E-02	3.763
		65.20	*	-8.509E-01	2.911E-01	4.268E-01	3.936E-02	-1.994
TA-182		67.75		-1.922E-02	8.812E-02	1.477E-01	1.338E-02	-0.130
		100.10		1.520E-01	2.235E-01	3.794E-01	3.588E-02	0.401
		152.43		-5.890E-02	4.918E-01	7.849E-01	7.419E-02	-0.075
		222.10		-1.424E-01	5.740E-01	9.540E-01	7.564E-02	-0.149
		1001.68		-5.803E+00	5.121E+00	7.673E+00	5.338E-01	-0.756
		1121.28		3.684E-01	3.205E-01	5.591E-01	3.358E-02	0.659
		1189.05		4.488E-01	5.120E-01	9.224E-01	5.092E-02	0.487
		1221.42	*	-3.054E-02	2.587E-01	4.260E-01	2.371E-02	-0.072
		1230.97		-1.590E-01	6.126E-01	9.911E-01	5.528E-02	-0.160
RE-183	+	57.98		1.467E+01	1.474E+00	5.704E-01	5.313E-02	25.723
	+	59.32		8.434E+00	8.470E-01	4.793E-01	4.588E-02	17.597
		67.20		2.665E-02	1.490E-01	2.531E-01	2.302E-02	0.105
		162.32	*	-6.106E-02	1.663E-01	2.591E-01	2.145E-02	-0.236
		208.81		-1.074E-01	1.507E+00	2.535E+00	2.011E-01	-0.042
		291.72		1.342E-01	1.759E+00	2.555E+00	1.936E-01	0.053
RE-184	+	57.98		5.648E+01	5.672E+00	2.196E+00	2.045E-01	25.723
	+	59.32		3.244E+01	3.258E+00	1.843E+00	1.765E-01	17.597
		67.20		1.026E-01	5.733E-01	9.741E-01	8.859E-02	0.105
		161.27		1.565E-01	5.440E-01	8.827E-01	7.419E-02	0.177
		216.55		-6.446E-02	4.507E-01	7.540E-01	5.980E-02	-0.085
		252.85	*	-1.676E-01	4.170E-01	6.807E-01	5.344E-02	-0.246
		318.01		-4.340E-01	8.081E-01	1.280E+00	9.306E-02	-0.339
		792.07		2.195E-01	2.133E+00	3.593E+00	2.876E-01	0.061
		903.28		-1.109E+00	2.605E+00	4.187E+00	3.139E-01	-0.265
		920.93		4.667E-02	1.295E+00	2.142E+00	1.589E-01	0.022
OS-185	+	59.72		2.344E+01	2.354E+00	1.318E+00	1.264E-01	17.786

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		61.14		2.160E+00	2.759E-01	3.604E-01	3.422E-02	5.994
		69.30		1.612E-01	2.464E-01	4.236E-01	3.797E-02	0.381
		592.07		2.531E+00	5.281E+00	8.723E+00	6.673E-01	0.290
		646.12	*	2.693E-02	8.869E-02	1.475E-01	1.187E-02	0.183
		717.42		4.322E-01	1.923E+00	3.153E+00	2.571E-01	0.137
		874.81		4.329E-01	1.544E+00	2.603E+00	1.992E-01	0.166
		880.27		-5.168E-01	1.983E+00	3.230E+00	2.462E-01	-0.160
RE-188		155.03	*	-9.002E-02	2.497E-01	3.930E-01	3.596E-02	-0.229
		477.96		2.325E+00	6.780E+00	1.153E+01	7.702E-01	0.202
		633.10		-2.170E+00	6.141E+00	9.778E+00	7.780E-01	-0.222
W-188		63.58		-3.353E+01	4.148E+01	6.664E+01	6.218E+00	-0.503
		227.08		4.407E+00	2.020E+01	3.420E+01	2.710E+00	0.129
		290.67	*	-6.726E+00	1.413E+01	1.968E+01	1.494E+00	-0.342
IR-192	+	295.96		5.857E-01	3.023E-01	3.512E-01	2.671E-02	1.668
		308.46		7.387E-02	1.689E-01	2.813E-01	2.094E-02	0.263
		316.51	*	3.261E-03	5.852E-02	9.603E-02	7.024E-03	0.034
		468.07		-1.151E-01	1.480E-01	2.376E-01	1.754E-02	-0.484
		604.41		-6.751E-01	1.160E+00	1.557E+00	1.939E-01	-0.434
		612.46		4.925E-01	1.638E+00	2.382E+00	2.192E-01	0.207
AU-195		65.12		-2.042E-01	1.282E-01	2.030E-01	1.873E-02	-1.006
		66.83		3.256E-02	7.233E-02	1.239E-01	1.130E-02	0.263
	+	75.70		6.946E-01	2.214E-01	3.856E-01	3.308E-02	1.801
		98.88	*	5.322E-02	2.865E-01	4.742E-01	4.406E-02	0.112
		129.76		2.170E+00	4.070E+00	6.764E+00	8.043E-01	0.321
TL-200		367.94	*	-3.850E+00	8.116E+00	1.275E+01	8.160E-01	-0.302
		579.30		-1.978E+01	6.856E+01	9.484E+01	7.160E+00	-0.209
		828.27		-9.965E+01	1.026E+02	1.593E+02	1.255E+01	-0.625
		1205.75		4.983E-01	3.263E+01	5.461E+01	3.028E+00	0.009
TL-201		68.90		2.888E-01	7.491E-01	1.279E+00	1.149E-01	0.226
		70.82		-1.091E-01	4.980E-01	7.467E-01	6.623E-02	-0.146
		80.30		-5.684E-01	1.096E+00	1.605E+00	1.334E-01	-0.354
		135.34		6.624E+00	7.464E+00	1.251E+01	1.416E+00	0.530
		167.43	*	3.486E-01	2.007E+00	3.230E+00	2.531E-01	0.108
TL-202		68.90		9.401E-02	2.438E-01	4.163E-01	3.741E-02	0.226
		70.82		-3.542E-02	1.617E-01	2.424E-01	2.150E-02	-0.146
		80.30		-1.846E-01	3.561E-01	5.211E-01	4.332E-02	-0.354
		439.56	*	-1.771E-02	1.011E-01	1.686E-01	1.066E-02	-0.105
HG-203		70.83		-2.146E-01	9.599E-01	1.439E+00	1.980E-01	-0.149
		72.87		1.627E-01	5.697E-01	8.712E-01	1.157E-01	0.187
		82.60		4.441E-01	1.276E+00	2.033E+00	2.739E-01	0.219
		279.20	*	-8.094E-03	6.322E-02	1.037E-01	8.259E-03	-0.078
BI-207		72.80		4.144E-02	1.862E-01	2.841E-01	2.486E-02	0.146
	+	74.97		3.962E-01	1.263E-01	2.033E-01	1.752E-02	1.949
		84.90		5.172E-02	2.636E-01	3.977E-01	3.204E-02	0.130
		569.67		2.515E-02	6.691E-02	1.125E-01	8.405E-03	0.224
		1063.62	*	-1.026E-01	1.479E-01	1.886E-01	1.227E-02	-0.544
		1770.23		-2.601E-01	8.430E-01	1.071E+00	6.079E-02	-0.243
TL-207		81.07		-3.139E-01	2.814E-01	3.990E-01	3.300E-02	-0.787
		83.78		2.268E-01	1.727E-01	2.699E-01	2.191E-02	0.840

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		94.90		2.446E-01	2.938E-01	4.562E-01	3.999E-02	0.536
	+	122.32		1.407E+01	5.886E+00	6.174E+00	8.067E-01	2.279
		144.24		-3.148E-01	1.036E+00	1.649E+00	1.853E-01	-0.191
		154.21		-3.564E-01	6.188E-01	9.620E-01	9.670E-02	-0.370
		269.46		4.149E-01	3.307E-01	5.775E-01	4.595E-02	0.718
		323.87	*	-3.495E-01	1.279E+00	2.055E+00	3.504E-01	-0.170
	+	338.28		4.152E+00	2.390E+00	3.421E+00	3.836E-01	1.214
		445.03		6.747E-01	5.161E+00	8.734E+00	9.260E-01	0.077
PO-209		260.50		-1.563E+01	1.702E+01	2.688E+01	2.100E+00	-0.581
		262.80		2.403E+00	4.636E+01	7.715E+01	6.017E+00	0.031
		896.60	*	-1.204E+01	2.023E+01	3.213E+01	2.419E+00	-0.375
BI-210		46.50	*	-1.327E-01	1.154E+00	1.818E+00	1.482E-01	-0.073
PB-210		46.50	*	-1.327E-01	1.154E+00	1.818E+00	1.482E-01	-0.073
PO-210		46.50	*	-1.327E-01	1.154E+00	1.818E+00	1.296E-01	-0.073
PB-211		404.84	*	9.355E-02	2.041E+00	3.279E+00	2.044E+00	0.029
		427.08		-2.152E+00	4.922E+00	7.351E+00	4.547E+00	-0.293
		831.96		6.868E-01	2.965E+00	4.961E+00	3.104E+00	0.138
BI-212	+	727.18	*	8.399E-01	1.127E+00	1.168E+00	1.121E-01	0.719
		785.46		2.370E-01	4.015E+00	6.748E+00	5.414E-01	0.035
		1620.62		4.937E-01	2.476E+00	4.142E+00	2.384E-01	0.119
PO-215		81.07		-3.139E-01	2.814E-01	3.990E-01	3.300E-02	-0.787
		83.78		2.268E-01	1.727E-01	2.699E-01	2.191E-02	0.840
		94.90		2.446E-01	2.938E-01	4.562E-01	3.999E-02	0.536
	+	122.32		1.407E+01	5.886E+00	6.174E+00	8.067E-01	2.279
		144.24		-3.148E-01	1.036E+00	1.649E+00	1.853E-01	-0.191
		154.21		-3.564E-01	6.188E-01	9.620E-01	9.670E-02	-0.370
		269.46		4.149E-01	3.307E-01	5.775E-01	4.595E-02	0.718
		323.87	*	-3.495E-01	1.279E+00	2.055E+00	3.504E-01	-0.170
	+	338.28		4.152E+00	2.390E+00	3.421E+00	3.836E-01	1.214
		445.03		6.747E-01	5.161E+00	8.734E+00	9.260E-01	0.077
RN-219		271.23		1.489E-01	4.271E-01	7.185E-01	6.894E-02	0.207
		401.81	*	-3.644E-01	9.140E-01	1.422E+00	1.944E-01	-0.256
RN-220		549.76	*	-2.522E+01	5.548E+01	8.884E+01	6.494E+00	-0.284
RA-223		81.07		-3.139E-01	2.814E-01	3.990E-01	3.300E-02	-0.787
		83.78		2.268E-01	1.727E-01	2.699E-01	2.191E-02	0.840
		94.90		2.446E-01	2.938E-01	4.562E-01	3.999E-02	0.536
	+	122.32		1.407E+01	5.886E+00	6.174E+00	8.067E-01	2.279
		144.24		-3.148E-01	1.036E+00	1.649E+00	1.853E-01	-0.191
		154.21		-3.564E-01	6.188E-01	9.620E-01	9.670E-02	-0.370
		269.46		4.149E-01	3.307E-01	5.775E-01	4.595E-02	0.718
		323.87	*	-3.495E-01	1.279E+00	2.055E+00	3.504E-01	-0.170
	+	338.28		4.152E+00	2.390E+00	3.421E+00	3.836E-01	1.214
		445.03		6.747E-01	5.161E+00	8.734E+00	9.260E-01	0.077
RA-224		240.98	*	4.378E+00	1.432E+00	2.379E+00	1.878E-01	1.840
AC-227		79.80		-5.218E-01	1.930E+00	2.857E+00	6.111E-01	-0.183
		236.00		2.488E-01	4.341E-01	6.600E-01	7.757E-02	0.377
		256.20	*	-1.463E-02	6.865E-01	1.140E+00	1.701E-01	-0.013
		286.10		2.531E+00	2.857E+00	4.889E+00	6.149E-01	0.518
		299.80		1.846E+00	2.930E+00	4.386E+00	7.440E-01	0.421

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		304.40		-1.884E+00	3.496E+00	5.545E+00	9.933E-01	-0.340
		334.20		-1.709E+00	4.719E+00	6.510E+00	1.221E+00	-0.263
TH-227		79.80		-5.218E-01	1.930E+00	2.857E+00	6.190E-01	-0.183
	+	94.00		2.500E+00	4.095E+00	4.570E+00	9.958E-01	0.547
		236.00		2.488E-01	4.339E-01	6.600E-01	6.951E-02	0.377
		256.20	*	-1.463E-02	6.865E-01	1.140E+00	2.018E-01	-0.013
		286.10		2.531E+00	3.808E+00	4.889E+00	4.903E+00	0.518
		299.80		1.846E+00	2.930E+00	4.386E+00	7.440E-01	0.421
		304.40		-1.884E+00	3.496E+00	5.545E+00	9.933E-01	-0.340
		334.20		-1.709E+00	4.719E+00	6.510E+00	1.221E+00	-0.263
AC-228	+	338.32		9.943E-01	6.935E-01	8.198E-01	3.357E-01	1.213
		911.07	*	9.065E-01	4.328E-01	7.737E-01	8.034E-02	1.172
	+	969.11		1.390E+00	1.088E+00	1.252E+00	2.860E-01	1.110
RA-228	+	338.32		9.943E-01	6.935E-01	8.198E-01	3.357E-01	1.213
		911.07	*	9.065E-01	4.328E-01	7.737E-01	8.034E-02	1.172
	+	969.11		1.390E+00	1.088E+00	1.252E+00	2.860E-01	1.110
TH-229		85.43		-1.505E-03	2.725E-01	4.074E-01	3.271E-02	-0.004
	+	88.47		4.729E+00	4.864E-01	5.237E-01	4.161E-02	9.030
		100.00		1.592E-01	2.423E-01	4.110E-01	3.881E-02	0.387
		193.63	*	1.413E-01	7.930E-01	1.355E+00	1.072E-01	0.104
		210.97		3.157E-01	1.270E+00	2.163E+00	1.715E-01	0.146
PA-231		283.67	*	1.078E+00	2.834E+00	4.757E+00	6.972E-01	0.227
		301.29		1.250E+00	1.087E+00	1.759E+00	2.017E-01	0.711
TH-231		81.07		-3.139E-01	2.814E-01	3.990E-01	3.300E-02	-0.787
		83.78		2.268E-01	1.727E-01	2.699E-01	2.191E-02	0.840
		94.90		2.446E-01	2.938E-01	4.562E-01	3.999E-02	0.536
	+	122.32		1.407E+01	5.886E+00	6.174E+00	8.067E-01	2.279
		144.24		-3.148E-01	1.036E+00	1.649E+00	1.853E-01	-0.191
		154.21		-3.564E-01	6.188E-01	9.620E-01	9.670E-02	-0.370
		269.46		4.149E-01	3.307E-01	5.775E-01	4.595E-02	0.718
		323.87	*	-3.495E-01	1.279E+00	2.055E+00	3.504E-01	-0.170
	+	338.28		4.152E+00	2.390E+00	3.421E+00	3.836E-01	1.214
		445.03		6.747E-01	5.161E+00	8.734E+00	9.260E-01	0.077
U-231		84.21		2.478E+00	2.100E+00	3.292E+00	2.665E-01	0.753
	+	92.29		7.135E-01	1.160E+00	1.522E+00	1.283E-01	0.469
		95.87	*	-1.312E-02	4.077E-01	6.035E-01	5.367E-02	-0.022
		108.00		-6.160E-02	8.197E-01	1.343E+00	1.417E-01	-0.046
TH-232	+	338.32		9.943E-01	5.657E-01	8.198E-01	5.709E-02	1.213
		911.07	*	9.065E-01	4.328E-01	7.737E-01	8.034E-02	1.172
	+	969.11		1.390E+00	1.088E+00	1.252E+00	2.860E-01	1.110
PA-233	+	75.28		1.157E+01	3.970E+00	6.187E+00	9.489E-01	1.870
	+	86.59		6.781E+01	1.858E+01	6.422E+00	1.709E+00	10.560
		300.12		6.509E-01	8.070E-01	1.222E+00	1.741E-01	0.533
		311.98	*	-4.668E-02	1.186E-01	1.898E-01	1.449E-02	-0.246
		340.50		5.095E-01	1.273E+00	1.859E+00	4.327E-01	0.274
		398.62		-2.964E+00	4.710E+00	7.181E+00	1.859E+00	-0.413
		415.76		-2.391E+00	3.782E+00	5.767E+00	1.192E+00	-0.415
PA-234		63.00		6.241E-01	1.241E+00	2.104E+00	3.352E-01	0.297
		94.67		2.847E-01	2.163E-01	3.406E-01	4.252E-02	0.836

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		98.44		1.468E-02	1.185E-01	1.951E-01	1.090E-01	0.075
		99.86		3.572E-01	6.130E-01	1.037E+00	9.773E-02	0.344
		111.00		-1.187E-02	2.578E-01	4.221E-01	5.855E-02	-0.028
		131.20		-2.272E-01	1.607E-01	2.387E-01	2.804E-02	-0.952
		152.70		1.643E-02	4.955E-01	7.971E-01	1.392E-01	0.021
	+	186.00		3.873E+00	3.178E+00	3.861E+00	1.198E+00	1.003
		226.40		6.446E-02	6.859E-01	1.155E+00	1.474E-01	0.056
		227.20		6.983E-02	7.387E-01	1.244E+00	9.858E-02	0.056
		248.90		-3.118E-01	1.462E+00	2.409E+00	5.332E-01	-0.129
	+	293.70		3.956E+00	2.126E+00	2.341E+00	3.933E-01	1.690
		369.80		1.402E+00	1.766E+00	2.943E+00	6.177E-01	0.476
		568.70		-1.593E+00	2.251E+00	3.527E+00	2.633E-01	-0.452
		569.50		2.232E-01	5.939E-01	9.984E-01	7.460E-02	0.224
		574.00		9.691E-01	3.349E+00	5.470E+00	4.107E-01	0.177
		699.00		2.439E-01	1.549E+00	2.533E+00	4.782E-01	0.096
		706.10		8.063E-01	2.359E+00	3.860E+00	1.718E+00	0.209
		733.00		4.136E-01	1.006E+00	1.450E+00	3.193E-01	0.285
		742.81		-1.375E+00	3.289E+00	4.903E+00	3.293E+00	-0.280
		796.30		1.815E+00	2.081E+00	3.579E+00	9.613E-01	0.507
		805.60		2.077E+00	2.453E+00	4.183E+00	1.274E+00	0.497
		819.60		-6.233E-01	3.162E+00	5.193E+00	1.967E+00	-0.120
		826.30		-1.182E-01	2.055E+00	3.410E+00	1.521E+00	-0.035
		831.60		6.802E-01	1.521E+00	2.585E+00	7.660E-01	0.263
		876.40		-1.185E-01	2.303E+00	3.800E+00	3.904E+00	-0.031
		880.51		-1.495E-01	7.611E-01	1.245E+00	9.491E-02	-0.120
		883.24		1.411E-01	7.847E-01	1.305E+00	8.759E-01	0.108
		899.00		-1.190E+00	2.327E+00	3.625E+00	1.577E+00	-0.328
		925.00		9.098E-01	3.461E+00	5.799E+00	4.290E-01	0.157
		926.50		-1.126E-01	5.214E-01	8.475E-01	2.109E-01	-0.133
		946.00	*	4.562E-01	9.364E-01	1.578E+00	2.871E-01	0.289
		949.00		-1.699E-01	1.420E+00	2.320E+00	1.688E-01	-0.073
		980.50		3.462E-01	1.974E+00	3.278E+00	2.325E-01	0.106
		1394.10		4.268E-01	2.141E+00	3.593E+00	2.327E+00	0.119
PA-234M		766.42		6.502E+00	2.492E+01	4.214E+01	2.134E+01	0.154
		1001.03	*	-1.464E+01	1.246E+01	1.860E+01	1.595E+00	-0.787
TH-234		63.29	*	-4.177E-01	1.097E+00	1.794E+00	3.292E-01	-0.233
	+	92.38		6.470E-01	1.057E+00	1.385E+00	2.493E-01	0.467
U-235		89.95		4.602E+00	2.354E+00	2.604E+00	8.000E-01	1.767
	+	93.35		7.778E-01	1.281E+00	1.632E+00	4.570E-01	0.477
		105.00		3.901E-01	1.442E+00	2.382E+00	7.220E-01	0.164
		143.76	*	-1.277E-01	3.219E-01	5.093E-01	9.403E-02	-0.251
		163.35		-8.284E-01	7.861E-01	1.154E+00	2.178E-01	-0.718
	+	185.71		1.435E-01	1.096E-01	1.427E-01	1.127E-02	1.005
		205.31		-3.559E-01	8.557E-01	1.411E+00	2.649E-01	-0.252
NP-236		94.67		2.184E-01	1.631E-01	2.587E-01	2.260E-02	0.844
		98.44		1.107E-02	8.935E-02	1.475E-01	1.362E-02	0.075
		111.00		-8.980E-03	1.950E-01	3.193E-01	3.506E-02	-0.028
		160.31	*	-4.932E-02	1.314E-01	2.062E-01	1.757E-02	-0.239
U-238		63.29	*	-4.177E-01	1.097E+00	1.794E+00	3.292E-01	-0.233

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	92.38		6.470E-01	1.052E+00	1.385E+00	1.169E-01	0.467
NP-239		99.55		9.767E-02	2.053E-01	3.437E-01	3.225E-02	0.284
		117.00	*	-7.257E-02	3.155E-01	4.542E-01	5.390E-02	-0.160
		209.75		1.033E-01	1.279E+00	2.164E+00	1.716E-01	0.048
		228.18		-1.397E-01	3.900E-01	6.434E-01	5.097E-02	-0.217
		277.60		1.651E-01	3.211E-01	5.370E-01	4.135E-02	0.307
		334.30		-9.511E-01	2.670E+00	3.692E+00	2.596E-01	-0.258
CM-243		99.55		1.005E-01	2.112E-01	3.535E-01	3.317E-02	0.284
		103.76	*	6.422E-02	1.315E-01	2.212E-01	2.203E-02	0.290
		117.00		-7.463E-02	3.244E-01	4.670E-01	5.542E-02	-0.160
		209.75		1.018E-01	1.260E+00	2.132E+00	1.691E-01	0.048
		228.18		-1.410E-01	3.939E-01	6.498E-01	5.148E-02	-0.217
		277.60		1.664E-01	3.235E-01	5.412E-01	4.167E-02	0.307
AM-246		798.80		-1.062E-01	3.207E-01	5.241E-01	4.184E-02	-0.203
		1036.00		2.978E-01	8.096E-01	1.355E+00	9.099E-02	0.220
		1062.04		3.921E-02	6.298E-01	8.845E-01	5.764E-02	0.044
		1078.86	*	2.606E-01	3.641E-01	6.224E-01	3.970E-02	0.419
CM-247		278.00		4.349E-01	1.322E+00	2.220E+00	1.709E-01	0.196
		287.40		-3.686E-01	2.295E+00	3.751E+00	2.858E-01	-0.098
		402.60	*	-8.597E-03	8.036E-02	1.280E-01	7.624E-03	-0.067
CF-249		252.85		-6.487E-01	1.614E+00	2.634E+00	2.068E-01	-0.246
		333.44		1.339E-01	3.353E-01	4.937E-01	3.477E-02	0.271
		387.95	*	-1.361E-02	8.788E-02	1.401E-01	8.320E-03	-0.097
CF-251		176.60	*	-4.929E-02	2.050E-01	3.215E-01	2.529E-02	-0.153
		227.00		1.503E-01	6.537E-01	1.108E+00	8.776E-02	0.136
		285.00		-1.174E-01	3.279E+00	5.399E+00	4.125E-01	-0.022

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012146    *
* Acquisition date : 20-JAN-2010 14:47:02 Detector SN#     :               *
* Detector ID        : GAM13                Sensitivity      : 5.000       *
* Geometry           : CAN                  Energy tolerance: 1.500        *
* Elapsed live time:    0 01:00:00.00       Abundance limit : 75.000       *
* Elapsed real time:    0 01:00:01.63       Half life ratio :  8.000       *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date        : 13-JAN-2010 00:00:00 Nuclide Library : SOLID        *
* Sample ID          : G1202012146          Analyst initials: MXR1         *
* Batch Number       : 940263               Sample Quantity : 1.5544E+02 GRAM *
* Recovery           :    1.00000           Carrier Weight :    0.00000    *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
* Standard Weight  :   0.00000                                              *
* CALIB. DATE/TIME :  2-FEB-2009 10:41:22 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
CO-57	1.997E-01	8.160E-02	6.637E-02	0.000E+00
CO-60	6.019E+00	4.695E-01	1.023E-01	0.000E+00
CD-109	3.485E+01	3.512E+00	1.832E+00	0.000E+00
SN-126	3.464E+00	3.491E-01	1.818E-01	0.000E+00
BA-137M	5.126E+00	4.972E-01	1.245E-01	0.000E+00
CS-137	5.418E+00	5.263E-01	1.316E-01	0.000E+00
TL-208	3.553E-01	1.645E-01	1.199E-01	0.000E+00
BI-211	1.596E+00	7.275E-01	6.954E-01	0.000E+00
PB-212	9.607E-01	2.533E-01	1.673E-01	0.000E+00
PO-212	9.607E-01	2.533E-01	1.673E-01	0.000E+00
BI-214	5.079E-01	2.324E-01	2.603E-01	0.000E+00
PB-214	5.552E-01	2.547E-01	2.425E-01	0.000E+00
PO-214	5.552E-01	2.547E-01	2.425E-01	0.000E+00
PO-216	9.607E-01	2.533E-01	1.673E-01	0.000E+00
PO-218	5.552E-01	2.547E-01	2.425E-01	0.000E+00
RA-226	5.079E-01	2.324E-01	2.603E-01	0.000E+00
TH-228	9.681E-01	2.552E-01	1.686E-01	0.000E+00
TH-230	5.079E-01	2.324E-01	2.603E-01	0.000E+00
U-234	5.079E-01	2.324E-01	2.603E-01	0.000E+00
NP-237	1.017E+01	2.298E+00	5.737E-01	0.000E+00
AM-241	1.296E+01	1.344E+00	2.369E-01	0.000E+00
AM-243	2.208E-01	6.900E-02	9.863E-02	0.000E+00
ANH-511	4.771E-02	1.211E-01	1.130E-01	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)		
BE-7	3.665E-01	6.833E-01	1.243E+00	0.000E+00	NOT IDENT.
NA-22	1.008E-02	7.215E-02	1.258E-01	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.695E+02	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.844E-02	4.850E-02	8.867E-02	0.000E+00	NOT IDENT.

K-40	9.101E-01	6.653E-01	1.307E+00	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.978E-02	7.392E-02	0.000E+00	FAIL ABUN
SC-46	4.081E-02	1.030E-01	1.820E-01	0.000E+00	NOT IDENT.
V-48	-5.015E-02	1.328E-01	2.207E-01	0.000E+00	NOT IDENT.
CR-51	3.453E-01	5.617E-01	1.016E+00	0.000E+00	NOT IDENT.
MN-52	-9.571E-02	1.461E-01	2.205E-01	0.000E+00	NOT IDENT.
MN-54	-4.669E-03	8.644E-02	1.500E-01	0.000E+00	NOT IDENT.
CO-56	-9.813E-03	1.007E-01	1.740E-01	0.000E+00	NOT IDENT.
CO-58	-4.085E-02	9.051E-02	1.535E-01	0.000E+00	NOT IDENT.
FE-59	1.122E-01	2.124E-01	3.702E-01	0.000E+00	NOT IDENT.
ZN-65	-2.817E-01	2.331E-01	3.581E-01	0.000E+00	NOT IDENT.
GE-68	2.279E+00	3.120E+00	5.531E+00	0.000E+00	NOT IDENT.
AS-73	-2.748E-01	5.378E-01	1.015E+00	0.000E+00	NOT IDENT.
AS-74	-1.413E-01	1.508E-01	2.444E-01	0.000E+00	NOT IDENT.
SE-75	-1.808E-03	7.259E-02	1.296E-01	0.000E+00	FAIL ABUN
BR-77	9.970E-01	2.353E+00	4.241E+00	0.000E+00	FAIL ABUN
SR-82	-5.462E-01	6.919E-01	1.148E+00	0.000E+00	NOT IDENT.
RB-83	3.197E-02	1.335E-01	2.381E-01	0.000E+00	NOT IDENT.
RB-84	-4.664E-03	1.603E-01	2.768E-01	0.000E+00	NOT IDENT.
KR-85	1.445E+01	1.637E+01	2.674E+01	0.000E+00	NOT IDENT.
SR-85	6.845E-02	7.755E-02	1.267E-01	0.000E+00	NOT IDENT.
RB-86	2.973E-01	1.579E+00	2.642E+00	0.000E+00	NOT IDENT.
Y-88	-4.142E-02	5.081E-02	6.939E-02	0.000E+00	NOT IDENT.
ZR-88	1.044E-02	6.298E-02	1.089E-01	0.000E+00	NOT IDENT.
Y-91	-5.921E+00	2.590E+01	4.375E+01	0.000E+00	NOT IDENT.
NB-94	8.877E-05	7.470E-02	1.268E-01	0.000E+00	NOT IDENT.
NB-95	4.092E-02	8.234E-02	1.491E-01	0.000E+00	NOT IDENT.
NB-95M	-3.627E-02	2.068E-01	3.259E-01	0.000E+00	NOT IDENT.
ZR-95	5.043E-02	1.559E-01	2.681E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.468E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.742E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.098E+00	3.887E+00	6.690E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.547E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.427E-02	5.212E-02	9.637E-02	0.000E+00	NOT IDENT.
RH-102	-5.112E-02	6.950E-02	1.182E-01	0.000E+00	NOT IDENT.
RU-103	8.376E-02	7.441E-02	1.385E-01	0.000E+00	FAIL ABUN
RH-106	8.981E-02	6.779E-01	1.178E+00	0.000E+00	FAIL ABUN
RU-106	8.981E-02	6.778E-01	1.178E+00	0.000E+00	FAIL ABUN
AG-108M	4.926E-03	6.779E-02	1.220E-01	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	1.285E-01	2.274E-01	0.000E+00	NOT IDENT.
IN-111	-1.286E-01	3.068E-01	5.001E-01	0.000E+00	NOT IDENT.
IN-113M	-5.543E-02	9.264E-02	1.534E-01	0.000E+00	NOT IDENT.
SN-113	-5.543E-02	9.264E-02	1.534E-01	0.000E+00	NOT IDENT.
IN-114M	4.686E-02	2.962E-01	4.564E-01	0.000E+00	NOT IDENT.
CD-115	-3.354E-01	2.098E+00	3.643E+00	0.000E+00	NOT IDENT.
SN-117M	-8.789E-03	6.012E-02	1.044E-01	0.000E+00	NOT IDENT.
SB-122	3.156E-01	6.053E-01	1.089E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	6.608E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.221E-02	4.301E-02	7.621E-02	0.000E+00	NOT IDENT.
I-124	8.717E-02	4.634E-01	7.371E-01	0.000E+00	NOT IDENT.
SB-124	-8.294E-03	1.103E-01	1.798E-01	0.000E+00	FAIL ABUN
SB-125	-7.578E-02	1.902E-01	3.343E-01	0.000E+00	NOT IDENT.
TE-125M	8.626E+00	1.153E+01	2.147E+01	0.000E+00	NOT IDENT.
I-126	-2.122E-01	3.037E-01	4.146E-01	0.000E+00	NOT IDENT.
SB-126	7.236E-02	2.193E-01	3.589E-01	0.000E+00	NOT IDENT.
SB-127	5.953E-01	7.697E-01	1.379E+00	0.000E+00	NOT IDENT.
XE-127	-1.542E-02	6.391E-02	1.160E-01	0.000E+00	NOT IDENT.
I-131	3.023E-02	1.166E-01	2.046E-01	0.000E+00	NOT IDENT.
TE-132	-3.752E-02	2.339E-01	4.212E-01	0.000E+00	NOT IDENT.
BA-133	-4.270E-02	1.033E-01	1.535E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	3.020E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	7.697E-02	1.013E-01	1.855E-01	0.000E+00	NOT IDENT.
CS-135	2.571E-01	2.758E-01	5.118E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.187E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.108E-01	1.909E-01	3.096E-01	0.000E+00	NOT IDENT.
CE-139	-1.457E-02	4.579E-02	7.841E-02	0.000E+00	NOT IDENT.
BA-140	-1.341E-02	3.635E-01	6.350E-01	0.000E+00	NOT IDENT.
LA-140	-5.203E-02	9.000E-02	1.341E-01	0.000E+00	NOT IDENT.
CE-141	-2.369E-02	7.892E-02	1.370E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	6.484E+00	1.049E+01	0.000E+00	FAIL ABUN
CE-144	-6.880E-02	3.059E-01	5.375E-01	0.000E+00	NOT IDENT.
PM-144	3.022E-02	7.107E-02	1.244E-01	0.000E+00	NOT IDENT.
PR-144	2.040E+00	4.797E+00	8.397E+00	0.000E+00	NOT IDENT.
PM-146	3.126E-02	9.570E-02	1.734E-01	0.000E+00	NOT IDENT.
ND-147	-3.762E-01	7.270E-01	1.229E+00	0.000E+00	NOT IDENT.
PM-149	1.413E+01	1.584E+01	2.908E+01	0.000E+00	NOT IDENT.
EU-152	1.444E-01	1.929E-01	3.378E-01	0.000E+00	FAIL ABUN
GD-153	-5.467E-02	9.967E-02	1.679E-01	0.000E+00	NOT IDENT.

EU-154	2.615E-02	2.021E-01	3.518E-01	0.000E+00	FAIL ABUN
EU-155	1.896E-02	1.426E-01	2.589E-01	0.000E+00	FAIL ABUN
TB-160	-2.745E-01	3.443E-01	5.640E-01	0.000E+00	FAIL ABUN
HO-166M	-6.804E-02	1.293E-01	2.100E-01	0.000E+00	FAIL ABUN
TM-171	1.039E+01	2.183E+01	4.175E+01	0.000E+00	FAIL ABUN
LU-176	5.982E-03	4.524E-02	7.965E-02	0.000E+00	FAIL ABUN
LU-177	3.006E-01	8.044E-01	1.493E+00	0.000E+00	NOT IDENT.
LU-177M	-4.132E-01	3.771E-01	5.999E-01	0.000E+00	FAIL ABUN
HF-181	-2.697E-02	8.552E-02	1.490E-01	0.000E+00	NOT IDENT.
W-181	-8.509E-01	2.853E-01	4.667E-01	0.000E+00	NOT IDENT.
TA-182	-3.054E-02	2.535E-01	4.318E-01	0.000E+00	NOT IDENT.
RE-183	-6.106E-02	1.630E-01	2.771E-01	0.000E+00	FAIL ABUN
RE-184	-1.676E-01	4.087E-01	7.198E-01	0.000E+00	FAIL ABUN
OS-185	2.693E-02	8.692E-02	1.522E-01	0.000E+00	FAIL ABUN
RE-188	-9.002E-02	2.447E-01	4.207E-01	0.000E+00	NOT IDENT.
W-188	-6.726E+00	1.384E+01	2.074E+01	0.000E+00	NOT IDENT.
IR-192	3.261E-03	5.735E-02	1.010E-01	0.000E+00	FAIL ABUN
AU-195	5.322E-02	2.808E-01	5.133E-01	0.000E+00	FAIL ABUN
TL-200	-3.850E+00	7.954E+00	1.335E+01	0.000E+00	NOT IDENT.
TL-201	3.486E-01	1.967E+00	3.452E+00	0.000E+00	NOT IDENT.
TL-202	-1.771E-02	9.908E-02	1.758E-01	0.000E+00	NOT IDENT.
HG-203	-8.094E-03	6.195E-02	1.094E-01	0.000E+00	NOT IDENT.
BI-207	-1.026E-01	1.449E-01	1.919E-01	0.000E+00	FAIL ABUN
TL-207	-3.495E-01	1.253E+00	2.159E+00	0.000E+00	FAIL ABUN
PO-209	-1.204E+01	1.982E+01	3.285E+01	0.000E+00	NOT IDENT.
BI-210	-1.327E-01	1.131E+00	2.005E+00	0.000E+00	NOT IDENT.
PB-210	-1.327E-01	1.131E+00	2.005E+00	0.000E+00	NOT IDENT.
PO-210	-1.327E-01	1.131E+00	2.005E+00	0.000E+00	NOT IDENT.
PB-211	9.355E-02	2.001E+00	3.425E+00	0.000E+00	NOT IDENT.
BI-212	8.399E-01	1.104E+00	1.201E+00	0.000E+00	FAIL ABUN
PO-215	-3.495E-01	1.253E+00	2.159E+00	0.000E+00	FAIL ABUN
RN-219	-3.644E-01	8.957E-01	1.486E+00	0.000E+00	NOT IDENT.
RN-220	-2.522E+01	5.437E+01	9.204E+01	0.000E+00	NOT IDENT.
RA-223	-3.495E-01	1.253E+00	2.159E+00	0.000E+00	FAIL ABUN
RA-224	0.000E+00	1.403E+00	2.519E+00	0.000E+00	NOT IDENT.
AC-227	-1.463E-02	6.727E-01	1.205E+00	0.000E+00	NOT IDENT.
TH-227	-1.463E-02	6.727E-01	1.205E+00	0.000E+00	FAIL ABUN
AC-228	0.000E+00	4.242E-01	7.907E-01	0.000E+00	FAIL ABUN
RA-228	0.000E+00	4.242E-01	7.907E-01	0.000E+00	FAIL ABUN
TH-229	1.413E-01	7.772E-01	1.443E+00	0.000E+00	FAIL ABUN
PA-231	1.078E+00	2.777E+00	5.015E+00	0.000E+00	NOT IDENT.
TH-231	-3.495E-01	1.253E+00	2.159E+00	0.000E+00	FAIL ABUN
U-231	-1.312E-02	3.995E-01	6.538E-01	0.000E+00	FAIL ABUN
TH-232	0.000E+00	4.242E-01	7.907E-01	0.000E+00	FAIL ABUN
PA-233	-4.668E-02	1.162E-01	1.996E-01	0.000E+00	FAIL ABUN
PA-234	4.562E-01	9.177E-01	1.611E+00	0.000E+00	FAIL ABUN
PA-234M	-1.464E+01	1.221E+01	1.896E+01	0.000E+00	NOT IDENT.
TH-234	-4.177E-01	1.075E+00	1.964E+00	0.000E+00	FAIL ABUN
U-235	-1.277E-01	3.155E-01	5.463E-01	0.000E+00	FAIL ABUN
NP-236	-4.932E-02	1.287E-01	2.205E-01	0.000E+00	NOT IDENT.
U-238	-4.177E-01	1.075E+00	1.964E+00	0.000E+00	FAIL ABUN
NP-239	-7.257E-02	3.092E-01	4.897E-01	0.000E+00	NOT IDENT.
CM-243	6.422E-02	1.289E-01	2.392E-01	0.000E+00	NOT IDENT.
AM-246	2.606E-01	3.568E-01	6.330E-01	0.000E+00	NOT IDENT.
CM-247	-8.597E-03	7.875E-02	1.337E-01	0.000E+00	NOT IDENT.
CF-249	-1.361E-02	8.612E-02	1.465E-01	0.000E+00	NOT IDENT.
CF-251	-4.929E-02	2.009E-01	3.431E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:51:10.37

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                            2040 Savage Road                               *
*                          Charleston, SC 29414                             *
*****************************************************************************
Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012146.CNF;1
Sample date       : 13-JAN-2010 00:00:00 Acquisition date : 20-JAN-2010 14:47:02
Sample ID         : G1202012146          Sample quantity  : 1.55440E+02 GRAM
Detector name     : GAM13                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00         Elapsed real time: 0 01:00:01.63  0.0%
Energy tolerance : 1.50000 keV           Analyst Initials : MXR1
Abundance limit  : 75.00000              Sensitivity      : 5.00000
Batch ID          : 940263               Detector SN#     :
Matrix Spike ID  :                       LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
CO-57	122.06	232	85.51*	6.698E+00	1.958E-01	1.997E-01	41.70
	136.48	------	10.60	6.430E+00	------ Line Not Found		------
CO-60	1173.22	1618	100.00	1.240E+00	6.303E+00	6.320E+00	7.89
	1332.49	1392	100.00*	1.120E+00	6.002E+00	6.019E+00	7.96
CD-109	88.03	1921	3.72*	7.239E+00	3.445E+01	3.485E+01	10.29
SN-126	64.28	------	9.60	7.391E+00	------ Line Not Found		------
	86.94	1921	8.90	7.239E+00	1.440E+01	1.440E+01	41.74
	87.57	1921	37.00*	7.239E+00	3.464E+00	3.464E+00	10.29
BA-137M	661.65	1927	89.98*	2.019E+00	5.123E+00	5.126E+00	9.90
CS-137	661.65	1927	85.12*	2.019E+00	5.416E+00	5.418E+00	9.91
TL-208	277.35	------	6.80	4.225E+00	------ Line Not Found		------
	510.84	25	21.60	2.537E+00	2.209E-01	2.209E-01	259.26
	583.14	140	84.20*	2.256E+00	3.553E-01	3.553E-01	47.23
	860.37	------	12.46	1.606E+00	------ Line Not Found		------
BI-211	72.87	------	1.27	7.369E+00	------ Line Not Found		------
	351.07	150	12.94*	3.497E+00	1.596E+00	1.596E+00	46.51
PB-212	74.81	222	10.70	7.359E+00	1.362E+00	1.362E+00	33.23
	77.11	321	18.00	7.344E+00	1.172E+00	1.172E+00	28.21
	87.30	1921	8.00	7.239E+00	1.602E+01	1.602E+01	14.35
	238.63	418	44.60*	4.715E+00	9.607E-01	9.607E-01	26.90
	300.09	------	3.41	3.976E+00	------ Line Not Found		------
PO-212	74.81	222	10.70	7.359E+00	1.362E+00	1.362E+00	33.23
	77.11	321	18.00	7.344E+00	1.172E+00	1.172E+00	28.21
	87.30	1921	8.00	7.239E+00	1.602E+01	1.602E+01	14.35
	115.19	------	0.60	6.822E+00	------ Line Not Found		------
	238.63	418	44.60*	4.715E+00	9.607E-01	9.607E-01	26.90
	300.09	------	3.41	3.976E+00	------ Line Not Found		------
BI-214	609.31	106	46.30*	2.172E+00	5.079E-01	5.079E-01	46.68
	1120.29	------	15.10	1.287E+00	------ Line Not Found		------
	1764.49	18	15.80	8.986E-01	6.044E-01	6.044E-01	91.63
PB-214	74.81	222	6.21	7.359E+00	2.347E+00	2.347E+00	32.73
	77.11	321	10.50	7.344E+00	2.010E+00	2.010E+00	29.22

Sample ID : G1202012146 Acquisition date : 20-JAN-2010 14:47:02

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	87.30	1921	4.67	7.239E+00	2.744E+01	2.744E+01	12.85
	241.98	------	7.49	4.668E+00	------ Line Not Found		------
	295.21	132	19.20	4.031E+00	8.242E-01	8.242E-01	51.98
	351.92	150	37.20*	3.497E+00	5.552E-01	5.552E-01	46.80
PO-214	74.81	222	6.21	7.359E+00	2.347E+00	2.347E+00	32.73
	77.11	321	10.50	7.344E+00	2.010E+00	2.010E+00	29.22
	87.30	1921	4.67	7.239E+00	2.744E+01	2.744E+01	12.85
	241.98	------	7.49	4.668E+00	------ Line Not Found		------
	295.21	132	19.20	4.031E+00	8.242E-01	8.242E-01	51.98
	351.92	150	37.20*	3.497E+00	5.552E-01	5.552E-01	46.80
PO-216	74.81	222	10.70	7.359E+00	1.362E+00	1.362E+00	33.23
	77.11	321	18.00	7.344E+00	1.172E+00	1.172E+00	28.21
	87.30	1921	8.00	7.239E+00	1.602E+01	1.602E+01	14.35
	238.63	418	44.60*	4.715E+00	9.607E-01	9.607E-01	26.90
	300.09	------	3.41	3.976E+00	------ Line Not Found		------
PO-218	74.81	222	6.21	7.359E+00	2.347E+00	2.347E+00	32.73
	77.11	321	10.50	7.344E+00	2.010E+00	2.010E+00	29.22
	87.30	1921	4.67	7.239E+00	2.744E+01	2.744E+01	12.85
	241.98	------	7.49	4.668E+00	------ Line Not Found		------
	295.21	132	19.20	4.031E+00	8.242E-01	8.242E-01	51.98
	351.92	150	37.20*	3.497E+00	5.552E-01	5.552E-01	46.80
RA-226	609.31	106	46.30*	2.172E+00	5.079E-01	5.079E-01	46.68
	1120.29	------	15.10	1.287E+00	------ Line Not Found		------
	1764.49	18	15.80	8.986E-01	6.044E-01	6.044E-01	91.63
TH-228	74.81	222	10.70	7.359E+00	1.362E+00	1.372E+00	31.90
	77.11	321	18.00	7.344E+00	1.172E+00	1.181E+00	28.21
	87.30	1921	8.00	7.239E+00	1.602E+01	1.614E+01	10.29
	238.63	418	44.60*	4.715E+00	9.607E-01	9.681E-01	26.90
	300.09	------	3.41	3.976E+00	------ Line Not Found		------
TH-230	609.31	106	46.30*	2.172E+00	5.079E-01	5.079E-01	46.68
	1120.29	------	15.10	1.287E+00	------ Line Not Found		------
	1764.49	18	15.80	8.986E-01	6.044E-01	6.044E-01	91.63
U-234	609.31	106	46.30*	2.172E+00	5.079E-01	5.079E-01	46.68
	1120.29	------	15.10	1.287E+00	------ Line Not Found		------
	1764.49	18	15.80	8.986E-01	6.044E-01	6.044E-01	91.63
NP-237	86.50	1921	12.60*	7.239E+00	1.017E+01	1.017E+01	23.06
	95.87	------	2.60	7.135E+00	------ Line Not Found		------
AM-241	59.54	7113	35.90*	7.384E+00	1.296E+01	1.296E+01	10.58
AM-243	74.67	222	66.00*	7.359E+00	2.208E-01	2.208E-01	31.88
	86.72	1921	0.34	7.239E+00	3.814E+02	3.814E+02	10.29
	117.66	------	0.55	6.778E+00	------ Line Not Found		------
	142.18	------	0.13	6.323E+00	------ Line Not Found		------
ANH-511	511.00	25	100.00*	2.537E+00	4.771E-02	4.771E-02	259.13

Flag: "*" = Keyline

Sample ID : G1202012146 Acquisition date : 20-JAN-2010 14:47:02

Total number of lines in spectrum 21
Number of unidentified lines 1
Number of lines tentatively identified by NID 20 95.24%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-57	270.90D	1.02	1.958E-01	1.997E-01	0.833E-01	41.70	
CO-60	5.27Y	1.00	6.002E+00	6.019E+00	0.479E+00	7.96	
CD-109	464.00D	1.01	3.445E+01	3.485E+01	0.358E+01	10.29	
SN-126	1.00E+05Y	1.00	3.464E+00	3.464E+00	0.356E+00	10.29	
BA-137M	30.17Y	1.00	5.123E+00	5.126E+00	0.507E+00	9.90	
CS-137	30.17Y	1.00	5.416E+00	5.418E+00	0.537E+00	9.91	
TL-208	1.41E+10Y	1.00	3.553E-01	3.553E-01	1.678E-01	47.23	
BI-211	7.04E+08Y	1.00	1.596E+00	1.596E+00	0.742E+00	46.51	
PB-212	1.41E+10Y	1.00	9.607E-01	9.607E-01	2.584E-01	26.90	
PO-212	1.41E+10Y	1.00	9.607E-01	9.607E-01	2.584E-01	26.90	
BI-214	1600.00Y	1.00	5.079E-01	5.079E-01	2.371E-01	46.68	
PB-214	1600.00Y	1.00	5.552E-01	5.552E-01	2.599E-01	46.80	
PO-214	1600.00Y	1.00	5.552E-01	5.552E-01	2.599E-01	46.80	
PO-216	1.41E+10Y	1.00	9.607E-01	9.607E-01	2.584E-01	26.90	
PO-218	1600.00Y	1.00	5.552E-01	5.552E-01	2.599E-01	46.80	
RA-226	1600.00Y	1.00	5.079E-01	5.079E-01	2.371E-01	46.68	
TH-228	1.91Y	1.01	9.607E-01	9.681E-01	2.604E-01	26.90	
TH-230	4.47E+09Y	1.00	5.079E-01	5.079E-01	2.371E-01	46.68	
U-234	4.47E+09Y	1.00	5.079E-01	5.079E-01	2.371E-01	46.68	
NP-237	2.14E+06Y	1.00	1.017E+01	1.017E+01	0.235E+01	23.06	
AM-241	432.20Y	1.00	1.296E+01	1.296E+01	0.137E+01	10.58	
AM-243	7380.00Y	1.00	2.208E-01	2.208E-01	0.704E-01	31.88	
ANH-511	1.00E+09Y	1.00	4.771E-02	4.771E-02	12.36E-02	259.13	
		Total Activity :	8.755E+01	8.797E+01			

Grand Total Activity : 8.755E+01 8.797E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G1202012146 Acquisition date : 20-JAN-2010 14:47:02

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	92.71	52	445	1.39	185.21	181	9	1.45E-02	****	7.18E+00	T
0	185.71	89	259	1.31	371.25	367	10	2.46E-02	76.0	5.53E+00	T
0	338.06	85	146	1.27	676.02	672	9	2.36E-02	56.5	3.61E+00	T
0	725.83	38	136	1.62	1451.81	1451	15	1.06E-02	****	1.86E+00	T
0	968.85	69	131	2.01	1938.03	1931	14	1.93E-02	74.9	1.45E+00	T
0	1068.07	38	73	1.89	2136.56	2128	14	1.05E-02	****	1.34E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 20-JAN-2010 15:51:19.45

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*****************************************************************************
*                              GEL Laboratories LLC                          *
*                                2040 Savage Road                            *
*                              Charleston, SC 29414                          *
*****************************************************************************
*                                                                           *
*                                DETECTOR DATA                              *
*                                                                           *
* Configuration     : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202012146.CNF;1  *
* Acquisition date  : 20-JAN-2010 14:47:02  Detector SN#     :              *
* Detector ID       : GAM13                 Sensitivity      : 5.00000     *
* Geometry          : CAN                   Energy tolerance: 1.50000      *
* Elapsed live time: 0 01:00:00.00          Abundance limit : 75.00000     *
* Elapsed real time: 0 01:00:01.63          Half life ratio : 8.00000      *
*****************************************************************************
*                                                                           *
*                                SAMPLE DATA                                *
*                                                                           *
* Sample date       : 13-JAN-2010 00:00:00  Nuclide Library : SOLID        *
* Sample ID         : G1202012146           Analyst initials: MXR1         *
* Batch Number      : 940263                Sample Quantity : 1.55440E+02 GRAM *
*****************************************************************************
*                                                                           *
*                                  QC DATA                                  *
*                                                                           *
* CALIB. DATE/TIME : 2-FEB-2009 10:41:22.03MS Isotope       :              *
* MSD ID           :                      MSD Isotope      :              *
* LCS ID           : 1032-A               LCS Isotope      :              *
*****************************************************************************
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57	1.997E-01	8.327E-02	6.162E-02	7.794E-03	3.240
CO-60	6.019E+00	4.791E-01	1.012E-01	5.754E-03	59.493
CD-109	3.485E+01	3.584E+00	1.687E+00	1.331E-01	20.656
SN-126	3.464E+00	3.563E-01	1.675E-01	1.325E-02	20.684
BA-137M	5.126E+00	5.073E-01	1.208E-01	9.852E-03	42.433
CS-137	5.418E+00	5.371E-01	1.277E-01	1.044E-02	42.433
TL-208	3.553E-01	1.678E-01	1.159E-01	9.594E-03	3.066
BI-211	1.596E+00	7.424E-01	6.633E-01	4.835E-02	2.406
PB-212	9.607E-01	2.584E-01	1.580E-01	1.435E-02	6.080
PO-212	9.607E-01	2.584E-01	1.580E-01	1.435E-02	6.080
BI-214	5.079E-01	2.371E-01	2.520E-01	2.356E-02	2.016
PB-214	5.552E-01	2.599E-01	2.313E-01	2.071E-02	2.401
PO-214	5.552E-01	2.599E-01	2.313E-01	2.071E-02	2.401
PO-216	9.607E-01	2.584E-01	1.580E-01	1.435E-02	6.080
PO-218	5.552E-01	2.599E-01	2.313E-01	2.071E-02	2.401
RA-226	5.079E-01	2.371E-01	2.520E-01	2.356E-02	2.016
TH-228	9.681E-01	2.604E-01	1.592E-01	1.446E-02	6.080
TH-230	5.079E-01	2.371E-01	2.520E-01	2.356E-02	2.016

Sample ID : G1202012146 Acquisition date : 20-JAN-2010 14:47:02

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-234	5.079E-01	2.371E-01	2.520E-01	2.356E-02	2.016
NP-237	1.017E+01	2.345E+00	5.281E-01	1.168E-01	19.259
AM-241	1.296E+01	1.372E+00	2.161E-01	2.198E-02	59.974
AM-243	2.208E-01	7.041E-02	9.048E-02	7.815E-03	2.441
ANH-511	4.771E-02	1.236E-01	1.089E-01	7.597E-03	0.438

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	3.665E-01		6.972E-01	1.195E+00	8.988E-02	0.307
NA-22	1.008E-02		7.362E-02	1.242E-01	7.011E-03	0.081
NA-24	2.814E-04		1.375E-04	Half-Life too short		
AL-26	1.844E-02		4.949E-02	8.845E-02	4.991E-03	0.208
K-40	9.101E-01		6.789E-01	1.296E+00	7.923E-02	0.702
TI-44	2.163E-01	+	6.100E-02	6.789E-02	5.718E-03	3.185
SC-46	4.081E-02		1.051E-01	1.780E-01	1.348E-02	0.229
V-48	-5.015E-02		1.355E-01	2.164E-01	1.531E-02	-0.232
CR-51	3.453E-01		5.732E-01	9.670E-01	7.526E-02	0.357
MN-52	-9.571E-02		1.490E-01	2.185E-01	1.256E-02	-0.438
MN-54	-4.669E-03		8.821E-02	1.464E-01	1.149E-02	-0.032
CO-56	-9.813E-03		1.027E-01	1.699E-01	1.324E-02	-0.058
CO-58	-4.085E-02		9.236E-02	1.497E-01	1.193E-02	-0.273
FE-59	1.122E-01		2.167E-01	3.642E-01	2.602E-02	0.308
ZN-65	-2.817E-01		2.378E-01	3.524E-01	2.139E-02	-0.799
GE-68	2.279E+00		3.183E+00	5.437E+00	3.475E-01	0.419
AS-73	-2.748E-01		5.488E-01	9.236E-01	7.801E-02	-0.298
AS-74	-1.413E-01		1.539E-01	2.365E-01	1.816E-02	-0.598
SE-75	-1.808E-03		7.408E-02	1.227E-01	9.614E-03	-0.015
BR-77	9.970E-01		2.401E+00	4.088E+00	2.887E-01	0.244
SR-82	-5.462E-01		7.061E-01	1.119E+00	9.005E-02	-0.488
RB-83	3.197E-02		1.363E-01	2.295E-01	1.620E-02	0.139
RB-84	-4.664E-03		1.636E-01	2.706E-01	2.061E-02	-0.017
KR-85	1.445E+01		1.670E+01	2.576E+01	1.804E+00	0.561
SR-85	6.845E-02		7.913E-02	1.220E-01	8.548E-03	0.561
RB-86	2.973E-01		1.611E+00	2.598E+00	1.662E-01	0.114
Y-88	-4.142E-02		5.185E-02	6.925E-02	3.900E-03	-0.598
ZR-88	1.044E-02		6.427E-02	1.042E-01	6.103E-03	0.100
Y-91	-5.921E+00		2.643E+01	4.315E+01	2.392E+00	-0.137
NB-94	8.877E-05		7.623E-02	1.232E-01	1.006E-02	0.001
NB-95	4.092E-02		8.402E-02	1.453E-01	1.173E-02	0.282
NB-95M	-3.627E-02		2.110E-01	3.077E-01	2.846E-02	-0.118
ZR-95	5.043E-02		1.591E-01	2.610E-01	2.355E-02	0.193
NB-97	1.291E-03		1.259E-04	Half-Life too short		
ZR-97	5.302E-04		1.399E-03	Half-Life too short		
MO-99	1.098E+00		3.967E+00	6.510E+00	9.705E-01	0.169
TC-99M	-1.961E+01		2.830E+01	Half-Life too short		
RH-101	1.427E-02		5.319E-02	9.057E-02	7.172E-03	0.158

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-102	-5.112E-02		7.091E-02	1.136E-01	7.559E-03	-0.450
RU-103	8.376E-02		7.593E-02	1.333E-01	1.755E-02	0.628
RH-106	8.981E-02		6.917E-01	1.140E+00	1.470E-01	0.079
RU-106	8.981E-02		6.917E-01	1.140E+00	8.980E-02	0.079
AG-108M	4.926E-03		6.917E-02	1.170E-01	7.869E-03	0.042
AG-110M	5.230E-01		1.312E-01	2.205E-01	1.853E-02	2.372
IN-111	-1.286E-01		3.131E-01	4.726E-01	3.724E-02	-0.272
IN-113M	-5.543E-02		9.453E-02	1.467E-01	9.141E-03	-0.378
SN-113	-5.543E-02		9.453E-02	1.467E-01	9.141E-03	-0.378
IN-114M	4.686E-02		3.022E-01	4.285E-01	3.386E-02	0.109
CD-115	-3.354E-01		2.141E+00	3.513E+00	2.503E-01	-0.095
SN-117M	-8.789E-03		6.135E-02	9.754E-02	8.518E-03	-0.090
SB-122	3.156E-01		6.176E-01	1.052E+00	7.810E-02	0.300
I-123	1.876E-04		3.371E-04	Half-Life too short		
TE-123M	1.221E-02		4.389E-02	7.123E-02	6.220E-03	0.171
I-124	8.717E-02		4.729E-01	7.132E-01	5.515E-02	0.122
SB-124	-8.294E-03		1.126E-01	1.790E-01	1.115E-02	-0.046
SB-125	-7.578E-02		1.941E-01	3.205E-01	2.062E-02	-0.236
TE-125M	8.626E+00		1.176E+01	1.988E+01	2.413E+00	0.434
I-126	-2.122E-01		3.098E-01	4.023E-01	3.282E-02	-0.527
SB-126	7.236E-02		2.238E-01	3.490E-01	2.844E-02	0.207
SB-127	5.953E-01		7.854E-01	1.339E+00	1.230E-01	0.445
XE-127	-1.542E-02		6.521E-02	1.091E-01	8.648E-03	-0.141
I-131	3.023E-02		1.190E-01	1.953E-01	1.374E-02	0.155
TE-132	-3.752E-02		2.386E-01	3.973E-01	5.659E-02	-0.094
BA-133	-4.270E-02		1.054E-01	1.464E-01	1.758E-02	-0.292
I-133	-2.508E-05		1.541E-05	Half-Life too short		
CS-134	7.697E-02		1.033E-01	1.809E-01	1.458E-02	0.426
CS-135	2.571E-01		2.814E-01	4.848E-01	4.478E-02	0.530
I-135	-8.062E+00		2.646E+01	Half-Life too short		
CS-136	-1.108E-01		1.947E-01	3.041E-01	2.156E-02	-0.364
CE-139	-1.457E-02		4.672E-02	7.336E-02	5.752E-03	-0.199
BA-140	-1.341E-02		3.709E-01	6.125E-01	2.009E-01	-0.022
LA-140	-5.203E-02		9.184E-02	1.333E-01	7.679E-03	-0.390
CE-141	-2.369E-02		8.053E-02	1.278E-01	1.325E-02	-0.185
CE-143	1.225E+01		6.617E+00	9.958E+00	2.093E+00	1.230
CE-144	-6.880E-02		3.121E-01	5.002E-01	8.670E-02	-0.138
PM-144	3.022E-02		7.252E-02	1.208E-01	9.868E-03	0.250
PR-144	2.040E+00		4.895E+00	8.156E+00	6.659E-01	0.250
PM-146	3.126E-02		9.765E-02	1.665E-01	1.512E-02	0.188
ND-147	-3.762E-01		7.419E-01	1.186E+00	1.678E-01	-0.317
PM-149	1.413E+01		1.617E+01	2.759E+01	4.138E+00	0.512
EU-152	1.444E-01		1.968E-01	3.220E-01	2.414E-02	0.448
GD-153	-5.467E-02		1.017E-01	1.550E-01	1.410E-02	-0.353
EU-154	2.615E-02		2.062E-01	3.475E-01	3.210E-02	0.075
EU-155	1.896E-02		1.455E-01	2.395E-01	2.458E-02	0.079
TB-160	-2.745E-01		3.513E-01	5.513E-01	4.206E-02	-0.498
HO-166M	-6.804E-02		1.319E-01	2.041E-01	1.665E-02	-0.333

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171	1.039E+01		2.228E+01	3.820E+01	3.486E+00	0.272
LU-176	5.982E-03		4.617E-02	7.571E-02	5.613E-03	0.079
LU-177	3.006E-01		8.208E-01	1.405E+00	1.114E-01	0.214
LU-177M	-4.132E-01		3.848E-01	5.747E-01	3.486E-02	-0.719
HF-181	-2.697E-02		8.727E-02	1.433E-01	9.629E-03	-0.188
W-181	-8.509E-01		2.911E-01	4.268E-01	3.936E-02	-1.994
TA-182	-3.054E-02		2.587E-01	4.260E-01	2.371E-02	-0.072
RE-183	-6.106E-02		1.663E-01	2.591E-01	2.145E-02	-0.236
RE-184	-1.676E-01		4.170E-01	6.807E-01	5.344E-02	-0.246
OS-185	2.693E-02		8.869E-02	1.475E-01	1.187E-02	0.183
RE-188	-9.002E-02		2.497E-01	3.930E-01	3.596E-02	-0.229
W-188	-6.726E+00		1.413E+01	1.968E+01	1.494E+00	-0.342
IR-192	3.261E-03		5.852E-02	9.603E-02	7.024E-03	0.034
AU-195	5.322E-02		2.865E-01	4.742E-01	4.406E-02	0.112
TL-200	-3.850E+00		8.116E+00	1.275E+01	8.160E-01	-0.302
TL-201	3.486E-01		2.007E+00	3.230E+00	2.531E-01	0.108
TL-202	-1.771E-02		1.011E-01	1.686E-01	1.066E-02	-0.105
HG-203	-8.094E-03		6.322E-02	1.037E-01	8.259E-03	-0.078
BI-207	-1.026E-01		1.479E-01	1.886E-01	1.227E-02	-0.544
TL-207	-3.495E-01		1.279E+00	2.055E+00	3.504E-01	-0.170
PO-209	-1.204E+01		2.023E+01	3.213E+01	2.419E+00	-0.375
BI-210	-1.327E-01		1.154E+00	1.818E+00	1.482E-01	-0.073
PB-210	-1.327E-01		1.154E+00	1.818E+00	1.482E-01	-0.073
PO-210	-1.327E-01		1.154E+00	1.818E+00	1.296E-01	-0.073
PB-211	9.355E-02		2.041E+00	3.279E+00	2.044E+00	0.029
BI-212	8.399E-01	+	1.127E+00	1.168E+00	1.121E-01	0.719
PO-215	-3.495E-01		1.279E+00	2.055E+00	3.504E-01	-0.170
RN-219	-3.644E-01		9.140E-01	1.422E+00	1.944E-01	-0.256
RN-220	-2.522E+01		5.548E+01	8.884E+01	6.494E+00	-0.284
RA-223	-3.495E-01		1.279E+00	2.055E+00	3.504E-01	-0.170
RA-224	4.378E+00		1.432E+00	2.379E+00	1.878E-01	1.840
AC-227	-1.463E-02		6.865E-01	1.140E+00	1.701E-01	-0.013
TH-227	-1.463E-02		6.865E-01	1.140E+00	2.018E-01	-0.013
AC-228	9.065E-01		4.328E-01	7.737E-01	8.034E-02	1.172
RA-228	9.065E-01		4.328E-01	7.737E-01	8.034E-02	1.172
TH-229	1.413E-01		7.930E-01	1.355E+00	1.072E-01	0.104
PA-231	1.078E+00		2.834E+00	4.757E+00	6.972E-01	0.227
TH-231	-3.495E-01		1.279E+00	2.055E+00	3.504E-01	-0.170
U-231	-1.312E-02		4.077E-01	6.035E-01	5.367E-02	-0.022
TH-232	9.065E-01		4.328E-01	7.737E-01	8.034E-02	1.172
PA-233	-4.668E-02		1.186E-01	1.898E-01	1.449E-02	-0.246
PA-234	4.562E-01		9.364E-01	1.578E+00	2.871E-01	0.289
PA-234M	-1.464E+01		1.246E+01	1.860E+01	1.595E+00	-0.787
TH-234	-4.177E-01		1.097E+00	1.794E+00	3.292E-01	-0.233
U-235	-1.277E-01		3.219E-01	5.093E-01	9.403E-02	-0.251
NP-236	-4.932E-02		1.314E-01	2.062E-01	1.757E-02	-0.239
U-238	-4.177E-01		1.097E+00	1.794E+00	3.292E-01	-0.233
NP-239	-7.257E-02		3.155E-01	4.542E-01	5.390E-02	-0.160

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	6.422E-02		1.315E-01	2.212E-01	2.203E-02	0.290
AM-246	2.606E-01		3.641E-01	6.224E-01	3.970E-02	0.419
CM-247	-8.597E-03		8.036E-02	1.280E-01	7.624E-03	-0.067
CF-249	-1.361E-02		8.788E-02	1.401E-01	8.320E-03	-0.097
CF-251	-4.929E-02		2.050E-01	3.215E-01	2.529E-02	-0.153

VAX/VMS Nuclide Identification Report Generated

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*****************************************************************************
*                          GEL Laboratories LLC                             *
*                              2040 Savage Road                             *
*                            Charleston, SC 29414                           *
*****************************************************************************
*                                                                           *
*                              DETECTOR DATA                                *
*                                                                           *
* Configuration     : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202012146          *
* Acquisition date  : 20-JAN-2010 14:47:02 Detector SN#     :               *
* Detector ID       : GAM13                Sensitivity      : 5.000         *
* Geometry          : CAN                  Energy tolerance: 1.500          *
* Elapsed live time:    0 01:00:00.00      Abundance limit : 75.000         *
* Elapsed real time:    0 01:00:01.63      Half life ratio : 8.000          *
*****************************************************************************
*                                                                           *
*                              SAMPLE DATA                                  *
*                                                                           *
* Sample date       : 13-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202012146          Analyst initials: MXR1           *
* Batch Number      : 940263               Sample Quantity : 1.5544E+02 GRAM *
* Recovery          :    1.00000           Carrier Weight :    0.00000      *
*****************************************************************************
*                                                                           *
*                                QC DATA                                    *
*                                                                           *
* CALIB. DATE/TIME :  2-FEB-2009 10:41:22 MS Isotope      :                 *
* MSD DPM          :    0.000             MSD Isotope     :                 *
* LCS DPM          :    0.000             LCS Isotope     :                 *
* LCSD DPM         :    0.000             LCSD Isotope    :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
CO-57	1.997E-01	8.160E-02	3.320E-02	4.163E-02
CO-60	6.019E+00	4.695E-01	5.118E-02	2.395E-01
CD-109	3.485E+01	3.512E+00	9.164E-01	1.792E+00
SN-126	3.464E+00	3.491E-01	9.098E-02	1.781E-01
BA-137M	5.126E+00	4.972E-01	6.230E-02	2.537E-01
CS-137	5.418E+00	5.263E-01	6.586E-02	2.685E-01
TL-208	3.553E-01	1.645E-01	5.998E-02	8.391E-02
BI-211	1.596E+00	7.275E-01	3.479E-01	3.712E-01
PB-212	9.607E-01	2.533E-01	8.371E-02	1.292E-01
PO-212	9.607E-01	2.533E-01	8.371E-02	1.292E-01
BI-214	5.079E-01	2.324E-01	1.302E-01	1.186E-01
PB-214	5.552E-01	2.547E-01	1.213E-01	1.299E-01
PO-214	5.552E-01	2.547E-01	1.213E-01	1.299E-01
PO-216	9.607E-01	2.533E-01	8.371E-02	1.292E-01
PO-218	5.552E-01	2.547E-01	1.213E-01	1.299E-01
RA-226	5.079E-01	2.324E-01	1.302E-01	1.186E-01
TH-228	9.681E-01	2.552E-01	8.435E-02	1.302E-01
TH-230	5.079E-01	2.324E-01	1.302E-01	1.186E-01
U-234	5.079E-01	2.324E-01	1.302E-01	1.186E-01
NP-237	1.017E+01	2.298E+00	2.870E-01	1.173E+00
AM-241	1.296E+01	1.344E+00	1.185E-01	6.859E-01
AM-243	2.208E-01	6.900E-02	4.934E-02	3.520E-02
ANH-511	4.771E-02	1.211E-01	5.654E-02	6.181E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	3.665E-01	6.833E-01	6.220E-01	3.486E-01	NOT IDENT.
NA-22	1.008E-02	7.215E-02	6.291E-02	3.681E-02	NOT IDENT.
NA-24	2.814E+02	2.695E+02	0.000E+00	1.375E+02	SHORT HLIF
AL-26	1.844E-02	4.850E-02	4.436E-02	2.475E-02	NOT IDENT.

K-40	9.101E-01	6.653E-01	6.539E-01	3.394E-01	NOT IDENT.
TI-44	2.163E-01	5.978E-02	3.698E-02	3.050E-02	FAIL ABUN
SC-46	4.081E-02	1.030E-01	9.106E-02	5.255E-02	NOT IDENT.
V-48	-5.015E-02	1.328E-01	1.104E-01	6.776E-02	NOT IDENT.
CR-51	3.453E-01	5.617E-01	5.084E-01	2.866E-01	NOT IDENT.
MN-52	-9.571E-02	1.461E-01	1.103E-01	7.452E-02	NOT IDENT.
MN-54	-4.669E-03	8.644E-02	7.502E-02	4.410E-02	NOT IDENT.
CO-56	-9.813E-03	1.007E-01	8.704E-02	5.137E-02	NOT IDENT.
CO-58	-4.085E-02	9.051E-02	7.680E-02	4.618E-02	NOT IDENT.
FE-59	1.122E-01	2.124E-01	1.852E-01	1.083E-01	NOT IDENT.
ZN-65	-2.817E-01	2.331E-01	1.792E-01	1.189E-01	NOT IDENT.
GE-68	2.279E+00	3.120E+00	2.767E+00	1.592E+00	NOT IDENT.
AS-73	-2.748E-01	5.378E-01	5.077E-01	2.744E-01	NOT IDENT.
AS-74	-1.413E-01	1.508E-01	1.223E-01	7.696E-02	NOT IDENT.
SE-75	-1.808E-03	7.259E-02	6.485E-02	3.704E-02	FAIL ABUN
BR-77	9.970E-01	2.353E+00	2.122E+00	1.200E+00	FAIL ABUN
SR-82	-5.462E-01	6.919E-01	5.745E-01	3.530E-01	NOT IDENT.
RB-83	3.197E-02	1.335E-01	1.191E-01	6.814E-02	NOT IDENT.
RB-84	-4.664E-03	1.603E-01	1.385E-01	8.179E-02	NOT IDENT.
KR-85	1.445E+01	1.637E+01	1.338E+01	8.352E+00	NOT IDENT.
SR-85	6.845E-02	7.755E-02	6.337E-02	3.957E-02	NOT IDENT.
RB-86	2.973E-01	1.579E+00	1.322E+00	8.057E-01	NOT IDENT.
Y-88	-4.142E-02	5.081E-02	3.472E-02	2.592E-02	NOT IDENT.
ZR-88	1.044E-02	6.298E-02	5.449E-02	3.213E-02	NOT IDENT.
Y-91	-5.921E+00	2.590E+01	2.189E+01	1.322E+01	NOT IDENT.
NB-94	8.877E-05	7.470E-02	6.343E-02	3.811E-02	NOT IDENT.
NB-95	4.092E-02	8.234E-02	7.462E-02	4.201E-02	NOT IDENT.
NB-95M	-3.627E-02	2.068E-01	1.631E-01	1.055E-01	NOT IDENT.
ZR-95	5.043E-02	1.559E-01	1.341E-01	7.954E-02	NOT IDENT.
NB-97	1.291E+03	2.468E+02	0.000E+00	1.259E+02	SHORT HLIF
ZR-97	5.302E+02	2.742E+03	0.000E+00	1.399E+03	SHORT HLIF
MO-99	1.098E+00	3.887E+00	3.347E+00	1.983E+00	NOT IDENT.
TC-99M	-1.961E+07	5.547E+07	0.000E+00	2.830E+07	SHORT HLIF
RH-101	1.427E-02	5.212E-02	4.821E-02	2.659E-02	NOT IDENT.
RH-102	-5.112E-02	6.950E-02	5.911E-02	3.546E-02	NOT IDENT.
RU-103	8.376E-02	7.441E-02	6.929E-02	3.797E-02	FAIL ABUN
RH-106	8.981E-02	6.779E-01	5.891E-01	3.459E-01	FAIL ABUN
RU-106	8.981E-02	6.778E-01	5.891E-01	3.458E-01	FAIL ABUN
AG-108M	4.926E-03	6.779E-02	6.101E-02	3.458E-02	NOT IDENT.
AG-110M	5.230E-01	1.285E-01	1.137E-01	6.559E-02	NOT IDENT.
IN-111	-1.286E-01	3.068E-01	2.502E-01	1.565E-01	NOT IDENT.
IN-113M	-5.543E-02	9.264E-02	7.673E-02	4.727E-02	NOT IDENT.
SN-113	-5.543E-02	9.264E-02	7.673E-02	4.727E-02	NOT IDENT.
IN-114M	4.686E-02	2.962E-01	2.283E-01	1.511E-01	NOT IDENT.
CD-115	-3.354E-01	2.098E+00	1.823E+00	1.071E+00	NOT IDENT.
SN-117M	-8.789E-03	6.012E-02	5.222E-02	3.067E-02	NOT IDENT.
SB-122	3.156E-01	6.053E-01	5.447E-01	3.088E-01	NOT IDENT.
I-123	1.876E+02	6.608E+02	0.000E+00	3.371E+02	SHORT HLIF
TE-123M	1.221E-02	4.301E-02	3.813E-02	2.194E-02	NOT IDENT.
I-124	8.717E-02	4.634E-01	3.688E-01	2.364E-01	NOT IDENT.
SB-124	-8.294E-03	1.103E-01	8.994E-02	5.628E-02	FAIL ABUN
SB-125	-7.578E-02	1.902E-01	1.672E-01	9.703E-02	NOT IDENT.
TE-125M	8.626E+00	1.153E+01	1.074E+01	5.880E+00	NOT IDENT.
I-126	-2.122E-01	3.037E-01	2.074E-01	1.549E-01	NOT IDENT.
SB-126	7.236E-02	2.193E-01	1.796E-01	1.119E-01	NOT IDENT.
SB-127	5.953E-01	7.697E-01	6.897E-01	3.927E-01	NOT IDENT.
XE-127	-1.542E-02	6.391E-02	5.805E-02	3.261E-02	NOT IDENT.
I-131	3.023E-02	1.166E-01	1.023E-01	5.949E-02	NOT IDENT.
TE-132	-3.752E-02	2.339E-01	2.107E-01	1.193E-01	NOT IDENT.
BA-133	-4.270E-02	1.033E-01	7.678E-02	5.271E-02	NOT IDENT.
I-133	-2.508E+01	3.020E+01	0.000E+00	1.541E+01	SHORT HLIF
CS-134	7.697E-02	1.013E-01	9.281E-02	5.166E-02	NOT IDENT.
CS-135	2.571E-01	2.758E-01	2.560E-01	1.407E-01	NOT IDENT.
I-135	-8.062E+06	5.187E+07	0.000E+00	2.646E+07	SHORT HLIF
CS-136	-1.108E-01	1.909E-01	1.549E-01	9.737E-02	NOT IDENT.
CE-139	-1.457E-02	4.579E-02	3.923E-02	2.336E-02	NOT IDENT.
BA-140	-1.341E-02	3.635E-01	3.177E-01	1.855E-01	NOT IDENT.
LA-140	-5.203E-02	9.000E-02	6.706E-02	4.592E-02	NOT IDENT.
CE-141	-2.369E-02	7.892E-02	6.854E-02	4.026E-02	NOT IDENT.
CE-143	1.225E+01	6.484E+00	5.248E+00	3.308E+00	FAIL ABUN
CE-144	-6.880E-02	3.059E-01	2.689E-01	1.561E-01	NOT IDENT.
PM-144	3.022E-02	7.107E-02	6.224E-02	3.626E-02	NOT IDENT.
PR-144	2.040E+00	4.797E+00	4.201E+00	2.447E+00	NOT IDENT.
PM-146	3.126E-02	9.570E-02	8.676E-02	4.882E-02	NOT IDENT.
ND-147	-3.762E-01	7.270E-01	6.151E-01	3.709E-01	NOT IDENT.
PM-149	1.413E+01	1.584E+01	1.455E+01	8.083E+00	NOT IDENT.
EU-152	1.444E-01	1.929E-01	1.690E-01	9.841E-02	FAIL ABUN
GD-153	-5.467E-02	9.967E-02	8.398E-02	5.085E-02	NOT IDENT.

EU-154	2.615E-02	2.021E-01	1.760E-01	1.031E-01	FAIL ABUN
EU-155	1.896E-02	1.426E-01	1.295E-01	7.273E-02	FAIL ABUN
TB-160	-2.745E-01	3.443E-01	2.822E-01	1.756E-01	FAIL ABUN
HO-166M	-6.804E-02	1.293E-01	1.051E-01	6.596E-02	FAIL ABUN
TM-171	1.039E+01	2.183E+01	2.089E+01	1.114E+01	FAIL ABUN
LU-176	5.982E-03	4.524E-02	3.985E-02	2.308E-02	FAIL ABUN
LU-177	3.006E-01	8.044E-01	7.471E-01	4.104E-01	NOT IDENT.
LU-177M	-4.132E-01	3.771E-01	3.001E-01	1.924E-01	FAIL ABUN
HF-181	-2.697E-02	8.552E-02	7.455E-02	4.363E-02	NOT IDENT.
W-181	-8.509E-01	2.853E-01	2.335E-01	1.456E-01	NOT IDENT.
TA-182	-3.054E-02	2.535E-01	2.160E-01	1.293E-01	NOT IDENT.
RE-183	-6.106E-02	1.630E-01	1.386E-01	8.317E-02	FAIL ABUN
RE-184	-1.676E-01	4.087E-01	3.601E-01	2.085E-01	FAIL ABUN
OS-185	2.693E-02	8.692E-02	7.614E-02	4.435E-02	FAIL ABUN
RE-188	-9.002E-02	2.447E-01	2.105E-01	1.249E-01	NOT IDENT.
W-188	-6.726E+00	1.384E+01	1.038E+01	7.063E+00	NOT IDENT.
IR-192	3.261E-03	5.735E-02	5.051E-02	2.926E-02	FAIL ABUN
AU-195	5.322E-02	2.808E-01	2.568E-01	1.433E-01	FAIL ABUN
TL-200	-3.850E+00	7.954E+00	6.681E+00	4.058E+00	NOT IDENT.
TL-201	3.486E-01	1.967E+00	1.727E+00	1.004E+00	NOT IDENT.
TL-202	-1.771E-02	9.908E-02	8.793E-02	5.055E-02	NOT IDENT.
HG-203	-8.094E-03	6.195E-02	5.474E-02	3.161E-02	NOT IDENT.
BI-207	-1.026E-01	1.449E-01	9.601E-02	7.394E-02	FAIL ABUN
TL-207	-3.495E-01	1.253E+00	1.080E+00	6.394E-01	FAIL ABUN
PO-209	-1.204E+01	1.982E+01	1.643E+01	1.011E+01	NOT IDENT.
BI-210	-1.327E-01	1.131E+00	1.003E+00	5.772E-01	NOT IDENT.
PB-210	-1.327E-01	1.131E+00	1.003E+00	5.772E-01	NOT IDENT.
PO-210	-1.327E-01	1.131E+00	1.003E+00	5.772E-01	NOT IDENT.
PB-211	9.355E-02	2.001E+00	1.713E+00	1.021E+00	NOT IDENT.
BI-212	8.399E-01	1.104E+00	6.007E-01	5.633E-01	FAIL ABUN
PO-215	-3.495E-01	1.253E+00	1.080E+00	6.394E-01	FAIL ABUN
RN-219	-3.644E-01	8.957E-01	7.434E-01	4.570E-01	NOT IDENT.
RN-220	-2.522E+01	5.437E+01	4.605E+01	2.774E+01	NOT IDENT.
RA-223	-3.495E-01	1.253E+00	1.080E+00	6.394E-01	FAIL ABUN
RA-224	4.378E+00	1.403E+00	1.260E+00	7.160E-01	NOT IDENT.
AC-227	-1.463E-02	6.727E-01	6.030E-01	3.432E-01	NOT IDENT.
TH-227	-1.463E-02	6.727E-01	6.030E-01	3.432E-01	FAIL ABUN
AC-228	9.065E-01	4.242E-01	3.956E-01	2.164E-01	FAIL ABUN
RA-228	9.065E-01	4.242E-01	3.956E-01	2.164E-01	FAIL ABUN
TH-229	1.413E-01	7.772E-01	7.219E-01	3.965E-01	FAIL ABUN
PA-231	1.078E+00	2.777E+00	2.509E+00	1.417E+00	NOT IDENT.
TH-231	-3.495E-01	1.253E+00	1.080E+00	6.394E-01	FAIL ABUN
U-231	-1.312E-02	3.995E-01	3.271E-01	2.038E-01	FAIL ABUN
TH-232	9.065E-01	4.242E-01	3.956E-01	2.164E-01	FAIL ABUN
PA-233	-4.668E-02	1.162E-01	9.986E-02	5.928E-02	FAIL ABUN
PA-234	4.562E-01	9.177E-01	8.061E-01	4.682E-01	FAIL ABUN
PA-234M	-1.464E+01	1.221E+01	9.487E+00	6.229E+00	NOT IDENT.
TH-234	-4.177E-01	1.075E+00	9.824E-01	5.483E-01	FAIL ABUN
U-235	-1.277E-01	3.155E-01	2.733E-01	1.610E-01	FAIL ABUN
NP-236	-4.932E-02	1.287E-01	1.103E-01	6.568E-02	NOT IDENT.
U-238	-4.177E-01	1.075E+00	9.824E-01	5.483E-01	FAIL ABUN
NP-239	-7.257E-02	3.092E-01	2.450E-01	1.578E-01	NOT IDENT.
CM-243	6.422E-02	1.289E-01	1.197E-01	6.577E-02	NOT IDENT.
AM-246	2.606E-01	3.568E-01	3.167E-01	1.821E-01	NOT IDENT.
CM-247	-8.597E-03	7.875E-02	6.691E-02	4.018E-02	NOT IDENT.
CF-249	-1.361E-02	8.612E-02	7.329E-02	4.394E-02	NOT IDENT.
CF-251	-4.929E-02	2.009E-01	1.716E-01	1.025E-01	NOT IDENT.

```
*****************************************************************************
*                         GEL Laboratories LLC                              *
*                            2040 SAVAGE ROAD                               *
*                         CHARLESTON ,SC 29417                              *
*                   GAMMA SPECTROSCOPY BACKGROUND REPORT                    *
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ENERGY	MDA COUNTS
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54.07	874.5707
56.28	836.5213
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57.53	878.0515
57.53	878.0593
57.60	878.2788
57.98	646.9665
57.98	646.9665
59.32	650.1390
59.32	650.1390
59.40	650.3271
59.54	650.6558
59.72	651.0794
60.01	651.7595
61.10	526.8540
61.14	526.9290
61.30	527.2272
63.00	312.1416
63.29	361.4414
63.29	361.4414
63.58	385.6590
64.28	387.0293
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66.91	363.6664
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67.20	372.0658
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67.85	397.0660
68.90	388.5381
68.90	388.5381
69.30	380.0357
69.67	397.6252
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70.82	415.3804
70.83	415.3944
72.80	398.8601
72.87	398.9470
72.87	398.9470
74.67	382.8563
74.81	383.0200
74.81	383.0200
74.81	383.0200
74.81	383.0200
74.81	383.0200
74.81	383.0200
74.81	383.0200
74.97	383.2092
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77.11	385.6988

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77.11	385.6988
77.11	385.6988
77.11	385.6988
77.11	385.6988
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79.80	362.7368
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80.30	385.6192
80.30	385.6192
80.57	430.6671
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81.07	445.2939
81.07	445.2939
81.07	445.2939
81.07	445.2939
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83.37	396.0738
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83.78	351.3797
83.78	351.3797
83.78	351.3797
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85.43	473.5098
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86.50	462.1168
86.54	462.1664
86.59	462.2309
86.72	462.3945
86.79	398.4454
86.94	398.6121
87.30	399.0051
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87.57	399.2999
87.88	399.6375
88.03	399.7998
88.36	400.1587
88.47	400.2783
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92.38	262.9052
92.38	262.9052
93.35	263.5717
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94.67	223.7859
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94.90	223.9175
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94.90	223.9175
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96.73	261.4887
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98.44	232.7826
98.44	232.7826
98.88	235.9767
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99.55	225.5815
99.86	230.6624
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100.10	228.8367
103.18	240.4576
103.76	230.8846
105.00	226.6026
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108.00	241.2231
109.28	218.8515

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111.00	235.8448
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112.95	240.9404
115.19	226.8904
116.30	232.5482
117.00	243.6325
117.00	243.6325
117.66	256.2615
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121.62	237.3115
121.78	237.3922
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122.32	237.6648
122.32	237.6648
122.32	237.6648
122.32	237.6648
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144.24	215.8895
144.24	215.8895
145.22	232.5055
145.44	227.1924
147.16	226.8312
152.43	220.2506
152.70	217.0681
153.22	228.2427
154.21	237.4387
154.21	237.4387
154.21	237.4387
154.21	237.4387
155.03	234.4833
156.02	221.6594
158.56	240.3724
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159.00	222.8188
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162.64	238.7211
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163.89	235.8747
165.85	234.4128
167.43	211.4178
171.28	226.3489
171.86	210.7050
172.10	203.9868
176.55	216.8734
176.60	218.0323
181.06	225.9018
184.41	228.8167
185.71	218.8542
186.00	218.9523
190.27	213.3846
192.34	200.8904
193.63	216.2203
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200.40	229.9190
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202.84	235.1834
205.31	246.7432

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209.75	253.6886
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228.18	237.0258
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236.00	229.5525
236.00	229.5525
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238.63	218.7269
238.63	218.7269
238.63	218.7269
239.00	218.8287
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241.98	246.3063
241.98	246.3063
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247.94	203.3045
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249.79	202.8144
252.40	207.2590
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252.85	226.3971
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256.20	206.2944
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269.46	177.5018
269.46	177.5018
269.46	177.5018
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293.70	176.9361
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295.21	188.5963

295.21	188.5963
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300.09	168.5050
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338.28	161.4993
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351.92	179.4006
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391.69	190.1585
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445.03	167.8596
445.03	167.8596
445.03	167.8596
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511.85	151.1743
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513.99	124.5624
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563.90	101.9162
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569.50	108.2283
569.67	108.2389
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579.30	113.2061
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591.81	101.7579
592.07	101.7727
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602.71	127.3348
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609.31	127.0996
609.31	127.0996
609.31	127.0996
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621.84	105.4870
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756.87	96.7227
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766.84	105.8378
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778.57	94.3944
778.89	91.6322
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792.07	98.7172

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911.07	122.6018
911.07	122.6018
911.07	122.6018
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925.00	128.2306
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966.15	123.7525
968.20	140.4785
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969.11	142.8241
969.11	142.8241
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1120.29	76.3623
1120.29	76.3623
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1147.95	0.0000
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1175.09	49.9978
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1189.05	43.7150
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1230.97	37.7065
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1836.01 13.5258

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202012146

Total Uranium Activity	-1.3016E+00	ug/g
Total Uranium Counting Unc.	3.2006E+00	ug/g
Total Uranium Tpu	1.6330E-06	ug/g
Total Uranium Mda	2.9255E+00	ug/g

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*****************************************************************************
*                                                                           *
*                          GEL Laboratories LLC                           *
*                               2040 SAVAGE ROAD                            *
*                             CHARLESTON ,SC 29417                          *
*                              GROSS GAMMA REPORT                           *
*                                                                           *
*                                                                           *
*****************************************************************************
*                                                                           *
*   BATCH ID      : 940263                    SAMPLE ID  : G1202012146      *
*   ANALYST       : MXR1                      DETECTOR   : GAM13            *
*   SAMPLE DATE   : 13-JAN-2010 00:00:00.00   COUNT TIME :    0 01:00:00.00 *
*   ANALYSIS DATE: 20-JAN-2010 14:47:02.42    SAMPLE ALQT:  155.440 GRAM    *
*                                                                           *
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        GROSS GAMMA ACTIVITY (pCi/GRAM  ) : 2.554E+01
        GROSS GAMMA ERROR   (pCi/GRAM  )  : 2.847E+00
        GROSS GAMMA MDA     (pCi/GRAM  )  : 5.420E+00
        GROSS GAMMA DLC     (pCi/GRAM  )  : 2.655E+00
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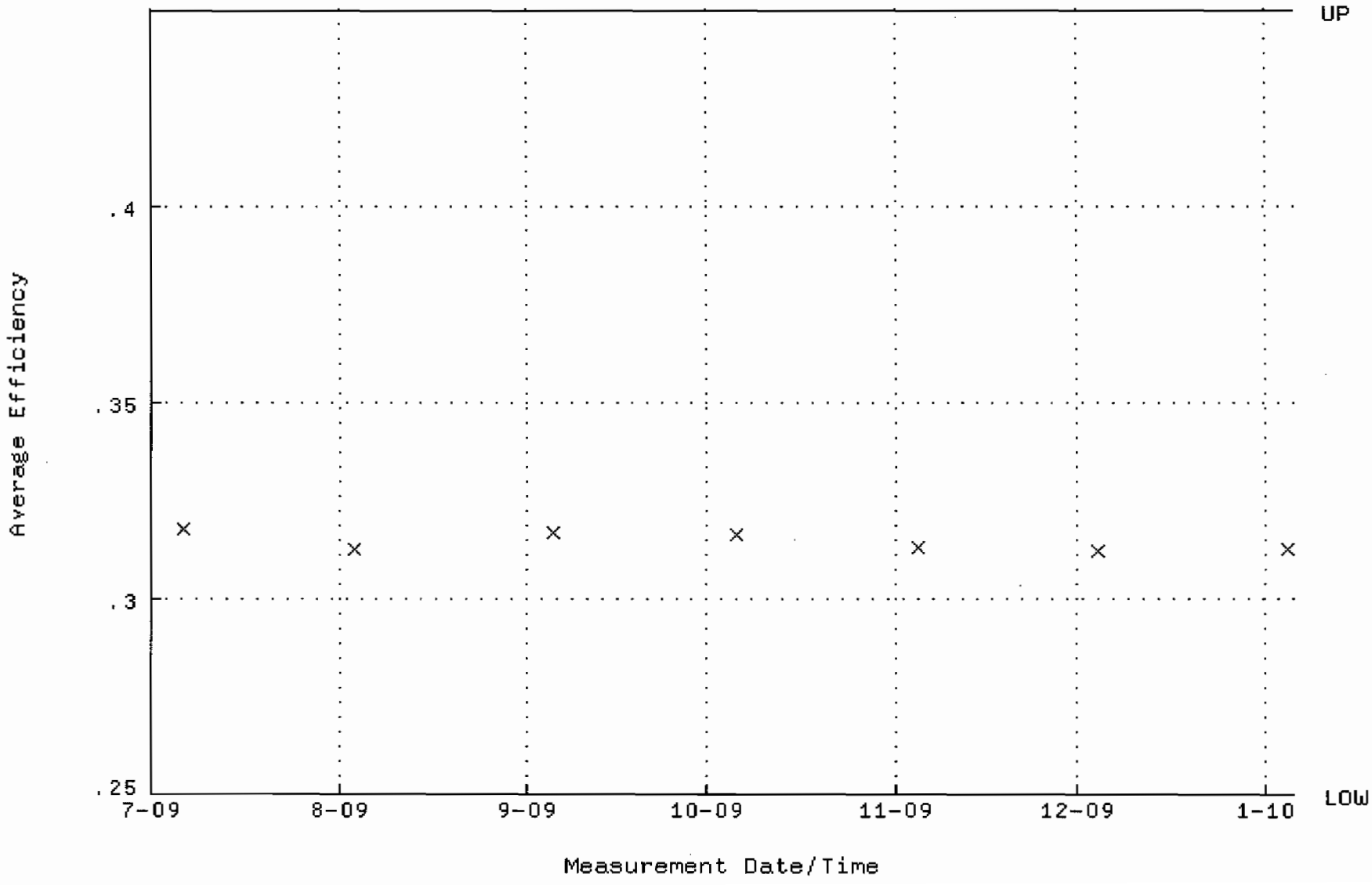
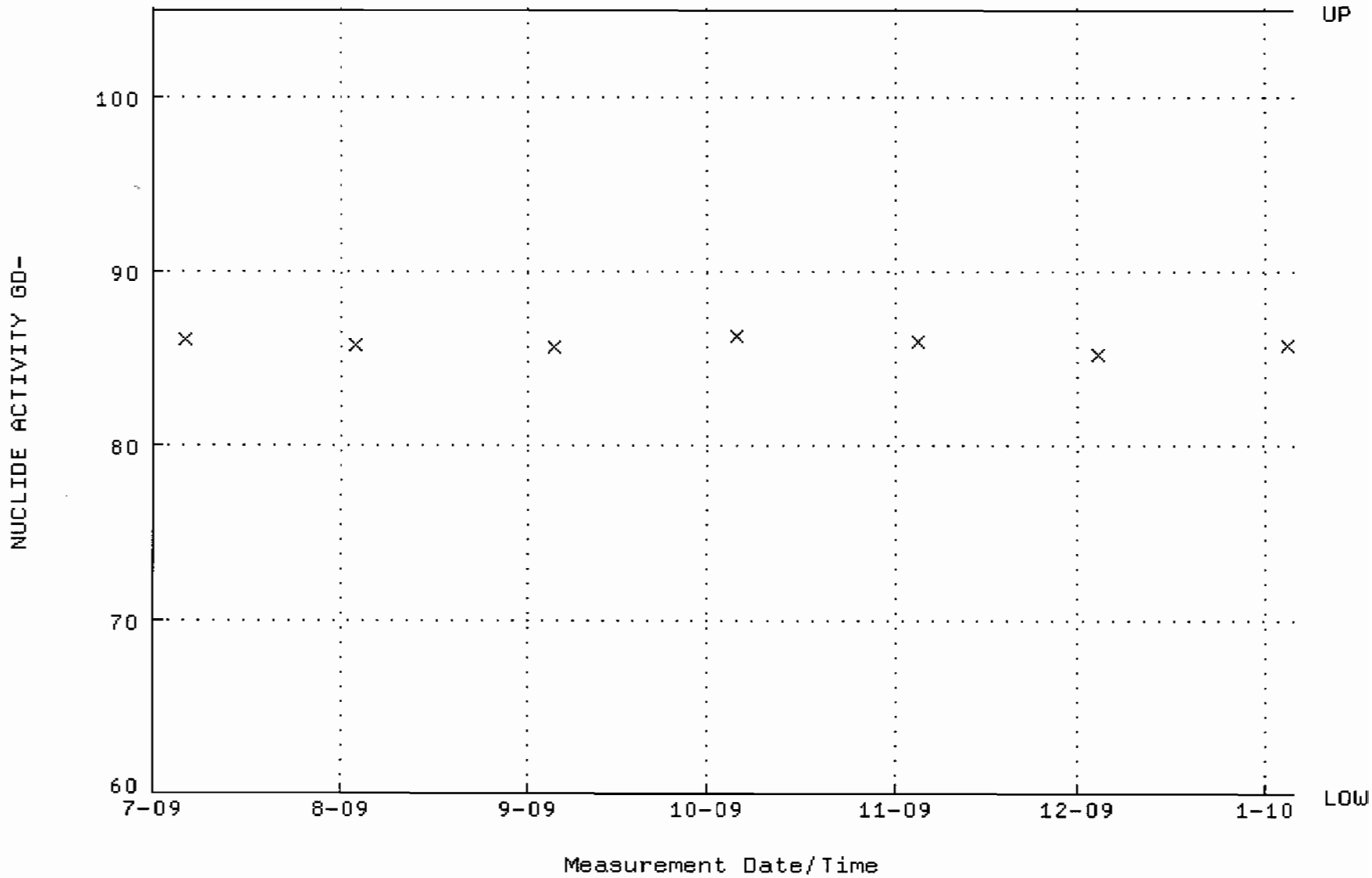
BACKGROUND AND EFFICIENCY DATA

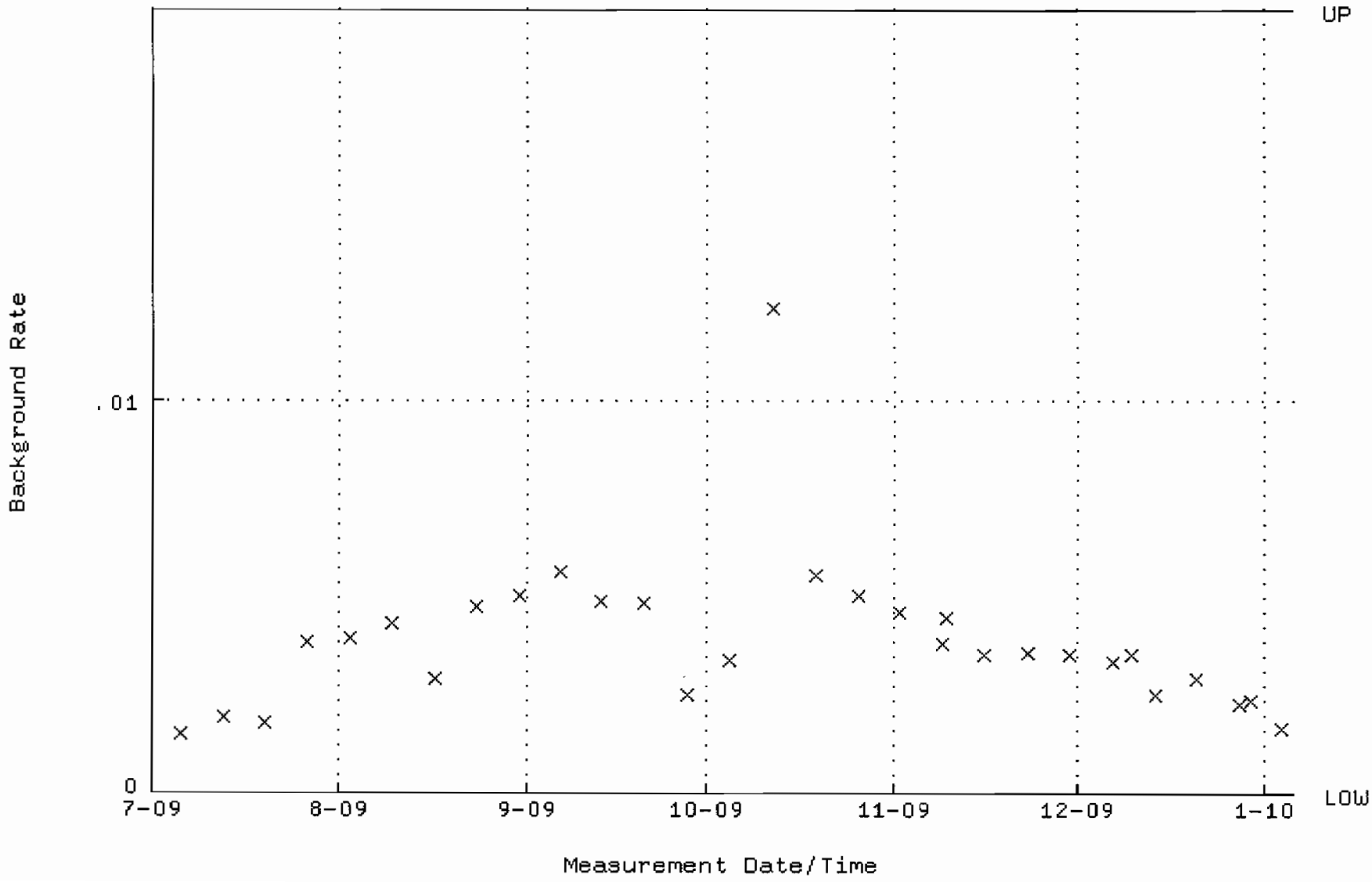
QA filename : DKA100:[ENV_ALPHA.QA.W]W048.QAF;6
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.250000 through 0.450000



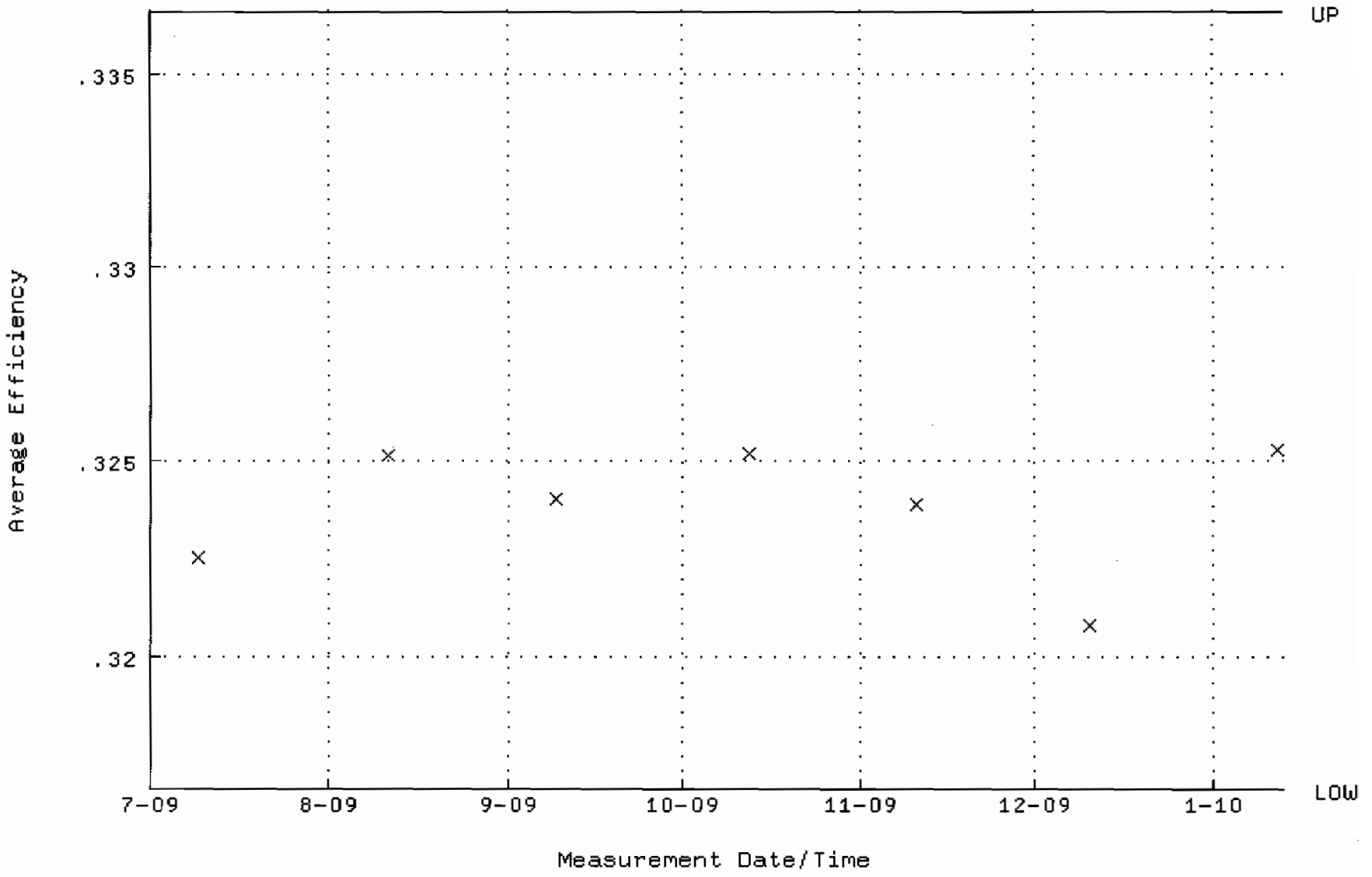
QA filename : DKA100:[ENV_ALPHA.QA.W]W048.QAF;6
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 60.0000 through 105.000



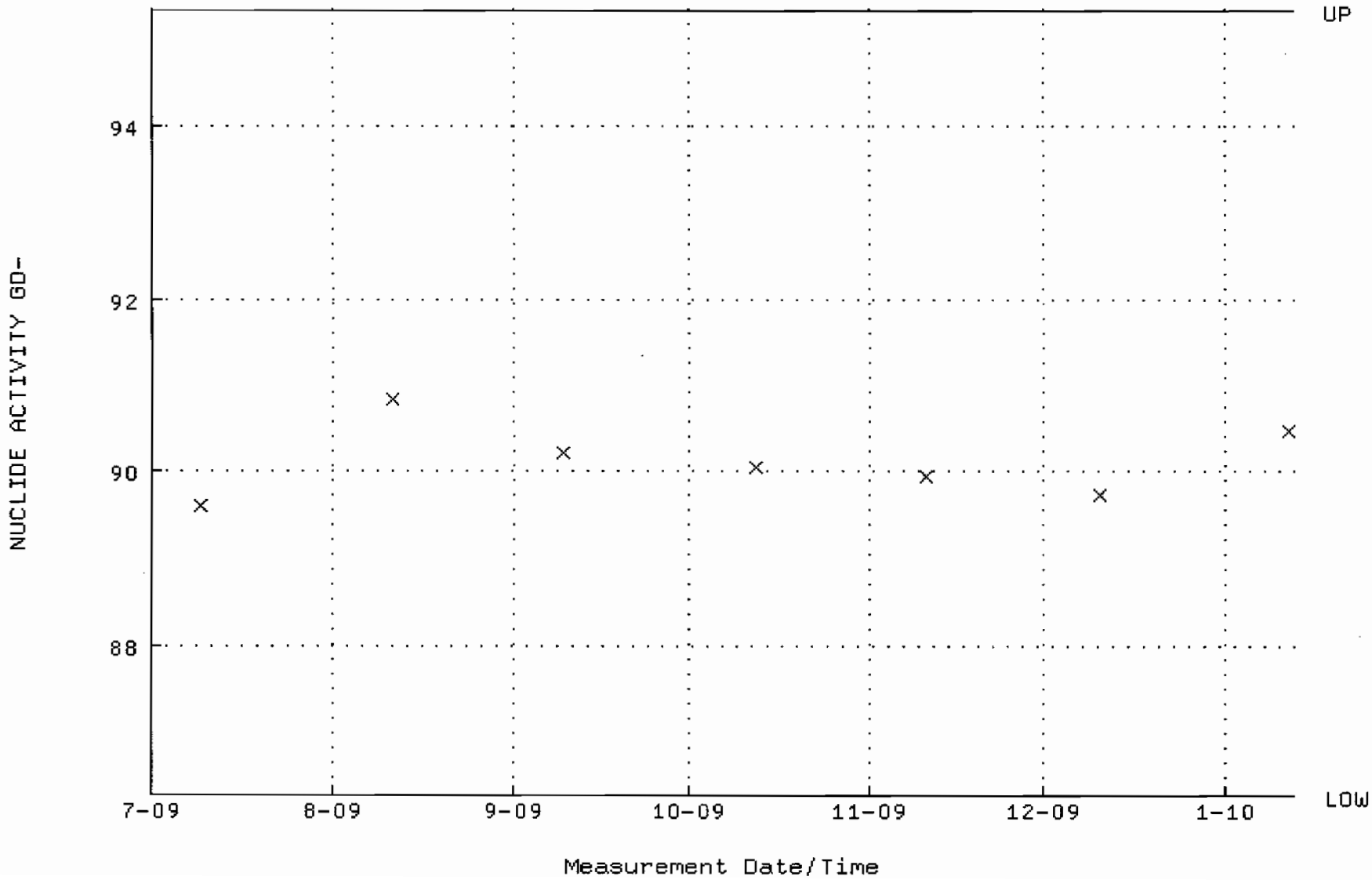
QA filename : DKA100:[ENV_ALPHA.QA.B]B048.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



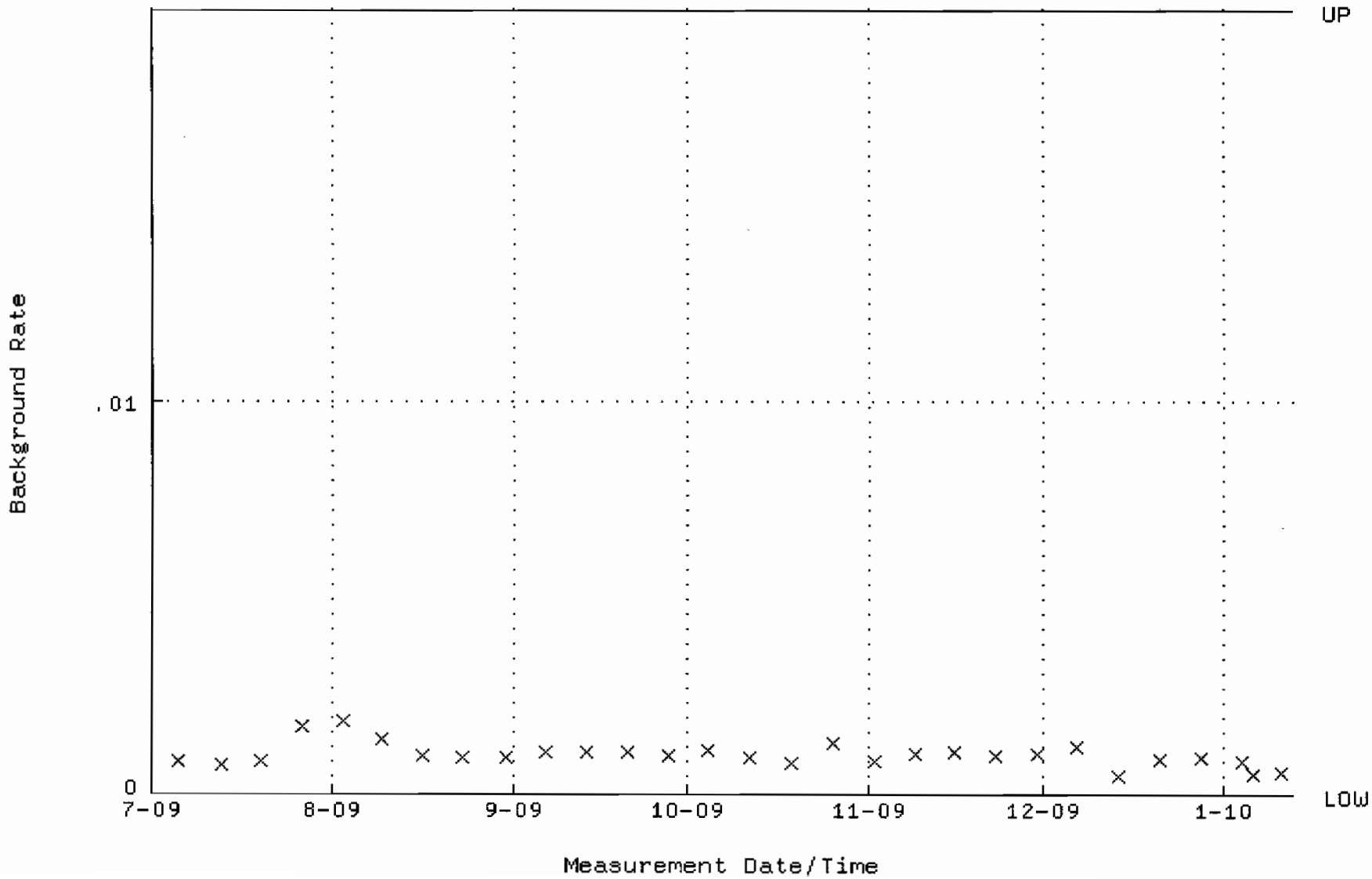
QA filename : DKA100:[ENV_ALPHA.QA.W]W067.QAF;2
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.316597 through 0.336597



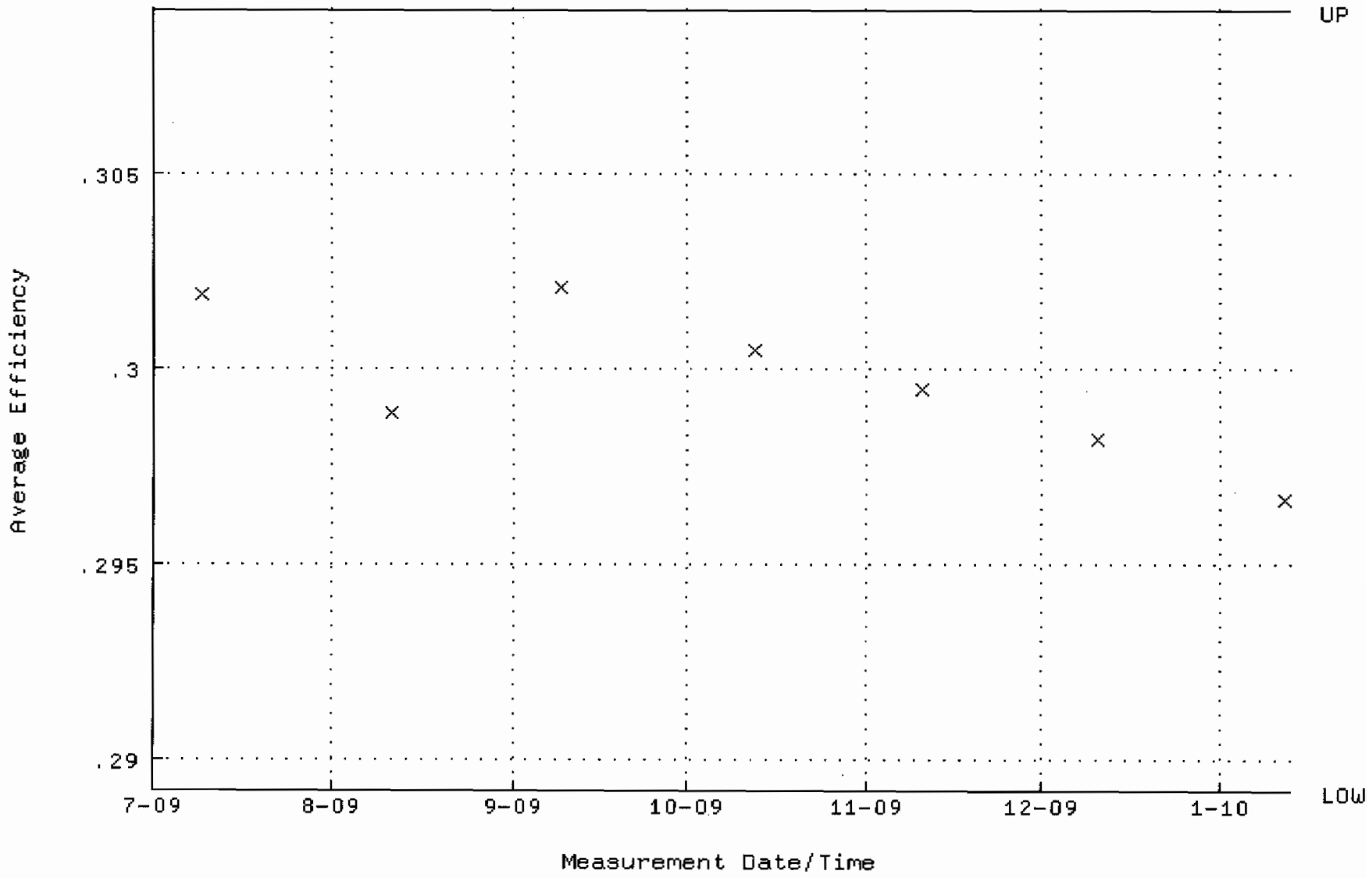
QA filename : DKA100:[ENV_ALPHA.QA.W]W067.QAF;2
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 86.2683 through 95.3491



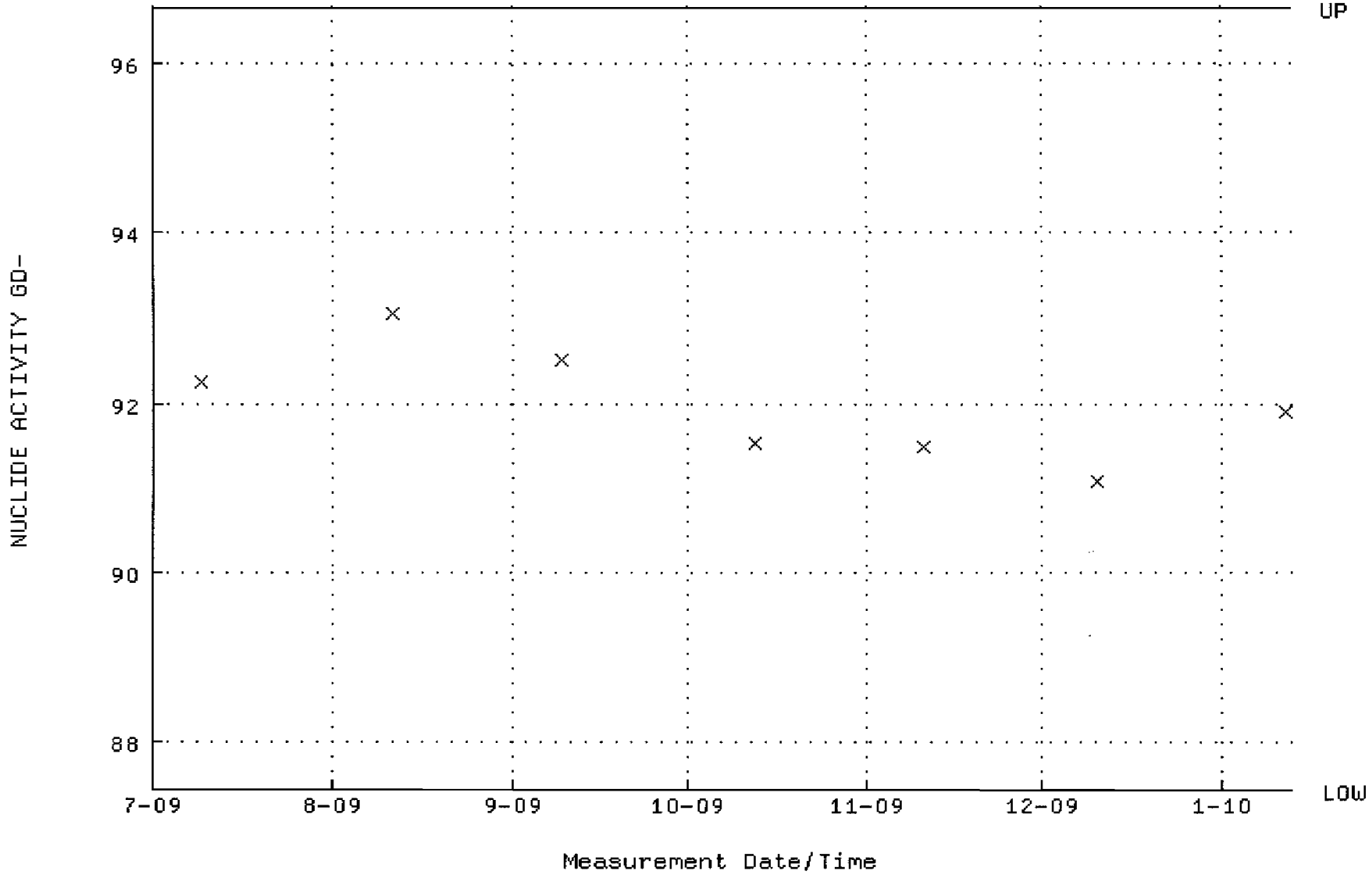
QA filename : DKA100:[ENV_ALPHA.QA.B]B067.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:01 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



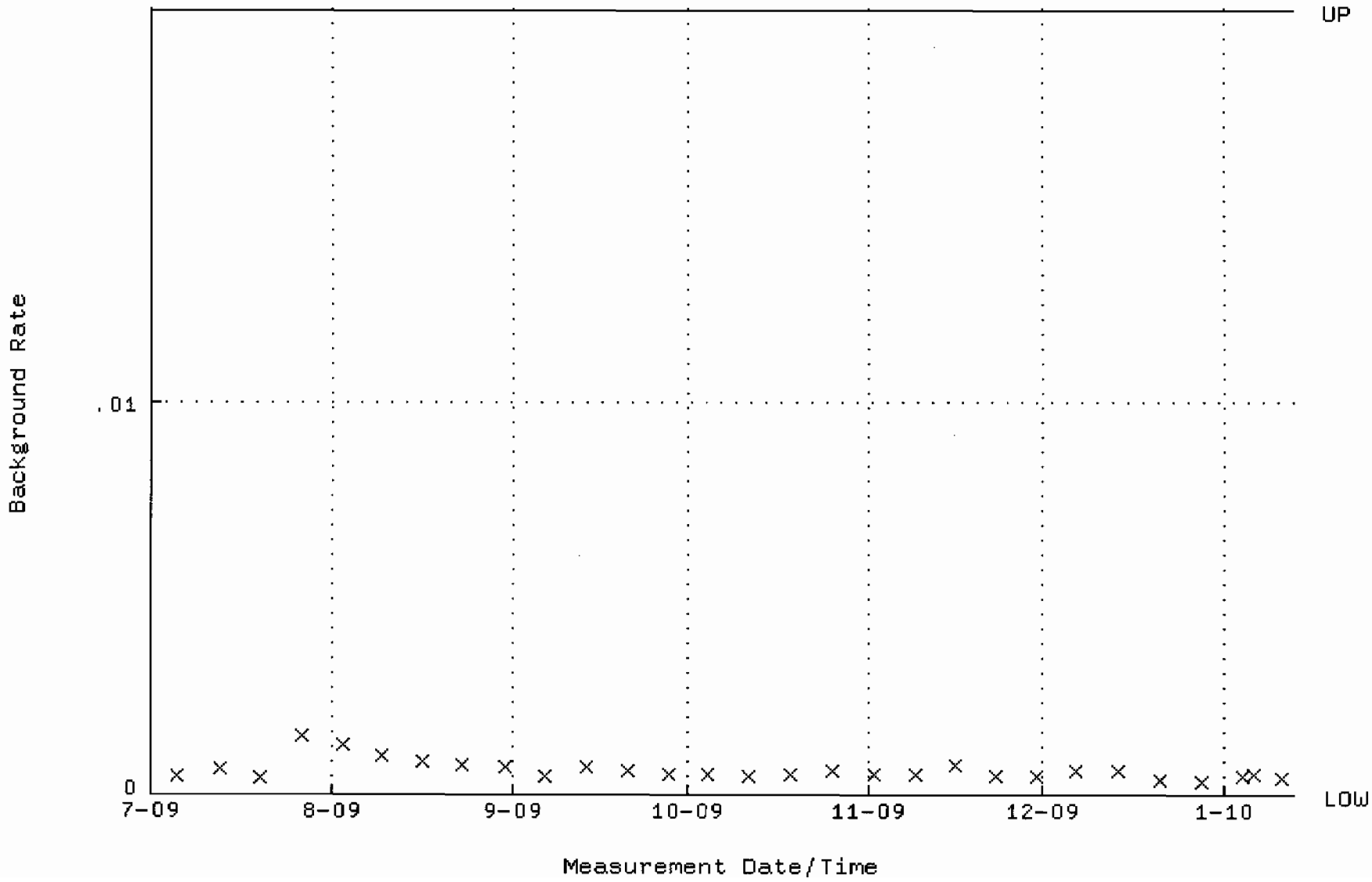
QA filename : DKA100:[ENV_ALPHA.QA.W]W068.QAF;2
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.289178 through 0.309178



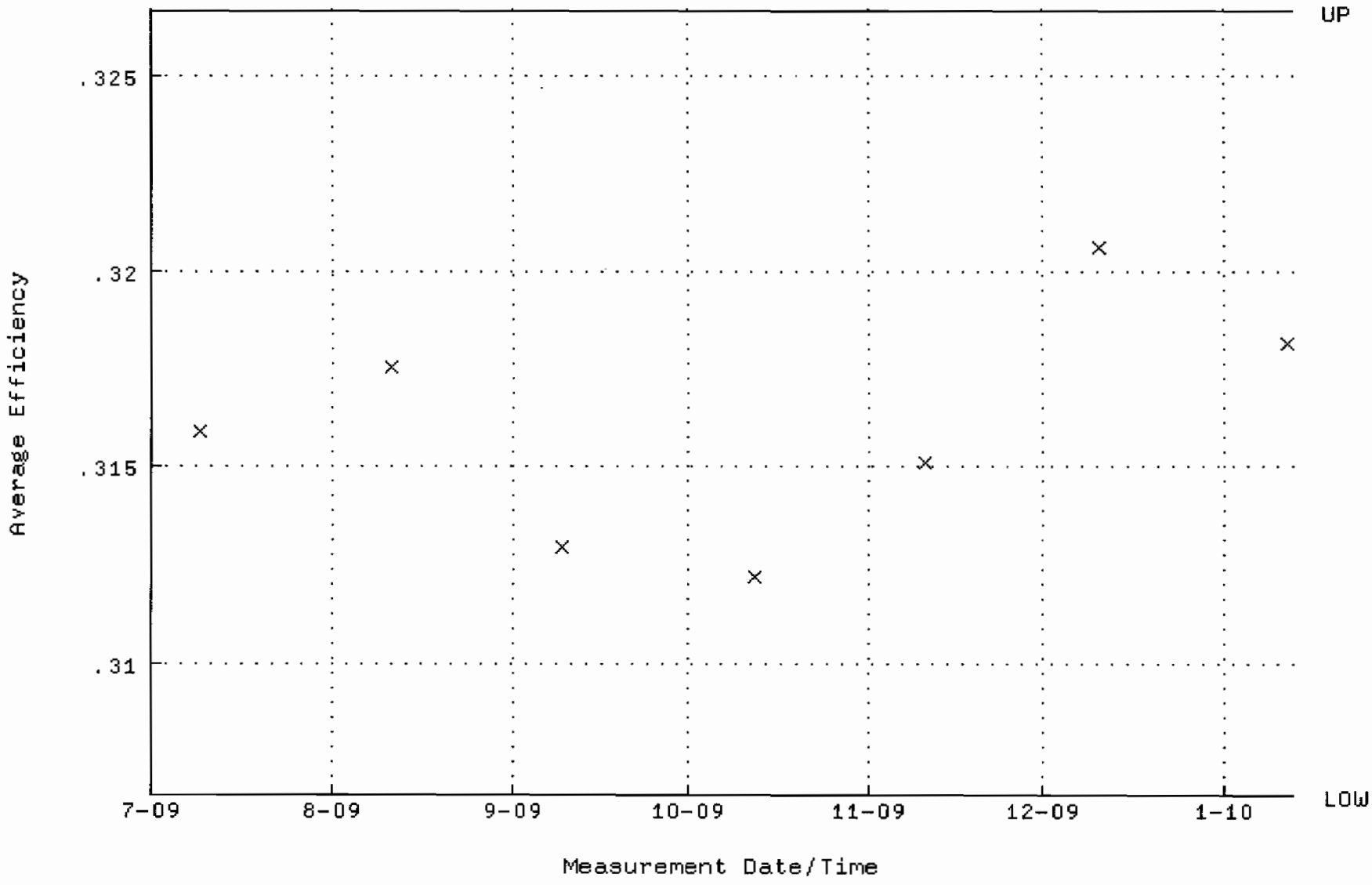
QA filename : DKA100:[ENV_ALPHA.QA.W]W068.QAF;2
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 87.4419 through 96.6463



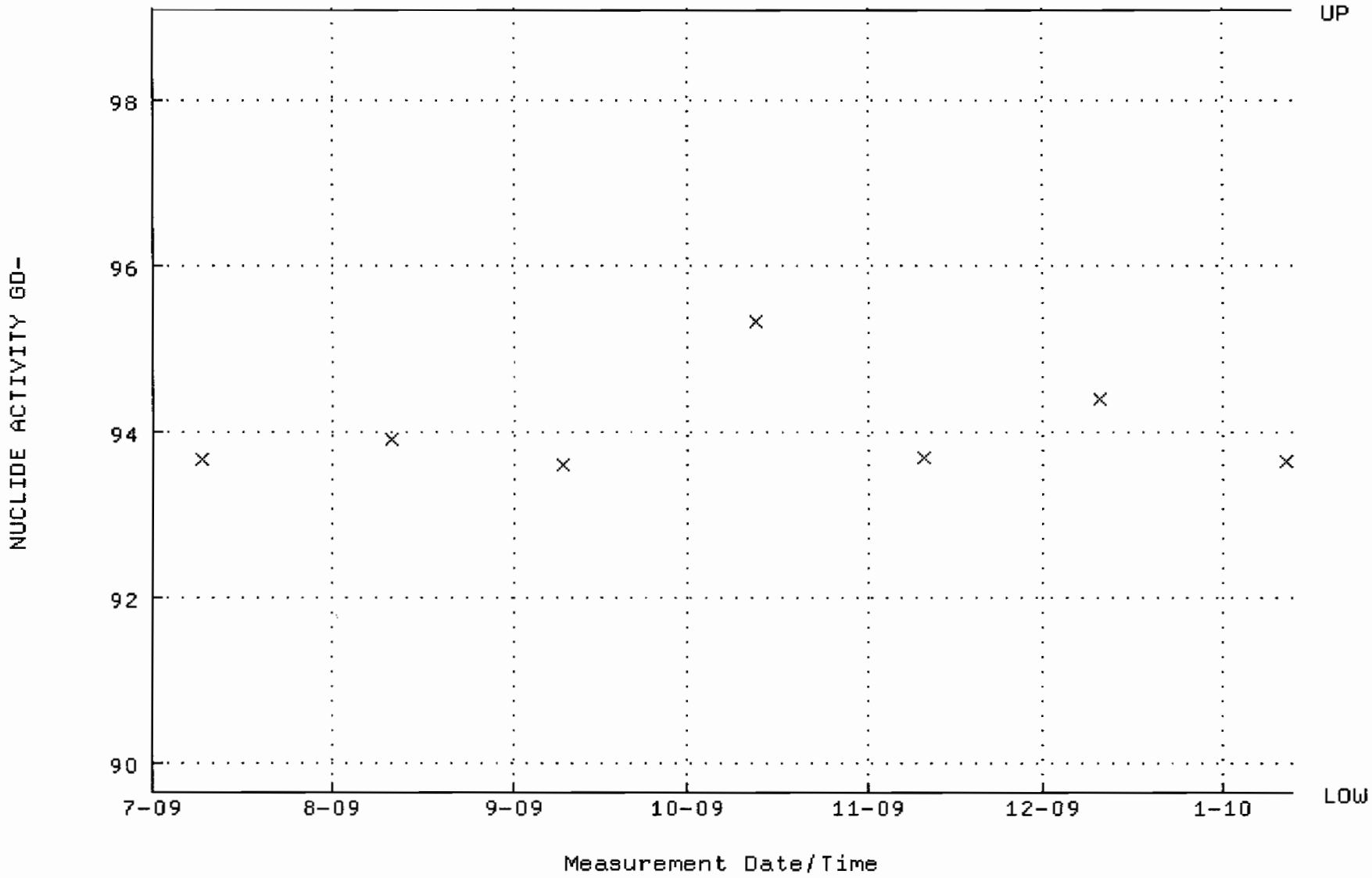
QA filename : DKA100:[ENV_ALPHA.QA.B]B068.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:01 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



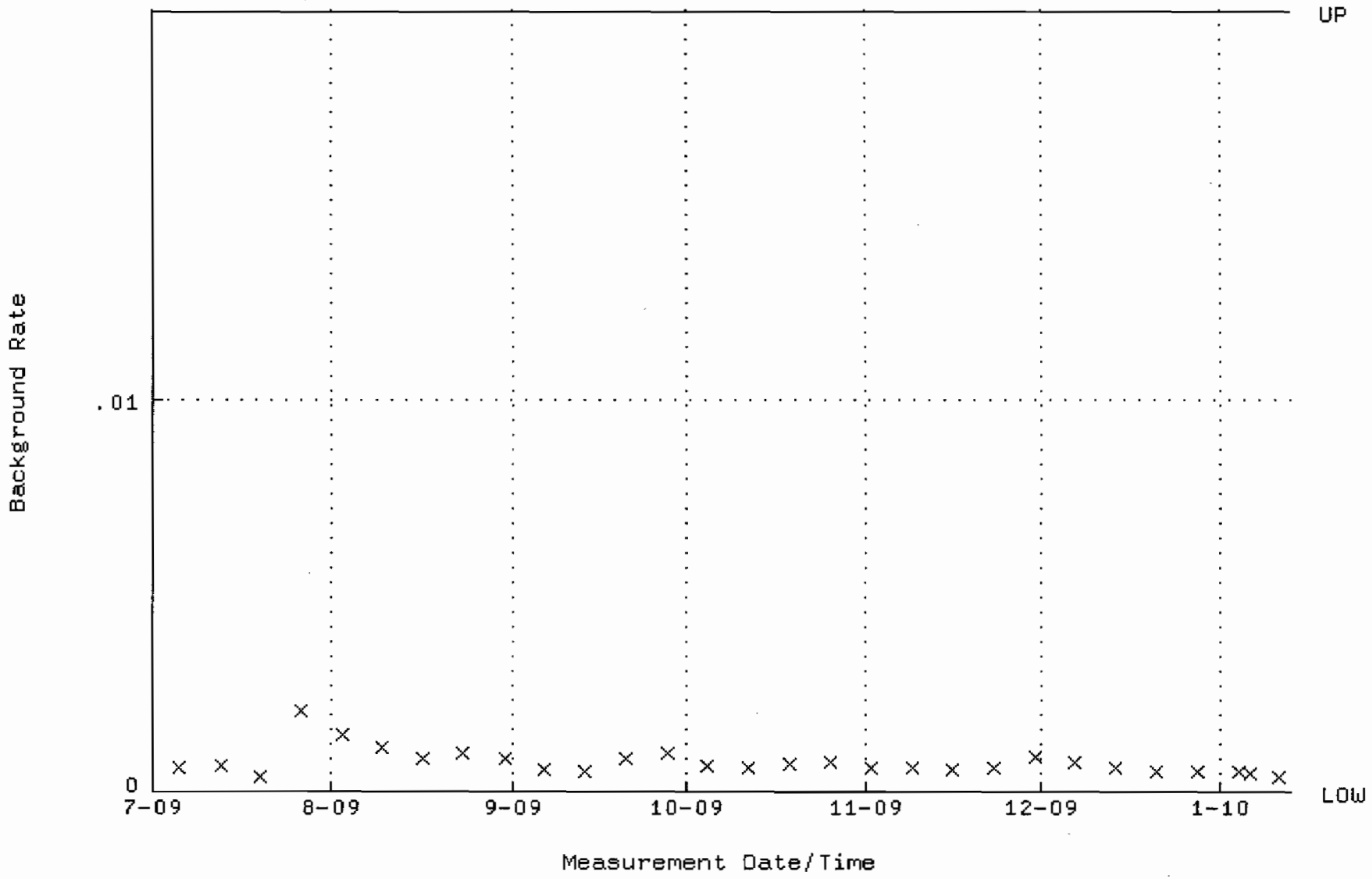
QA filename : DKA100:[ENV_ALPHA.QA.W]W069.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.306636 through 0.326636



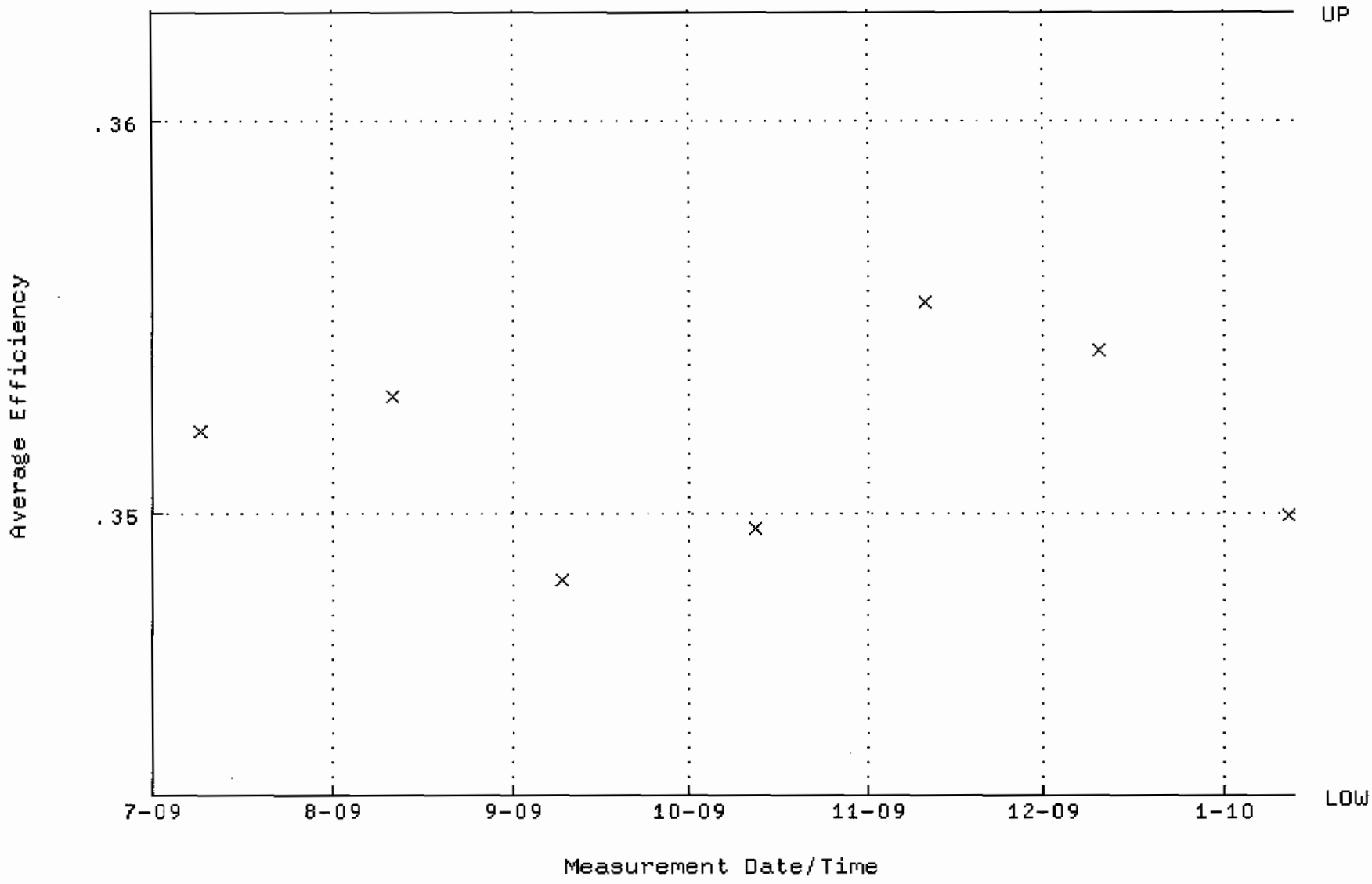
QA filename : DKA100:[ENV_ALPHA.QA.W]W069.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 89.6479 through 99.0845



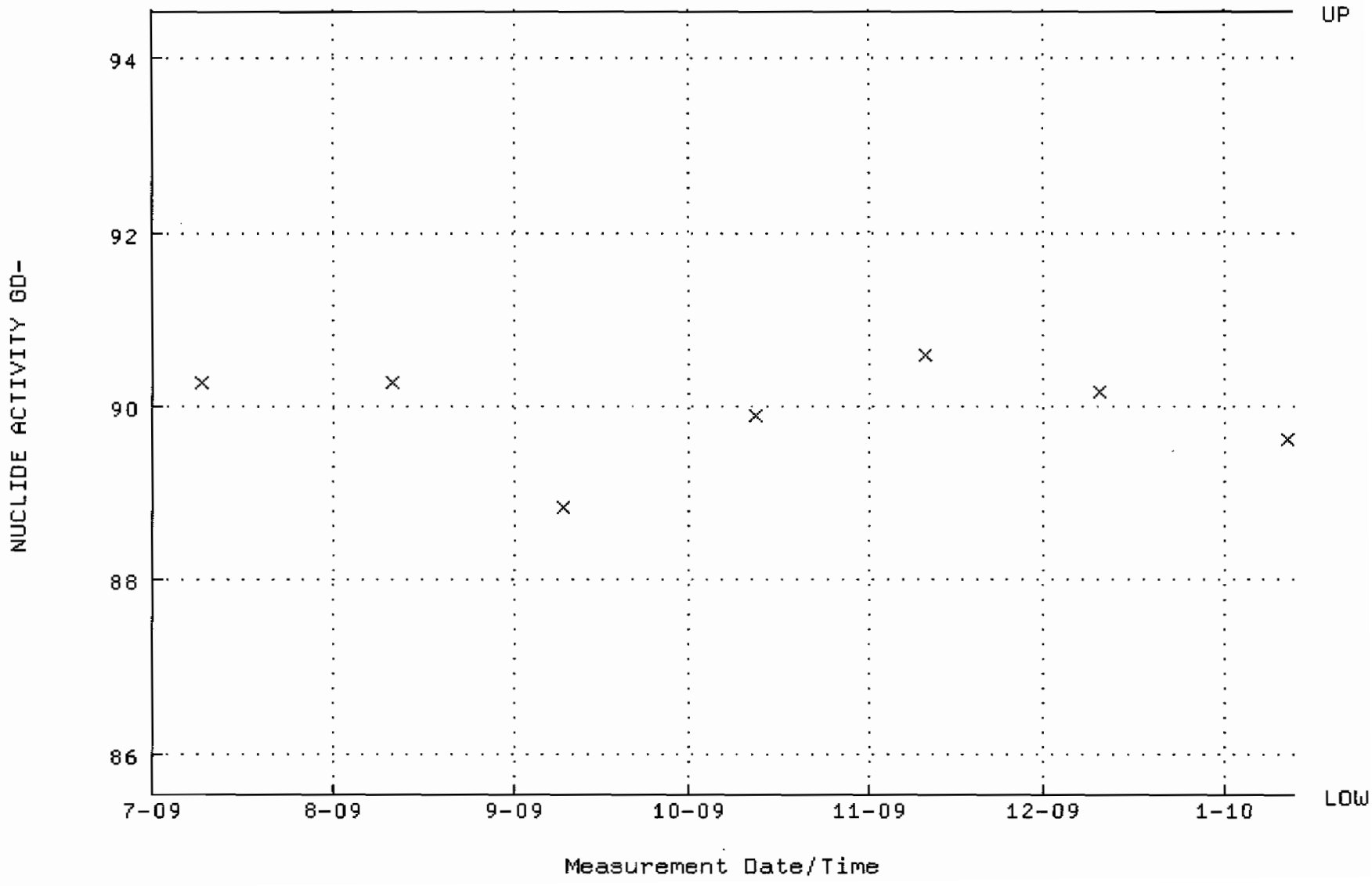
QA filename : DKA100:[ENV_ALPHA.QA.B]B069.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:01 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



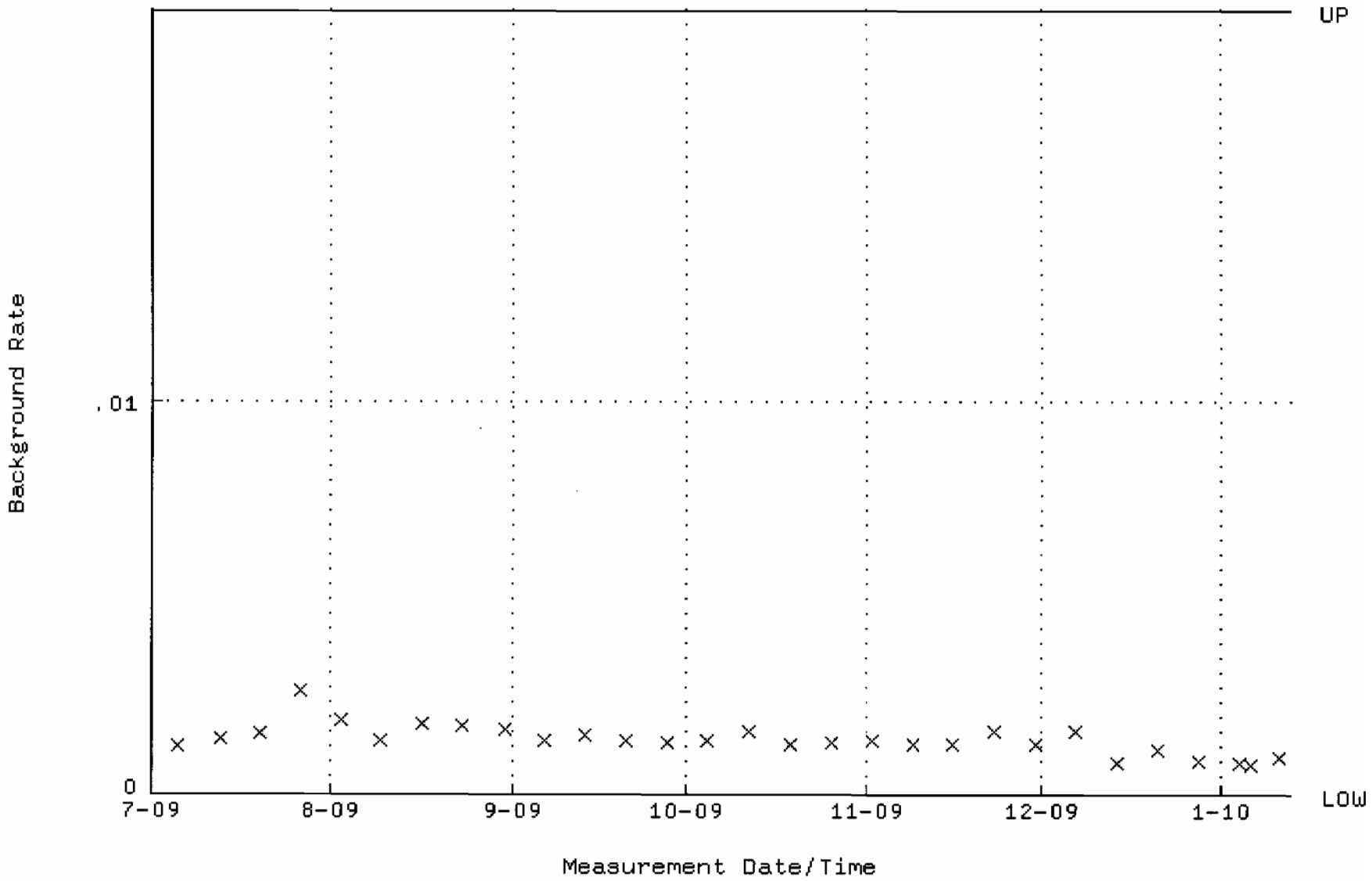
QA filename : DKA100:[ENV_ALPHA.QA.W]W070.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.342785 through 0.362785



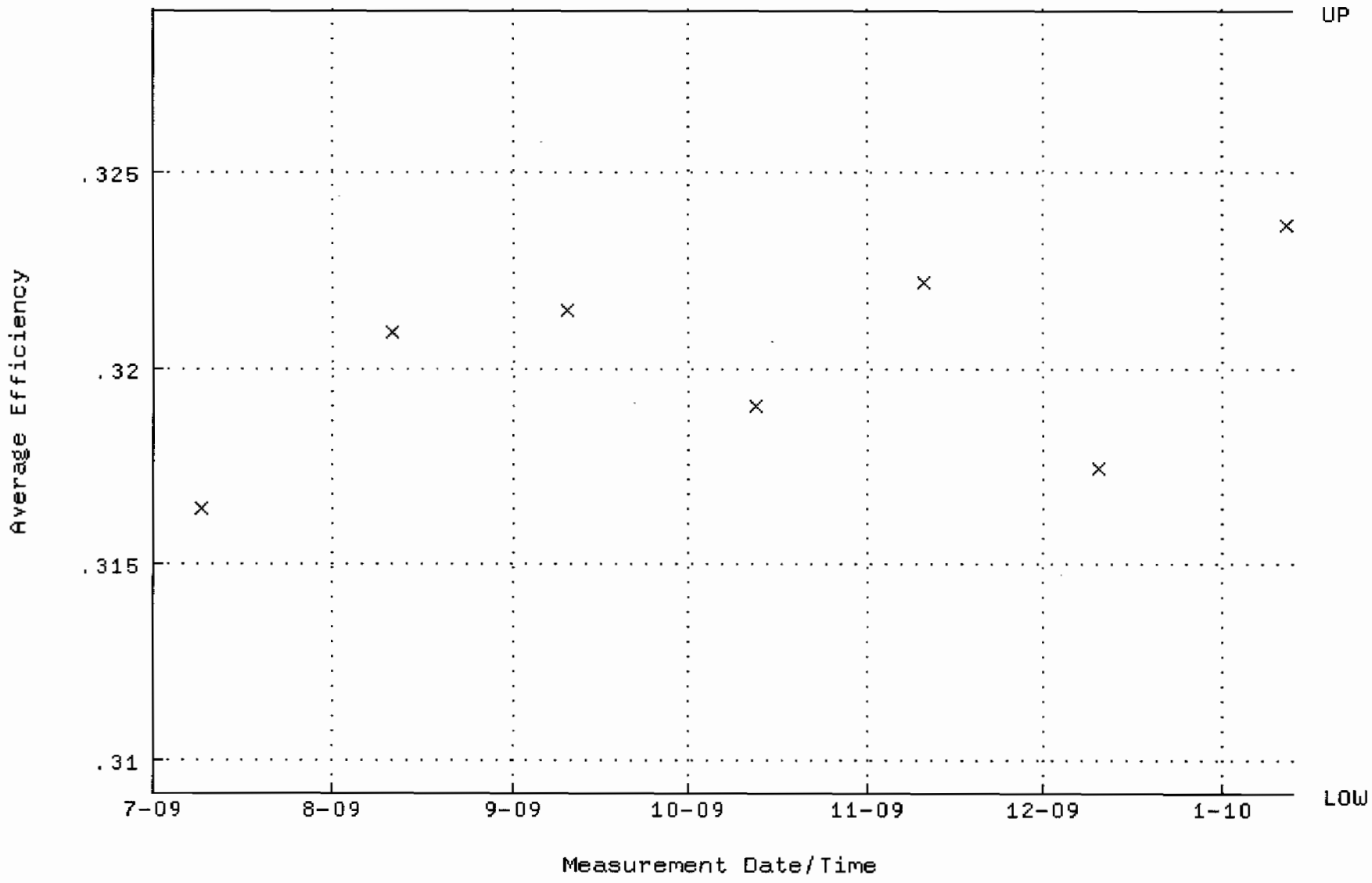
QA filename : DKA100:[ENV_ALPHA.QA.W]W070.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 85.5293 through 94.5323



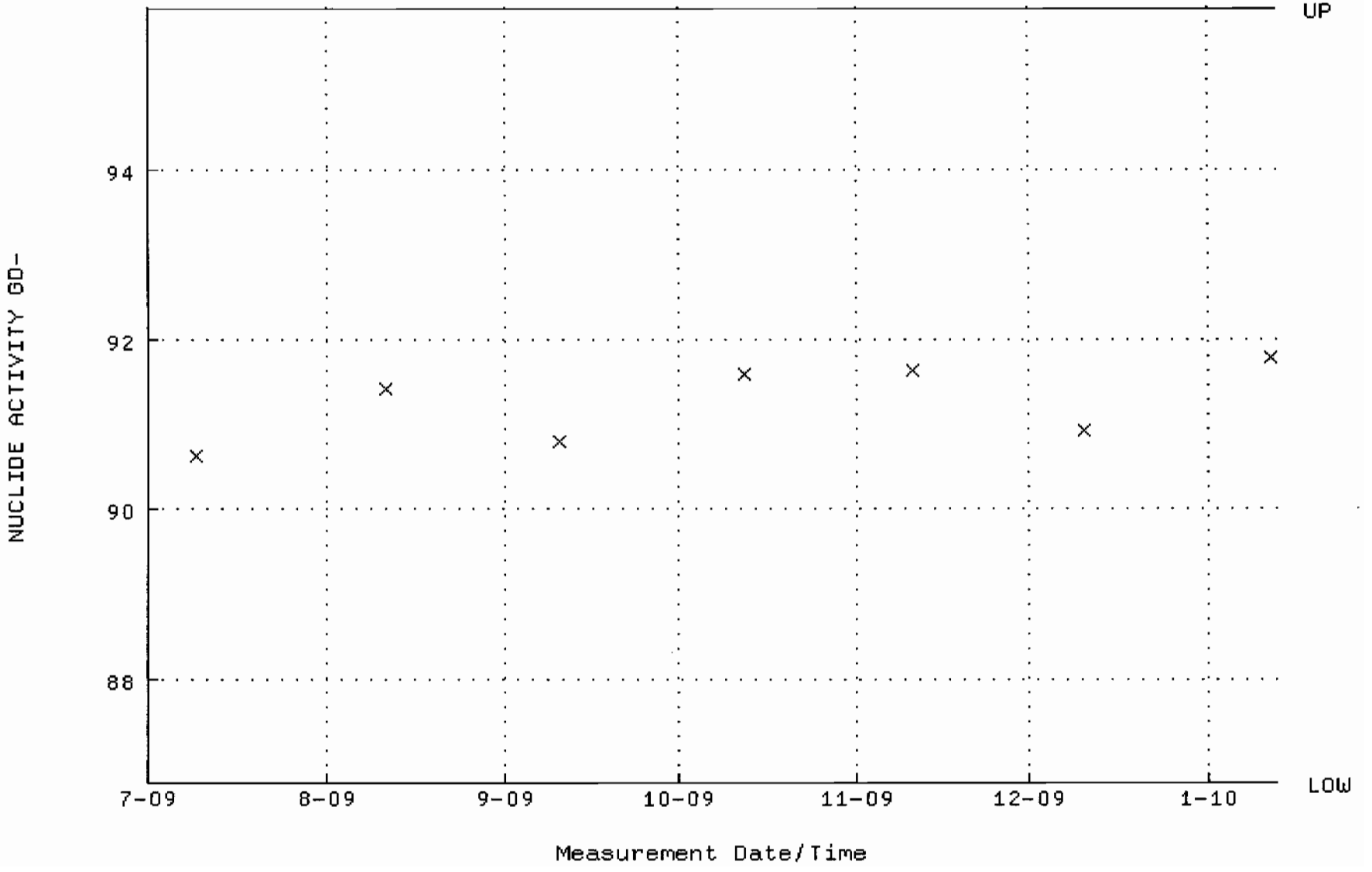
QA filename : DKA100:[ENV_ALPHA.QA.B]B070.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:01 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



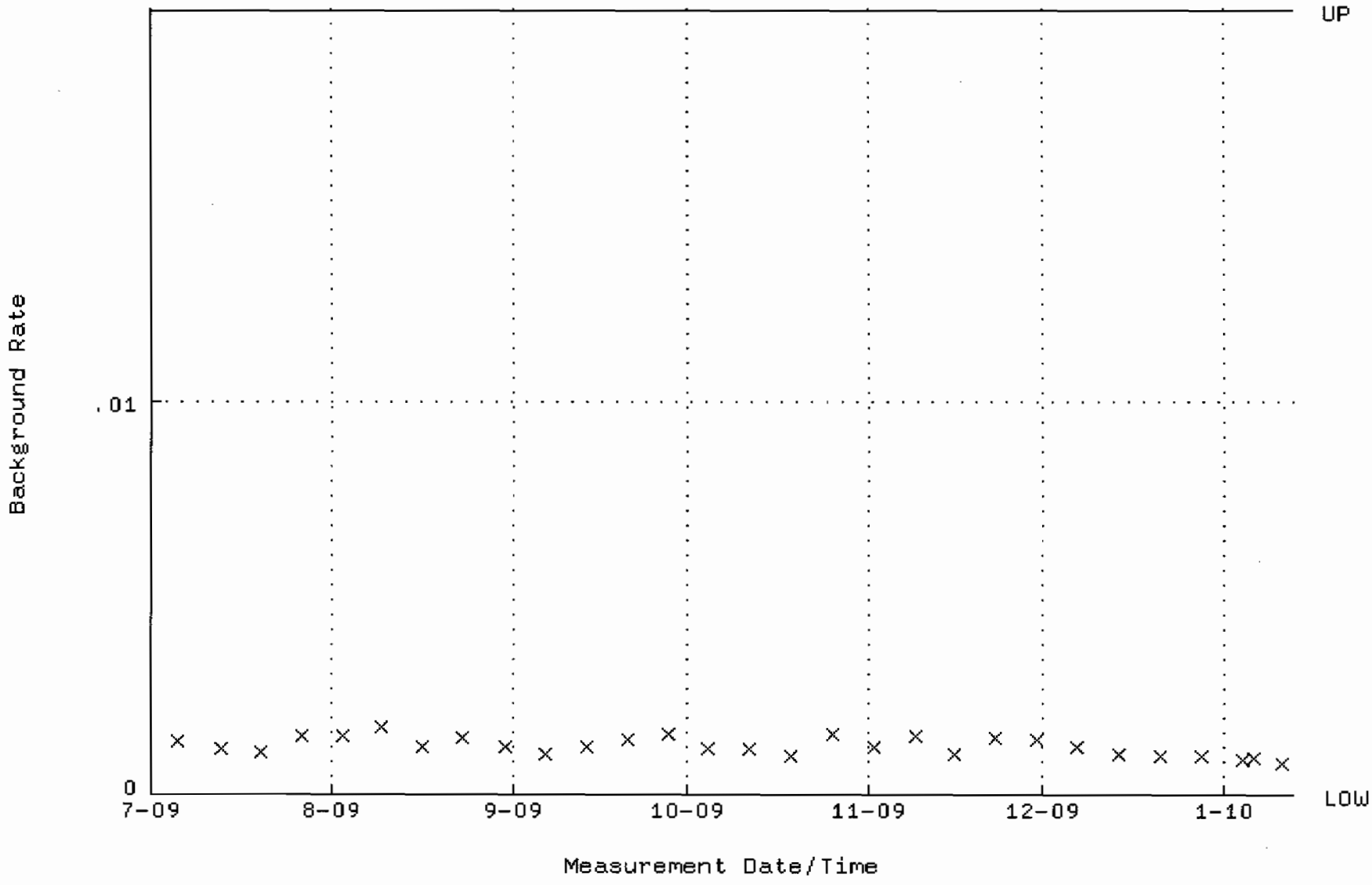
QA filename : DKA100:[ENV_ALPHA.QA.W]W071.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.309161 through 0.329161



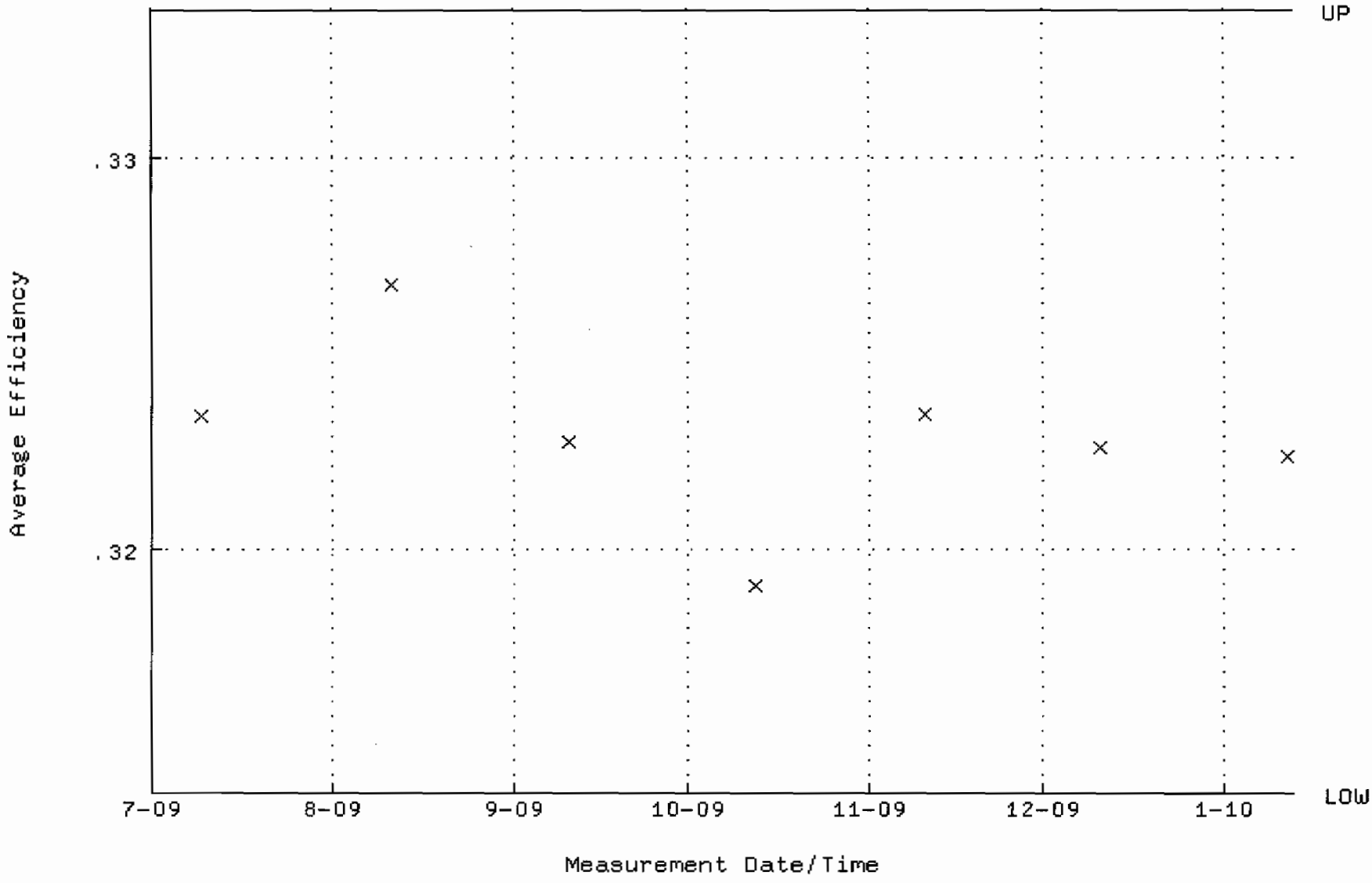
QA filename : DKA100:[ENV_ALPHA.QA.W]W071.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 86.7769 through 95.9113



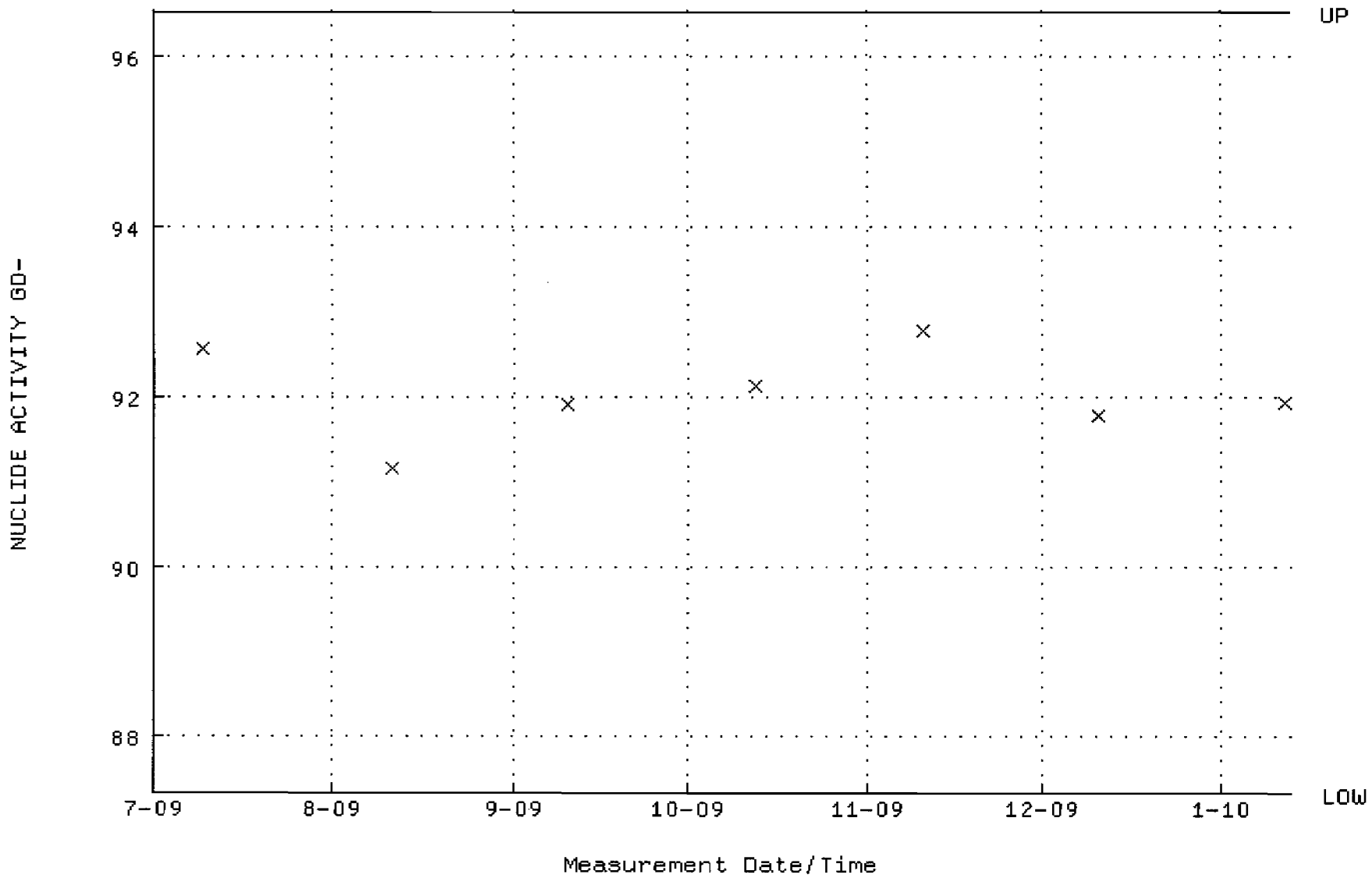
QA filename : DKA100:[ENV_ALPHA.QA.B]B071.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:02 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



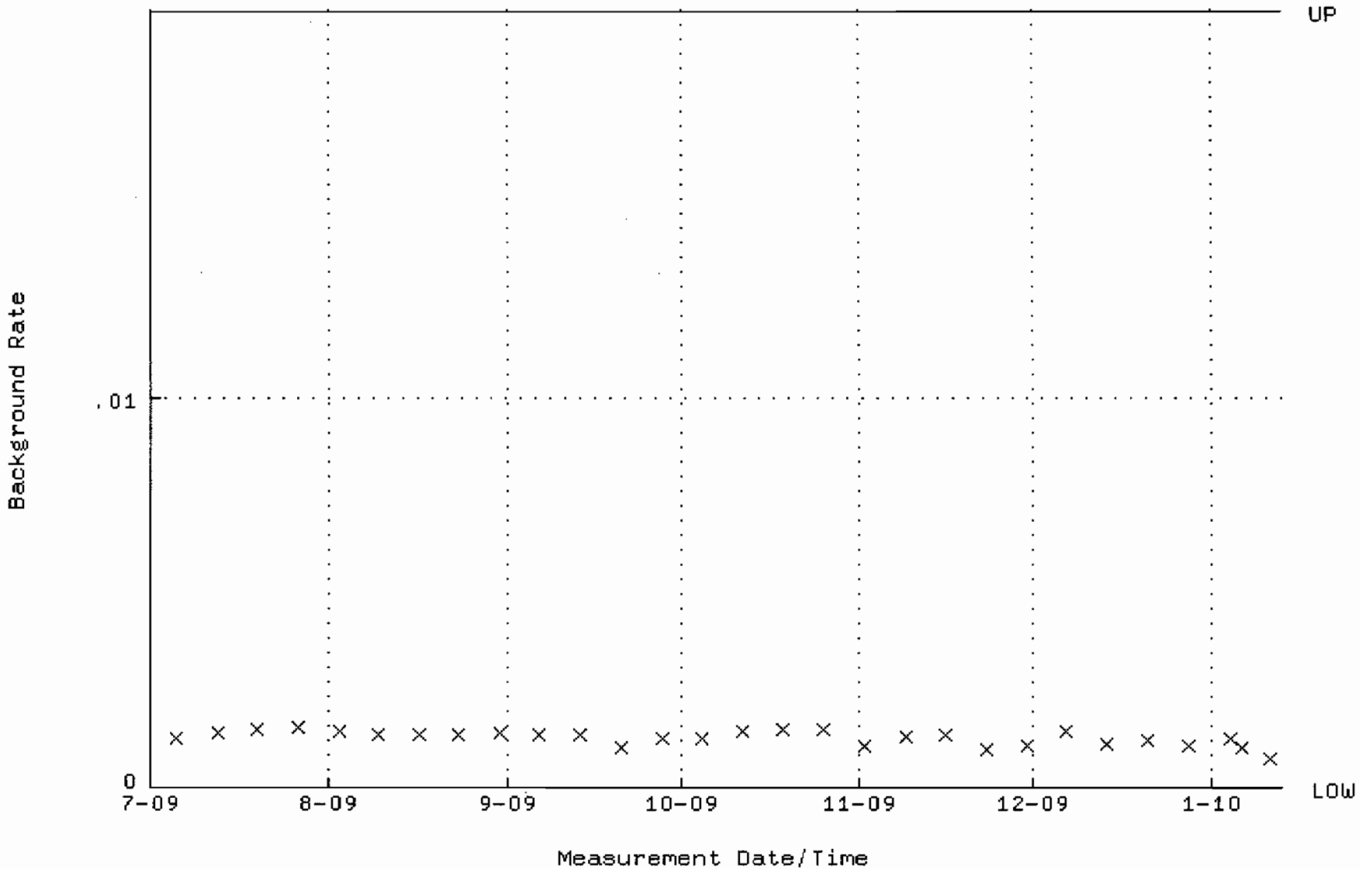
QA filename : DKA100:[ENV_ALPHA.QA.W]W072.QAF;2
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.313761 through 0.333761



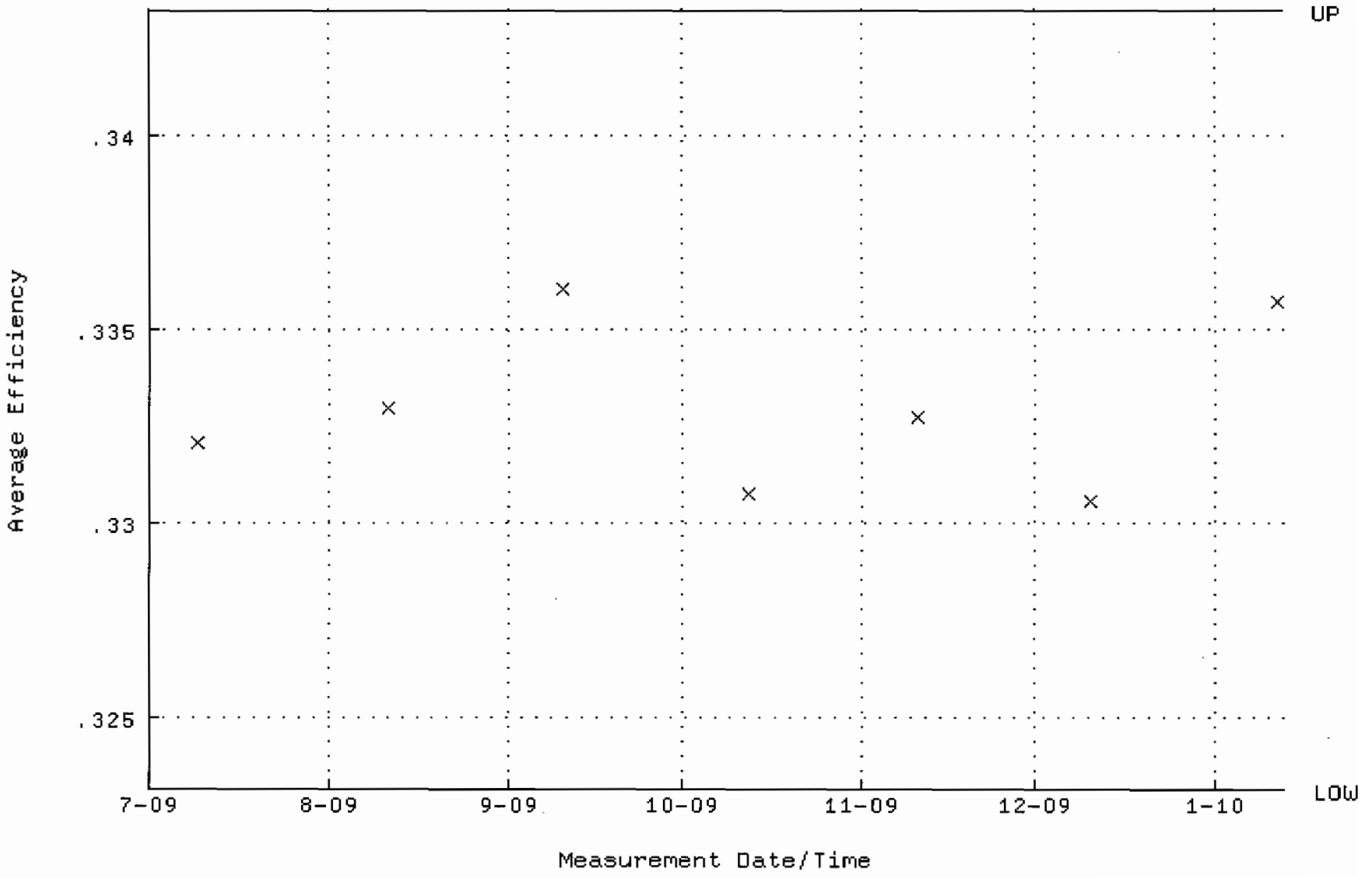
QA filename : DKA100:[ENV_ALPHA.QA.W]W072.QAF;2
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 87.3348 through 96.5280



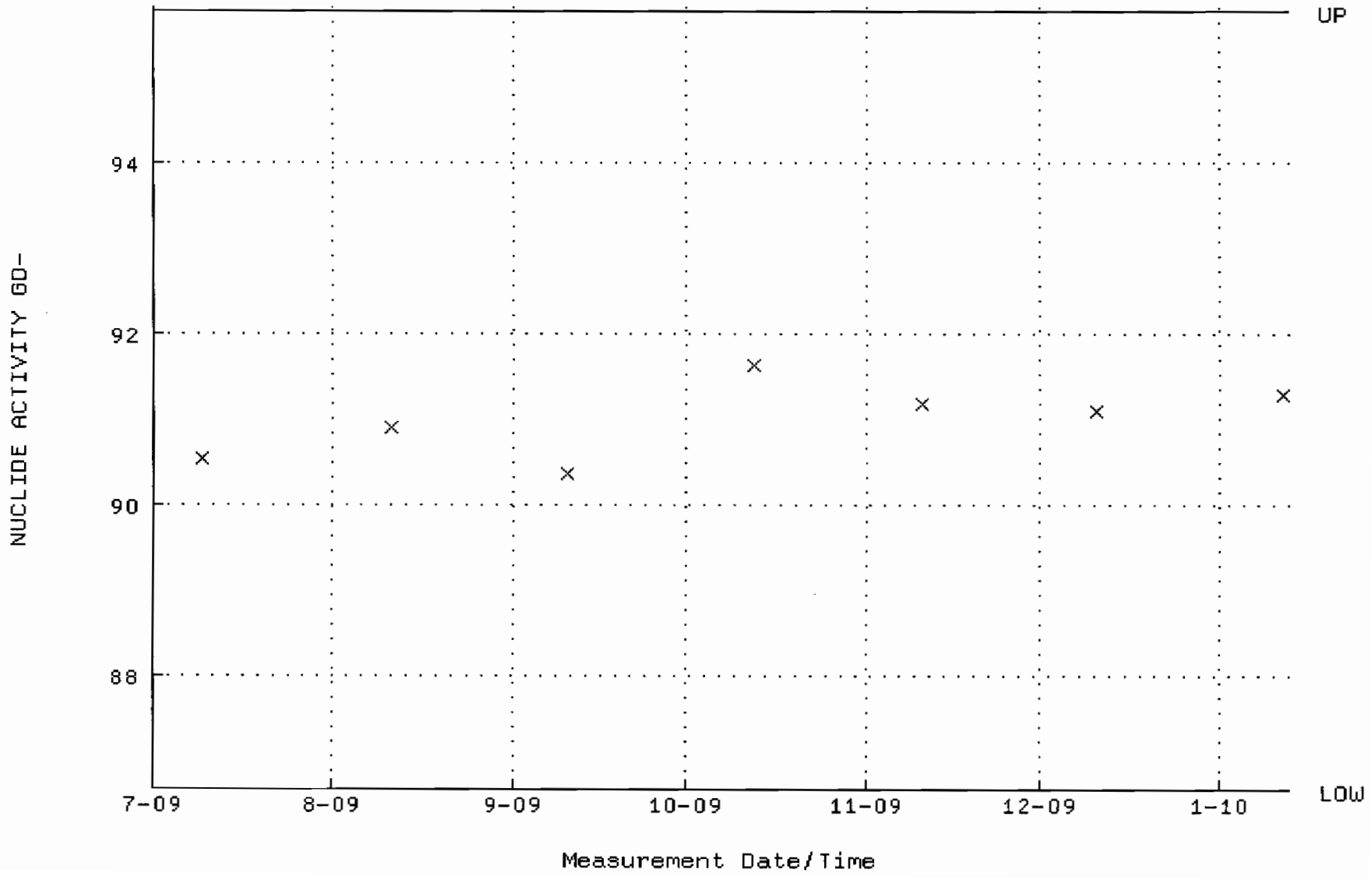
QA filename : DKA100:[ENV_ALPHA.QA.B]B072.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:02 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



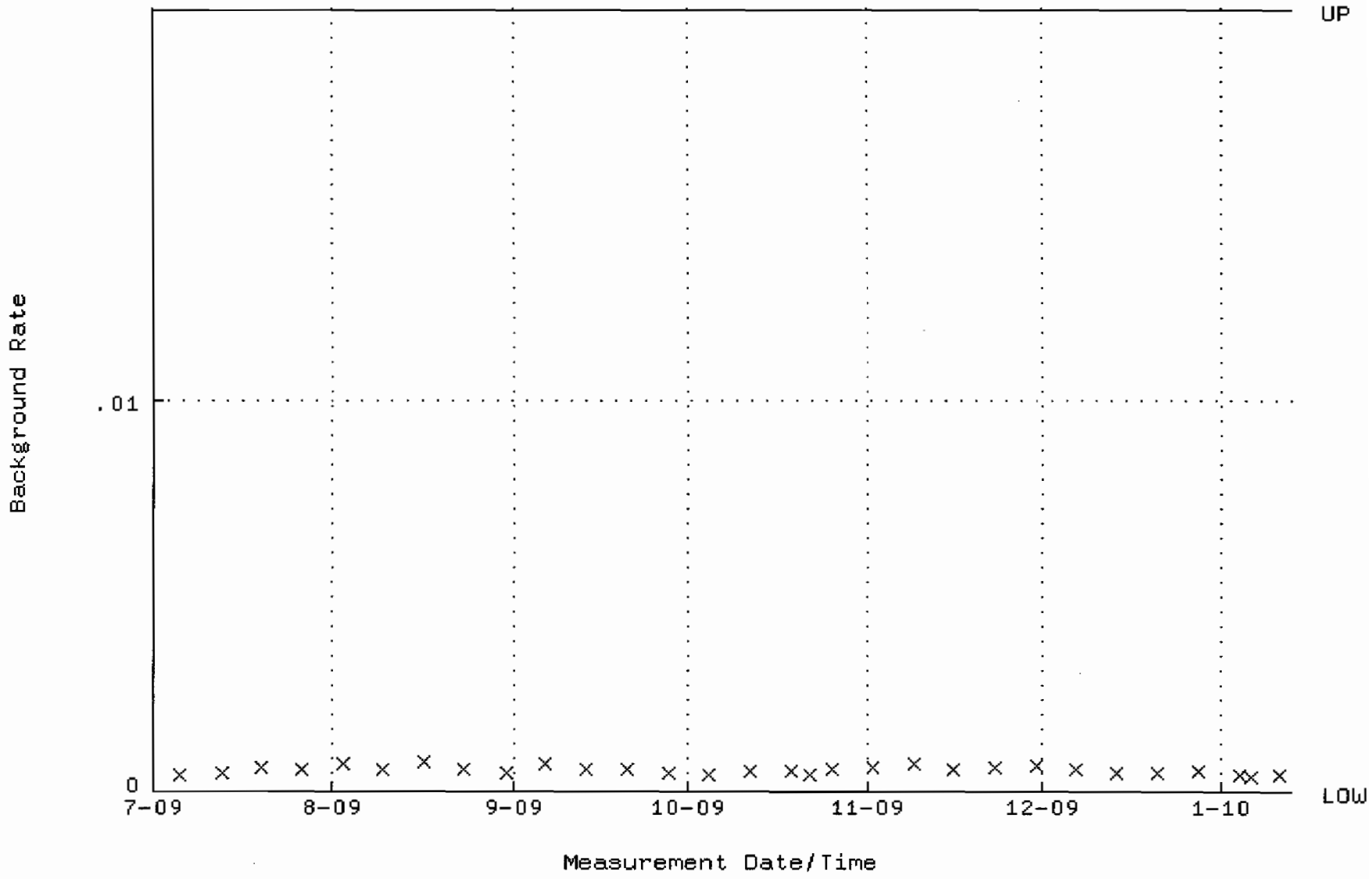
QA filename : DKA100:[ENV_ALPHA.QA.W]W073.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.323184 through 0.343184



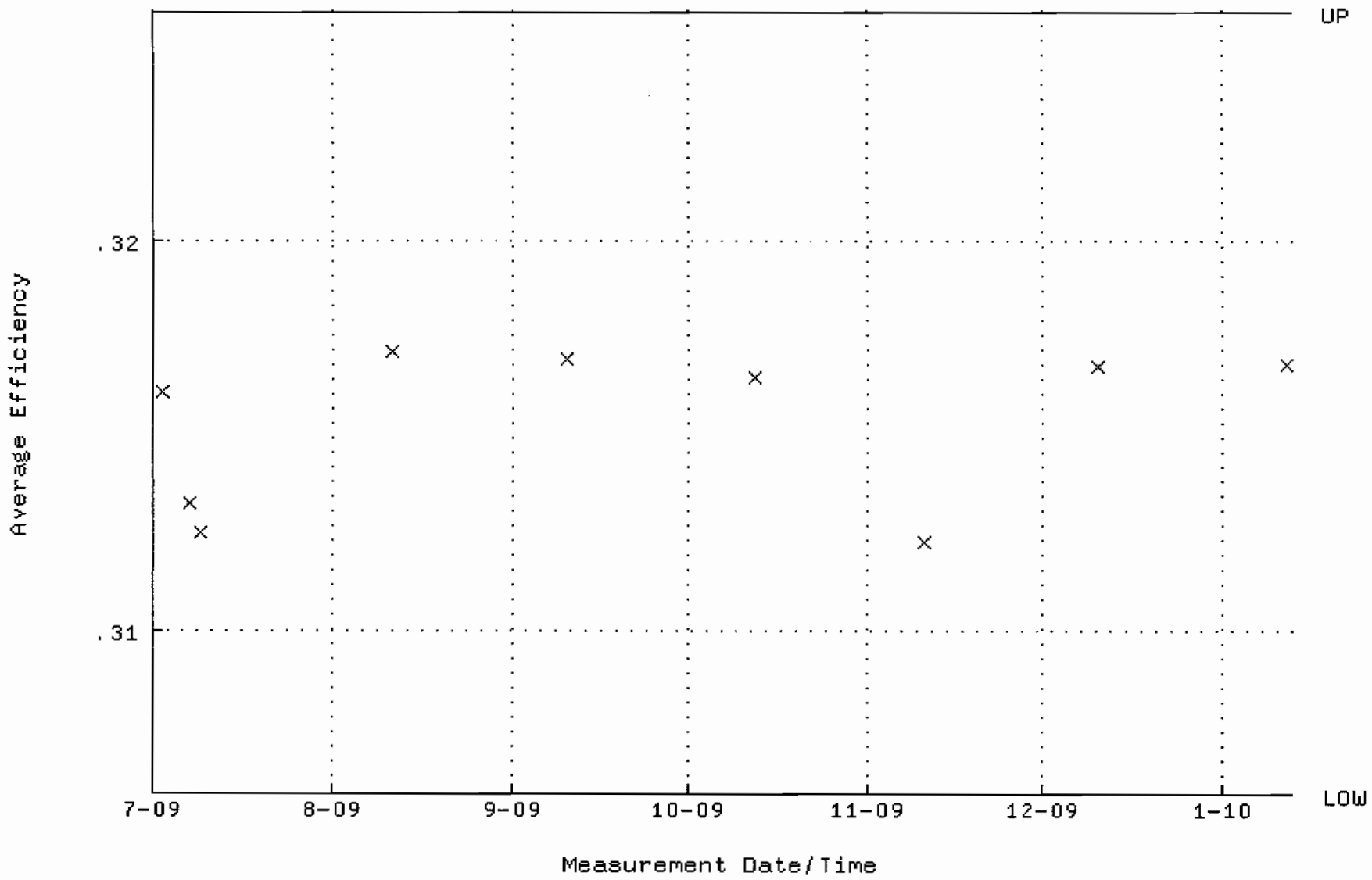
QA filename : DKA100:[ENV_ALPHA.QA.W]W073.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 86.6734 through 95.7970



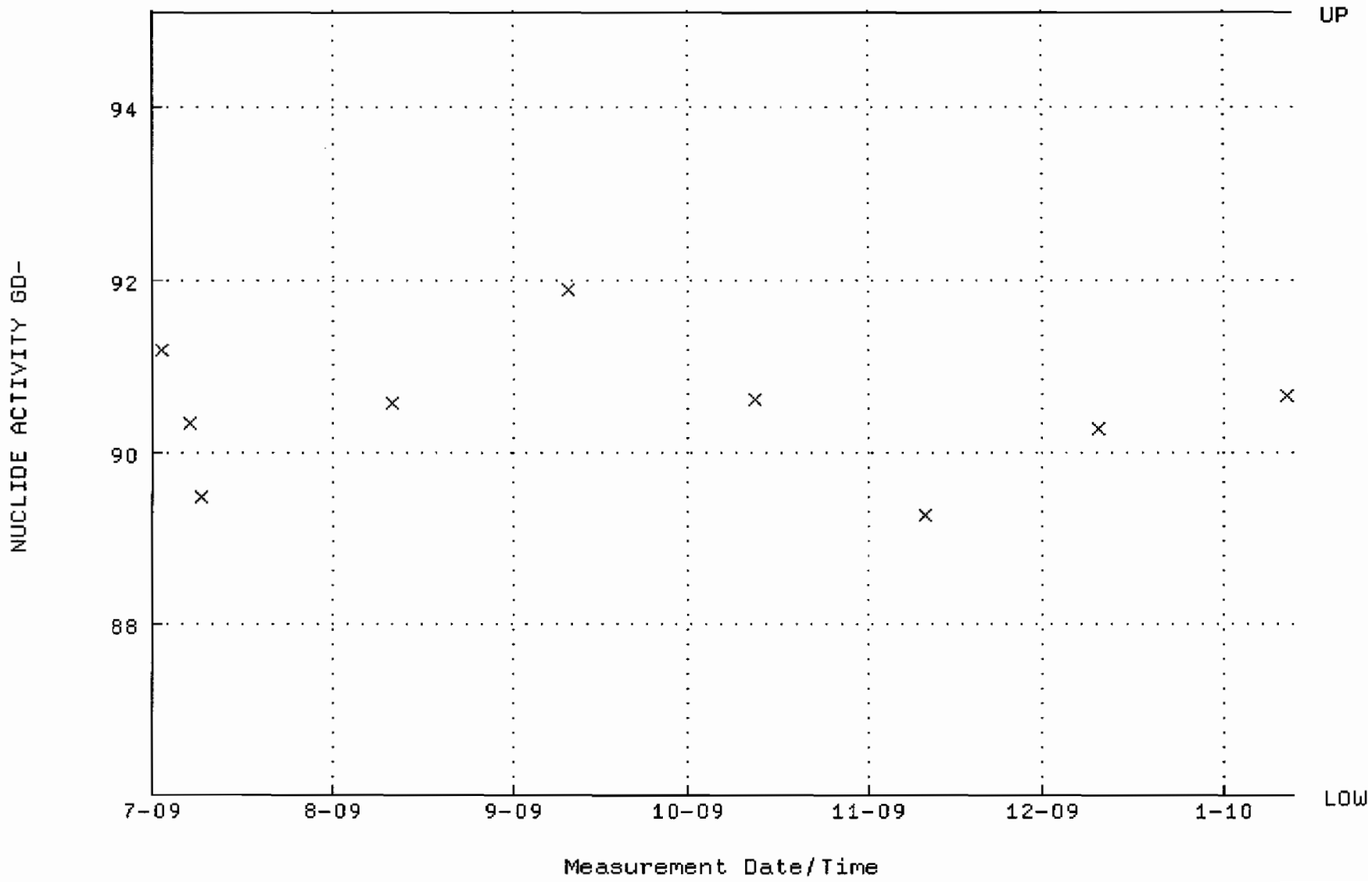
QA filename : DKA100:[ENV_ALPHA.QA.B]B073.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:02 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



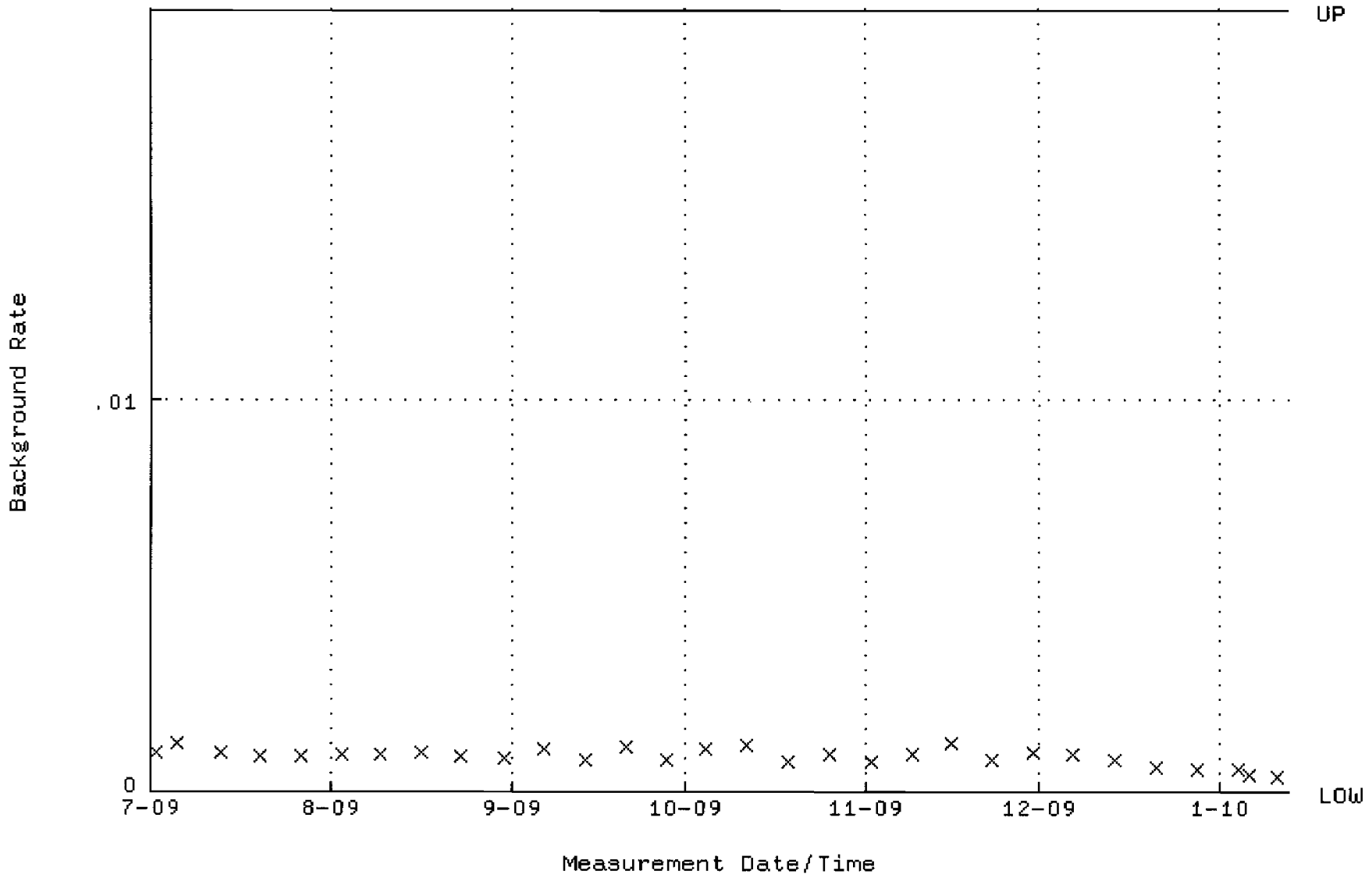
QA filename : DKA100:[ENV_ALPHA.QA.W]W074.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-JUL-2009 15:04:13 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.305830 through 0.325830



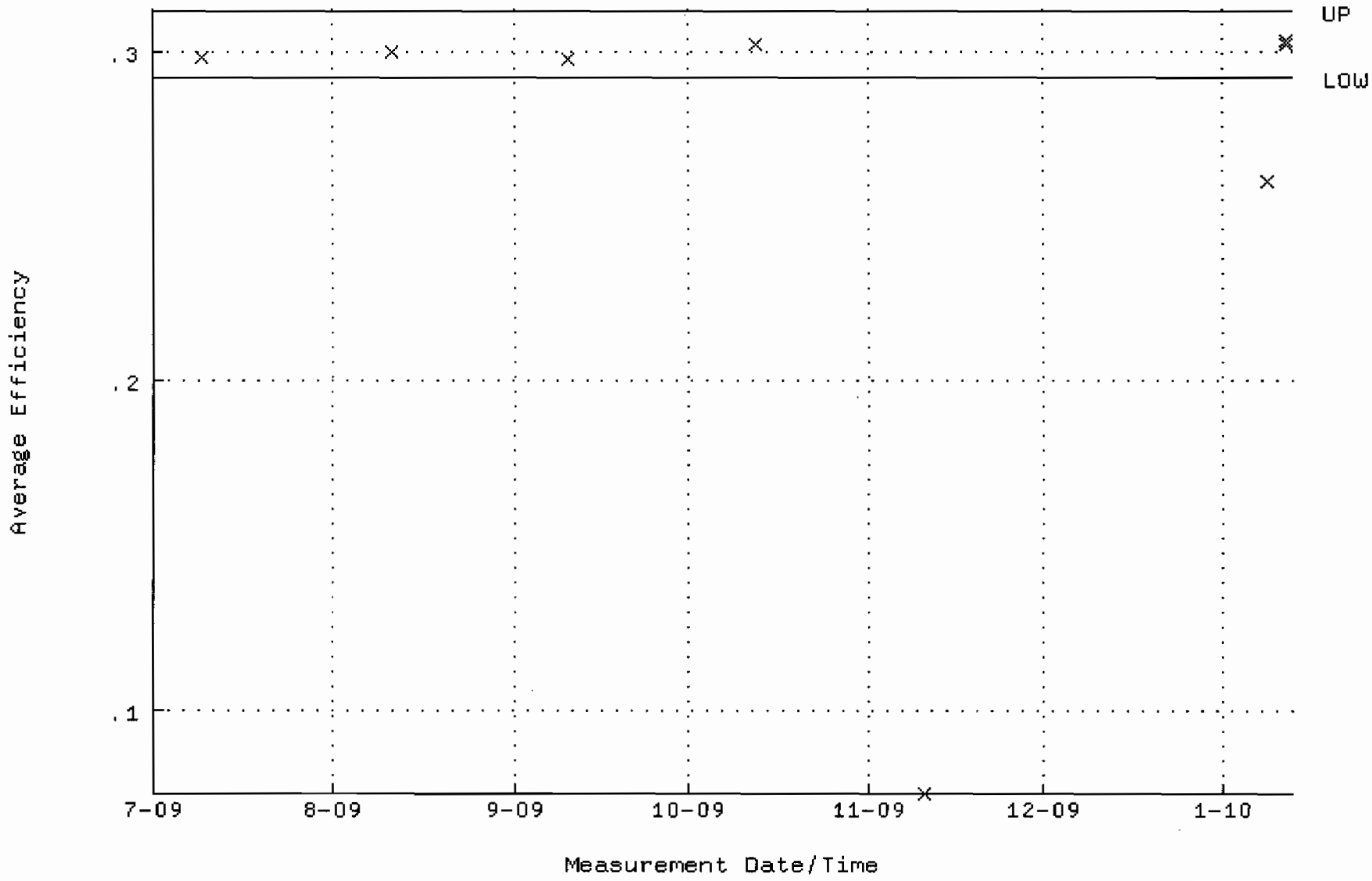
QA filename : DKA100:[ENV_ALPHA.QA.W]W074.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-JUL-2009 15:04:13 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 86.0289 through 95.0845



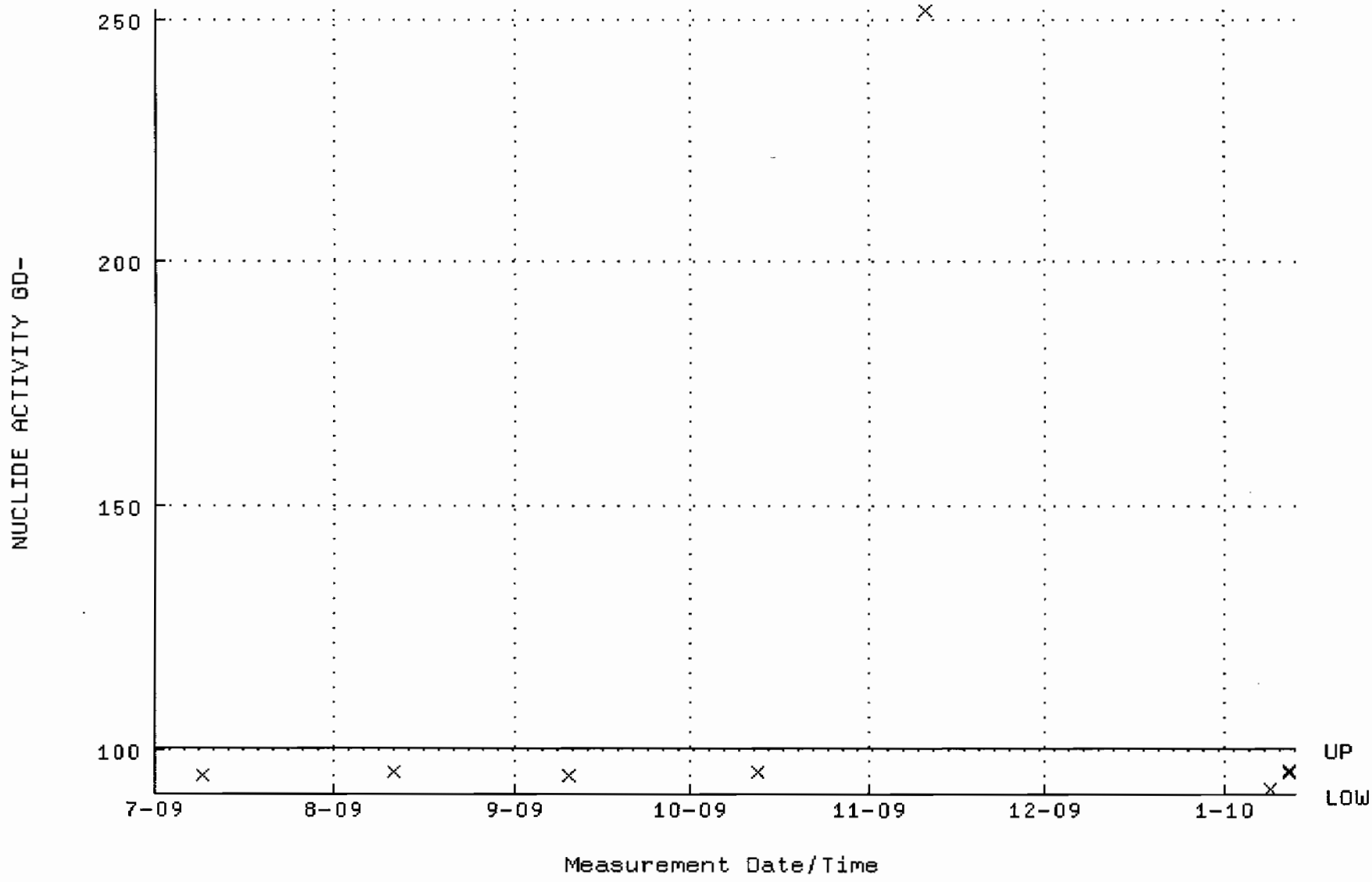
QA filename : DKA100:[ENV_ALPHA.QA.B]B074.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-JUL-2009 21:39:57 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



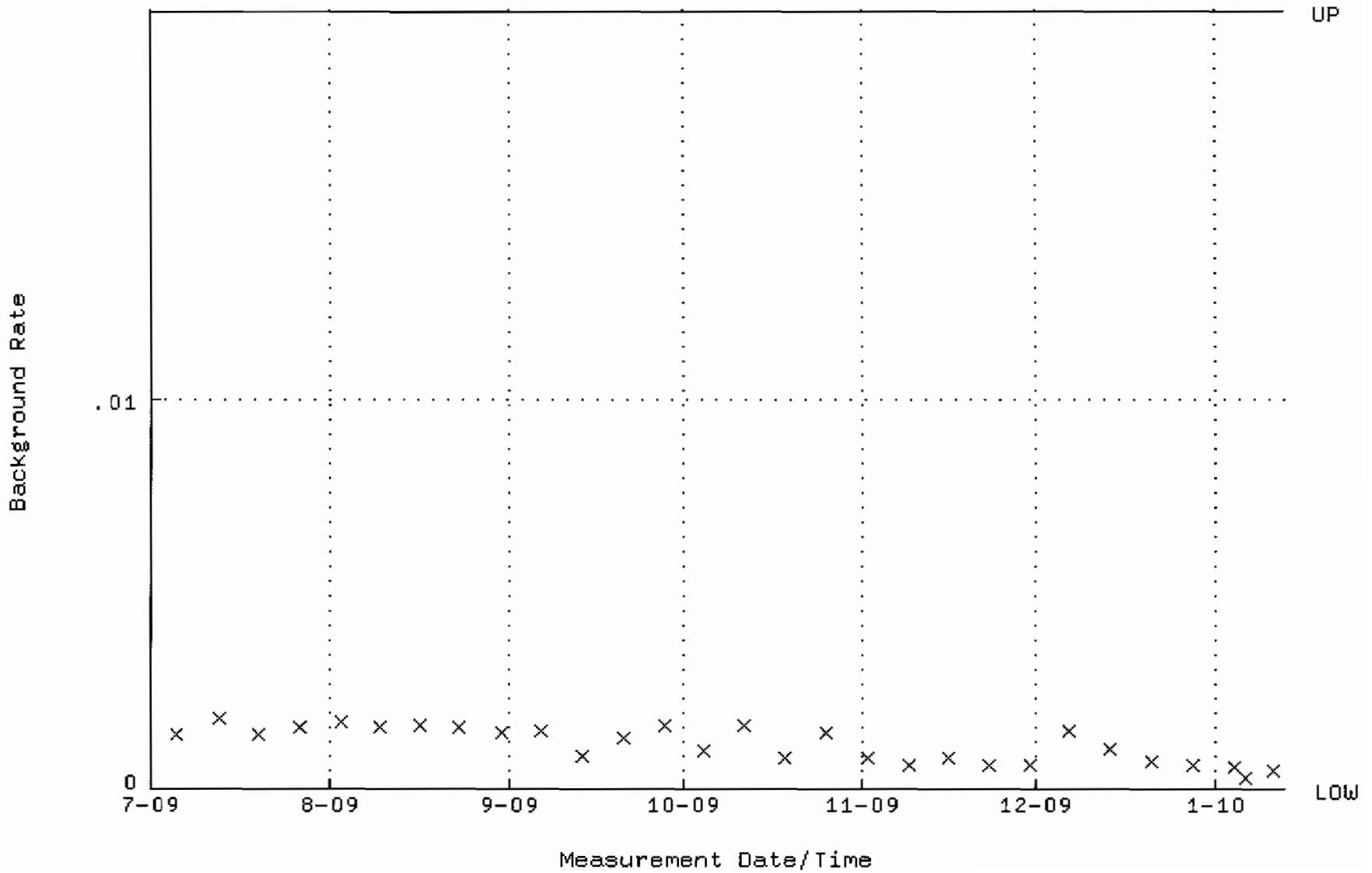
QA filename : DKA100:[ENV_ALPHA.QA.W]W075.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.292134 through 0.312134



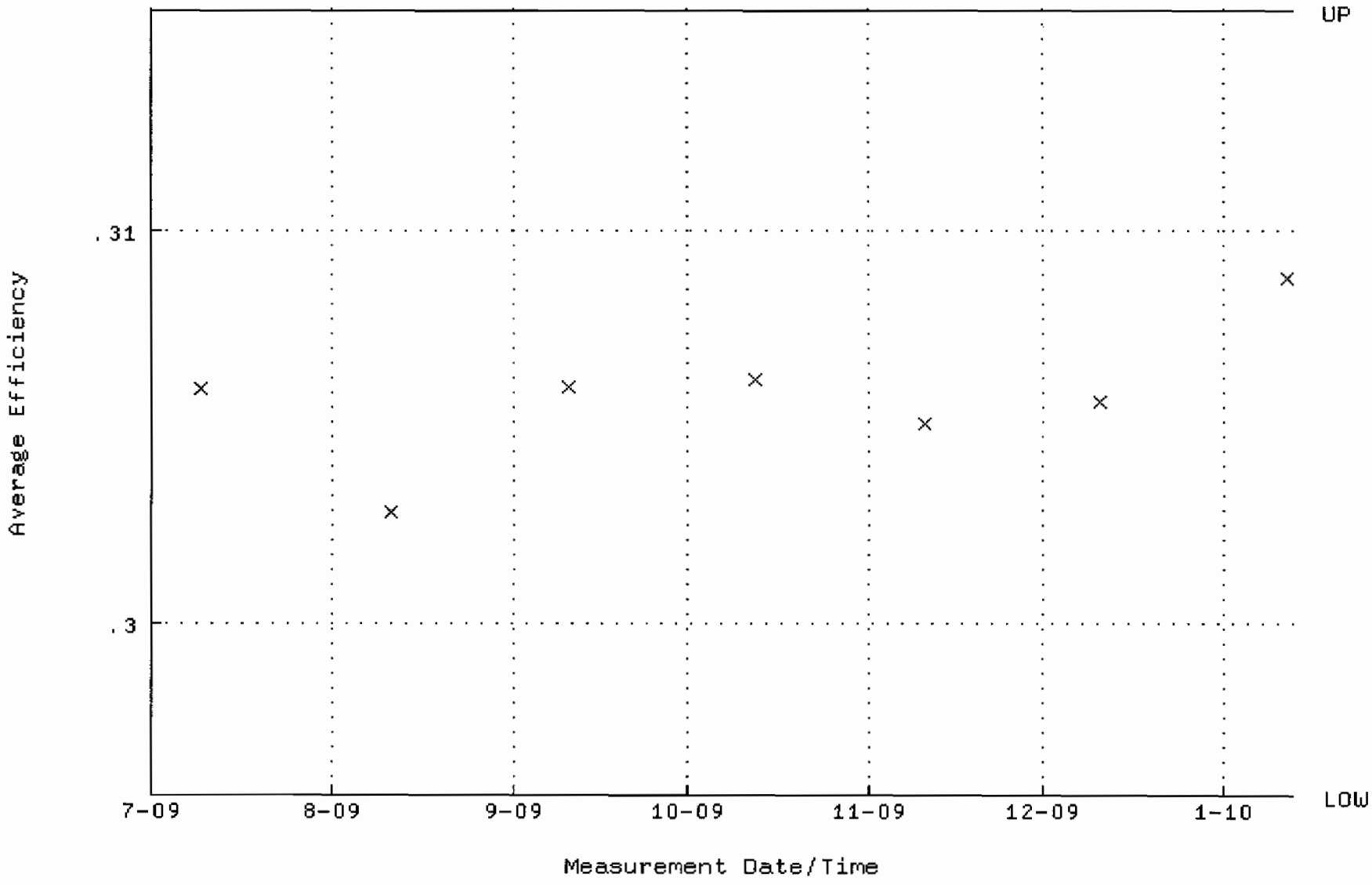
QA filename : DKA100:[ENV_ALPHA.QA.W]W075.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 91.1212 through 100.713



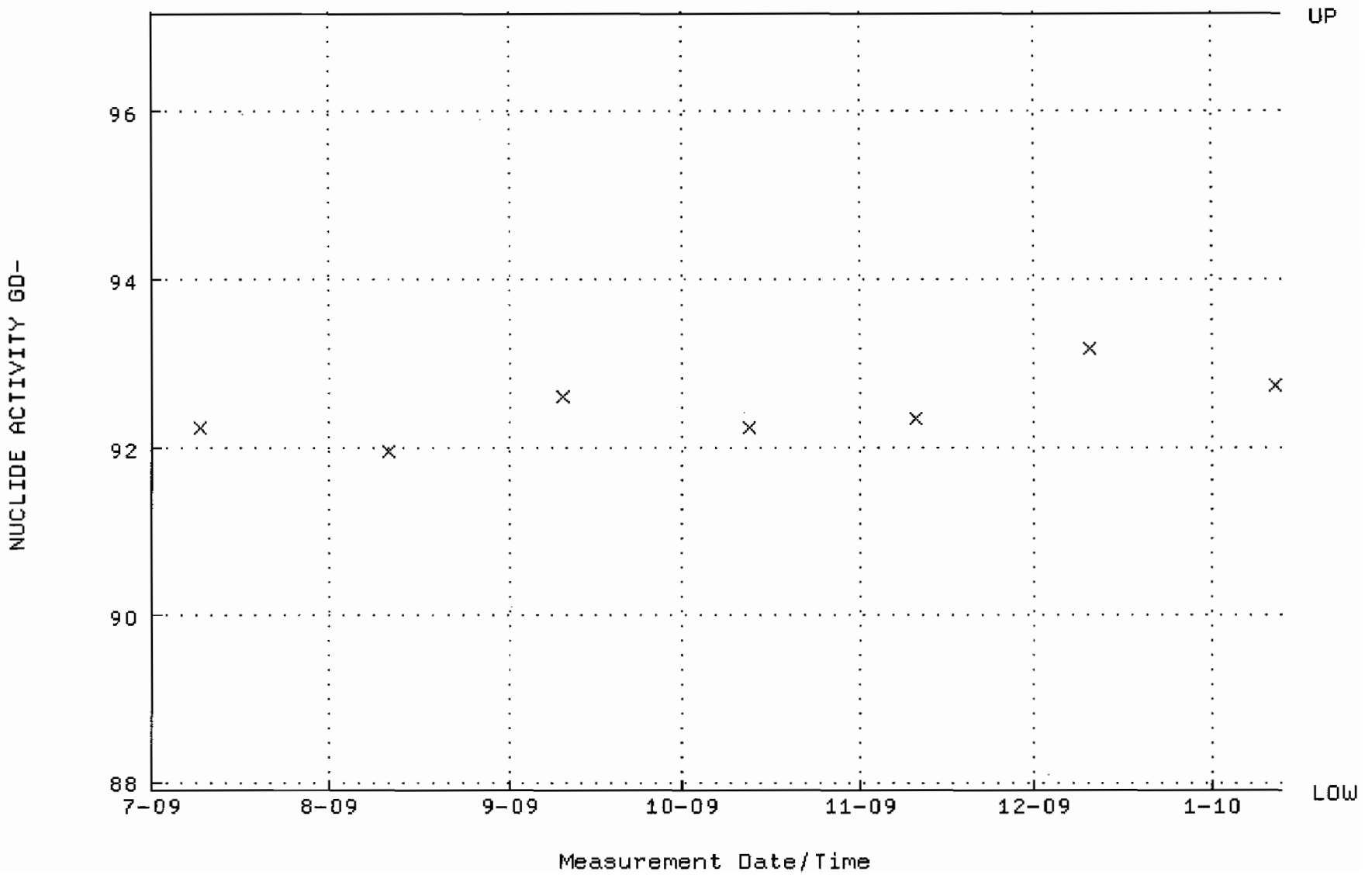
QA filename : DKA100:[ENV_ALPHA.QA.B]B075.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:02 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



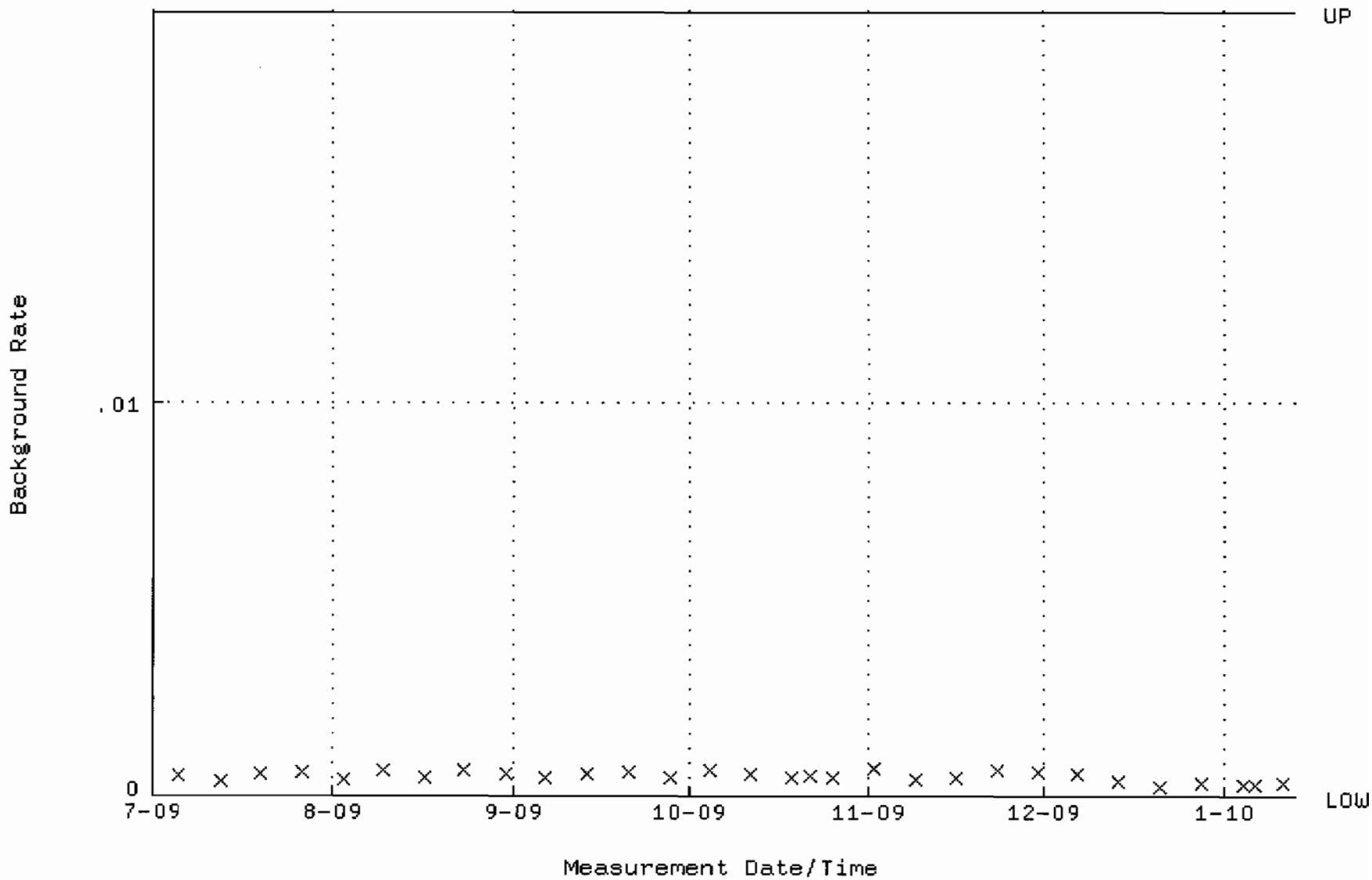
QA filename : DKA100:[ENV_ALPHA.QA.W]W076.QAF;2
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.295613 through 0.315613



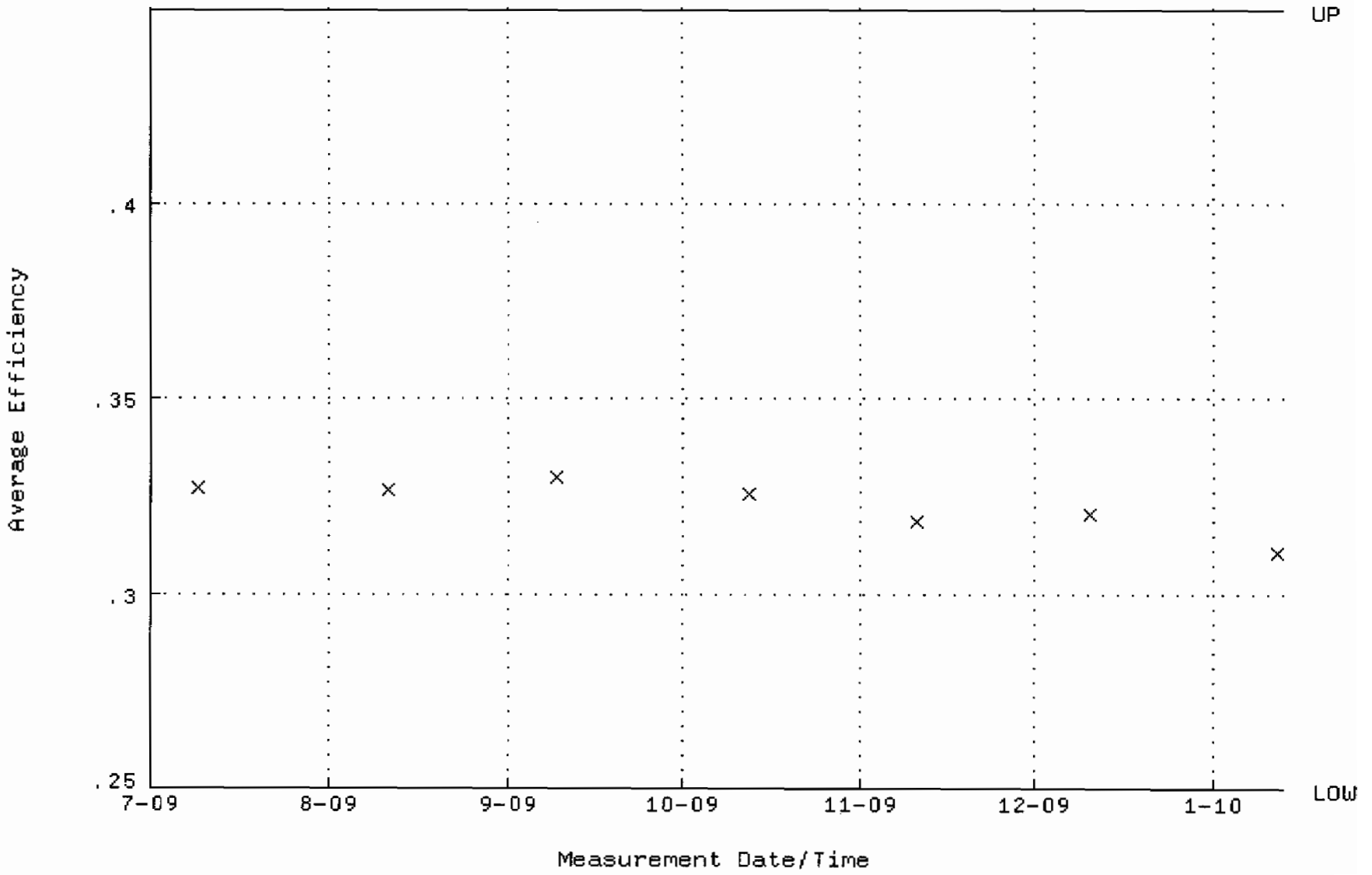
QA filename : DKA100:[ENV_ALPHA.QA.W]W076.QAF;2
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 87.9031 through 97.1561



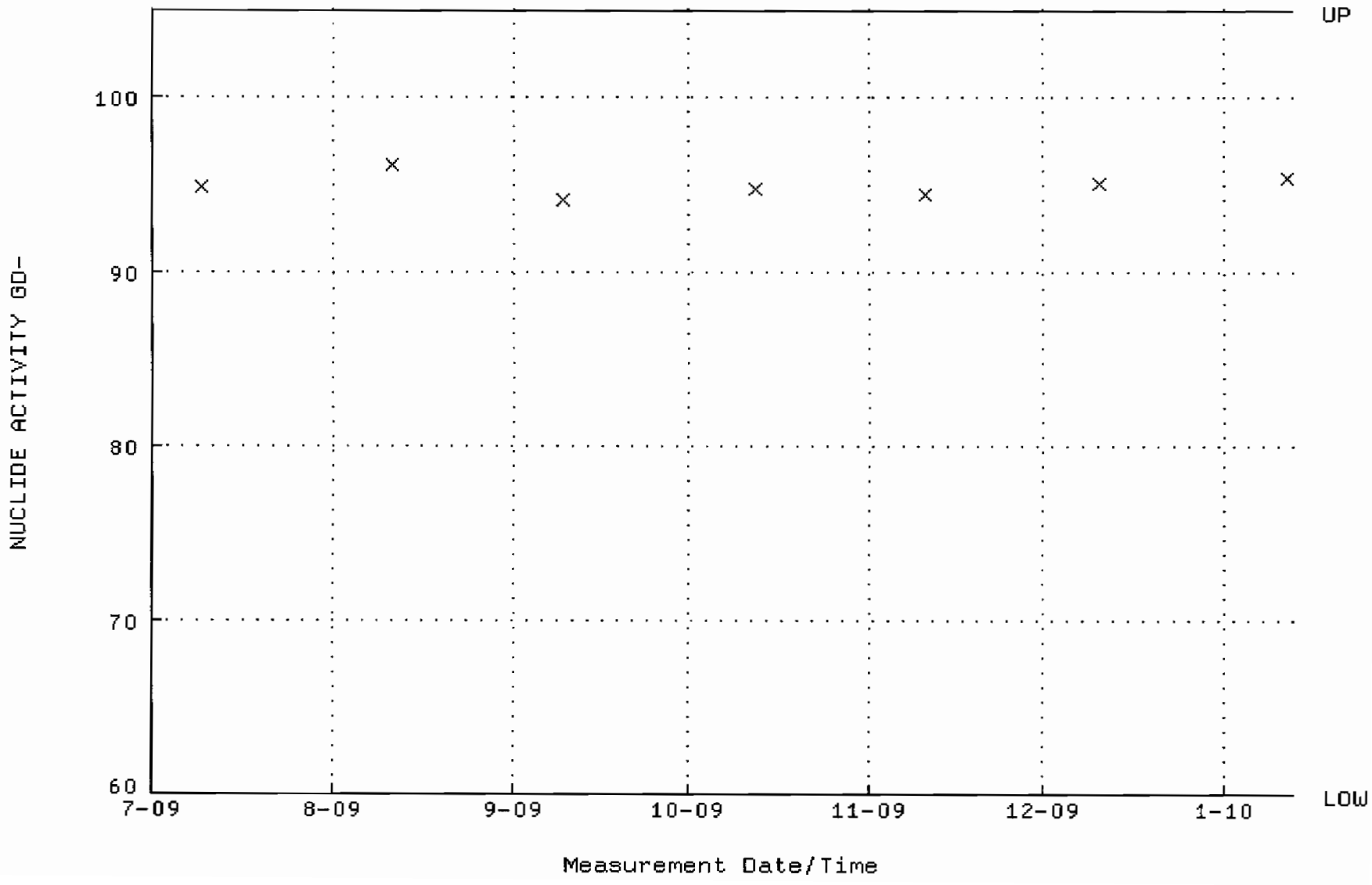
QA filename : DKA100:[ENV_ALPHA.QA.B]B076.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:02 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



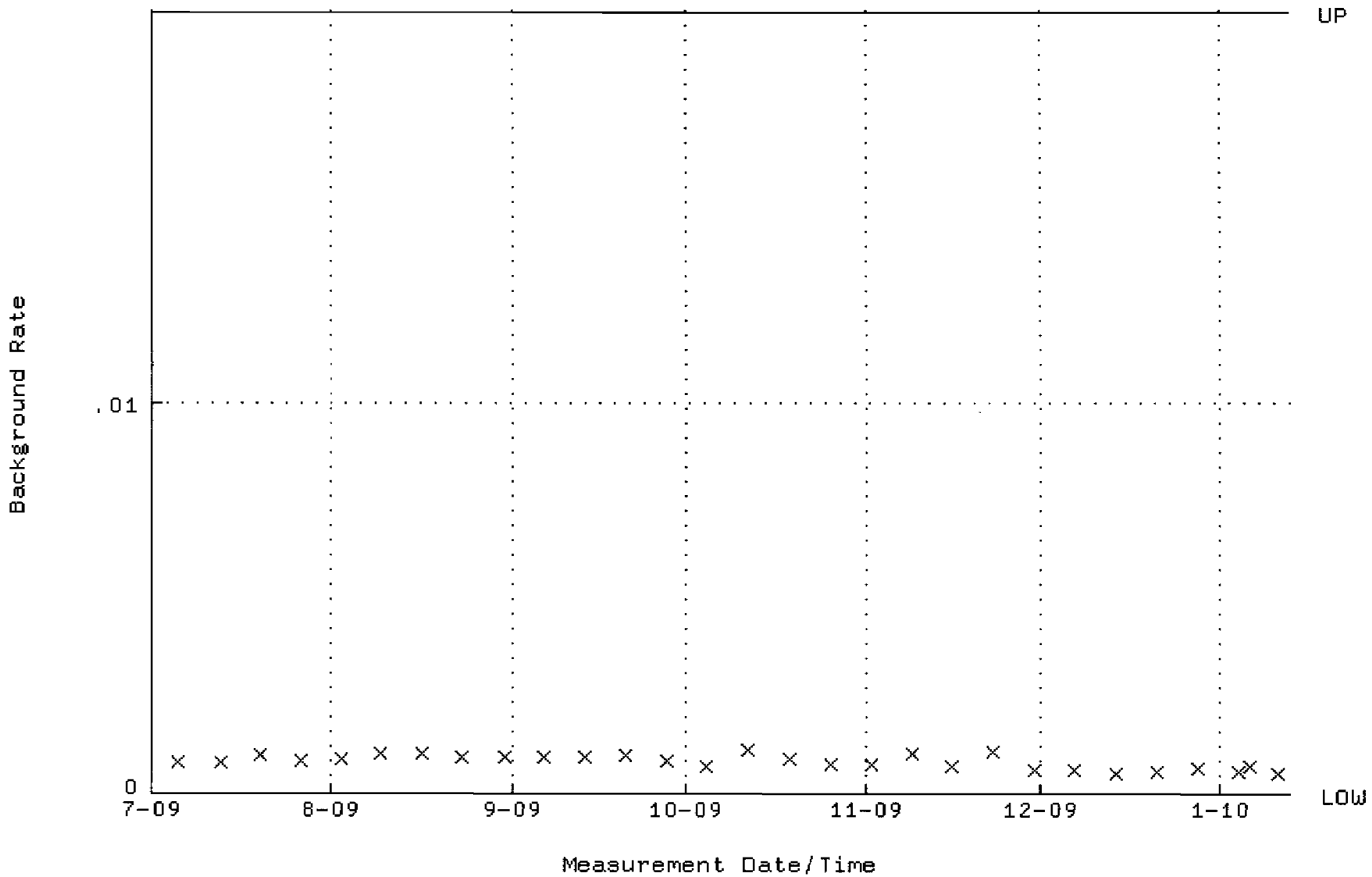
QA filename : DKA100:[ENV_ALPHA.QA.W]W078.QAF;6
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.250000 through 0.450000



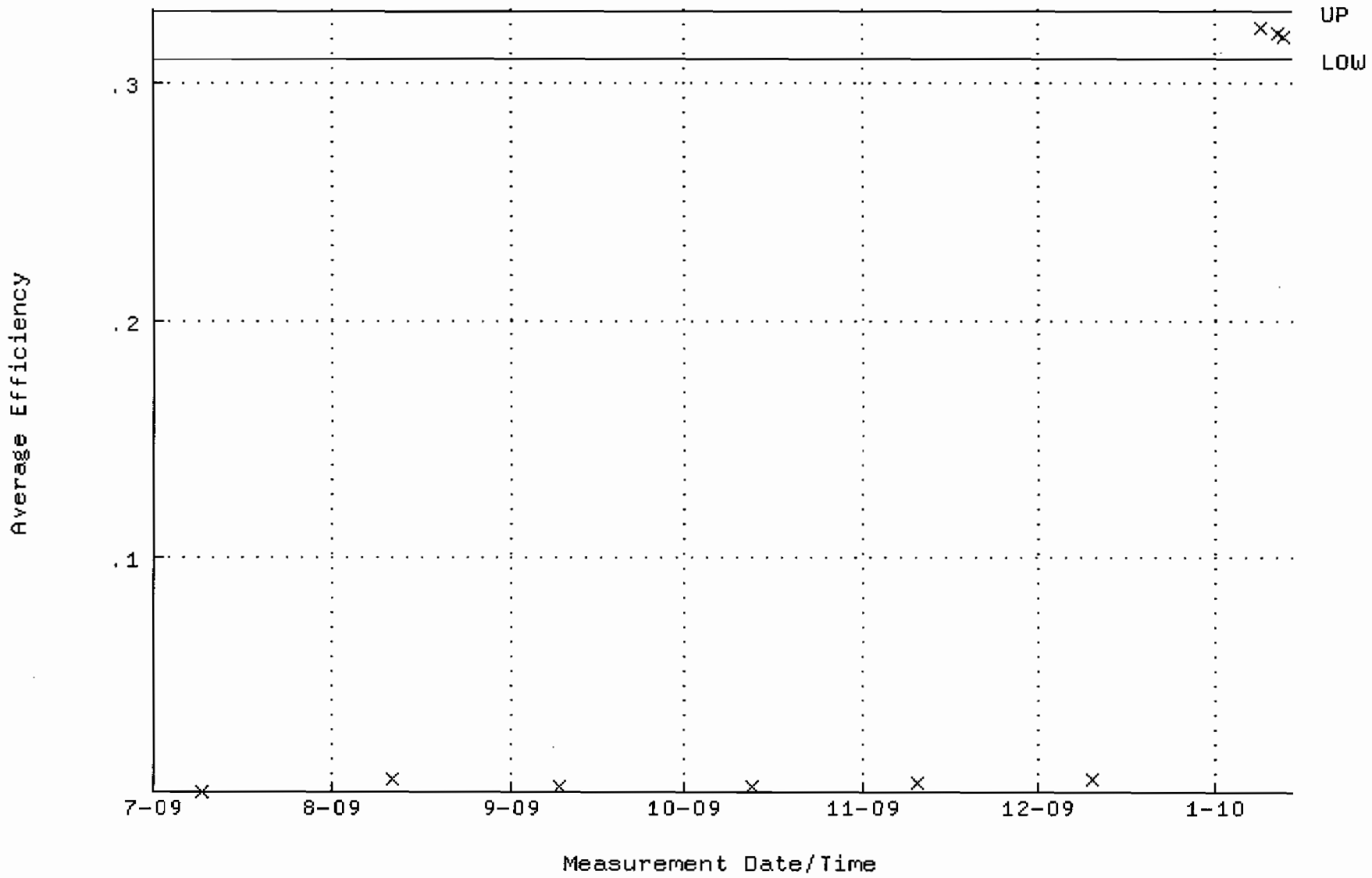
QA filename : DKA100:[ENV_ALPHA.QA.W]W078.QAF;6
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 60.0000 through 105.000



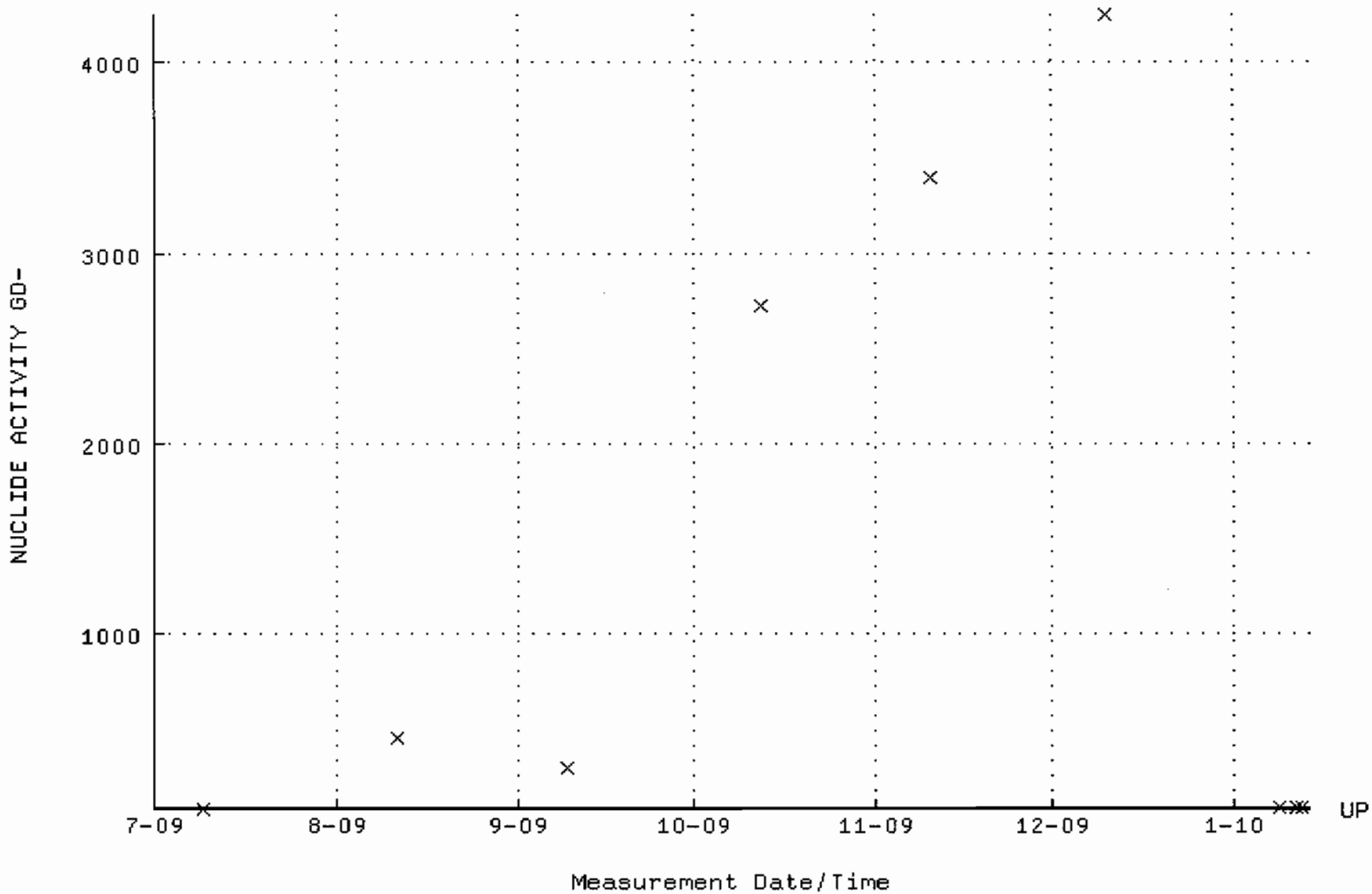
QA filename : DKA100:[ENV_ALPHA.QA.B]B078.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:03 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



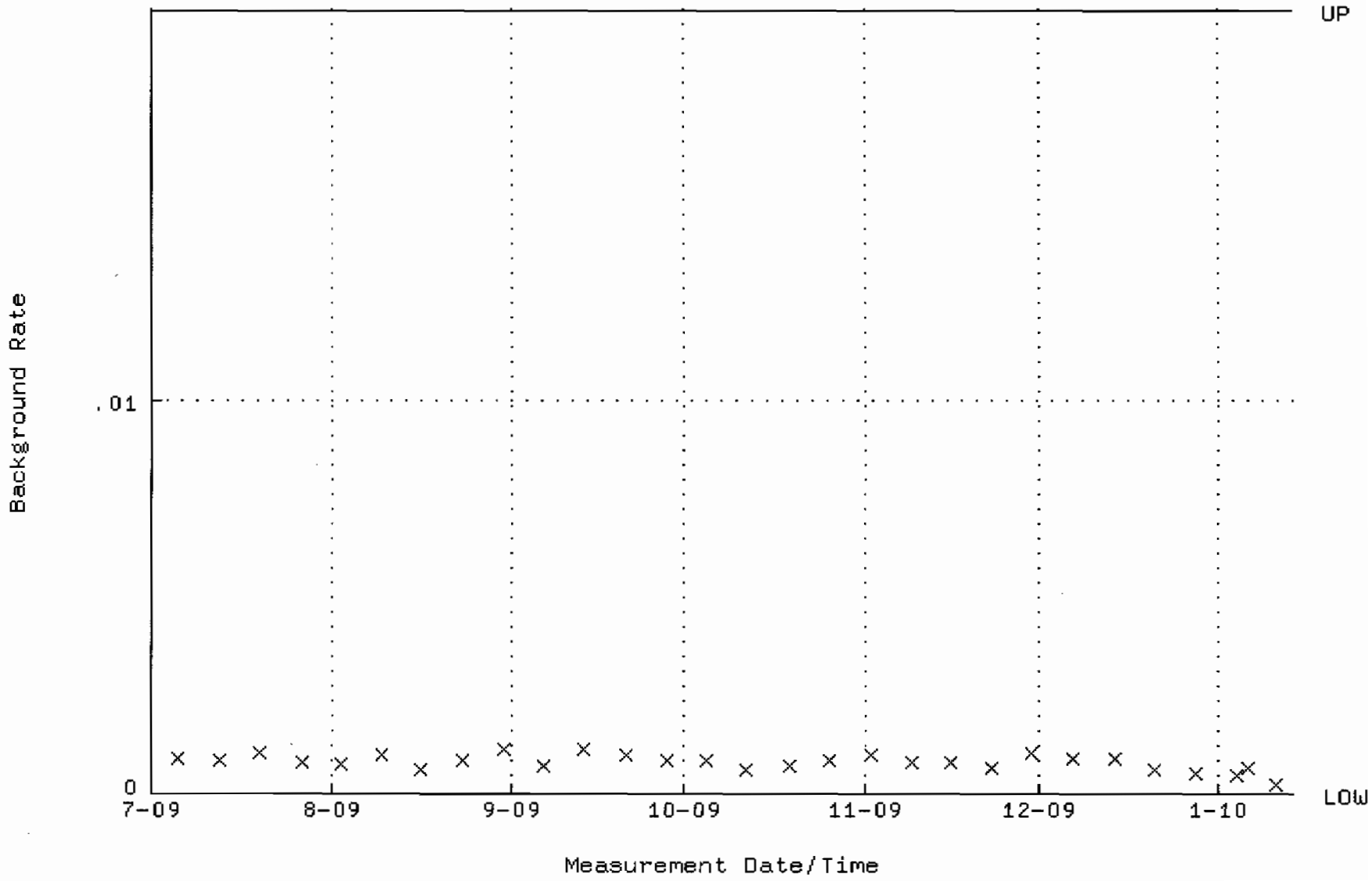
QA filename : DKA100:[ENV_ALPHA.QA.W]W081.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:11 through 13-JAN-2010 12:00:00
Lower/Upper Lmts: 0.310202 through 0.330202



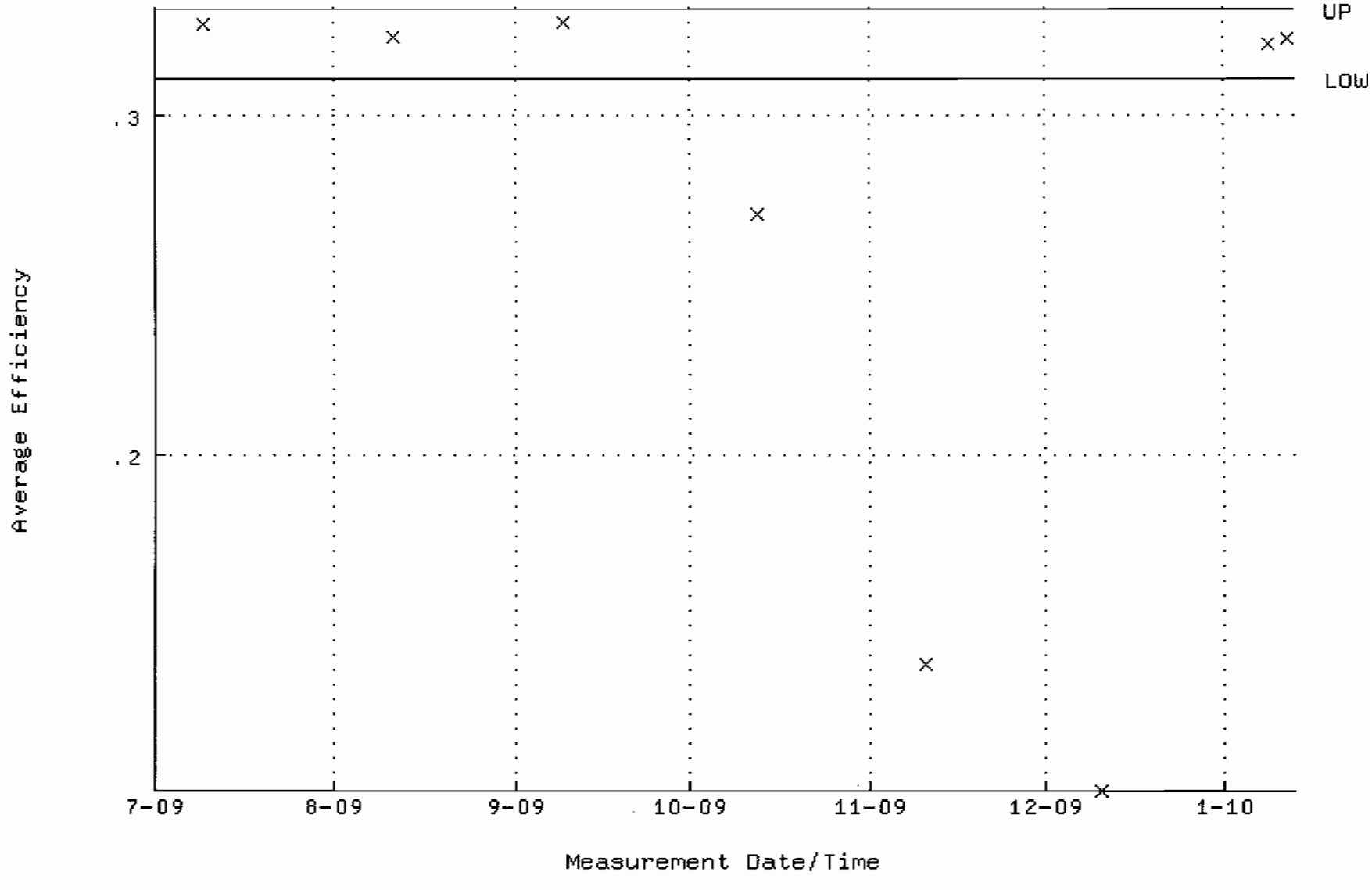
QA filename : DKA100:[ENV_ALPHA.QA.W]W081.QAF;5
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:11 through 13-JAN-2010 12:00:00
Lower/Upper Lmts: 89.2016 through 98.5912



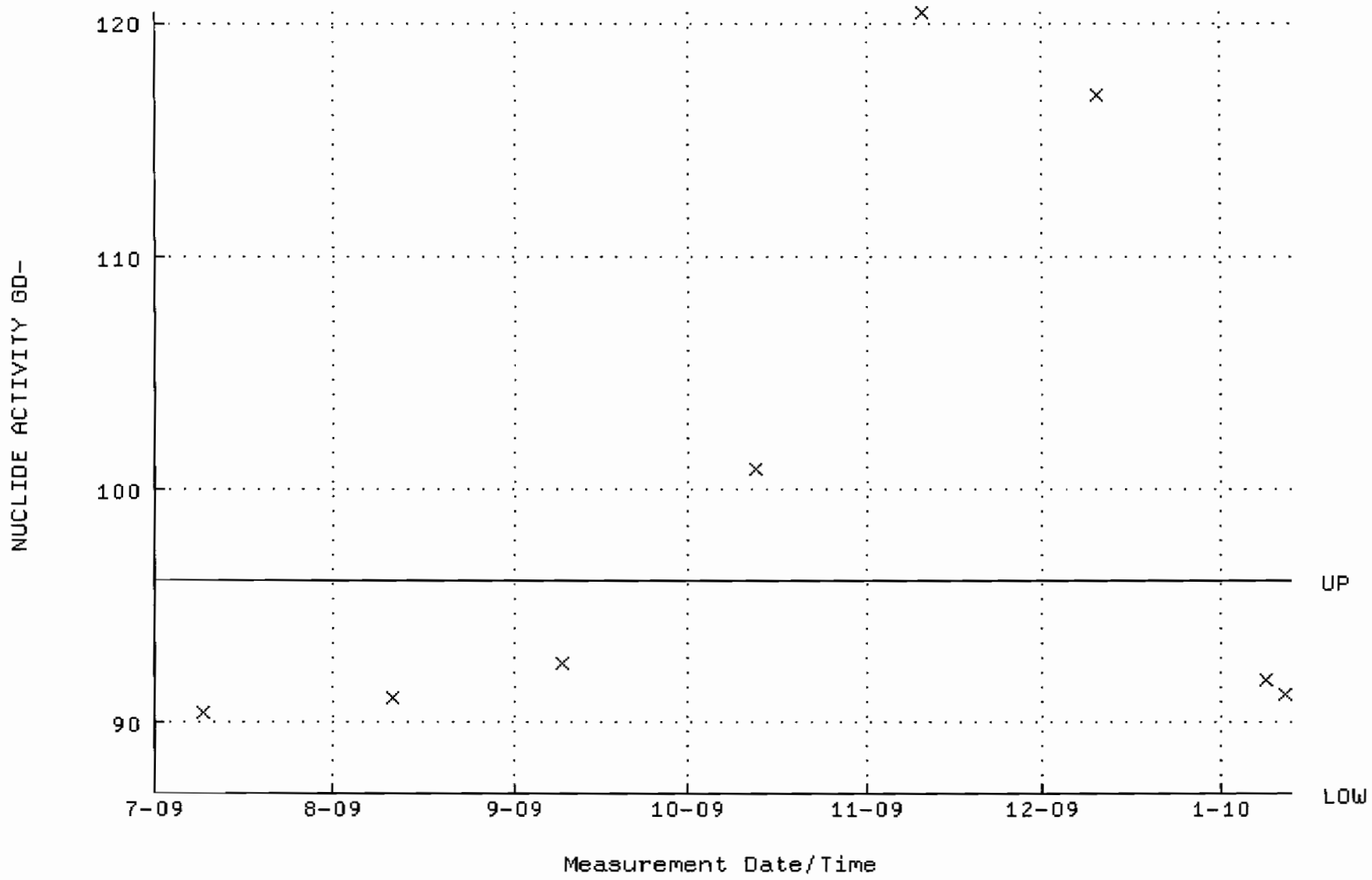
QA filename : DKA100:[ENV_ALPHA.QA.B]B081.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:03 through 13-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



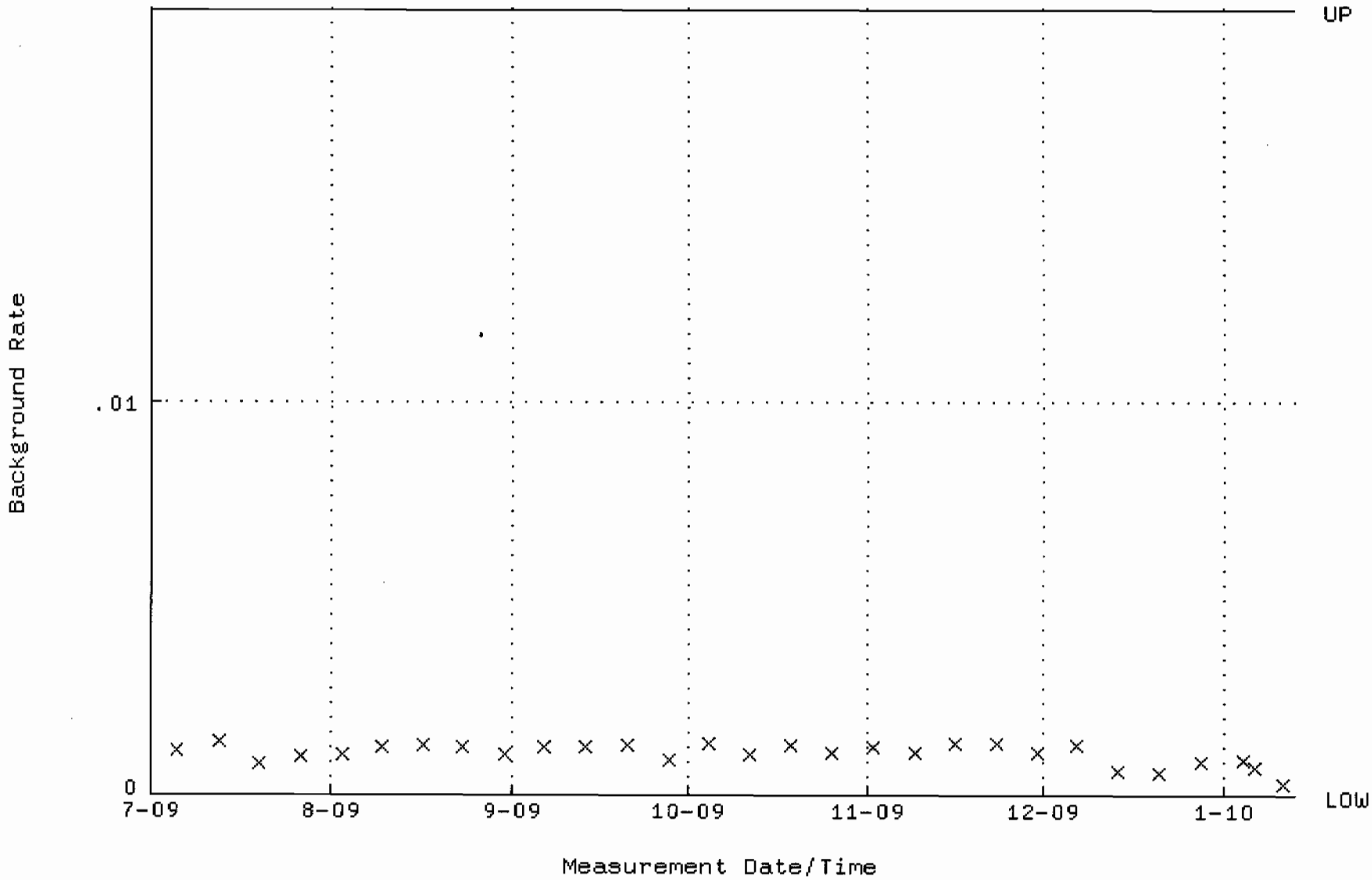
QA filename : DKA100:[ENV_ALPHA.QA.W]W082.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.311357 through 0.331357



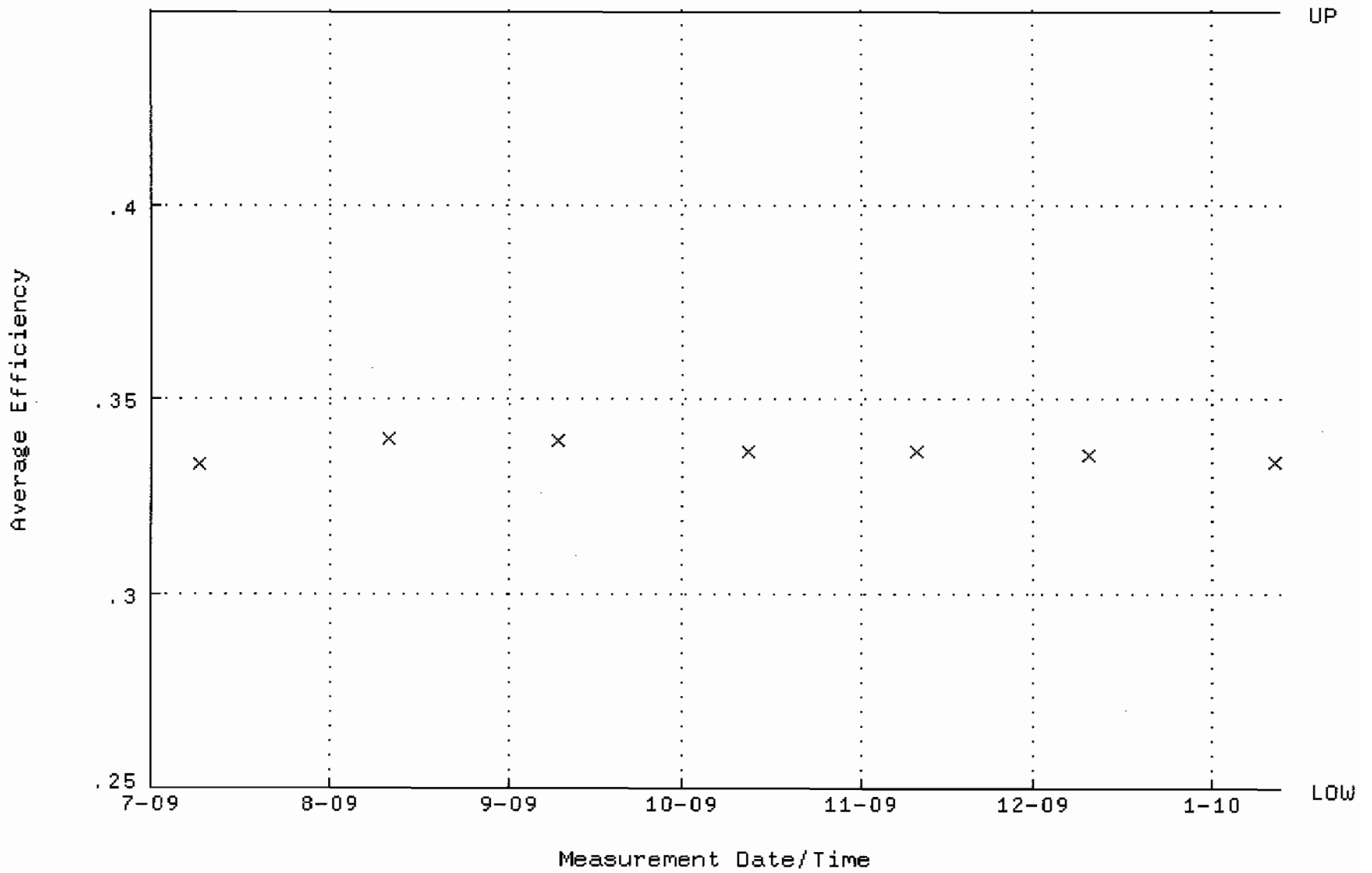
QA filename : DKA100:[ENV_ALPHA.QA.W]W082.QAF;5
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:11 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 86.9094 through 96.0578



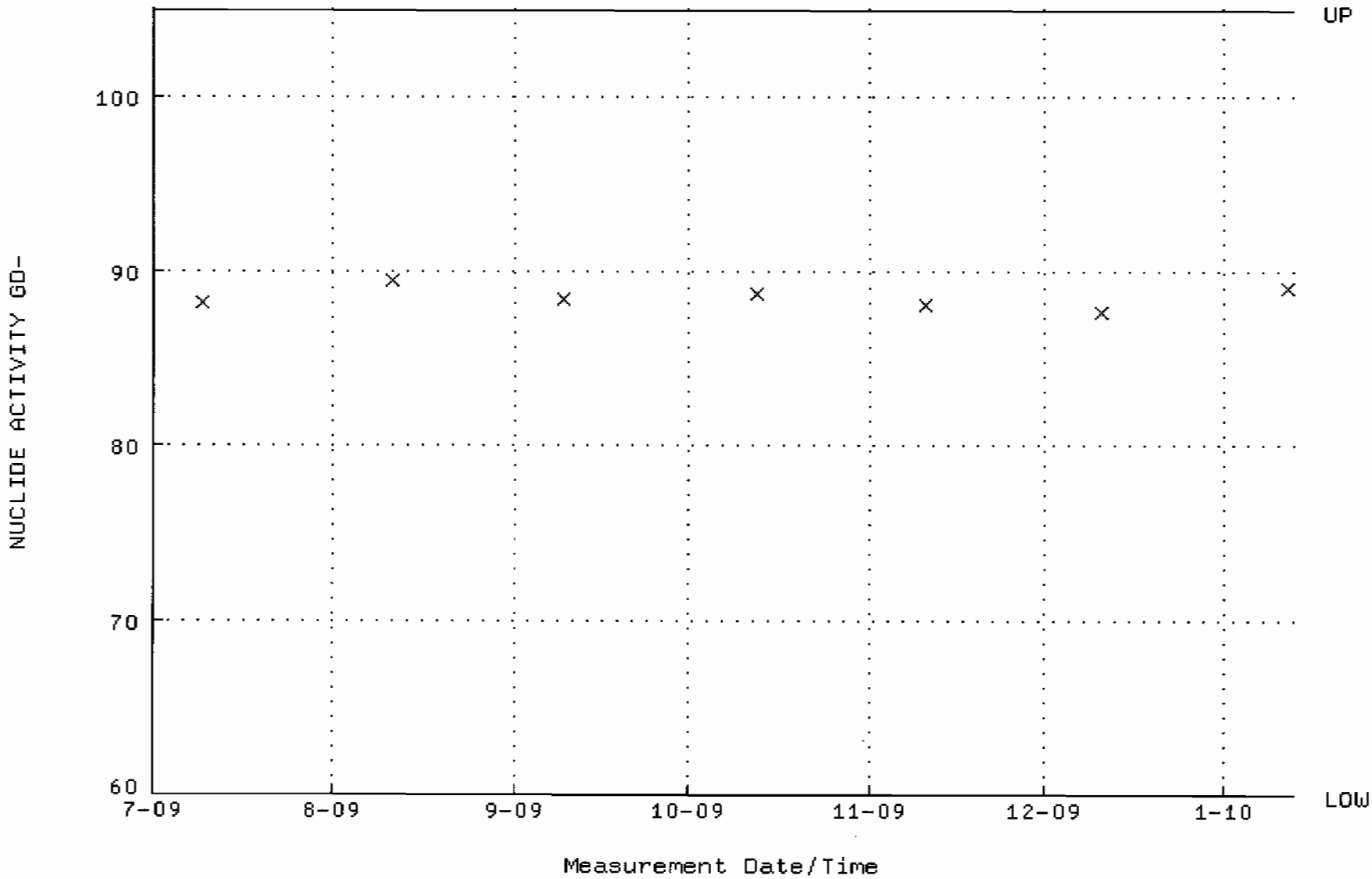
QA filename : DKA100:[ENV_ALPHA.QA.B]B082.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:03 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



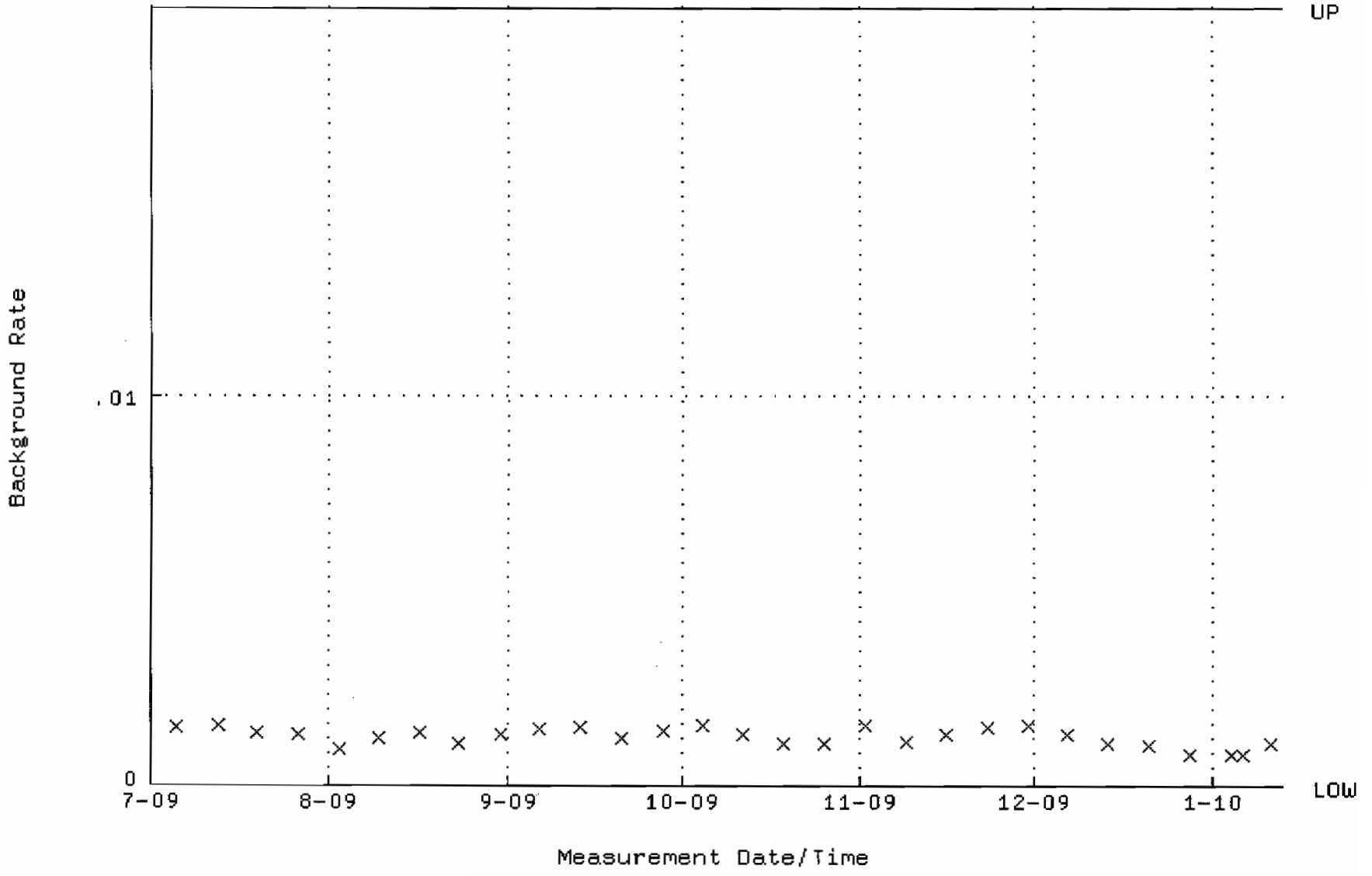
QA filename : DKA100:[ENV_ALPHA.QA.W]W083.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.250000 through 0.450000



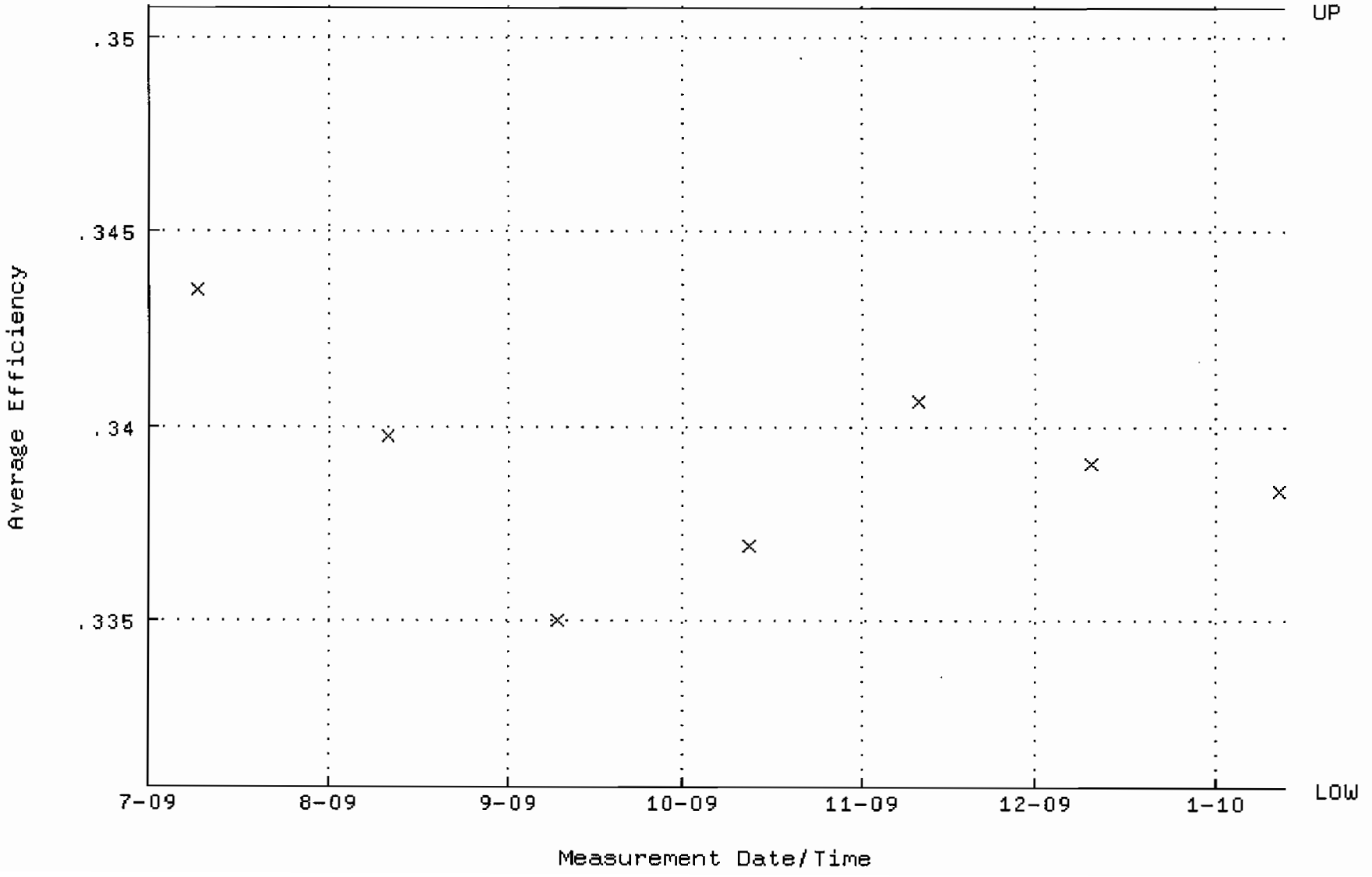
QA filename : DKA100:[ENV_ALPHA.QA.W]W083.QAF;5
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 60.0000 through 105.000



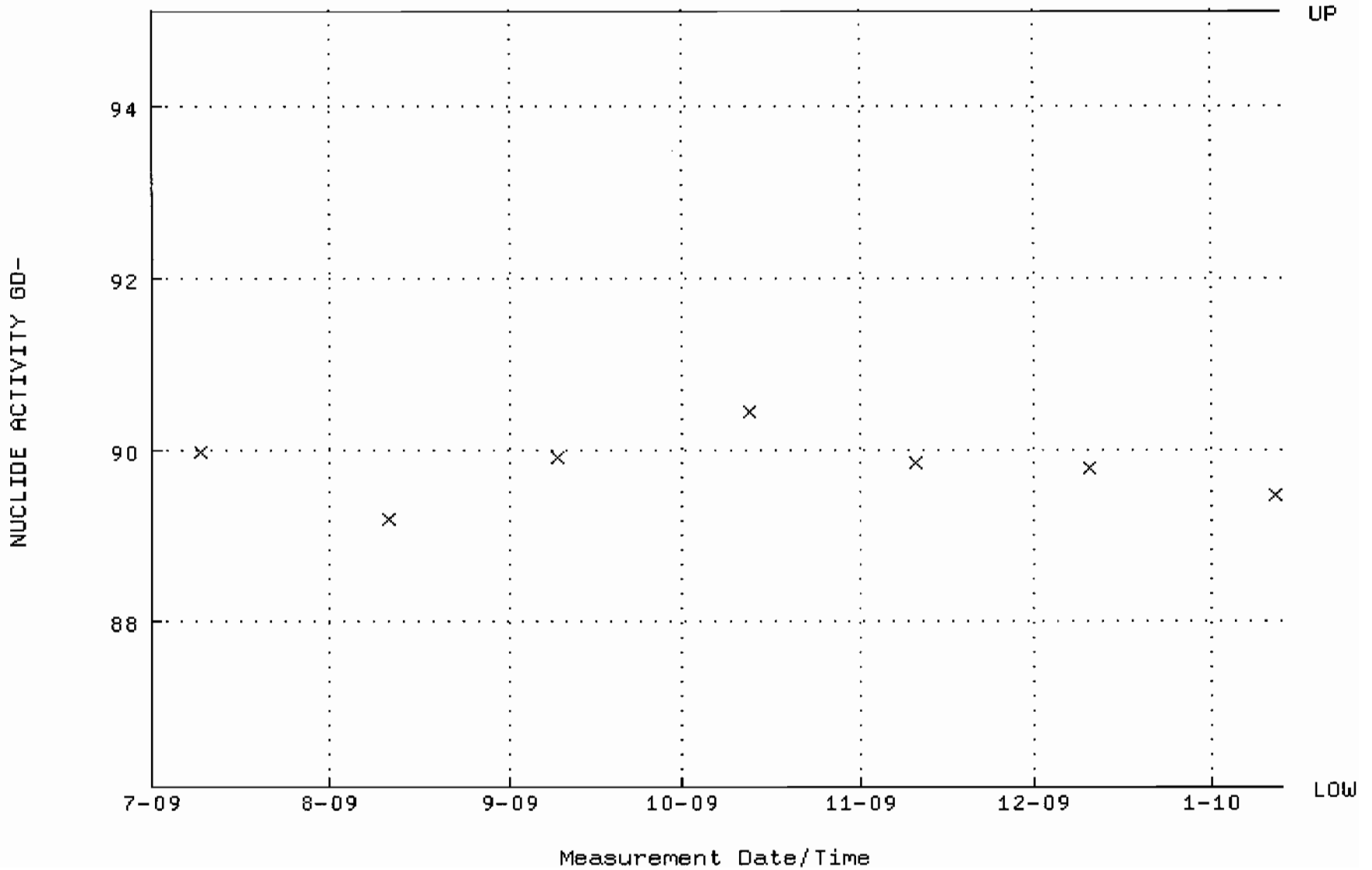
QA filename : DKA100:[ENV_ALPHA.QA.B]B083.QAF;3
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



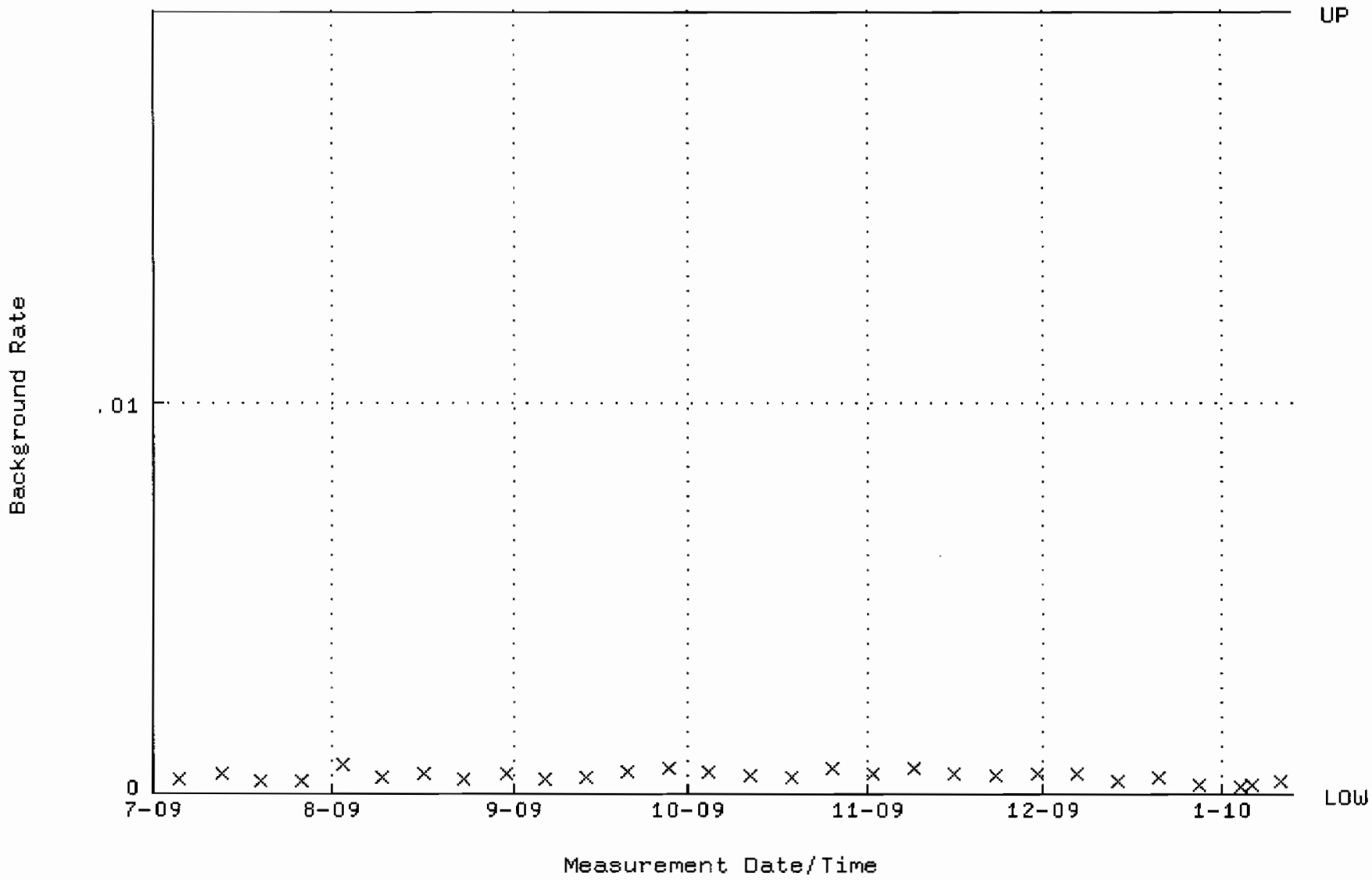
QA filename : DKA100:[ENV_ALPHA.QA.W]W084.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.330740 through 0.350740



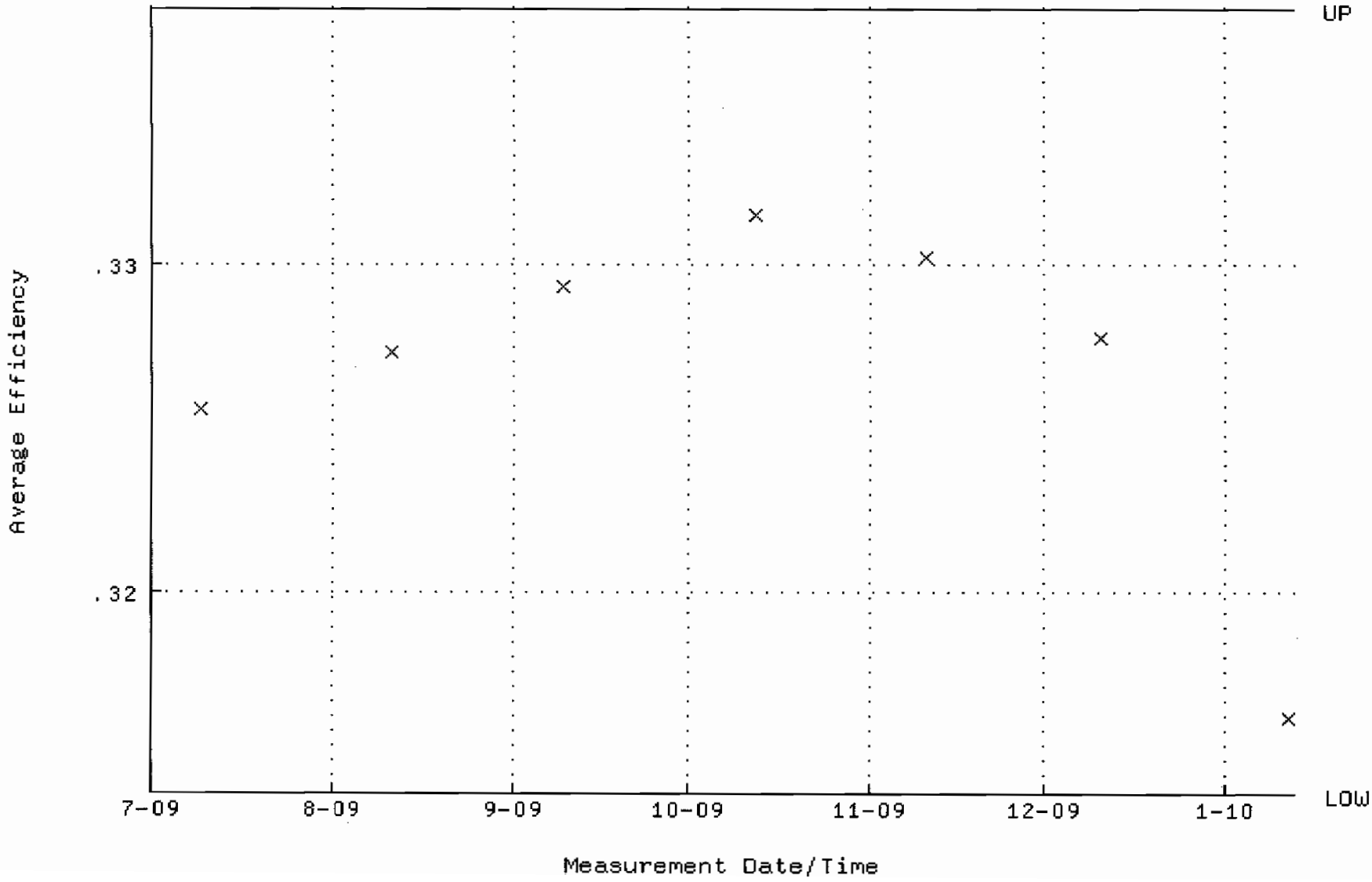
QA filename : DKA100:[ENV_ALPHA.QA.W]W084.QAF;5
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 86.0569 through 95.1155



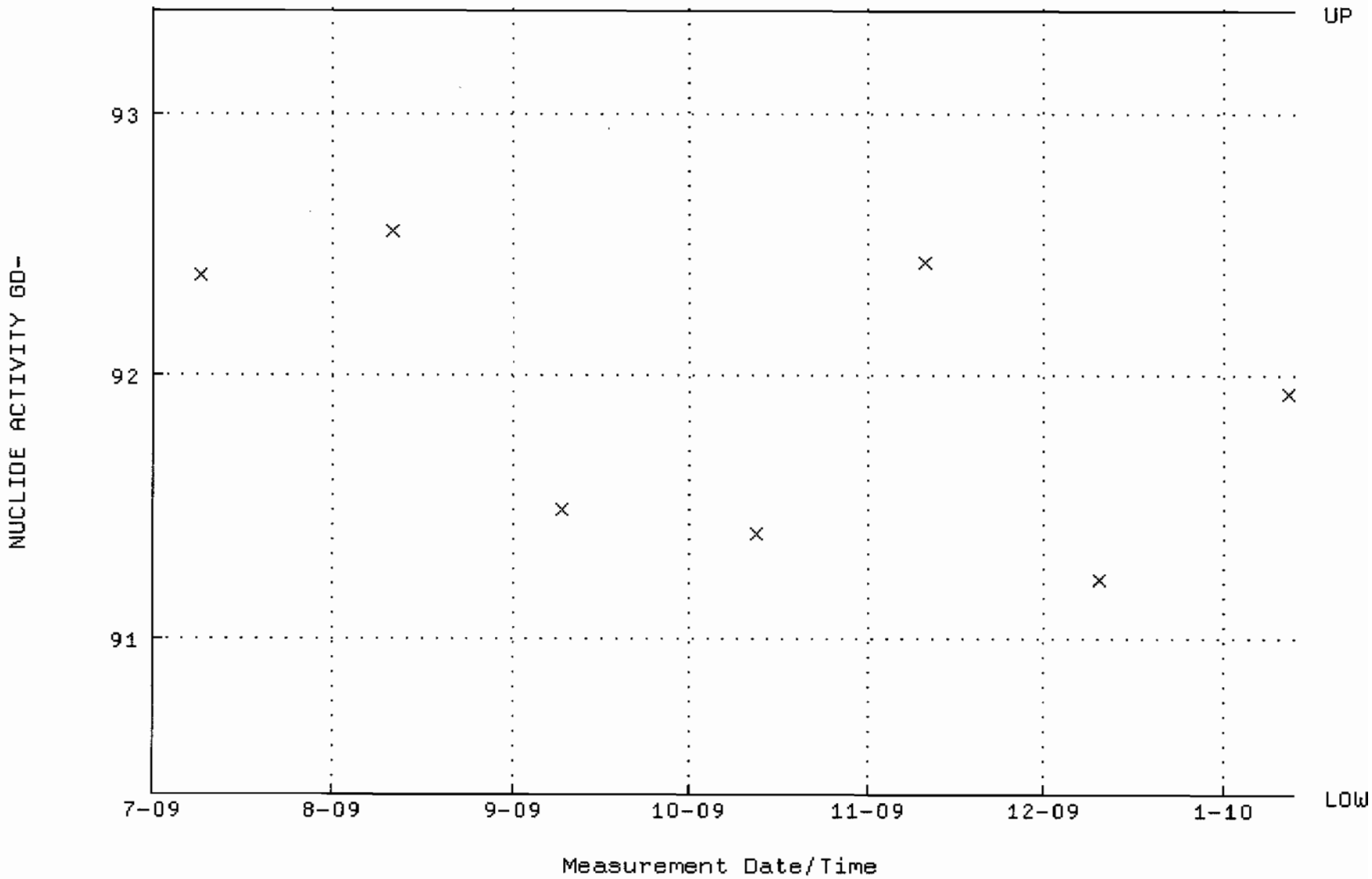
QA filename : DKA100:[ENV_ALPHA.QA.B]B084.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



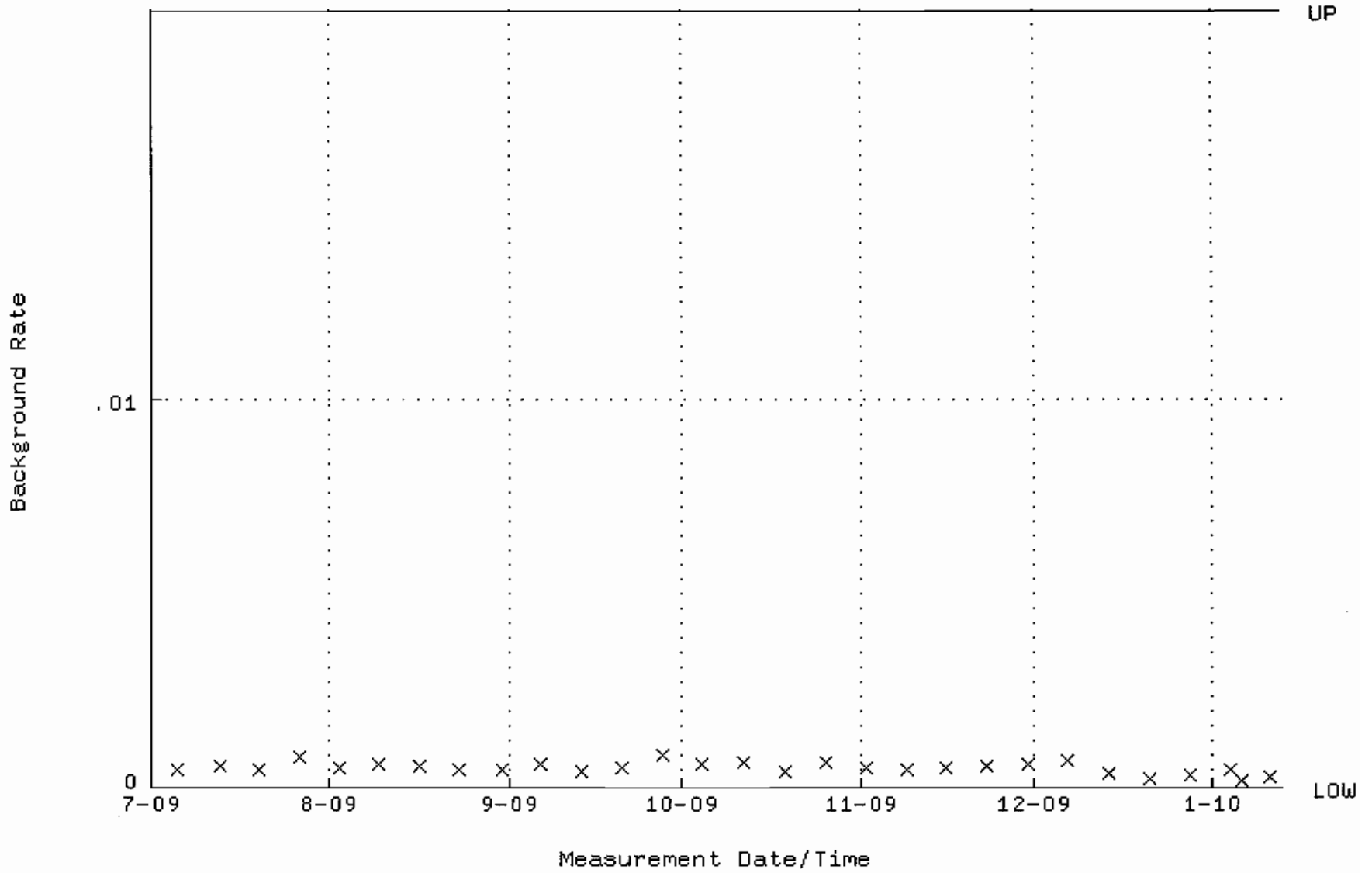
QA filename : DKA100:[ENV_ALPHA.QA.W]W085.QAF;6
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.313884 through 0.337714



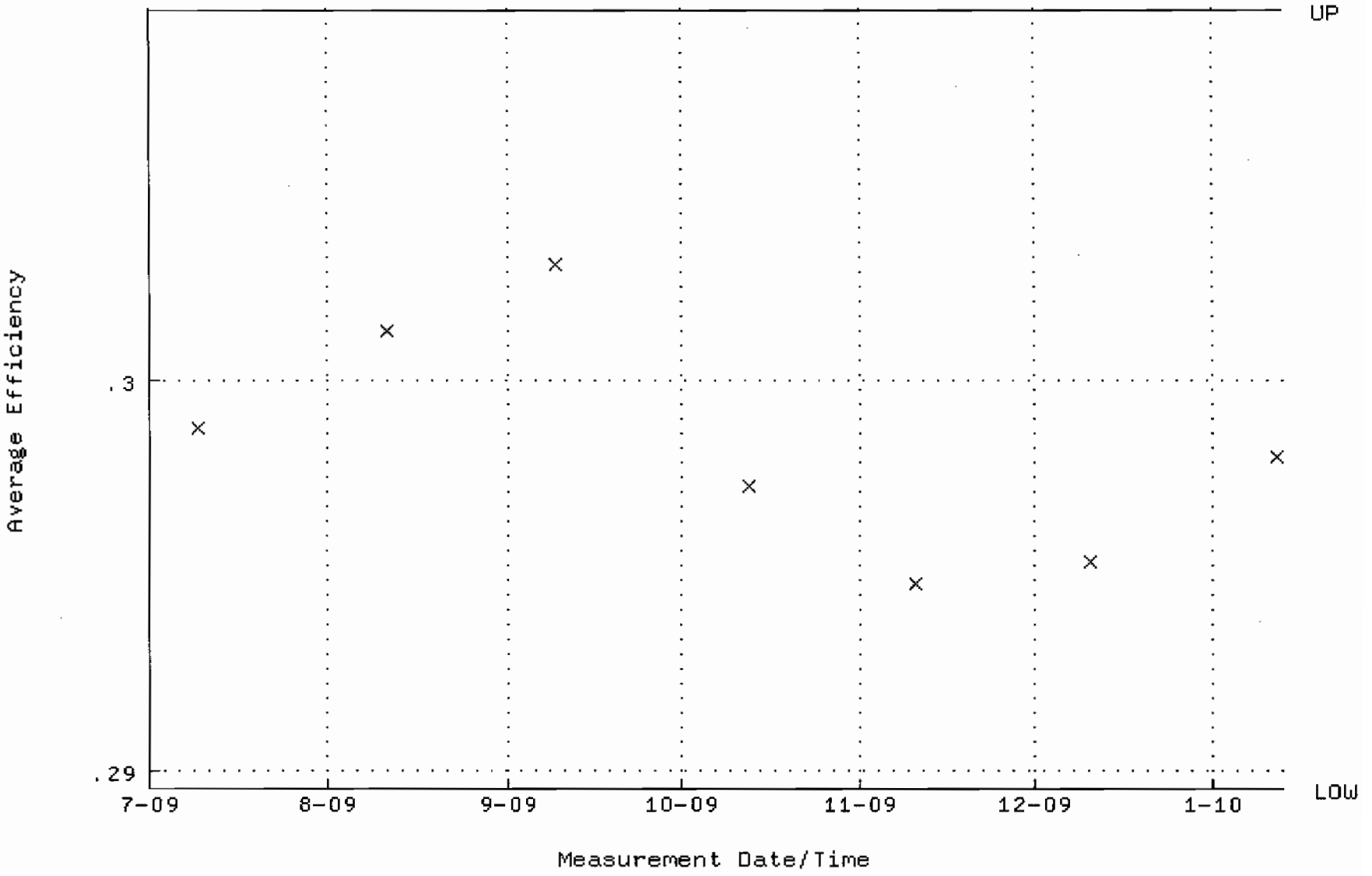
QA filename : DKA100:[ENV_ALPHA.QA.W]W085.QAF;6
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 90.4059 through 93.3969



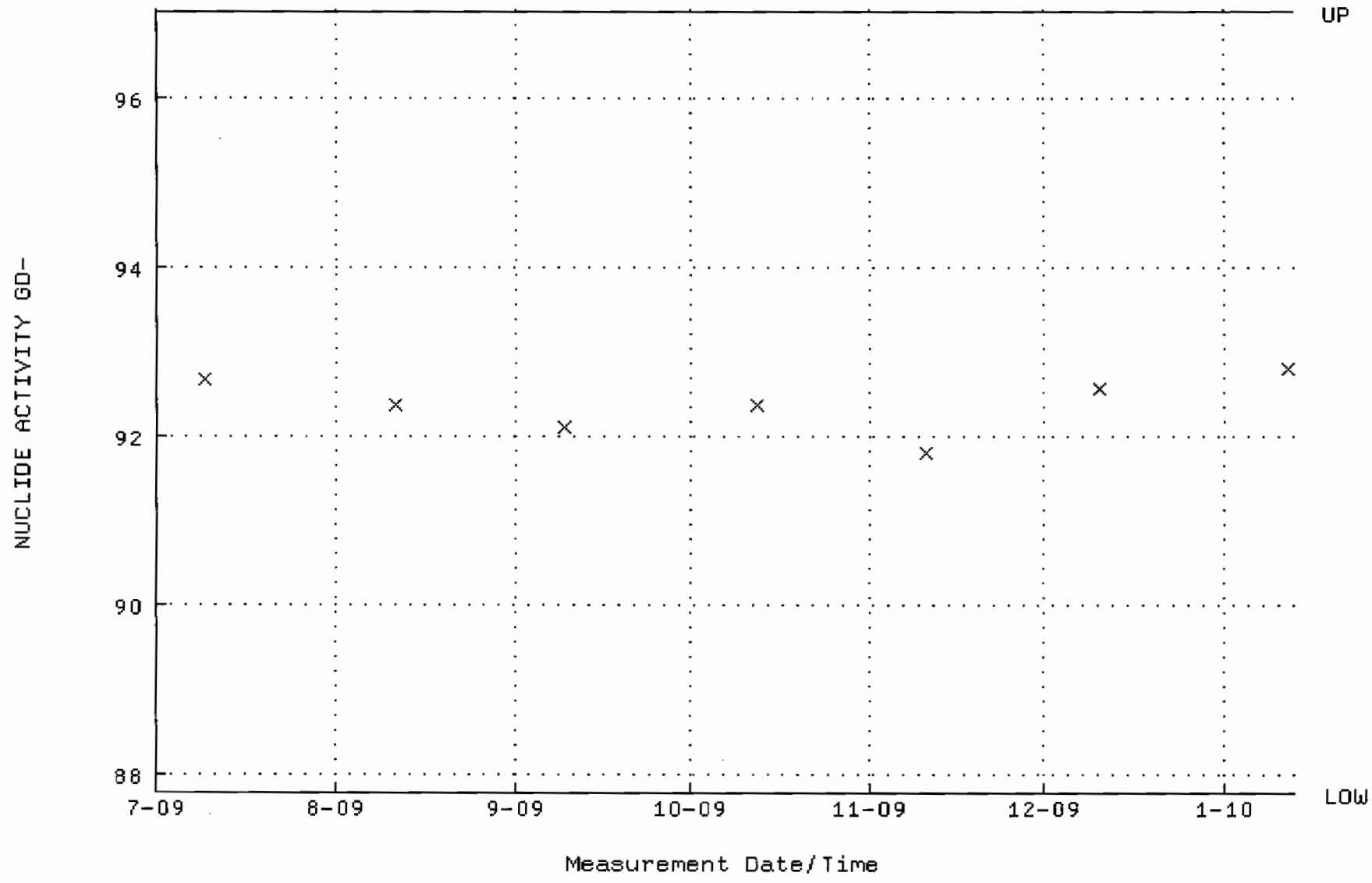
QA filename : DKA100:[ENV_ALPHA.QA.B]B085.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



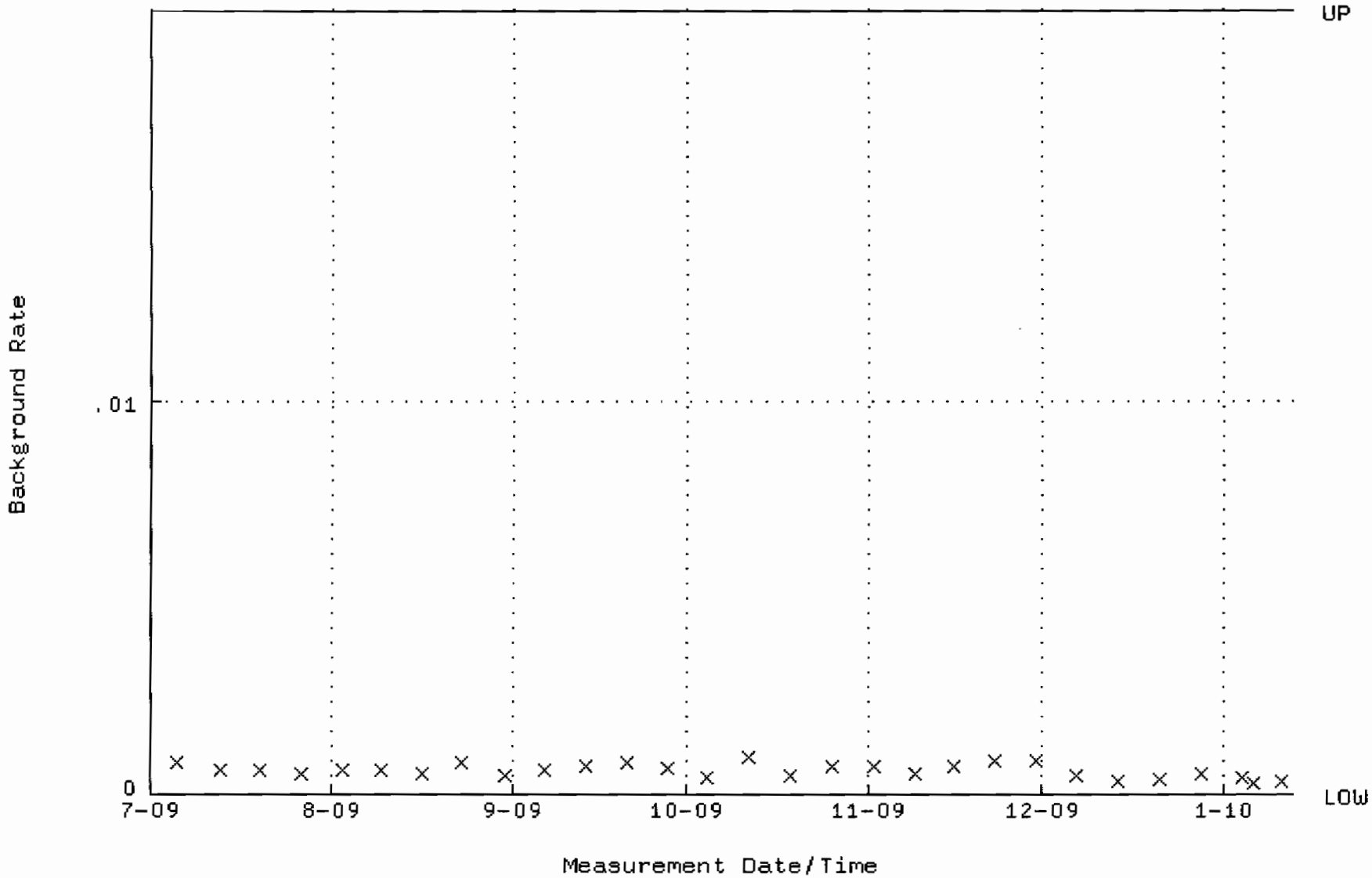
QA filename : DKA100:[ENV_ALPHA.QA.W]W086.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.289508 through 0.309508



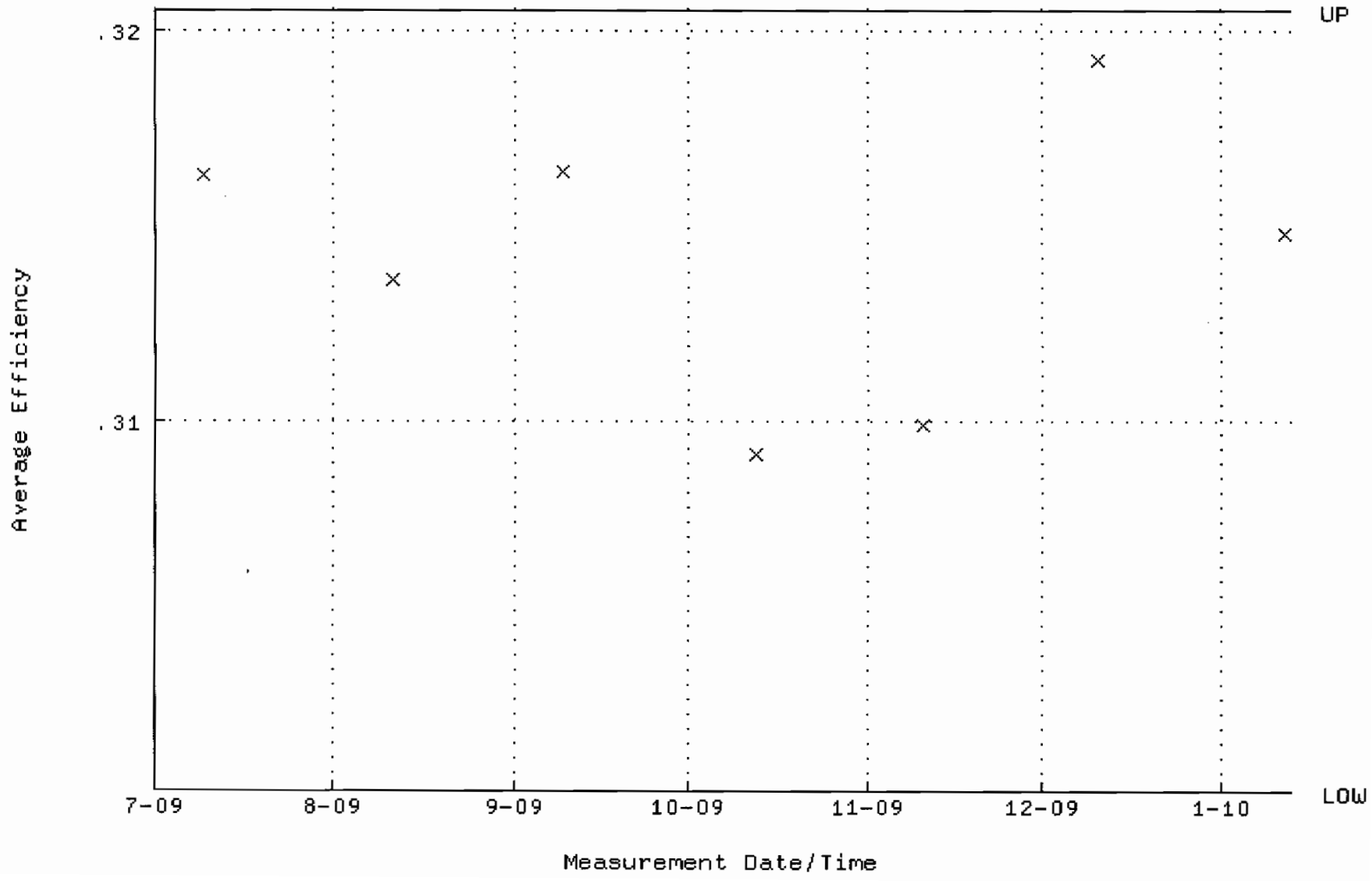
QA filename : DKA100:[ENV_ALPHA.QA.W]W086.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 87.7898 through 97.0308



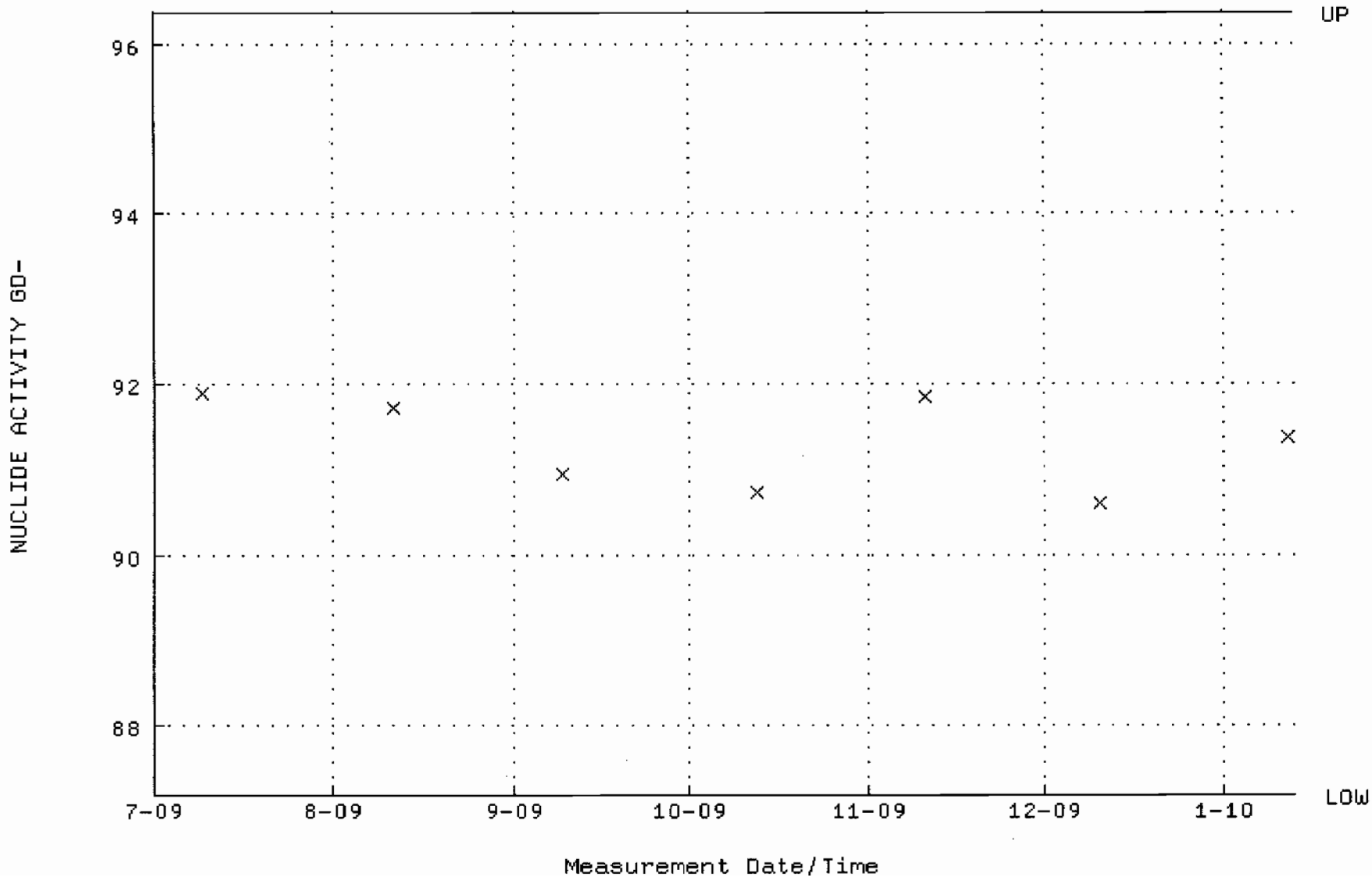
QA filename : DKA100:[ENV_ALPHA.QA.B]B086.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



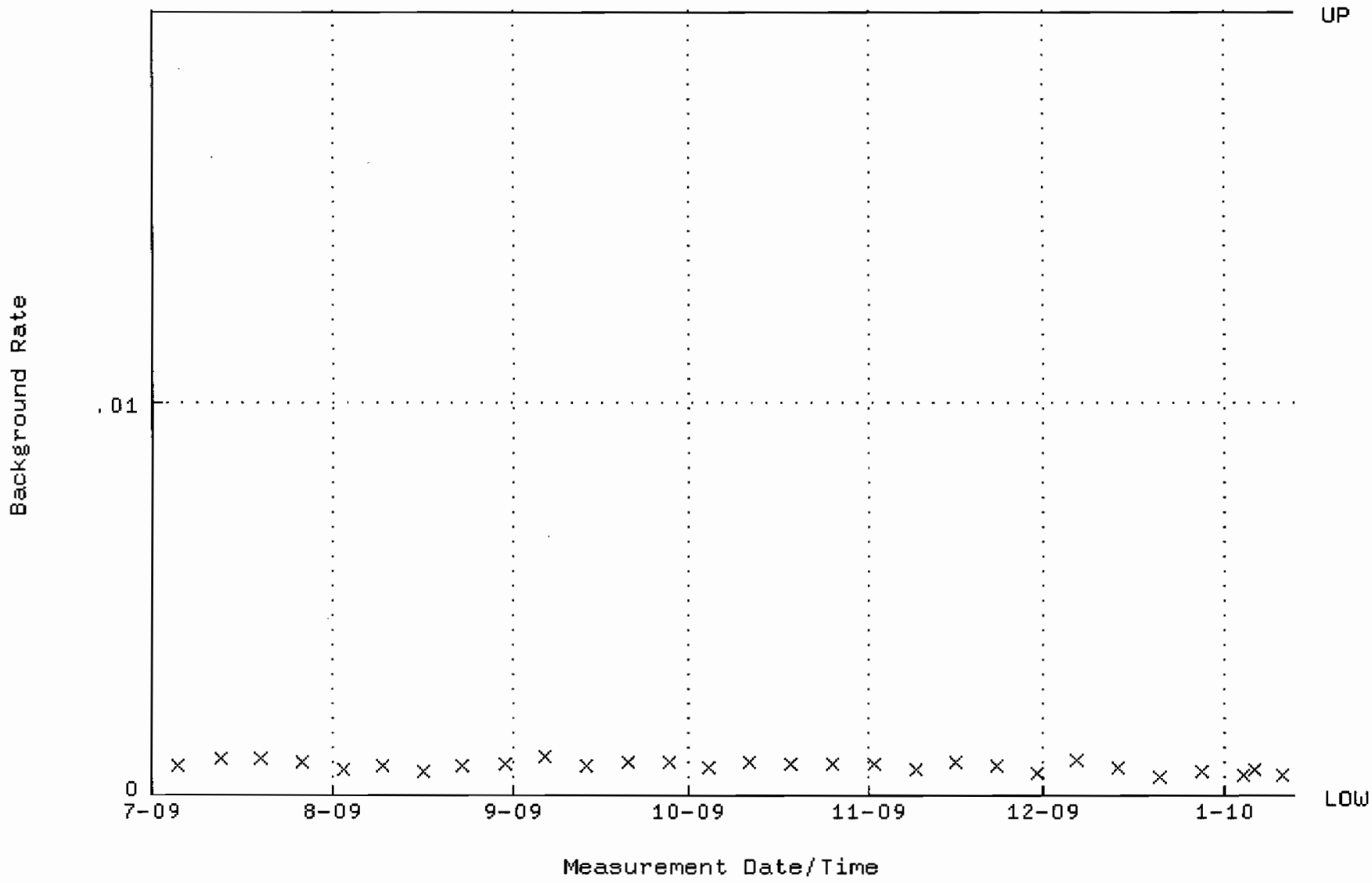
QA filename : DKA100:[ENV_ALPHA.QA.W]W087.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.300530 through 0.320530



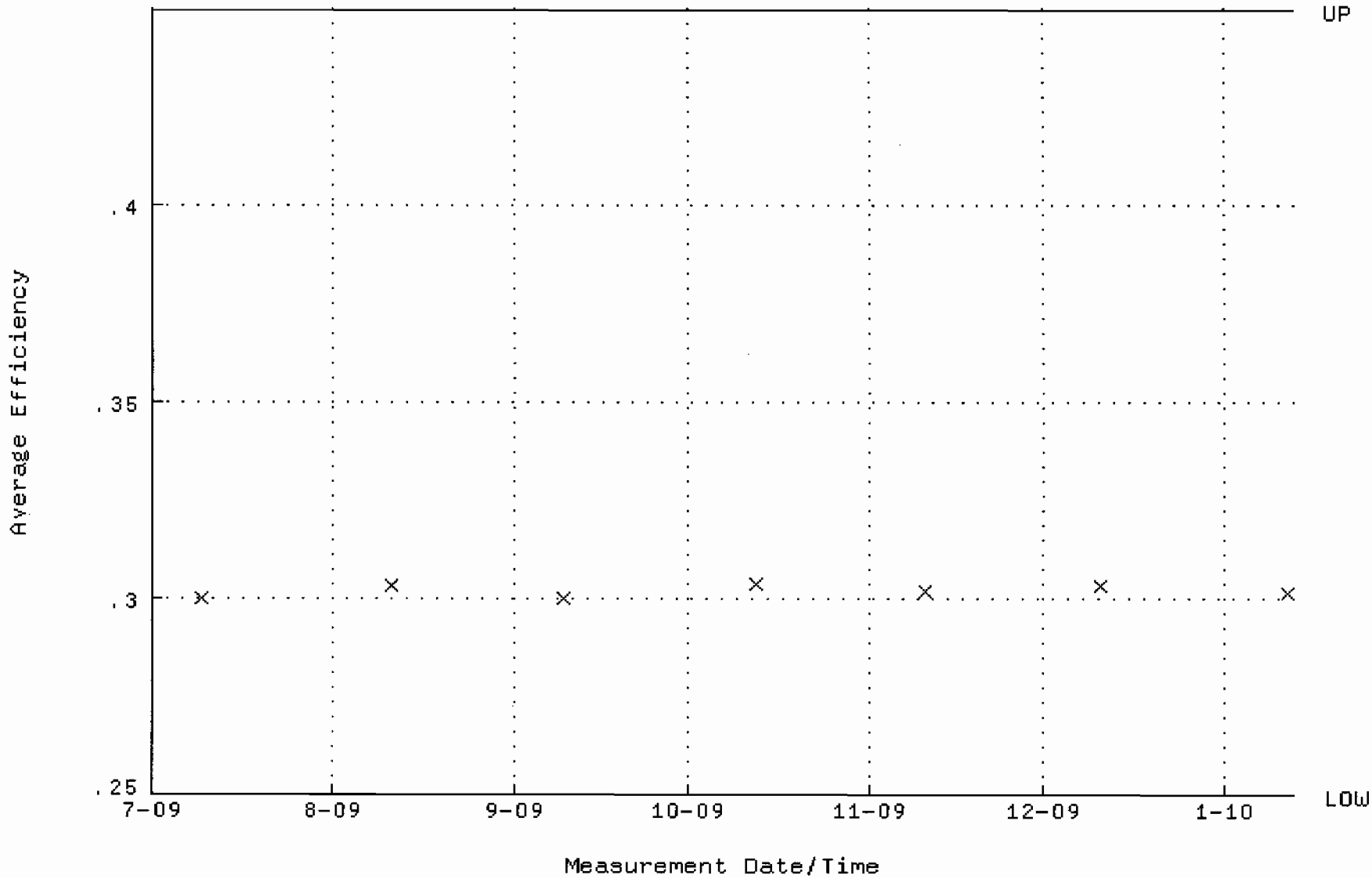
QA filename : DKA100:[ENV_ALPHA.QA.W]W087.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 87.1845 through 96.3619



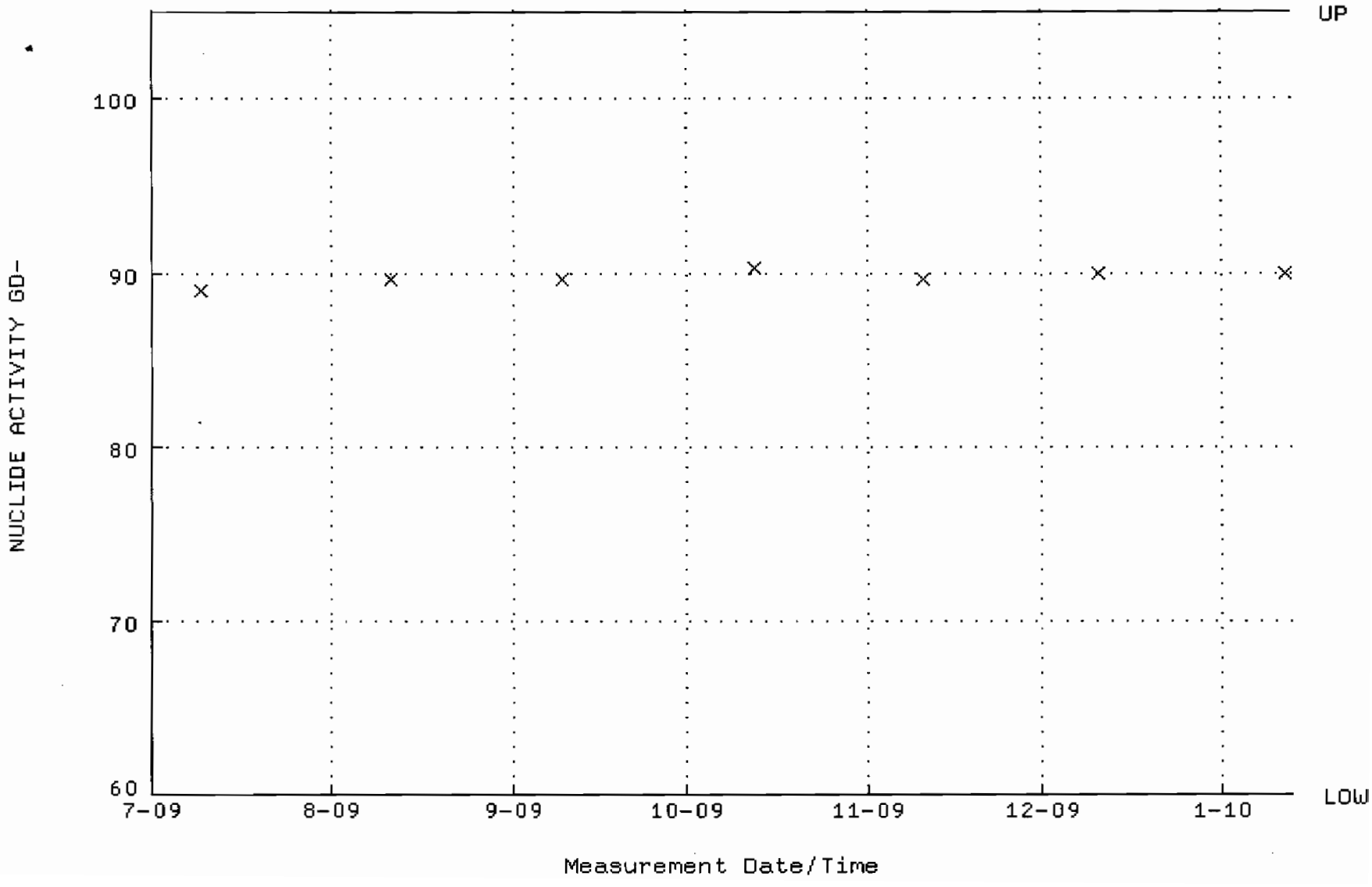
QA filename : DKA100:[ENV_ALPHA.QA.B]B087.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



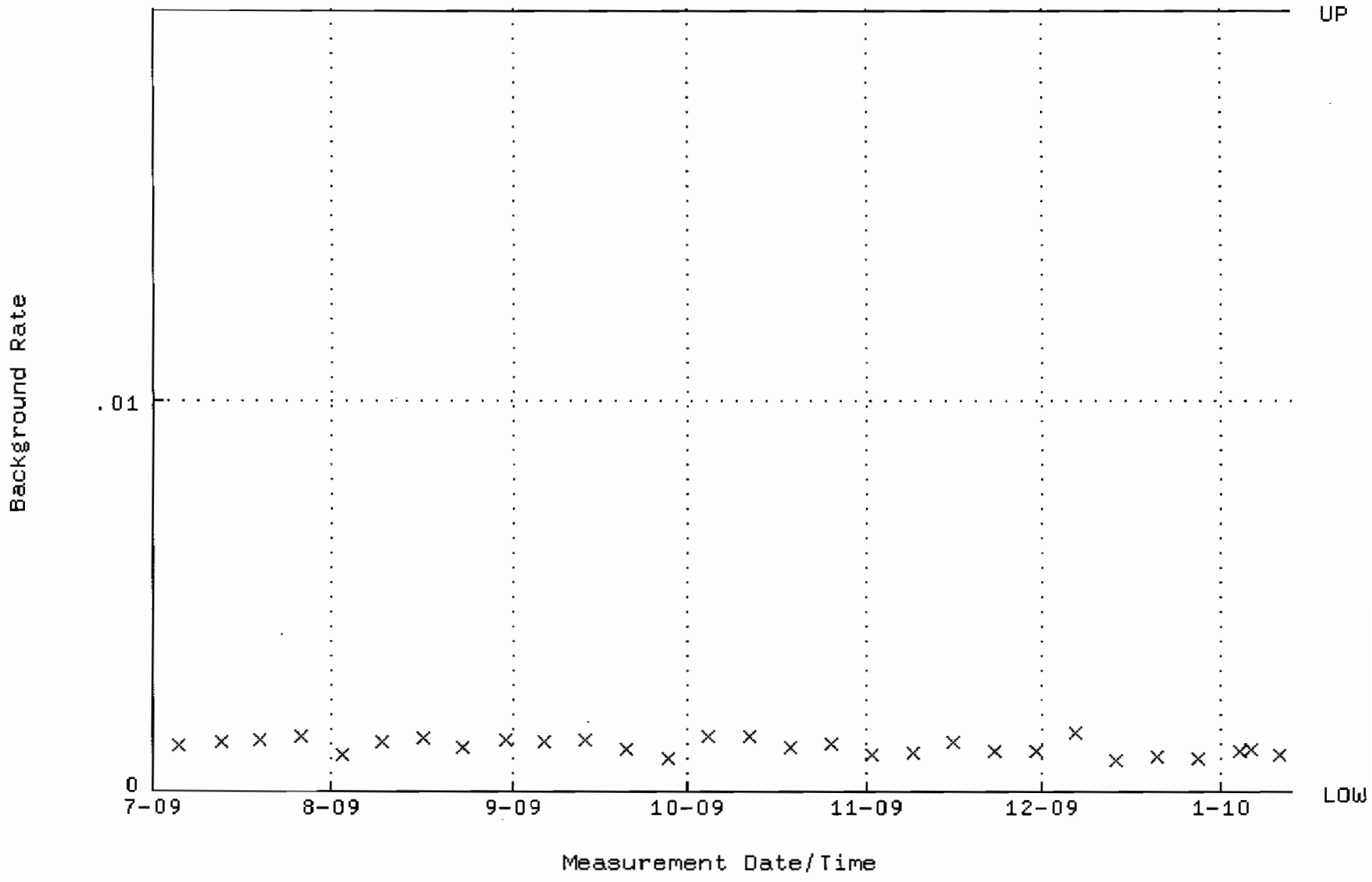
QA filename : DKA100:[ENV_ALPHA.QA.W]W088.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.250000 through 0.450000



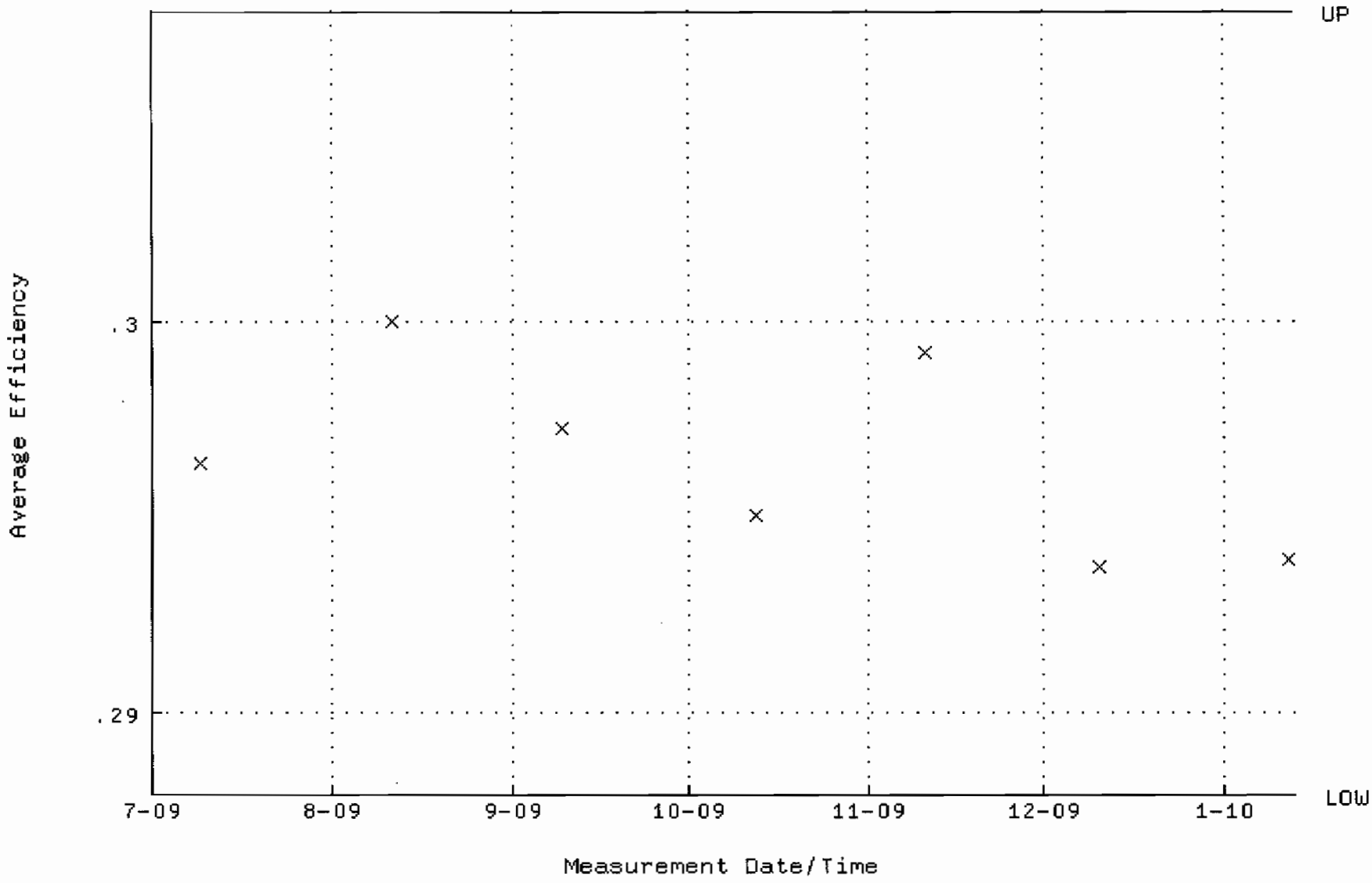
QA filename : DKA100:[ENV_ALPHA.QA.W]W088.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 60.0000 through 105.000



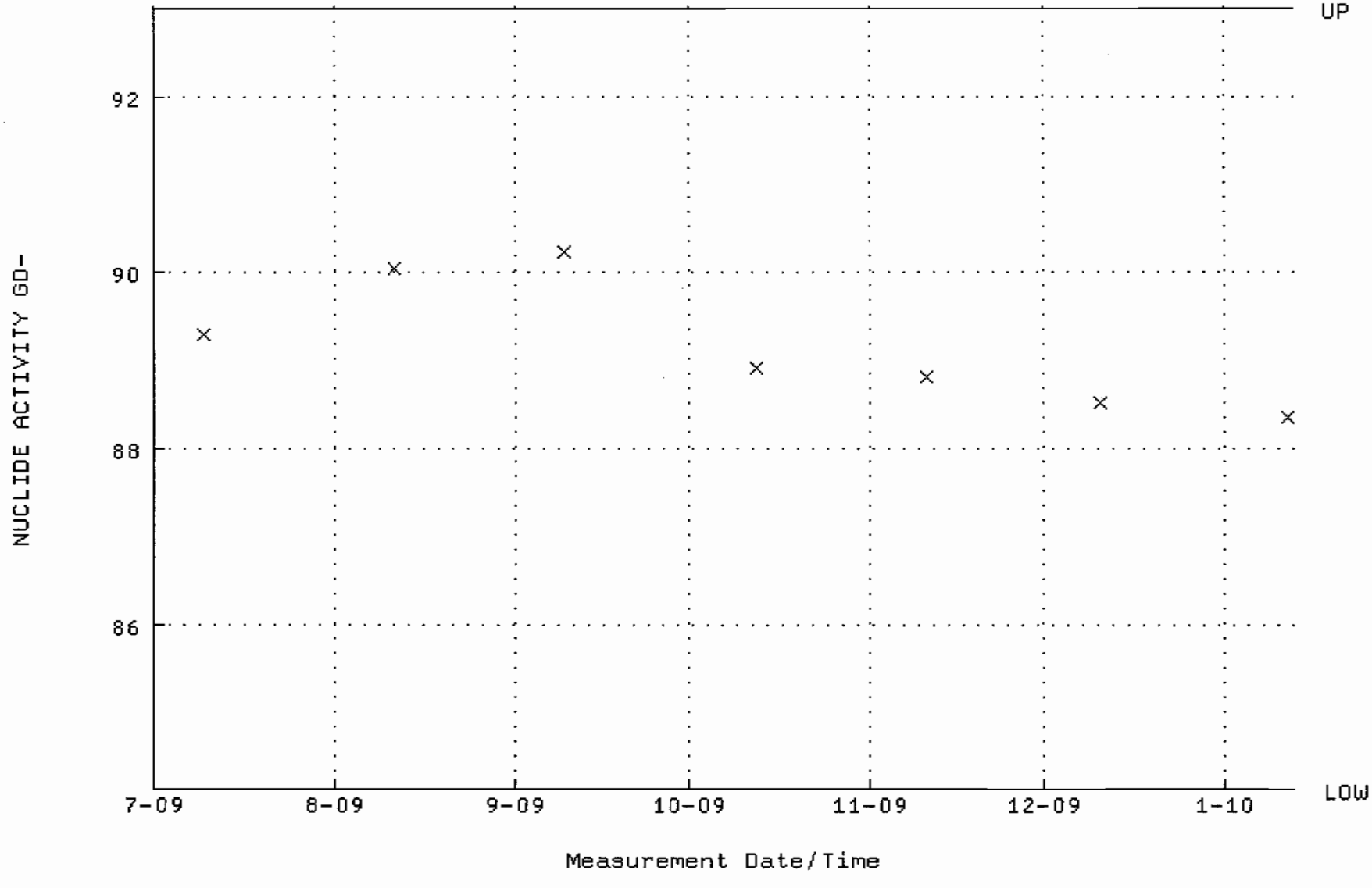
QA filename : DKA100:[ENV_ALPHA.QA.B]B088.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



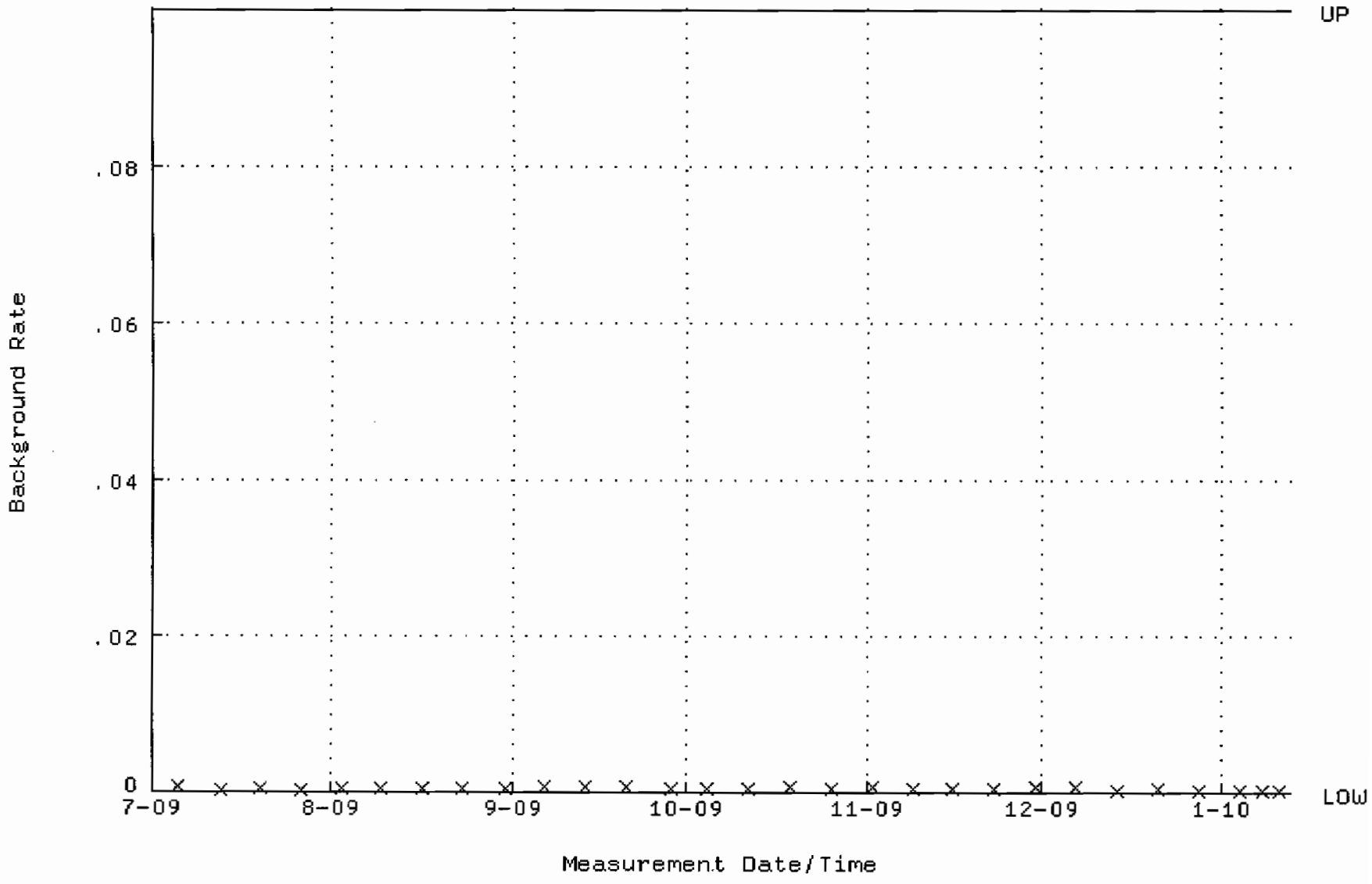
QA filename : DKA100:[ENV_ALPHA.QA.W]W089.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.287888 through 0.307888



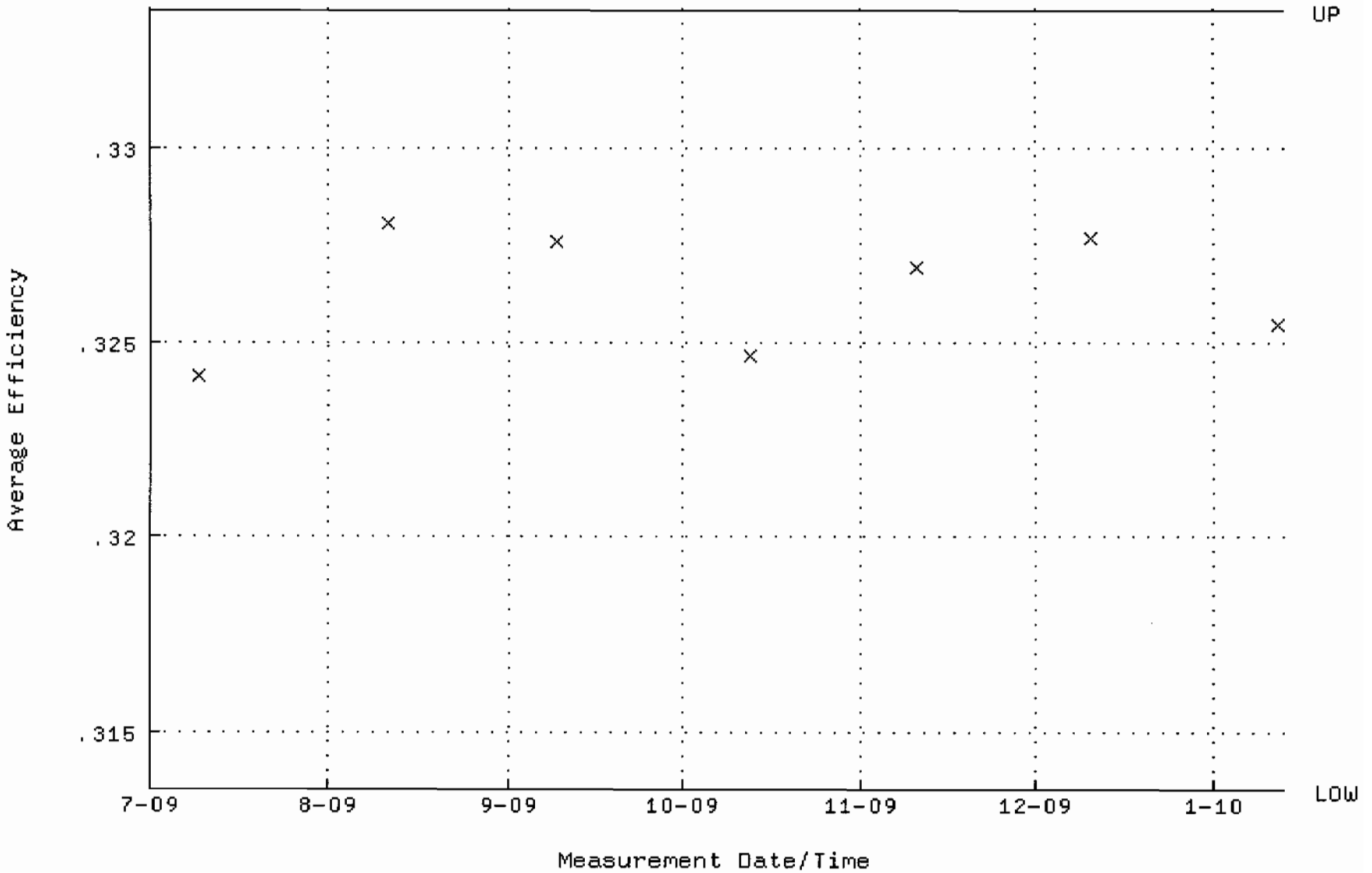
QA filename : DKA100:[ENV_ALPHA.QA.W]W089.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 84.1413 through 92.9983



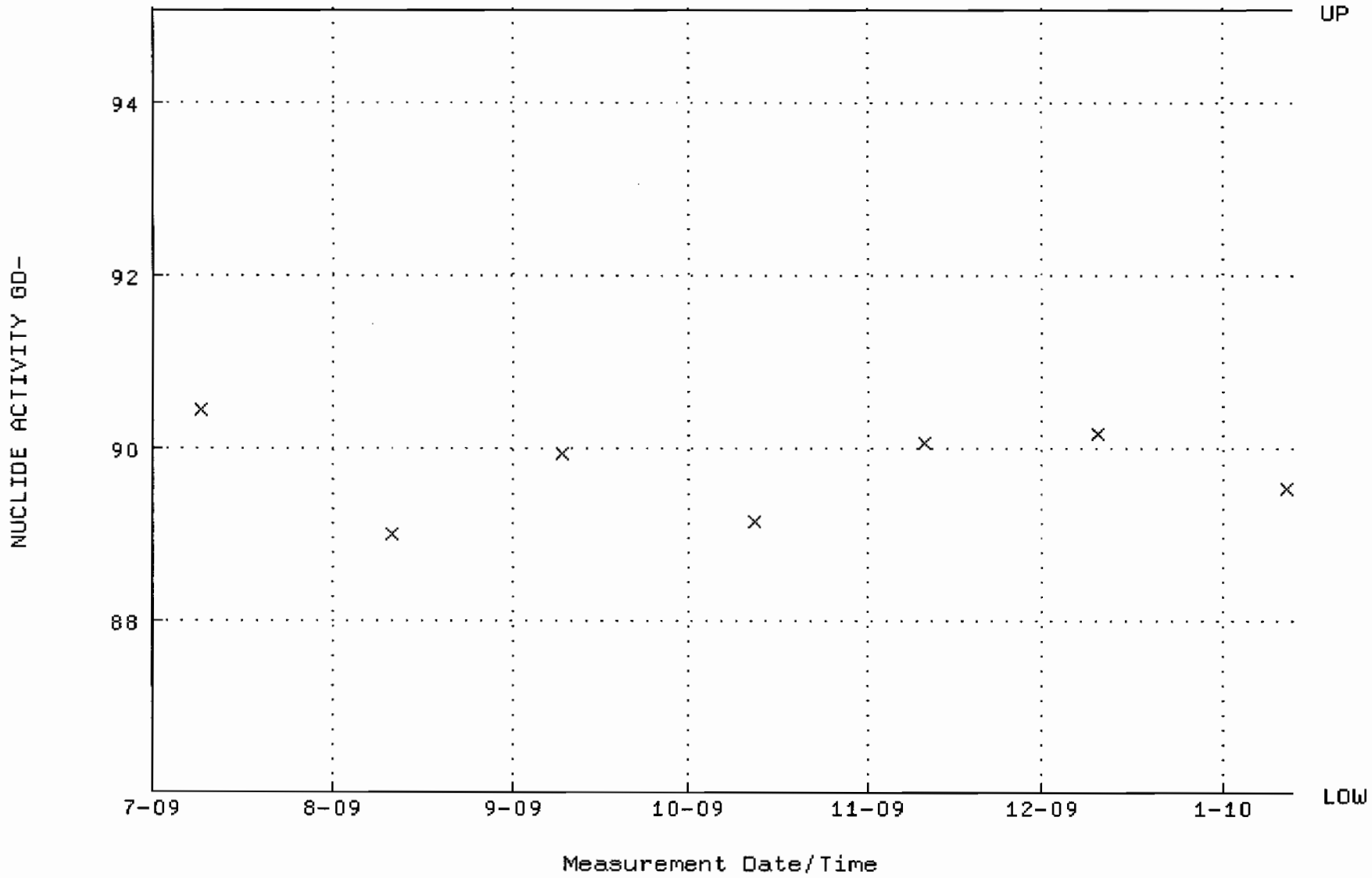
QA filename : DKA100:[ENV_ALPHA.QA.B]B089.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



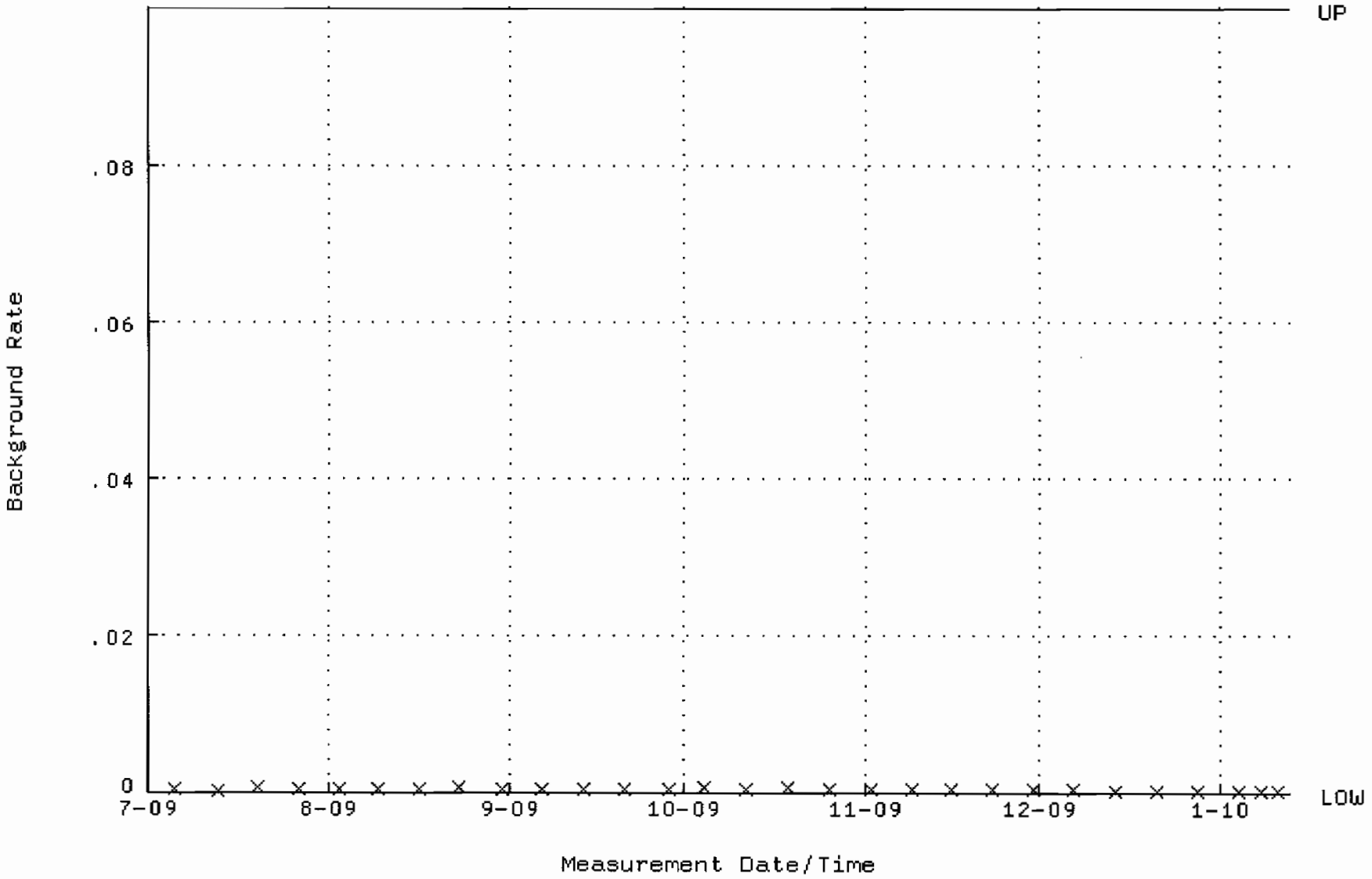
QA filename : DKA100:[ENV_ALPHA.QA.W]W090.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.313529 through 0.333529



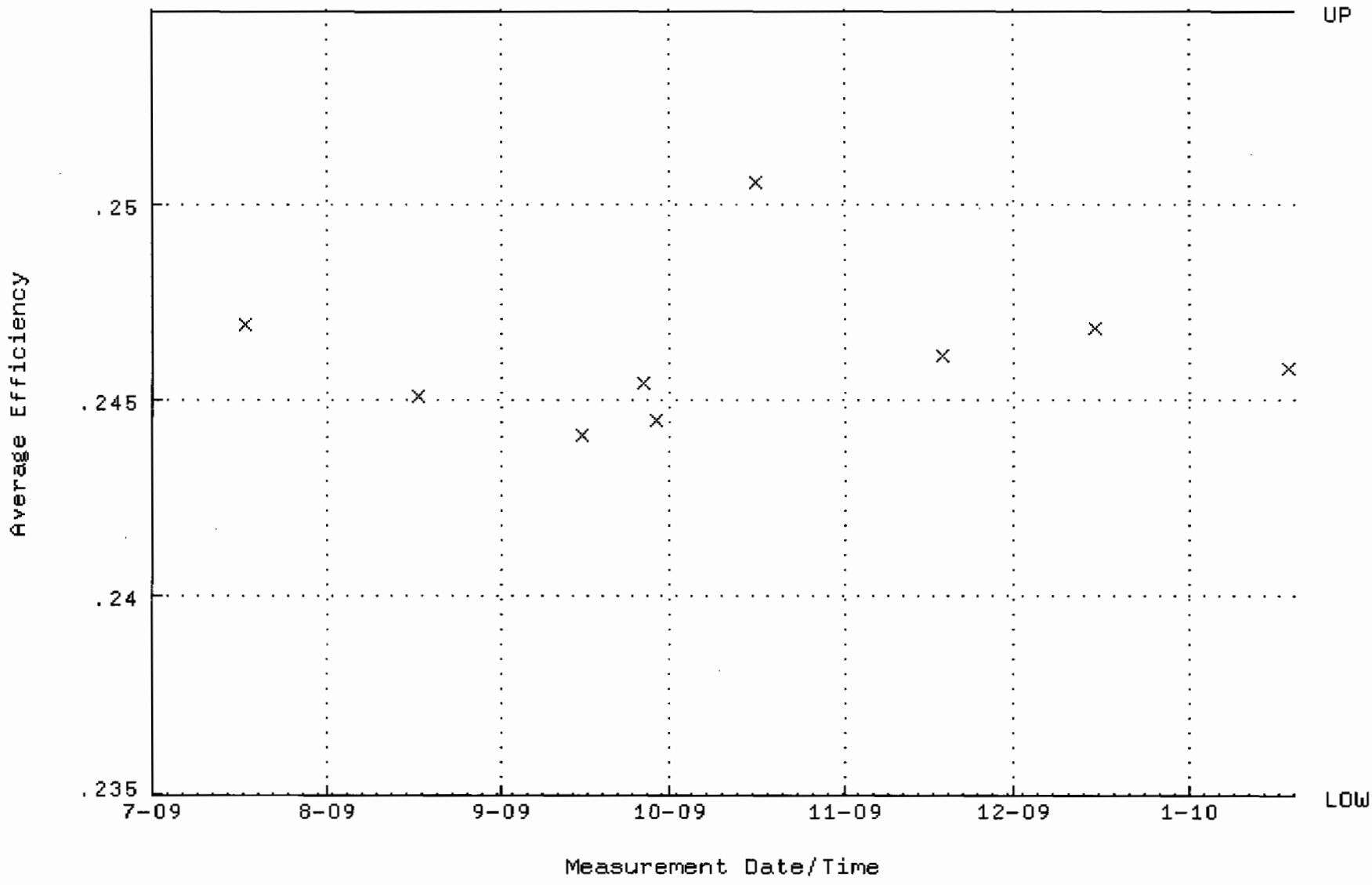
QA filename : DKA100:[ENV_ALPHA.QA.W]W090.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 9-JUL-2009 08:08:13 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 86.0139 through 95.0680



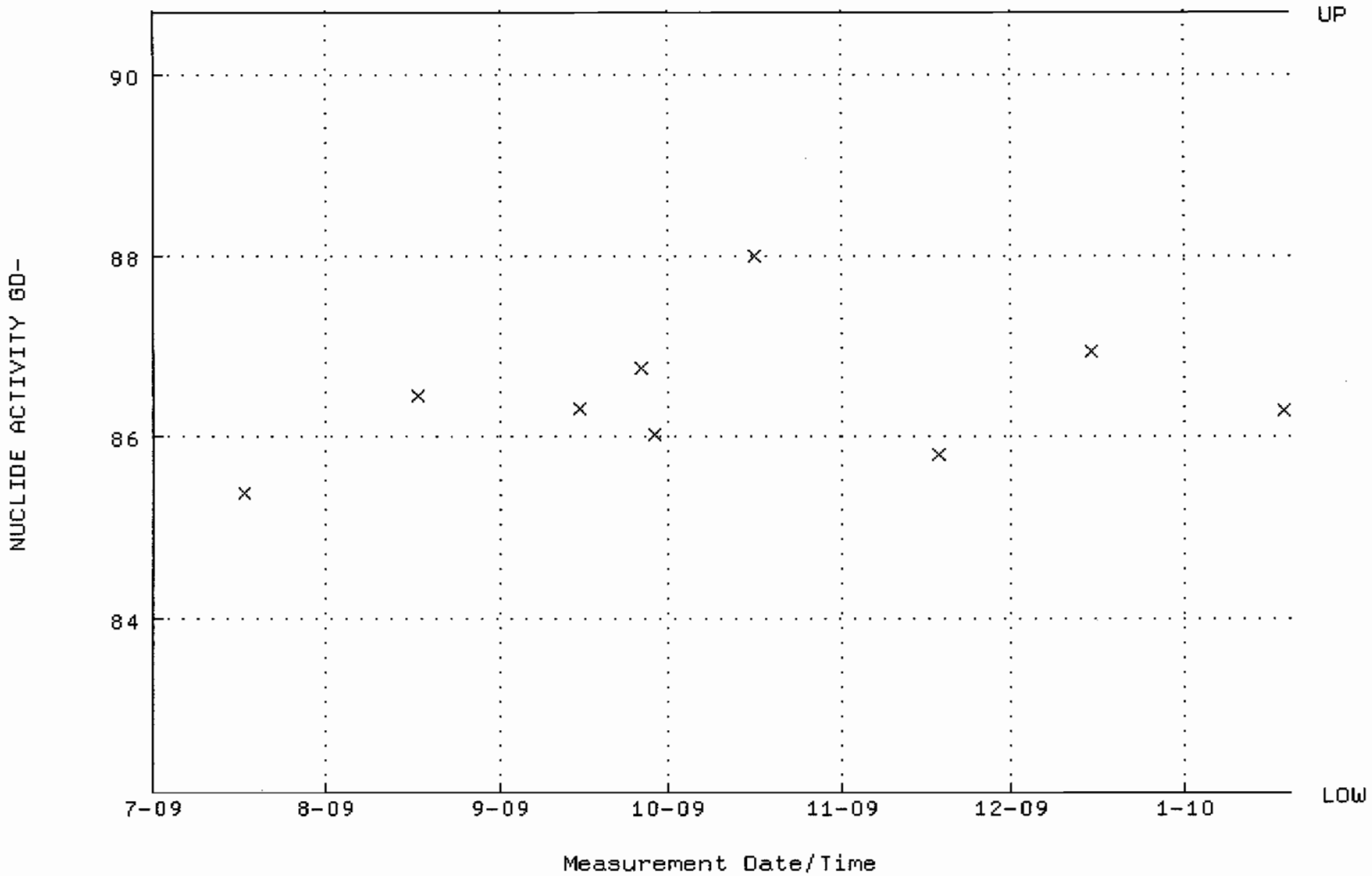
QA filename : DKA100:[ENV_ALPHA.QA.B]B090.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



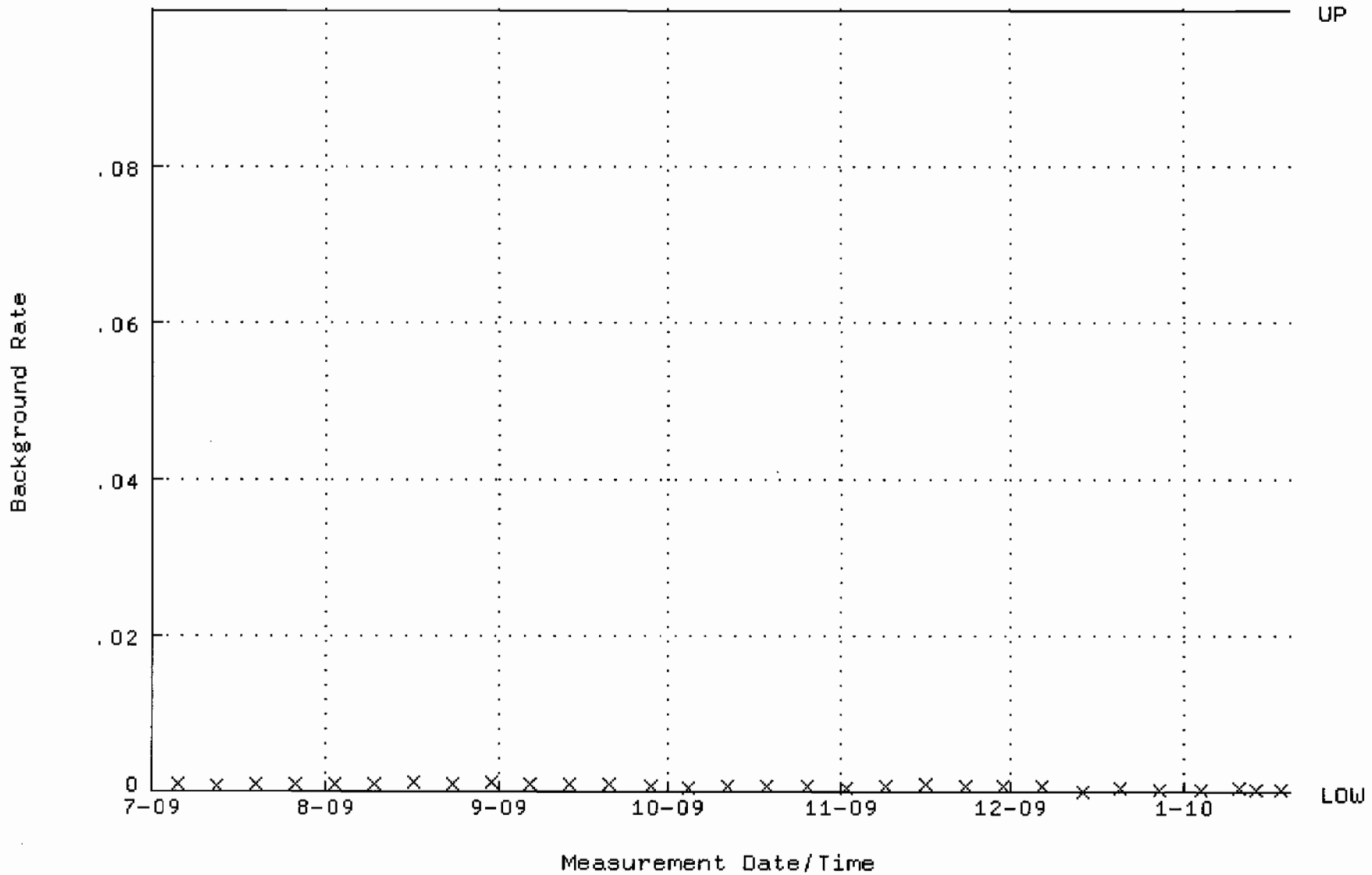
QA filename : DKA100:[ENV_ALPHA.QA.W]W160.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 17-JUL-2009 09:14:34 through 19-JAN-2010 12:00:00
Lower/Upper Lmts: 0.234941 through 0.254941



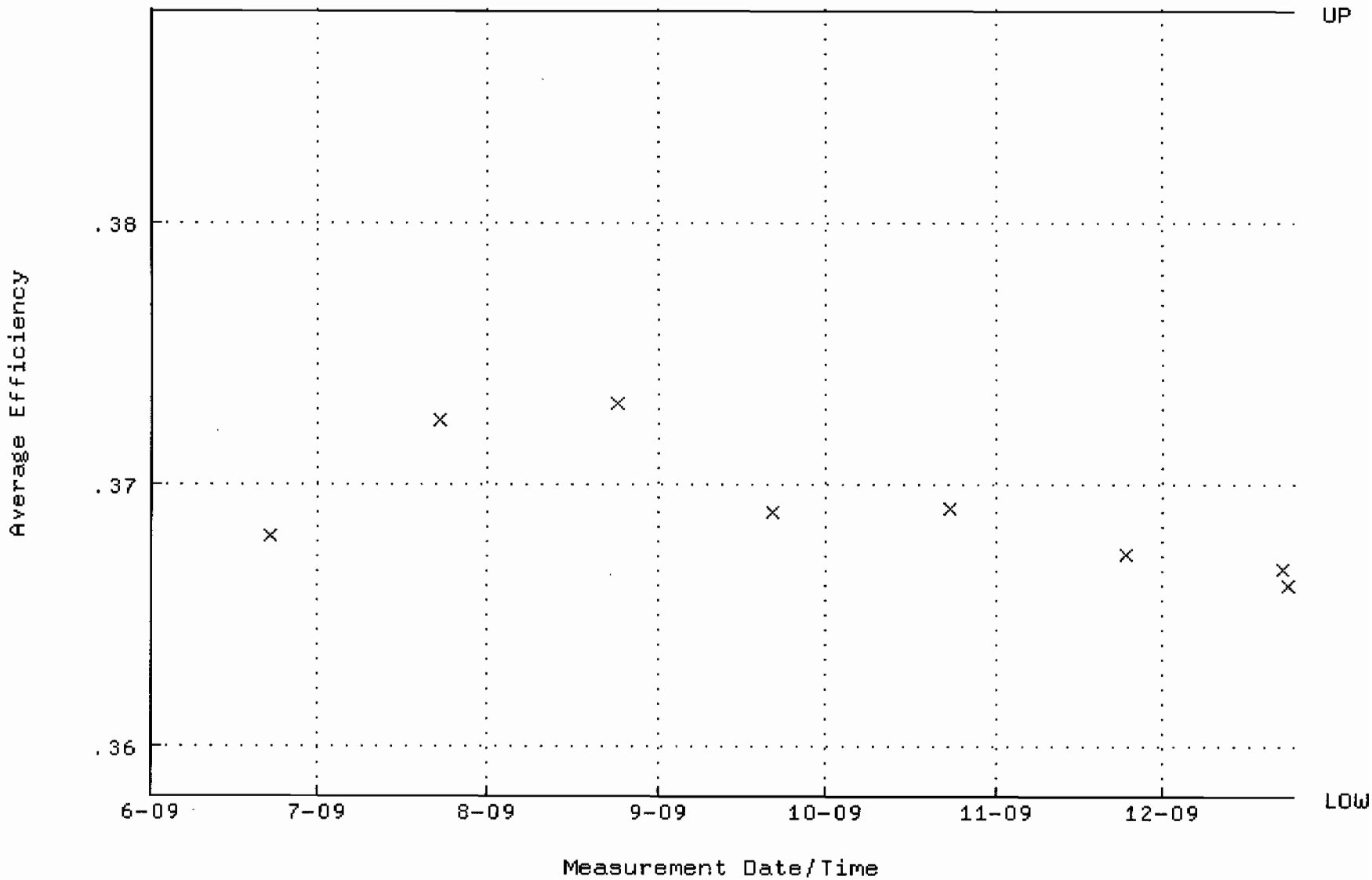
QA filename : DKA100:[ENV_ALPHA.QA.W]W160.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 17-JUL-2009 09:14:34 through 19-JAN-2010 12:00:00
Lower/Upper Lmts: 82.0594 through 90.6972



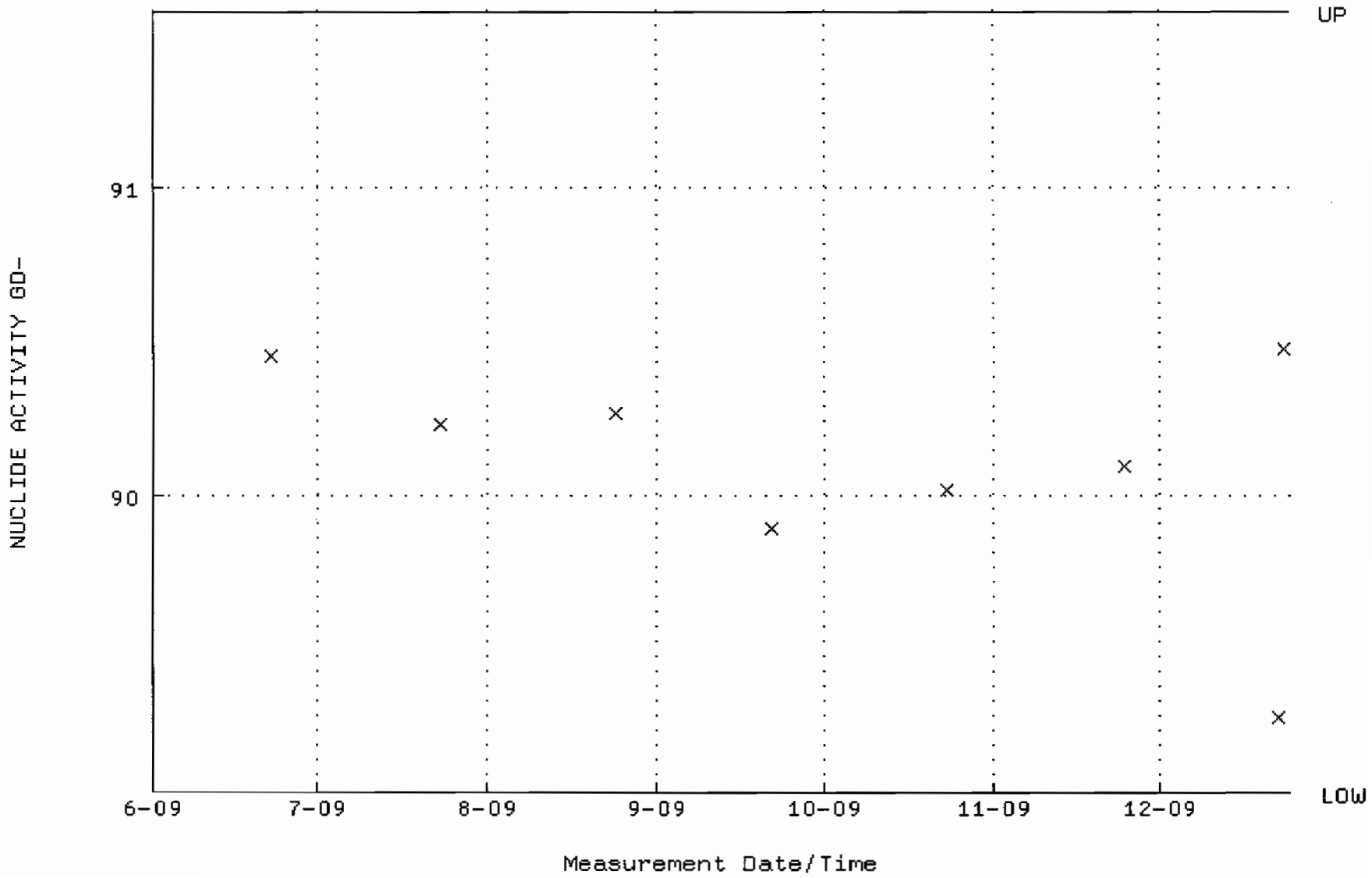
QA filename : DKA100:[ENV_ALPHA.QA.B]B160.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 5-JUL-2009 14:58:36 through 19-JAN-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



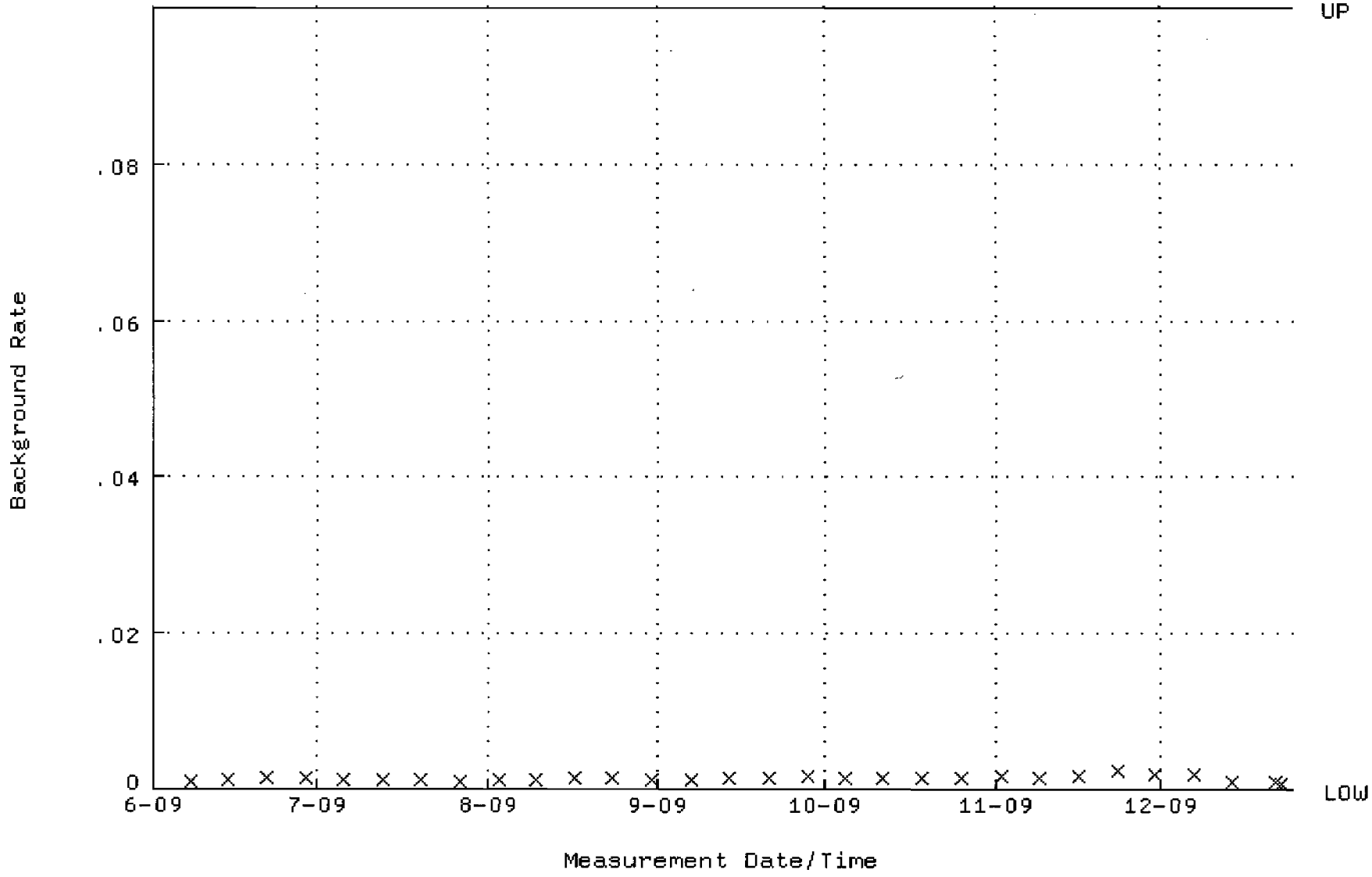
QA filename : DKA100:[ENV_ALPHA.QA.W]W161.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:48:54 through 24-DEC-2009 12:00:00
Lower/Upper Lmts: 0.358070 through 0.388144



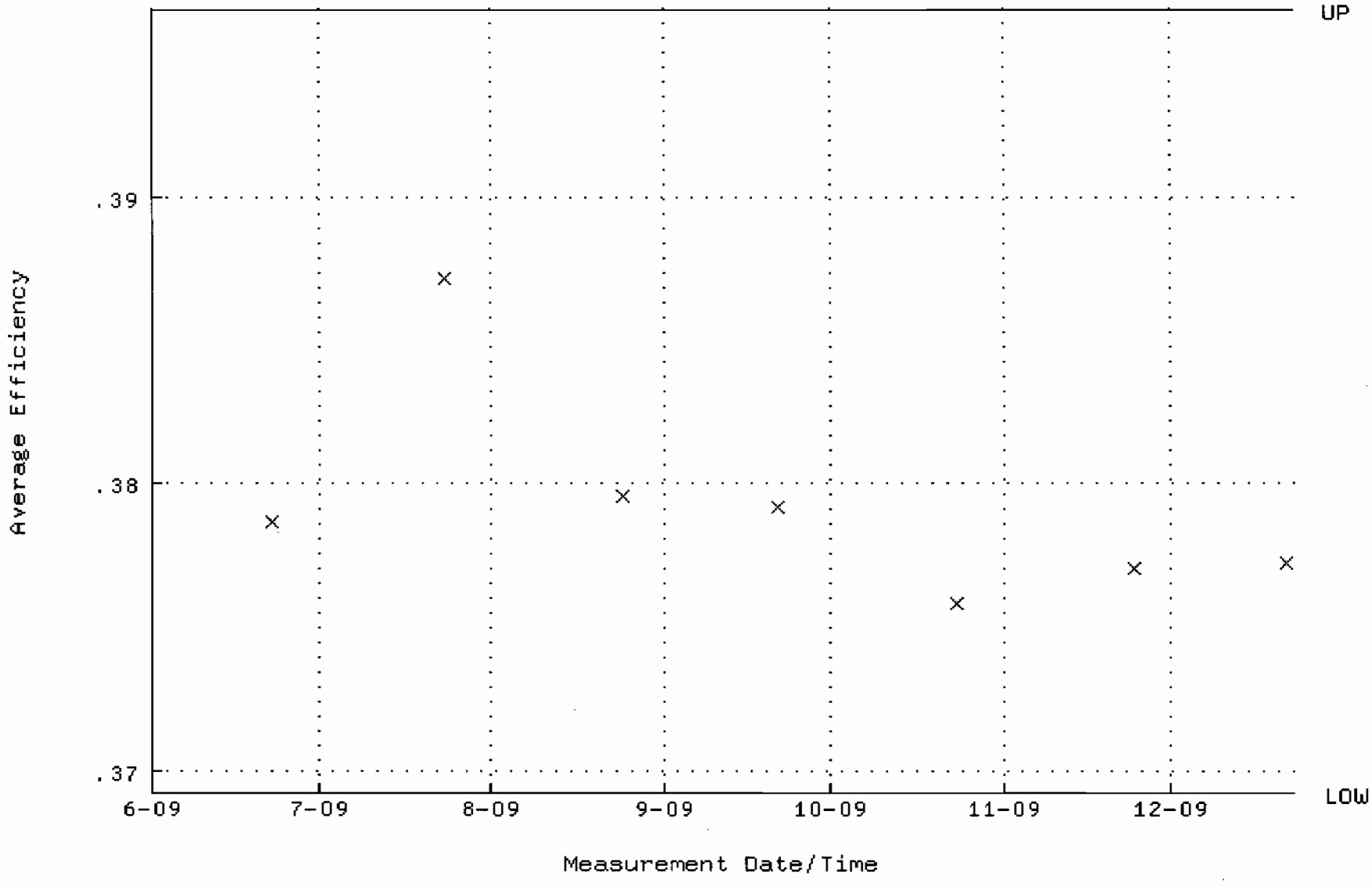
QA filename : DKA100:[ENV_ALPHA.QA.W]W161.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:48:54 through 24-DEC-2009 12:00:00
Lower/Upper Lmts: 89.0418 through 91.5702



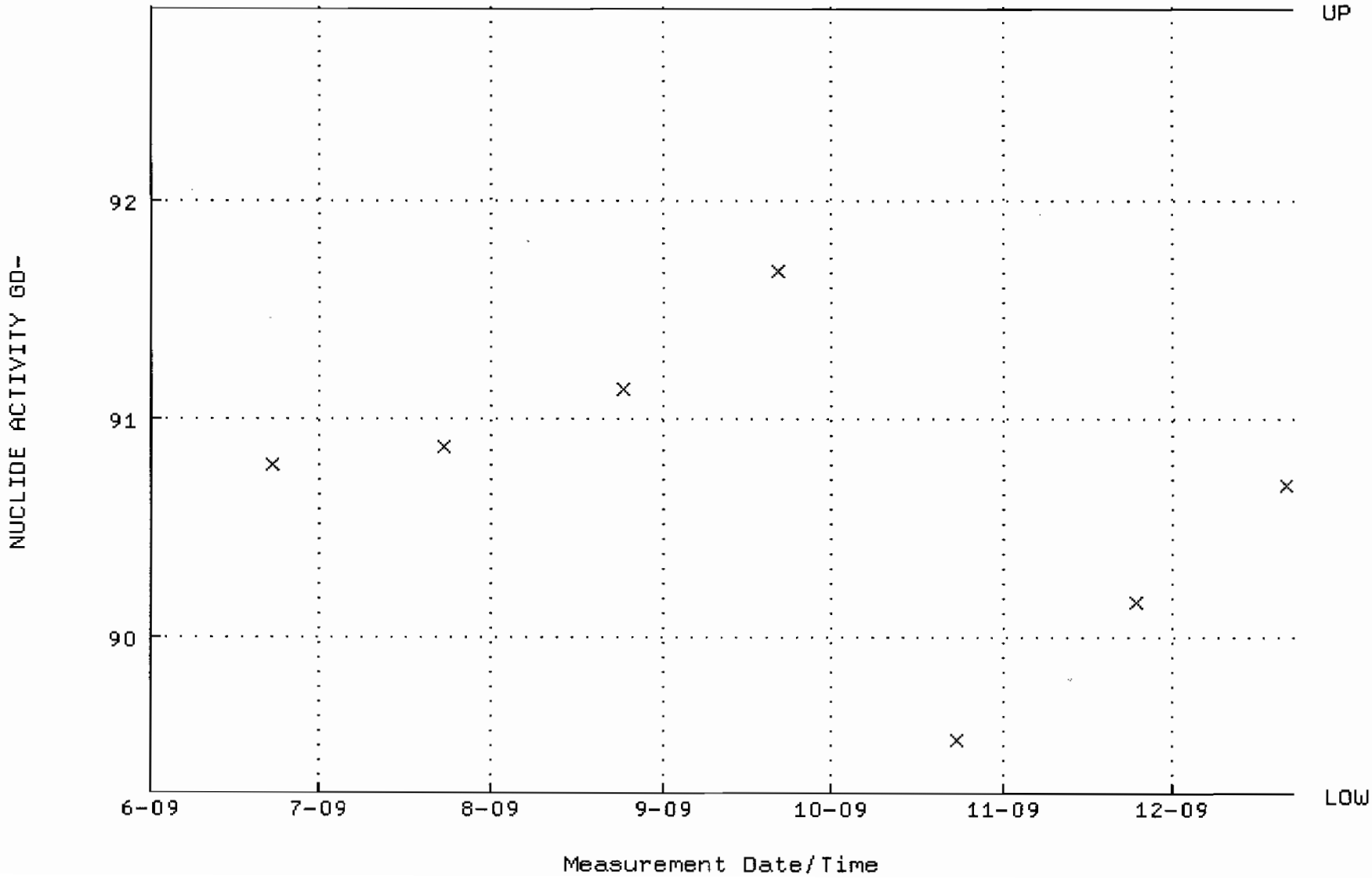
QA filename : DKA100:[ENV_ALPHA.QA.B]B161.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:00 through 24-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



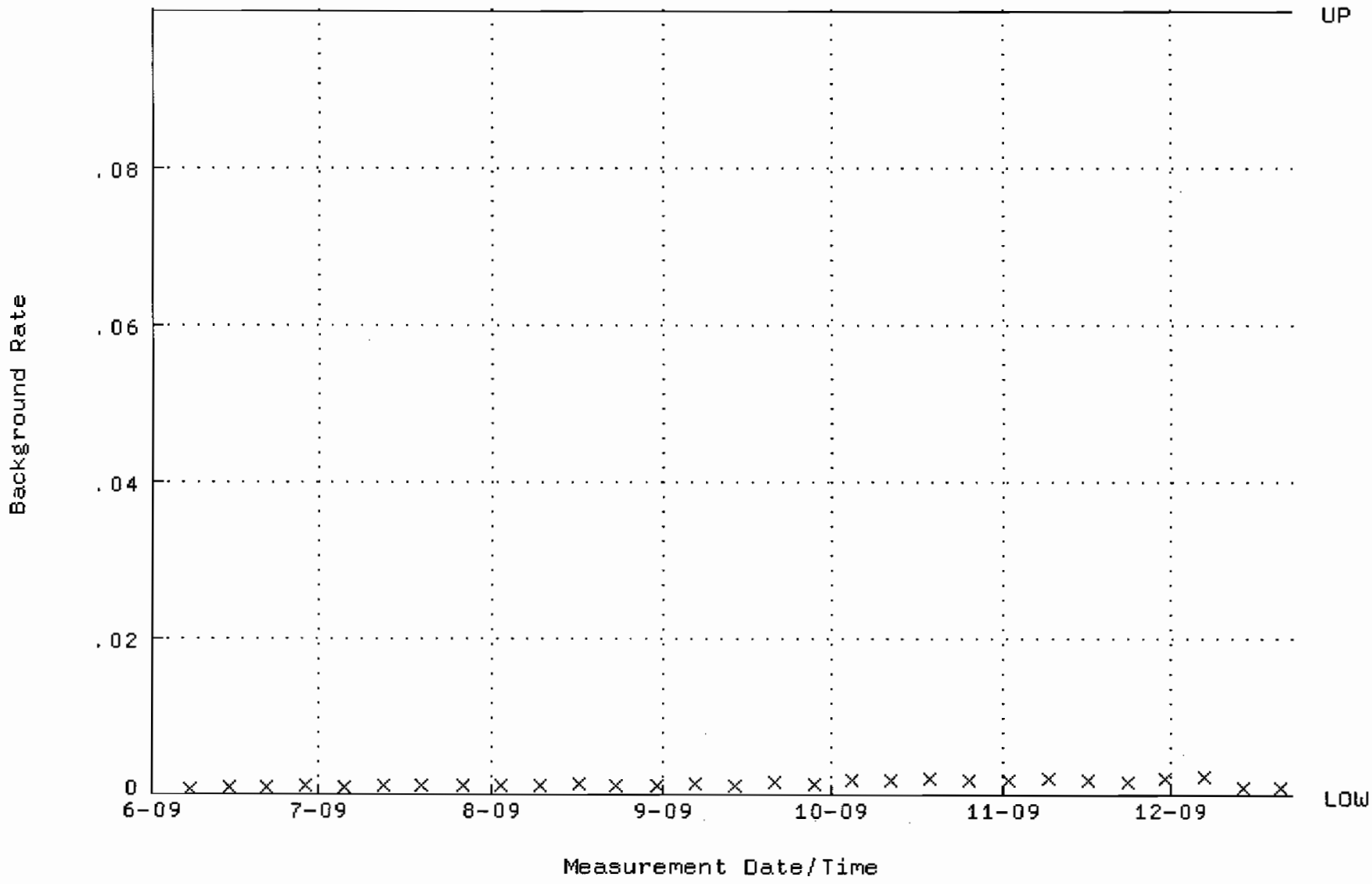
QA filename : DKA100:[ENV_ALPHA.QA.W]W164.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:49:10 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.369199 through 0.396555



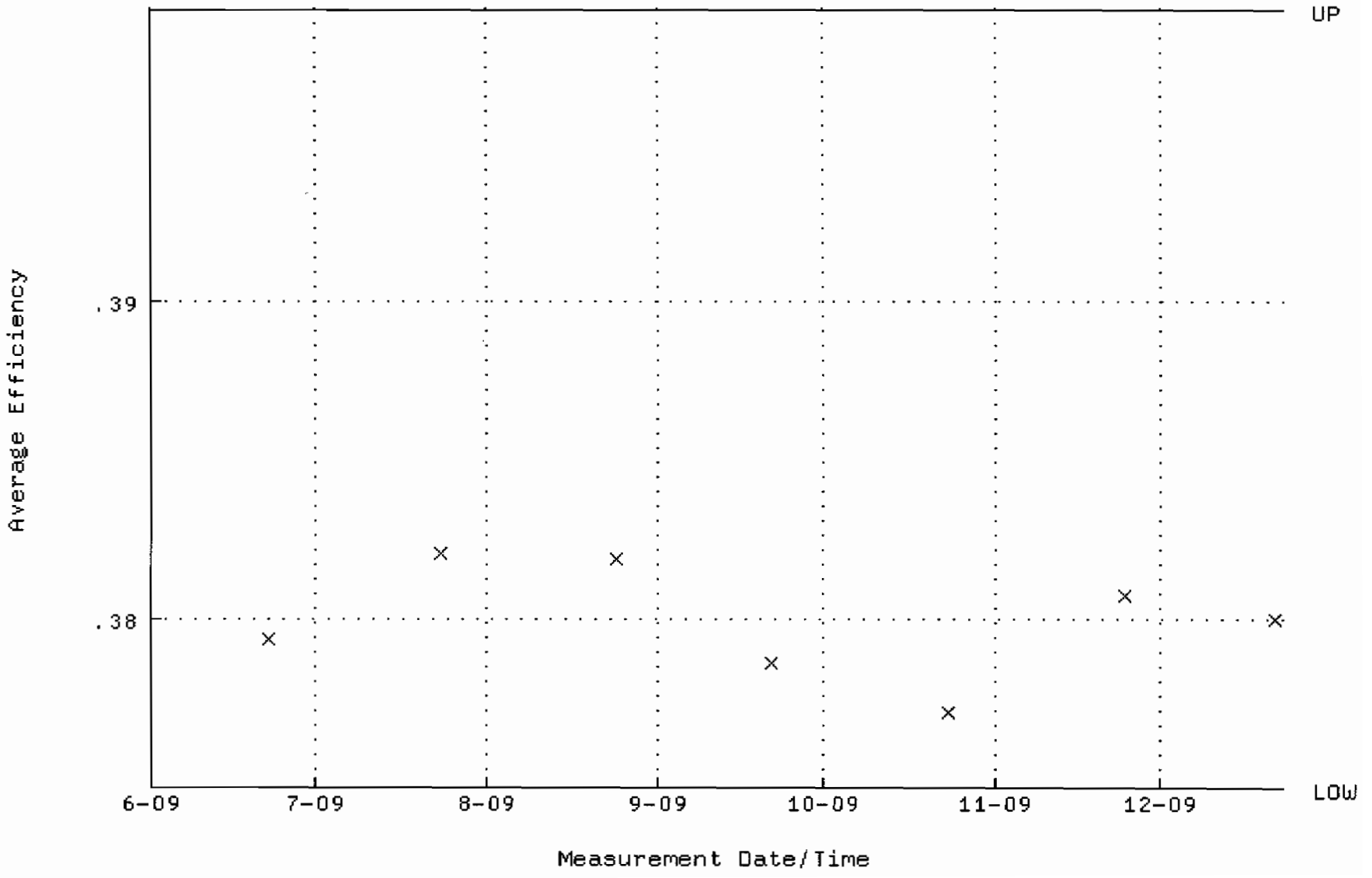
QA filename : DKA100:[ENV_ALPHA.QA.W]W164.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:49:10 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 89.2764 through 92.8786



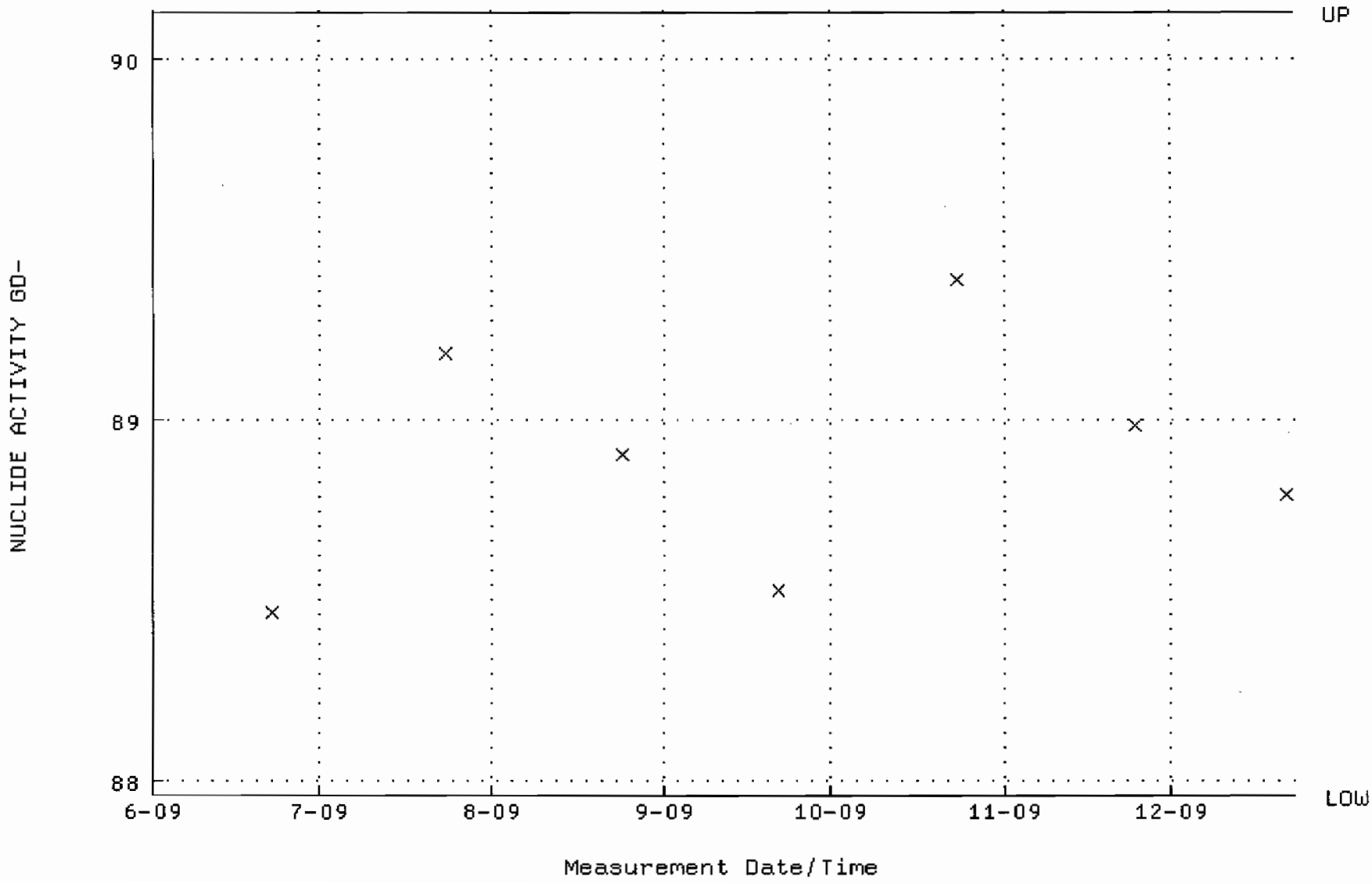
QA filename : DKA100:[ENV_ALPHA.QA.B]B164.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:13 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



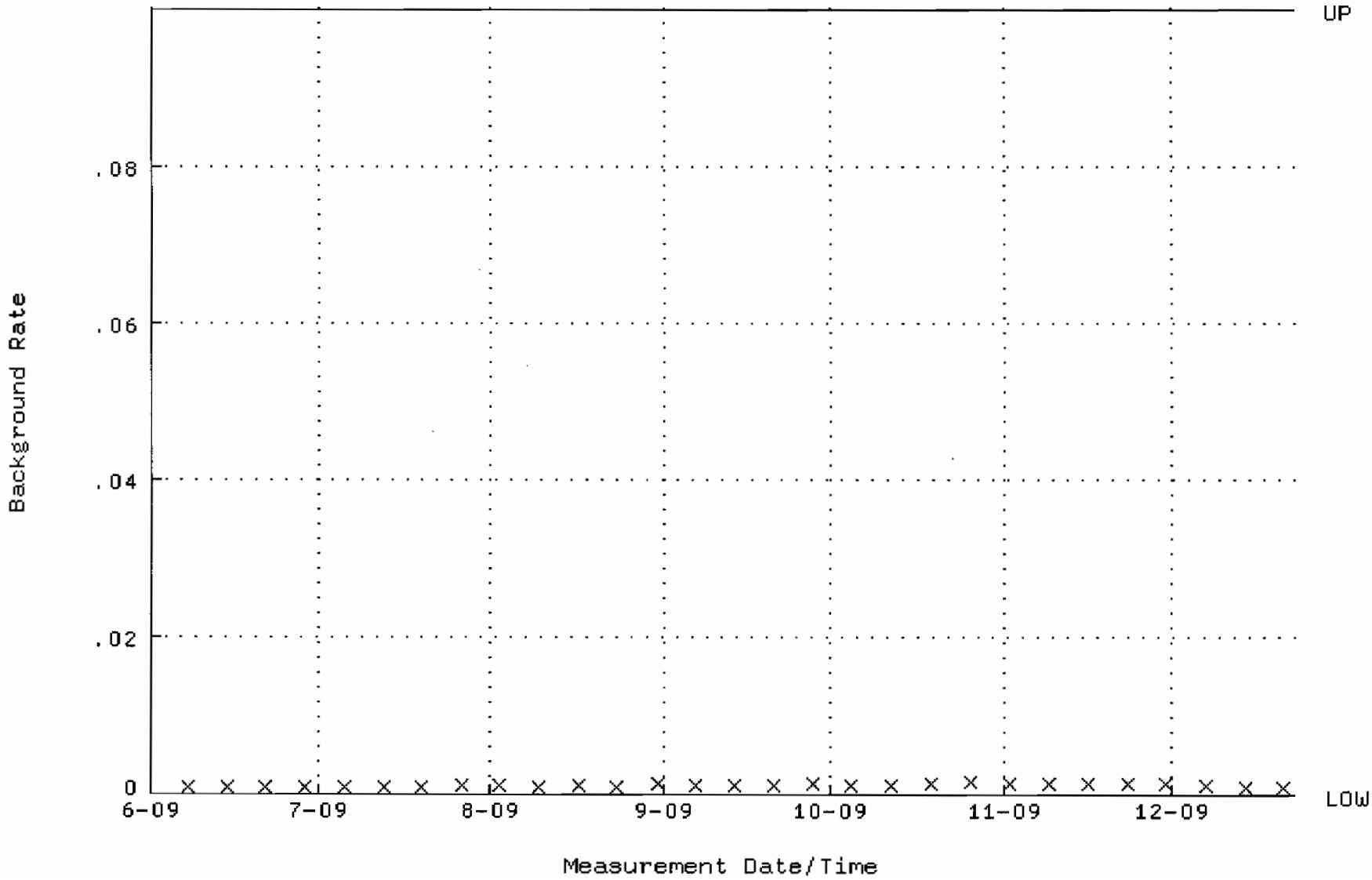
QA filename : DKA100:[ENV_ALPHA.QA.W]W165.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:49:16 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.374689 through 0.399127



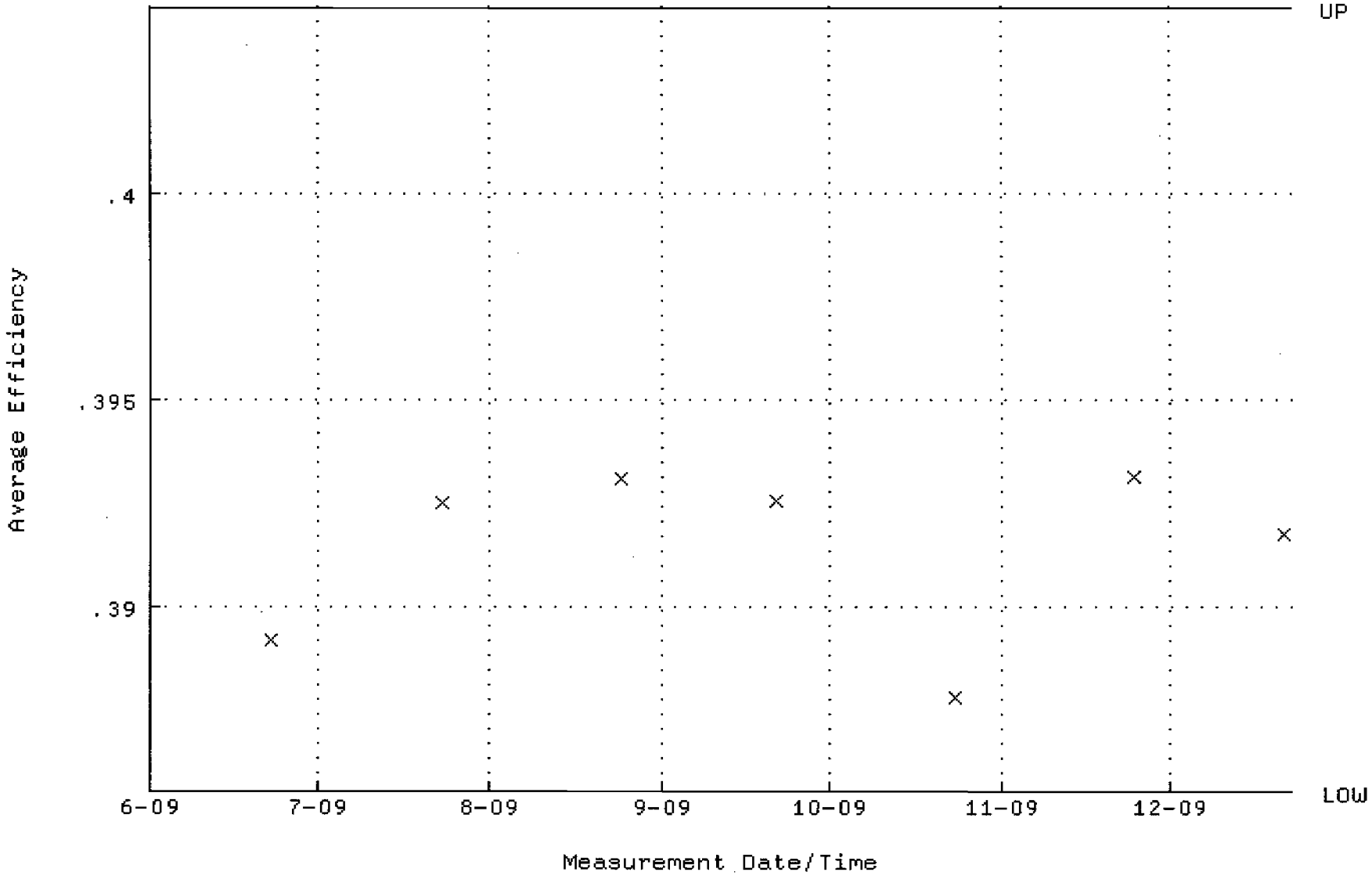
QA filename : DKA100:[ENV_ALPHA.QA.W]W165.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:49:16 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 87.9613 through 90.1269



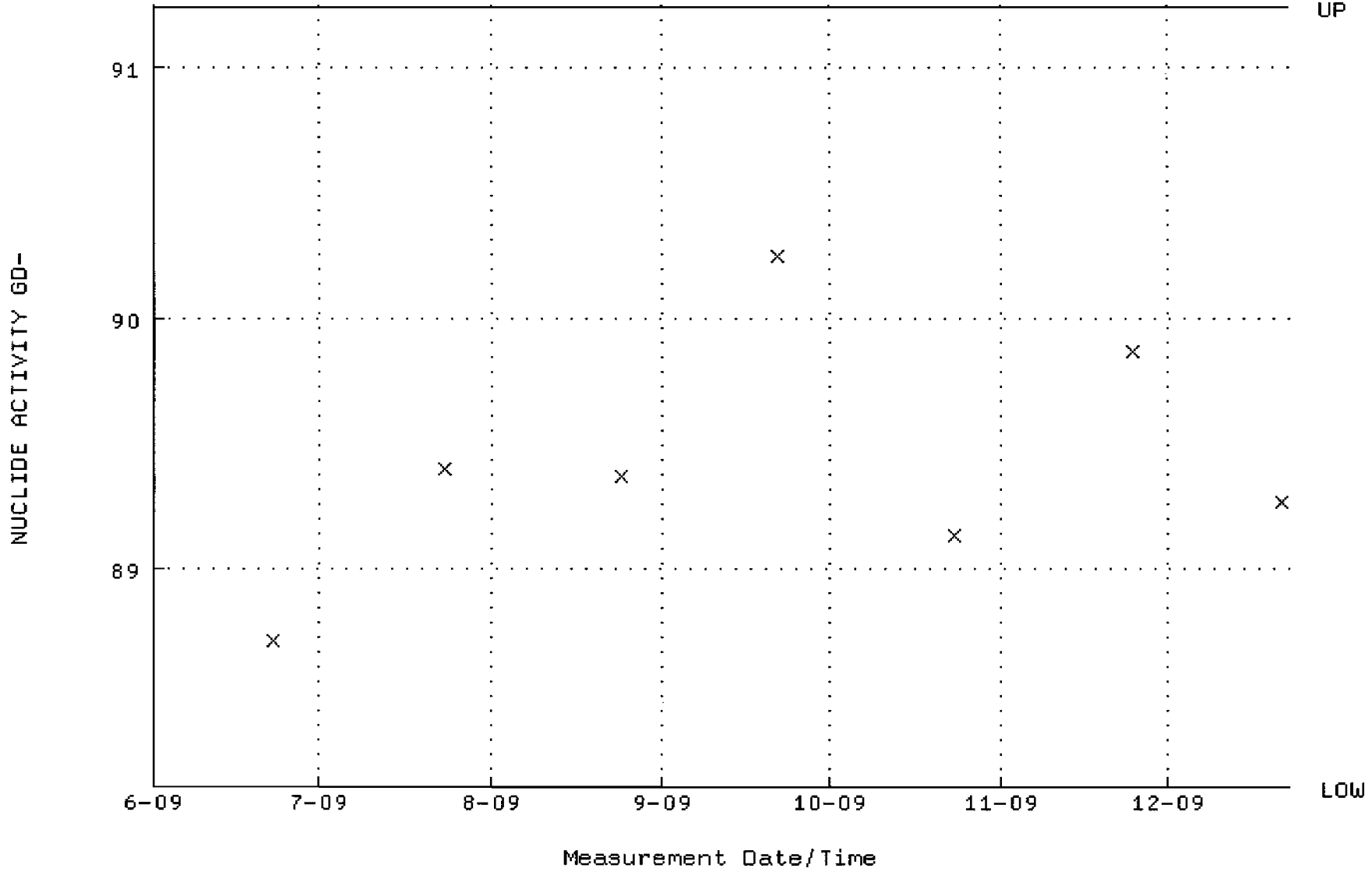
QA filename : DKA100:[ENV_ALPHA.QA.B]B165.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:17 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



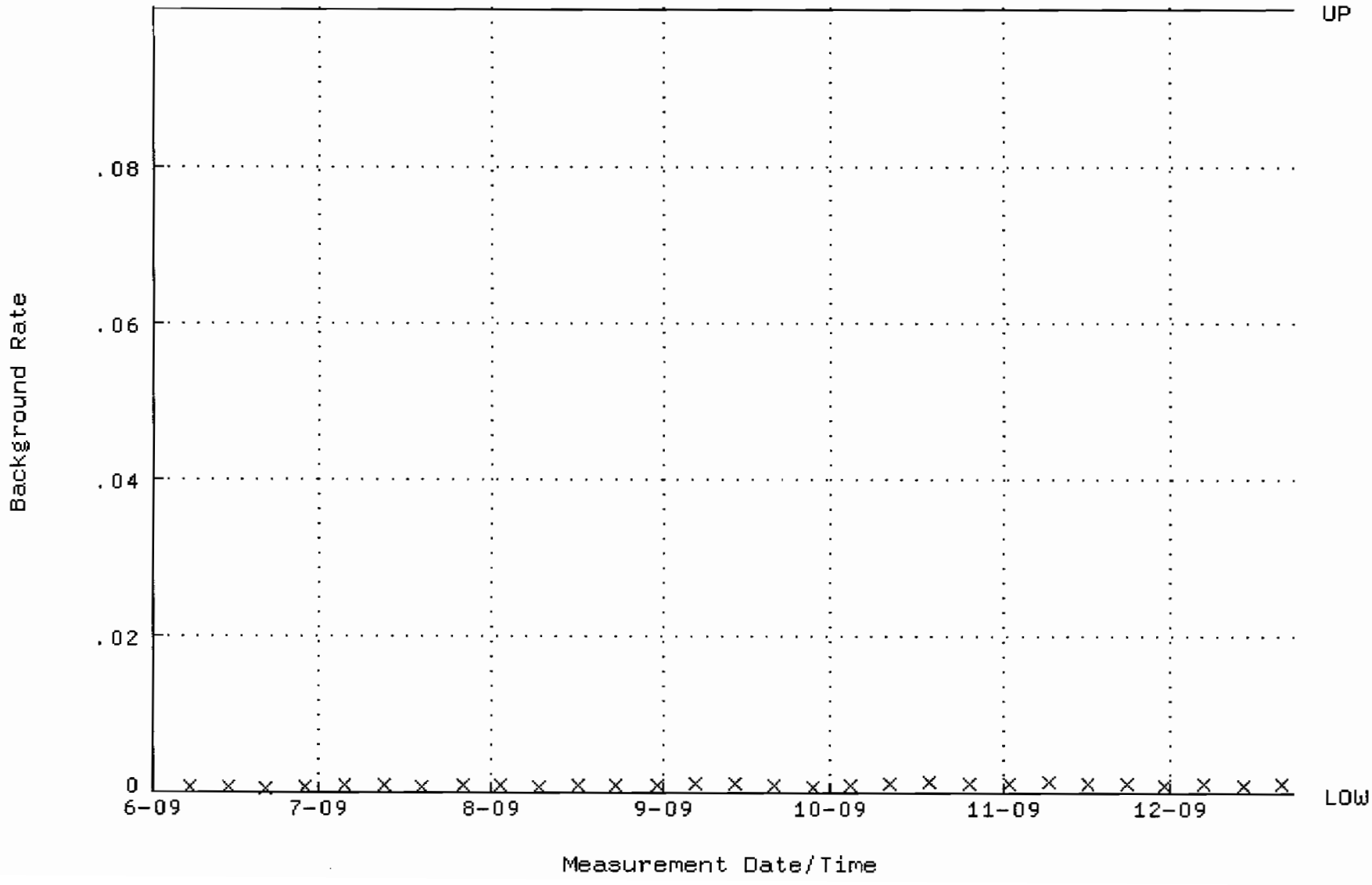
QA filename : DKA100:[ENV_ALPHA.QA.W]W166.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:49:22 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.385564 through 0.404504



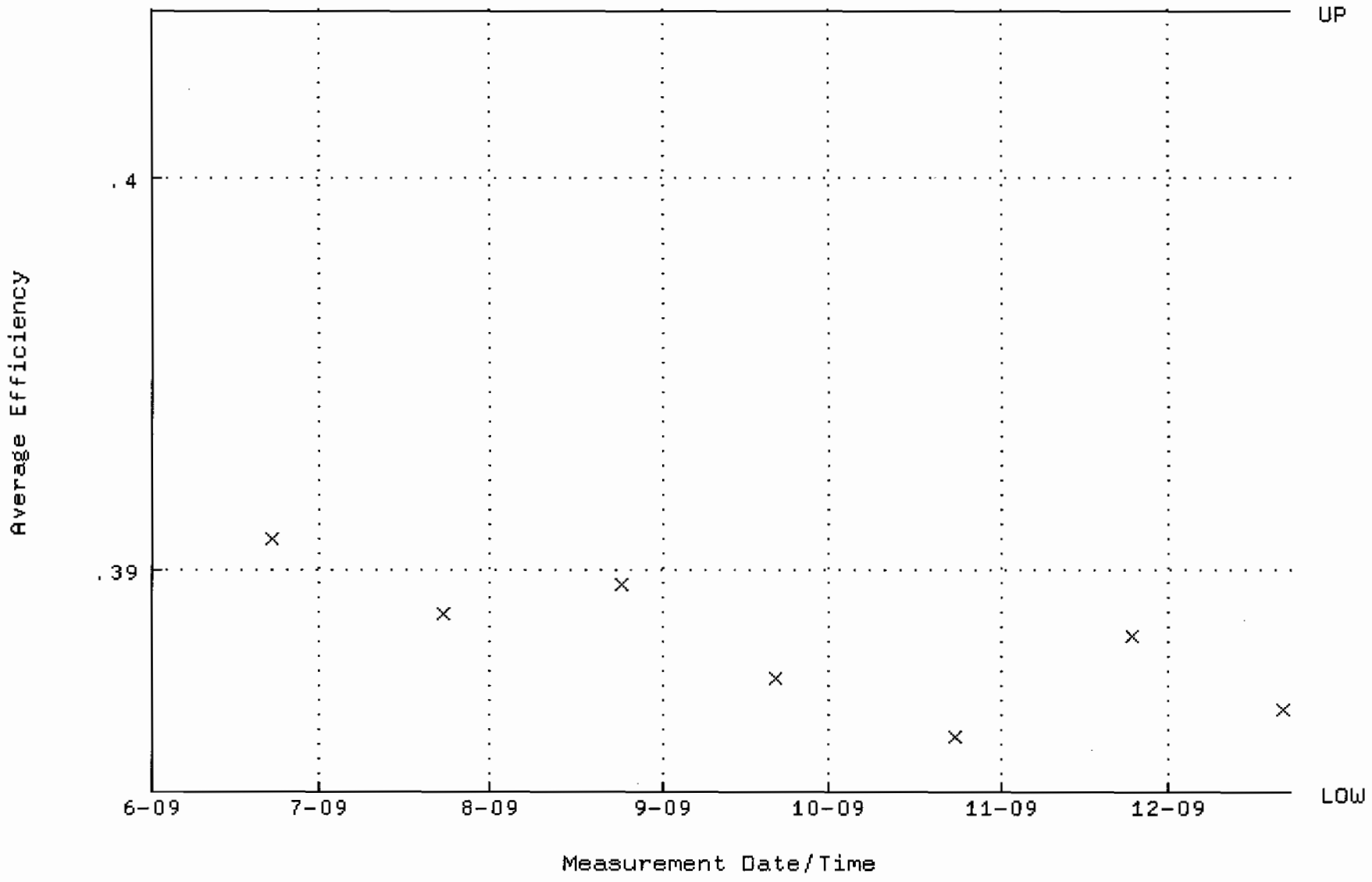
QA filename : DKA100:[ENV_ALPHA.QA.W]W166.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:49:22 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 88.1264 through 91.2442



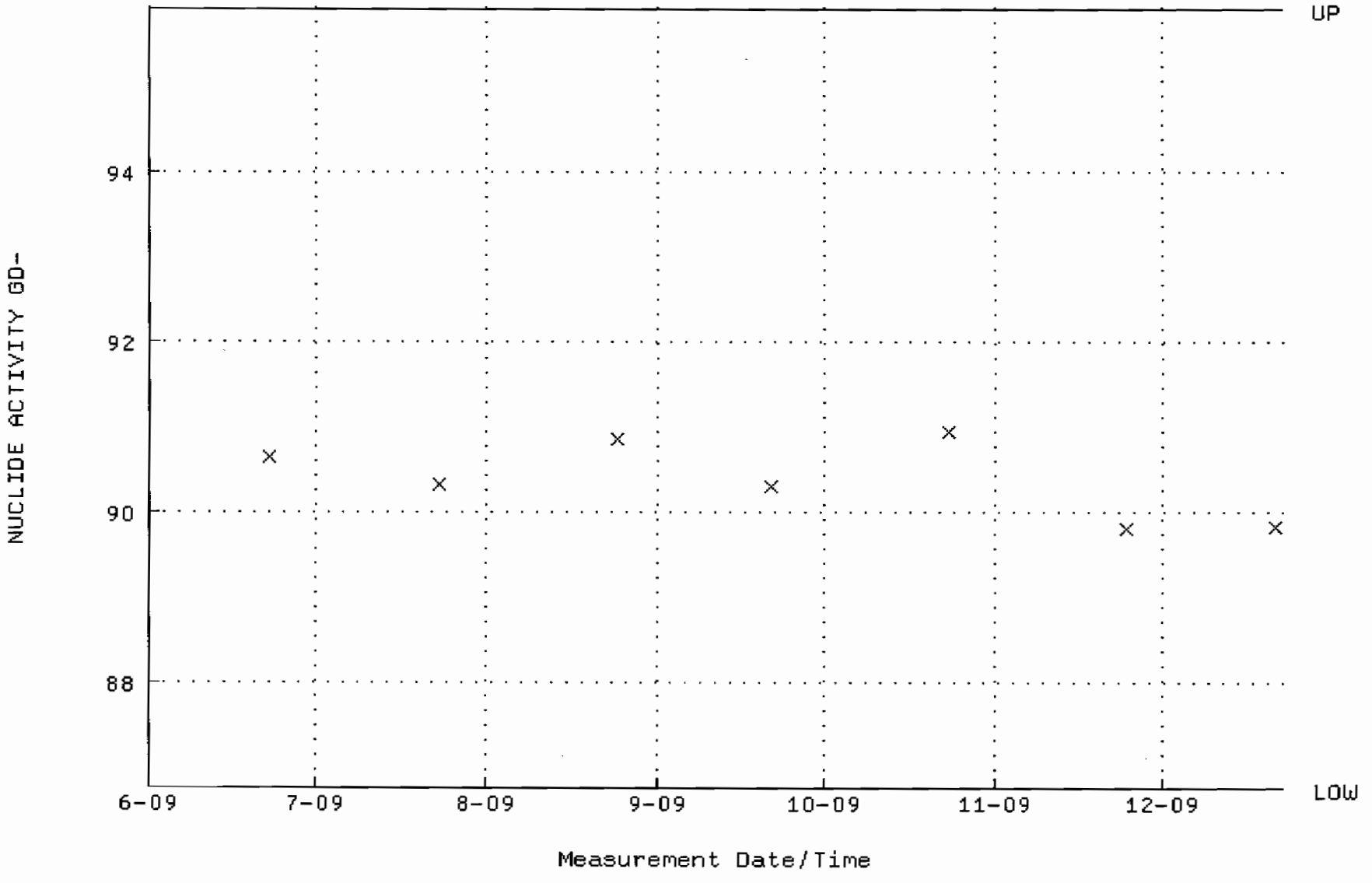
QA filename : DKA100:[ENV_ALPHA.QA.B]B166.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:20 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



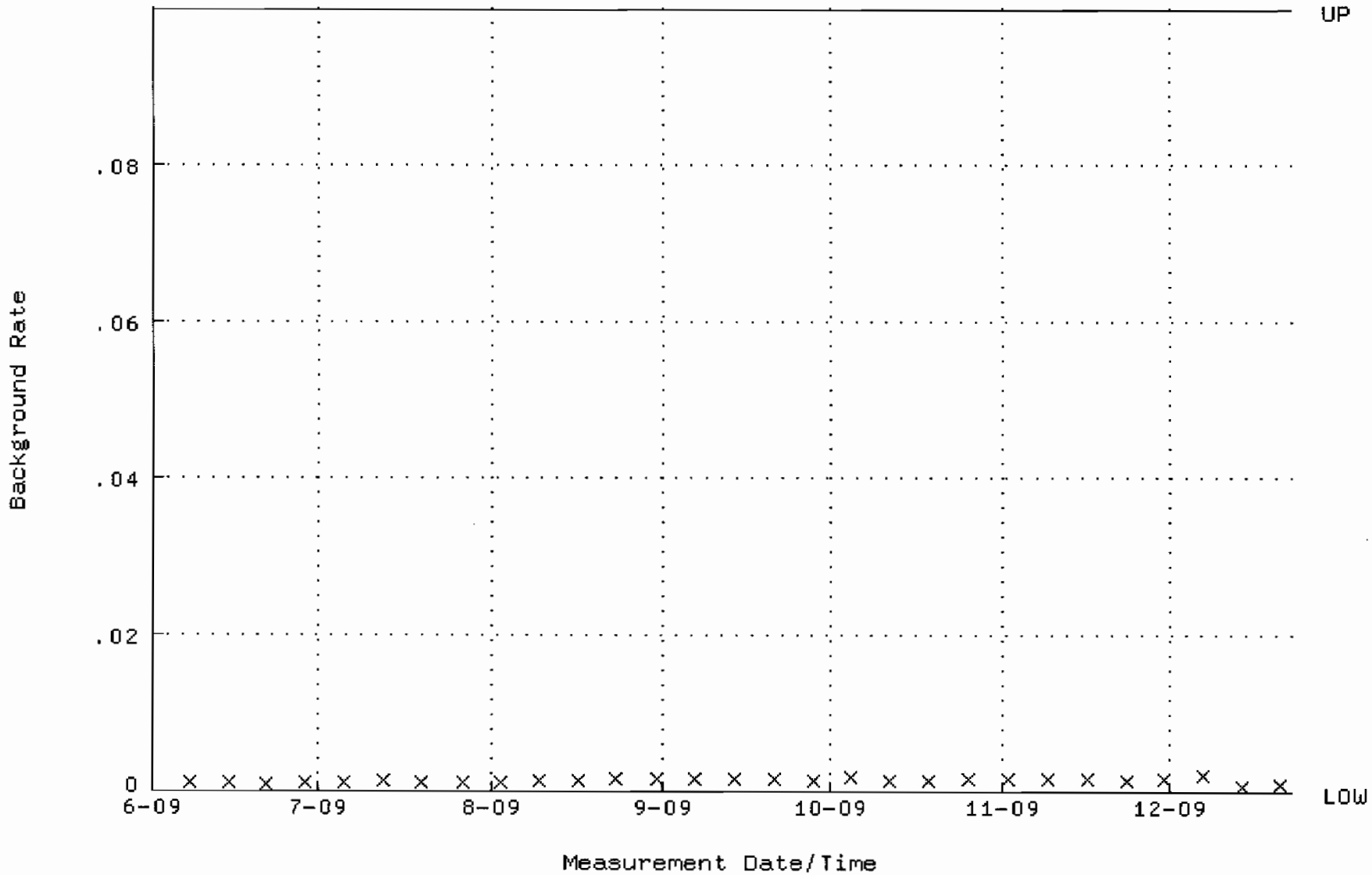
QA filename : DKA100:[ENV_ALPHA.QA.W]W167.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:49:28 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.384285 through 0.404285



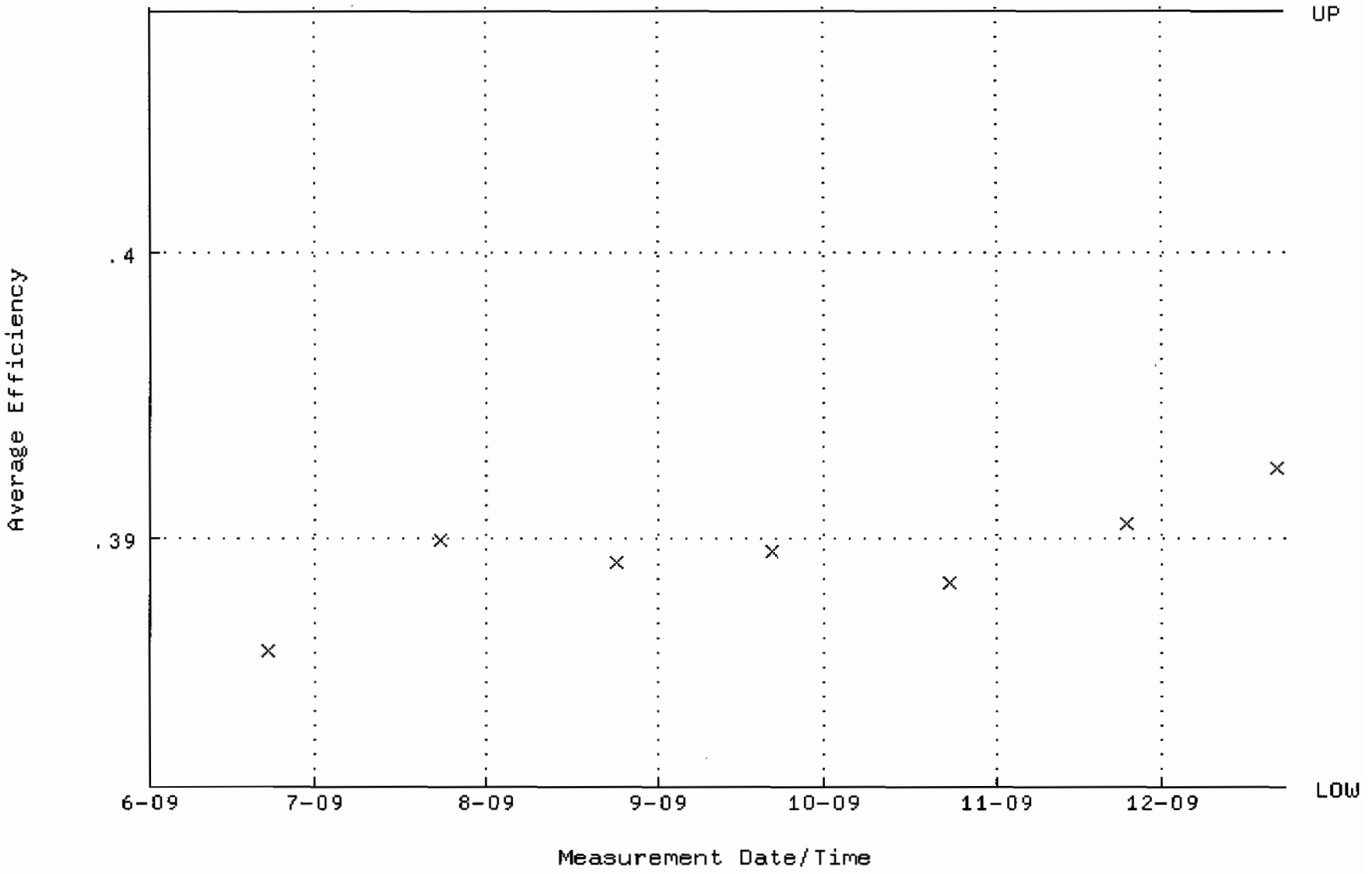
QA filename : DKA100:[ENV_ALPHA.QA.W]W167.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:49:28 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 86.7740 through 95.9082



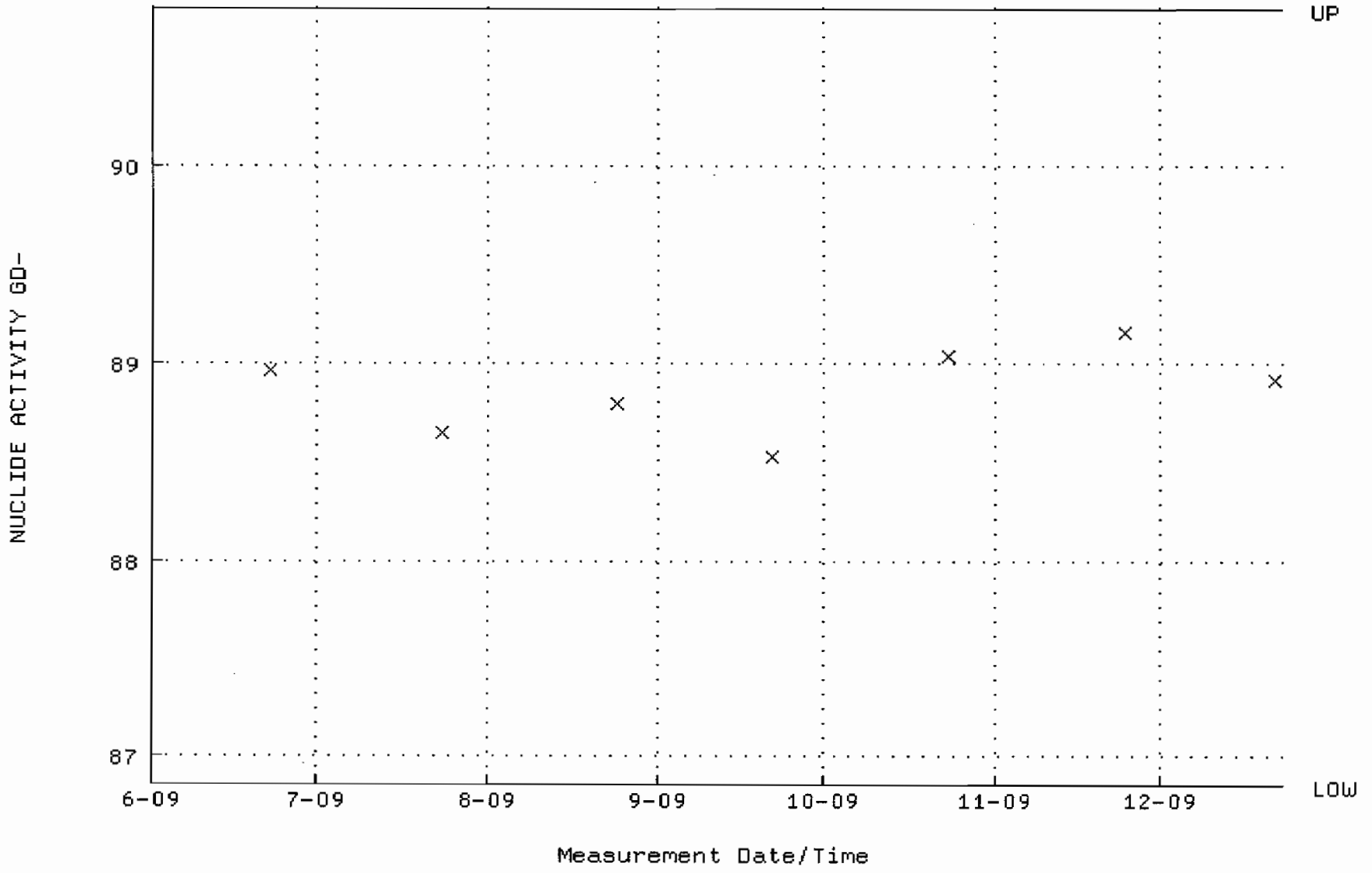
QA filename : DKA100:[ENV_ALPHA.QA.B]B167.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:24 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



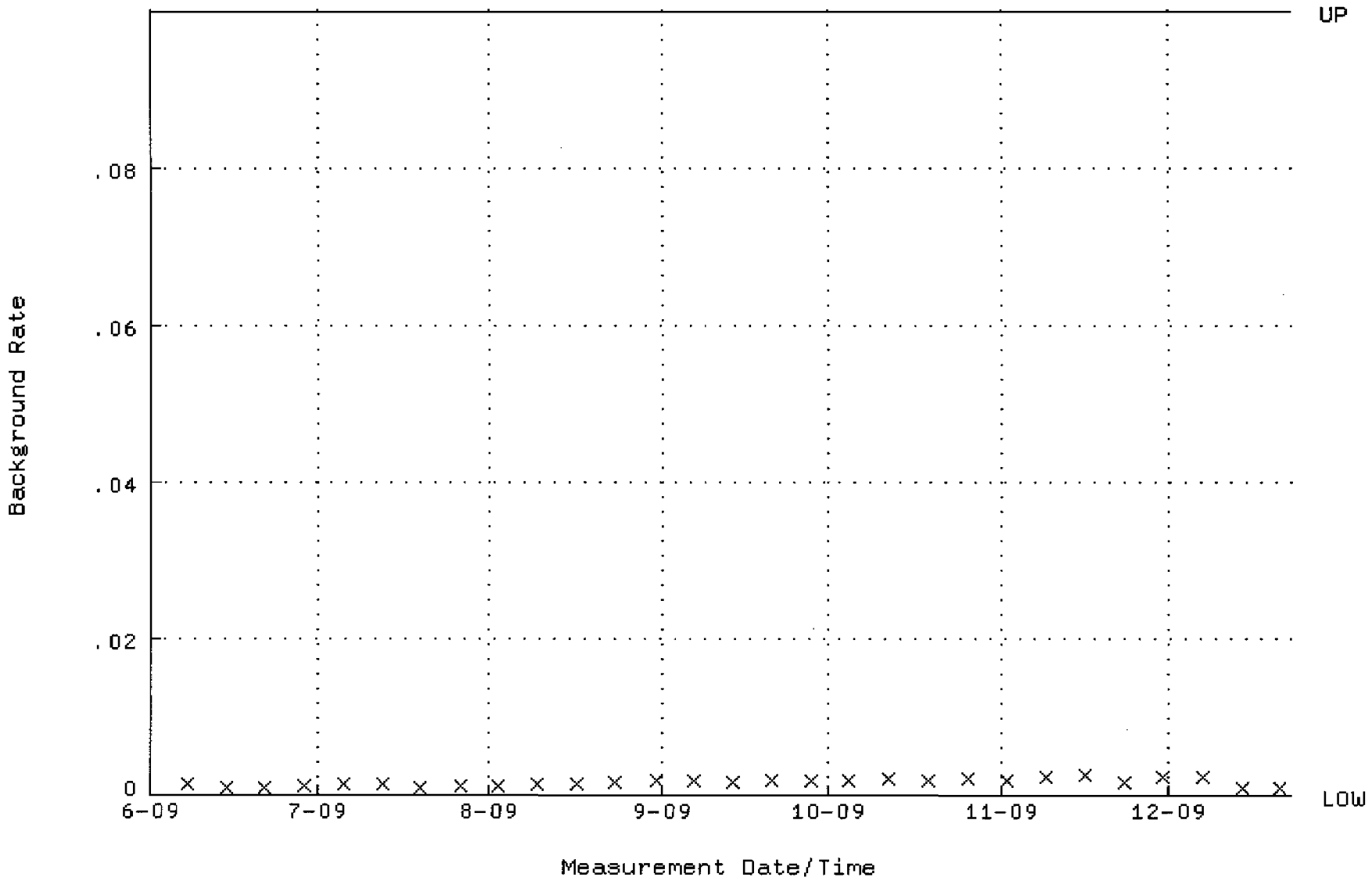
QA filename : DKA100:[ENV_ALPHA.QA.W]W168.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:49:33 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.381339 through 0.408495



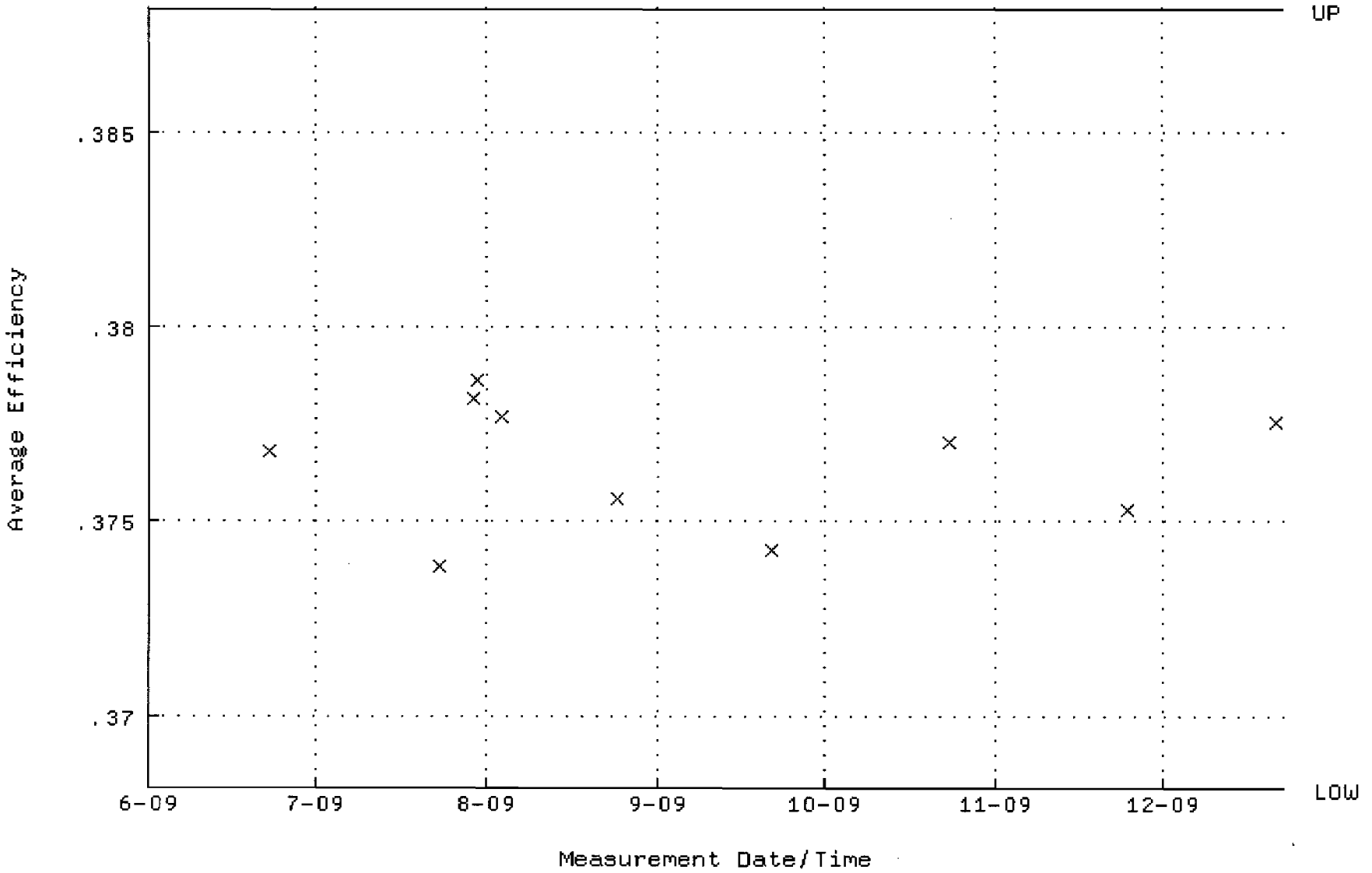
QA filename : DKA100:[ENV_ALPHA.QA.W]W168.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:49:33 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 86.8544 through 90.7976



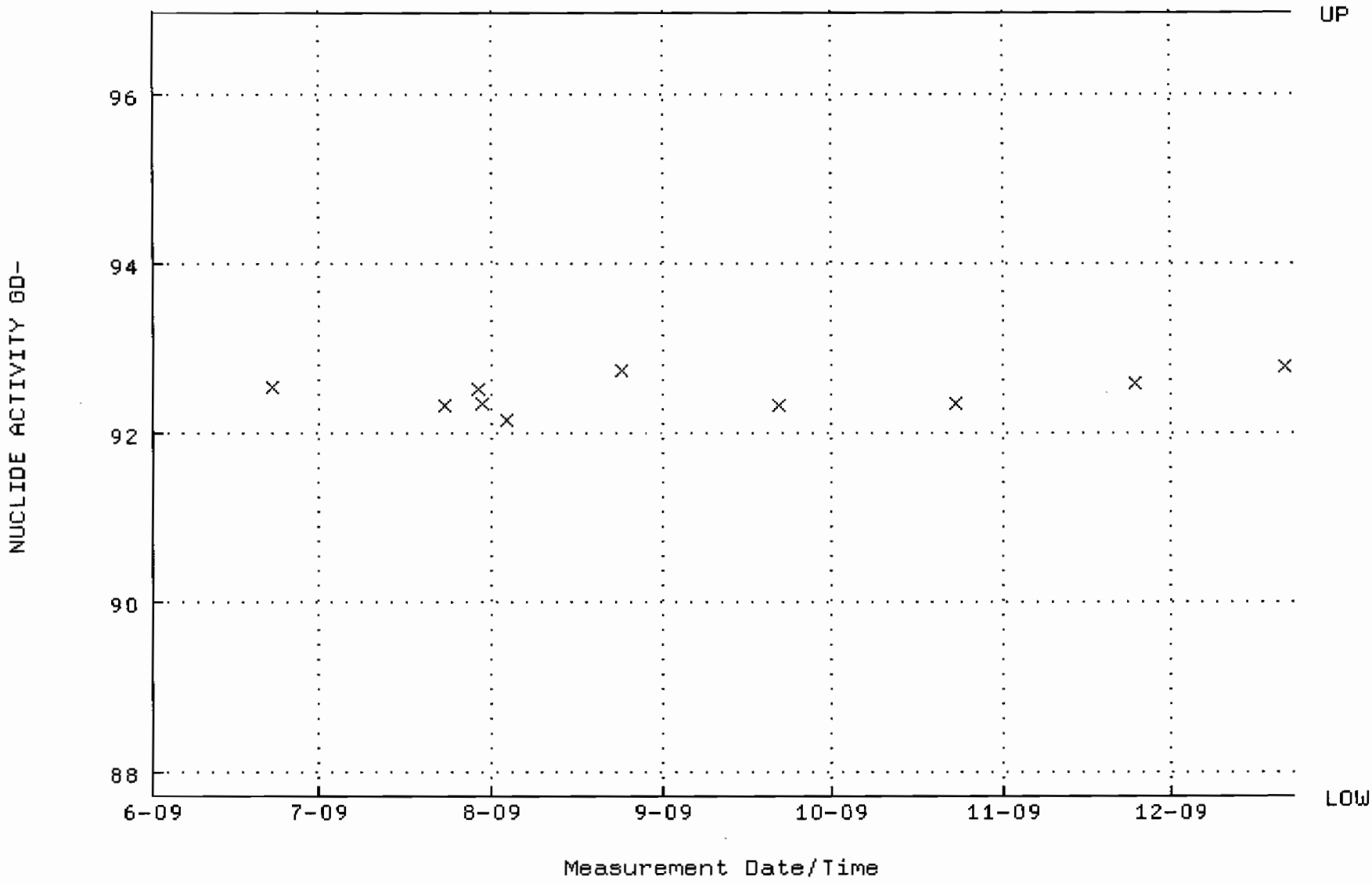
QA filename : DKA100:[ENV_ALPHA.QA.B]B168.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:28 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



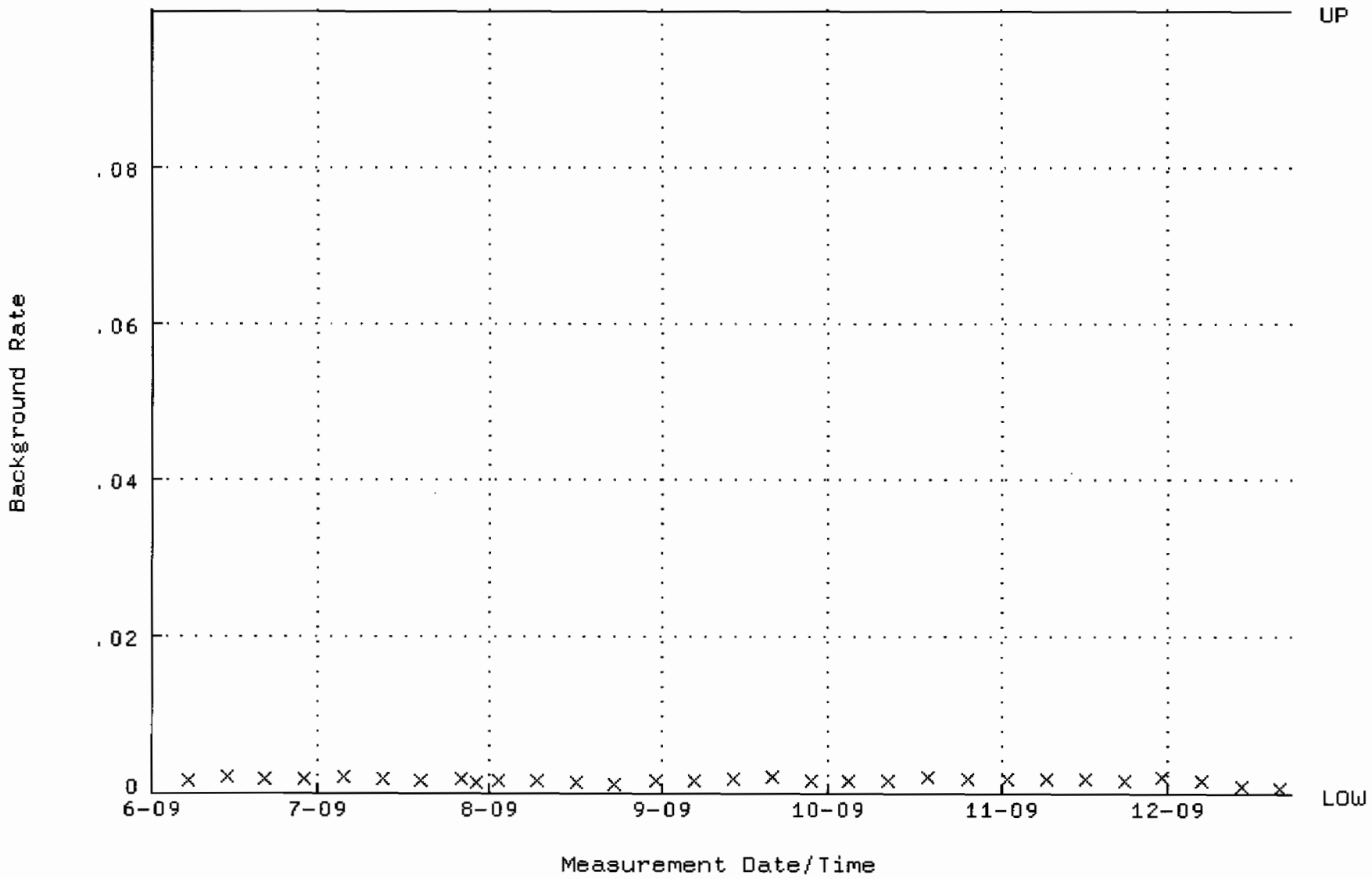
QA filename : DKA100:[ENV_ALPHA.QA.W]W169.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:49:39 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.368144 through 0.388144



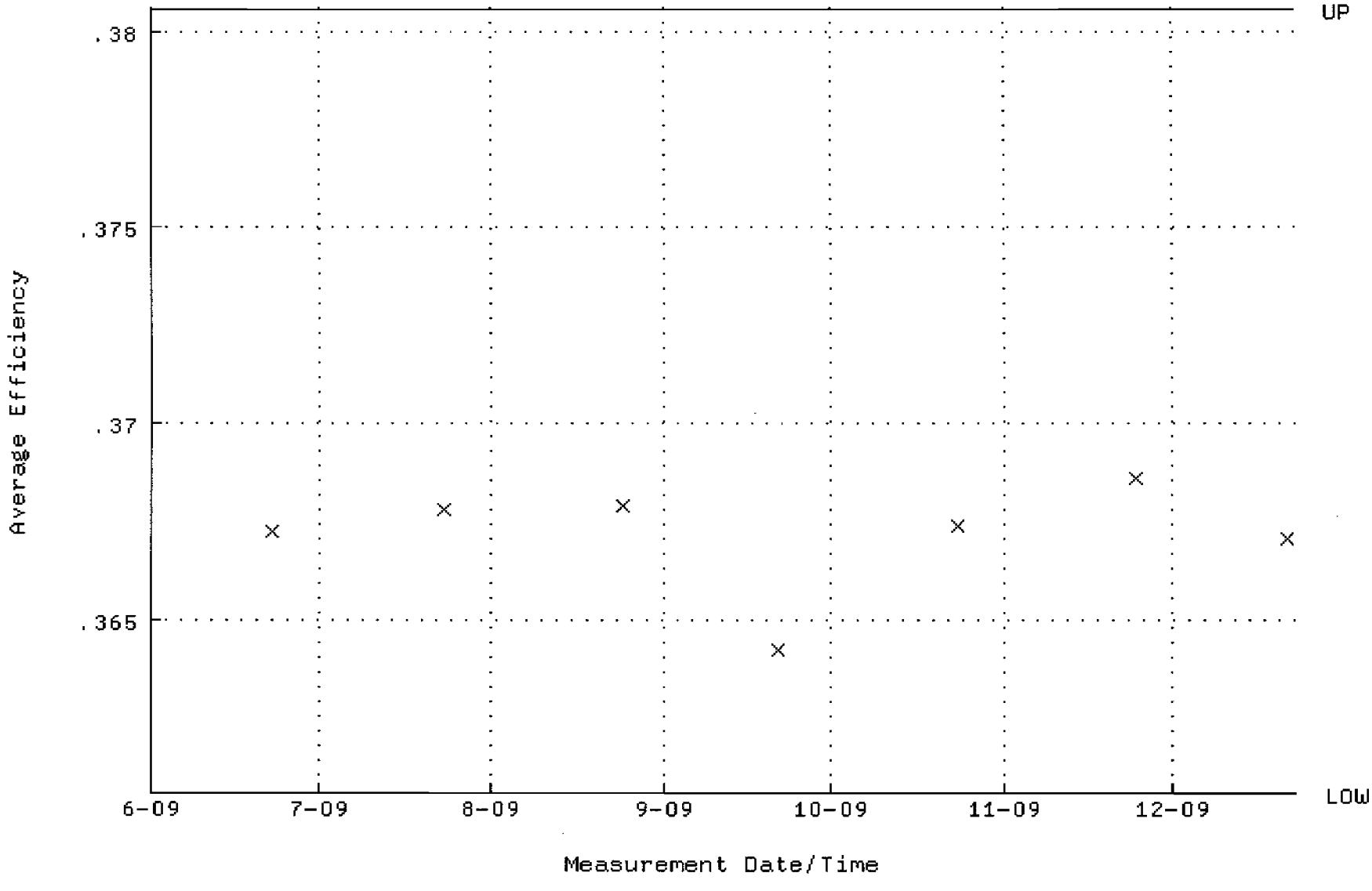
QA filename : DKA100:[ENV_ALPHA.QA.W]W169.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:49:39 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 87.7141 through 96.9471



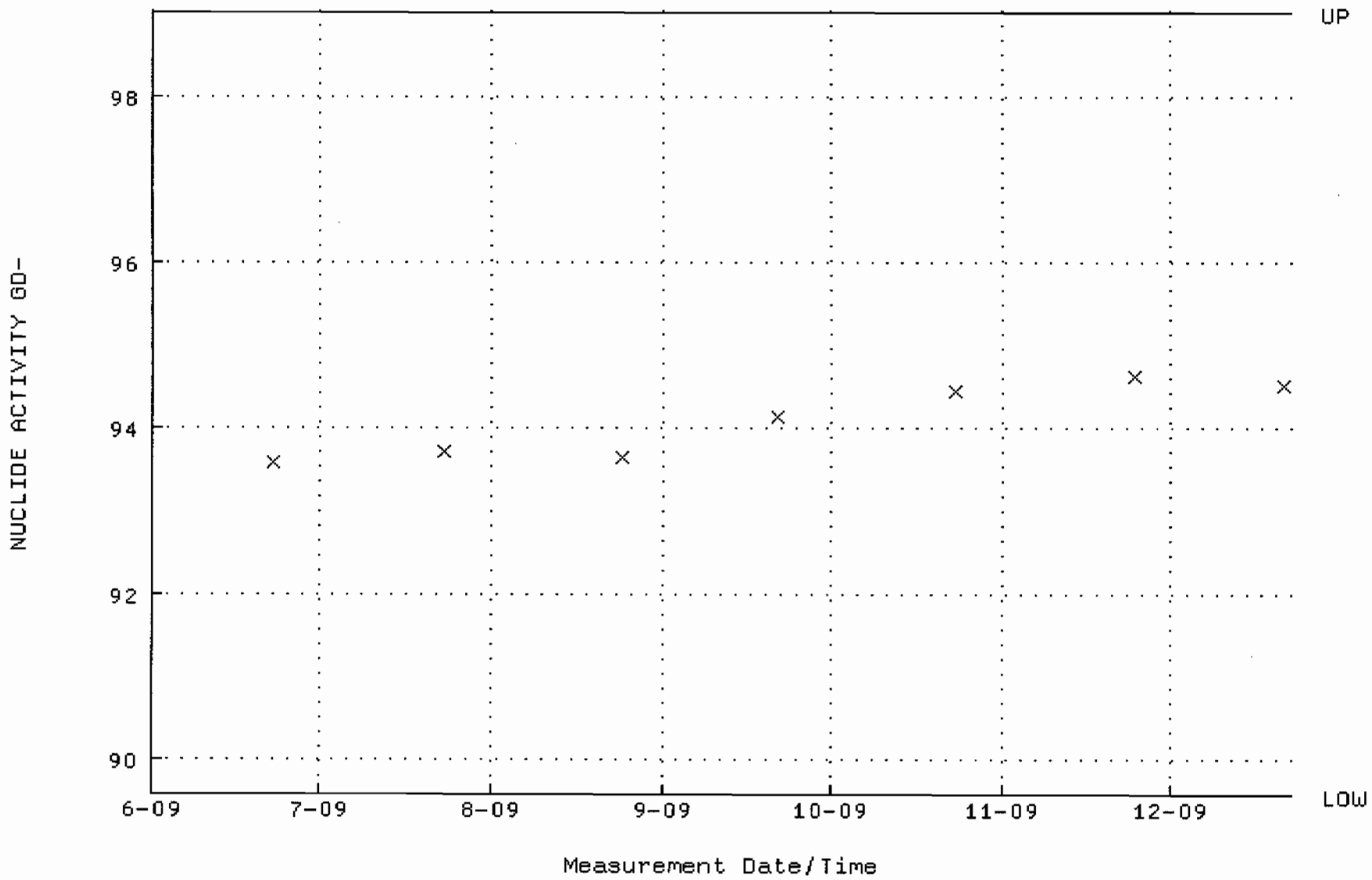
QA filename : DKA100:[ENV_ALPHA.QA.B]B169.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:32 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



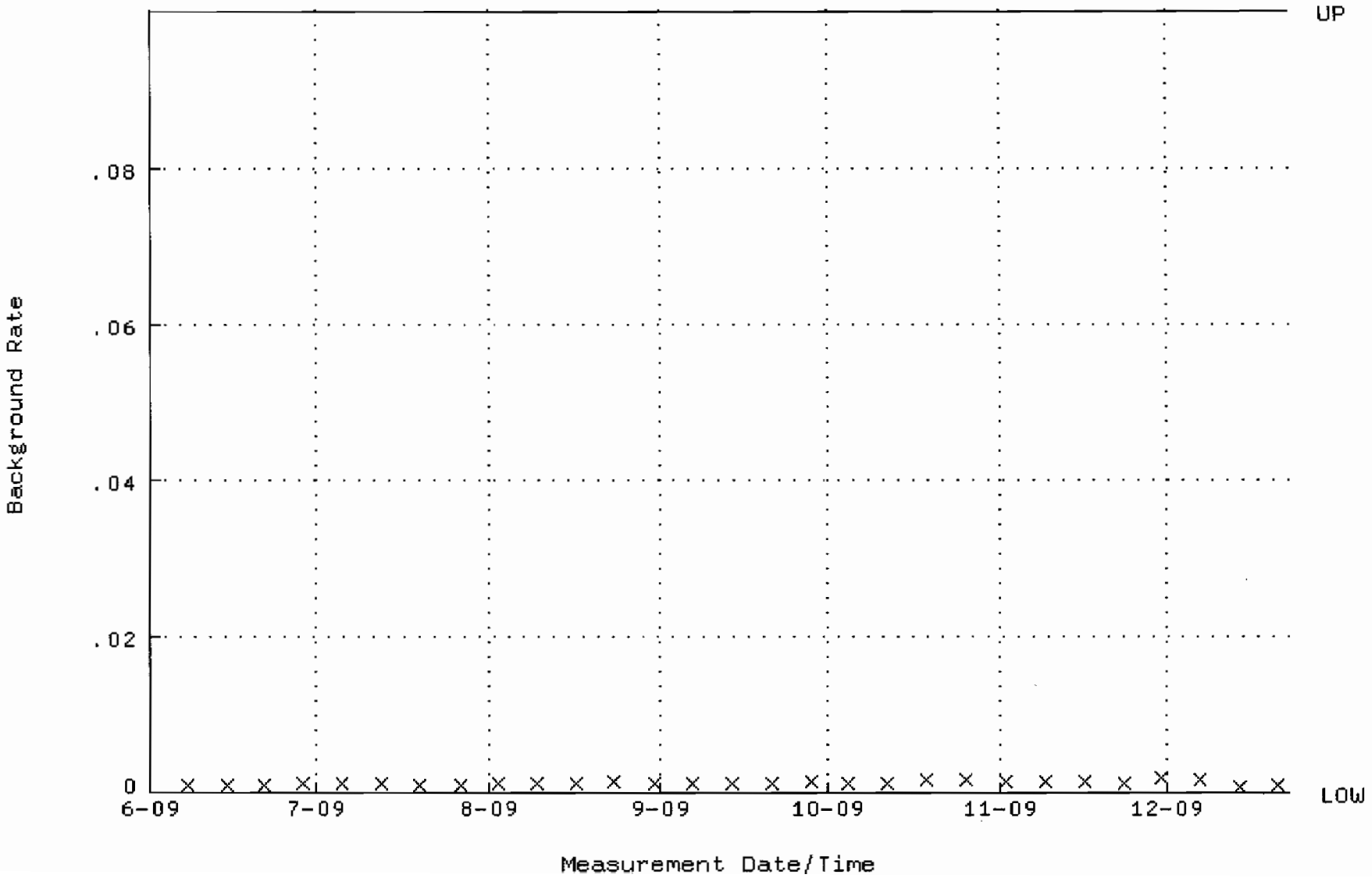
QA filename : DKA100:[ENV_ALPHA.QA.W]W170.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:49:44 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.360563 through 0.380563



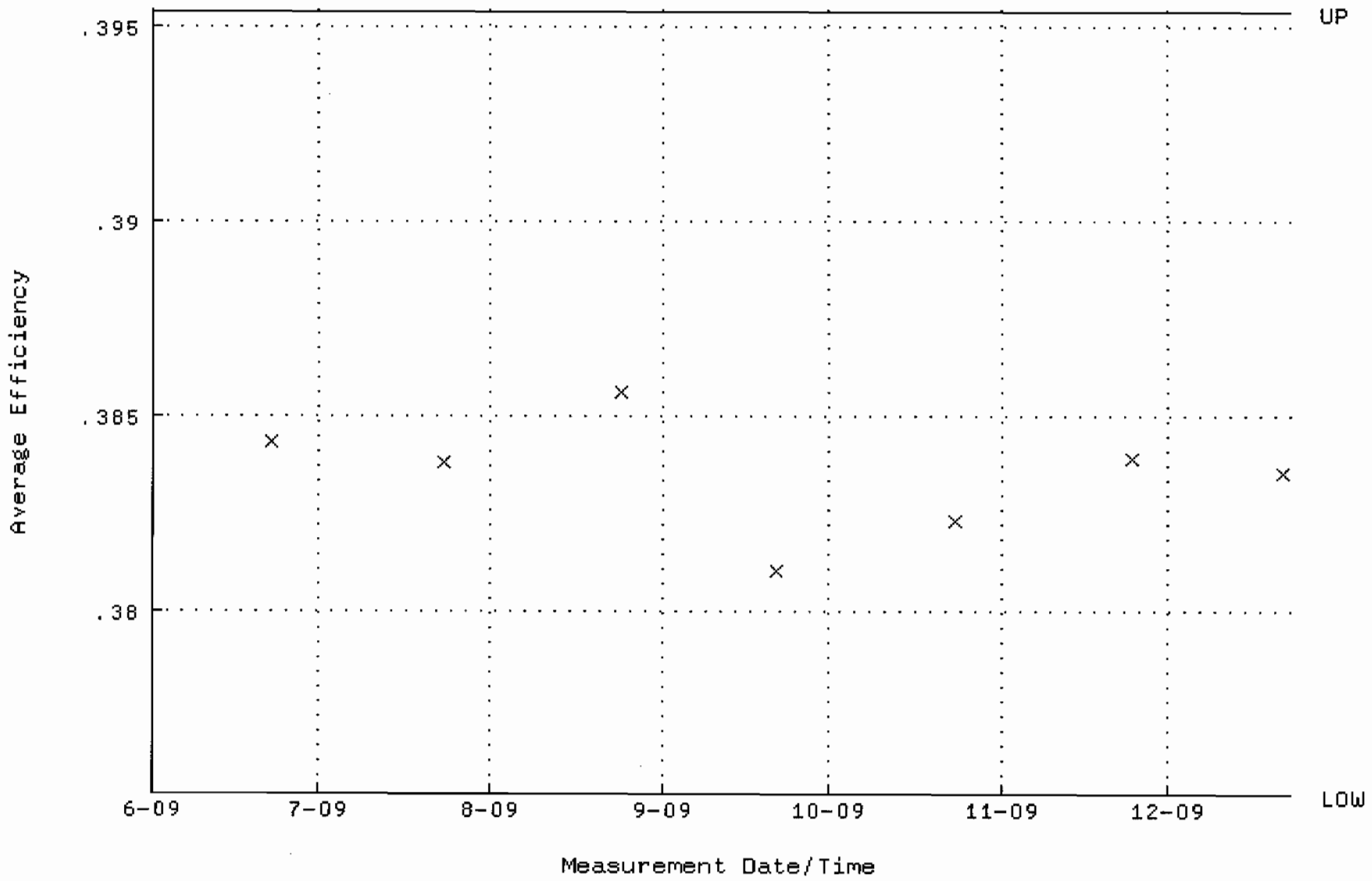
QA filename : DKA100:[ENV_ALPHA.QA.W]W170.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:49:44 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 89.5841 through 99.0139



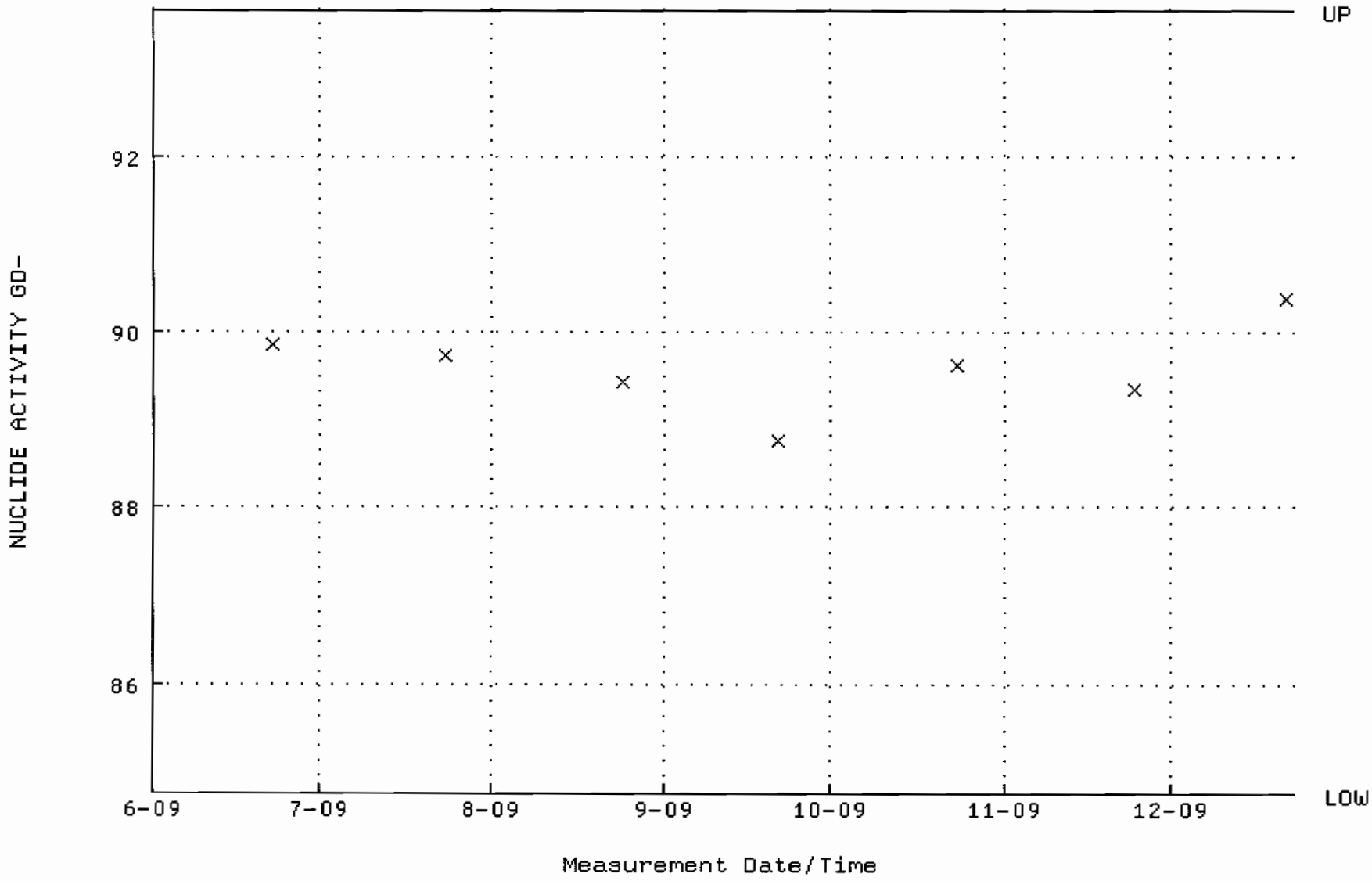
QA filename : DKA100:[ENV_ALPHA.QA.B]B170.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:36 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



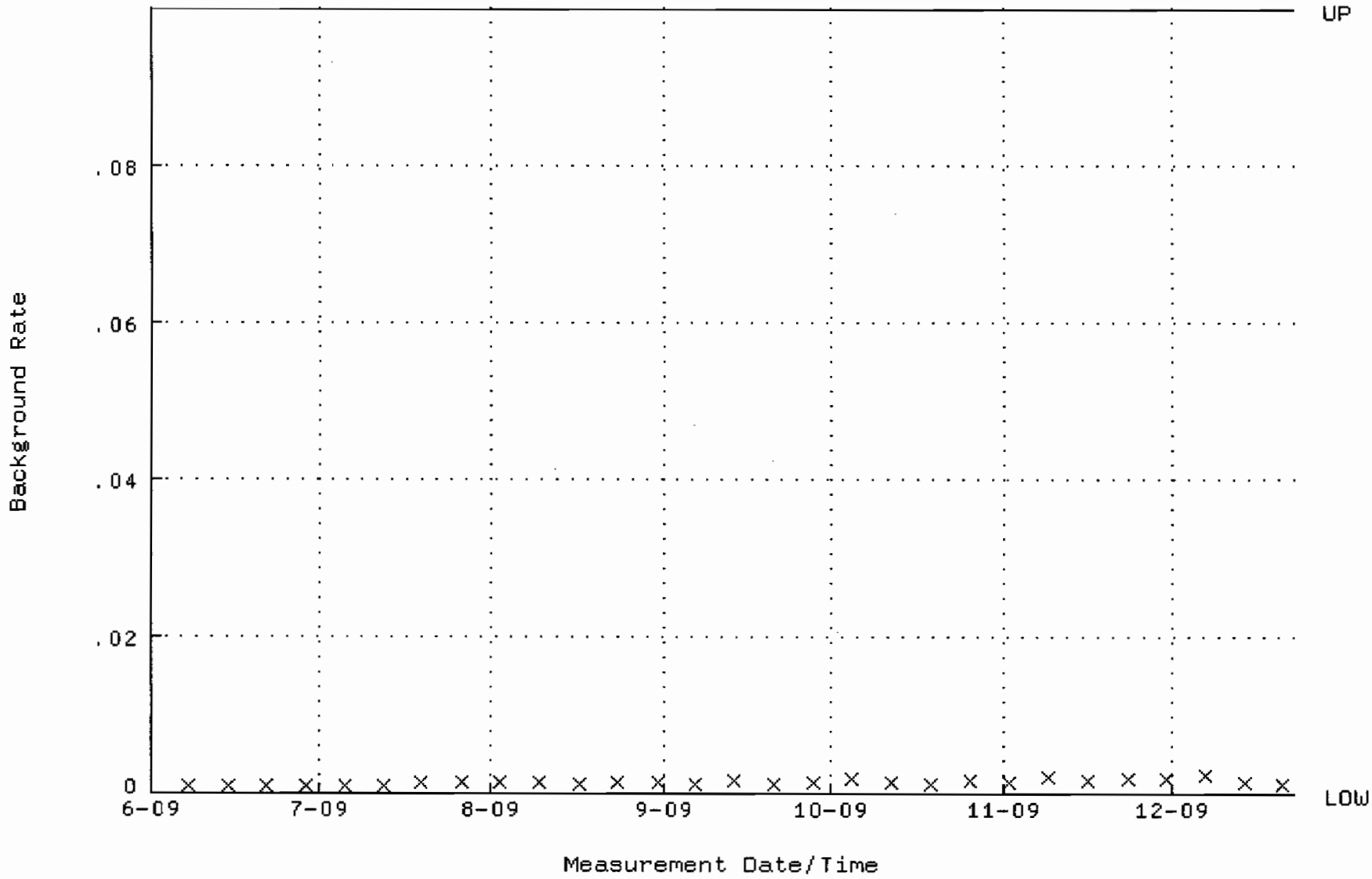
QA filename : DKA100:[ENV_ALPHA.QA.W]W171.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:49:50 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.375364 through 0.395364



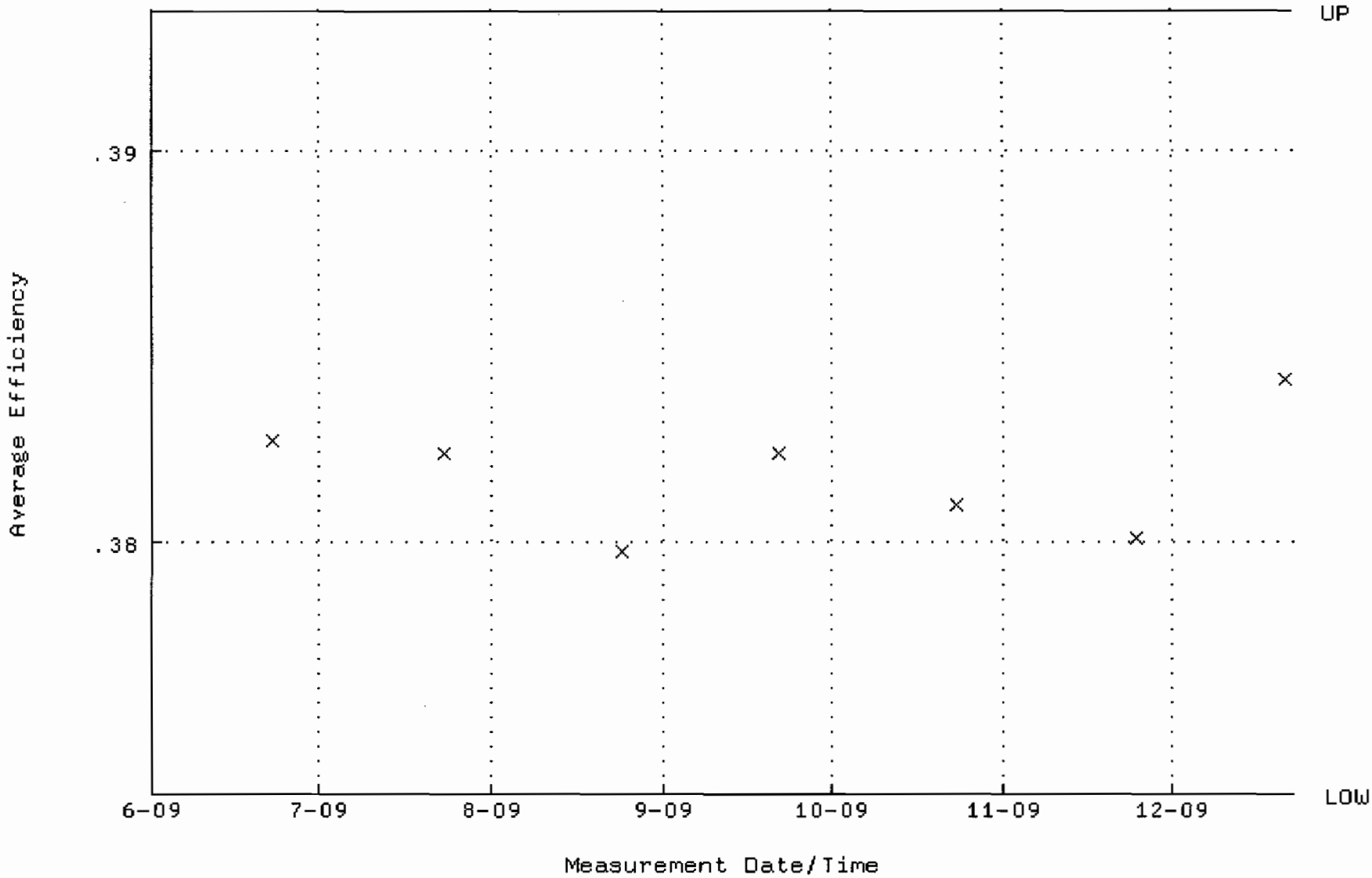
QA filename : DKA100:[ENV_ALPHA.QA.W]W171.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:49:50 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 84.7539 through 93.6753



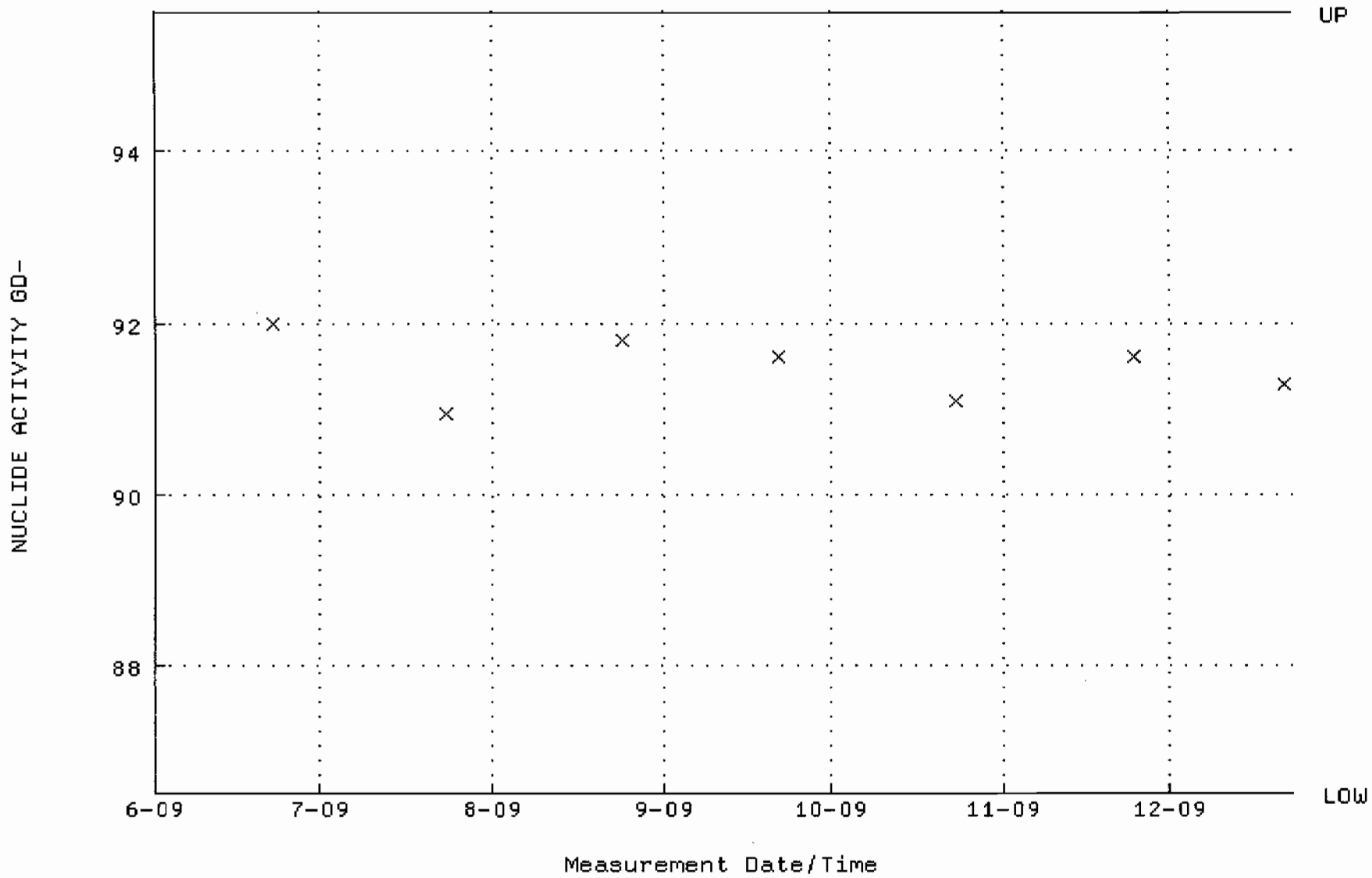
QA filename : DKA100:[ENV_ALPHA.QA.B]B171.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:40 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



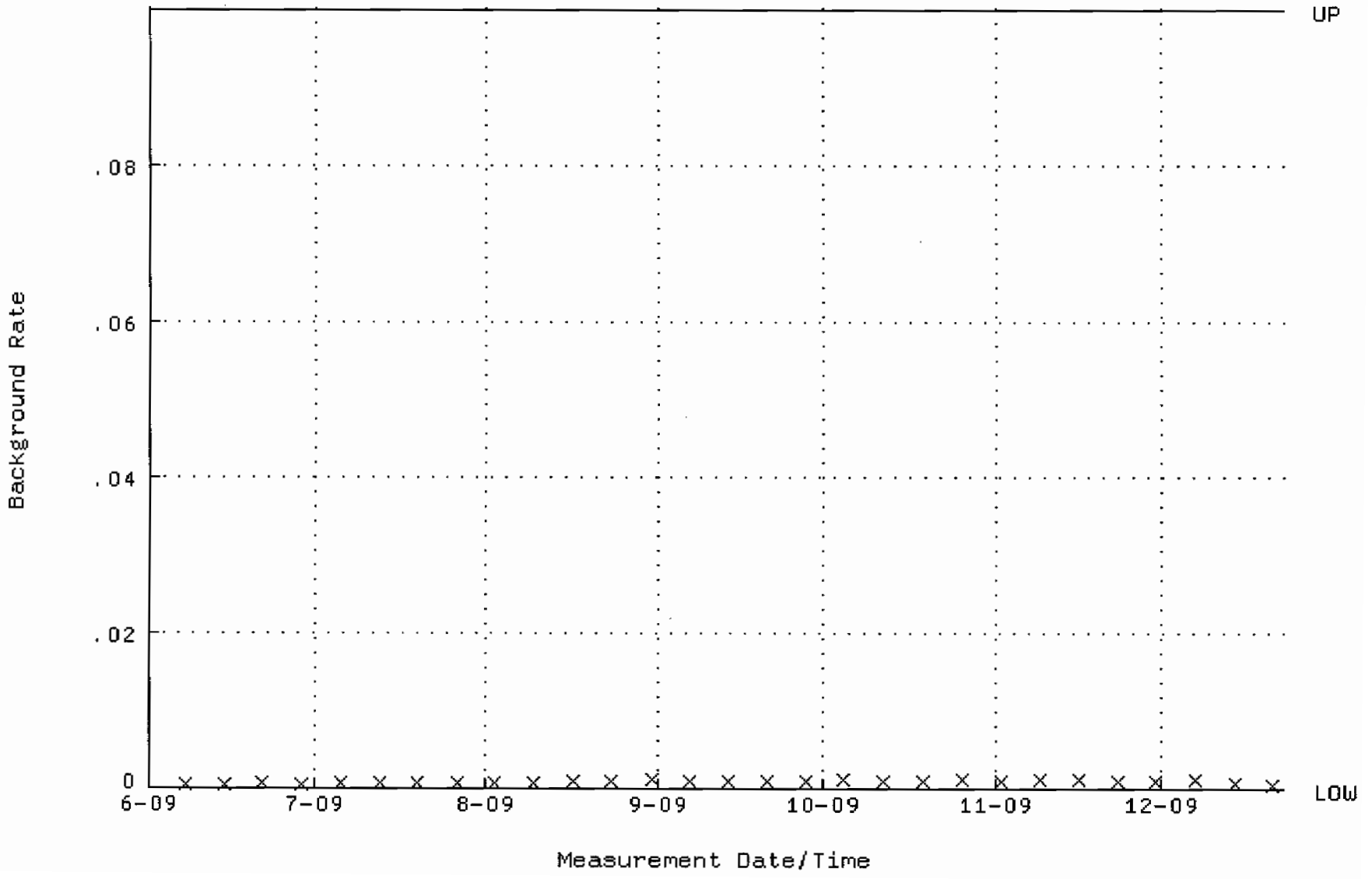
QA filename : DKA100:[ENV_ALPHA.QA.W]W172.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 22-JUN-2009 09:49:55 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.373575 through 0.393575



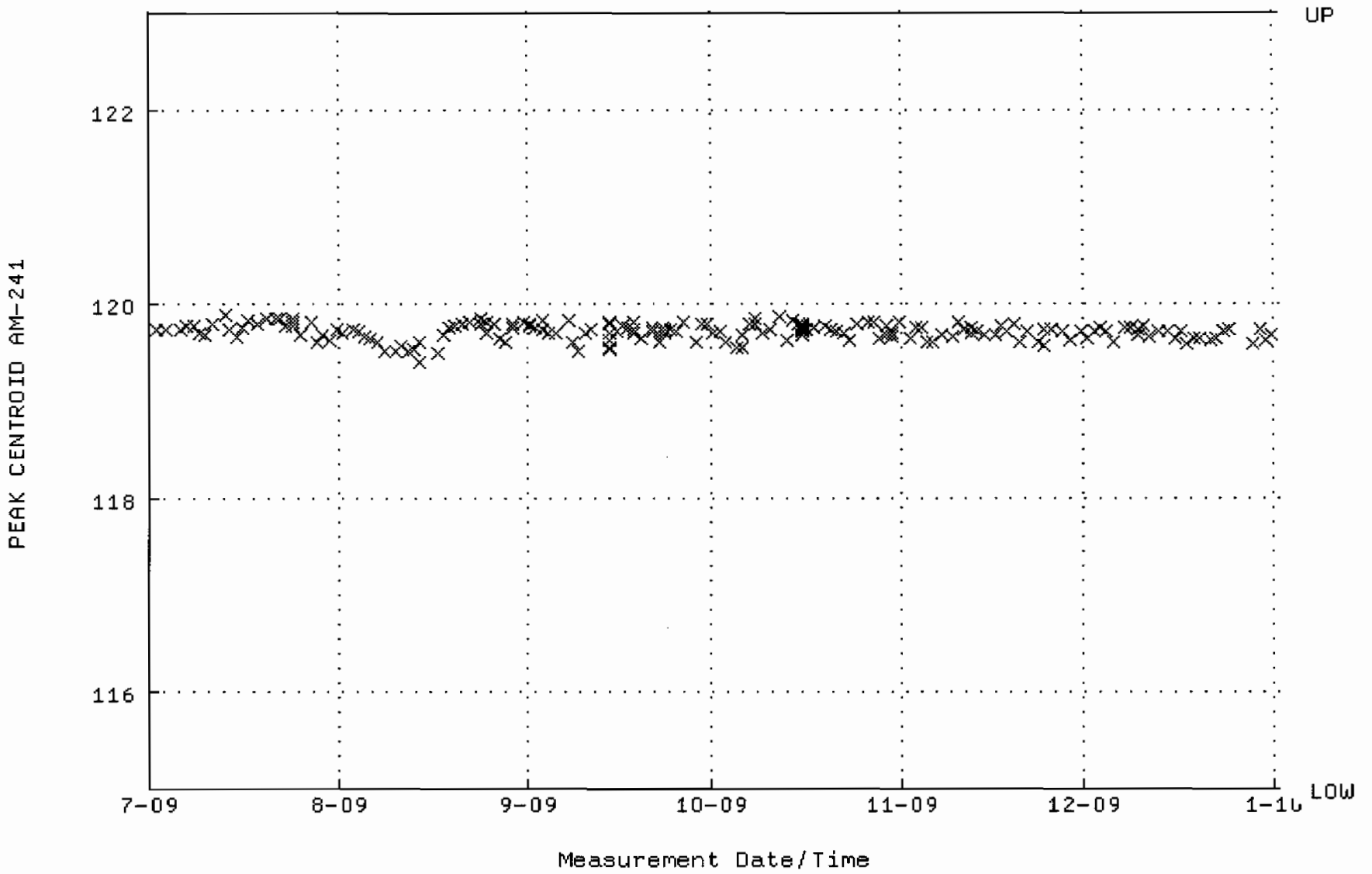
QA filename : DKA100:[ENV_ALPHA.QA.W]W172.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 22-JUN-2009 09:49:55 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 86.5089 through 95.6151



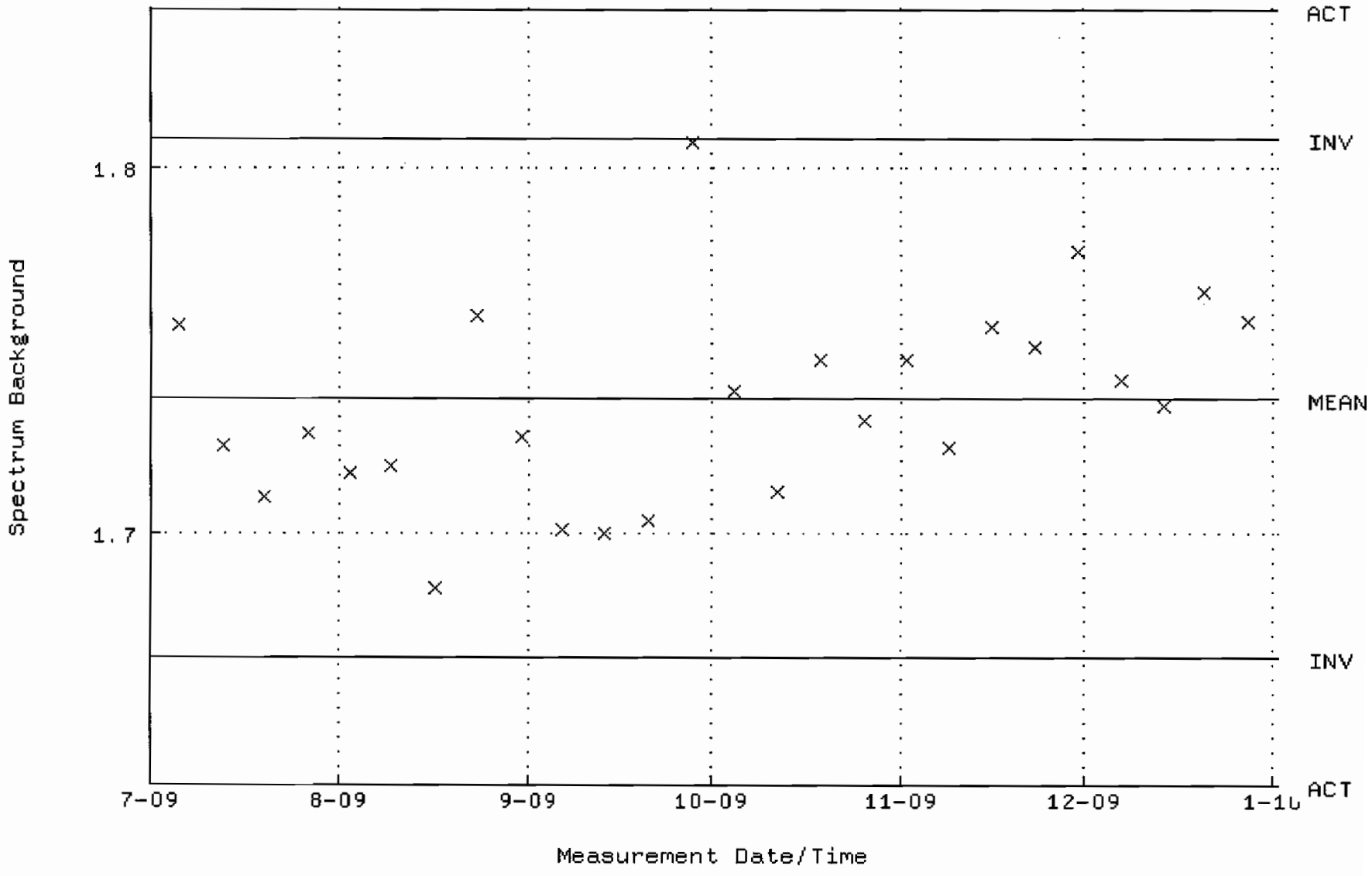
QA filename : DKA100:[ENV_ALPHA.QA.B]B172.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-JUN-2009 17:12:44 through 22-DEC-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



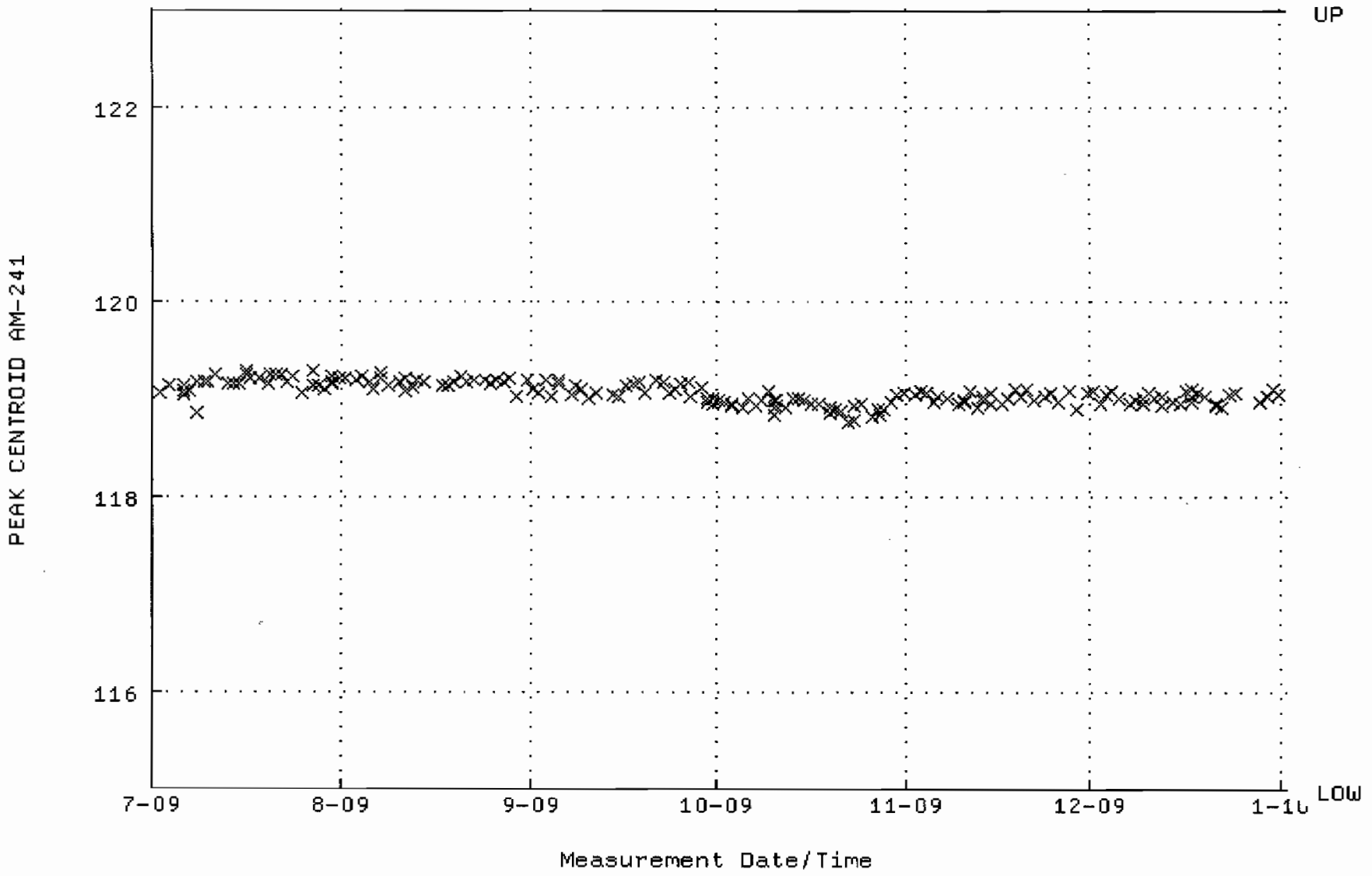
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM01_500MLMB.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 04:58:53 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



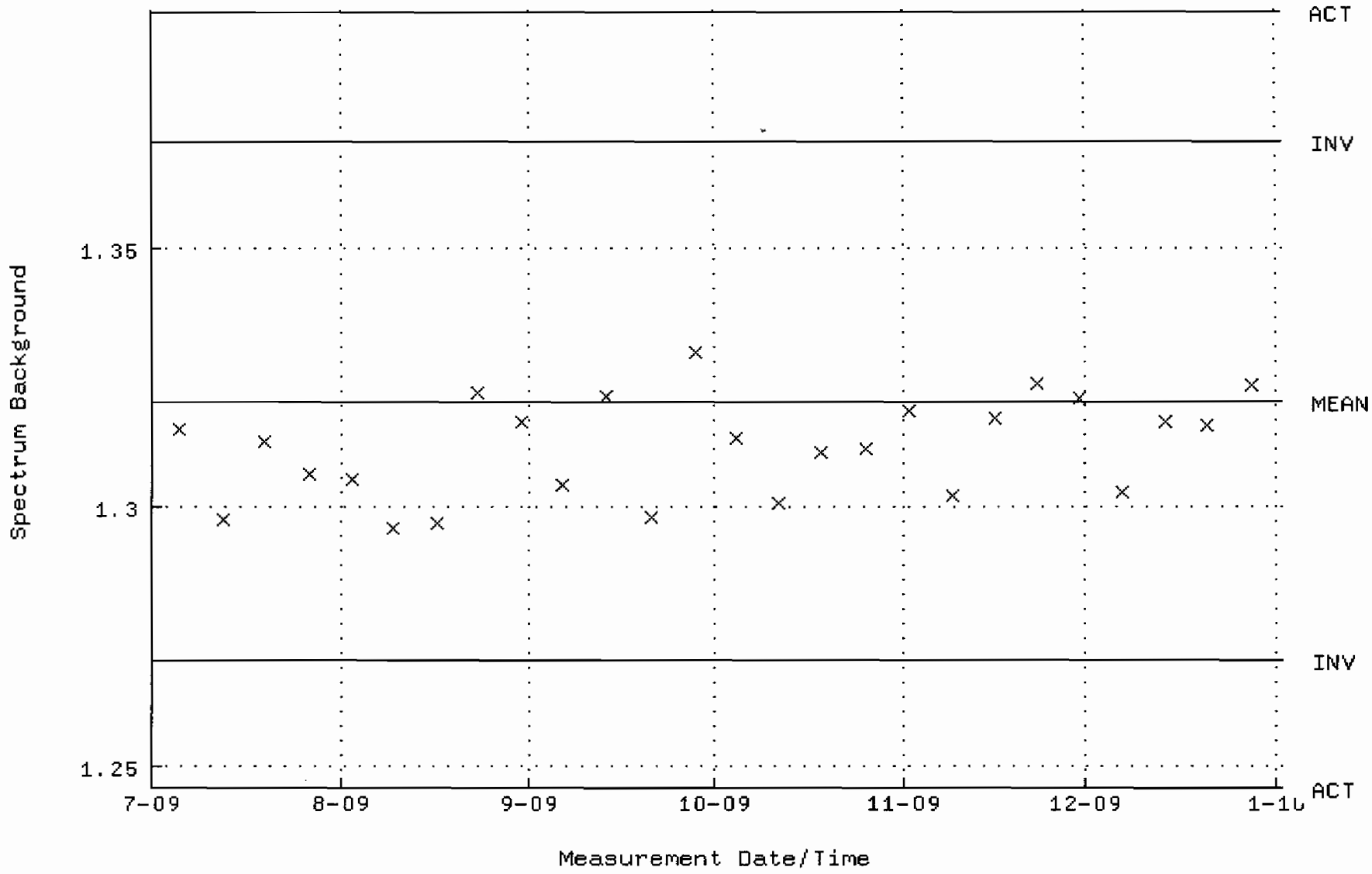
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM01.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:49:24 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.73723 +- 3.552524E-02 (2.04 %)



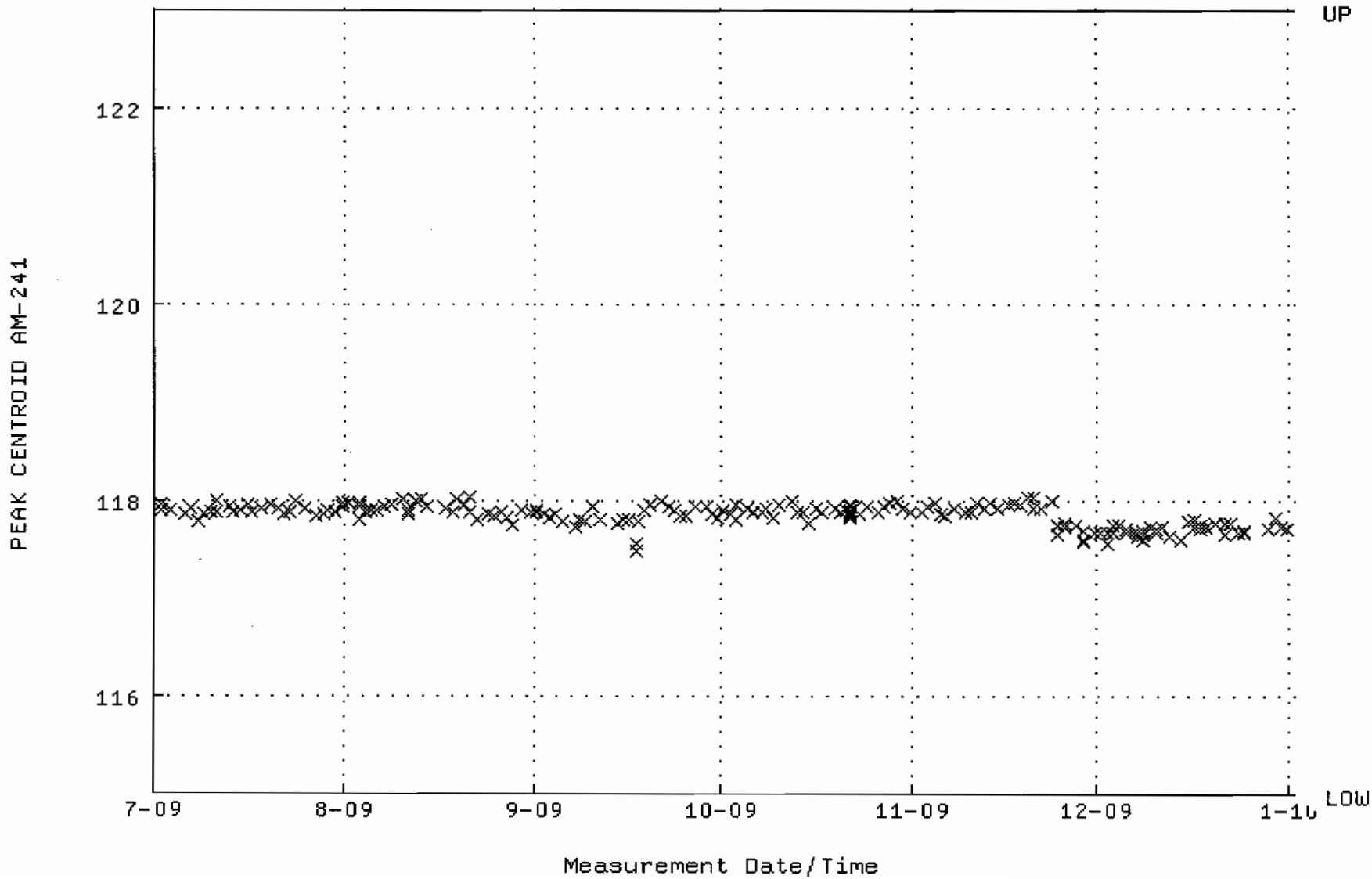
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM04_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 04:59:00 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



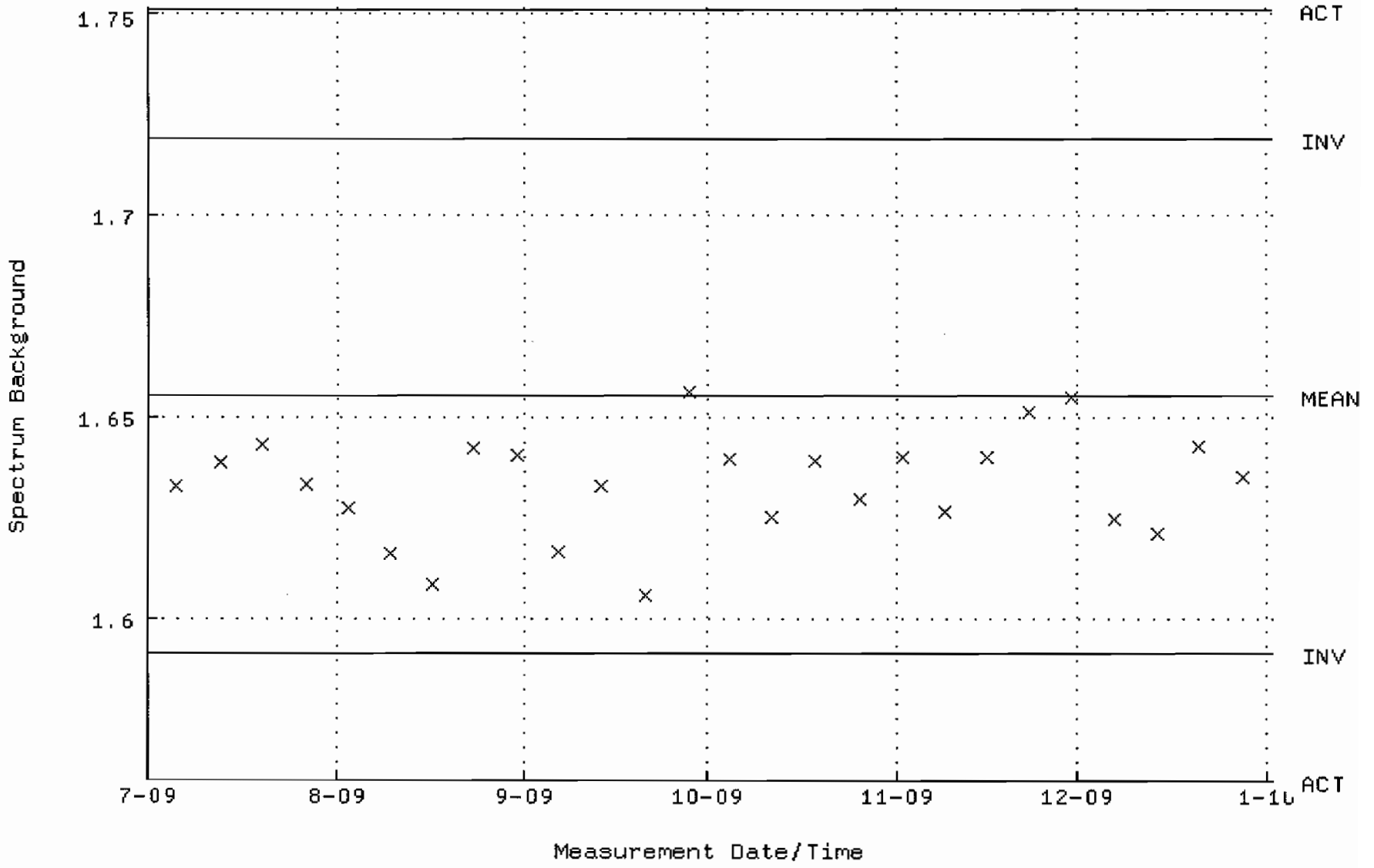
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM04.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:49:51 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.32050 +- 2.495234E-02 (1.89 %)



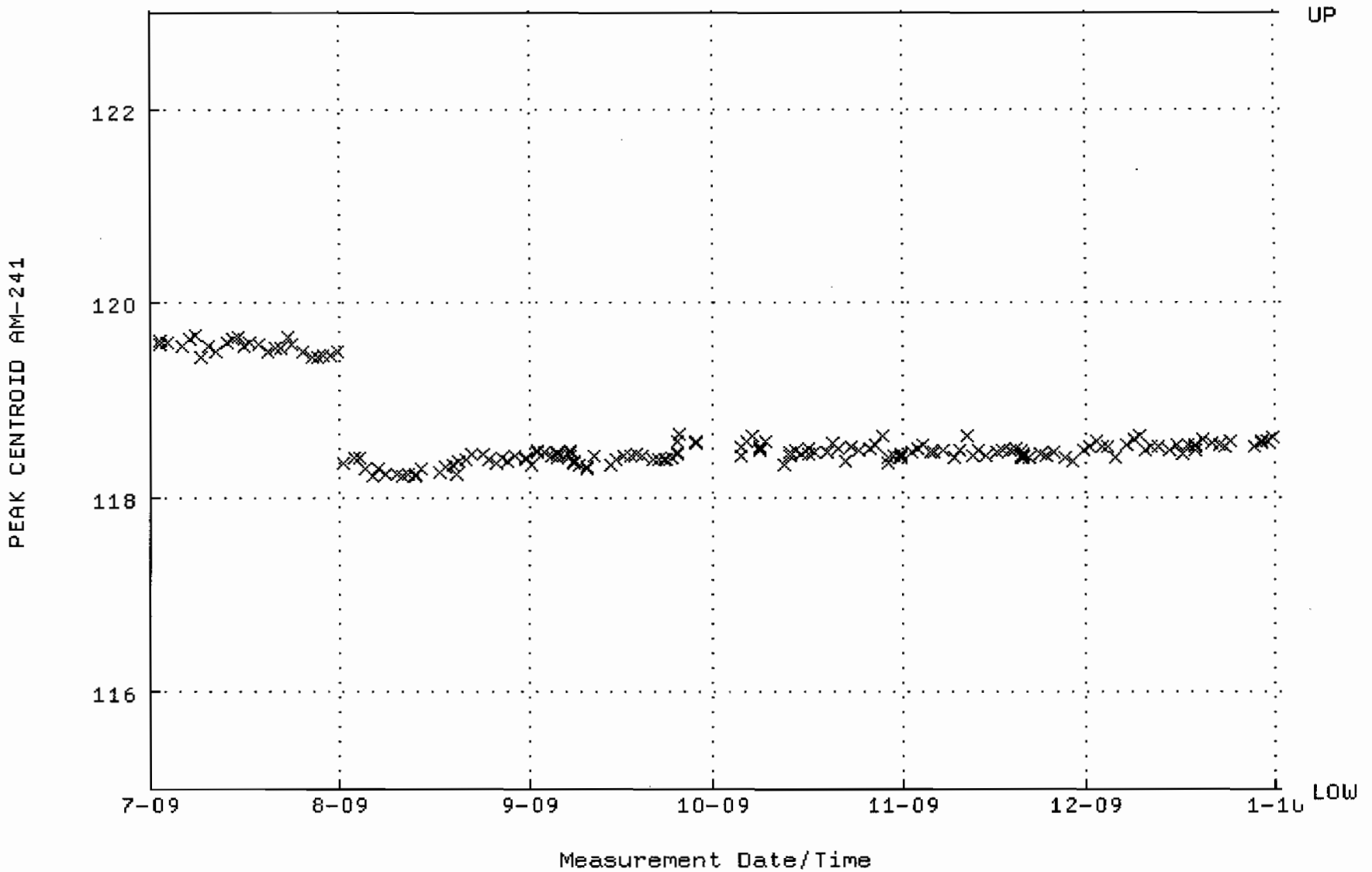
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM11_JAR.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 05:29:04 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



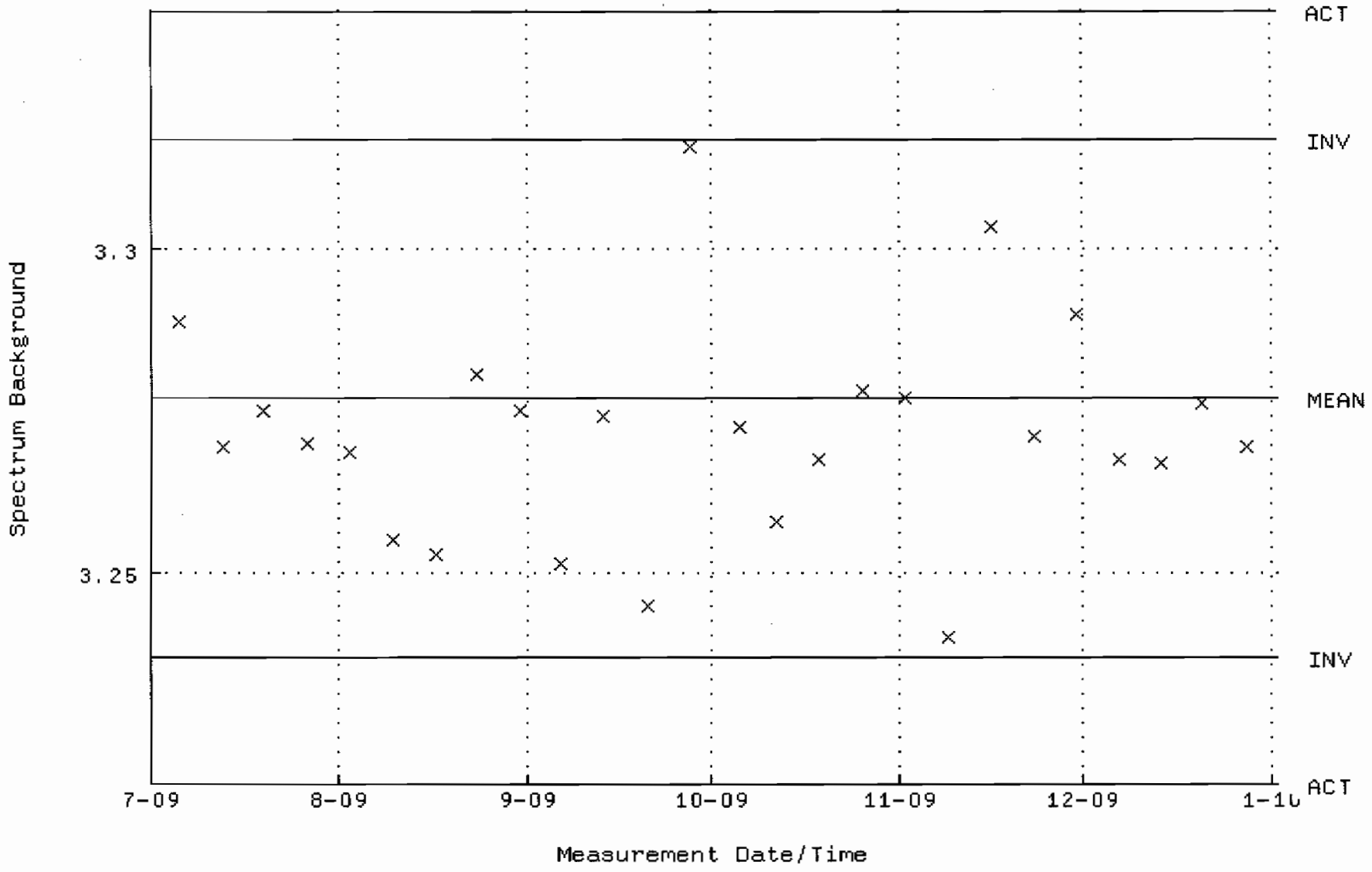
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM11.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:51:39 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.65552 +- 3.175806E-02 (1.92 %)



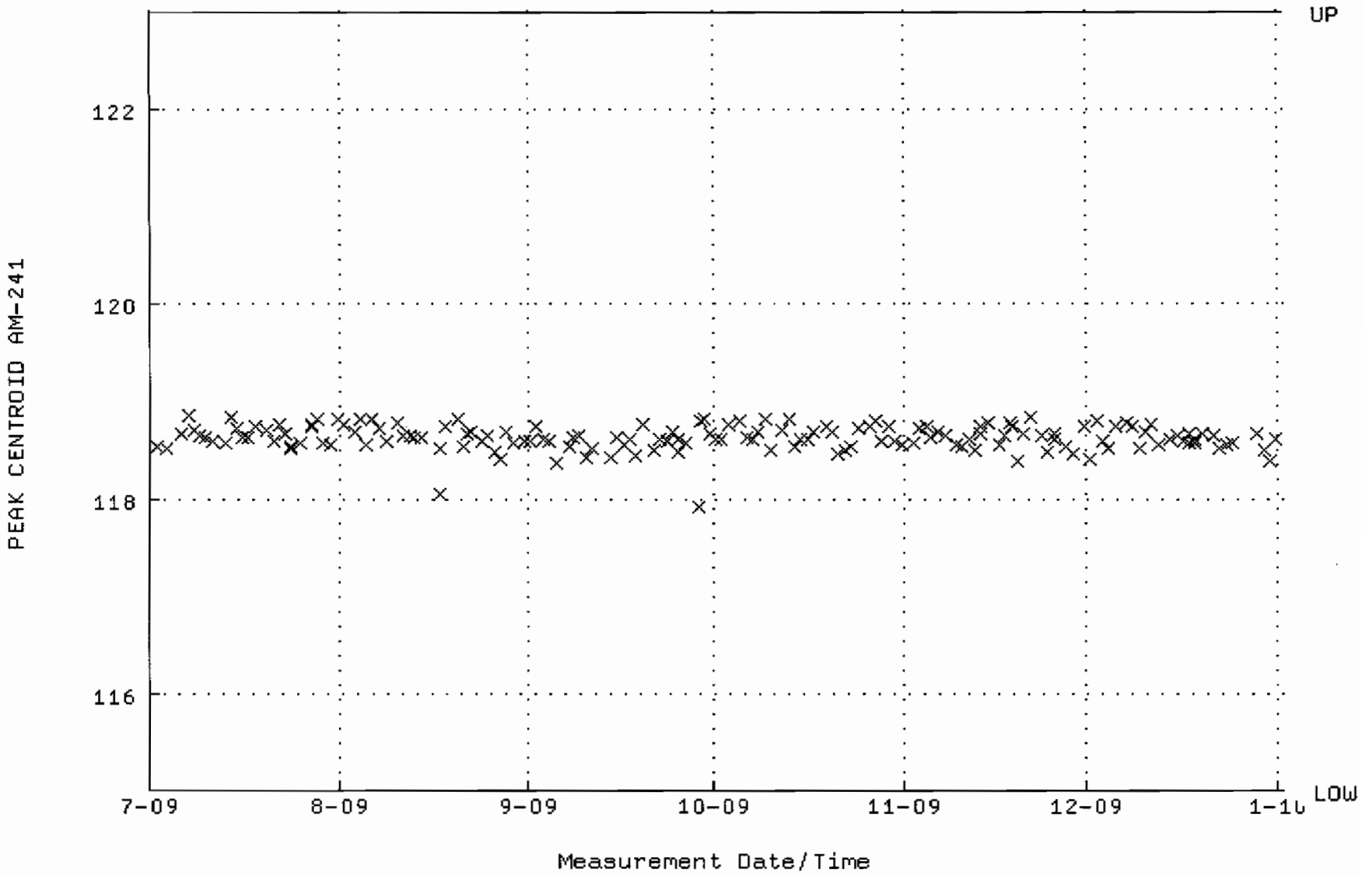
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM13_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 10:47:30 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



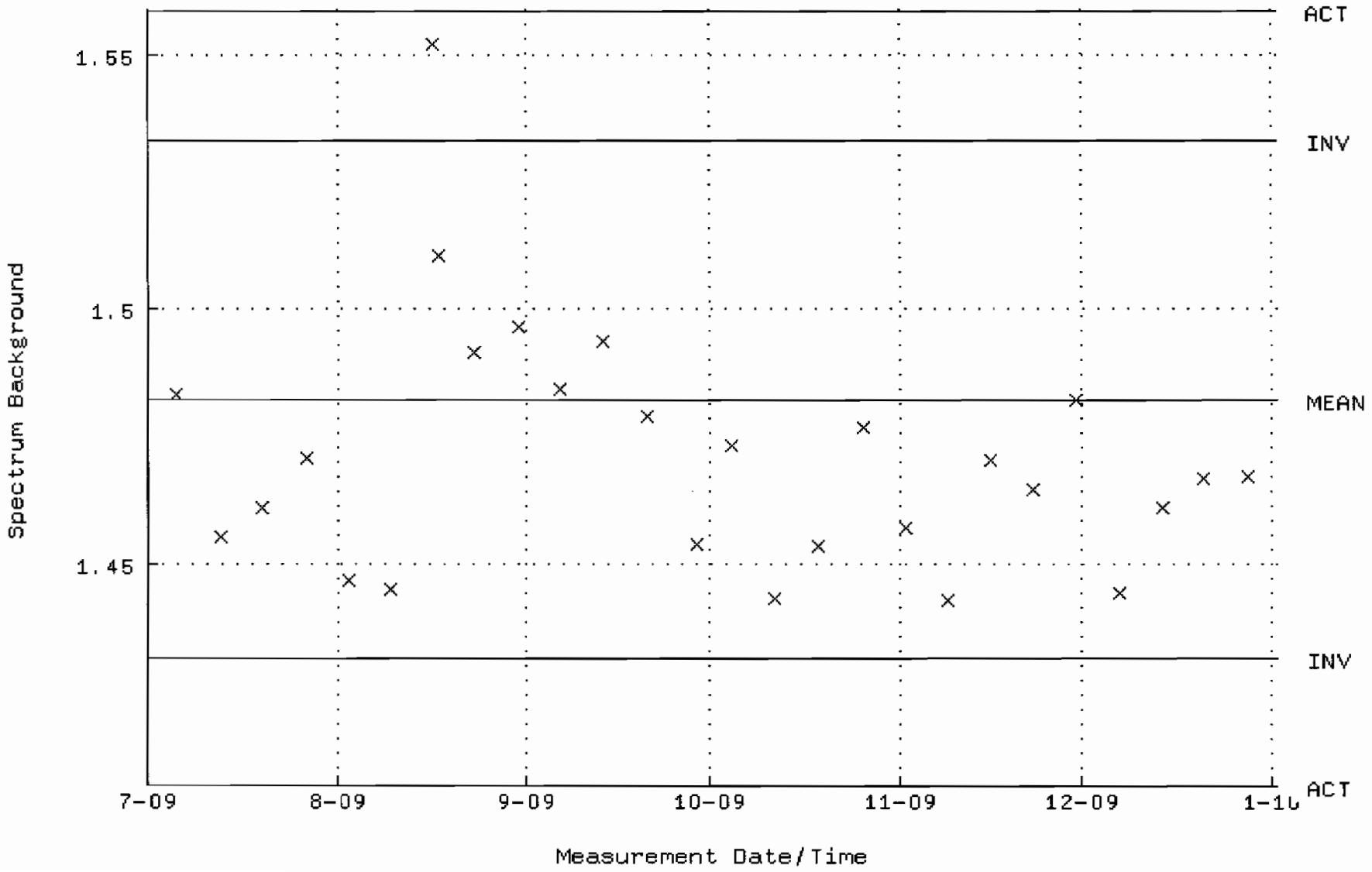
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM13.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:52:16 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 3.27712 +- 1.999120E-02 (0.61 %)



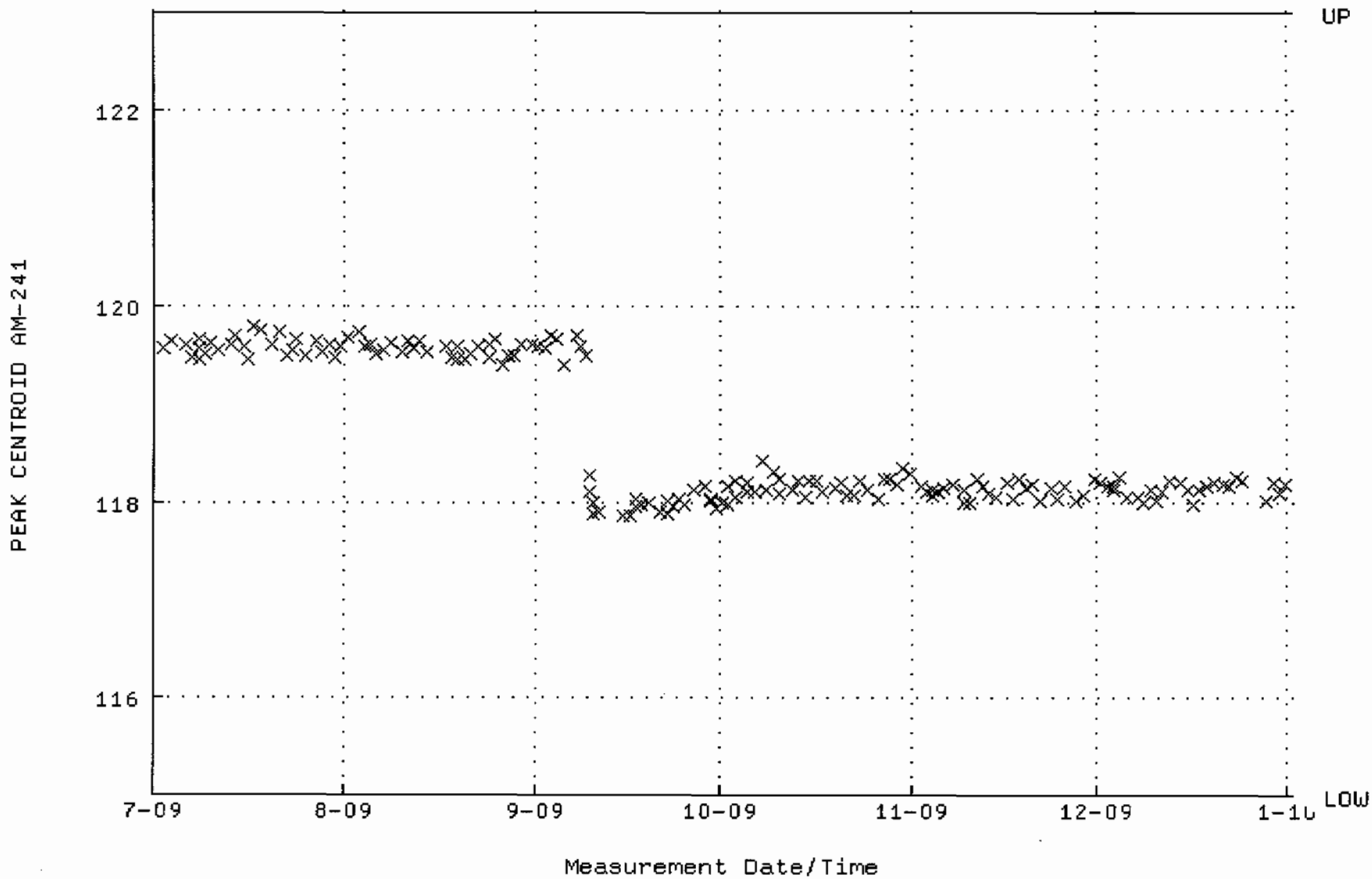
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM14_2LMB.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 04:59:23 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



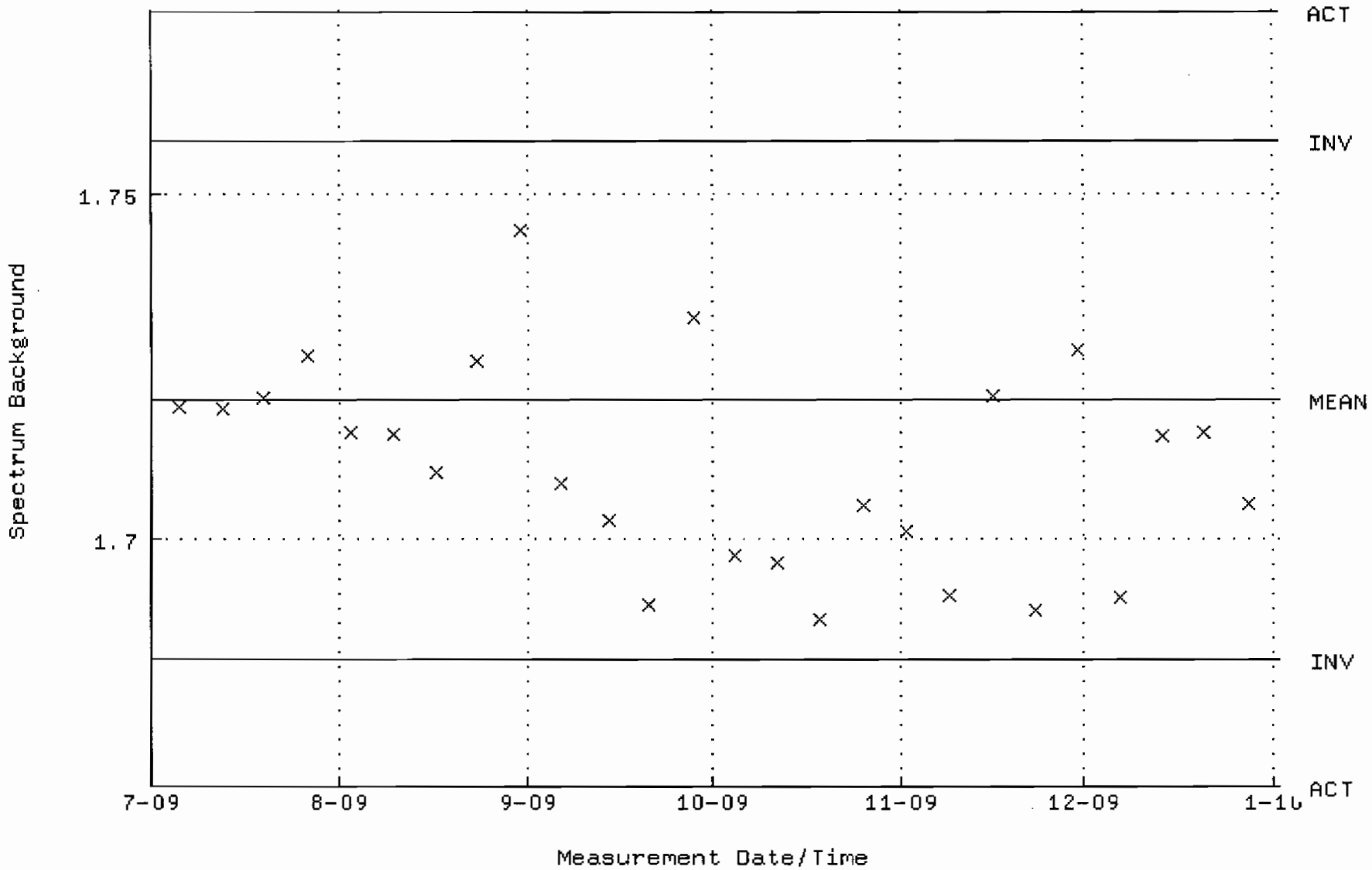
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM14.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:52:31 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.48240 +- 2.535500E-02 (1.71 %)



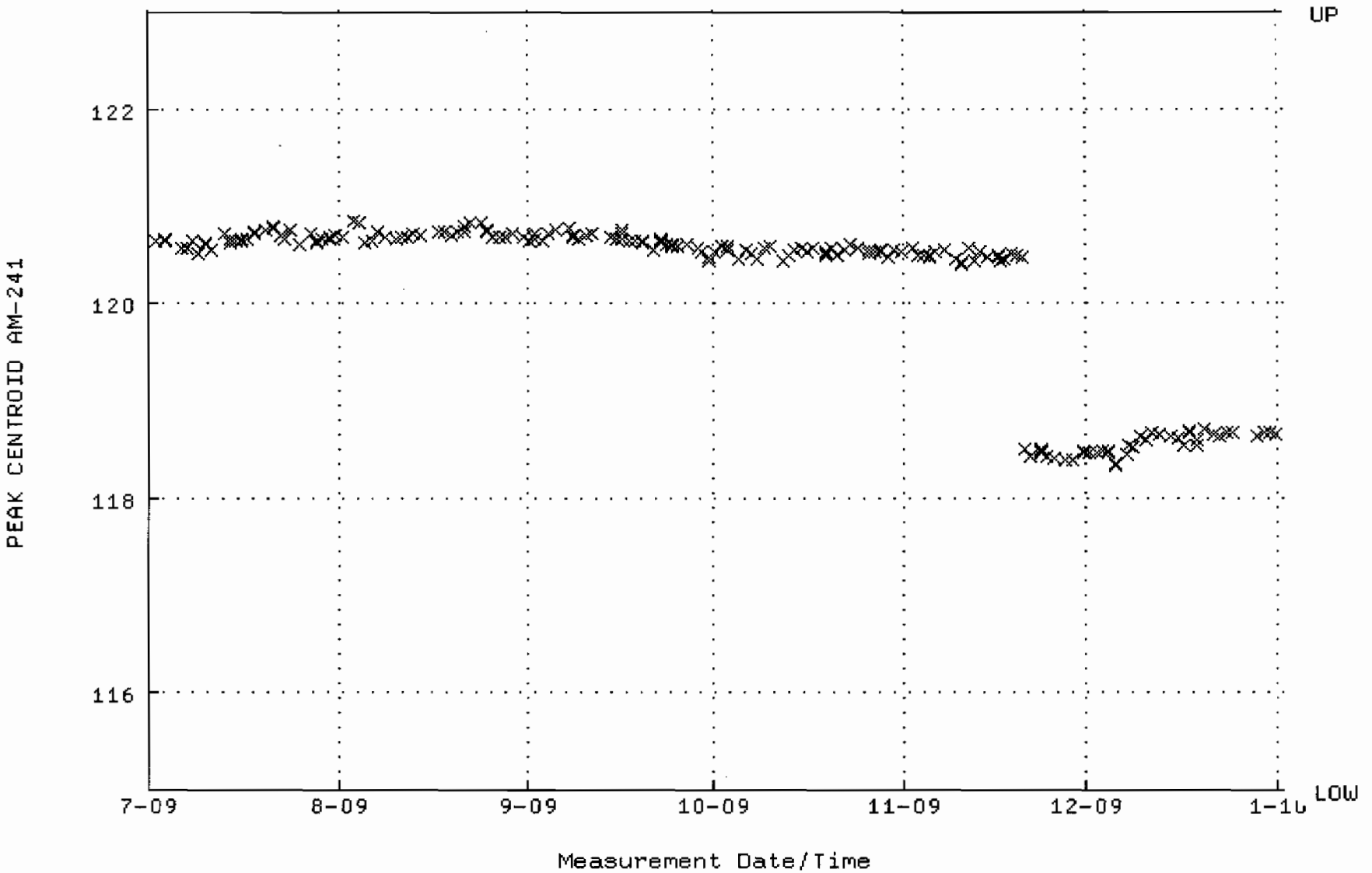
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM15_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 10:47:40 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



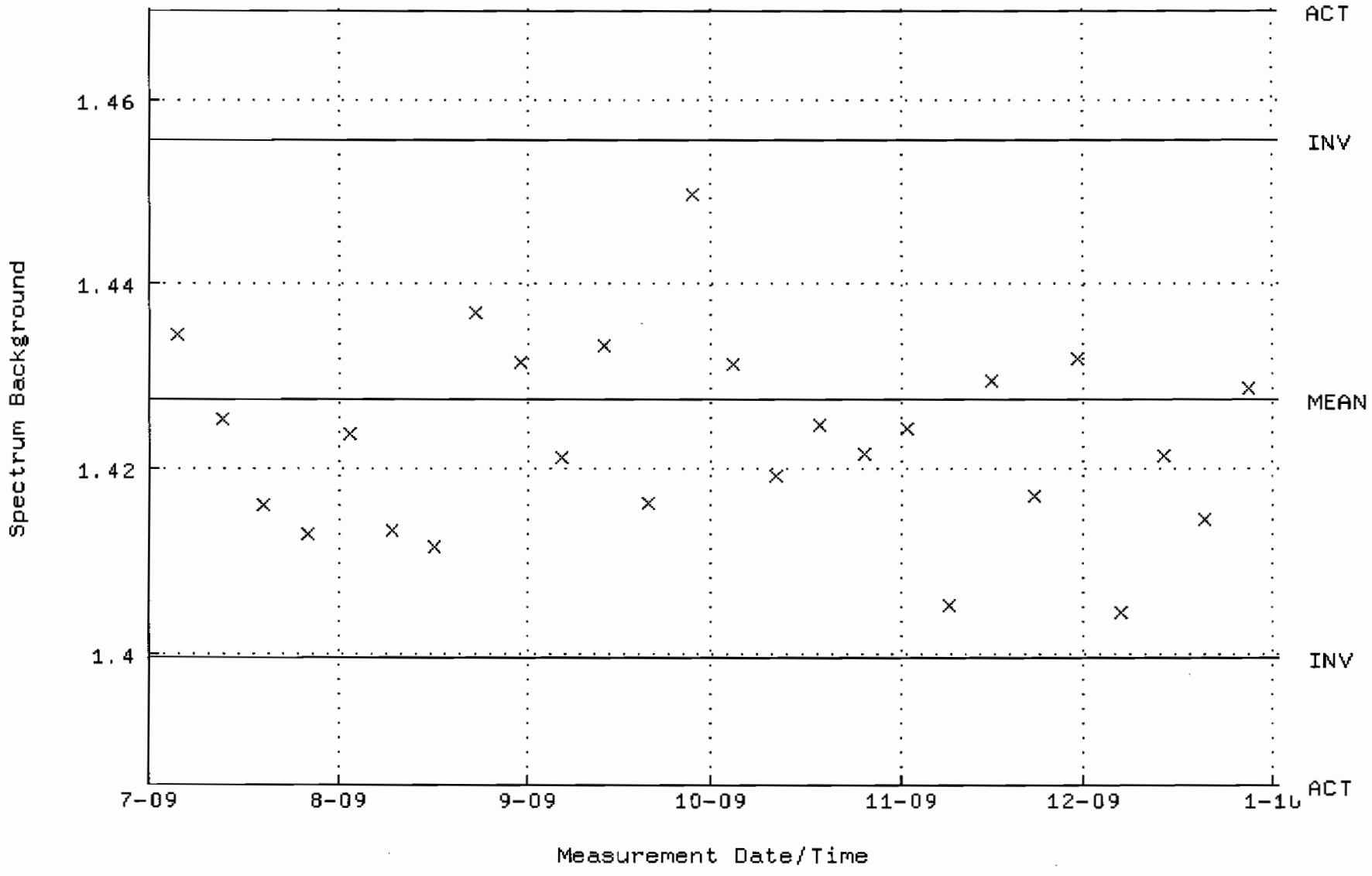
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM15.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:52:45 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.72024 +- 1.875820E-02 (1.09 %)



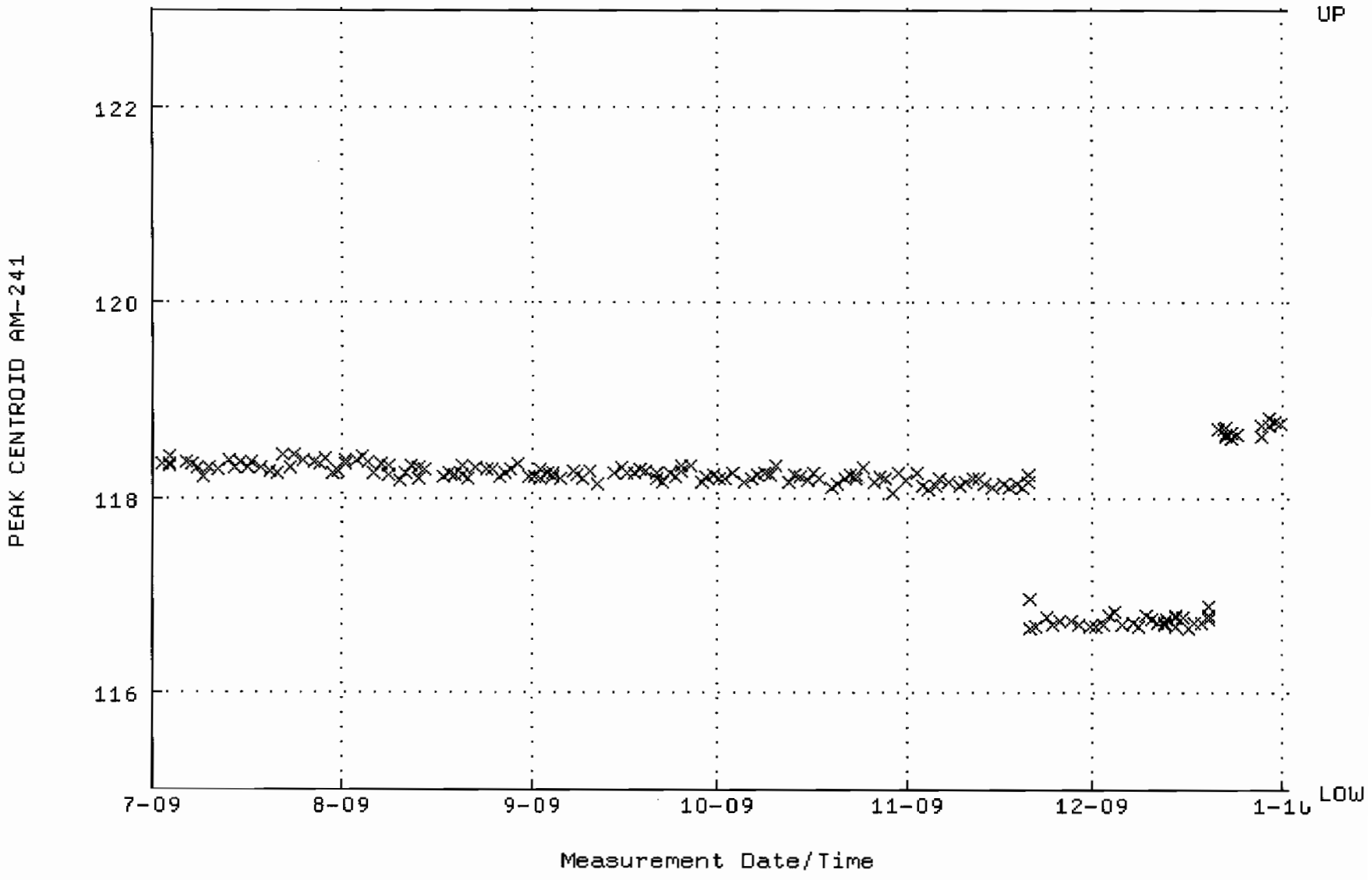
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM17_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 05:29:26 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



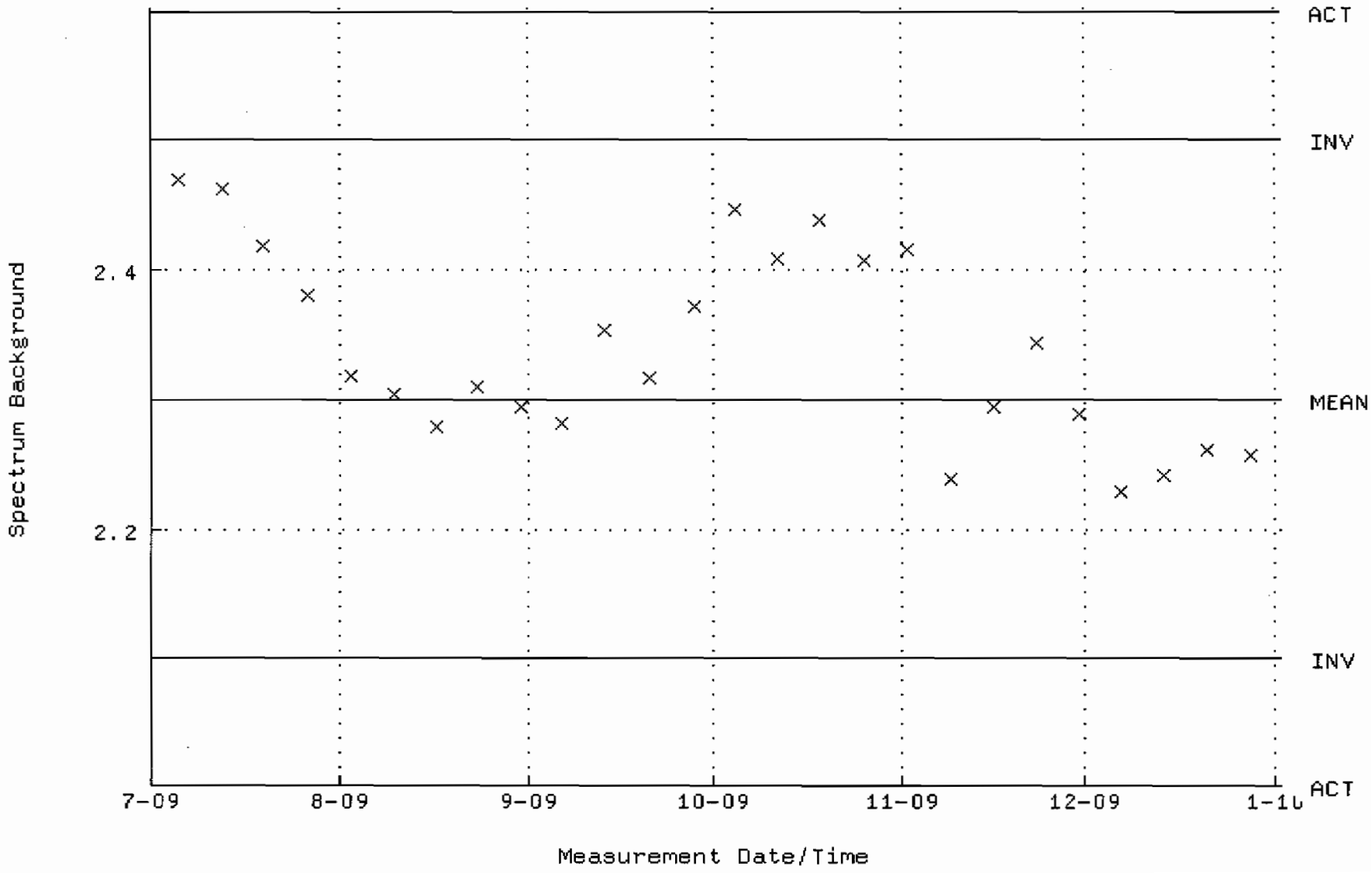
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM17.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:53:11 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.42766 +- 1.396974E-02 (0.98 %)



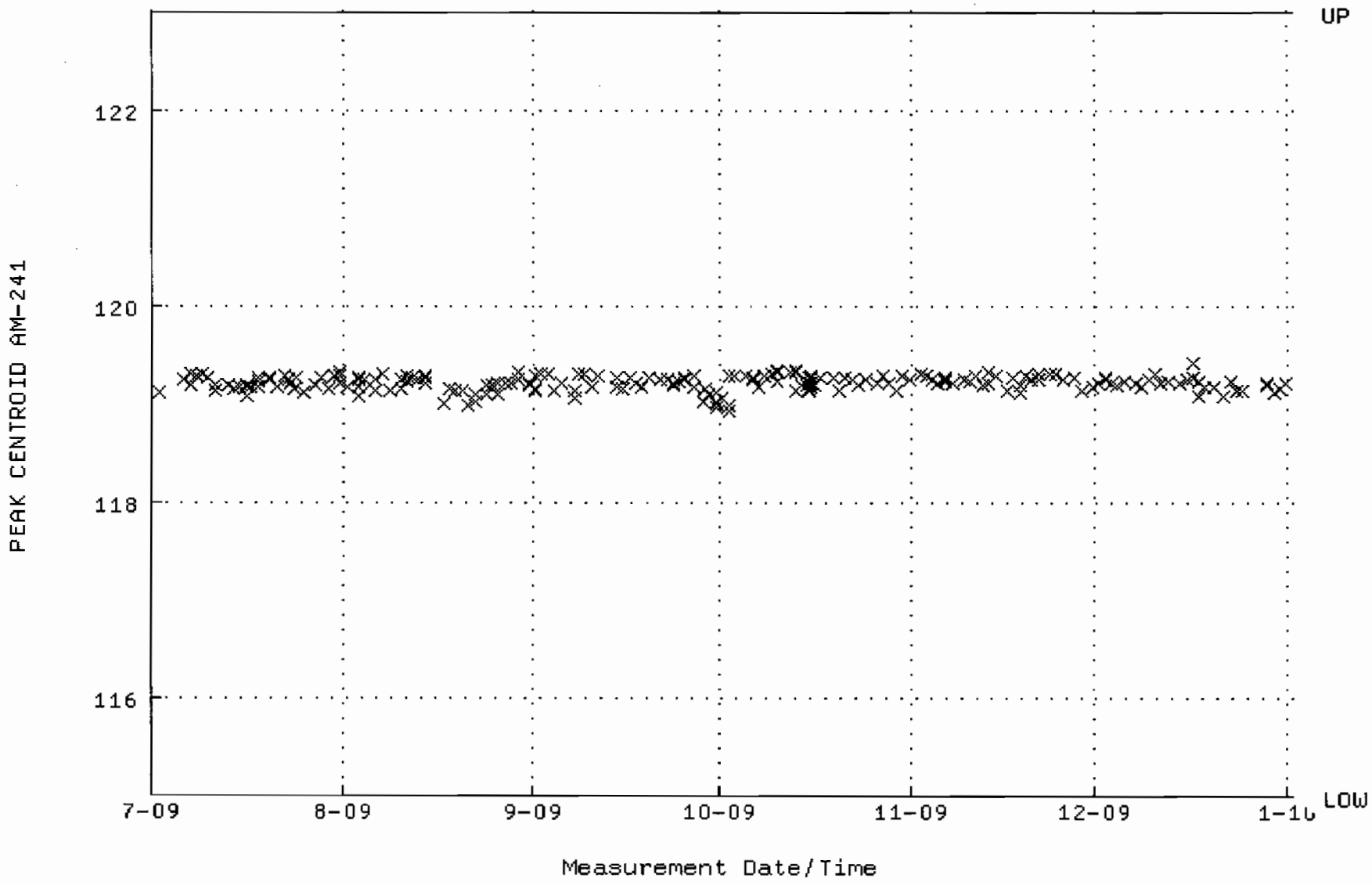
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM18_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 11:04:02 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



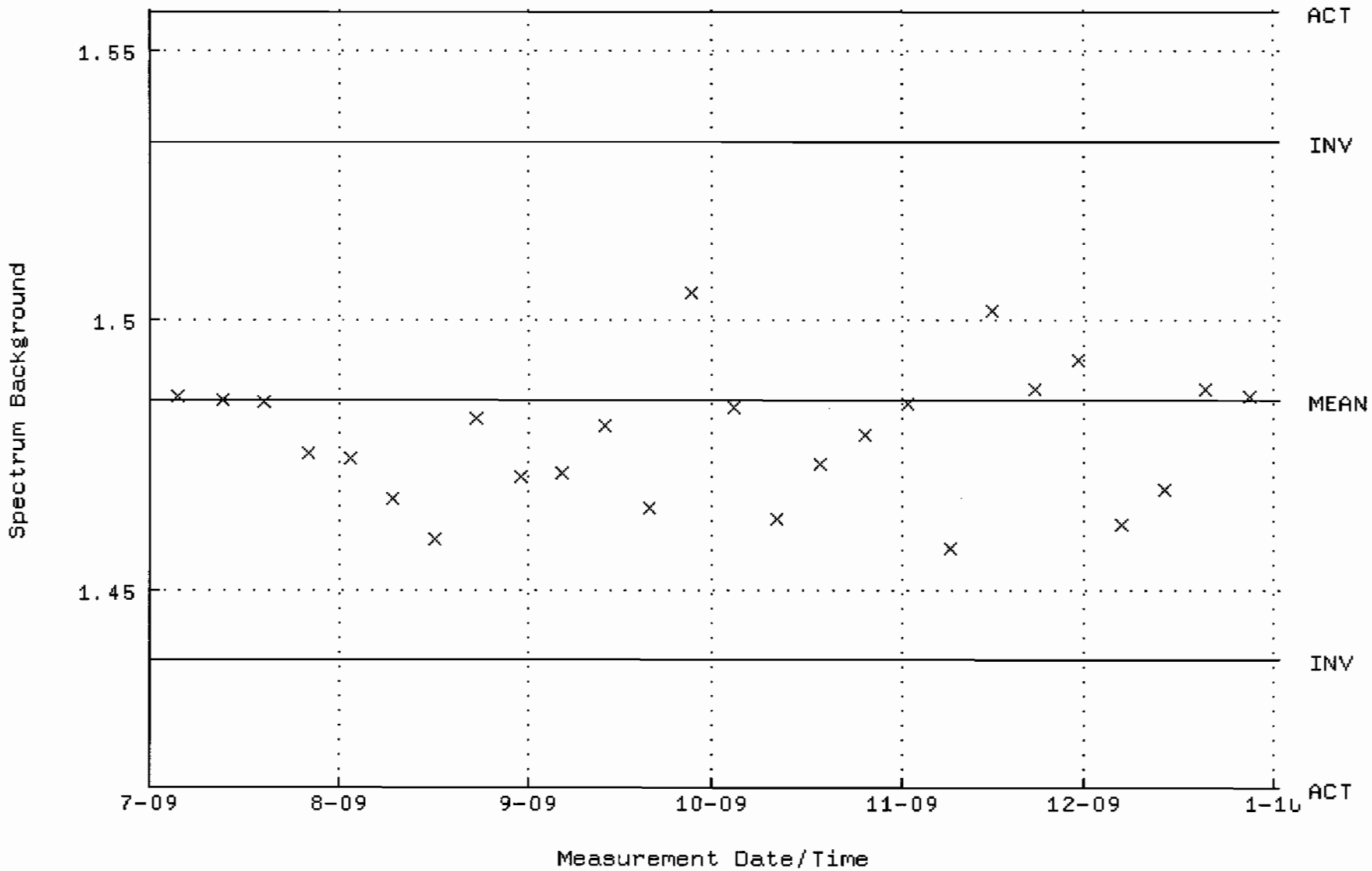
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM18.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:53:23 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 2.30164 +- 9.930626E-02 (4.31 %)



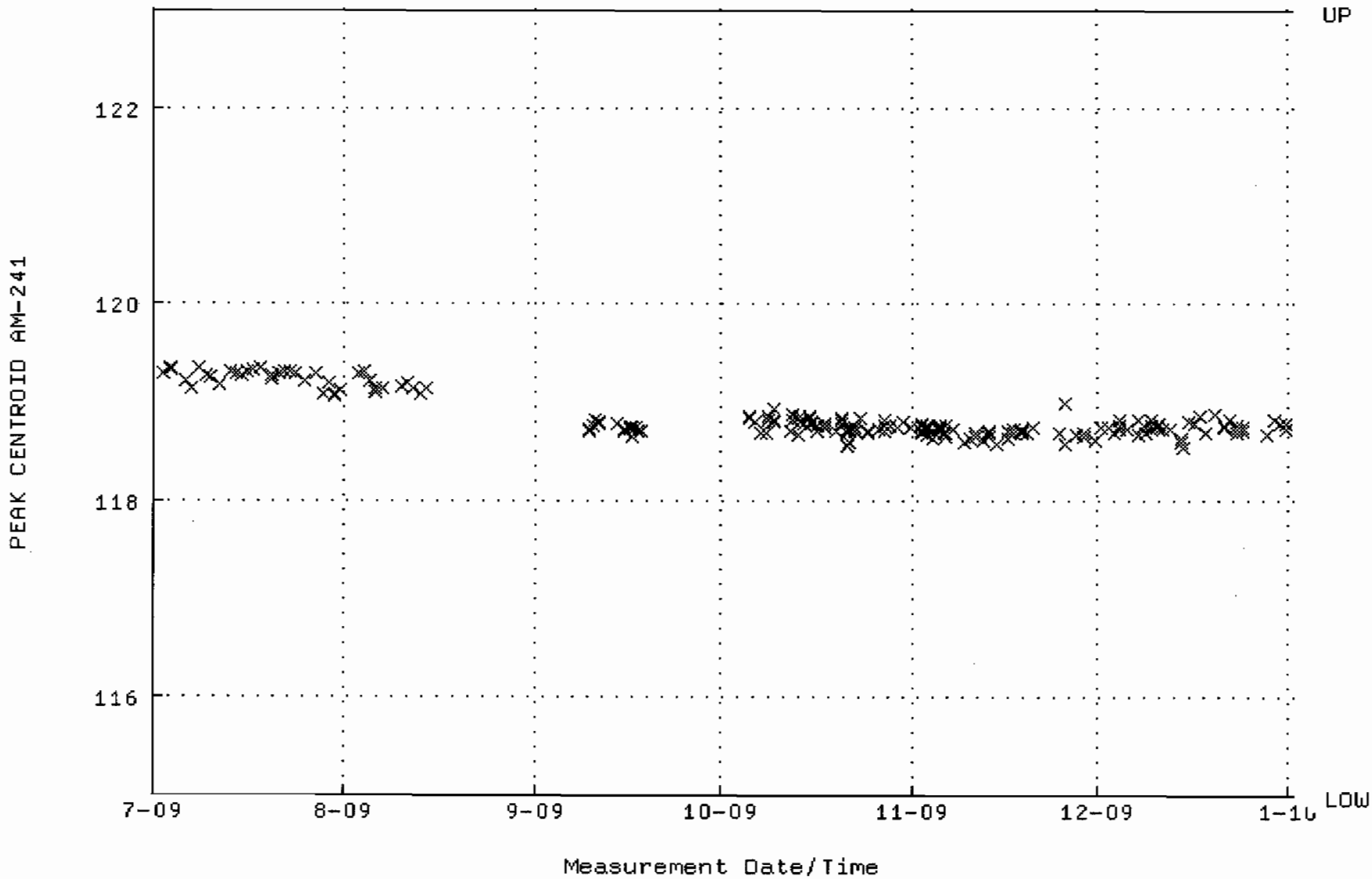
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM20_500MLMB.QAF;1
Parameter Name : PSCENTRO-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 05:29:34 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



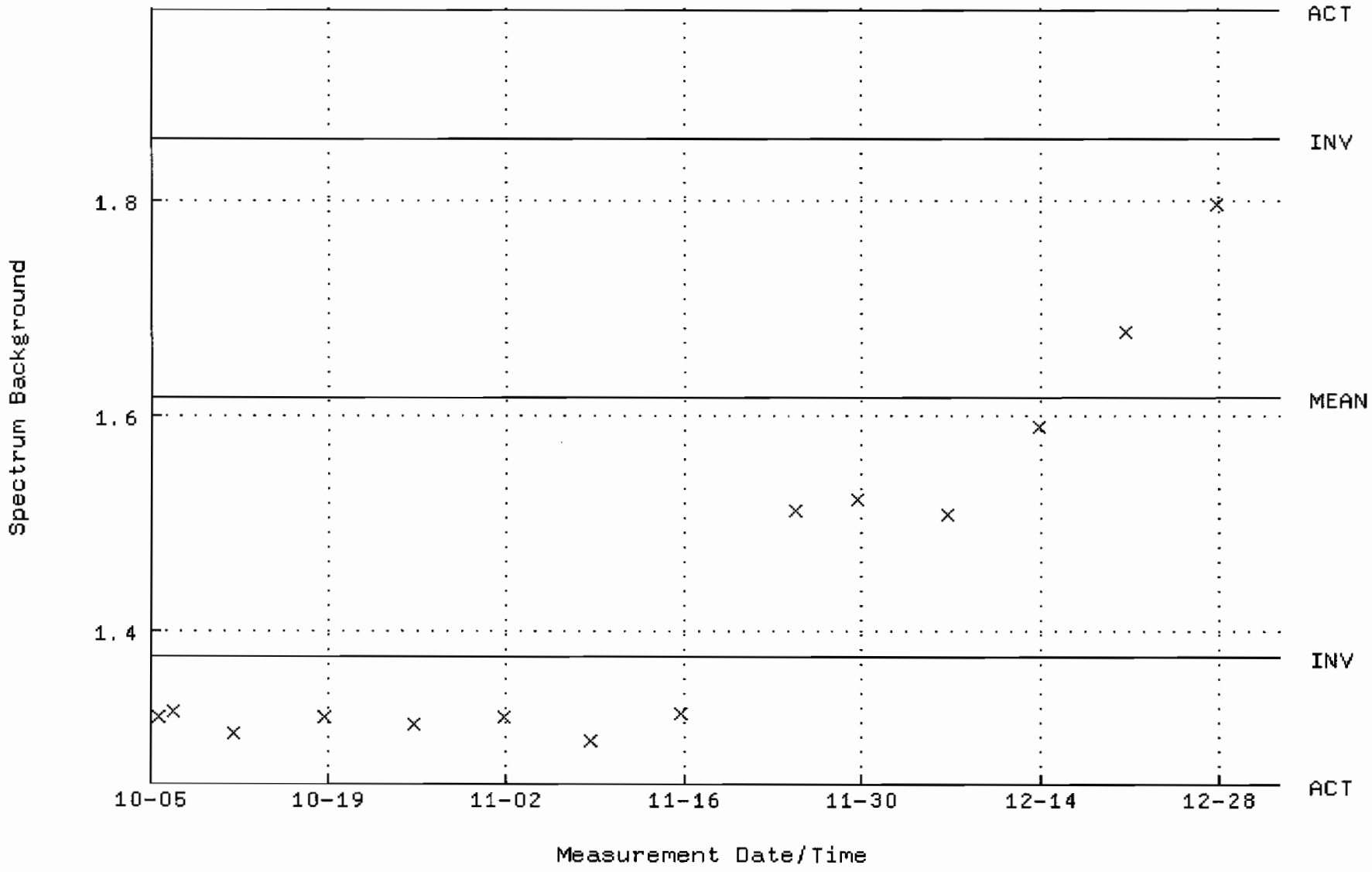
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM20.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-JUL-2009 13:53:49 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.48527 +- 2.388665E-02 (1.61 %)



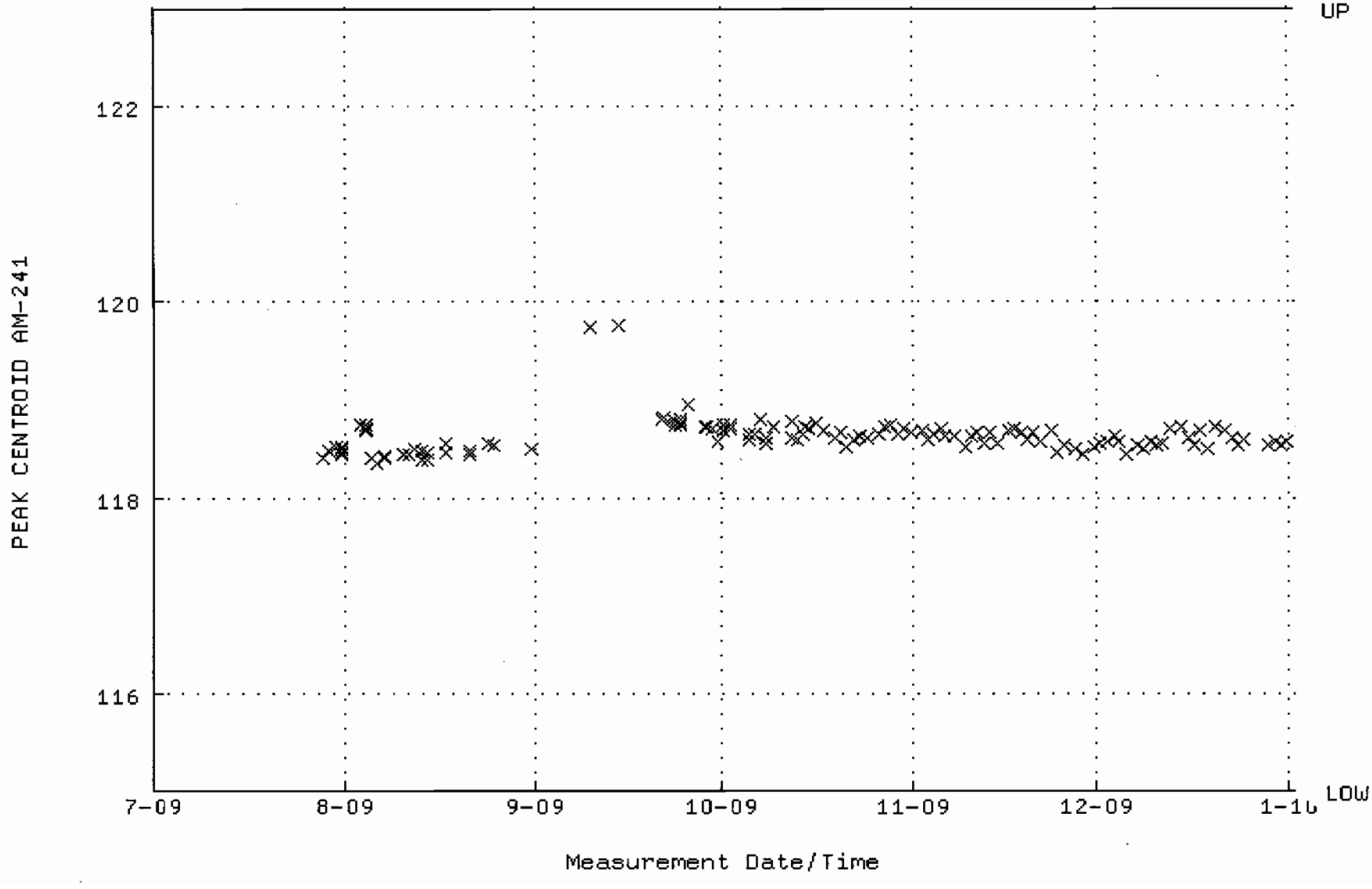
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM23_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 11:00:38 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



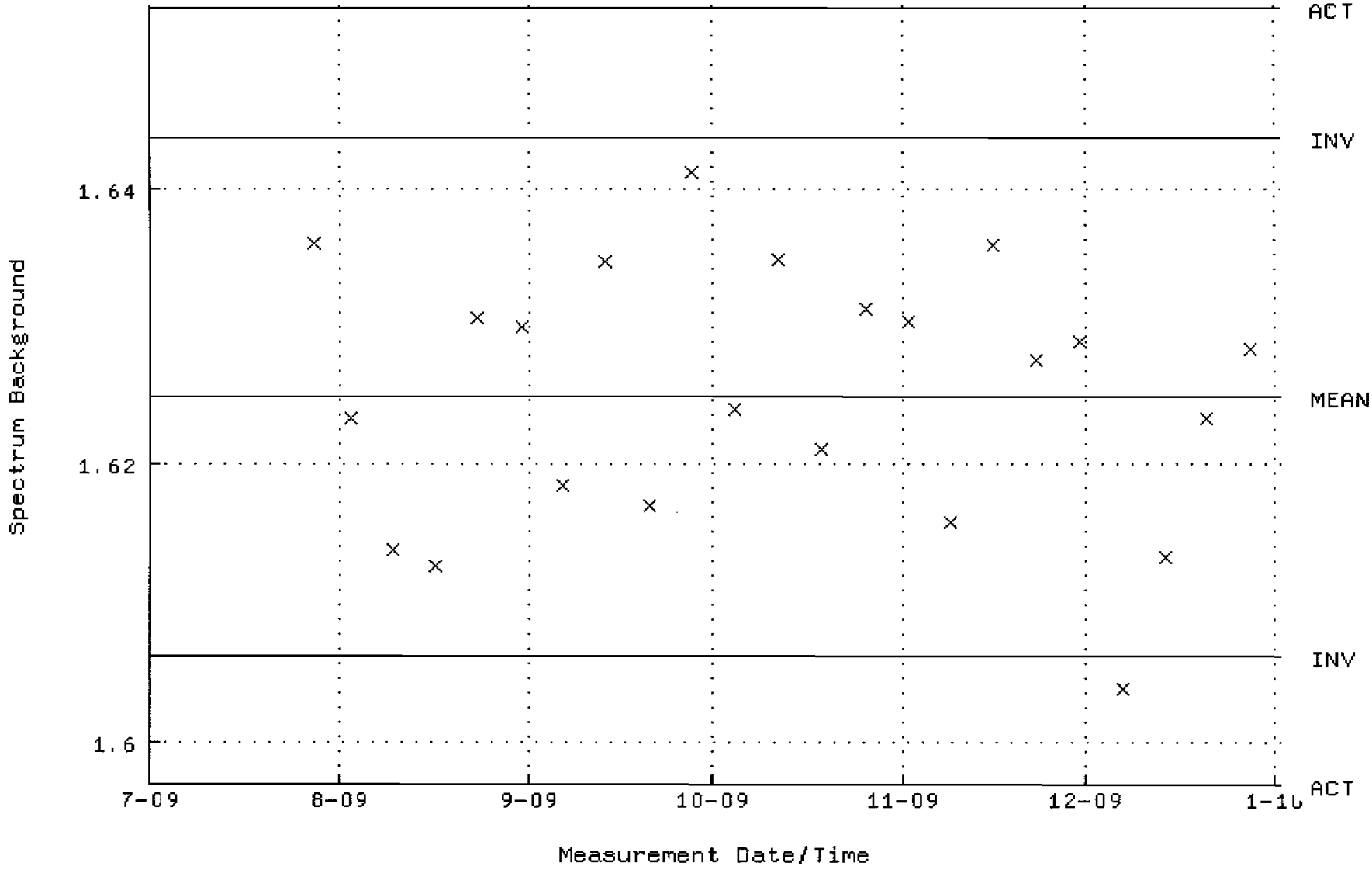
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM23.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 5-OCT-2009 15:13:53 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.61827 +- 0.119991 (7.41 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM25_2LMB.QAF;1
Parameter Name : PSCENTRD-59 (PEAK CENTROID AM-241)
Start/End Dates : 28-JUL-2009 10:32:53 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM25.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 27-JUL-2009 17:25:45 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.62502 +- 9.370414E-03 (0.58 %)



STANDARDS DATA

ANALYTICS
An Isotope Products Laboratories Company

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404•352•8677
Fax 404•352•2837
www.analyticsinc.com

1032

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

74047-278

5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solution sources. The Am-241 was calibrated by 4 pi alpha liquid scintillation counting. All other radionuclides were calibrated using a germanium gamma spectrometer system. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. Analytics maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Rev. 1, February, 1979.

Calibration date: October 1, 2006 12:00 EST

ISOTOPE	GAMMA-RAY ENERGY	HALF-LIFE		GAMMA-RAYS PER SECOND	TOTAL UNCERTAINTY %
Am-241	59.5	432	y	3339	3.0
Cd-109	88	462.6	d	4815	3.3
Co-57	122	271.79	d	2409	3.0
Ce-139	166	137.6	d	3408	2.8
Hg-203	279	46.61	d	7522	2.7
Sn-113	392	115.1	d	4728	2.6
Cs-137	662	30.07	y	2973	3.0
Y-88	898	106.6	d	11600	2.6
Co-60	1173	5.2714	y	5780	2.7
Co-60	1332	5.2714	y	5783	2.6
Y-88	1836	106.6	d	12260	2.6

5.31725 grams 4M HCl solution.
P O NUMBER 2734RD, Item 1

SOURCE PREPARED BY: M. Dimitrova
M. Dimitrova, Radiochemist

Q A APPROVED: 11-28-06

This standard will expire one year after the calibration date.

rec'd 11/30/06
RC-S-045-073-0

Corporate Office
24937 Avenue Tibbitts, Valencia, California 91355
Laboratory
1380 Seaboard Industrial Blvd., Atlanta, Georgia 30318

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www.analyticsinc.com

ANALYSIS OF UNCERTAINTY FOR MIXED GAMMA STANDARDS
BATCH 127
CALIBRATION DATE: October 1, 2006 12:00 EST

Isotope	Energy (keV)	Calibration Method[1]	Statistics[2]	Calibration[2]	Peak Fitting[2]	Geometry[2]	Impurities[2]	Weighing	Combined Standard Uncertainty	Relative Expanded Uncertinty (k=2)
Cd-109	88	HPGe	0.16	1.1	0.88	0.8	0	0.2	1.64	3.3
Co-57	122	HPGe	0.23	1.1	0.71	0.7	0	0.2	1.52	3.0
Ce-139	166	HPGe	0.17	1.0	0.58	0.7	0	0.2	1.38	2.8
Hg-203	279	HPGe	0.11	1.1	0.34	0.7	0	0.2	1.37	2.7
Sn-113	392	HPGe	0.21	1.0	0.35	0.7	0	0.2	1.30	2.6
Cs-137	662	HPGe	0.36	1.1	0.60	0.7	0	0.2	1.49	3.0
Y-88	898	HPGe	0.19	1.0	0.33	0.7	0	0.2	1.29	2.6
Co-60	1173	HPGe	0.31	.97	0.45	0.7	0	0.2	1.33	2.7
Co-60	1332	HPGe	0.33	.93	0.48	0.7	0	0.2	1.32	2.6
Y-88	1836	HPGe	0.24	1.0	0.35	0.7	0	0.2	1.31	2.6

Optional Additional Isotopes

Pb-210	46.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Am-241	59.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Sr-85	514	IC	0.30	1.1	0	0.7	0.17	0.2	1.36	2.7
Cs-134	605	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Cs-134	796	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Mn-54	835	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Zn-65	1116	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7

[1]Calibration Methods:

4π LS (4 pi Liquid Scintillation Counting)
HPGe (High Purity Germanium Gamma Ray Spectrometer)
IC (Gamma Ray Ionization Chamber)

[2]As Percent (%)from counting data

No interfering gamma emitting impurities were detected during calibration. Depending on the resolution and energy dispersion (keV/channel) of the measuring system, the following spectral conflicts may occur: (1) between the 88 keV gamma-ray and the X-rays emitted in the decay of Hg-203, (2) between the 1333 keV gamma-ray and the 1325 keV single escape peak from the 1836 keV gamma-ray.

Operations Manual Forms, ANA-QA-06 Form 1, Rev. 2, 6/7/2005

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1032
Prepared By:	Daniel Roy
Carrier Conc:	4 M HCL
Reference Date:	10/01/2006
Ampoule Mass (g):	5.31725 g
Uncertainty:	+/- 2.81 %
LogBook No:	RC-S-045-073

A Solution Material Info	
Isotope:	Mixed Gamma
Prepared By:	Daniel Roy
Prep Date:	11/30/2006
Verification Date:	12/02/2009
Expiration Date:	12/02/2010
Primary Code:	1032-A
Dilution(mL):	100 mL
Mass of Parent(g):	5.2579 g
Density(g/mL):	1.0611
Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (dpm)) * (conversion dpm to dpm) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (dpm)) * (conversion dpm to dpm) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(5.2579 g) * (218817 dpm) * (1 dpm/dpm) / (5.31725 g * 100 mL) = 2163.7461 dpm/mL
(5.2579 g) * (218817 dpm) * (1 dpm/dpm) / (1.0611 g/mL)/ (5.31725 g * 100 mL) = 2039.2400 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Am-241	Isotope	Result		
	Mixed Gamma N1	2534	pCi/L	- VER. JAR. 1
	Mixed Gamma N2	2510	pCi/L	- VER. JAR. 3
	Mixed Gamma N3	2413	pCi/L	- VER. JAR. 5

Mean Value (Counting) =	2485.67	**100.00**	**Pass**
Stdev =	64.065		**Rule 3 (Pass/Fail)**

Certificate Value =	2485.68018	pCi/L
Lower Limit =	2357.536524	pCi/L
Upper Limit =	2613.796809	pCi/L
Rule 1 (Pass/Fail)	**Pass**	
Two sigma =	128.1301422	
10 % of Mean =	248.56666667	
Rule 2 (Pass/Fail)	**Pass**	

M. Stamps 12/2/09 verification 12/4/09

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Cs-137	Isotope	Result		
	Mixed Gamma N1	854.2	pCi/L	- VER-JAR-1
	Mixed Gamma N2	907.6	pCi/L	- VER-JAR-3
	Mixed Gamma N3	898.9	pCi/L	- VER-JAR-2

Mean Value (Counting) =	886.90	**95.01**	**Pass**
Stdev =	28.651	**Rule 3 (Pass/Fail)**	

Certificate Value =	933.44144	pCi/L
Lower Limit =	829.597644	pCi/L
Upper Limit =	944.202356	pCi/L
Rule 1 (Pass/Fail)	**Pass**	
Two sigma =	57.30235597	
10 % of Mean =	88.69000000	
Rule 2 (Pass/Fail)	**Pass**	

M. Stamps 12/2/09

12/4/09

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Co-60 (1332.5)	Isotope	Result	
	Mixed Gamma N1	1572	pCi/L - VER-JAR-5
	Mixed Gamma N2	1495	pCi/L - VER-JAR-2
	Mixed Gamma N3	1501	pCi/L - VER-JAR-3
Mean Value (Counting) =	1522.67	**98.50**	**Pass**
Stdev =	42.829	**Rule 3 (Pass/Fail)**	

Certificate Value =	1545.8378	pCi/L
Lower Limit =	1437.008431	pCi/L
Upper Limit =	1608.324902	pCi/L
Rule 1 (Pass/Fail)	**Pass**	
Two sigma =	85.65823564	
10 % of Mean =	152.26666667	
Rule 2 (Pass/Fail)	**Pass**	

M. Stamps 12/2/09 [illegible] 12/4/09

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

0244-A Characterization

Sample #	Uranium-233/234 Result (pCi/g)	Uranium-238 Result (pCi/g)	Thorium-230 Result (pCi/g)
0244-A 1	6.59	6.12	25.3
0244-A 2	6.36	6.07	28.5
0244-A 3	5.78	5.53	26.5
0244-A 4	6.48	5.97	25.5
0244-A 5	5.65	5.59	26.2
0244-A 6	6.96	5.78	27.0
0244-A 7	5.95	5.75	24.2
0244-A 8	5.29	5.67	27.2
0244-A 9	5.51	6.05	24.3
0244-A 10	6.37	5.57	25.6
0244-A 11	6.50	5.80	25.8
0244-A 12	6.13	5.42	22.4
0244-A 13	5.49	5.24	24.7
0244-A 14	6.19	5.21	26.9
0244-A 15	6.50	6.27	27.6
0244-A 16	6.50	5.24	24.9
0244-A 17	6.25	6.05	24.7
0244-A 18	6.14	6.00	25.4
0244-A 19	6.19	6.14	26.4
0244-A 20	5.67	5.61	23.2
Mean Value	6.13	5.75	25.62
1 sigma	0.439	0.325	1.493
2 sigma	0.878	0.650	2.986
75% Limit	4.60	4.31	19.22
125% Limit	7.66	7.19	32.03
Expected Result	6.2 +/- 4.0	6.0 +/- 4.0	24.5 +/- 0.6
Achieved Results	6.13 +/- 0.439	5.75 +/- 0.325	25.62 +/- 1.493

REFERENCE DATE 4/14/2000 [signature] 12/1/04

Angela A. Johnson 12/3/04

TRM

Invoice:

5 boxes of TRM-1
10 " " TRM-2 and 3
5 " each of NRM-1 through 6
7 " baghouse dirt

Use 1/4 gm x 10 Samples WITH Together for TRM-2

Table 7. Recommended Concentrations of Tailings Reference Materials (pCi/g)

	TRM–1	TRM–2	TRM–3	TRM–4
U–238	99 ± 6	6.0 ± 4.0	19.6 ± 1.4	44.9 ± 1.6
U–234	105 ± 6	6.2 ± 4.0	19.6 ± 1.9	44.6 ± 1.2
Th–230	471 ± 11	24.5 ± 0.6	58.5 ± 2.1	44.0 ± 1.6
Ra–225	489 ± 17	25.4 ± 0.9	60.3 ± 2.3	42.9 ± 1.2
Pb–210	425 ± 24	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0

Attention Nancy Slater At GEL
Not For Log-In

9911627-01->0

SF 2001-COC (10-97)
Supersedes (5-97) issue

Internal Lab Batch No.

ANALYSIS REQUEST AND CHAIN OF CUSTODY

SAR/WR No. N/A

Press F1 for instructions for each field.

Page 1 of 1

AR/COC- 602945

Dept. No./Mail Stop: 7132 / 1042
Project/Task Manager: PAM PUISSANT
Project Name:
Record Center Code: N/A
Logbook Ref. No.: N/A
Service Order No.:

Date Samples Shipped: 11-16-99 SMO USE
Carrier/Waybill No.: 726794
Lab Contact: EDIE KENT
Lab Destination: G.E.L.
SMO Contact/Phone: Doug Salmi / 844-3110
Send Report to SMO: Suzi Jensen/844-3184

Contract No.: AJ-2480A
Case No.: 10204 1.3
SMO Authorization: Doug Salmi
Bill to: Sandia National Laboratories
Supplier Services, Dept.
P.O. Box 5800 MS 0154

Location Tech Area VI
Building N/A Room N/A

Reference LOV (available at SMO)

Sample No. - Fraction	ER Sample ID or Sample Location Detail	Beginning Depth in Ft.	ER Site No.	Date/Time Collected	Sample Matrix	Container Type	Container Volume	Preservative	Sample Collection Method	Sample Type	Parameter & Method Requested	Lab Sample ID
050484 - 001	PEM-1	N/A	N/A	11/15/9 1100	S	P	1 L	4 C	G	SA	See Special	
050485 - 001	TRM-2	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA	Instructions	
050486 - 001	~~NRM-2~~ NBHD	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA	Below	
-												
-												
-												
-												
-												
-												
-												

RMMA ☐Yes ☒No Ref. No.
Sample Disposal ☐Return to Client ☒Disposal by lab
Turnaround Time ☒Normal ☐Rush Required Report Date

Sample Tracking SMO USE
Date Entered (mm/dd/yy)
Entered by

QC Initials

Special Instructions/QC Requirements
EDD ☐Yes ☒No
Raw data package ☐Yes ☒No
These "samples" are well characterized rad materials being sent to GEL on behalf of Mark Mintzer
Please list as separate report.

Abnormal Conditions on Receipt LAB USE

Sample Team Members	Name	Signature	Init	Company/Organization/Phone
	Douglas E. Perry	[signature]	[initials]	Weston / 7577 / 845-0867

1. Relinquished by [signature]	Org. 7577	Date 11-16-99	Time 0900	4. Relinquished by	Org.	Date
1. Received by	Org.	Date	Time	4. Received by	Org.	Date
2. Relinquished by	Org.	Date	Time	5. Relinquished by	Org.	Date
2. Received by	Org.	Date	Time	5. Received by	Org.	Date
3. Relinquished by	Org.	Date	Time	6. Relinquished by	Org.	Date
3. Received by	Org.	Date	Time	6. Received by	Org.	Date

Original To Accompany Samples, Laboratory Copy (White)
1st Copy To Accompany Samples, Return to SMO (Blue)
2nd Copy SMO Suspense Copy (Yellow)
3rd Copy Field Copy (Pink)

0244-B Characterization

Sample #	Plutonium-239 Result (pCi/g)	Plutonium-238 Result (pCi/g)	Americium-241 Result (pCi/g)
0244-B 1	39.9	7.88	38.4
0244-B 2	44.1	7.97	40.6
0244-B 3	45.8	6.56	31.8
0244-B 4	43.6	7.69	31.5
0244-B 5	43	7.9	40.2
0244-B 6	43.5	7.84	29.4
0244-B 7	41.3	7.67	36
0244-B 8	44.3	6.95	33.2
0244-B 9	42.7	7.2	29.2
0244-B 10	44.9	7.69	30
0244-B 11	41.4	7.22	30.2
0244-B 12	41.3	7.74	36
0244-B 13	39.2	6.65	33.8
0244-B 14	39.6	7.78	31.1
0244-B 15	45.3	8.41	37.3
0244-B 16	38.1	6.74	33.6
0244-B 17	48.5	8.51	30.5
0244-B 18	36.5	7.23	38.6
0244-B 19	35.3	6.98	30.9
0244-B 20	37.4	8.55	31.3
Mean Value	41.79	7.56	33.68
1 sigma	3.418	0.596	3.724
2 sigma	6.835	1.193	7.448
75% Limit	30.75	6.02	24.38
125% Limit	51.25	10.04	40.63
Expected Result	41.0 +/- 3.0	8.03 +/- 0.37	32.5 +/- 1.1
Achieved Results	41.79 +/- 3.418	7.56 +/- .596	33.68 +/- 3.724

REFERENCE DATA 4/14/2000

Amanda L. Fehr 4/30/04
[illegible] 5/1/04

PEM-1

PREPARATION AND CHARACTERIZATION OF THE PERFORMANCE EVALUATION SOIL SAMPLE PEM-1

INTRODUCTION

Rust Geotech (Rust) was contracted by Los Alamos National Laboratory (LANL) to prepare and characterize a soil performance evaluation sample designated PEM-1. This report describes sample preparation, homogeneity assessment, and determination of the concentrations of 28 elements and radioactive isotopes in the sample.

SAMPLE PREPARATION

Rust received nine five-gallon buckets of soil from LANL. The soils were dried overnight in ovens at 103 °C. The large pieces of leaves and sticks were removed and the soils were ground with ceramic-plate grinders to a particle size that passed through a 325 mesh screen. The samples were blended at the proportions specified by LANL for 48 hours in a 3-cubic-foot cross-flow blender. The sample identifications and the amounts used are listed in Table 1.

Table 1. Sample Identifications and Amounts Used to Prepare PEM-1

LANL Sample ID	Amount Used (kg)
AAA 1592	1.7
AAA 2505-1	10.9
AAA 2505-2	12.8
AAA 2750-1	8.4
AAA 2750-2	8.4
AAA 3205	12.6
AAA 8581	4.2
AAB 3417	12.8
AAB 3475	12.6

The blended sample was transferred to three five-gallon plastic containers. While the sample was being transferred, 10 samples were taken at pre-determined time intervals to be used for homogeneity assessment and sample characterization. These samples are believed to be representative of the bulk material.

Attention Nancy Slater At GEL
Not For Log-In

9911627-01->0

SF 2001-COC (10-97)
Supersedes (5-97) issue

Internal Lab Batch No.

ANALYSIS REQUEST AND CHAIN OF CUSTODY

SAR/WR No. N/A

Press F1 for instructions for each field.

AR/COC- 602945

Dept. No./Mail Stop: 7132 / 1042
Project/Task Manager: PAM PUISSANT
Project Name:
Record Center Code: N/A
Logbook Ref. No.: N/A
Service Order No.:

Date Samples Shipped: 11-16-99 SMO USE
Carrier/Waybill No.: 726494
Lab Contact: EDIE KENT
Lab Destination: G.E.L.
SMO Contact/Phone: Doug Salmi / 844-3110
Send Report to SMO: Suzi Jensen/844-3184

Contract No.: AJ-2480A
Case No.: 10204 1.3
SMO Authorization: Doug Salmi
Bill to: Sandia National Laboratories
Supplier Services, Dept.
P.O. Box 5800 MS 0154

Location Tech Area VI
Building N/A Room N/A

Sample No. - Fraction	ER Sample ID or Sample Location Detail	Beginning Depth in Ft.	ER Site No.	Date/Time Collected	Sample Matrix	Container Type	Container Volume	Preservative	Sample Collection Method	Sample Type	Parameter & Method Requested	Lab Sample ID
050484 - 001	PEM-1	N/A	N/A	11/15/9 1100	S	P	1 L	4 C	G	SA	See Special	
050485 - 001	TRM-2	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA	Instructions	
050486 - 001	~~NRM-2~~ NBHD	N/A	N/A	11/15/9 1100	S	G	1 L	4 C	G	SA	Below	
-												
-												
-												
-												
-												
-												
-												

Reference LOV (available at SMO)

LAB USE

RMMA ☐Yes ☒No Ref. No.
Sample Disposal ☐Return to Client ☒Disposal by lab
Turnaround Time ☒Normal ☐Rush Required Report Date

Sample Tracking SMO USE
Data Entered (mm/dd/yy)
Entered by

QC Units

Special Instructions/QC Requirements
EDD ☐Yes ☒No
Raw data package ☐Yes ☒No
These "samples" are well characterized rad materials being sent to GEL on behalf of Mark Mintzer
Please list as separate report.

Abnormal Conditions on Receipt LAB USE

Sample Team Members	Name	Signature	Init	Company/Organization/Phone
	Douglas E. Perry	[signature]	DEP	Weston / 7577 / 845-0867

1. Relinquished by	[signature]	Org. 7577	Date 11-16-99	Time 0900	4. Relinquished by	Org.	Date
1. Received by		Org.	Date	Time	4. Received by	Org.	Date
2. Relinquished by		Org.	Date	Time	5. Relinquished by	Org.	Date
2. Received by		Org.	Date	Time	5. Received by	Org.	Date
3. Relinquished by		Org.	Date	Time	6. Relinquished by	Org.	Date
3. Received by		Org.	Date	Time	6. Received by	Org.	Date

Original To Accompany Samples, Laboratory Copy (White)
1st Copy To Accompany Samples, Return to SMO (Blue)
2nd Copy SMO Suspense Copy (Yellow)
3rd Copy Field Copy (Pink)

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOLUTION

Radionuclide	Am-243	Customer:	GENERAL ENGINEERING LABS
Half Life:	7380 ± 40 years	P.O.No.:	9290-RAD
Catalog No.:	7243	Reference Date:	January 1 1994 12:00 PST.
Source No.:	445-96-2	Contained Radioactivity:	(Am-243) 101.2 μCi
		Contained Radioactivity:	(Am-243) 3750 kBq

Description of Solution

a. Mass of solution: 5.3739 g (in a 5 ml Flame Sealed Ampoule)

b. Chemical form: Am(NO3)3 in 2N HNO3

c. Carrier content: None added

d. Density: 1.0651 g/ml @ 20°C.

Radioimpurities None detected

Radioactive Daughters

Np-239 (beta active) in equilibrium

Radionuclide Concentration

(Am-243) 18.84 μCi/g

Method of Calibration

Weighed aliquots of the solution were assayed using gamma spectrometry for Np-239:

Energy peak(s) intergrated under: 228, 278 keV.

Branching ratio(s) used: 0.108, 0.1420 gamma rays per decay.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration: ±3.0%

b. Random uncertainty in assay: ±0.4%

c. Random uncertainty in weighing(s): ±0.0%

d. Total uncertainty at the 99% confidence level: ±3.0%

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)

See reverse side for Leak Test(s) applied to this source.

Notes

1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).

Anna U. Khan
QUALITY CONTROL

Jan 3, 1994
Date Signed

ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
Burbank, California 91504
(818) 843 - 7000

RC-S-005-32

THE LEAK TEST(S) INDICATED BY THE CHECKED BOX(ES) WAS(WERE) APPLIED TO DETERMINE THE INTEGRITY OF THE SOURCE DESCRIBED ON THE FRONT SIDE

☑ 1. STANDARD WIPE TEST

The source is wiped over its entire surface with a moistened filter paper disk. After drying, the disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 2. SOAK TEST

The source is immersed in distilled water and maintained at 50 ± 10° C for a minimum of four hours. After removal of the source, the liquid is a) checked for activity using a liquid scintillation counter, or b) evaporated in a planchet and the residue is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 3. SOAK TEST -- BERYLLIUM WINDOW

The source is immersed in distilled water and maintained at 50 ± 10° C for 20 minutes. The entire surface of the source is then wiped with a moistened cotton swab or filter paper disk. After drying, the swab or disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 4. GAS SOURCE TEST (Radioactive Gas)

The source is placed in a vacuum desiccator and maintained at a pressure of less than 1 mm Hg for not less than 12 hours. The activity is checked by introducing air into the desiccator and monitoring the air with an end-window G.M. tube. Activity levels exceeding 1000 cpm are cause for rejection of the source.

☑ 5. OTHER LEAK TEST

The ampoule is kept in an inverted position on a filter paper disk for a minimum of 16 hours. The filter paper disk is then checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 6. LEAK TEST NOT APPLICABLE

The active area of this source is uncovered or is protected by a very thin coating. Although the deposit is adherent, it is not designed or certified to pass a standard leak test. The inactive portions of the source have been checked using the standard wipe test. Levels of removable activity did not exceed 0.001 μCi beta-gamma or 0.0001 μCi alpha at the time of shipment.

Standard Traceability Log Rad

Source Material Info	
Parent Code:	445-96-2
Prepared By:	Genie Bost
Carrier Conc:	2M HNO3
Reference Date:	01/01/1994
Ampoule Mass (g):	5.3739 g
Uncertainty:	+/- 3 %
LogBook No:	RC S 005 032

A Solution Material Info	
Isotope:	Americium-243
Prepared By:	Angela Johnson
Prep Date:	01/05/1994
Verification Date:	05/11/2009
Expiration Date:	05/11/2010
Primary Code:	445-96-2-A
Dilution(mL):	100 mL
Mass of Parent(g):	5.3419 g
Density(g/mL):	1.0785
Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (uCi/g)) * (conversion dpm to uCi) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (uCi/g)) * (conversion dpm to uCi) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(5.3419 g) * (18.84 uCi/g) * (2220000 dpm/uCi) / (100 mL) = 2234238.9912 dpm/mL
(5.3419 g) * (18.84 uCi/g) * (2220000 dpm/uCi) / (1.0785 g/mL) / (100 mL) = 2071617.0528 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/05/1994	Genie Bost	.0058	100	445-96-2-B	120.1 dpm/ml	01/05/1995	01/05/1996
09/10/2004	Amanda Fehr	.0325	1000	445-96-2-BB	67.328 dpm/mL	09/10/2005	09/10/2006
01/05/1994	Genie Bost	.0025	100	445-96-2-C	51.77 dpm/ml	01/05/1995	01/05/1996
05/27/2005	Brenda Burke	.000246	100	445-96-2-CC	5.10613 dpm/mL	05/31/2005	05/31/2006
03/25/1994	Genie Bost	.0064	100	445-96-2-D	132.53 dpm/ml	01/05/1995	01/05/1996
08/16/2005	Brenda Burke	.001224	500	445-96-2-DD	5.07144 dpm/mL	08/18/2007	08/18/2008
08/04/1994	Genie Bost	.0094	100	445-96-2-E	194.65 dpm/ml	01/05/1995	01/05/1996
10/13/2005	Brenda Burke	.0017	500	445-96-2-EE	7.0435 dpm/mL	11/15/2005	11/15/2006
08/04/1994	Genie Bost	.0046	100	445-96-2-F	95.25 dpm/ml	01/05/1995	01/05/1996
10/14/2005	Mary Aders	.0141	500	445-96-2-FF	58.4196 dpm/mL	10/14/2005	10/14/2006
09/01/1994	Genie Bost	.0031	100	445-96-2-G	64.19 dpm/ml	01/05/1995	01/05/1996
05/10/2006	Mary Aders	2.0753	1000	445-96-2-GG	4299.227 dpm/mL	09/30/2008	09/30/2009
10/17/1994	Genie Bost	.0969	100	445-96-2-H	2006.52 dpm/ml	01/05/1995	01/05/1996
06/07/2006	Mary Aders	.0365	1000	445-96-2-HH	75.614 dpm/mL	06/19/2006	06/19/2007
02/06/1995	Genie Bost	.0043	100	445-96-2-I	89.04 dpm/ml	01/05/1995	01/05/1996
05/11/2006	Brenda Burke	.000009739	100	445-96-2-II	.201761 dpm/mL	07/26/2006	07/26/2007
07/20/1995	Theresa Austin	.0041	100	445-96-2-J	84.9 dpm/ml	01/05/1995	01/05/1996
05/01/2007	Daniel Roy	.0352	1000	445-96-2-JJ	72.9209 dpm/ml	04/30/2008	04/30/2009
08/10/1995	Garret Ray	.0952	100	445-96-2-K	1971.32 dpm/ml	01/05/1995	01/05/1996
06/12/2007	Julie Strock	.01038	250	445-96-2-KK	22.1496 dpm/mL	05/28/2008	05/28/2009

09/11/1995	Theresa Austin	1.0525	100	445-96-2-L	21794.23 dpm/ml	01/05/1995	01/05/1996
09/11/1995	Theresa Austin	.5107	100	445-96-2-L-1	111.3 dpm/ml	01/05/1995	01/05/1996
04/28/1998	Richard Kinney	.1264	100	445-96-2-M	2617.4 dpm/ml	04/28/1998	04/28/1999
11/01/2007	Eric Williamson	.001274	500	445-96-2-MM	5.27945 dpm/mL	04/06/2008	04/06/2010
10/12/1998	Gregory Smith	.1348	100	445-96-2-N	2791.32 dpm/mL	01/05/1995	01/05/1996
01/25/1999	Gregory Smith	1.9382	100	445-96-2-N-1	50.16 dpm/ml	01/05/1995	01/05/1996
04/19/2008	Daniel Roy	.0424	1000	445-96-2-NN	87.8366 dpm/ml	04/16/2009	04/16/2010
04/21/1999	Greg Smith	.1645	100	445-96-2-O	3406.32 dpm/mL	04/21/1999	04/21/2000
07/27/1999	Gregory Smith	1.567	100	445-96-2-O-2	50.56 dpm/ml	05/13/1999	05/13/2000
10/12/1999	Richard Kinney	1.5589	100	445-96-2-O-3	50.31 dpm/mL	05/13/1999	05/13/2000
04/21/1999	Greg Smith	1.5309	100	445-96-2-O-1	49.4 dpm/mL	04/21/1999	04/21/2000
11/10/1999	Joe Davis	.1809	100	445-96-2-P	3745.92 dpm/mL	05/13/1999	05/13/2000
01/04/2008	Julie Strock	.00001005	100	445-96-2-PP	.20819 dpm/mL	12/29/2008	12/29/2009
01/28/2000	Angela Johnson	.0354	1000	445-96-2-Q	73.3 dpm/mL	02/08/2001	02/08/2002
09/29/2008	Julie Strock	.0025219	250	445-96-2-QQ	20.8977 dpm/mL	09/30/2008	09/29/2009
04/18/2000	Robert Timm	.429	250	445-96-2-R	3553.34 dpm/mL	04/18/2000	04/18/2001
04/23/2009	Tina Schoneman	.001251	500	445-96-2-RR	4.8075 dpm/mL	04/23/2009	04/23/2010
04/13/2001	Angela Johnson	.1869	100	445-96-2-S	3870.16 dpm/mL	04/13/2001	04/13/2002
05/08/2009	Mary Aders	.0141	1000	445-96-2-SS	29.2098 dpm/ml	05/11/2009	05/11/2010
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-103	4153.225 dpm/mL	07/03/2002	07/03/2003
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-203	4153.225 dpm/mL	07/03/2002	07/03/2003

07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-303	4153.225 dpm/mL	07/03/2002	07/03/2003
06/03/2009	Julie Strock	.00000927	100	445-96-2-TT	.1923 dpm/mL	06/05/2009	06/03/2010
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-103	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-203	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-303	80.34 dpm/ml	08/23/2001	08/23/2002
06/02/2009	Mary Aders	2.1177	1000	445-96-2-UU	4385.1449 dpm/ml	06/04/2009	06/04/2010
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-103	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-203	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-303	81.586 dpm/mL	08/27/2002	08/27/2003
03/17/2003	Angela Johnson	2.1108	1000	445-96-2-W	4370.857 dpm/mL	03/14/2006	03/14/2007
04/14/2003	Lonnie Morris	.0315	1000	445-96-2-X	65.2559 dpm/mL	04/14/2004	04/14/2005
05/03/2003	Tim Chandler	.0103	1000	445-96-2-Y	21.3376 dpm/mL	05/05/2003	05/05/2004
05/05/2003	Eric Williamson	.011	1000	445-96-2-Z	22.7877 dpm/mL	04/03/2007	04/03/2008

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Am-243 Standard *445-96-2-SS*

M. Aders	Isotope	Value	Uncertainty
5/15/2009	445-96-2-SS #1	1.360	0.1690
	445-96-2-SS #2	1.370	0.1690
	445-96-2-SS #3	1.290	0.1590

Mean Value (Counting) =	1.340	101.99	**Pass**
Stdev =	0.043588989		**Rule 3 (Pass/Fail)**

Target =	1.314
Lower Limit =	1.252822021
Upper Limit =	1.427177979
Rule 1 Pass/Fail	**Pass**
Two sigma =	0.087177979
10 % of Mean =	0.134
Rule 2 (Pass/Fail)	**Pass**

The analyst prepared three standard verification sources for standard ***445-96-2-SS*** using 0.1 mL for each source. Each standard was combined with 0.1 mL of ***Cm-244*** standard ***0533-O*** and 50 micrograms of neodymium carrier in a disposable centrifuge tube. Each standard was diluted with 4 mL of 2 M HCl and 6 mL of DI Water. Two mL of 48% HF was added to precipitate Nd(and Americium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Am-243 were calculated by comparison to Am-241certified values.

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Mary Lindeman 5/15/09

007509

1374

National Institute of Standards & Technology

Certificate

Standard Reference Material 4334H
Plutonium-242 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive plutonium-242 nitrate and nitric acid dissolved in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of alpha-particle counting instruments and for the monitoring of radiochemical procedures.

Radiological Hazard: The SRM ampoule contains plutonium-242 with a total activity of approximately 150 Bq. Plutonium-242 decays by alpha-particle emission. None of the alpha particles escape from the SRM ampoule. During the decay process, X-rays and gamma rays with energies from 10 keV to 160 keV are also emitted. Most of these photons escape from the SRM ampoule but their intensities are so small that they do not represent a radiation hazard. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]*. The SRM should be used only by persons qualified to handle radioactive material.

Chemical Hazard: The SRM ampoule contains nitric acid (HNO_3) with a concentration of 3 moles per liter of water. The solution is corrosive and represents a health hazard if it comes in contact with eyes or skin. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2. The ampoule should be opened only by persons qualified to handle both radioactive material and strong acid solution.

Storage and Handling: The SRM should be stored and used at a temperature between 5 °C and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least January 2015. The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) both because of the radioactivity and because of the strong acid.

Preparation: This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, M.P. Unterweger, Acting Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas of the Radioactivity Group. The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program.

RECEIVED 4/2/04

Lisa R. Karam, Acting Chief
Ionizing Radiation Division

Gaithersburg, Maryland 20899
January 2005

Robert L. Watters, Jr., Chief
Measurement Services Division

*Notes and references are on pages 5 to 7.

PC-5-051-093

Recommended Procedure for Opening the SRM Ampoule

1) If the SRM solution is to be diluted, it is recommended that the diluting solution have a composition comparable to that of the SRM solution.

2) Wear eye protection, gloves, and protective clothing and work over a tray with absorbent paper in it. Work in a fume hood. In addition to the radioactive material, the solution contains strong acid and is corrosive.

3) Shake the ampoule to wet all of the inside surface of the ampoule. Return the ampoule to the upright position.

4) Check that all of the liquid has drained out of the neck of the ampoule. If necessary, gently tap the neck to speed the process.

5) Holding the ampoule upright, score the narrowest part of the neck with a scribe or diamond pencil.

6) Lightly wet the scored line. This reduces the crack propagation velocity and makes for a cleaner break.

7) Hold the ampoule upright with a paper towel, a wiper, or a support jig. Position the scored line away from you. Using a paper towel or wiper to avoid contamination, snap off the top of the ampoule by pressing the narrowest part of the neck away from you while pulling the tip of the ampoule towards you.

8) Transfer the solution from the ampoule using a pycnometer or a pipet with dispenser handle. NEVER PIPETTE BY MOUTH.

9) Seal any unused SRM solution in a flame-sealed glass ampoule, if possible, to minimize the evaporation loss.

See also reference [4]*.

*Notes and references are on pages 5 to 7.

PROPERTIES OF SRM 4334H

Certified values

Radionuclide	**Plutonium-242**
Reference time	**1200 EST, 07 June 1994 [b]***
Massic activity of the solution [c]	**26.31 $Bq \cdot g^{-1}$**
Relative expanded uncertainty (k=2)	**0.72% [d] [e]**
Solution density	**(1.105 ± 0.002) $g \cdot mL^{-1}$ at 20 °C [f]**

Uncertified values

Physical Properties:			
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule		
Ampoule specifications	Body outside diameter Wall thickness Barium content Lead-oxide content Other heavy elements	(16.5 ± 0.5) mm (0.60 ± 0.04) mm Less than 2.5% Less than 0.02% Trace quantities	
Solution mass	Approximately 5.5 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration ($mol \cdot L^{-1}$)	Mass Fraction ($g \cdot g^{-1}$)
	H_2O HNO_3 $^{242}Pu^{+6}$	50 3.2 8×10^{-7}	0.81 0.19 2×10^{-7}
Radiological Properties:			
Alpha-particle-emitting impurities	None detected [g] [h]. See table on page 5.		
Beta-particle-emitting impurities	Plutonium-241: (0.092 ± 0.018) $Bq \cdot g^{-1}$ [f] [h]		
Photon-emitting impurities	None detected [i]		
Half lives used	Plutonium-242: $(373\,500 \pm 1100)$ a [j] [5] Plutonium-241: (14.35 ± 0.10) a [j] [5] Americium-241: (432.2 ± 0.7) a [j] [5]		
Calibration method and measuring instrument(s)	Three $4\pi\alpha$ liquid-scintillation counters, a calibrated germanium detector system, and a silicon surface-barrier detector		

*Notes and references are on pages 5 to 7.

EVALUATION OF THE UNCERTAINTY OF THE MASSIC ACTIVITY [d] [e]*

Input Quantity x_i, the source of uncertainty (and individual uncertainty components where appropriate)	Method Used To Evaluate $u(x_i)$, the standard uncertainty of x_i (A) denotes evaluation by statistical methods (B) denotes evaluation by other methods	Relative Uncertainty Of Input Quantity, $u(x_i)/x_i$, (%) [k]	Relative Sensitivity Factor, $\lvert\partial y/\partial x_i\rvert \cdot (x_i/y)$ [m]	Relative Uncertainty Of Output Quantity, $u_i(y)/y$, (%) [n]
Massic alpha-particle emission rate, corrected for background and decay	Standard deviation of the mean for 80 sets of $4\pi\alpha$ liquid-scintillation measurements (A)	0.05	1.0	0.05
Half life of Pu-242	Standard uncertainty of the half life (A)	0.32 [p]	0.00001 [q]	0.000003
Decay-scheme data	Standard uncertainty of the probability of decay by alpha-particle emission (A)	0.001	1.0	0.001
Extrapolation of alpha-particle-count-rate-versus-energy to zero energy	Estimated (B)	0.25	1.0	0.25
Gravimetric measurements	Estimated (B)	0.10	1.0	0.10
Live time [r]	Estimated (B)	0.10	1.0	0.10
Alpha-particle detection efficiency of scintillators	Estimated (B)	0.15	1.0	0.15
Alpha-particle-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Photon-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Relative Combined Standard Uncertainty of the Output Quantity, $u_c(y)/y$, (%)				0.36
Coverage Factor, k				x 2
Relative Expanded Uncertainty of the Output Quantity, U/y, (%)				0.72

*Notes and references are on pages 5 to 7.

RELATIVE ACTIVITIES OF RADIONUCLIDIC IMPURITIES AT THE REFERENCE TIME [b]

Radionuclide	Half Life (years) [j] [5]	Relative Activity As Determined By	
		LLNL	NIST
Plutonium-242	373 500 ± 1100	1.000 000	1.000 000
Plutonium-241	14.35 ± 0.10	- -	0.0035 ± 0.0004 [t]
Plutonium-240	6 564 ± 11	^{239}Pu + ^{240}Pu <0.000 001 [u]	^{239}Pu + ^{240}Pu 0.000 020 ± 0.000 021 [v]
Plutonium-239	24 110 ± 30		
Plutonium-238	87.7 ± 0.1	^{238}Pu + ^{241}Am <0.000 016 [u]	0.000 009 ± 0.000 016 [v]
Americium-241	432.2 ± 0.7		0.000 000 assumed [t]

NOTES

[a] The Sievert is the SI unit for dose equivalent. See reference [1]. One µSv is equal to 0.1 mrem.

Distance from Ampoule (cm):	1	30	100
Approximate Dose Rate (µSv/h):	<0.1	-	-

[b] The plutonium-242 master solution was chemically purified at 1200 EST, 07 June 1994.

[c] **Massic activity** is the preferred name for the quantity activity divided by the total mass of the sample. See reference [1].

[d] The reported value, y, of massic activity (activity per unit mass) at the reference time was not measured directly but was derived from measurements and calculations of other quantities. This can be expressed as $y = f(x_1, x_2, x_3, \ldots x_n)$, where f is a mathematical function derived from the assumed model of the measurement process. The value, x_i, used for each input quantity i has a **standard uncertainty**, $u(x_i)$, that generates a corresponding uncertainty in y, $u_i(y) \equiv |\partial y/\partial x_i| \cdot u(x_i)$, called a **component of combined standard uncertainty** of y. The **combined standard uncertainty** of y, $u_c(y)$, is the positive square root of the sum of the squares of the components of combined standard uncertainty. The combined standard uncertainty is multiplied by a **coverage factor** of $k = 2$ to obtain U, the **expanded uncertainty** of y.

Since it can be assumed that the possible estimated values of the massic activity are approximately normally distributed with approximate standard deviation $u_c(y)$, the unknown value of the massic activity is believed to lie in the interval $y \pm U$ with a level of confidence of approximately 95 percent.

For further information on the expression of uncertainties, see references [2] and [3].

[e] The value of each component of combined standard uncertainty, and hence the value of the expanded uncertainty itself, is a best estimate based upon all available information, but is only approximately known. That is to say, the "uncertainty of the uncertainty" is large and not well known. This is true for uncertainties evaluated by statistical methods (e.g., the relative standard deviation of the standard deviation of the mean for the massic response is approximately 50%) and for uncertainties evaluated by other methods (which could easily be over estimated or under estimated by substantial amounts). The unknown value of the expanded uncertainty is believed to lie in the interval $U/2$ to $2U$ (i.e., within a factor of 2 of the estimated value).

[f] The stated uncertainty is two times the standard uncertainty.

[g] Estimated limits of detection for alpha-particle-emitting impurities, expressed as massic alpha-particle emission rates (numbers of alpha particles per second per gram), are:
0.003 $s^{-1} \cdot g^{-1}$ for energies less than 3.1 MeV,
0.03 $s^{-1} \cdot g^{-1}$ for energies between 3.1 and 4.4 MeV, and
0.003 $s^{-1} \cdot g^{-1}$ for energies greater than 5.0 MeV.

[h] The plutonium-242 master solution was chemically purified at 1200 EST, 07 June 1994. Americium-241, the daughter of plutonium-241, was removed but has been growing in since that time.

[i] Estimated limits of detection for photon-emitting impurities, expressed as massic photon emission rates (numbers of photons per second per gram), are:
$5 \times 10\text{-}5\ s^{-1} \cdot g^{-1}$ for energies between 19 and 39 keV,
$7 \times 10\text{-}5\ s^{-1} \cdot g^{-1}$ for energies between 49 and 92 keV,
$2 \times 10\text{-}5\ s^{-1} \cdot g^{-1}$ for energies between 106 and 507 keV,
$1 \times 10\text{-}5\ s^{-1} \cdot g^{-1}$ for energies between 515 and 1456 keV, and
$5 \times 10\text{-}6\ s^{-1} \cdot g^{-1}$ for energies between 1465 and 2750 keV,
provided that the photons are separated in energy by 4 keV or more from photons emitted in the decay of plutonium-242, plutonium-241, or americium-241.

[j] The stated uncertainty is the standard uncertainty.

[k] Relative standard uncertainty of the input quantity x_i.

[m] The relative change in the output quantity y divided by the relative change in the input quantity x_i. If $|\partial y/\partial x_i| \cdot (x_i/y) = 1.0$, then a 1% change in x_i results in a 1% change in y. If $|\partial y/\partial x_i| \cdot (x_i/y) = 0.05$, then a 1% change in x_i results in a 0.05% change in y.

[n] Relative component of combined standard uncertainty of output quantity y, rounded to two significant figures or less. The relative component of combined standard uncertainty of y is given by $u_i(y)/y \equiv |\partial y/\partial x_i| \cdot u(x_i)/y = |\partial y/\partial x_i| \cdot (x_i/y) \cdot u(x_i)/x_i$. The numerical values of $u(x_i)/x_i$, $|\partial y/\partial x_i| \cdot (x_i/y)$, and $u_i(y)/y$, all dimensionless quantities, are listed in columns 3, 4, and 5, respectively. Thus, the value in column 5 is equal to the value in column 4 multiplied by the value in column 3. The input quantities are independent, or very nearly so. Hence the covariances are zero or negligible.

[p] The relative standard uncertainty of $\lambda \cdot t$ is determined by the relative standard uncertainty of λ (i.e., of the half life). The relative standard uncertainty of t is negligible.

[q] $|\partial y/\partial x_i| \cdot (x_i/y) = |\lambda \cdot t|$

[r] The live time is determined by counting the pulses from a gated crystal-controlled oscillator.

[s] The standard uncertainty for each undetected impurity that might reasonably be expected to be present is estimated to be equal to the estimated limit of detection for that impurity, i.e. $u(x_i)/x_i$ = 100%. $|\partial y/\partial x_i| \cdot (x_i/y)$ = {(response per Bq of impurity)/(response per Bq of Pu-242)}•{(Bq of impurity)/(Bq of Pu-242)}. Thus $u_i(y)/y$ is the relative change in y if the impurity were present with a massic activity equal to the estimated limit of detection.

[t] The stated uncertainty is the standard uncertainty. The plutonium-241 activity was calculated from a gamma-ray measurement of the americium-241 ingrowth as of 25 November 1998, assuming that americium-241 was completely removed at the time of chemical purification.

[u] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The value shown is an estimated upper limit based upon background and counting statistics. Measurements were made at the Lawrence Livermore National Laboratory (LLNL) in July of 1994.

[v] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The stated uncertainty is the standard uncertainty. Measurements were made at the National Institute of Standards and Technology (NIST) in June and July of 1999.

REFERENCES

[1] International Organization for Standardization (ISO), *ISO Standards Handbook - Quantities and Units*, 1993. Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.

[2] International Organization for Standardization (ISO), *Guide to the Expression of Uncertainty in Measurement*, 1993 (corrected and reprinted, 1995). Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.

[3] B.N. Taylor and C.E. Kuyatt, *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*, NIST Technical Note 1297, 1994. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20407, U.S.A.

[4] National Council on Radiation Protection and Measurements Report No. 58, *A Handbook of Radioactivity Measurements Procedures*, Second Edition, 1985. Available from the National Council on Radiation Protection and Measurements, 7910 Woodmont Avenue, Bethesda, MD 20814 U.S.A.

[5] Evaluated Nuclear Structure Data File (ENSDF), January 2005.

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1374
Prepared By:	Mary Aders
Carrier Conc:	0.5M HNO3
Reference Date:	06/07/1994
Ampoule Mass (g):	5.5 g
Uncertainty:	+/- .72 %
LogBook No:	RC-S-051-093

A Solution Material Info	
Isotope:	Plutonium-242
Prepared By:	Ashley Drochter
Prep Date:	12/02/2009
Verification Date:	12/08/2009
Expiration Date:	12/08/2010
Primary Code:	1374-A
Dilution(mL):	250 mL
Mass of Parent(g):	5.3616 g
Density(g/mL):	1.0136
Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq/g)) * (conversion dpm to Bq) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq/g)) * (conversion dpm to Bq) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(5.3616 g) * (26.31 Bq/g) * (60 dpm/Bq) / (250 mL) = 33.8553 dpm/mL
(5.3616 g) * (26.31 Bq/g) * (60 dpm/Bq) / (1.0136 g/mL) / (250 mL) = 33.4010 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Pu-242 Standard 1374-*A*

A.Drochter	Isotope	Value	Uncertainty
12/8/2009	1374-A	1.610	0.2480
	1374-A	1.580	0.2510
	1374-A	1.530	0.2440

Mean Value (Counting) =	1.573	103.17	**Pass**
Stdev =	0.040414519		**Rule 3 (Pass/Fail)**

Target =	1.52
Lower Limit =	1.492504296
Upper Limit =	1.654162371
Rule 1 Pass/Fail	**Pass**
Two sigma =	0.080829038
10 % of Mean =	0.157333333
Rule 2 (Pass/Fail)	**Pass**

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for standard 1374-A using 0.1 mL for each source. Each standard was combined with 0.1 mL of Pu239 standard 0338-BB and 50 micrograms of neodymium carrier in a disposable centrifuge tube containing 4 mL of 2 M HCl and 6 mL of DI water. Four drops of 25% Hydrazine dihydrochloride were added to each centrifuge tube and swirled. Two mL of 49% HF was added to precipitate neodymium(and plutonium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Pu-242 were calculated by comparison to Pu-239 certified values.

12/9/09

Eckert & Ziegler
Analytics

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www.analyticsinc.com

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

1283

78747-278

U-232 5 mL Liquid in Flame Sealed Vial

Customer: GEL Laboratories, LLC
P.O. No.: 7319 RD, Item 1

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

Isotope:	U-232
Activity (Bq):	3.754 E3
Half-Life:	68.9 years
Calibration Date:	December 9, 2008 12:00 EST
Relative Expanded Uncertainty (k=2):	5.0%

Comments:
Impurities: U-233 <0.3%, Am-241 <0.15%
5.20453 grams 1M HNO_3 solution.

Source Prepared By: _____
W. Mao, Radiochemist

QA Approved: _____ Date: 12-11-08
D. M. Montgomery, QA Manager

End of Certificate

RECEIVED 12/15/08
RC-S-05

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1283
Prepared By:	Daniel Roy
Carrier Conc:	1M HNO3
Reference Date:	12/09/2008
Ampoule Mass (g):	5.20453 g
Uncertainty:	+/- 5 %
LogBook No:	RC-S-051-002

A Solution Material Info	
Isotope:	Uranium-232
Prepared By:	Daniel Roy
Prep Date:	12/16/2008
Verification Date:	12/30/2008
Expiration Date:	12/30/2009
Primary Code:	1283-A
Dilution(mL):	100 mL
Mass of Parent(g):	5.0245 g
Density(g/mL):	1.0285
Balance ID:	

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(5.0245 g) * (3754 Bq) * (60 dpm/Bq) / (5.20453 g * 100 mL) = 2174.4872 dpm/mL
(5.0245 g) * (3754 Bq) * (60 dpm/Bq) / (1.0285 g/mL)/ (5.20453 g * 100 mL) = 2114.1700 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
12/16/2008	Daniel Roy	25.1813	1000	1283-B	53.2375 dpm/ml	12/16/2008	12/16/2009
12/30/2008	Tina Schoneman	2.05	250	1283-C	17.336 dpm/mL	12/30/2008	12/30/2009
12/30/2008	Tina Schoneman	.49	250	1283-D	4.1438 dpm/mL	01/09/2009	01/09/2010
01/14/2009	Mary Aders	25.0528	1000	1283-E	52.9659 dpm/ml	01/15/2009	01/15/2010
12/02/2009	Julie Strock	2.076	250	1283-F	17.5561 dpm/mL	01/09/2009	12/30/2009
12/02/2009	Julie Strock	.517	250	1283-G	4.3721 dpm/mL	01/09/2009	12/30/2009
12/09/2009	Ashley Drochter	21.56	1000	1283-H	45.58 dpm/mL	12/09/2009	12/09/2010

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Uranium-232 Standard *1283-H*

Analyst: A. Drochter	**Serial #**	**Value**		**Uncertainty**	
Date: 12/10/09	1283-H N1	2.020	pCi/L	0.238	pCi/L
	1283-H N2	2.000	pCi/L	0.234	pCi/L
	1283-H N3	2.060	pCi/L	0.242	pCi/L
Mean Value (Counting) =	2.027	pCi/L		**99.66904**	**Pass**
Stdev =	0.030550505	pCi/L			**Rule 3 (Pass/Fail)**
Target =	2.033	pCi/L			
Lower Limit =	1.965565657	pCi/L			
Upper Limit =	2.087767676	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	0.061101009				
10 % of Mean =	0.202666667				
Rule 2 (Pass/Fail)	**Pass**				

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 10% of the certificate value.

The analyst prepared three standard verification sources for standard **1283-H** using 0.1 mL for each source. Each standard was combined with 0.1 mL of **U-238** standard **1163-G** and was diluted to 10 mL with DI water. 50 micrograms of neodymium carrier and 1ml of Titanium Chloride were added. The solution was allowed to sit for 30 seconds. One mL of 49% HF was then added to precipitate neodymium (and uranium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for U-238 were calculated by comparison to U-232 certified values.

A Drochter AMD 12/14/09

RUNLOGS

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 940222**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244125001	SAMPLE	JXD2	1077	16-JAN-10 11:30	DONE		
244125002	SAMPLE	JXD2	1078	16-JAN-10 11:30	DONE		
244125003	SAMPLE	JXD2	1079	16-JAN-10 11:30	DONE		
244125004	SAMPLE	JXD2	1080	16-JAN-10 11:30	DONE		
244137001	SAMPLE	JXD2	1081	16-JAN-10 11:30	DONE		
244137002	SAMPLE	JXD2	1082	16-JAN-10 11:30	DONE		
244137003	SAMPLE	JXD2	1083	16-JAN-10 11:30	DONE		
244137004	SAMPLE	JXD2	1084	16-JAN-10 11:30	DONE		
244137005	SAMPLE	JXD2	1085	16-JAN-10 11:30	DONE		
244137006	SAMPLE	JXD2	1086	16-JAN-10 11:30	DONE		
244137007	SAMPLE	JXD2	1087	16-JAN-10 11:30	DONE		
1202012011	MB	JXD2	1088	16-JAN-10 11:30	DONE		
1202012013	LCS	JXD2	1089	16-JAN-10 11:30	DONE		
1202012012	DUP	JXD2	1090	16-JAN-10 11:30	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 940223**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244125001	SAMPLE	JXD2	1047	16-JAN-10 11:29	DONE		
244125002	SAMPLE	JXD2	1048	16-JAN-10 11:29	DONE		
244125003	SAMPLE	JXD2	1065	16-JAN-10 11:29	DONE		
244125004	SAMPLE	JXD2	1066	16-JAN-10 11:29	DONE		
244137001	SAMPLE	JXD2	1067	16-JAN-10 11:29	DONE		
244137002	SAMPLE	JXD2	1068	16-JAN-10 11:29	DONE		
244137003	SAMPLE	JXD2	1069	16-JAN-10 11:29	DONE		
244137004	SAMPLE	JXD2	1070	16-JAN-10 11:29	DONE		
244137005	SAMPLE	JXD2	1071	16-JAN-10 11:29	DONE		
244137006	SAMPLE	JXD2	1072	16-JAN-10 11:29	DONE		
244137007	SAMPLE	JXD2	1073	16-JAN-10 11:29	DONE		
1202012014	MB	JXD2	1074	16-JAN-10 11:29	DONE		
1202012015	DUP	JXD2	1075	16-JAN-10 11:29	DONE		
1202012016	LCS	JXD2	1076	16-JAN-10 11:29	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 940225**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202012019	LCS	JXD2	1161	19-JAN-10 09:35	DONE		
244125003	SAMPLE	JXD2	1162	19-JAN-10 09:35	DONE		
244125004	SAMPLE	JXD2	1163	19-JAN-10 09:35	DONE		
244137001	SAMPLE	JXD2	1164	19-JAN-10 09:35	DONE		
244137002	SAMPLE	JXD2	1165	19-JAN-10 09:35	DONE		
244137003	SAMPLE	JXD2	1166	19-JAN-10 09:35	DONE		
244137004	SAMPLE	JXD2	1167	19-JAN-10 09:35	DONE		
244137005	SAMPLE	JXD2	1168	19-JAN-10 09:35	DONE		
244137006	SAMPLE	JXD2	1169	19-JAN-10 09:35	DONE		
244137007	SAMPLE	JXD2	1170	19-JAN-10 09:35	DONE		
1202012017	MB	JXD2	1171	19-JAN-10 09:35	DONE		
1202012018	DUP	JXD2	1172	19-JAN-10 09:35	DONE		
244125001	SAMPLE	JXD2	1159	19-JAN-10 10:47	DONE		
244125002	SAMPLE	JXD2	1160	19-JAN-10 10:47	DONE		

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER **Batch ID: 940263**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244125001	SAMPLE	MXR1	GAM14	20-JAN-10 13:29	DONE CAN		06-MAR-09 00:00
244125002	SAMPLE	MXR1	GAM16	20-JAN-10 13:30	DONE CAN		16-NOV-09 00:00
244125003	SAMPLE	MXR1	GAM18	20-JAN-10 13:30	DONE CAN		23-APR-09 00:00
244125004	SAMPLE	MXR1	GAM22	20-JAN-10 13:31	DONE CAN		02-DEC-09 00:00
244137001	SAMPLE	MXR1	GAM23	20-JAN-10 13:31	DONE CAN		02-JUN-09 00:00
244137002	SAMPLE	MXR1	GAM01	20-JAN-10 13:43	DONE CAN		30-JAN-09 00:00
244137003	SAMPLE	MXR1	GAM11	20-JAN-10 13:43	DONE CAN		18-NOV-09 00:00
244137004	SAMPLE	MXR1	GAM15	20-JAN-10 13:44	DONE CAN		16-FEB-09 00:00
244137005	SAMPLE	MXR1	GAM17	20-JAN-10 13:44	DONE CAN		06-JAN-10 00:00
244137006	SAMPLE	MXR1	GAM20	20-JAN-10 13:45	DONE CAN		26-AUG-09 00:00
244137007	SAMPLE	MXR1	GAM25	20-JAN-10 13:45	DONE CAN		07-OCT-09 00:00
1202012144	MB	MXR1	GAM04	20-JAN-10 14:09	DONE CAN		05-MAY-09 00:00
1202012146	LCS	MXR1	GAM13	20-JAN-10 14:47	DONE CAN		02-FEB-09 00:00
1202012145	DUP	MXR1	GAM18	20-JAN-10 15:47	DONE CAN		23-APR-09 00:00